OEM Catalogue
2008/2009

PHILIPS

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Introduction

1 Introduction

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E-Catalogue

For the latest details on our extensive range of innovative lighting solutions

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- Up to date product news
- Fast access to new information
- Quick search facility
- Easy data and image downloads
- Application information and trends





Simpler – Stronger – Sustainable

Sustainability is at the heart of our mission

We are dedicated in meeting the growing demand for energy efficiency, the concern for the environment and pressing social issues. This has evolved sustainability into a business driver and a strategic imperative.



Gerard Kleisterlee
President & CEO of
Royal Philips Electronics

"We are committed to sustainability and focus on making the difference in efficient energy use. I am particularly proud that Philips is leading in the lighting industry to increase energy efficiency ".

Sustainability is built into our heritage and today we continue to focus on, integrating social equity, environmental quality and economic prosperity. We have signed on to the UN Global Compact, established to advance 10 universal principles in the areas of human rights, labour, the environment and anti-corruption. With a tradition of sound environmental policy for more than 30 years, we are guided by the basic principle that 'prevention is better than cure'.

We recognise that sustainability offers a world of opportunities for individuals, companies and communities around the globe. We firmly believe that social and environmental sound behaviour contributes to sustained profitable growth and value creation. Together with our customers we have a shared responsibility to educate consumers how lighting can contribute to a more sustainable world today and for future generations.

At Philips we set high performance targets for ourselves and strive to reach our goals and we believe it is critical to report on our progress. To learn from others and share our knowledge, we work in partnership with many professional organisations.

Philips has been included in the Dow Jones Sustainability Indexes since 2000, and is the super sector leader in industry sector.

Dow Jones
Sustainability Indexes
Member 2006/07

More information about the Philips sustainability program including our annual sustainability report can be found:
www.philips.com/sustainability

Green Products. Sustainable solutions for a better world

We make it easier to be green by providing a portfolio of energy efficient lighting solutions

The main sustainability benefit of new lighting technology is energy saving resulting in combating climate change and reducing cost. The world may indeed face an energy problem, but we prefer to see Philips as a part of the energy solution. Lighting represents 14% of European electricity use. Approximately two thirds of all lighting currently installed is based on old less energy efficient technologies developed before the 1970's. Average savings of 40% are now possible due to many of our lighting innovations in the last decade.

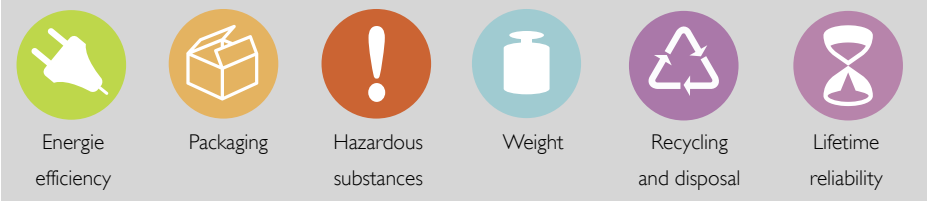
Examples of system innovations are CosmoPolis in outdoor lighting, MASTERColour CDM Elite in shop lighting, MASTERColour CDM T mini and MASTER PL-R Eco in retail lighting. These Green systems recognised by the Green logo are not only energy-efficient, but also provide better quality light over lifetime and reduce the running cost of lighting meeting the three pillars of our sustainability triangle "planet – reducing the carbon footprint", "people – better quality light" and "profit – reducing the cost of lighting"

For every customer segment an energy efficient lighting solution already exists today

Area of lighting	Energy savings					CO_2 savings per lamp per year*
Street lighting	HPL		57%		CosmoPolis	132 kg CO_2
Retail lighting	Halo		80%		CDM	140 kg CO_2
Office & Industrial lighting	T8		61%		TL5	93 kg CO_2
Home lighting	GLS		80%		CFLi	41 kg CO_2
LEDs	GLS		80%		LED	41 kg CO_2

*Based on 0.51 kg / CO_2 kWh

Next to energy efficiency our Green Products can offer significant environmental improvement in one or more of the other green focal areas.





"If we would all switch to energy saving lighting, we could reduce our carbon footprint by at least 40% and make a huge contribution in combating global climate change! By simply switching to energy saving lamps & gear and SSL solutions we contribute to a more sustainable world"

Pieter Jacot
Vice President BU Lamps & Gear Europe

asimpleswitch.com



Compact HID Lamps and Gear



Compact HID Lamps

Lighting is crucial for creating the right mood and environment for many different types of retail experiences. Consumer purchasing behaviour is not always the same. It can be purely functional, for instance when buying the daily necessities, but on other occasions shoppers may be impulsive, or want to indulge themselves and expect a much more sophisticated experience that is also educational and entertaining. Creating the right ambience for customers and showing merchandise in the best possible light is good for business and increasing profit.

Attractively lit shops, showrooms and shopping centres encourage more customers inside and persuade them to stay longer. The Compact High-Intensity Discharge range of lamps perfectly meet this need. They will not only boost your sales, they will reduce your lighting costs, giving you the best of both worlds.

The range that meets all of your needs

Our Compact HID lamps let you choose the right light for your application. Whether it is accent lighting, power spots, down lighting, wall washing, floodlighting or area lighting, the Compact HID range has the right lamp. In fashion and fresh food, they make all the difference. They are also the first choice for new retail lighting installations and the ideal lamps to upgrade existing installations. The majority of lamps in the Compact HID range are in the Philips MASTER category, which include MASTERColour CDM lamps and MASTER SDW lamps.



Philips MASTERColour CDM category

Philips MASTERColour CDM lamps offer unrivalled light quality. Its crisp, white light gives merchandise – and especially clothing, footwear and fashion accessories – an added vibrancy. Colour reproduction is exceptional. Reds are deep and luxurious, yellows become brighter and warmer, while blues and greens are extremely vivid. The texture of materials is also enhanced and accentuated. Philips MASTERColour CDM lamps maintain their excellent colour stability. The fashion industry never stands still; new developments are taking place all the time. The same applies to lighting. We are constantly evaluating our product offer so we can create an even more satisfying experience for end-users. An extension of the MASTERColour family, Elite lamps naturally have all the characteristics which have proved so popular, such as stable colour temperature, crisp, white light and reduced heat generation.

MASTERColour CDM Elite; Simply irresistible

Philips MASTERColour CDM Elite lamps draw shoppers to your store by creating an appealing and fresh ambience. The crisp, stable white light also gives amazingly accurate colour reproduction that shows off merchandising like never before. And then continues to do so, season after season after season...

The Philips MASTERColour CDM Elite family is at the very top of our Philips MASTERColour CDM range. Comprising 35 and 70 W versions, its crisp, sparkling white light, excellent colour rendering and superb energy efficiency are the reason why many of you consider it to be the best light for fashion retail.

MASTERColour CDM Elite is also a Philips Green product, and therefore by definition outperforms its predecessor or closest market competitors in at least one of six key environmental areas. In the case of Elite, it comes out on top in two; hazardous substances and lifetime reliability.

Energy saving with MASTERColour CDM-Tm Mini

Buildings today account for 40 percent of energy consumption in developed countries. But the revolution in lighting technology means that switching from the older lighting to the new will bring huge savings.

For example, the MASTERColour CDM-Tm Mini lamp saves up to 70% energy compared with traditional halogen lighting solutions with a similar light output. For retail outlets with hundreds of luminaires, this translates into a significant saving and the quality of light is superior as well.



CDM-T 35W /930

Product Description

- Single-ended, high-efficiency Ceramic Metal Halide discharge lamp

Product Features

- Crisp white light
- Excellent colour rendering (Ra 90)
- Reliable lifetime performance
- Stable colour performance during lifetime
- Increased light output compared with regular MASTERColour lamps
- Improved maintenance compared with regular MASTERColour lamps
- Burning position for
  - CDM Elite-T 35 W: vertical +/- 60 degrees
  - CDM Elite-T 70 W: universal

Product Benefits

- Outstanding rendering of displayed merchandise due to high colour rendering (Ra 90) in combination with high lumen output; best offer in the market for 'enhancing merchandise'
- Excellent colour quality, which remains stable over lifetime
- Light output over lifetime maintains display brightness
- High efficacy and long lifetime for lowest operating costs and low heat generation
- Relatively low heat generation enhances comfort for shoppers and staff
- UV-Block for reduced fading risk of merchandise

Application

- Accent and display lighting with a sparkling effect, excellent solution for Retail
- Decorative outdoor floodlighting

Luminaires

- Must be used in closed luminaires with a proper cover (IEC 61167 and IEC 60958)

System

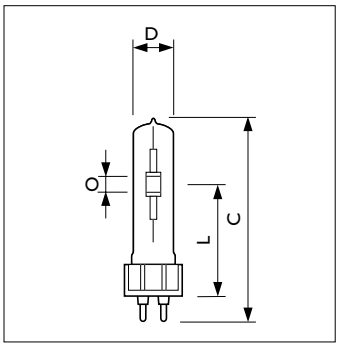
- Must be used with electronic gear such as PrimaVision

Environment

- Excellent environmental choice because of high energy efficiency and long reliable life
- This product is a Philips Green product
- This product is RoHS compliant
- This product is covered by WEEE

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www.philips.com/OEM



CDM-T

Type	CMax	DMax	LMin	LNom	LMax	OMin	ONom	OMax
MASTERColour CDM-T Elite 35W/930 G12 1CT	103	20	55	56	57	-	4.3	-
MASTERColour CDM-T Elite 70W/930 G12 1CT	103	20	55	56	57	5.45	5.75	6.05

Technical data

Type	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)
MASTERColour CDM-T Elite 35W/930 G12 1CT	-	39	85	35	No	5000	198	30
MASTERColour CDM-T Elite 70W/930 G12 1CT	0.840	73	87	70	No	5000	198	30

Technical data

Type	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-T Elite 35W/930 G12 1CT	15	3	12000
MASTERColour CDM-T Elite 70W/930 G12 1CT	15	3	12000

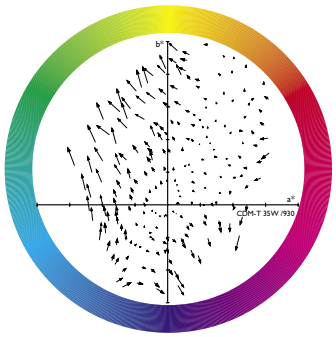
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTERColour CDM-T Elite 35W/930 G12 1CT	3500	90	Warm White	3000	90	432	396	vbu/vbd60
MASTERColour CDM-T Elite 70W/930 G12 1CT	7300	100	Warm White	3000	90	434	395	any

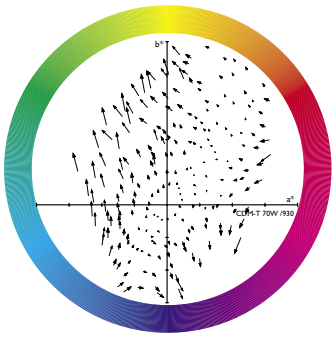
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERColour CDM-T Elite 35W/930 G12 1CT	MT-35/30/1A-H-G12	8711500208132	0.027 kg	12	14.9 cm x 13.1 cm x 13.6 cm	8711500208149	208132 15
MASTERColour CDM-T Elite 70W/930 G12 1CT	MT-70/30/1A-H-G12	8711500208156	0.029 kg	12	14.9 cm x 13.1 cm x 13.6 cm	8711500208163	208156 15

CRV diagram

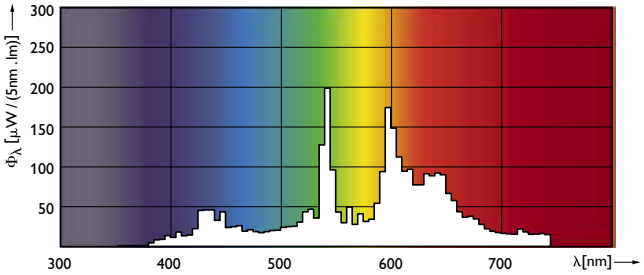


CDM-T

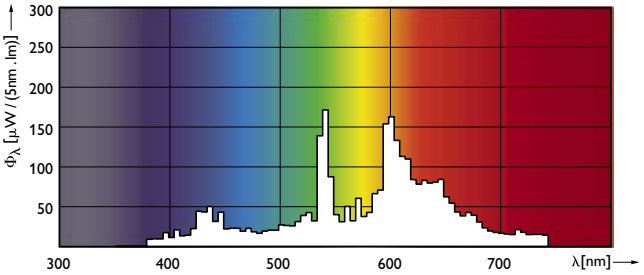


CDM-T 70W /930

Spectral power distribution



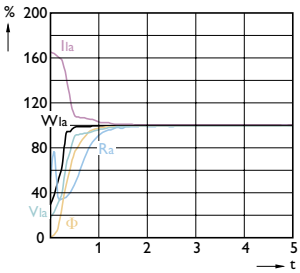
CDM-T 35W /930



CDM-T 70W /930

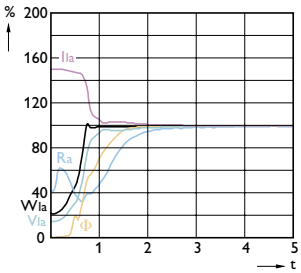
Performance diagram

Lamp performance during run up



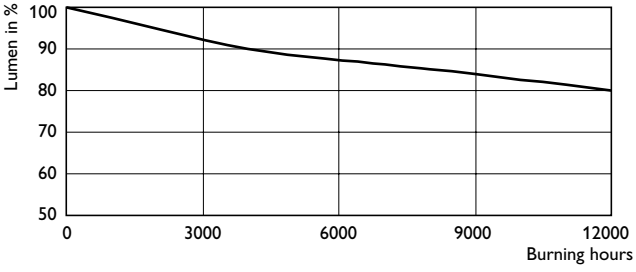
CDM-T 35W /930

Lamp performance during run up

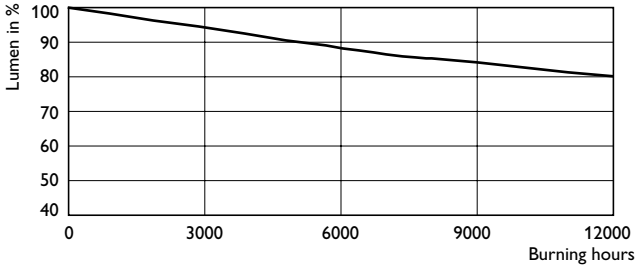


CDM-T 70W /930

Lumen maintenance diagram

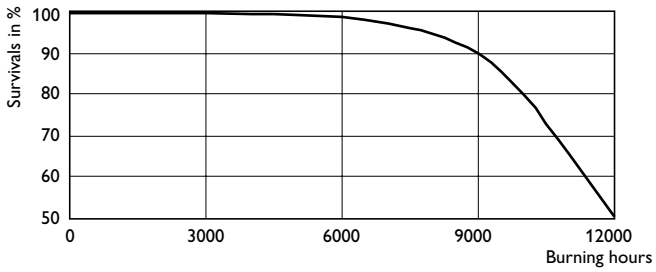


CDM-T 35W on electronic gear

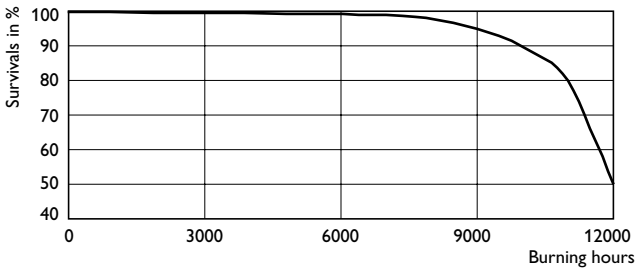


CDM-T 70W on electronic gear

Life expectancy diagram

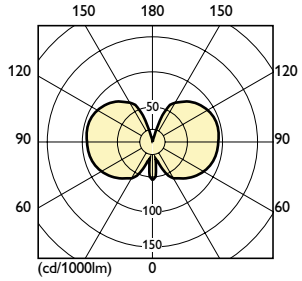


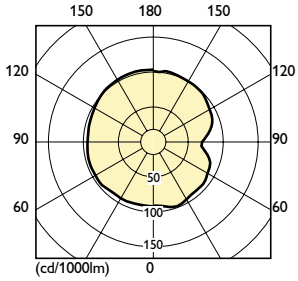
CDM-T 35W on electronic gear



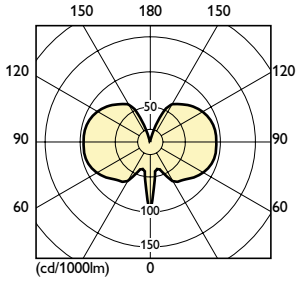
CDM-T 70W on electronic gear

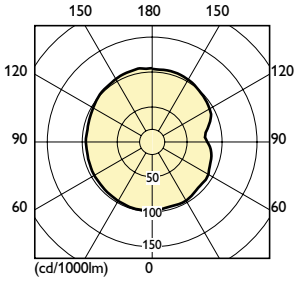
Photometric diagram





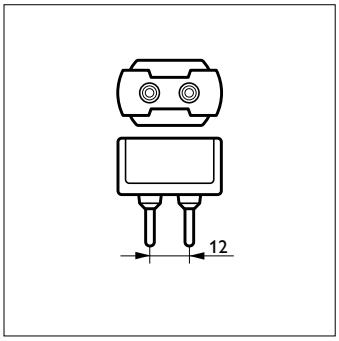
CDM-T 35W /930





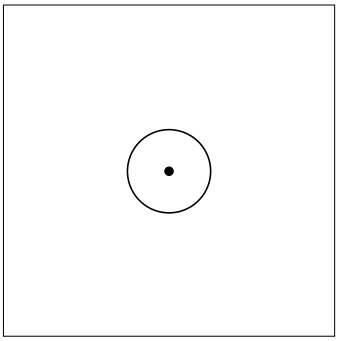
CDM-T 70W /930

Cap Base

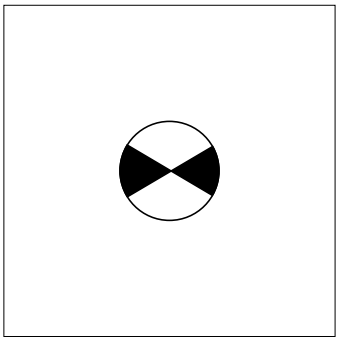


G12

Operating position



any



vbu/vbd60



CDM-TC 35W /930

Product Description

- Single-ended, compact size, high-efficiency Ceramic Metal Halide discharge lamp

Product Features

- Crisp white light
- Excellent colour rendering (Ra 90)
- Reliable lifetime performance
- Stable colour performance during lifetime
- Increased light output compared with regular MASTERColour lamps
- Improved maintenance compared with regular MASTERColour lamps
- Burning position for
  - CDM Elite-TC 35 W: vertical +/- 60 degrees
  - CDM Elite-TC 70 W: universal

Product Benefits

- Outstanding rendering of displayed merchandise due to high colour rendering (Ra 90) in combination with high lumen output; best offer in the market for 'enhancing merchandise'
- Excellent colour quality remains stable over lifetime
- Light output over lifetime maintains display brightness
- High efficacy and long lifetime for lowest operating costs and low heat generation
- Relatively low heat generation enhances comfort for shoppers and staff
- UV-Block for reduced fading risk of merchandise
- Allows design of very compact luminaires with high beam intensities

Application

- Accent and display lighting with a sparkling effect, excellent solution for Retail
- General and decorative lighting

Luminaires

- Must be used in closed luminaires with a proper cover (IEC 61167 and IEC 60958)

System

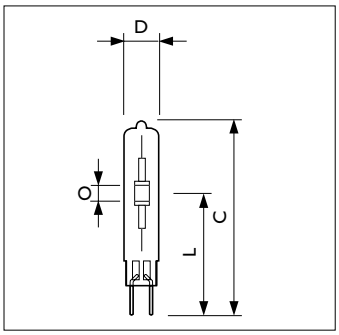
- Must be used with electronic gear such as Philips PrimaVision

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is a Philips Green product
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 2.104

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CDM-TC

Type	CMax	DMax	LMin	LNom	LMax	OMin	ONom	OMax
MASTERColour CDM-TC Elite 35W/930 G8.5 1CT	85	15	51	52	53	4	4.3	4.6
MASTERColour CDM-TC Elite 70W/930 G8.5 1CT	85	14.35	51	52	53	5.45	5.75	6.05

Technical data

Type	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)
MASTERColour CDM-TC Elite 35W/930 G8.5 1CT	-	39	85	35	No	5000	198	30
MASTERColour CDM-TC Elite 70W/930 G8.5 1CT	0.840	73	87	70	No	5000	198	30

Technical data

Type	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-TC Elite 35W/930 G8.5 1CT	15	3	12000
MASTERColour CDM-TC Elite 70W/930 G8.5 1CT	15	3	12000

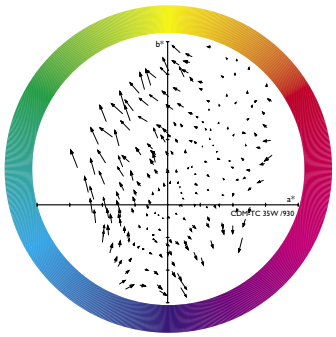
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTERColour CDM-TC Elite 35W/930 G8.5 1CT	3500	90	Warm White	3000	90	434	396	vbu/vbd60
MASTERColour CDM-TC Elite 70W/930 G8.5 1CT	7300	97	Warm White	3000	90	438	395	any

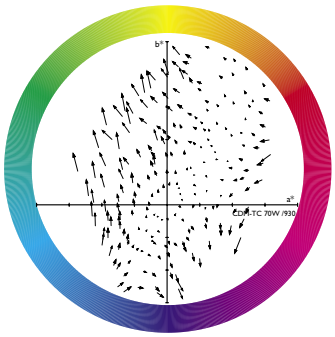
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERColour CDM-TC Elite 35W/930 G8.5 1CT	MT-35/30/1B-H-G8.5	8711500208170	0.01 kg	12	13.6 cm x 11.3 cm x 11.5 cm	8711500208187	208170 15
MASTERColour CDM-TC Elite 70W/930 G8.5 1CT	MT-70/30/1B-H-G8.5	8711500208194	0.01 kg	12	13.6 cm x 11.3 cm x 11.5 cm	8711500208200	208194 15

CRV diagram

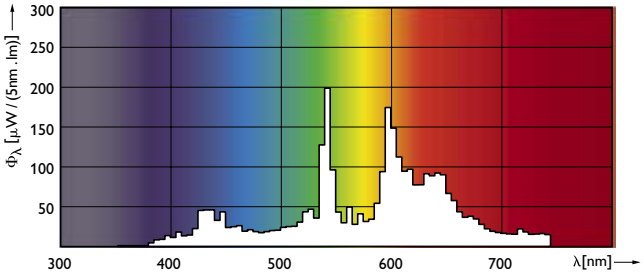


CDM-TC 35W /930

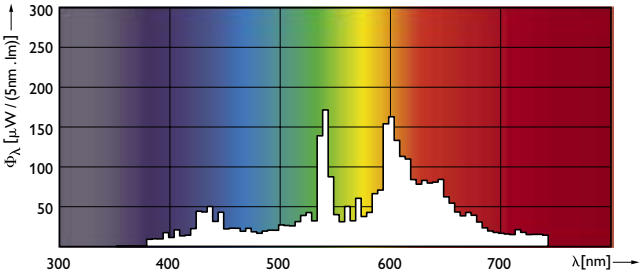


CDM-TC 70W /930

Spectral power distribution



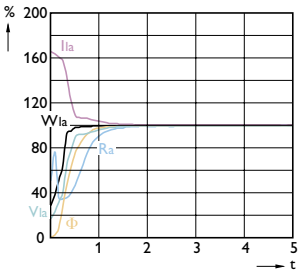
CDM-TC 35W /930



CDM-TC 70W /930

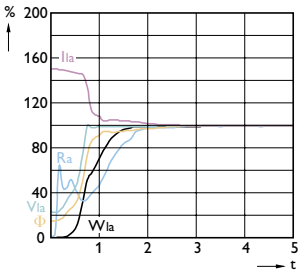
Performance diagram

Lamp performance during run up



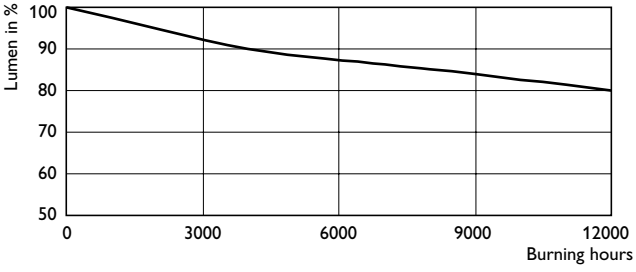
CDM-TC 35W /930

Lamp performance during run up

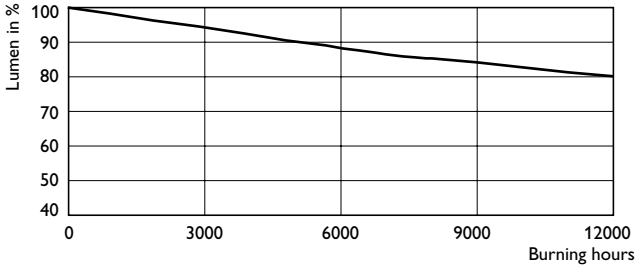


CDM-TC 70W /930

Lumen maintenance diagram

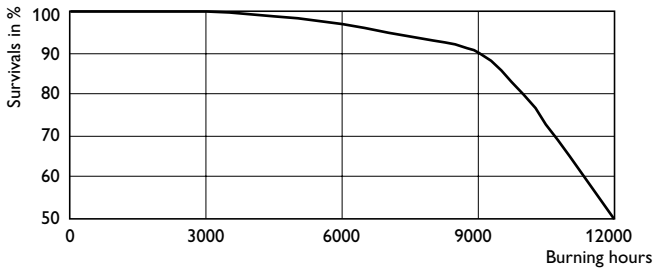


CDM-TC 35W/930 on electronic gear

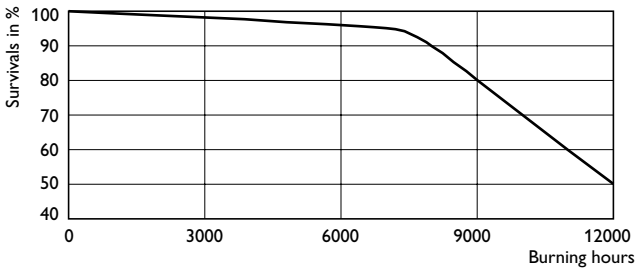


CDM-TC 70W/930 on electronic gear

Life expectancy diagram

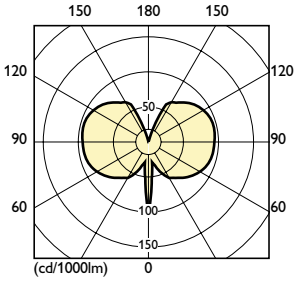


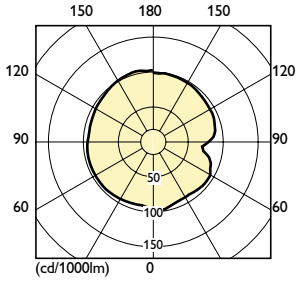
CDM-TC 35W/930 on electronic gear



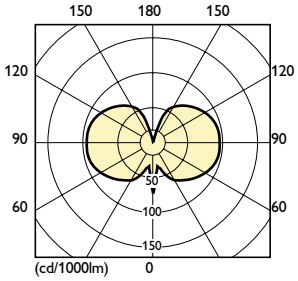
CDM-TC 70W/930 on electronic gear

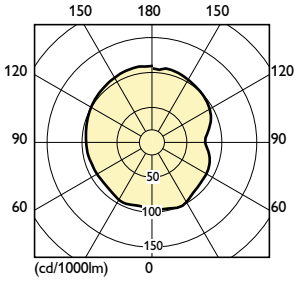
Photometric diagram





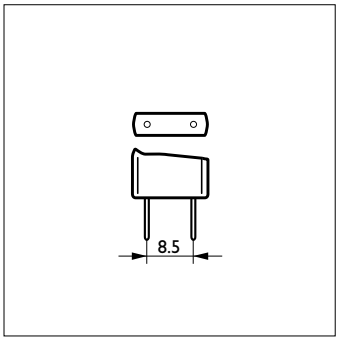
CDM-TC 35W /930





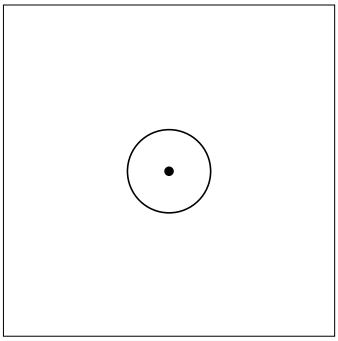
CDM-TC 70W /930

Cap Base

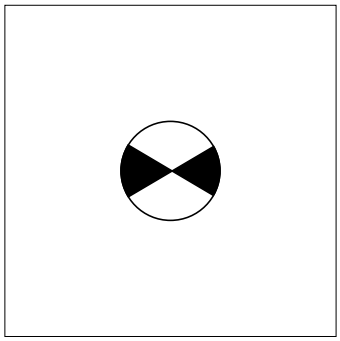


G8.5

Operating position



any



vbu/vbd60



MASTERColour CDM Elite MW

Product Description

The Philips MASTERColour CDM Elite MW system offers an unrivalled level of light quality and performance. The lamp's sparkling white light creates a more natural ambience and really brings out the best in all different types of colour. This performance remains stable over the long lifetime of the lamp. In addition, the high efficiency of the lamp and driver together means reduced energy use and a lower cost of ownership

Product Features

- Crisp, white light with excellent colour rendering (Ra 90).
- Stable colour performance over entire long lifespan.
- New socket design makes lamp extremely compact and improves efficiency as well as light distribution.
- Electronic driver suitable for both indoor and outdoor applications
- Complements existing CDM lamps; range now extended from 20W to 315W

Product Benefits

- High efficiency of both lamp and driver means lower energy consumption and therefore reduced CO^2 emissions – without compromising on light quality.
- Longer lifespan equates to reduced maintenance and lower replacement costs.
- Excellent colour quality and consistent light output from beginning to end.
- Being 50% smaller than conventional HPI and HPL lamps gives freedom in optic and luminaire design.
- Greater harmony in lighting design as CDM lamps can now be used in many new applications.
- Sparkling properties of white light create a more natural and inviting ambience.

Application

- Outdoor; floodlighting of buildings and other interesting structures. Illumination of roads and pedestrian areas, public spaces, car parks, petrol stations etc.
- Indoor; larger (high-bay) retail outlets, warehouses, manufacturing facilities etc.

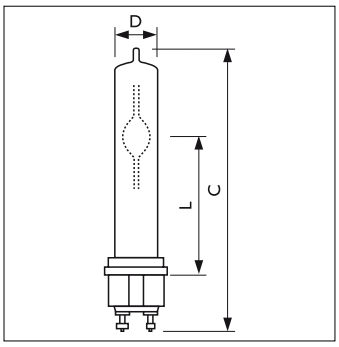
Luminaires

- Must be used with closed luminaires with a proper cover (IEC 61167 and IEC 60958)

Environment

- Excellent environmental choice because of high energy efficiency and long reliable life.
- This product is a Philips Green product
- This product is RoHS compliant
- This product is covered by WEEE

www.philips.com/OEM



Type	Cmax	Dmax	Lnom
CDM Elite MW	188	28.5	90



MASTER Colour CDM Elite MW

Technical data

Type	Lamp Wattage (W)	Luminous Flux Lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position	Service Lifetime at 10% Failures (h)*	Average Lifetime at 10% Failures (h)*	Lumen Maincenance at 12Khrs (%)
CDM Elite MW 210W/930	210	24100	115	3000	90	Universal	12000	20000	80
CDM Elite MW 315W/930	315	37800	120	3000	90	Universal	12000	20000	80
CDM Elite MW 210W/942	210	23100	110	4200	90	Universal	12000	20000	80
CDM Elite MW 315W/942	315	36200	115	4200	90	Universal	12000	20000	80

* 12000 and 20000 hours are design lifetimes. At launch this will be respectively 8000 and 12000 hours. The 930 versions will be available in March 2009, the 942 versions in September 2009.

Driver Range	Power Losses (%)	Power Factor (%)	Class	Tc Life (C)*	Ta Life (C)*	Lifetime at max. 5% failure rate (at Tc Life) (h)	Harmonic Distortion (%)	Dimensions (LxWxH) in mm	# Drivers /MCB	Luminaire Moisture
Philips HID PrimaVision 210W	<17	>95	II	80	45	60000	<12	169x97x65	6	>IP21
Philips HID PrimaVision 315W	<19	>95	II	80	45	50000	<12	217x126x59	8	>IP21

* Actual (target).



CDM-Tm PGJ5

Product Description

- Miniature, single-ended ceramic metal halide lamp
- PGJ5 twist-lock lamp base

Product Features

- Crisp, sparkling light for a comfortable atmosphere
- Low heat generation
- Crisp white light
- Superior colour quality
- Miniature size allows design of very compact luminaires with high beam intensities for mounting close to illuminated object
- Easy replacement due to robust twist-lock socket
- Universal burning position

Product Benefits

- Stable colour impression over lifetime
- High efficacy for low operating costs and low heat generation
- Long life compared with halogen lamps
- Relatively low heat output enhances comfort for shoppers and staff
- Mechanical retrofit in halogen capsule (GY6.35) luminaires (same light centre length). For full retrofit, also gear and lampholder need to be exchanged
- UV-Block for reduced fading risk of merchandise

Application

- Accent and display lighting with a sparkling effect
- Decorative outdoor floodlighting

Luminaires

- Must be used in closed luminaires with a hard glass cover

System

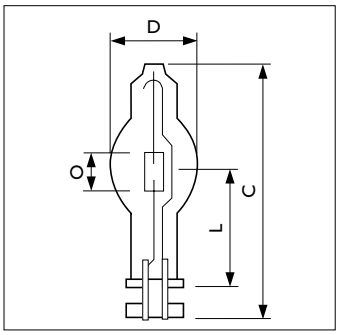
- Must be used in combination with Philips electronic gear

Environment

- Excellent environmental choice because of high energy efficiency and long reliable life
- This product is a Philips Green product
- This product is RoHS compliant
- This product is covered by WEEE

Recommended lamp page 2.104

www.philips.com/OEM



CDM-Tm PGJ5 -

Type	CMax	DMax	LMin	LNom	LMax	OMin	ONom	OMax
MASTERColour CDM-Tm Mini 20W	52	17.3	22.3	22.6	22.9	2.8	3	3.2
MASTERColour CDM-Tm Mini 35W	52	17.3	22.3	22.6	22.9	3.8	4.0	4.2

Technical data

Type	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Time (sec)	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-Tm Mini 20W/830 PGJ5	0.220	22	100	20	No	30	15	3	12000
MASTERColour CDM-Tm Mini 35W/930 PGJ5	0.4	39	96	35	No	30	15	3	12000

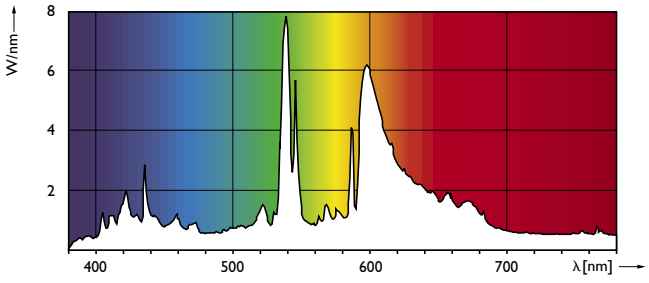
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTERColour CDM-Tm Mini 20W/830 PGJ5	1650	75	Warm White	3000	85	429	395	any
MASTERColour CDM-Tm Mini 35W/930 PGJ5	3000	77	Warm White	3000	90	432	394	any

Ordering and packing data

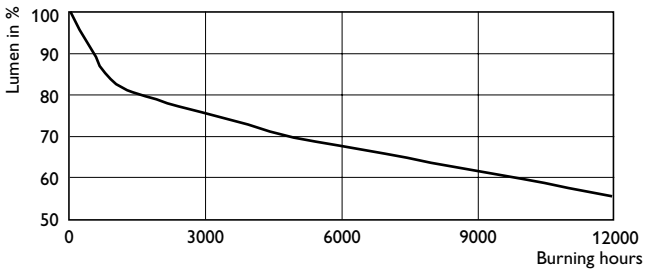
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERColour CDM-Tm Mini 20W/830 PGJ5 1CT	MC-20/30/1B-H-PGJ5	8711500207517	0.006 kg	12	9.7 cm x 7.3 cm x 7.9 cm	8711500207524	207517 15
MASTERColour CDM-Tm Mini 20W/830 PGJ5 KIT	MC-20/30/1B-H-PGJ5	8711500207661	0.013 kg	12	18.8 cm x 10.8 cm x 12.3 cm	8711500207579	207661 15
MASTERColour CDM-Tm Mini 35W/930 PGJ5 1CT	MC-35/30/1A-H-PGJ5	8711500211491	0.006 kg	12	9.7 cm x 7.3 cm x 7.9 cm	8711500211507	211491 15
MASTERColour CDM-Tm Mini 35W/930 PGJ5 KIT	MC-35/1A/30-H-PGJ5	8711500212924	0.013 kg	12	18.8 cm x 10.8 cm x 12.3 cm	8711500212931	212924 15

Spectral power distribution



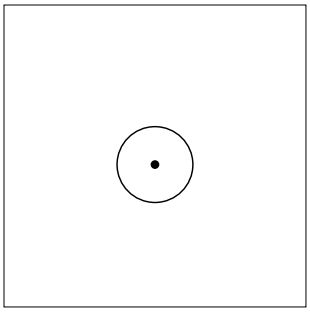
CDM-Tm /830/930

Lumen maintenance diagram



CDM-Tm on electronic gear

Operating position



any



CDM-T 70W /830/842/942 G12

Product Description

- Range of single-ended, compact, high-efficiency, discharge lamps with a stable colour over lifetime and a crisp, sparkling light

Product Features

- Crisp white light
- Superior colour quality
- Allows small-size luminaires designs that give high beam intensities

Product Benefits

- Stable colour impression over lifetime
- High lamp efficacy results in low operating costs and low heat generation
- Long lamp life compared with incandescent and halogen lamps
- Relatively low heat output enhances comfort for shoppers and staff
- All types are UV-Block for reduced fading risks

Application

- Shops and shop windows, offices and public buildings
- Decorative outdoor: floodlighting and pedestrian areas

Luminaires

- Must be used in closed luminaires with a hard-glass cover

System

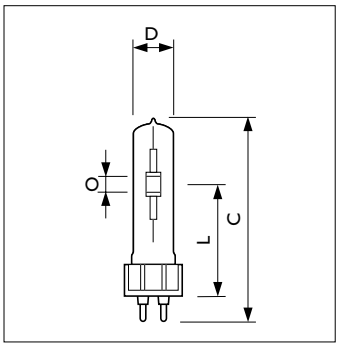
- Must be used in combination with a gear and an ignitor
- A high-current protection device (thermo-switch) in the gear is mandatory (IEC 1167)
- If there is a constant voltage deviation of more than 3% of the rated voltage, a different gear rating / tap must be used
- Electronic gear can be used, and increases lamp-life, improves system efficacy, and eliminates visible flicker
- The CDM-T 35W/942 must be used with electronic gear

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is RoHS compliant
- This product is covered by WEEE

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CDM-T

Type	CMax	DMax	LMin	LNom	LMax	OMin	ONom	OMax
MASTERColour CDM-T 35W/830 G12 1CT	103	20	55	56	57	4.69	4.9	5.11
MASTERColour CDM-T 35W/942 G12 1CT	103	20	55	56	57	-	5	-
MASTERColour CDM-T 70W/830 G12 1CT	103	20	55	56	57	6.67	7	7.33
MASTERColour CDM-T 70W/942 G12 1CT	103	20	55	56	57	5.52	5.85	6.18
MASTERColour CDM-T 150W/830 G12 1CT	110	20	55	56	57	8.67	9	9.33
MASTERColour CDM-T 150W/942 G12 1CT	110	20	55	56	57	7.67	8	8.33
MASTERColour CDM-T 250W/830/942 G12 1CT	135	25	72	73	74	-	11	-

Technical data

Type	Lamp Current (A)	Lamp Wattage (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)
MASTERColour CDM-T 35W/830 G12 1CT	0.53	38.0	88	35	No	5000	198	30
MASTERColour CDM-T 35W/942 G12 1CT	-	-	85	35	No	5000	198	30
MASTERColour CDM-T 70W/830 G12 1CT	0.98	71.0	88	70	No	5000	198	30
MASTERColour CDM-T 70W/942 G12 1CT	0.98	72.0	88	70	No	5000	198	30
MASTERColour CDM-T 150W/830 G12 1CT	1.8	147.0	96	150	No	5000	198	30
MASTERColour CDM-T 150W/942 G12 1CT	1.9	145.0	90	150	No	5000	198	30
MASTERColour CDM-T 250W/830 G12 1CT	3	245	93	250	No	5000	198	30
MASTERColour CDM-T 250W/942 G12 1CT	3	247	94	250	No	5000	198	30

Technical data

Type	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-T 35W/830 G12 1CT	15	3	12000
MASTERColour CDM-T 35W/942 G12 1CT	15	3	12000
MASTERColour CDM-T 70W/830 G12 1CT	15	3	12000
MASTERColour CDM-T 70W/942 G12 1CT	15	3	12000
MASTERColour CDM-T 150W/830 G12 1CT	15	3	12000
MASTERColour CDM-T 150W/942 G12 1CT	15	3	12000
MASTERColour CDM-T 250W/830 G12 1CT	15	3	11000
MASTERColour CDM-T 250W/942 G12 1CT	15	3	6000

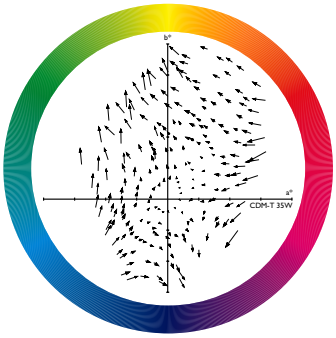
Light data

Type	Luminous Flux Lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTERColour CDM-T 35W/830 G12 1CT	3300	87	Warm White	3000	81	428	397	any
MASTERColour CDM-T 35W/942 G12 1CT	-	-	Cool White	4200	90	365	364	any
MASTERColour CDM-T 70W/830 G12 1CT	6600	93	Warm White	3000	84	428	394	any
MASTERColour CDM-T 70W/942 G12 1CT	6600	92	Cool White	4200	92	372	369	any
MASTERColour CDM-T 150W/830 G12 1CT	14000	95	Warm White	3000	85	436	396	any
MASTERColour CDM-T 150W/942 G12 1CT	12700	88	Cool White	4200	96	375	363	any
MASTERColour CDM-T 250W/830 G12 1CT	23000	94	Warm White	3000	89	427	384	any
MASTERColour CDM-T 250W/942 G12 1CT	23300	94	Cool White	4200	94	372	367	any

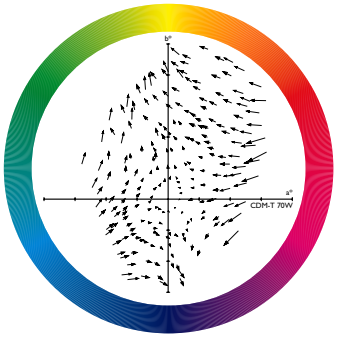
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERColour CDM-T 35W/830 G12 1CT	MT-35/30/1B-H-G12	8711500196972	0.027 kg	12	14.9 cm x 13.1 cm x 13.6 cm	8711500196989	196972 15
MASTERColour CDM-T 35W/830 G12 1CT	MT-35/30/1B-H-G12	87115002202178	0.027 kg	12	14.9 cm x 13.1 cm x 13.6 cm	8711500202185	202178 15
MASTERColour CDM-T 35W/942 G12 1CT	MT-35/42/1A-H-G12	8711500211262	0.028 kg	12	14.9 cm x 13.1 cm x 13.6 cm	8711500211279	211262 15
MASTERColour CDM-T 70W/830 G12 1CT	MT-70/30/1B-H-G12	87115002202192	0.029 kg	12	14.9 cm x 13.1 cm x 13.6 cm	8711500202208	202192 15
MASTERColour CDM-T 70W/830 G12 1CT	MT-70/30/1B-H-G12	8711500196996	0.029 kg	12	14.9 cm x 13.1 cm x 13.6 cm	8711500197009	196996 15
MASTERColour CDM-T 70W/942 G12 1CT	MT-70/42/1A-H-G12	8711500199270	0.029 kg	12	14.9 cm x 13.1 cm x 13.6 cm	8711500199287	199270 15
MASTERColour CDM-T 70W/942 G12 1CT	MT-70/42/1A-H-G12	8711500206596	0.029 kg	12	14.9 cm x 13.1 cm x 13.6 cm	8711500206602	206596 15
MASTERColour CDM-T 150W/830 G12 1CT	MT-150/30/1B-H-G12	87115002202215	0.033 kg	12	17.5 cm x 15.6 cm x 15.9 cm	8711500202222	202215 15
MASTERColour CDM-T 150W/830 G12 1CT	MT-150/30/1B-H-G12	8711500197801	0.033 kg	12	17.5 cm x 15.6 cm x 15.9 cm	8711500197818	197801 15
MASTERColour CDM-T 150W/942 G12 1CT	MT-150/42/1A-H-G12	8711500200051	0.033 kg	12	17.5 cm x 15.6 cm x 15.9 cm	8711500200068	200051 15
MASTERColour CDM-T 150W/942 G12 1CT	MT-150/42/1A-H-G12	87115002206619	0.033 kg	12	17.5 cm x 15.6 cm x 15.9 cm	8711500206626	206619 15
MASTERColour CDM-T 250W/830 G12 1CT	MT-250/30/1B-H-G12	87115002208019	0.039 kg	12	17.7 cm x 15.7 cm x 16.3 cm	8711500208026	208019 15
MASTERColour CDM-T 250W/942 G12 1CT	MT-250/42/1A-H-G12	8711500211125	0.039 kg	12	17.7 cm x 15.7 cm x 16.3 cm	8711500211132	211125 15

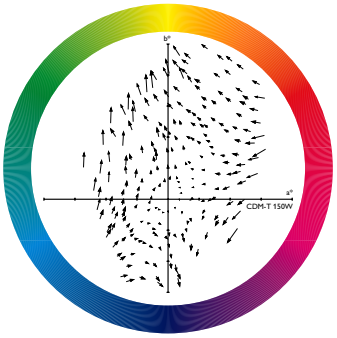
CRV diagram



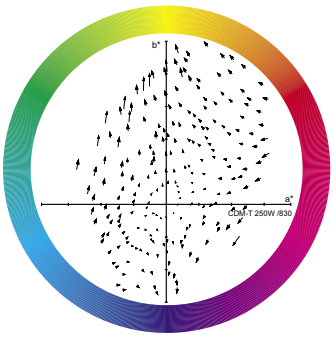
CDM-T 35W /830



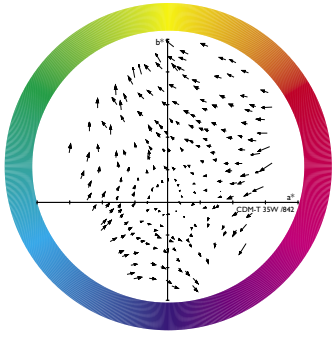
CDM-T 70W /830



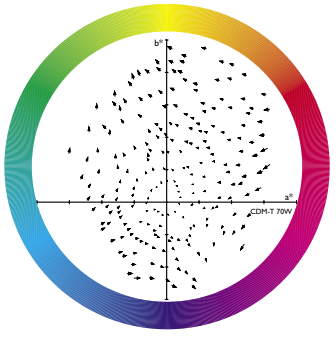
CDM-T 150W /830



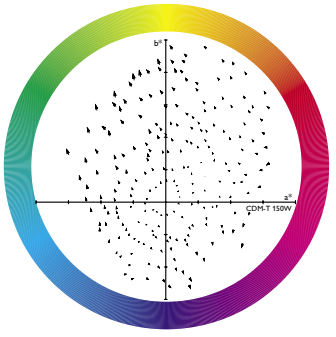
CDM-T 250W /830



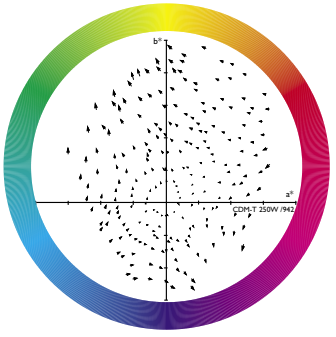
CDM-T 35W /942



CDM-T 70W /942

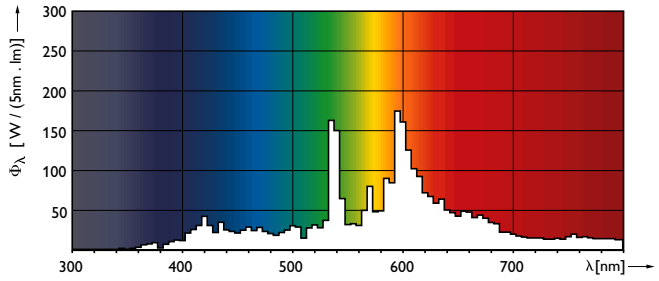


CDM-T 150W /942

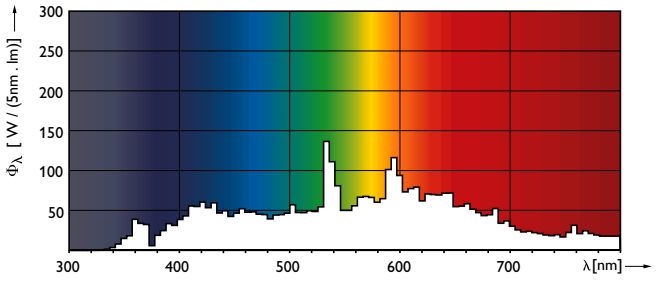


CDM-T 250W /942

Spectral power distribution

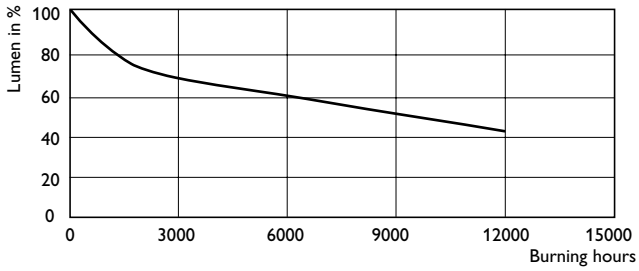


CDM-T /830

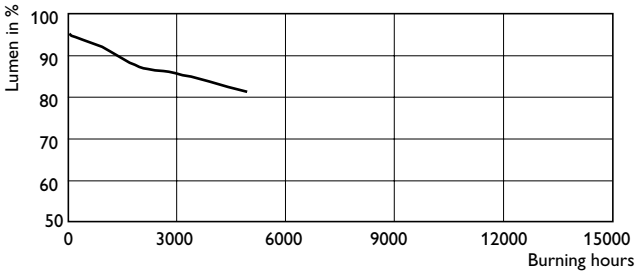


CDM-T /942

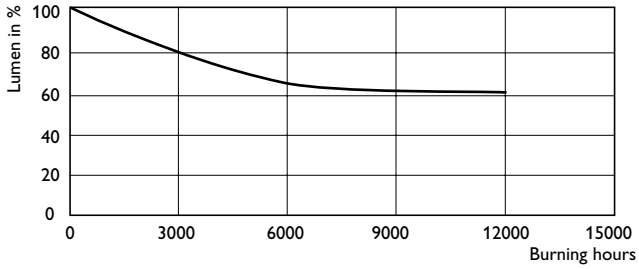
Lumen maintenance diagram



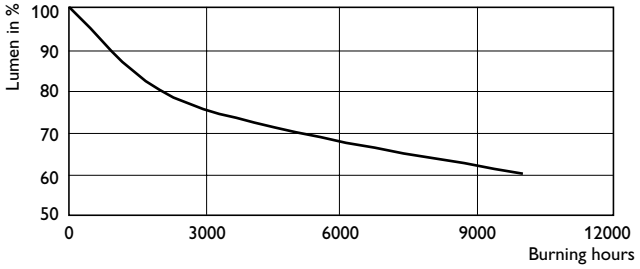
CDM-T 35W /830



CDM-T 35W /942

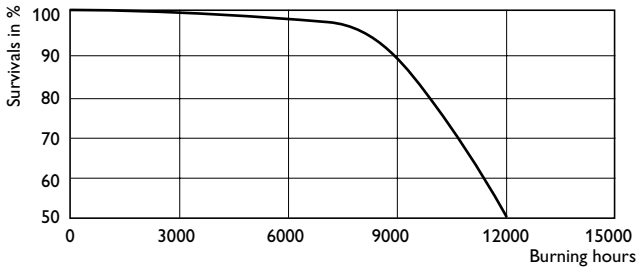


CDM-T 70W/150W /830/942

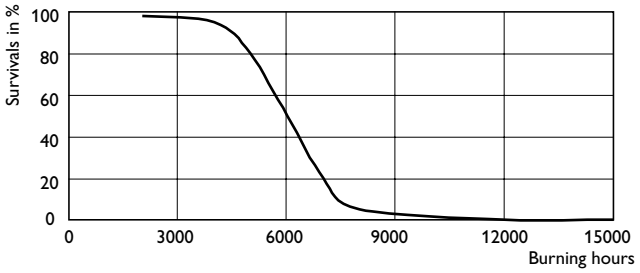


CDM-T 250W /830/942

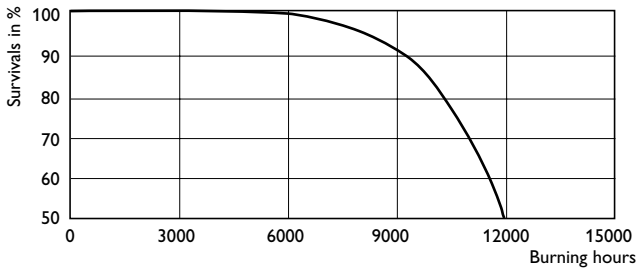
Life expectancy diagram



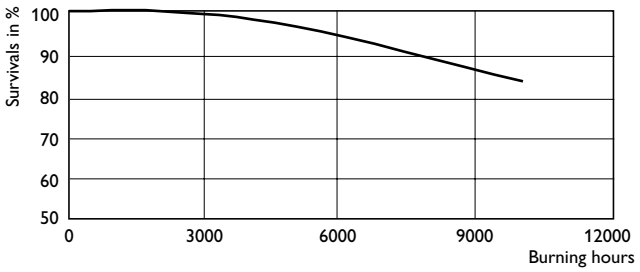
CDM-T 35W /830



CDM-T 35W /942

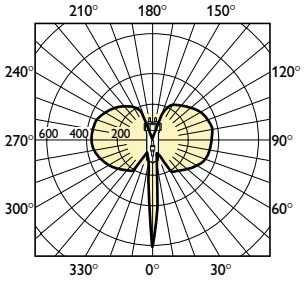


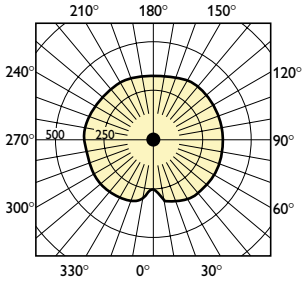
CDM-T 70W/150W /830/942



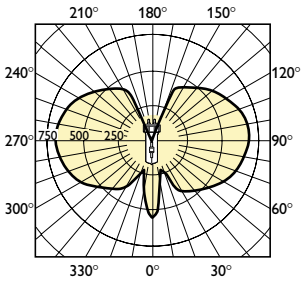
CDM-T 250W /830/942

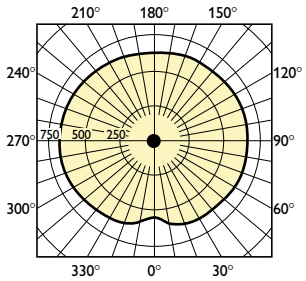
Photometric diagram



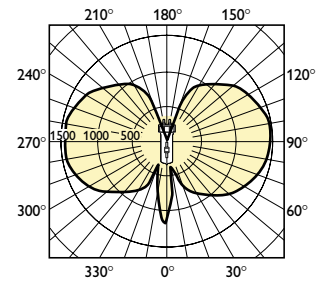


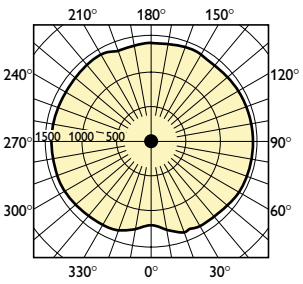
CDM-T 35W /830



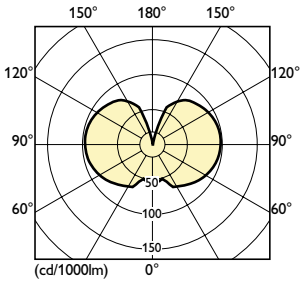


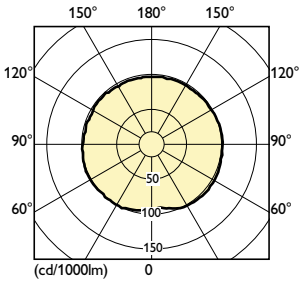
CDM-T 70W /830/942





CDM-T 150W

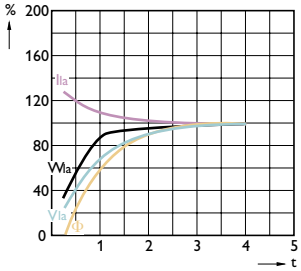




CDM-T 250W /830/942

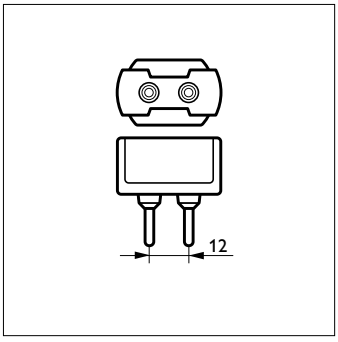
Performance diagram

Lamp performance during run up



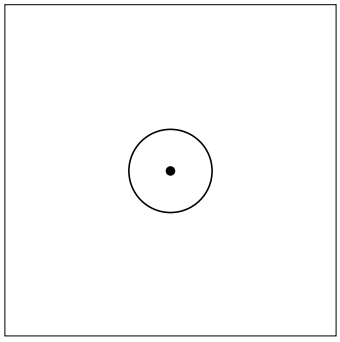
CDM-T /830/842/942

Cap Base



G12

Operating position



any





CDM-TC 70W /830/842/942

Product Description

- Range of single-ended, very compact, high-efficiency, discharge lamps with a stable colour over lifetime and a crisp, sparkling light

Product Features

- Crisp white light
- Superior colour quality
- Allows very small-size luminaires designs that give high beam intensities

Product Benefits

- Long lamp life compared with incandescent and halogen lamps
- UV-Block quartz outer bulb for reduced fading risks
- Stable colour impression over lifetime
- High lamp efficacy results in low operating costs and low heat generation (which enhances comfort for shoppers and staff)

Application

- Accent lighting display lighting with sparkling effect
- General and decorative lighting

Luminaires

- Must be used in closed luminaires with a hard-glass cover

System

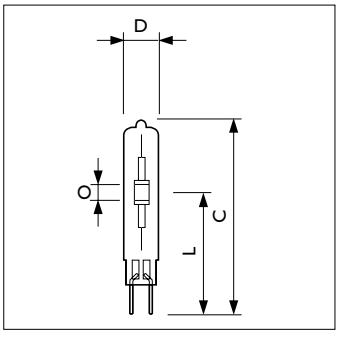
- CDM-TC lamps must be used with electronic gear. Only CDM-TC 35/830 can also be used in combination with electromagnetic gear
- A high-current protection device (thermo-switch) in the gear is mandatory (IEC 1167)

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 2.104

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CDM-TC

Type	CMax	DMax	LMin	LNom	LMax	OMin	ONom	OMax
MASTERColour CDM-TC 35W/830/942 G8.5 1CT	85	15	51	52	53	4.69	4.9	5.11
MASTERColour CDM-TC 70W/830 G8.5 1CT	85	15	51	52	53	6.67	7	7.33
MASTERColour CDM-TC 70W/942 G8.5 1CT	85	-	51	52	53	5.05	5.3	-

Technical data

Type	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)
MASTERColour CDM-TC 35W/830 G8.5 1CT	-	-	88	35	No	5000	198	30
MASTERColour CDM-TC 35W/942 G8.5 1CT	0.46	38	85	35	No	-	198	30
MASTERColour CDM-TC 70W/830 G8.5 1CT	0.87	73	83	70	No	5000	198	30
MASTERColour CDM-TC 70W/942 G8.5 1CT	0.830	73	88	70	No	-	-	30

Technical data

Type	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-TC 35W/830 G8.5 1CT	15	3	9000
MASTERColour CDM-TC 35W/942 G8.5 1CT	15	3	10000
MASTERColour CDM-TC 70W/830 G8.5 1CT	15	3	10000
MASTERColour CDM-TC 70W/942 G8.5 1CT	15	3	10000

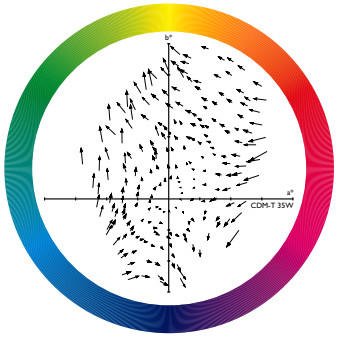
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTERColour CDM-TC 35W/830 G8.5 1CT	-	-	Warm White	3000	81	432	394	any
MASTERColour CDM-TC 35W/942 G8.5 1CT	3300	79	Cool White	4200	90	370	365	any
MASTERColour CDM-TC 70W/830 G8.5 1CT	6500	89	Warm White	3000	83	439	398	any
MASTERColour CDM-TC 70W/942 G8.5 1CT	5900	80	Cool White	4400	90	364	360	any

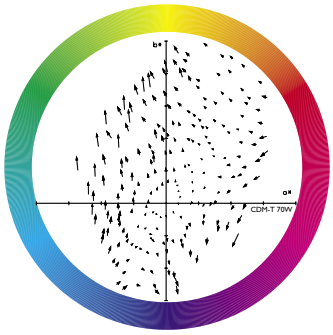
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERColour CDM-TC 35W/830 G8.5 1CT	MT-35/30/1A-H-G8.5	8711500200006	0.01 kg	12	13.6 cm x 11.3 cm x 11.5 cm	8711500200013	200006 15
MASTERColour CDM-TC 35W/830 G8.5 UVbl-Q OEM	MT-35/30/1A-H-G8.5	8711500202277	0.01 kg	12	13.6 cm x 11.3 cm x 11.5 cm	8711500202284	202277 15
MASTERColour CDM-TC 35W/942 G8.5 1CT	MT-35/42/1B-H-G8.5	8711500209573	0.01 kg	12	13.6 cm x 11.3 cm x 11.5 cm	8711500209580	209573 15
MASTERColour CDM-TC 70W/830 G8.5 1CT	MT-70/30/1B-H-G8.5	8711500201676	0.01 kg	12	13.6 cm x 11.3 cm x 11.5 cm	8711500201683	201676 15
MASTERColour CDM-TC 70W/830 G8.5 UVbl-Q OEM	MT-70/30/1B-H-G8.5	8711500206534	0.01 kg	12	13.6 cm x 11.3 cm x 11.5 cm	8711500206541	206534 15
MASTERColour CDM-TC 70W/942 G8.5 1CT	MT-70/42/1B-H-G8.5	8711500212757	0.01 kg	12	13.6 cm x 11.3 cm x 11.5 cm	8711500212764	212757 15
MASTERColour CDM-TC 70W/942 G8.5 UVbl-Q OEM	MT-70/42/1B-H-G8.5	8711500213303	0.01 kg	12	13.6 cm x 11.3 cm x 11.5 cm	8711500213310	213303 15

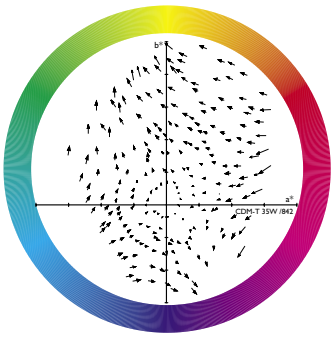
CRV diagram



CDM-TC 35W /830

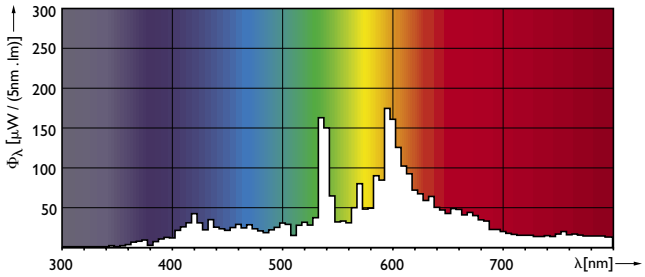


CDM-TC 70W /830

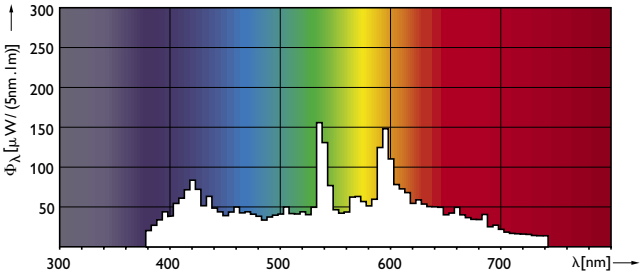


CDM-TC 35W /942

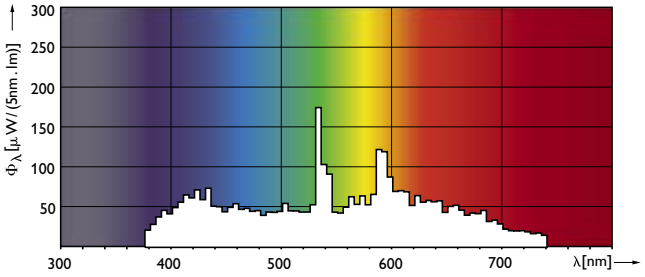
Spectral power distribution



CDM-TC /830



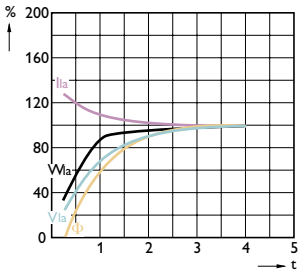
CDM-TC 35W /942



CDM-TC 70W /942

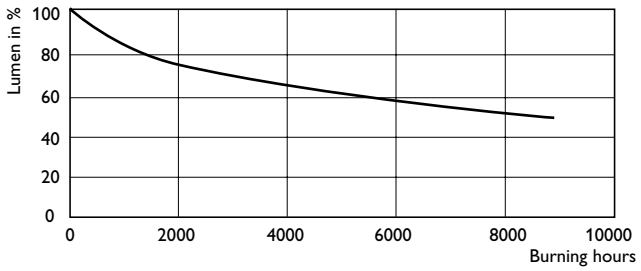
Performance diagram

Lamp performance during run up

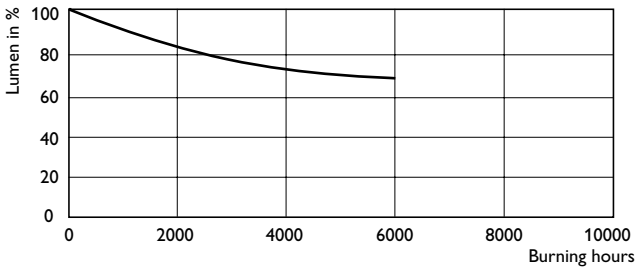


CDM-TC /830/842/942

Lumen maintenance diagram

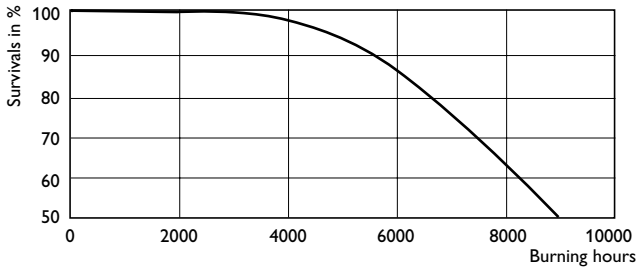


CDM-TC 35W /830

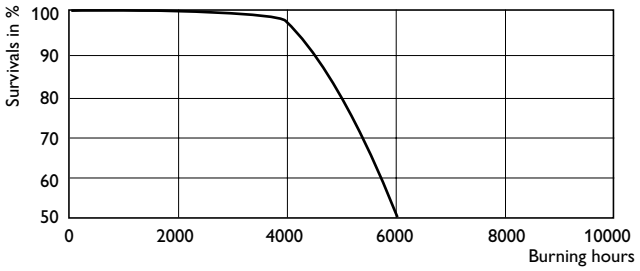


CDM-TC 70W/830 on electronic gear

Life expectancy diagram

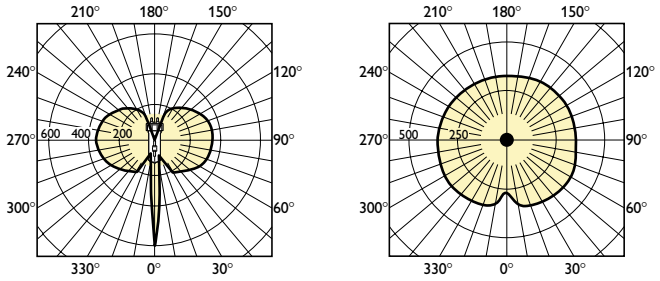


CDM-TC 35W /830



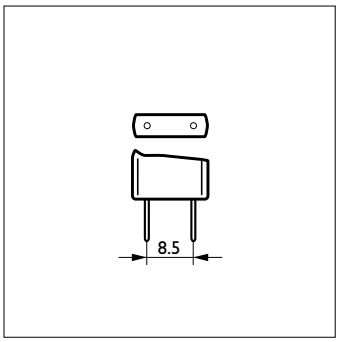
CDM-TC 70W/830 on electronic gear

Photometric diagram



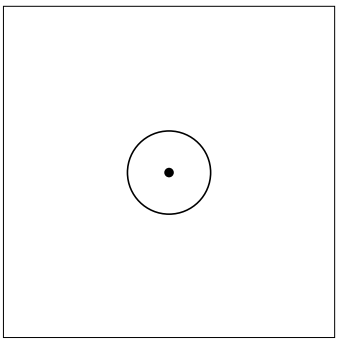
CDM-TC 35W/70W /830

Cap Base



G8.5

Operating position



any



CDM-TP PGX12-2

Product Description

- Range of protected, high-efficiency, discharge lamps with a stable colour over lifetime and a crisp, sparkling light to be used in open luminairs

Product Features

- Crisp white light
- Superior colour quality
- Lamp design is well-suited to be used in luminairs for power-spots (high intensity) and high-bay general lighting
- Double UV-Block quartz sleeves and a hard-glass outer bulb

Product Benefits

- High lamp efficacy results in low operating costs and low heat generation
- Stable colour impression over lifetime
- Long lamp life compared with incandescent and halogen lamps
- Relatively low heat output enhances comfort for shoppers and staff
- All types have UV-Block filtering for reduced fading risks

Application

- Shops and shop windows, offices and public buildings
- Decorative outdoor: floodlighting and pedestrian areas

Luminaires

- Suitable for use in open luminaires

System

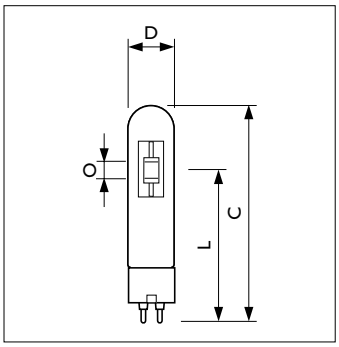
- Must be used in combination with a gear and ignitor or electrical gear
- A high-current protection device (thermo-switch) in the gear is mandatory (IEC 1167)
- If there is a constant voltage deviation of more than 3% of the rated voltage, a different gear rating / tap must be used
- Electronic gear can be used to increase lamp-life, improve system efficacy, and offer flicker-free operation

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 2.104

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CDM-TP

Type	CMax	DMax	LMin	LNom	LMax	OMin	ONom	OMax
MASTERColour CDM-TP 70W/830 PG12-2 1CT	149	32.00	89	91	93	6.67	7	7.33
MASTERColour CDM-TP 70W/942 PG12-2 1CT	149	32.00	89	91	93	5.52	5.85	6.18
MASTERColour CDM-TP 150W/830 PGX12-2 1CT	149	32.00	89	91	93	8.67	9	9.33
MASTERColour CDM-TP 150W/942 PGX12-2 1CT	149	32.00	89	91	93	7.67	8	8.33

Technical data

Type	Lamp Current (A)	Lamp Wattage (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)
MASTERColour CDM-TP 70W/830 PG12-2 1CT	0.98	73.0	90	70	No	5000	198	30
MASTERColour CDM-TP 70W/942 PG12-2 1CT	0.98	74.0	90	70	No	5000	198	30
MASTERColour CDM-TP 150W/830 PGX12-2 1CT	1.8	149.0	98	150	No	5000	198	30
MASTERColour CDM-TP 150W/942 PGX12-2 1CT	1.8	148.0	96	150	No	5000	198	30

Technical data

Type	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-TP 70W/830 PG12-2 1CT	15	3	16000
MASTERColour CDM-TP 70W/942 PG12-2 1CT	15	4	16000
MASTERColour CDM-TP 150W/830 PGX12-2 1CT	15	3	16000
MASTERColour CDM-TP 150W/942 PGX12-2 1CT	15	4	16000

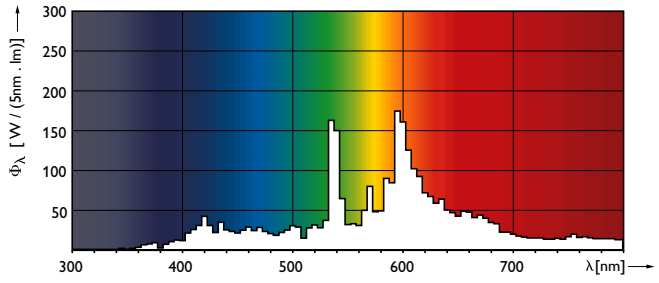
Light data

Type	Luminous Flux Lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTERColour CDM-TP 70W/830 PG12-2 1CT	5800	82	Warm White	3200	81	425	400	any
MASTERColour CDM-TP 70W/942 PG12-2 1CT	5800	78	Cool White	4200	90	370	370	any
MASTERColour CDM-TP 150W/830 PGX12-2 1CT	13000	87	Warm White	2950	85	438	402	any
MASTERColour CDM-TP 150W/942 PGX12-2 1CT	12000	81	Cool White	4200	95	371	370	any

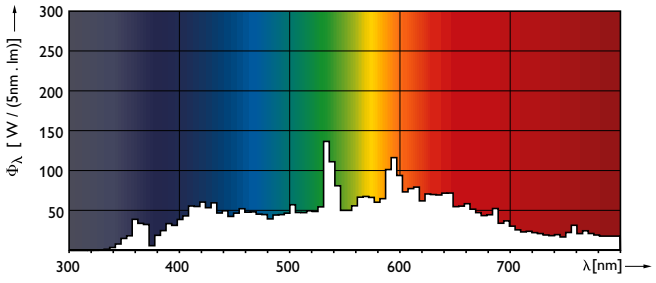
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERColour CDM-TP 70W/830 PG12-2 1CT	MT-70/30/1B-H-PG12-2	8711500201270	0.073 kg	12	25.9 cm x 21.2 cm x 24.7 cm	8711500201287	201270 15
MASTERColour CDM-TP 70W/942 PG12-2 1CT	MD-70/42/1A-H-PG12-2	8711500201133	0.073 kg	12	25.9 cm x 21.2 cm x 24.7 cm	8711500201140	201133 15
MASTERColour CDM-TP 150W/830 PGX12-2 1CT	MT-150/30/1B-H-PG12-2	8711500201256	0.077 kg	12	25.9 cm x 21.2 cm x 24.7 cm	8711500201263	201256 15
MASTERColour CDM-TP 150W/942 PGX12-2 1CT	MD-150/42/1A-H-PGX12-2	8711500201119	0.077 kg	12	25.9 cm x 21.2 cm x 24.7 cm	8711500201126	201119 15

Spectral power distribution



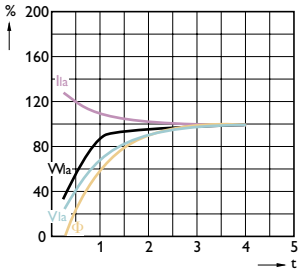
CDM-TP /830



CDM-TP /942

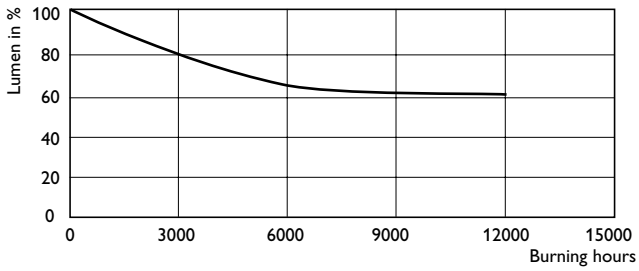
Performance diagram

Lamp performance during run up



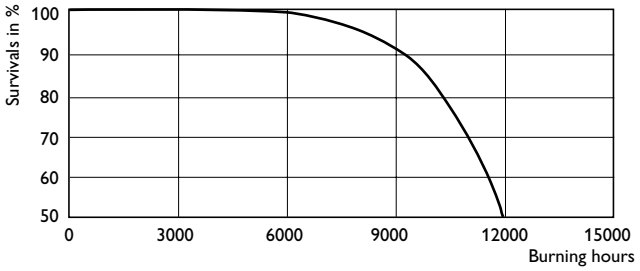
CDM-TP

Lumen maintenance diagram



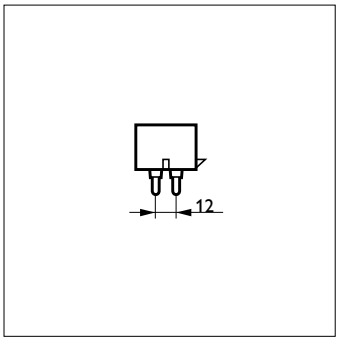
CDM-TP 70W/150W /830/935/942

Life expectancy diagram

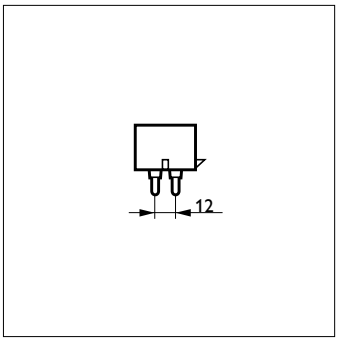


CDM-TP 70W/150W /830/935/942

Cap Base

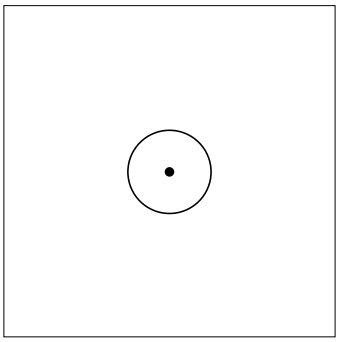


PG12-2



PGX12-2

Operating position



any





CDM-TD 70W

Product Description

- Range of double-ended, compact, high-efficiency, discharge lamps with a stable colour over lifetime and a crisp, sparkling light

Product Features

- Crisp white light
- Superior colour quality
- Retrofit in double-ended luminairs for quartz metal halide lamps (MHN-TD), thereby allowing to reduce operating costs and improve colour quality
- Burning position horizontal +/-45°

Product Benefits

- Stable colour impression over lifetime
- High lamp efficacy results in low operating costs and low heat generation. Provides better operating costs and improved light quality versus standard quartz metal halide (MHN-TD)
- Long lamp life compared with incandescent, halogen and quartz metal halide (MHN-TD) lamps
- Relatively low heat output enhances comfort for shoppers and staff
- All types are UV-Block for reduced fading risks

Application

- Shops and shop windows, offices and public buildings
- Decorative outdoor: floodlighting of facades, statues and monuments

Luminaires

- Must be used in closed luminaires with a hard-glass cover

System

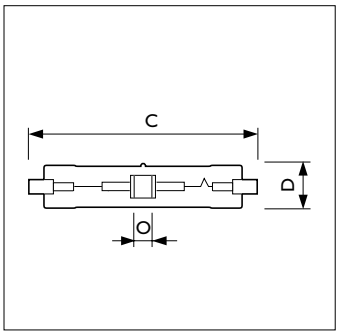
- Must be used in combination with a gear and ignitor or electronic gear
- A high-current protection device (thermo-switch) in the gear is mandatory (IEC 1167)
- If there is a constant voltage deviation of more than 3% of the rated voltage, a different gear rating / tap must be used
- Electronic gear can be used, and increases lamp-life, improves system efficacy, and eliminates visible flicker

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 2.104

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CDM-TD

Type	CMax	DMax	OMin	ONom	OMax
MASTERColour CDM-TD 70W/830 RX7s 1CT	119.63	22	7.67	8	8.33
MASTERColour CDM-TD 70W/942 RX7s 1CT	119.63	22	6.52	6.85	7.18
MASTERColour CDM-TD 150W/830/942 RX7s 1CT	137.43	25	9.62	9.95	10.28

Technical data

Type	Lamp Current (A)	Lamp Wattage (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)
MASTERColour CDM-TD 70W/830 RX7s 1CT	0.97	71.0	92	70	No	5000	198	30
MASTERColour CDM-TD 70W/942 RX7s 1CT	0.99	71.0	89	70	No	5000	198	30
MASTERColour CDM-TD 150W/830 RX7s 1CT	1.8	145.0	96	150	No	5000	198	30
MASTERColour CDM-TD 150W/942 RX7s 1CT	1.82	149.0	100	150	No	5000	198	30

Technical data

Type	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-TD 70W/830 RX7s 1CT	15	3	16000
MASTERColour CDM-TD 70W/942 RX7s 1CT	15	3	16000
MASTERColour CDM-TD 150W/830 RX7s 1CT	15	3	16000
MASTERColour CDM-TD 150W/942 RX7s 1CT	15	3	16000

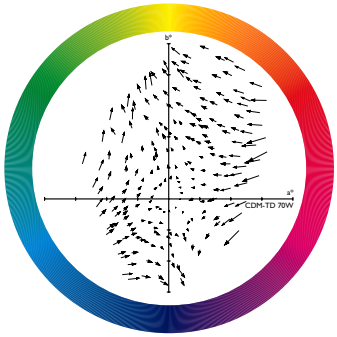
Light data

Type	Luminous Flux Lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTERColour CDM-TD 70W/830 RX7s 1CT	6500	86	Warm White	3000	82	434	397	p45
MASTERColour CDM-TD 70W/942 RX7s 1CT	6000	80	Cool White	4200	92	375	364	p45
MASTERColour CDM-TD 150W/830 RX7s 1CT	13250	85	Warm White	3000	88	431	390	p45
MASTERColour CDM-TD 150W/942 RX7s 1CT	14200	91	Cool White	4200	96	370	368	p45

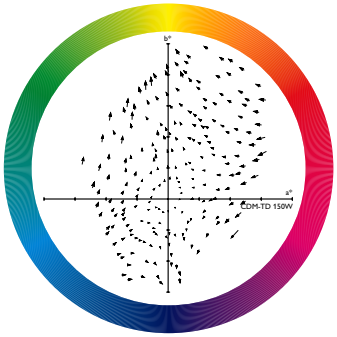
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERColour CDM-TD 70W/830 RX7s 1CT	MD-70/30/1B-H-RX7s	8711500197825	0.021 kg	12	17.5 cm x 15.6 cm x 19.1 cm	8711500197832	197825 15
MASTERColour CDM-TD 70W/830 RX7s OEM 1CT	MD-70/30/1B-H-RX7s	8711500202239	0.021 kg	12	17.7 cm x 16.2 cm x 19.3 cm	8711500202246	202239 15
MASTERColour CDM-TD 70W/942 RX7s 1CT	MD-70/42/1A-H-RX7s	8711500200020	0.021 kg	12	17.5 cm x 15.6 cm x 19.1 cm	8711500200037	200020 15
MASTERColour CDM-TD 70W/942 RX7s OEM 1CT	MD-70/42/1A-H-RX7s	8711500206558	0.021 kg	12	17.7 cm x 16.2 cm x 19.6 cm	8711500206565	206558 15
MASTERColour CDM-TD 150W/830 RX7s 1CT	MD-150/30/1B-H-RX7s	8711500197849	0.03 kg	12	17.5 cm x 15.6 cm x 19.1 cm	8711500197856	197849 15
MASTERColour CDM-TD 150W/830 RX7s OEM 1CT	MD-150/30/1B-H-RX7s	8711500202253	0.03 kg	12	17.7 cm x 16.2 cm x 19.6 cm	8711500202260	202253 15
MASTERColour CDM-TD 150W/942 RX7s 1CT	MD-150/42/1A-H-RX7s	8711500200259	0.03 kg	12	17.5 cm x 15.6 cm x 19.1 cm	8711500200266	200259 15
MASTERColour CDM-TD 150W/942 RX7s OEM 1CT	MD-150/42/1A-H-RX7s	8711500206572	0.03 kg	12	17.7 cm x 16.2 cm x 19.6 cm	8711500206589	206572 15

CRV diagram

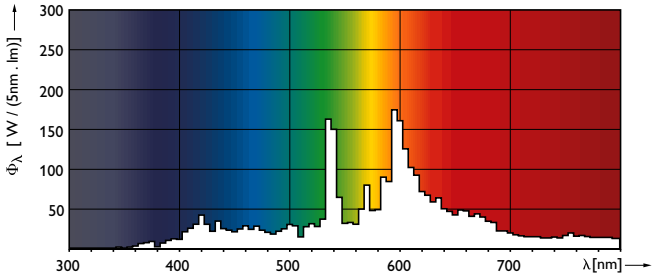


CDM-TD 70W

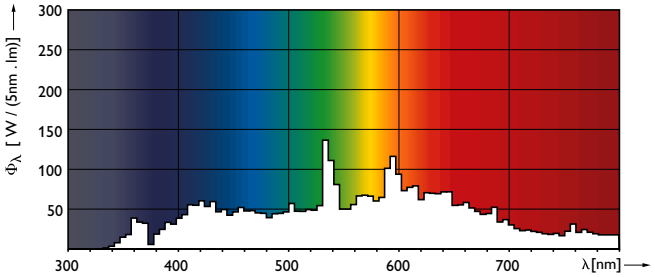


CDM-TD 150W

Spectral power distribution



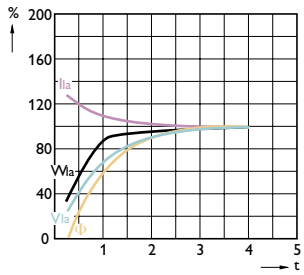
CDM-TD /830



CDM-TD /942

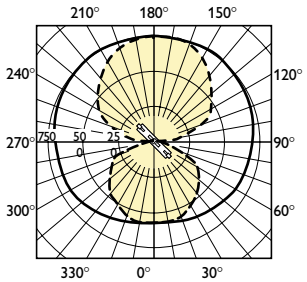
Performance diagram

Lamp performance during run up

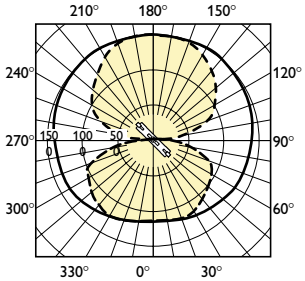


CDM-TD

Photometric diagram

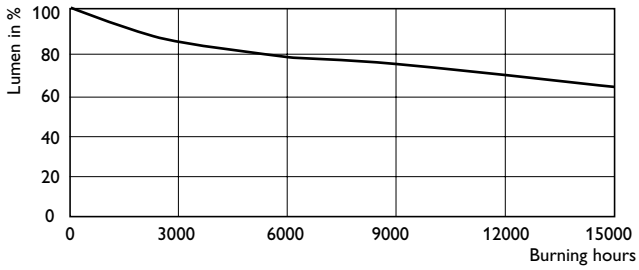


CDM-TD 70W



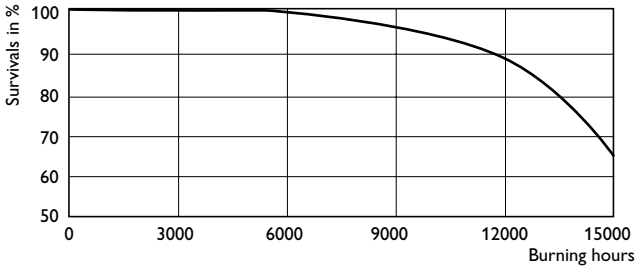
CDM-TD 150W

Lumen maintenance diagram



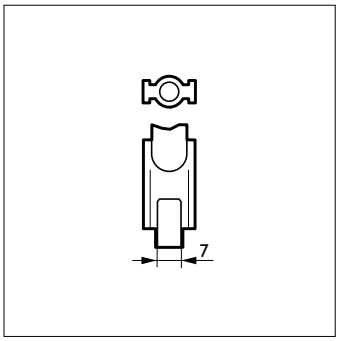
CDM-TD 70W/150W /830/942

Life expectancy diagram



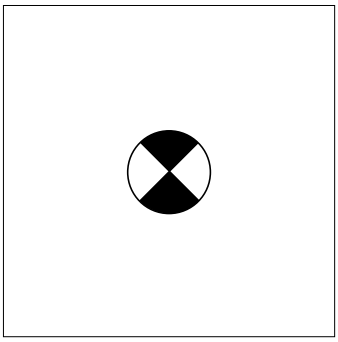
CDM-TD 70W/150W /830/942

Cap Base



RX7s

Operating position



p45



CDM-R111 24D/40D

Product Description

- The MASTERColour CDM-R111 combines the trendy look of the 111 mm aluminium reflector halogen lamps with the long life, high energy efficiency and crisp white light of MASTERColour CDM

Product Features

- High lamp efficacy
- Long lamp lifetime compared to incandescent and halogen lamps
- The ceramic discharge tube is optimally and stable positioned in the reflector
- Twist & Lock system
- UV-Block burner capsule
- Anti-glare cap design

Product Benefits

- Low operating costs
- Easy installation
- Relatively low heat output
- Less glare, comfort for shoppers and staff
- Reduced fading risks

Application

- Accent and decorative lighting: display lighting with sparkling, theatrical effects, even in surroundings with very high background ambient light levels like shop windows
- General lighting: in downlighters, a warm and comfortable atmosphere can be created

Luminaires

- Standard 111 mm reflector design increases flexibility in application and allows CDM-R111 easily fixed into the many existing 111 luminaires
- Simplified luminaire design because CDM-R111 lamps can be used in open luminaires
- GX8.5 lamp connector used must be suitable for ignition peaks up to 5 kV

System

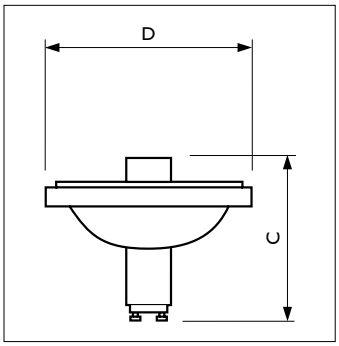
- Must be used in combination with a gear and ignitor or electronic gear
- Except for CDM R111 35W/830, all the other types should be used with an electronic gear
- A high-current protection device (thermo-switch) in the gear is mandatory (IEC1167)
- If there is a constant voltage deviation of more than 3% of the reated voltage, a different gear rating / tap must be used
- Electronic gear can be used and increases lamp-life, improves system efficacy and eliminates visible flicker

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is a Philips Green product
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 2.104

www.philips.com/OEM



CDM-R111 GX8.5

Type	CMax	DMax
MASTERColour CDM-R111	95	111

Technical data

Type	Lamp Current (A)	Lamp Wattage (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Ignition Time (sec)	Re-ignition Time (min)	Run-up time 90% (min)
MASTERColour CDM-R111 20W/830 GX8.5 1CT	0.22	22	101	20	No	198	30	15	3
MASTERColour CDM-R111 35W/942 GX8.5 1CT	0.46	39	86	35	No	198	30	15	-
MASTERColour CDM-R111 70W/830 GX8.5 1CT	0.88	73	83	70	No	198	30	15	3
MASTERColour CDM-R111 70W/942 GX8.5 1CT	0.80	73	92	70	No	198	30	15	3

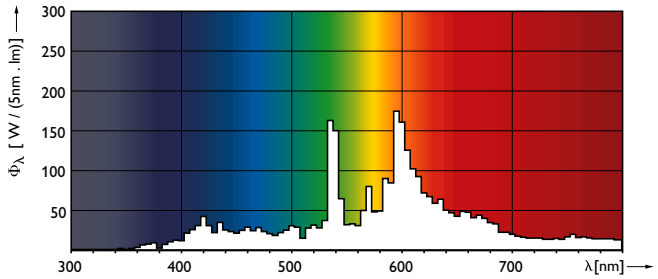
Light data

Type	Luminous Flux Lamp (lm)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position	Beam Description	Beam Angle (°)
MASTERColour CDM-R111 20W/830 GX8.5 10D 1CT	750	Warm White	3000	85	429	395	any	Spot	10
MASTERColour CDM-R111 20W/830 GX8.5 24D 1CT	750	Warm White	3000	85	429	395	any	Narrow Flood	24
MASTERColour CDM-R111 35W/830 GX8.5 10D 1CT	1100	Warm White	3000	81	433	402	any	Spot	10
MASTERColour CDM-R111 35W/830 GX8.5 24D 1CT	1350	Warm White	3000	81	433	402	any	Narrow Flood	24
MASTERColour CDM-R111 35W/830 GX8.5 40D 1CT	1350	Warm White	3000	81	433	402	any	Flood	40
MASTERColour CDM-R111 35W/942 GX8.5 10D 1CT	1100	Cool White	4200	92	370	366	any	Spot	10
MASTERColour CDM-R111 35W/942 GX8.5 40D 1CT	1350	Cool White	4200	92	370	366	any	Flood	40
MASTERColour CDM-R111 70W/830 GX8.5 10D 1CT	2500	Warm White	3000	84	439	393	any	Spot	10
MASTERColour CDM-R111 70W/830 GX8.5 24D 1CT	2850	Warm White	3000	84	439	393	any	Narrow Flood	24
MASTERColour CDM-R111 70W/830 GX8.5 40D 1CT	2850	Warm White	3000	84	439	393	any	Flood	40
MASTERColour CDM-R111 70W/942 GX8.5 10D 1CT	2500	Cool White	4200	95	370	365	any	Spot	10
MASTERColour CDM-R111 70W/942 GX8.5 24D 1CT	2850	Cool White	4200	95	370	365	any	Narrow Flood	24
MASTERColour CDM-R111 70W/942 GX8.5 40D 1CT	2850	Cool White	4200	95	370	365	any	Flood	40

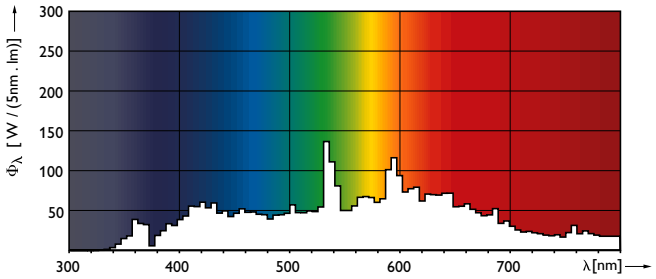
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERColour CDM-R111 20W/830 GX8.5 10D 1CT	MRS/UB-20/30/1B-H-GX8.5	8711500209474	0.095 kg	6	32.5 cm x 24 cm x 15.5 cm	8711500209481	209474 10
MASTERColour CDM-R111 20W/830 GX8.5 24D 1CT	MRS/UB-20/30/1B-H-GX8.5	8711500209511	0.095 kg	6	32.5 cm x 24 cm x 15.5 cm	8711500209528	209511 10
MASTERColour CDM-R111 35W/830 GX8.5 10D 1CT	MRS/UB-35/30/1B-H-GX8.5	8711500204486	0.096 kg	6	32.5 cm x 24 cm x 15.5 cm	8711500204493	204486 10
MASTERColour CDM-R111 35W/830 GX8.5 24D 1CT	MRS/UB-35/30/1B-H-GX8.5	8711500204509	0.096 kg	6	32.5 cm x 23.5 cm x 15 cm	8711500204516	204509 10
MASTERColour CDM-R111 35W/830 GX8.5 40D 1CT	MRS/UB-35/30/1B-H-GX8.5	8711500204523	0.096 kg	6	32.5 cm x 23.5 cm x 13.8 cm	8711500204530	204523 10
MASTERColour CDM-R111 35W/942 GX8.5 10D 1CT	MRS/UB-35/42/1A-H-GX8.5	8711500213853	0.095 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500213860	213853 10
MASTERColour CDM-R111 35W/942 GX8.5 40D 1CT	MRS/UB-35/42/1A-H-GX8.5	8711500213891	0.095 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500213907	213891 10
MASTERColour CDM-R111 70W/830 GX8.5 10D 1CT	MRS/UB-70/30/1B-H-GX8.5	8711500207197	0.096 kg	6	32.5 cm x 24 cm x 15.5 cm	8711500207203	207197 10
MASTERColour CDM-R111 70W/830 GX8.5 24D 1CT	MRS/UB-70/30/1B-H-GX8.5	8711500207210	0.096 kg	6	32.5 cm x 24 cm x 15.5 cm	8711500207227	207210 10
MASTERColour CDM-R111 70W/830 GX8.5 40D 1CT	MRS/UB-70/30/1B-H-GX8.5	8711500207234	0.096 kg	6	32.5 cm x 24 cm x 15.5 cm	8711500207241	207234 10
MASTERColour CDM-R111 70W/942 GX8.5 10D 1CT	MRS/UB-70/42/1A-H-GX8.5	8711500213914	0.095 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500213921	213914 10
MASTERColour CDM-R111 70W/942 GX8.5 24D 1CT	MRS/UB-70/42/1A-H-GX8.5	8711500213938	0.095 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500213945	213938 10
MASTERColour CDM-R111 70W/942 GX8.5 40D 1CT	MRS/UB-70/42/1A-H-GX8.5	8711500213952	0.095 kg	6	32.5 cm x 24 cm x 15.5 cm	8711500213969	213952 10

Spectral power distribution

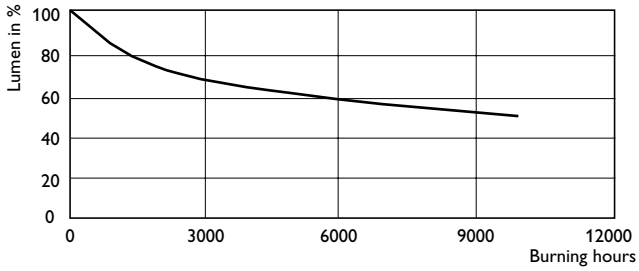


CDM-R111 /830

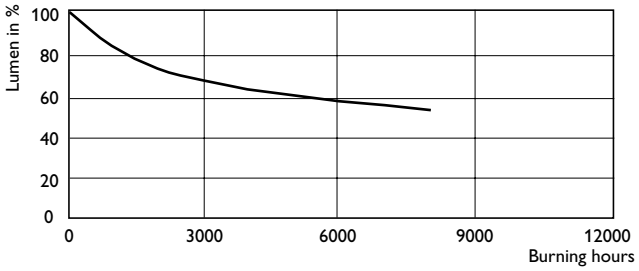


CDM-R111 /942

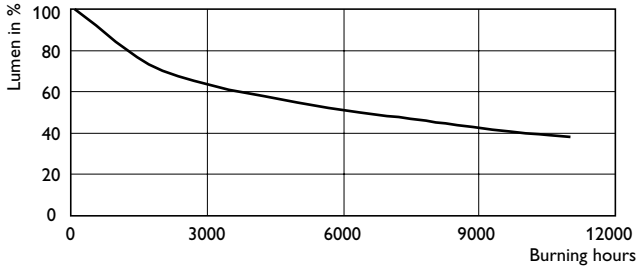
Lumen maintenance diagram



CDM-R111 35W/830 on electronic gear

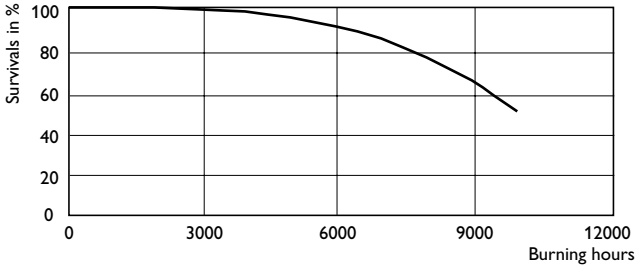


CDM-R111 70W/830 on electronic gear

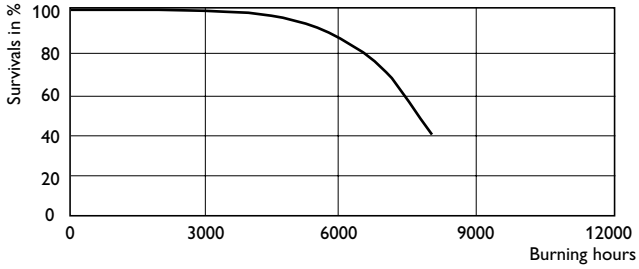


CDM-R111 on electronic gear

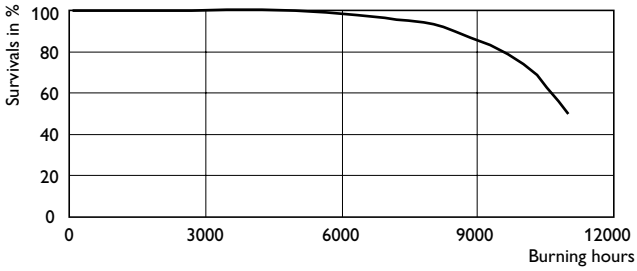
Life expectancy diagram



CDM-R111 35W/830 on electronic gear

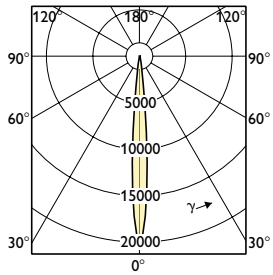


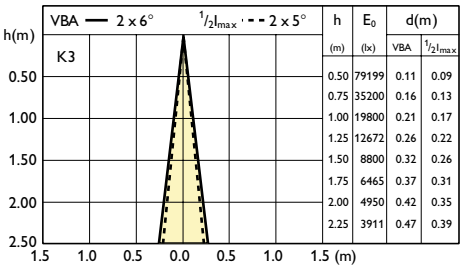
CDM-R111 70W/830 on electronic gear



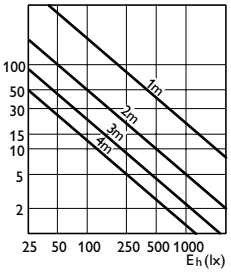
CDM-R111 on electronic gear

Photometric diagram

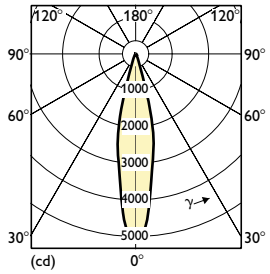


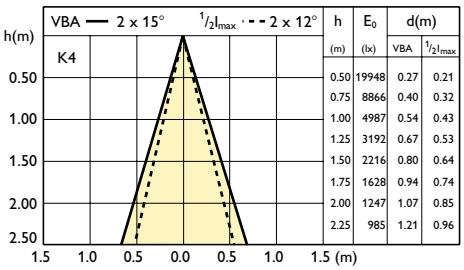


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	79199	0.11	0.09
0.75	35200	0.16	0.13
1.00	19800	0.21	0.17
1.25	12672	0.26	0.22
1.50	8800	0.32	0.26
1.75	6465	0.37	0.31
2.00	4950	0.42	0.35
2.25	3911	0.47	0.39

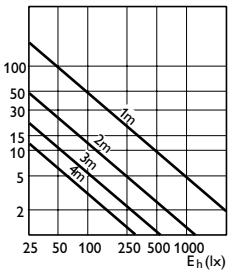


CDM-R111 20W 10D

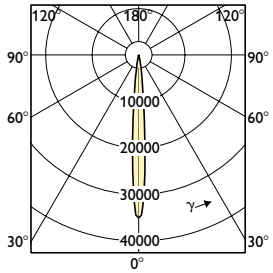


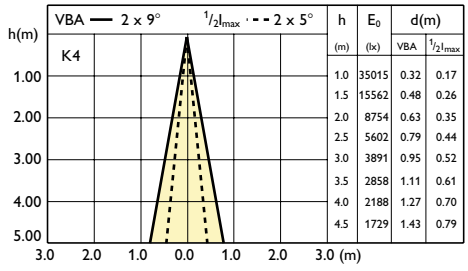


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	19948	0.27	0.21
0.75	8866	0.40	0.32
1.00	4987	0.54	0.43
1.25	3192	0.67	0.53
1.50	2216	0.80	0.64
1.75	1628	0.94	0.74
2.00	1247	1.07	0.85
2.25	985	1.21	0.96

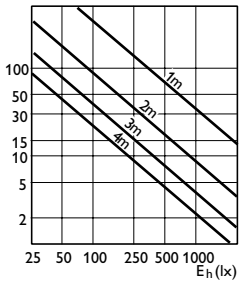


CDM-R111 20W 24D

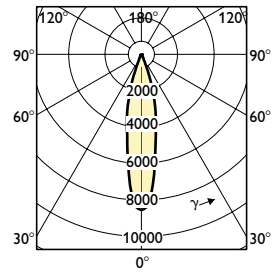


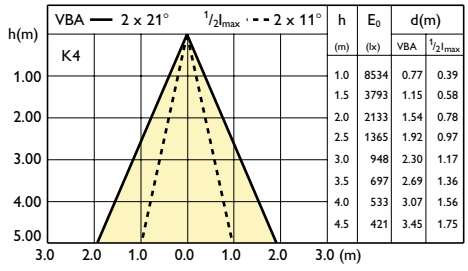


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
1.0	35015	0.32	0.17
1.5	15562	0.48	0.26
2.0	8754	0.63	0.35
2.5	5602	0.79	0.44
3.0	3891	0.95	0.52
3.5	2858	1.11	0.61
4.0	2188	1.27	0.70
4.5	1729	1.43	0.79

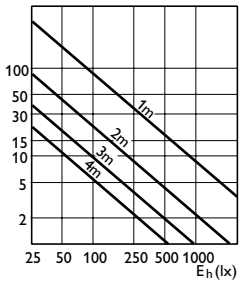


CDM-R111 35W 10D

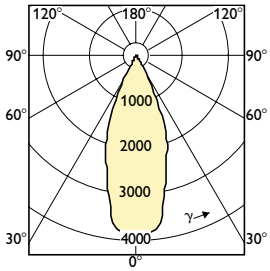


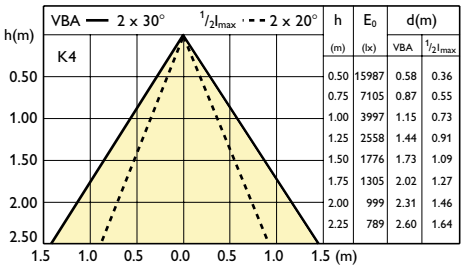


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
1.0	8534	0.77	0.39
1.5	3793	1.15	0.58
2.0	2133	1.54	0.78
2.5	1365	1.92	0.97
3.0	948	2.30	1.17
3.5	697	2.69	1.36
4.0	533	3.07	1.56
4.5	421	3.45	1.75

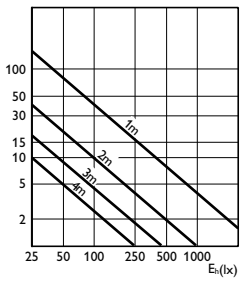


CDM-R111 35W 24D

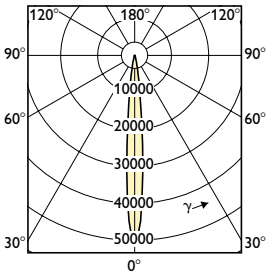


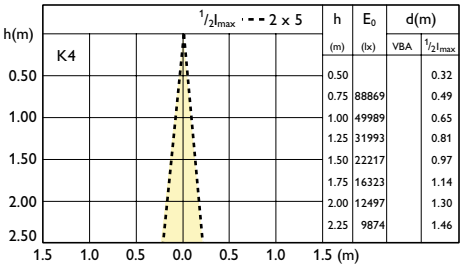


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	15987	0.58	0.36
0.75	7105	0.87	0.55
1.00	3997	1.15	0.73
1.25	2558	1.44	0.91
1.50	1776	1.73	1.09
1.75	1305	2.02	1.27
2.00	999	2.31	1.46
2.25	789	2.60	1.64

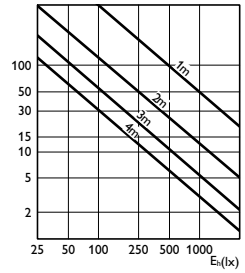


CDM-R111 35W 40D

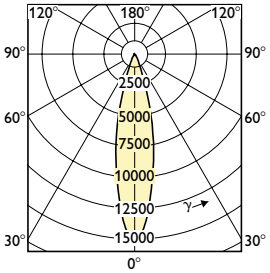


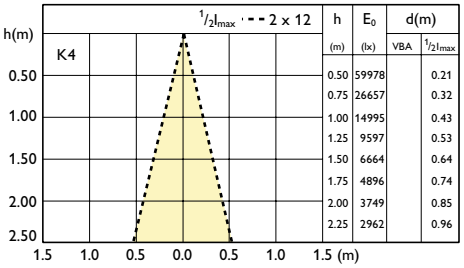


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50			0.32
0.75	88869		0.49
1.00	49989		0.65
1.25	31993		0.81
1.50	22217		0.97
1.75	16323		1.14
2.00	12497		1.30
2.25	9874		1.46

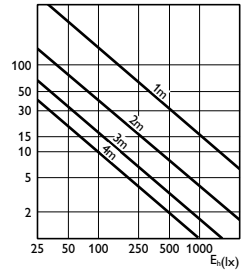


CDM-R111 70W /830 10D

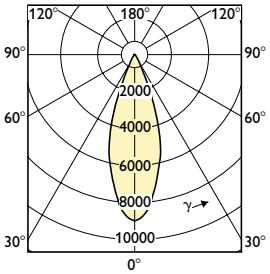


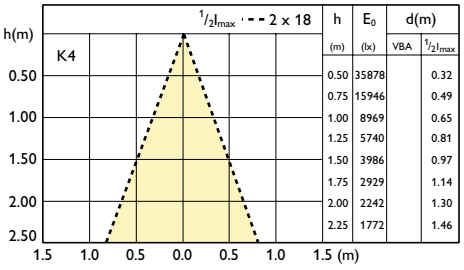


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	59978		0.21
0.75	26657		0.32
1.00	14995		0.43
1.25	9597		0.53
1.50	6664		0.64
1.75	4896		0.74
2.00	3749		0.85
2.25	2962		0.96

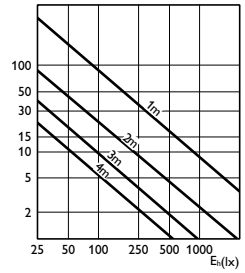


CDM-R111 70W /830 24D

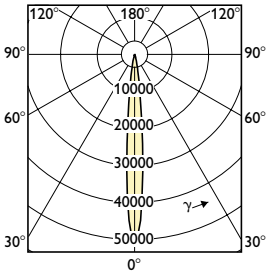


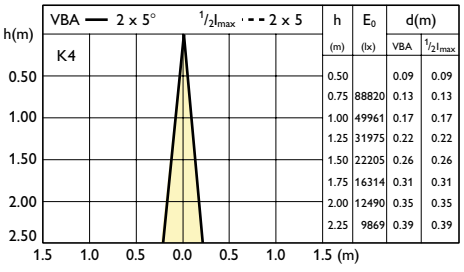


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	35878		0.32
0.75	15946		0.49
1.00	8969		0.65
1.25	5740		0.81
1.50	3986		0.97
1.75	2929		1.14
2.00	2242		1.30
2.25	1772		1.46

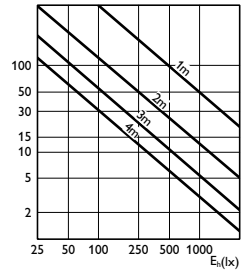


CDM-R111 70W /830 40D

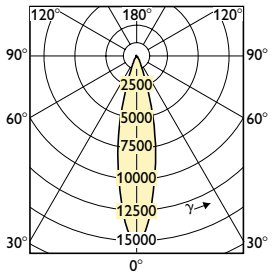


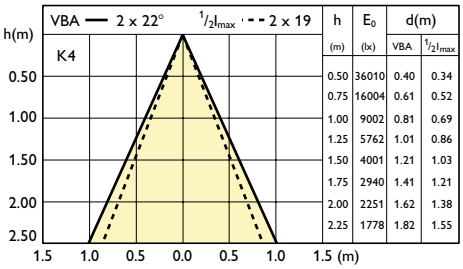


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50		0.09	0.09
0.75	88820	0.13	0.13
1.00	49961	0.17	0.17
1.25	31975	0.22	0.22
1.50	22205	0.26	0.26
1.75	16314	0.31	0.31
2.00	12490	0.35	0.35
2.25	9869	0.39	0.39

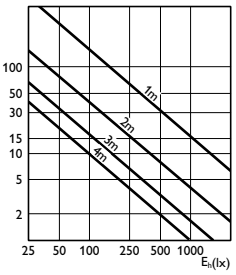


CDM-R111 70W /942 10D

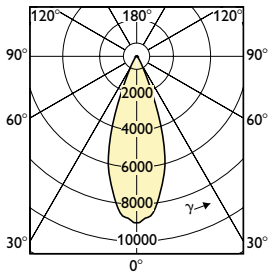


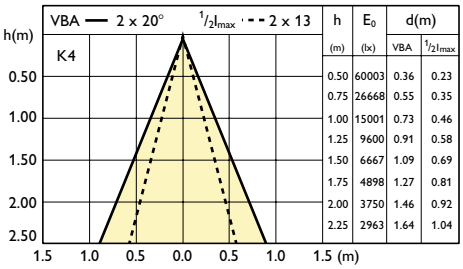


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	36010	0.40	0.34
0.75	16004	0.61	0.52
1.00	9002	0.81	0.69
1.25	5762	1.01	0.86
1.50	4001	1.21	1.03
1.75	2940	1.41	1.21
2.00	2251	1.62	1.38
2.25	1778	1.82	1.55

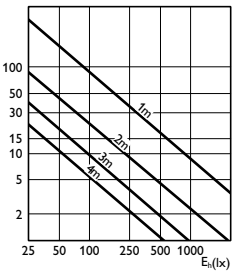


CDM-R111 70W /942 24D



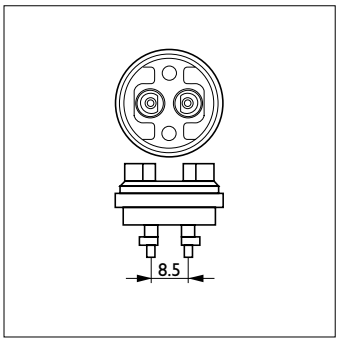


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	60003	0.36	0.23
0.75	26668	0.55	0.35
1.00	15001	0.73	0.46
1.25	9600	0.91	0.58
1.50	6667	1.09	0.69
1.75	4898	1.27	0.81
2.00	3750	1.46	0.92
2.25	2963	1.64	1.04



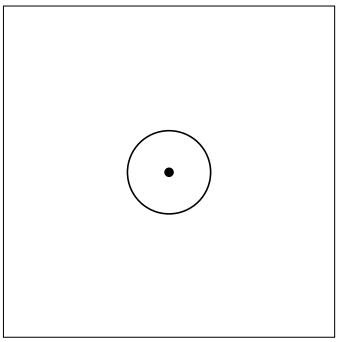
CDM-R111 70W /942 40D

Cap Base



GX8.5

Operating position



any



CDM-R PAR30L 10D

Product Description

- Range of compact, high-efficiency, discharge reflector lamps with a stable colour over lifetime and a crisp, sparkling light

Product Features

- Crisp white light
- Superior colour quality
- High beam intensities are achieved very easy and efficiently from these compact reflector lamps

Product Benefits

- High lamp efficacy results in low operating costs and low heat generation
- Long lamp life compared with incandescent and halogen lamps
- Stable colour impression over lifetime
- Unique DESIGN increases flexibility in application and allows powerful accents from small, unobtrusive luminaires
- Simplified luminaire design because CDM-R lamps can be used in open luminaires
- Relatively low heat output enhances comfort for shoppers and staff
- Integrated UV-Block shield reduces fading risks

Application

- Shops and shop windows, offices and public buildings
- Decorative outdoor: floodlighting and pedestrian areas

Luminaires

- E27 lampholders used must be suitable for ignition peaks up to 5 kV
- Suitable for use in open luminaires

System

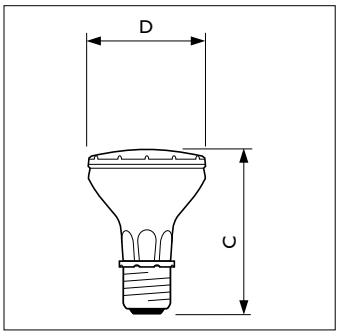
- Must be used in combination with a gear and ignitor or electronic gear, except CDM PAR 942 which can only be used with electronic gear
- If there is a constant voltage deviation of more than 3% of the rated voltage, a different gear rating / tap must be used
- A high-current protection device (thermo-switch) in the gear is mandatory (IEC 1167)
- Electronic gear can be used and increases lamp-life, improves system efficacy and eliminates visible flicker

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is RoHS compliant
- This product is covered by WEEE

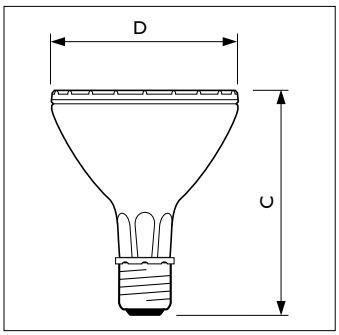
Recommended gear page 2.104

www.philips.com/OEM



CDM-R PAR20

Type	CNom	CMax	DNom	DMax
MASTERColour CDM-R 35W PAR20	92	95	64	65



CDM-R PAR30L

Type	CNom	CMax	DNom	DMax
MASTERColour CDM-R 35W/70W PAR30L	120	123	95	97



CDM-R PAR20 30D

Technical data

Type	Lamp Current (A)	Lamp Wattage (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)
MASTERColour CDM-R 35W/830 E27 PAR20 10D 1CT	-	-	88	35	No	5000	198	30
MASTERColour CDM-R 35W/942 E27 PAR20 10D 1CT	0.450	39	85	35	No	5000	198	30
MASTERColour CDM-R 35W/830 E27 PAR30L 10D 1CT	-	-	86	35	No	5000	198	30
MASTERColour CDM-R 70W/830 E27 PAR30L 10D 1CT	-	-	90	70	No	5000	198	30
MASTERColour CDM-R 70W/830 E27 PAR30L 30D 1CT	0.97	73	90	70	No	5000	198	30
MASTERColour CDM-R 70W/942 E27 PAR30L 10D 1CT	0.83	73	88	70	No	5000	198	30

Technical data

Type	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-R 35W/830 E27 PAR20 10D 1CT	15	3	7500
MASTERColour CDM-R 35W/942 E27 PAR20 10D 1CT	14.4	3	9000
MASTERColour CDM-R 35W/830 E27 PAR30L 10D 1CT	15	3	7500

Technical data

Type	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-R 70W/830 E27 PAR30L 10D 1CT	10	3	11000
MASTERColour CDM-R 70W/830 E27 PAR30L 30D 1CT	10	3	11000
MASTERColour CDM-R 70W/942 E27 PAR30L 10D 1CT	10	3	9000

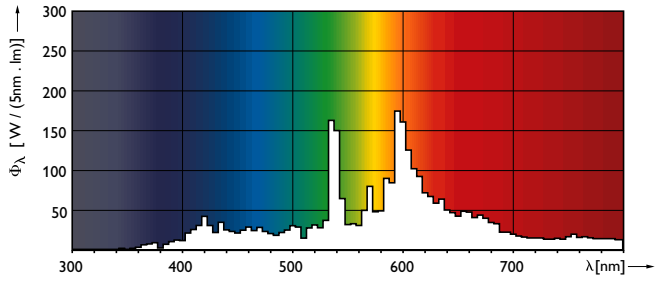
Light data

Type	Luminous Flux Lamp (lm)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position	Beam Description	Beam Angle (°)
MASTERColour CDM-R 35W/830 E27 PAR20 10D	-	Warm White	3000	81	433	402	any	Spot	10
MASTERColour CDM-R 35W/830 E27 PAR20 30D	-	Warm White	3000	81	433	402	any	Flood	30
MASTERColour CDM-R 35W/942 E27 PAR20 10D	1950	Cool White	4200	92	375	370	any	Spot	10
MASTERColour CDM-R 35W/942 E27 PAR20 30D	1950	Cool White	4200	92	375	370	any	Flood	30
MASTERColour CDM-R 35W/830 E27 PAR30L 10D	-	Warm White	3000	81	431	400	any	Spot	10
MASTERColour CDM-R 35W/830 E27 PAR30L 30D	-	Warm White	3000	81	431	400	any	Flood	30
MASTERColour CDM-R 70W/830 E27 PAR30L 10D	-	Warm White	3000	83	427	397	any	Spot	10
MASTERColour CDM-R 70W/830 E27 PAR30L 30D	4850	Warm White	3000	83	427	397	any	Flood	30
MASTERColour CDM-R 70W/830 E27 PAR30L 40D	-	Warm White	3000	83	427	397	any	Flood	40
MASTERColour CDM-R 70W/942 E27 PAR30L 10D	4300	Cool White	4200	94	371	366	any	Spot	10
MASTERColour CDM-R 70W/942 E27 PAR30L 30D	4300	Cool White	4200	94	371	366	any	Flood	30
MASTERColour CDM-R 70W/942 E27 PAR30L 40D	4300	Cool White	4200	94	371	366	any	Flood	40

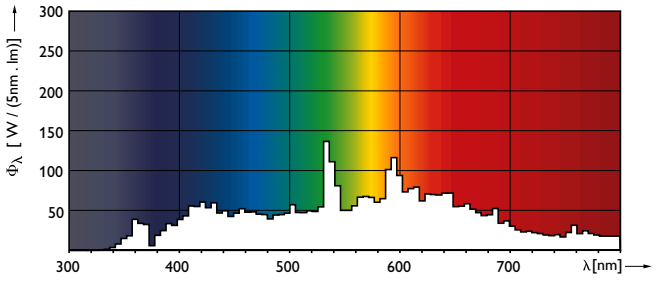
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERColour CDM-R 35W/830 E27 PAR20 10D 1CT	MRS/UB-35/30/1B-H-E27	8711500198082	0.112 kg	12	31 cm x 24.5 cm x 11.5 cm	8711500198099	198082 15
MASTERColour CDM-R 35W/830 E27 PAR20 30D 1CT	MRS/UB-35/30/1B-H-E27	8711500198105	0.111 kg	12	31 cm x 24.5 cm x 11.5 cm	8711500198112	198105 15
MASTERColour CDM-R 35W/942 E27 PAR20 10D 1CT	MRS/UB-35/42/1A-H-E27	8711500207852	0.115 kg	12	31 cm x 24.5 cm x 11.5 cm	8711500207869	207852 15
MASTERColour CDM-R 35W/942 E27 PAR20 30D 1CT	MRS/UB-35/42/1A-H-E27	8711500207876	0.113 kg	12	31 cm x 24.5 cm x 11.5 cm	8711500207883	207876 15
MASTERColour CDM-R 35W/830 E27 PAR30L 10D 1CT	MRS/UB-35/30/1B-H-E27	8711500197016	0.225 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500197023	197016 10
MASTERColour CDM-R 35W/830 E27 PAR30L 30D 1CT	MRS/UB-35/30/1B-H-E27	8711500197030	0.216 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500197047	197030 10
MASTERColour CDM-R 70W/830 E27 PAR30L 10D 1CT	MRS/UB-70/30/1B-H-E27	8711500197054	0.225 kg	6	33 cm x 24.5 cm x 15.5 cm	8711500197061	197054 10
MASTERColour CDM-R 70W/830 E27 PAR30L 30D 1CT	MRS/UB-70/30/1B-H-E27	8711500207319	0.215 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500207326	207319 10
MASTERColour CDM-R 70W/830 E27 PAR30L 30D 1CT	MRS/UB-70/30/1B-H-E27	8711500207791	0.225 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500207807	207791 10
MASTERColour CDM-R 70W/830 E27 PAR30L 40D 1CT	MRS/UB-70/30/1B-H-E27	8711500197078	0.225 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500197085	197078 10
MASTERColour CDM-R 70W/942 E27 PAR30L 10D 1CT	MRS/UB-70/42/1A-H-E27	8711500207739	0.225 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500207746	207739 10
MASTERColour CDM-R 70W/942 E27 PAR30L 10D 1CT	MRS/UB-70/42/1A-H-E27	8711500207258	0.225 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500207265	207258 10
MASTERColour CDM-R 70W/942 E27 PAR30L 30D 1CT	MRS/UB-70/42/1A-H-E27	8711500207296	0.215 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500207302	207296 10
MASTERColour CDM-R 70W/942 E27 PAR30L 30D 1CT	MRS/UB-70/42/1A-H-E27	8711500207777	0.225 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500207784	207777 10
MASTERColour CDM-R 70W/942 E27 PAR30L 40D 1CT	MRS/UB-70/42/1A-H-E27	8711500207753	0.225 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500207760	207753 10
MASTERColour CDM-R 70W/942 E27 PAR30L 40D 1CT	MRS/UB-70/42/1A-H-E27	8711500207272	0.225 kg	6	33.5 cm x 24.5 cm x 15.5 cm	8711500207289	207272 10

Spectral power distribution



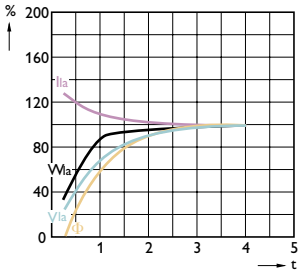
CDM-R /830



CDM-R /942

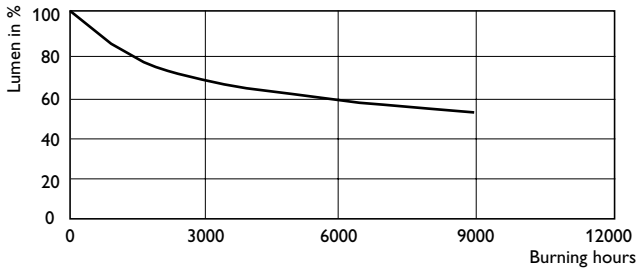
Performance diagram

Lamp performance during run up

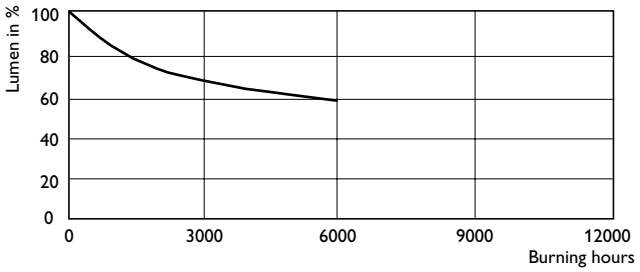


CDM-R

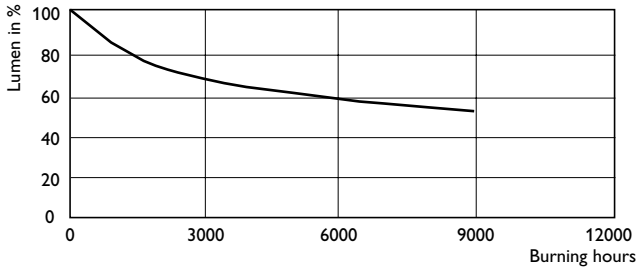
Lumen maintenance diagram



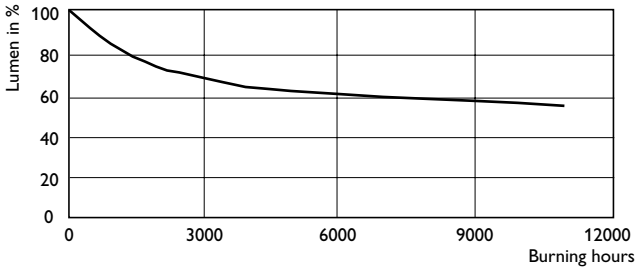
CDM-R 35W/830 PAR20 on electronic gear



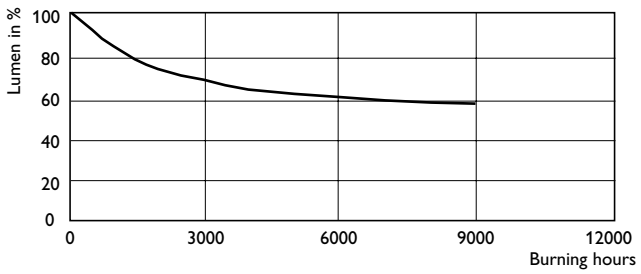
CDM-R 35W/942 PAR20 on electronic gear



CDM-R 35W/830 PAR30L on electronic gear

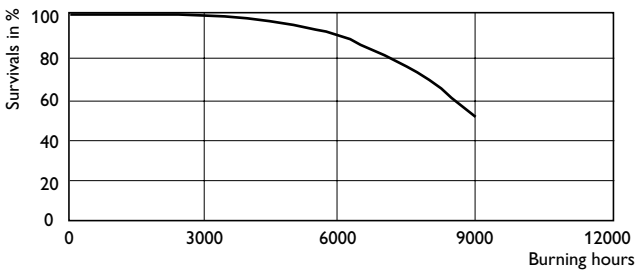


CDM-R 70W /830 PAR30L

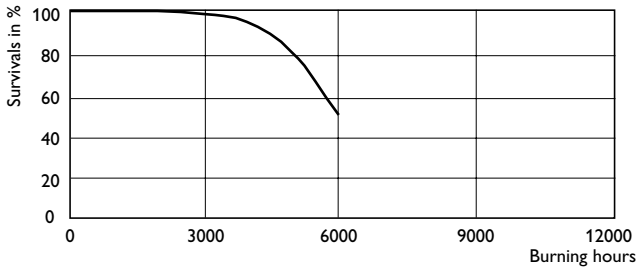


CDM-R 70W/942 PAR30L on electronic gear

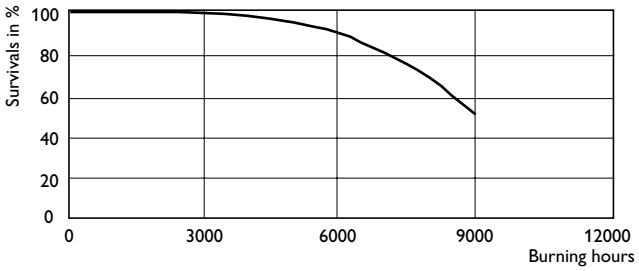
Life expectancy diagram



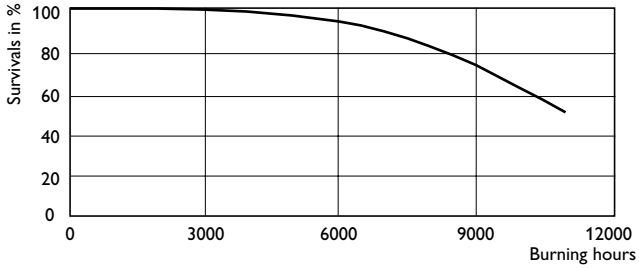
CDM-R 35W/830 PAR20 on electronic gear



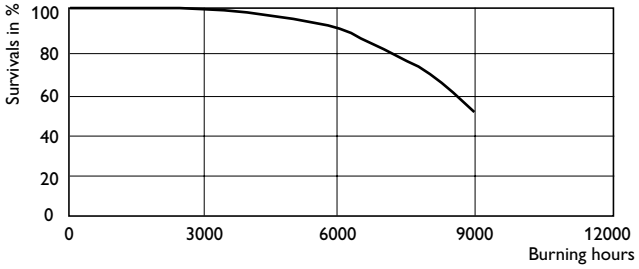
CDM-R 35W/942 PAR20 on electronic gear



CDM-R 35W /830 PAR30L

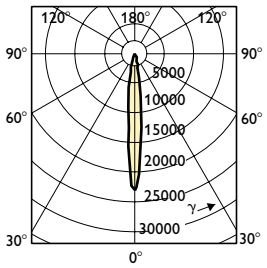


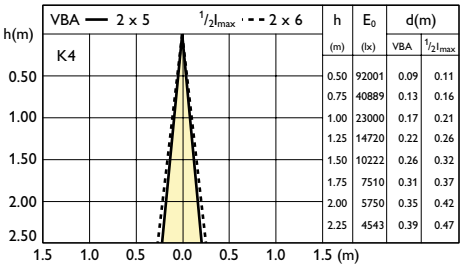
CDM-R 70W /830 PAR30L



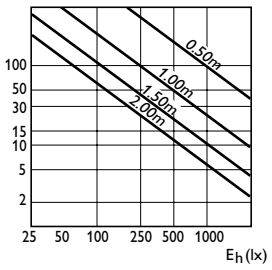
CDM-R 70W/942 PAR30L on electronic gear

Photometric diagram

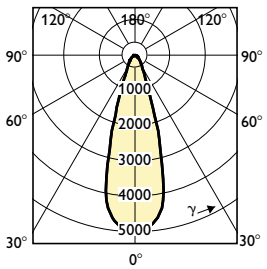


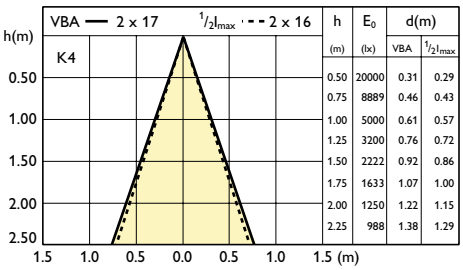


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	92001	0.09	0.11
0.75	40889	0.13	0.16
1.00	23000	0.17	0.21
1.25	14720	0.22	0.26
1.50	10222	0.26	0.32
1.75	7510	0.31	0.37
2.00	5750	0.35	0.42
2.25	4543	0.39	0.47

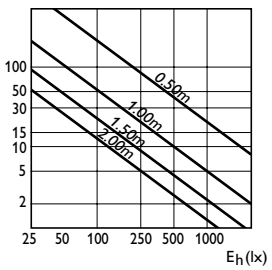


CDM-R 35W /830 PAR20 10D

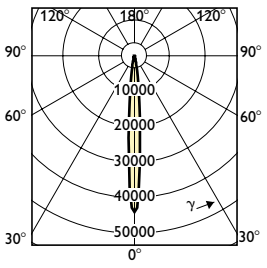


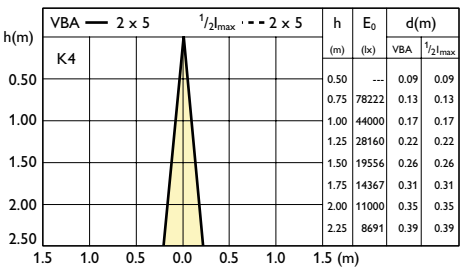


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	20000	0.31	0.29
0.75	8889	0.46	0.43
1.00	5000	0.61	0.57
1.25	3200	0.76	0.72
1.50	2222	0.92	0.86
1.75	1633	1.07	1.00
2.00	1250	1.22	1.15
2.25	988	1.38	1.29

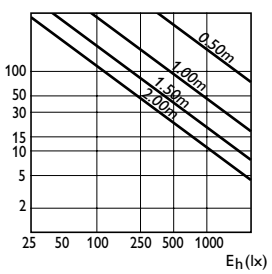


CDM-R 35W /830 PAR20 30D

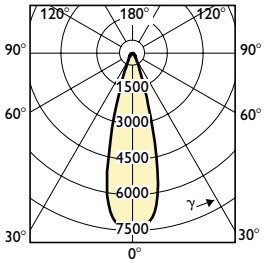


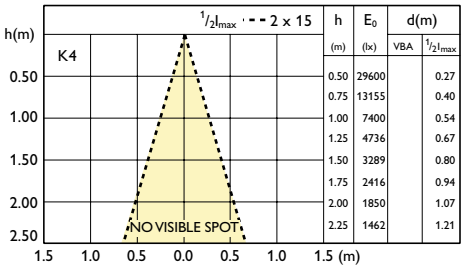


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	---	0.09	0.09
0.75	78222	0.13	0.13
1.00	44000	0.17	0.17
1.25	28160	0.22	0.22
1.50	19556	0.26	0.26
1.75	14367	0.31	0.31
2.00	11000	0.35	0.35
2.25	8691	0.39	0.39

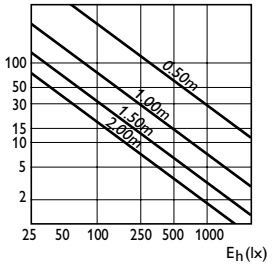


CDM-R 35W /830 PAR30L 10D

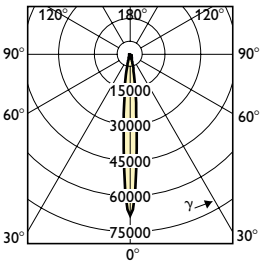


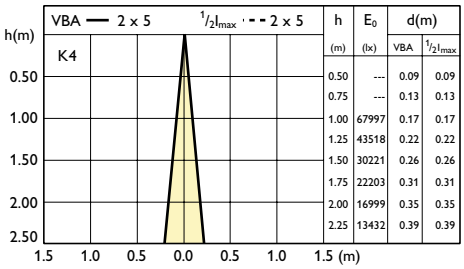


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	29600		0.27
0.75	13155		0.40
1.00	7400		0.54
1.25	4736		0.67
1.50	3289		0.80
1.75	2416		0.94
2.00	1850		1.07
2.25	1462		1.21

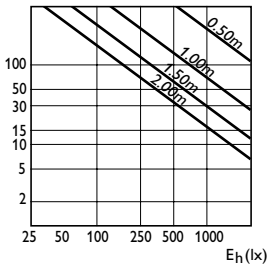


CDM-R 35W /830 PAR30L 30D

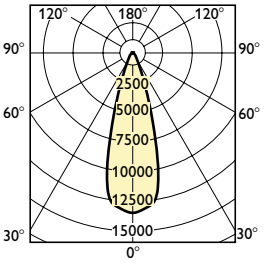


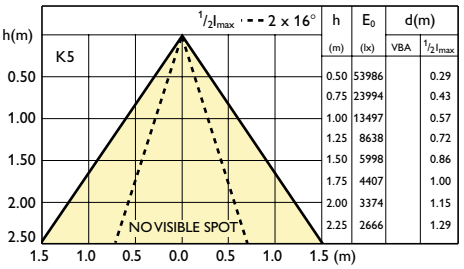


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	---	0.09	0.09
0.75	---	0.13	0.13
1.00	67997	0.17	0.17
1.25	43518	0.22	0.22
1.50	30221	0.26	0.26
1.75	22203	0.31	0.31
2.00	16999	0.35	0.35
2.25	13432	0.39	0.39

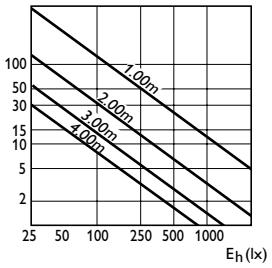


CDM-R 70W /830 PAR30L 10D

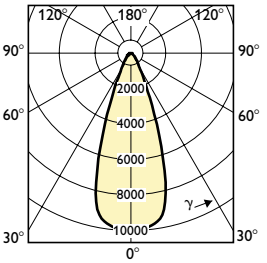


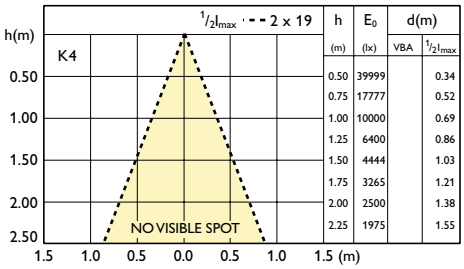


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	53986		0.29
0.75	23994		0.43
1.00	13497		0.57
1.25	8638		0.72
1.50	5998		0.86
1.75	4407		1.00
2.00	3374		1.15
2.25	2666		1.29

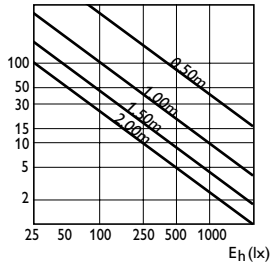


CDM-R 70W /830 PAR30L 30D

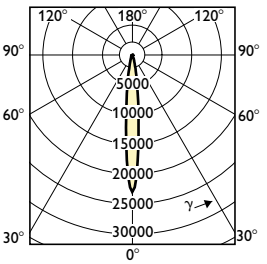


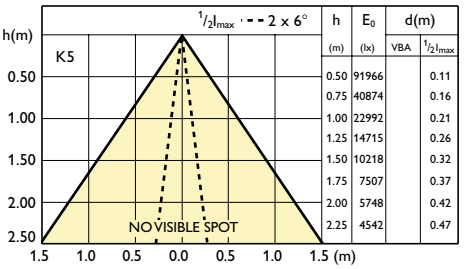


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	39999		0.34
0.75	17777		0.52
1.00	10000		0.69
1.25	6400		0.86
1.50	4444		1.03
1.75	3265		1.21
2.00	2500		1.38
2.25	1975		1.55

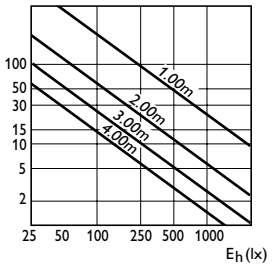


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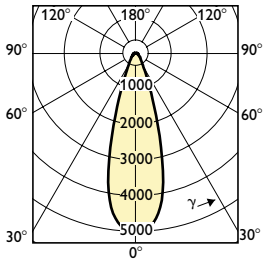


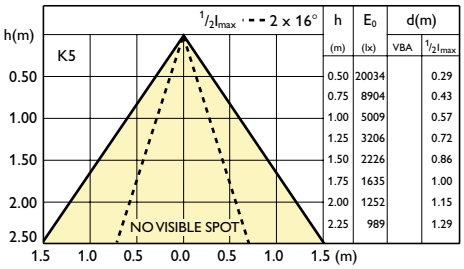


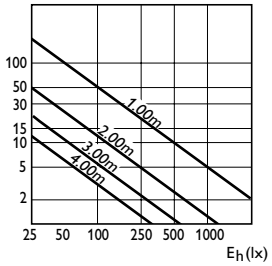
h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	91966		0.11
0.75	40874		0.16
1.00	22992		0.21
1.25	14715		0.26
1.50	10218		0.32
1.75	7507		0.37
2.00	5748		0.42
2.25	4542		0.47



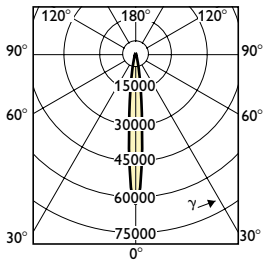
CDM-R 35W /942 PAR20 10D

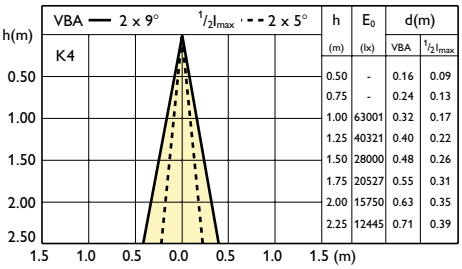


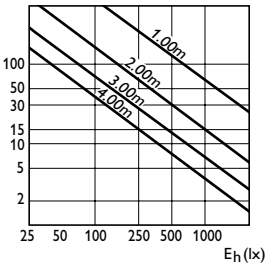




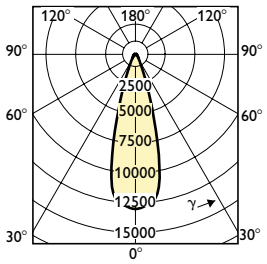
CDM-R 35W /942 PAR20 30D

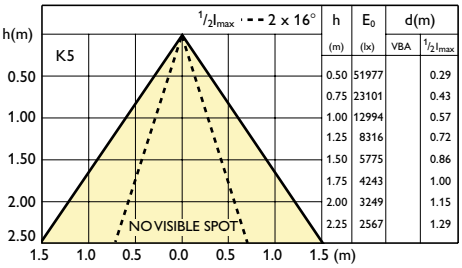


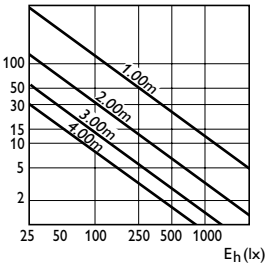




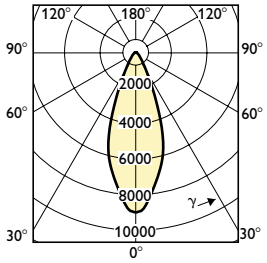
CDM-R 70W /942 PAR30L 10D

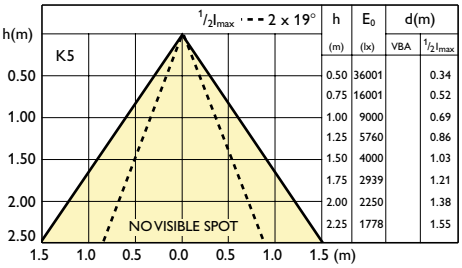


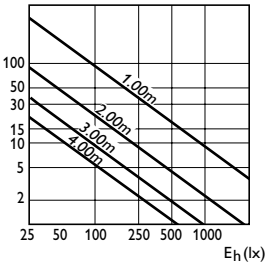




CDM-R 70W /942 PAR30L 30D

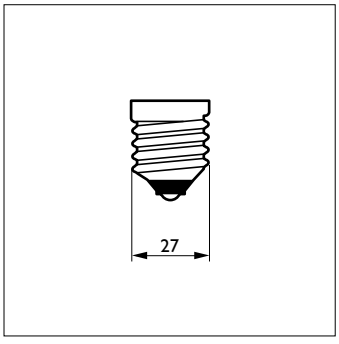






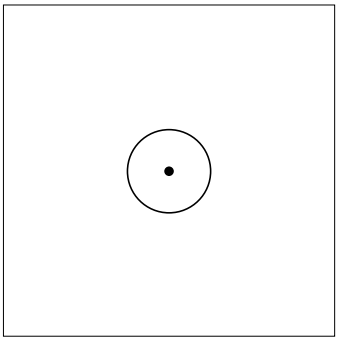
CDM-R 70W /942 PAR30L 40D

Cap Base



E27

Operating position



any





MASTERColour CDM-R Mini5

Product Description

- Miniaturised 50 mm reflector ceramic metal halide lamp
- GX10 twist-lock lamp base
- Available in both 20W and 35W. 35W will be available in 2009.

Product Features

- Crisp white light for a comfortable atmosphere
- Superior output and colour stability
- Low heat generation
- High beam intensities in a 50 mm reflector
- Easy replacement due to robust twist-lock socket
- Universal burning position

Product Benefits

- Stable colour impression over lifetime
- High efficacy for low operating costs and low heat generation
- Long life compared with halogen lamps
- Relatively low heat output enhances comfort for shoppers and staff
- Simple solution for new luminaires developments. Reflector diameter same as Halogen MR16 lamps. For full retrofit, gear and lampholder need to be exchanged.
- UV-Block for reduced fading risk of merchandise

Application

- Accent and display lighting with a sparkling effect
- Downlighting and Mini floodlighting

Luminaires

- 50 mm reflector design increases flexibility in application and allows CDM-Rm easily fixed into the existing MR16 Halogen luminaires
- Suitable for open luminaires
- GX10 lamp connector used must be suitable for ignition peaks up to 5KV

System

- Must be used with electronic gear. Recommend to use in combination with Philips PrimaVision gear to get optimal performance

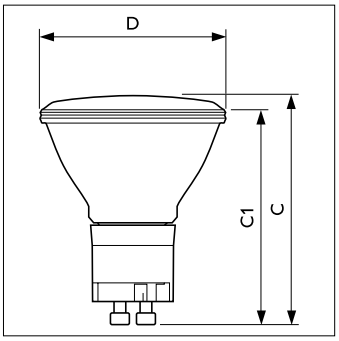
Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is a Philips Green product.
- This product is RoHS compliant.
- This product is covered by WEEE.

Recommended gear page 2.104

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MASTERColour CDM-R Mini5

Type	D	C	C1
MASTERColour CDM-R Mini5	50.0	59.0	55.8

Technical data

Type	Lamp Current (A)	Lamp Wattage (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Time (sec)	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-R Mini 20W/830 GX10 MR16 10D 1CT	0.215	22	103	20	No	30	15	3	12000
MASTERColour CDM-R Mini 20W/830 GX10 MR16 25D 1CT	0.215	22	103	20	No	30	15	3	12000
MASTERColour CDM-R Mini 20W/830 GX10 MR16 40D 1CT	0.215	22	103	20	No	30	15	3	12000

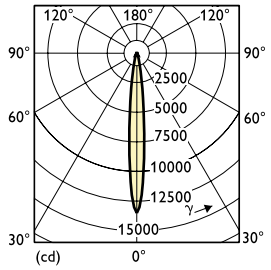
Light data

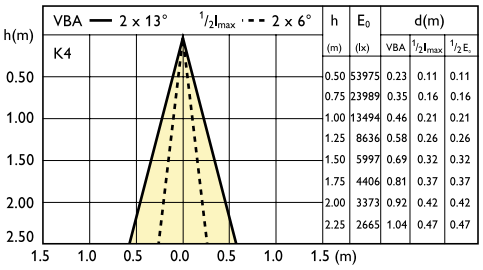
Type	Luminous Flux Lamp EL (lm)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position	Beam Angle (°)
MASTERColour CDM-R Mini 20W/830 GX10 MR16 10D 1CT	1080	2910	85	438	394	any	10
MASTERColour CDM-R Mini 20W/830 GX10 MR16 25D 1CT	1080	2910	85	438	394	any	25
MASTERColour CDM-R Mini 20W/830 GX10 MR16 40D 1CT	1080	2910	85	438	394	any	40

Ordering and packing data

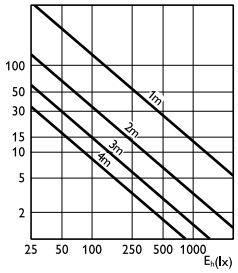
Type	EAN code 1 piece	Qty bulk packing	Dimensions bulk packing	Weight	EAN code bulk packing	EOC
MASTERColour CDM-R Mini 20W/830 GX10 MR16 10D 1CT	8727900800012	6	17.2 cm x 11.2 cm x 7.8 cm	0.07 kg	8727900800029	800012 00
MASTERColour CDM-R Mini 20W/830 GX10 MR16 25D 1CT	8727900800036	6	17.2 cm x 11.2 cm x 7.8 cm	0.07 kg	8727900800043	800036 00
MASTERColour CDM-R Mini 20W/830 GX10 MR16 40D 1CT	8727900800050	6	17.2 cm x 11.2 cm x 7.8 cm	0.07 kg	8727900800067	800050 00

Photometric diagram

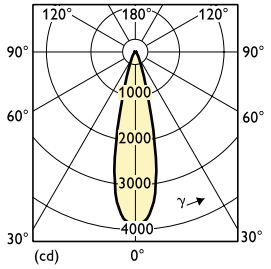


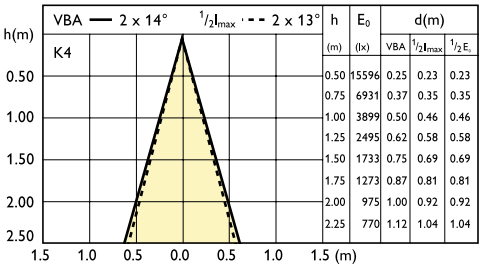


h	E_0	d(m)		
(m)	(lx)	VBA	$^1/_2I_{max}$	$^1/_2E_0$
0.50	53975	0.23	0.11	0.11
0.75	23989	0.35	0.16	0.16
1.00	13494	0.46	0.21	0.21
1.25	8636	0.58	0.26	0.26
1.50	5997	0.69	0.32	0.32
1.75	4406	0.81	0.37	0.37
2.00	3373	0.92	0.42	0.42
2.25	2665	1.04	0.47	0.47

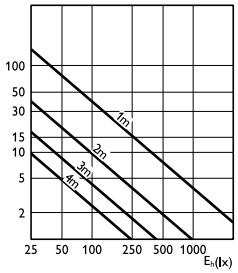


CDM-R Mini 20W 830 10d

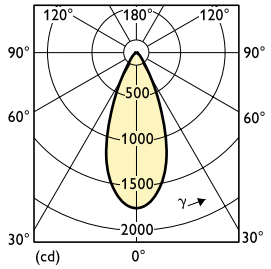


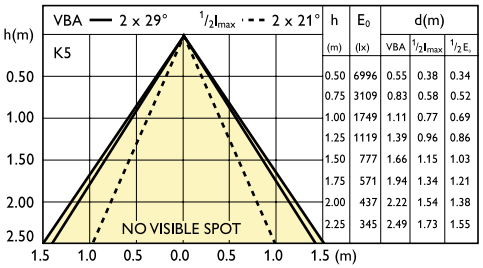


h	E_0	d(m)		
(m)	(lx)	VBA	$^1/_2I_{max}$	$^1/_2E_0$
0.50	15596	0.25	0.23	0.23
0.75	6931	0.37	0.35	0.35
1.00	3899	0.50	0.46	0.46
1.25	2495	0.62	0.58	0.58
1.50	1733	0.75	0.69	0.69
1.75	1273	0.87	0.81	0.81
2.00	975	1.00	0.92	0.92
2.25	770	1.12	1.04	1.04

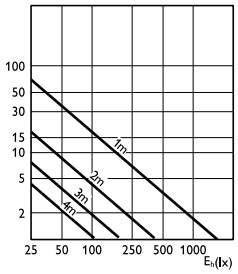


CDM-R Mini 20W 830 25d



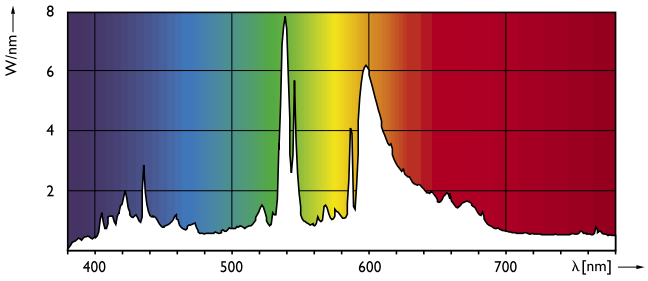


h	E_0	d(m)		
(m)	(lx)	VBA	$^1/_2I_{max}$	$^1/_2E_0$
0.50	6996	0.55	0.38	0.34
0.75	3109	0.83	0.58	0.52
1.00	1749	1.11	0.77	0.69
1.25	1119	1.39	0.96	0.86
1.50	777	1.66	1.15	1.03
1.75	571	1.94	1.34	1.21
2.00	437	2.22	1.54	1.38
2.25	345	2.49	1.73	1.55



CDM-R Mini 20W 830 40d

Spectral power distribution





CDM-i 25W E27 PAR38

Product Description

- Mains-voltage PAR38 reflector lamp with integrated gear

Product Features

- Can be used in existing luminaires for PAR38 GLS or halogen lamps
- High energy efficiency
- Crisp white light of MASTERColour CDM
- Long life with stable colour

Product Benefits

- High lamp efficacy results in low operating costs and low heat generation
- Provides better operating costs and light quality versus standard GLS or halogen PAR38 lamps
- Longer lifetime compared with GLS or halogen PAR38 lamps
- Easy installation and retrofit to existing PAR38 luminaires

Application

- Shops and shop windows for both accent and general lighting

Luminaires

- Suitable to be used in open luminaires
- Retrofit to PAR38 luminaires with E27 lamp holders

System

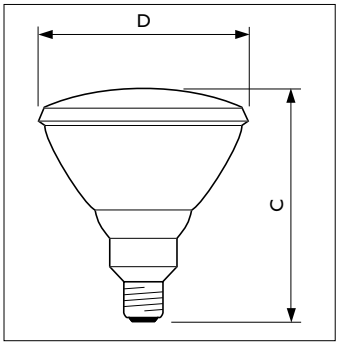
- Suitable to be used in mains voltage 220-240 V, 50/60 Hz

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- Product are RoHS compliant
- Product are covered by WEEE

Recommended gear page 2.104

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CDM-i PAR38

Type	CMax	DMax
MASTERColour CDM-i 25W/830 E27 PAR38	138	124

Technical data

Type	Lamp Current (A)	Lamp Wattage (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Time (sec)	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-i 25W/830 E27 PAR38	0.18	25	230	25	No	30	15	3	9000

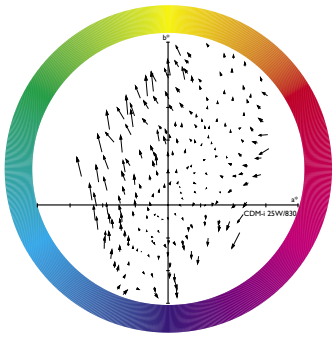
Light data

Type	Luminous Flux Lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position	Beam Angle (°)
MASTERColour CDM-i 25W/830 E27 PAR38 10D	1275	50	Warm White	3000	87	0.431	0.399	any	10
MASTERColour CDM-i 25W/830 E27 PAR38 25D	1275	50	Warm White	3000	87	0.431	0.399	any	25
MASTERColour CDM-i 25W/830 E27 PAR38 40D	1275	50	Warm White	3000	87	0.431	0.399	any	40

Ordering and packing data

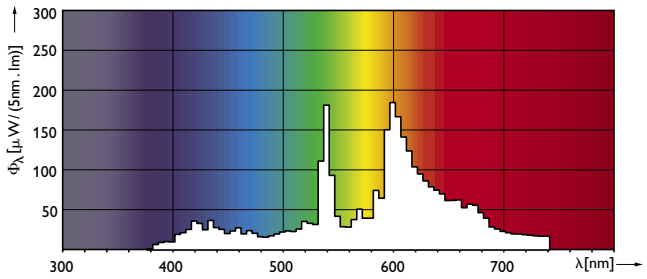
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERColour CDM-i 25W/830 E27 PAR38 10D 1CT	MBRS/UB-25/30/1B-E27	8711500213167	0.253 kg	6	34.4 cm x 23.3 cm x 15.8 cm	8711500213174	213167 10
MASTERColour CDM-i 25W/830 E27 PAR38 25D 1CT	MBRS/UB-25/30/1B-E27	8711500213181	0.253 kg	6	34.4 cm x 23.3 cm x 15.8 cm	8711500213198	213181 10
MASTERColour CDM-i 25W/830 E27 PAR38 40D 1CT	MBRS/UB-25/30/1B-E27	8711500213204	0.253 kg	6	34.4 cm x 23.3 cm x 15.8 cm	8711500213211	213204 10

CRV diagram



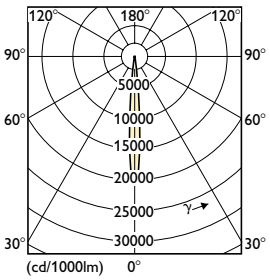
CDM-i 25W /830

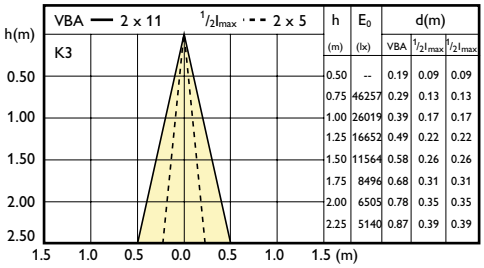
Spectral power distribution



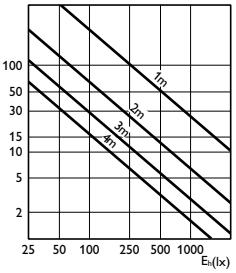
CDM-i 25W /830

Photometric diagram

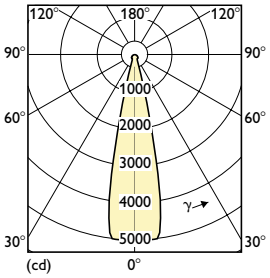


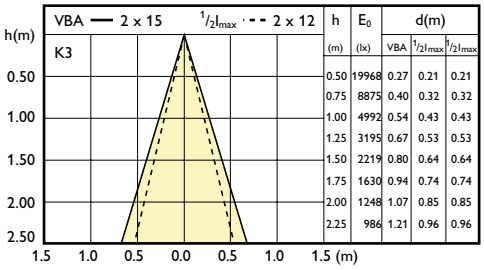


h (m)	E_0 (lx)	d(m) VBA	d(m) ½Imax	d(m) ⅔Imax
0.50	--	0.19	0.09	0.09
0.75	46257	0.29	0.13	0.13
1.00	26019	0.39	0.17	0.17
1.25	16652	0.49	0.22	0.22
1.50	11564	0.58	0.26	0.26
1.75	8496	0.68	0.31	0.31
2.00	6505	0.78	0.35	0.35
2.25	5140	0.87	0.39	0.39

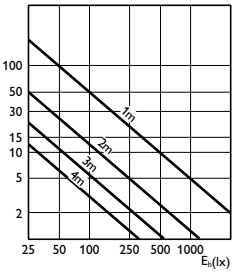


CDM-i 25W /830 10D

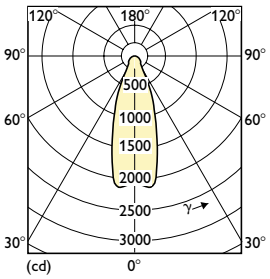


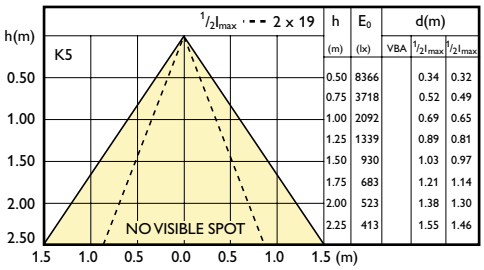


h (m)	E_0 (lx)	d(m) VBA	d(m) ½Imax	d(m) ⅔Imax
0.50	19968	0.27	0.21	0.21
0.75	8875	0.40	0.32	0.32
1.00	4992	0.54	0.43	0.43
1.25	3195	0.67	0.53	0.53
1.50	2219	0.80	0.64	0.64
1.75	1630	0.94	0.74	0.74
2.00	1248	1.07	0.85	0.85
2.25	986	1.21	0.96	0.96

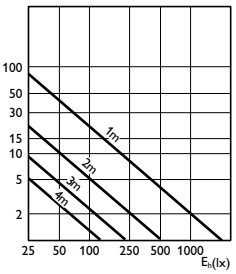


CDM-i 25W /830 25D



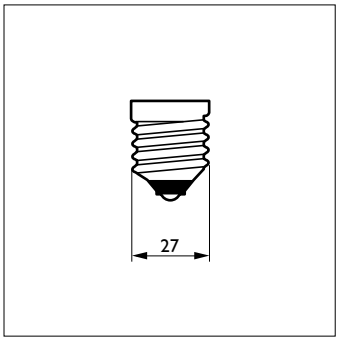


h (m)	E_0 (lx)	d(m) VBA	d(m) ½Imax	d(m) ⅔Imax
0.50	8366		0.34	0.32
0.75	3718		0.52	0.49
1.00	2092		0.69	0.65
1.25	1339		0.89	0.81
1.50	930		1.03	0.97
1.75	683		1.21	1.14
2.00	523		1.38	1.30
2.25	413		1.55	1.46



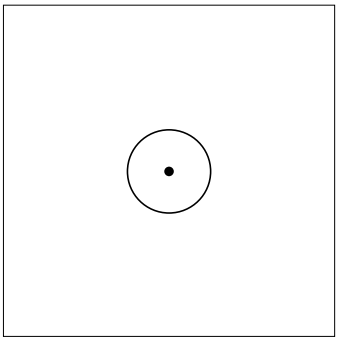
CDM-i 25W /830 40D

Cap Base

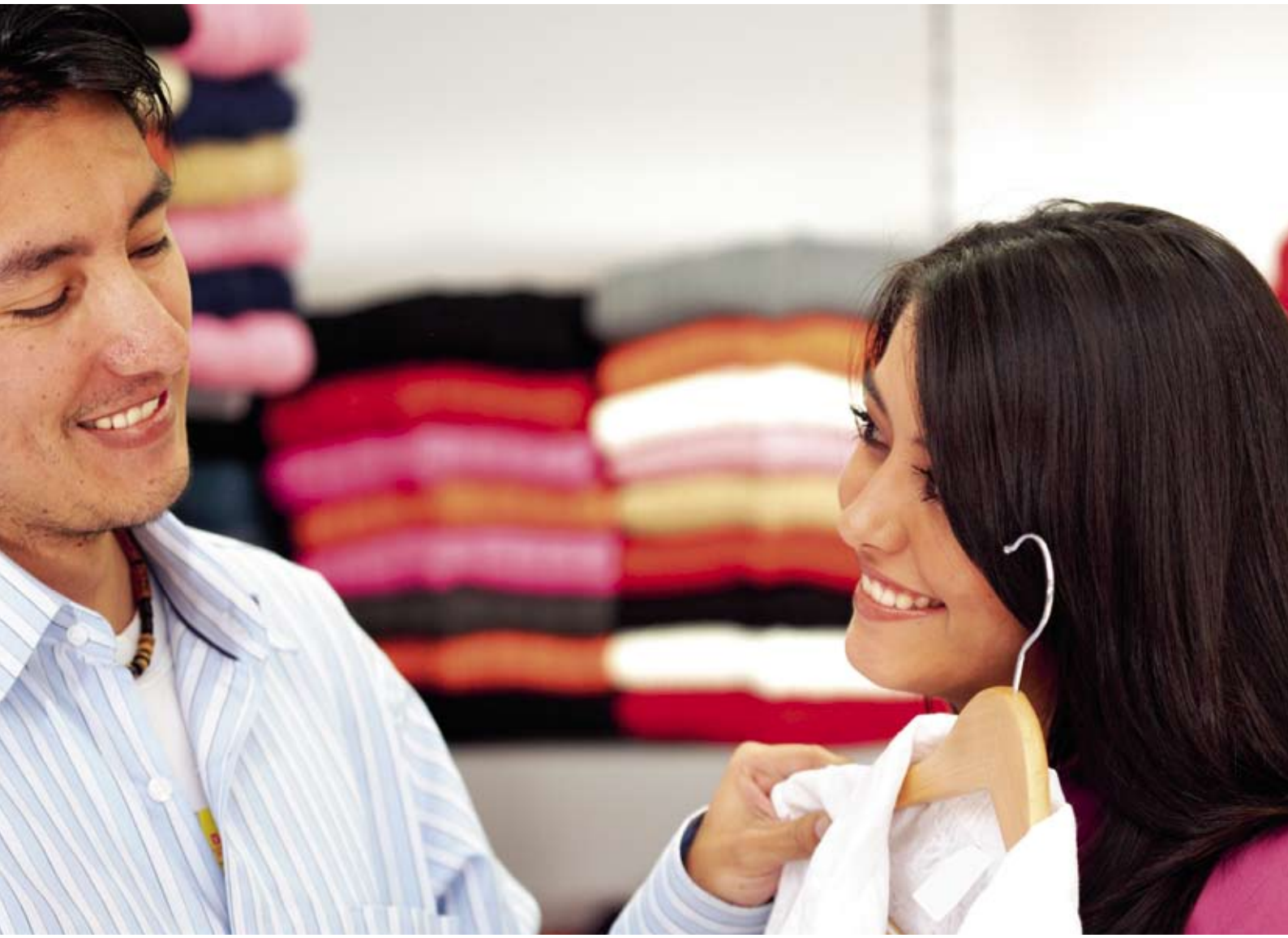


E27

Operating position



any





SDW-TG 50W GX12-1

Product Description

- Range of high-efficiency, discharge lamps with warm colour to be used in small, open luminairs designed around MASTERColour CDM-T lamps

Product Features

- Unique warm colour quality
- Lamp design is well-suited to be used in luminairs for MASTERColour CDM-T power-spots
- UV-block glass

Product Benefits

- Exceptional brightness and colour rendering especially of warm colours, e.g. red and gold
- High lamp efficacy results in low operating costs and low heat generation
- Long lamp life compared with incandescent and halogen lamps

Application

- Shop lighting (creates cosy atmosphere e.g. in furniture shops), excellent display of fresh goods (at butchers, bakeries, flower-shops)

System

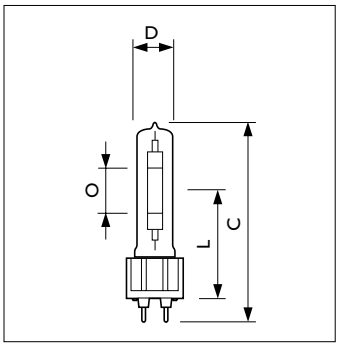
- Must be used in combination special Philips electronic gear to avoid colour shift. Not designed to be used in combination with gear and colour control (CSLS) unit

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 2.104

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SDW-TG

Type	CMax	DMax	LMin	LNom	LMax	ONom
MASTER SDW-TG Mini 50W/825 GX12-1 1CT	103	20	53.5	55	56.5	14.5
MASTER SDW-TG Mini 100W/825 GX12-1 1CT	110	20	54.5	56	57.5	18

Technical data

Type	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)
MASTER SDW-TG Mini 50W/825 GX12-1 1CT	0.65	54	85	50	No	4000	205	60
MASTER SDW-TG Mini 100W/825 GX12-1 1CT	1.1	99	91	100	No	4000	205	60

Technical data

Type	Re-ignition Time (min)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER SDW-TG Mini 50W/825 GX12-1 1CT	1.0	2	10000
MASTER SDW-TG Mini 100W/825 GX12-1 1CT	1.5	2	10000

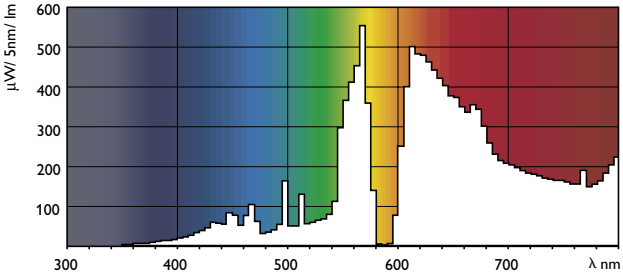
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER SDW-TG Mini 50W/825 GX12-1 1CT	2400	44	Golden White	2550	81	468	408	any
MASTER SDW-TG Mini 100W/825 GX12-1 1CT	4900	50	Golden White	2550	83	469	406	any

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SDW-TG Mini 50W/825 GX12-1 1CT	STH-50/25/1B-GX12-1	8711500203236	0.027 kg	12	14.9 cm x 13.1 cm x 13.6 cm	8711500203243	203236 15
MASTER SDW-TG Mini 100W/825 GX12-1 1CT	STH-100/25/1B-GX12-1	8711500202338	0.03 kg	12	17.5 cm x 15.6 cm x 15.9 cm	8711500202345	202338 15

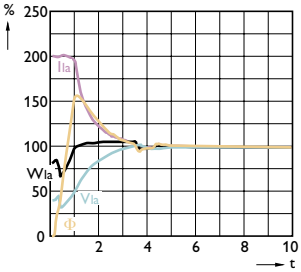
Spectral power distribution



SDW-TG

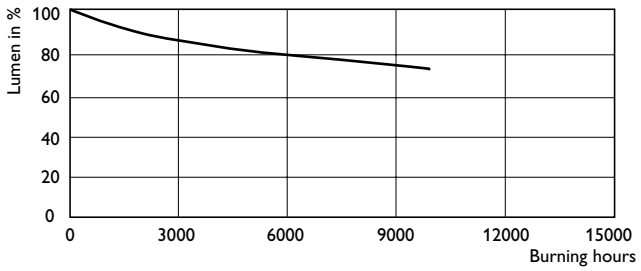
Performance diagram

Lamp performance during run up

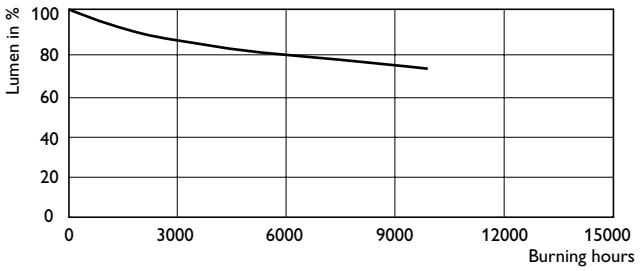


SDW-TG

Lumen maintenance diagram

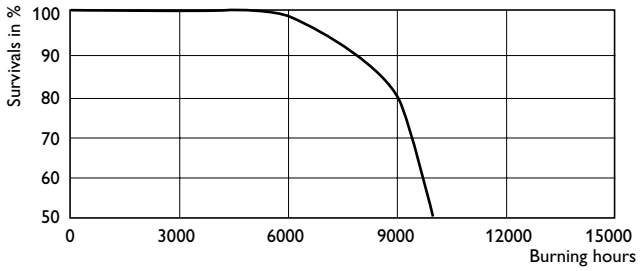


SDW-TG 50W /825

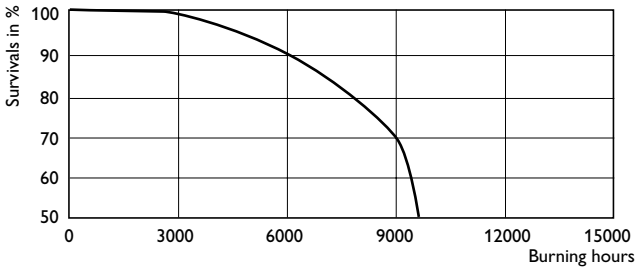


SDW-TG 100W /825

Life expectancy diagram

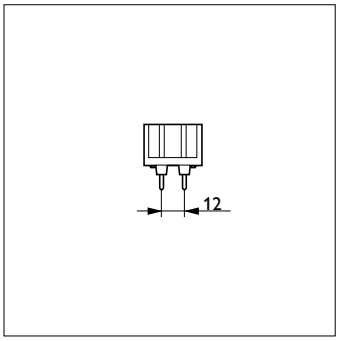


SDW-TG 50W /825 on electronic gear



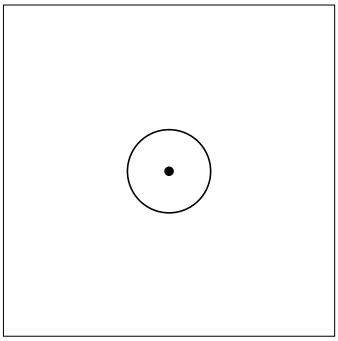
SDW-TG 100W /825 on electronic gear

Cap Base



GX12-1

Operating position



any





SDW-T 100W PG12-1

Product Description

- Range of high-efficiency, discharge lamps with warm colour to be used in open luminairs

Product Features

- Unique warm colour quality
- Lamp design is well-suited to be used in luminairs for power-spots (high intensity) and high-bay general lighting

Product Benefits

- Exceptional brightness and colour rendering especially of warm colours, e.g. red and gold
- High lamp efficacy results in low operating costs and low heat generation
- Long lamp life compared with incandescent and halogen lamps

Application

- Shop lighting (create cosy atmosphere e.g. in furniture shops), excellent display of fresh goods (at butchers, bakeries, flower-shops) and decorative outdoor lighting (gas-lantern imitation)

System

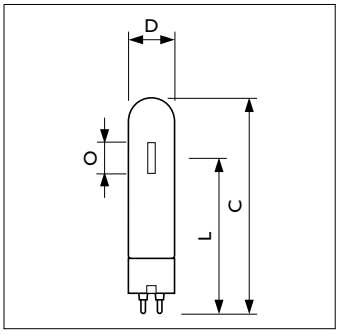
- Must be used in combination with a gear and a special Philips colour control unit (CSLS) to avoid colour shift. Not designed to be used in combination with electronic gear
- A high-current protection device (thermo-switch) in the gear is mandatory (IEC 1167)

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 2.104

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SDW-T

Type	CMax	DMax	LNom	ONom
MASTER SDW-T 35W/825 PG12-1 SLV	149	32	91	12.7
MASTER SDW-T 50W/825 PG12-1 SLV	149	32	91	15.4
MASTER SDW-T 100W/825 PG12-1 SLV	149	32	91	18.3

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MASTER SDW-T 35W/825 PG12-1 SLV	0.48	33.0	96	35	No	5000	205	15000
MASTER SDW-T 50W/825 PG12-1 SLV	0.76	53.0	92	50	No	5000	205	15000
MASTER SDW-T 100W/825 PG12-1 SLV	1.31	97.0	98	100	No	5000	205	15000

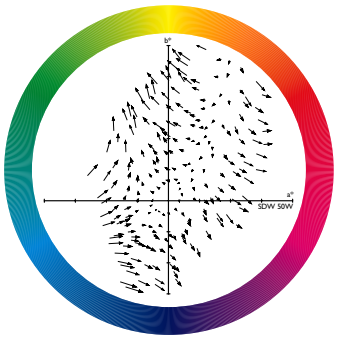
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER SDW-T 35W/825 PG12-1 SLV	1300	40	Golden White	2500	83	479	417	any
MASTER SDW-T 50W/825 PG12-1 SLV	2300	44	Golden White	2500	83	471	409	any
MASTER SDW-T 100W/825 PG12-1 SLV	5000	52	Golden White	2550	83	464	404	any

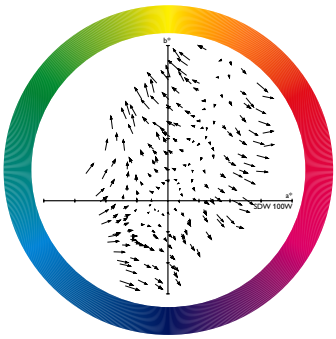
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SDW-T 35W/825 PG12-1 SLV	STH-35-H/E-PG12	8711500734020	0.048 kg	12	17.7 cm x 14.1 cm x 18.2 cm	8711500183125	734020 15
MASTER SDW-T 50W/825 PG12-1 SLV	STH-50-H/E-PG12	8711500734037	0.048 kg	12	17.8 cm x 14.2 cm x 18 cm	8711500183149	734037 15
MASTER SDW-T 100W/825 PG12-1 SLV	STH-100-H/E-PG12	8711500734044	0.055 kg	12	17.8 cm x 14.2 cm x 18 cm	8711500183163	734044 15
MASTER SDW-T 100W/825 PG12-1 OEM SLV	STH-100-H/E-PG12	8711500202154	0.055 kg	12	17.8 cm x 14.2 cm x 18 cm	8711500202161	202154 15

CRV diagram

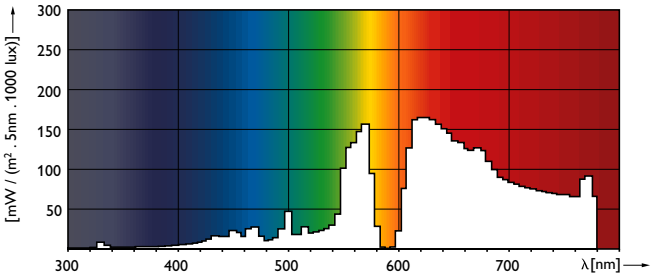


SDW-T 35W/50W



SDW-T 100W

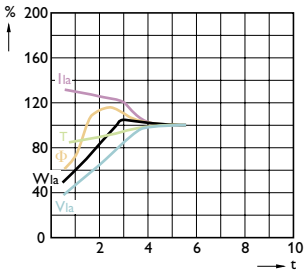
Spectral power distribution



SDW-T 35W/50W/100W

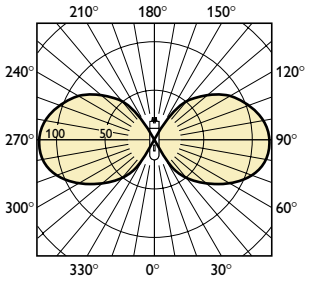
Performance diagram

Lamp performance during run up



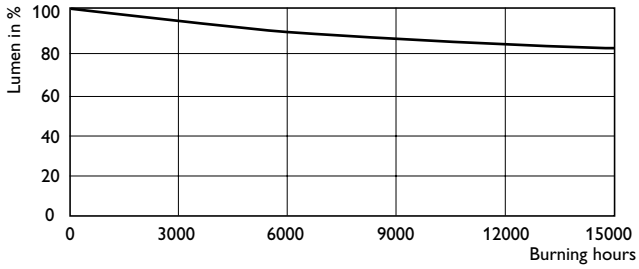
SDW-T

Photometric diagram

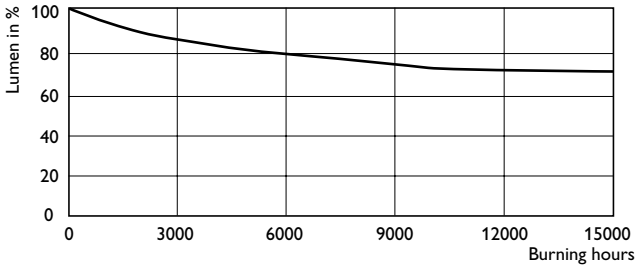


SDW-T

Lumen maintenance diagram

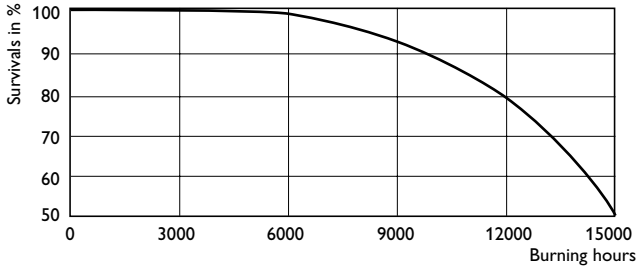


SDW-T 35W/50W /825

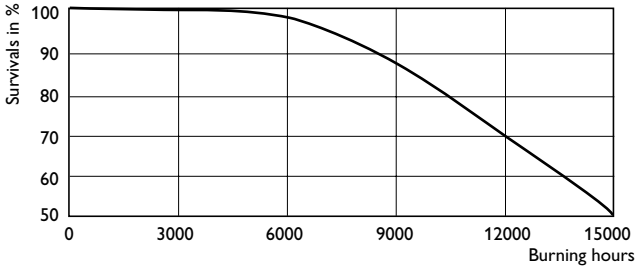


SDW-T 100W /825

Life expectancy diagram

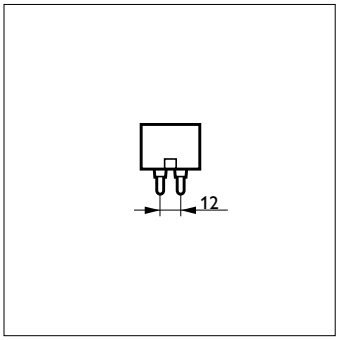


SDW-T 35W/50W /825



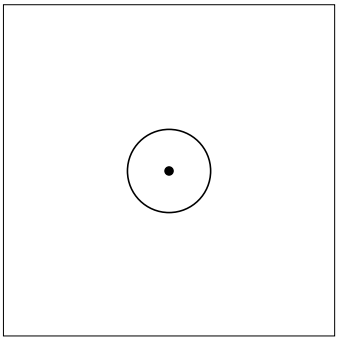
SDW-T 100W /825

Cap Base



PG12-1

Operating position



any



MHN-TD RX7s

Product Description

- Double-ended quartz Metal-halide lamp

Product Features

- Quartz discharge tube containing high-pressure mercury and a mixture of dysprosium, holmium and thulium halides (4200 K) or tin iodide (3000 K), with sodium and thallium added for colour correction and arc stabilization
- Double-ended lamps housed in a tubular clear UV-Block quartz evacuated outer envelope
- Restricted burning position

Product Benefits

- All types are UV-Block for reduced health and fading risks

Application

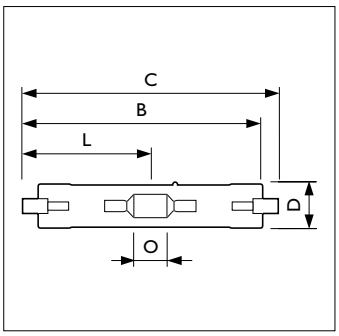
- Indoors - accent lighting, general lighting in downlighters, e.g. in shops and malls
- Downlighters, uplighters and wall-washers, e.g. in shops and malls
- Outdoors - floodlighting monuments, facades and billboards

Luminaires

- These lamps must be used in a luminaire with a hard-glass cover to protect against possible discharge tube shattering

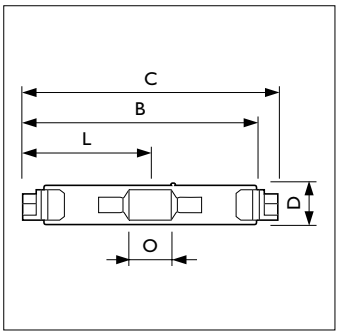
Recommended gear page 2.104

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MHN-TD RX7s

Type	CMax	DMax	ONom
MHN-TD 70W/842 RX7s 1CT	119.63	21	7
MHN-TD 150W/842 RX7s 1CT	137.43	24	18



MHN-TD FC2

Type	CMax	DMax	ONom
MHN-TD 250W/842 FC2 1CT	161.6	27.5	27



MHN-TD FC2

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MHN-TD 70W/842 RX7s 1CT	1.0	75.0	90	70	No	5000	198	10500
MHN-TD 150W/842 RX7s 1CT	1.8	150.0	98	150	No	5000	198	10500
MHN-TD 250W/842 FC2 1CT	3	252.0	100	250	No	3500	198	9000
MHN-TD 70W/730 RX7s 1CT	1.0	75.0	90	70	No	5000	198	9000
MHN-TD 150W/730 RX7s 1CT	1.8	150.0	96	150	No	5000	198	10500

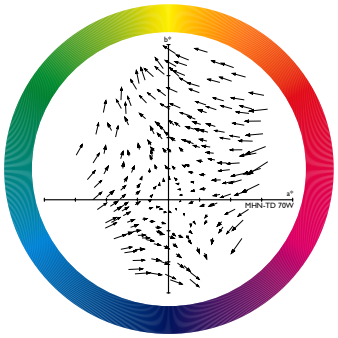
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MHN-TD 70W/842 RX7s 1CT	5700	76	Cool White	4200	80	370	370	p45
MHN-TD 150W/842 RX7s 1CT	12900	86	Cool White	4200	85	370	370	p45
MHN-TD 250W/842 FC2 1CT	20000	80	Cool White	4200	85	370	370	p45
MHN-TD 70W/730 RX7s 1CT	6200	83	Warm White	3000	75	434	400	p45
MHN-TD 150W/730 RX7s 1CT	13800	92	Warm White	3000	75	434	400	p45

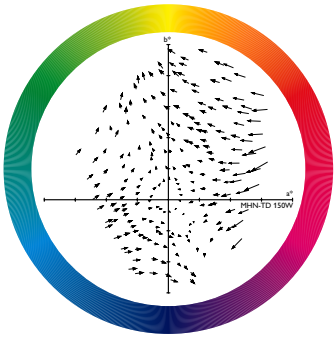
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MHN-TD 70W/842 RX7s 1CT	MD-70/42/1B-H-Rx7s-/H	8711500733986	0.02 kg	12	17.7 cm x 16.2 cm x 19.6 cm	8711500183620	733986 15
MHN-TD 70W/842 RX7s OEM 1CT	MD-70/42/1B-H-Rx7s-/H	8711500202093	0.02 kg	12	17.7 cm x 16.2 cm x 19.6 cm	8711500202109	202093 15
MHN-TD 150W/842 RX7s 1CT	MD-150/42/1B-H-Rx7s-/H	8711500733993	0.02 kg	12	16.2 cm x 17.7 cm x 19.6 cm	8711500183675	733993 15
MHN-TD 150W/842 RX7s OEM 1CT	MD-150/42/1B-H-Rx7s-/H	8711500202116	0.02 kg	12	17.7 cm x 16.2 cm x 19.6 cm	8711500202123	202116 15
MHN-TD 250W/842 FC2 1CT	MD-250/42/1B-H-FC2-/H	8711500734006	0.054 kg	12	27 cm x 22 cm x 29 cm	8711500183712	734006 15
MHN-TD 70W/730 RX7s 1CT	MD-70/30/2-H-RX7S-/H	8711500562685	0.02 kg	12	17.7 cm x 16.2 cm x 19.6 cm	8711500194985	562685 15
MHN-TD 150W/730 RX7s 1CT	MD-150/30/2-H-RX7S-/H	8711500193506	0.02 kg	12	17.7 cm x 16.2 cm x 19.6 cm	8711500193667	193506 15

CRV diagram

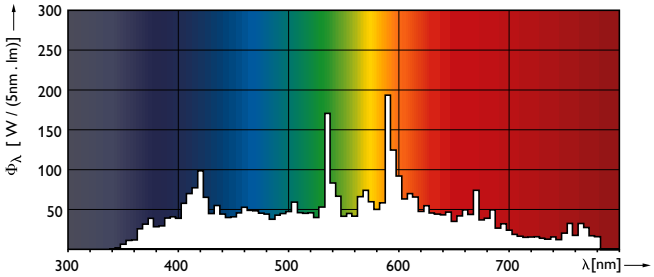


MHN-TD 70W

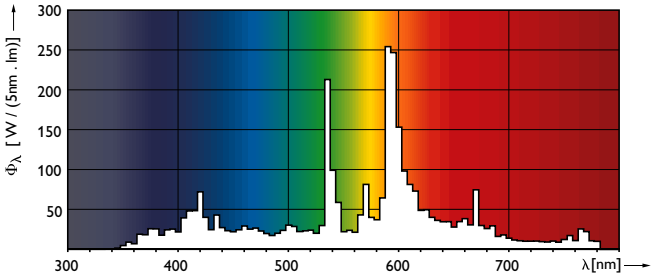


MHN-TD 150W

Spectral power distribution



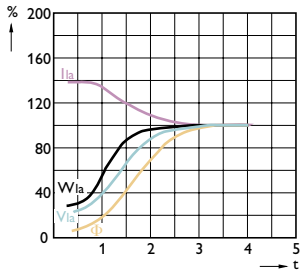
MHN-TD 70W/150W



MHN-TD 70W/150W

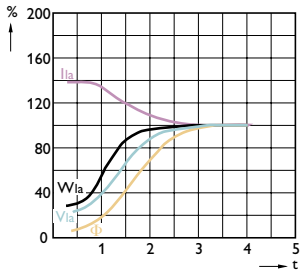
Performance diagram

Lamp performance during run up



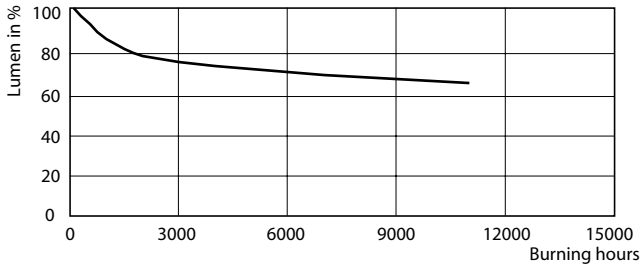
MHN-TD

Lamp performance during run up

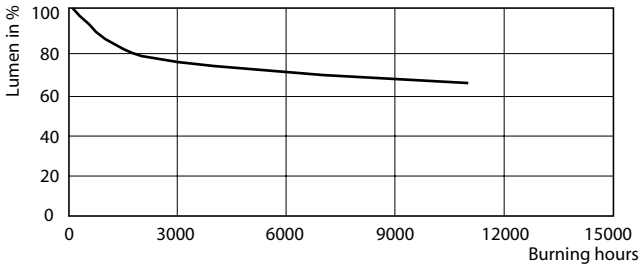


MHN-TD

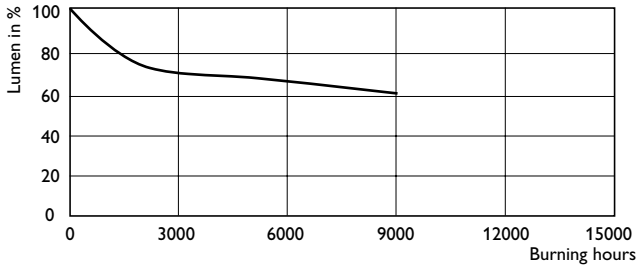
Lumen maintenance diagram



MHN-TD 70W/150W /842

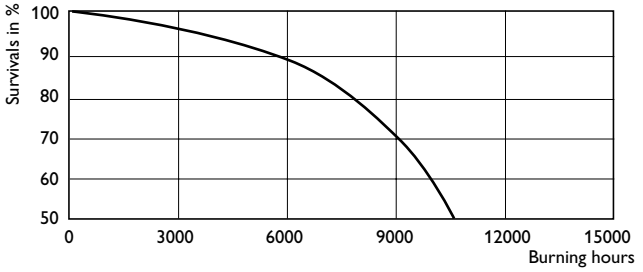


MHN-TD 70W/150W /730

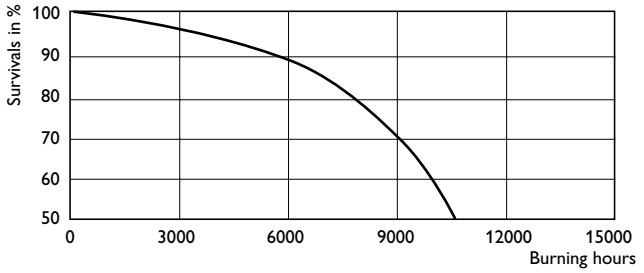


MHN-TD 250W /842

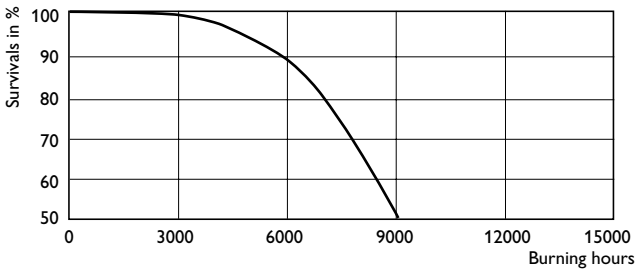
Life expectancy diagram



MHN-TD 70W/150W /842

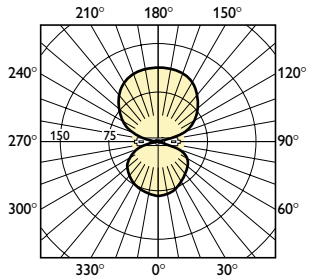


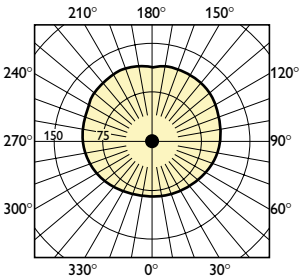
MHN-TD 70W/150W /730



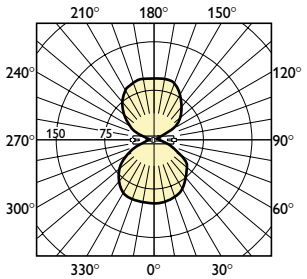
MHN-TD 250W /842

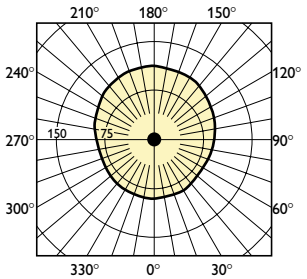
Photometric diagram





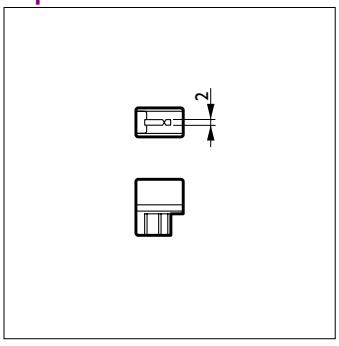
MHN-TD



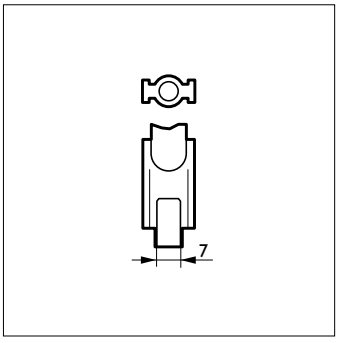


MHN-TD

Cap Base

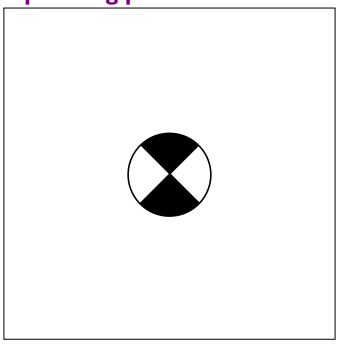


FC2



RX7s

Operating position



p45



MHN-TD B RX7s

Product Description

- Double-ended quartz Metal-halide discharge lamp

Product Features

- No UV-output due to UV-Block quartz of outer bulb
- An MHN-TD lamp with a lower specification is available in cool white

Product Benefits

- All types are UV-Block for reduced health and fading risks

Application

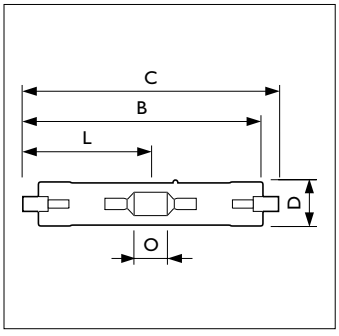
- Indoor accent lighting, e.g. shop windows
- General lighting indoor with downlighters, uplighters and wall-washers, e.g. in shops and corridors
- Outdoor accent lighting, floodlighting monuments, facades and billboards

Luminaires

- Must be used in a closed luminaire

Recommended gear page 2.104

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MHN-TD B RX7s

Type	CMax	DMax	ONom
MHN-TD B 70W/842 RX7s 1CT	119.63	21	7
MHN-TD B 150W/842 RX7s 1CT	137.43	24	18

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MHN-TD B 70W/842 RX7s 1CT	0.980	75	95	70	No	3500	198	8000
MHN-TD B 150W/842 RX7s 1CT	1.8	150	103	150	No	3500	198	8000

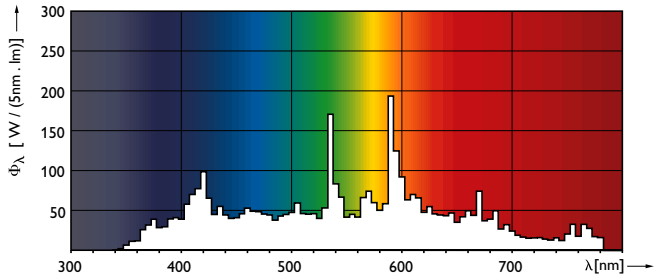
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MHN-TD B 70W/842 RX7s 1CT	5500	75	Cool White	4200	80	370	370	p45
MHN-TD B 150W/842 RX7s 1CT	12900	81	Cool White	4200	85	370	370	p45

Ordering and packing data

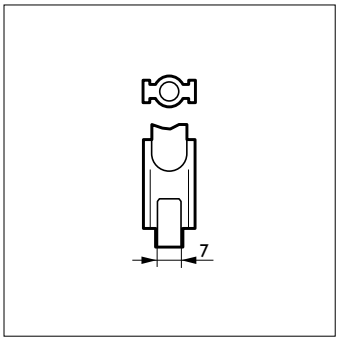
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MHN-TD B 70W/842 RX7s 1CT	MD-70/42/1B-H-RX7s/H	8711500205148	0.023 kg	12	17.7 cm x 16.2 cm x 19.6 cm	8711500205155	205148 15
MHN-TD B 150W/842 RX7s 1CT	MD-150/42/1B-H-RX7s/H	8711500205124	0.032 kg	12	17.7 cm x 16.2 cm x 19.6 cm	8711500205131	205124 15

Spectral power distribution



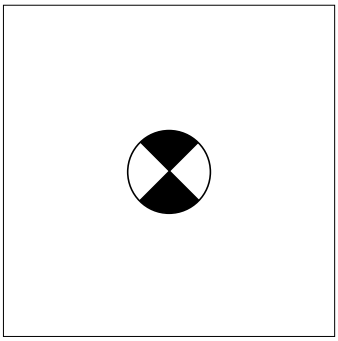
MHN-TD B 70W/150W

Cap Base



RX7s

Operating position



p45



Gear for Compact HID

Philips Lighting develops and produces the widest possible selection of gear for Compact High-Intensity Discharge lamps, including electronic and conventional electromagnetic gear, controllers, ignitors and capacitors. The Philips gear family offers optimum system performance in conjunction with Philips Compact HID lamps, improving the quality of your store lighting and saving energy costs.

Electronic HID gear

Philips electronic gear is available for all CDM and SDW-TG lamp types.

- They have significant benefits over conventional copper-iron gear:
- Miniaturisation for compact design
- Flicker-free light
- Automatic compensation for mains voltage variations (198V – 254V) to extend lamp life
- Stable light output
- Reduced colour spread between lamps
- Intelligent lamp end-of-life behaviour
- Up to 30% longer life time in combination with less energy usage
- Faster, fuss-free starting
- Easier fast fit via single piece installation
- Built-in overload protection
- Excellent Total-Cost-of-Ownership (TCO) because of lower power-losses
- Reduced weight



The Philips HID electronic gear range was invented for total compatibility with Philips Compact HID lamps. Development of Compact HID lamps and gear is in one hand. Every product is tested extensively, requiring extensive life testing before a system can be released. The result is an optimal light performance.

Three types of electronic gear are available:

- Standard (/S) version for easy integration in the luminaire
- Independent (/I) version with a plastic housing (F-marked) for freestanding use
- PCB (/P) version fixed on a metal mounting plate for optimal thermal design in the luminaire

Electromagnetic HID gear

Besides electronics a broad selection of electromagnetic gear is offered for wide range of lamp types and powers from 35W up to 2000W. You can rely on the experience of Philips and the fact that all Philips lamps are fully released that performance of Philips lamps are best on Philips gear.

Depending on the specific application and/or economic considerations, Philips can supply two types of electromagnetic gear; Heavy Duty and Basic gear types.
Heavy Duty gear is fully encapsulated and have a special protected bottom-plate for humid or aggressive environment conditions or were extra long lifetime and high reliability is needed.
HID-Basic gear is impregnated for general use in enclosed applications and should not be exposed to humid environments.
All electromagnetic gear has been designed for a problem-free lifetime of 10 years continuous operation.

For both MH and high-pressure Sodium Philips offers conventional gear with internal thermal protection. These types can be recognised by the TS indication.

For the whole range of lamps, a full range of electronic ignitors is offered. Philips prefers and advice customers to use the so-called by Philips developed semi-parallel ignitors (also called impulser type). Together with the gear these ignitors induce ignition-pulses which takes care for reliable lamp-ignition under all conditions for both new and old lamps. The advantage of the semi-parallel systems is that gear can be installed remotely (typically 20 meter between gear and lamp is possible). Furthermore has the system much lower watt losses and the ignitor is not in the lamp-current leads and thereby becomes very reliable.

Next step to reliability are the digital ignitors, these ignitor types detect faulty lamps in an early stage and prevent cycling and unnecessary stress on the system, for CDM lamps these ignitors are obligatory.

Philips gear is designed for lowest watt losses and for ease of use tapping possibilities to select mains-voltages 230/240V, 50Hz and 220/230V, to limit the tables in this OEM catalogue only 230/240V types are given..



HID-PV C 70 S CDM

Product Description

- Compact, lightweight, one-piece electronic gear for 35W, 70W and 150W CDM lamps

Product Features

- Available as Standard (/S) or PCB (/P) version for use in a luminaire
- Minimal lamp power spread
- Microprocessor controlled
- Low gear energy losses
- Lamp end-of-life detection
- High Tambient and Tcase temperatures
- Long lifetime of 40,000 h
- Push-in contacts
- High quality (< 500 ppm)
- Quality standard by excellence in development and manufacturing processes
- Minimal lamp power tolerance gives optimal lamp performance
- Lamp life increased by up to 30% for CDM lamps
- Eliminates all visible lamp flicker
- Reduces colour differences between lamps and initial lumen spread
- Silent operation without hum
- Performance is independent of mains voltage
- Easy luminaire design-in
- Simple installation and cabling with push-in contacts
- High quality results in trouble-free installation

Applications

- 35W and 70W: accent and decorative lighting for shops and retail, public spaces, lobbies and offices
- 150W: as 35W and 70W for high ceilings
- Climatic suitability: for indoor use only

Quality

Philips assures optimum quality regarding:

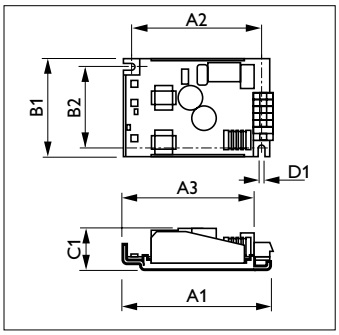
- System supplier: As supplier of HID lamps and electronic gear, Philips ensures that, from the earliest development stage, optimum lamp-gear performance is maintained
- European standards: Philips HID electronic gear comply with all relevant international rules and regulations

Compliances and approvals

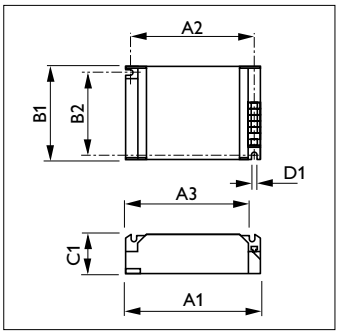
RoHS compliant
Green product for Compact 150W
ENEC or KEMA/VDE approved

Recommended lamp page 2.104

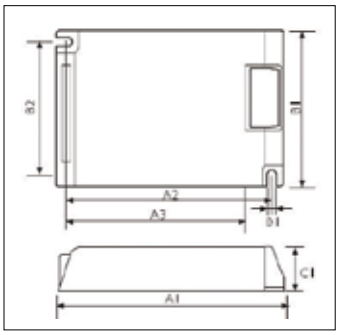
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Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-PrimaVision Compact 35/70 /P CDM 220-240V 50/60Hz	109.0	98.5	95.0	72.5	63.5	28.0	4.5
HID-PrimaVision Compact 2x35 /P CDM 220-240V 50/60Hz	134.0	123.5	120.0	72.5	63.5	32.0	4.5



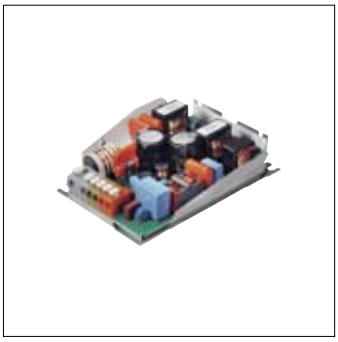
Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-PrimaVision Compact 35/70 /S CDM 220-240V 50/60Hz	109.0	98.5	98.5	75.0	63.5	32.0	4.5
HID-PrimaVision Compact 150 /S CDM 220-240V 50/60Hz	135.0	123.5	-	75.0	63.5	32.0	4.2
HID-PrimaVision Compact 2x35 /S CDM 220-240V 50/60Hz	135.0	123.5	123.5	75.0	63.5	32.0	4.5



Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-PrimaVision Compact 35/70 /S CDM 220-240V 50/60Hz	110.0	98.5	92.5	75.0	63.5	32.0	4.5



HID-PV C 35/70 /S



HID-PV C 35/70 /P



HID-PV C 150 /S

Inrush current

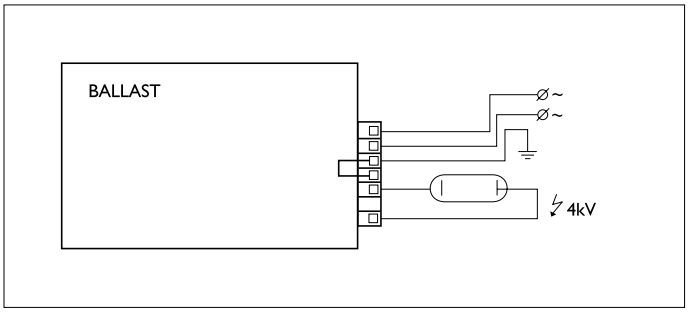
Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-PrimaVision Compact 35 CDM 220-240V 50/60Hz	24	26	0.25
HID-PrimaVision Compact 70/2x35 CDM 220-240V 50/60Hz	20	33	0.50
HID-PrimaVision Compact 150 CDM 220-240V 50/60Hz	6	50	0.50

Electrical data

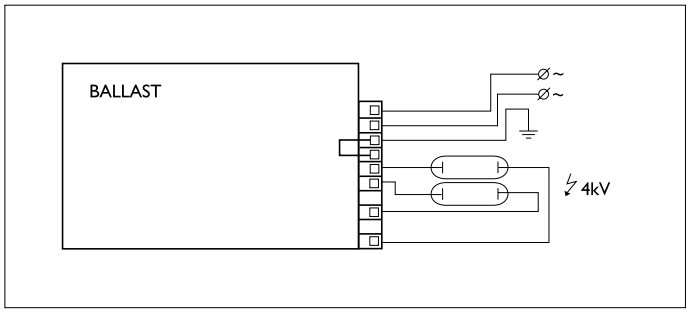
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-PrimaVision Compact 35 /S	1	35	4.5	50/60	220-240	80	80	50	5.0	100
HID-PrimaVision Compact 35 /P	1	35	6.5	50/60	220-240	80	80	50	4.5	100
HID-PrimaVision Compact 70 /S	1	70	4.5	50/60	220-240	70	80	55	5.0	100
HID-PrimaVision Compact 70 /P	1	70	6.5	50/60	220-240	80	80	55	4.5	100
HID-PrimaVision Compact 150 /S	1	150	10.0	50/60	220-240	75	85	60	5.0	200
HID-PrimaVision Compact 2x35 /P/S	2	35	13.0	50/60	220-240	70	80	55	4.5	120

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC
HID-PrimaVision Compact 35 /S CDM 220-240V 50/60Hz	0.22 kg	12	30.6 cm x 21.2 cm x 9.7 cm	8710163209319	209319 00
HID-PrimaVision Compact 35 /P CDM 220-240V 50/60Hz	0.17 kg	12	39.8 cm x 26.3 cm x 9.6 cm	8711500930118	930101 30
HID-PrimaVision Compact 70 /S CDM 220-240V 50/60Hz	0.24 kg	12	30.6 cm x 21.2 cm x 9.7 cm	8710163209333	209333 00
HID-PrimaVision Compact 70 /P CDM 220-240V 50/60Hz	0.17 kg	12	39.8 cm x 26.3 cm x 9.6 cm	8711500930156	930149 30
HID-PrimaVision Compact 150 /S CDM 220-240V 50/60Hz	0.36 kg	12	33.3 cm x 26.4 cm x 11.7 cm	8711500910530	910523 30
HID-PrimaVision Compact 2x35 /P CDM 220-240V 50/60Hz	0.3 kg	12	31 cm x 21.9 cm x 10.6 cm	8711500933379	001405 30
HID-PrimaVision Compact 2x35 /S CDM 220-240V 50/60Hz	0.271 kg	12	31 cm x 21.9 cm x 10.6 cm	8711500932730	932723 30



HID-PV C 35/70/150 /S/P



HID-PV C 2x35 /S/P





HID-PV C 35/70 /I SOFT START

Product Description

- Compact, lightweight, one-piece electronic gear for 35W, 70W and 150W CDM lamps

Product Features

- Available as Independent (/I) for independent use on a (false) ceiling.
- Independent gear is also available with cable
- Minimal lamp power spread
- Microprocessor controlled
- Low gear energy losses
- Lamp end-of-life detection
- High Tambient and Tcase temperatures
- Long lifetime of 40,000 h
- Push-in contacts
- Integrated strain relief
- High quality (< 500 ppm)
- Quality standard by excellence in development and manufacturing processes
- Minimal lamp power tolerance gives optimal lamp performance
- Lamp life increased by up to 30% for CDM lamps
- Eliminates all visible lamp flicker
- Reduces colour differences between lamps and initial lumen spread
- Silent operation without hum
- Performance is independent of mains voltage
- Simple installation and cabling with push-in contacts and integrated strain relief
- High quality results in trouble-free installations

Applications

- 35W and 70W: accent and decorative lighting for shops and retail, public spaces, lobbies and offices
- 150W: as 35W and 70W for high ceilings
- Climatic suitability: for indoor use only

Quality

Philips assures optimum quality regarding:

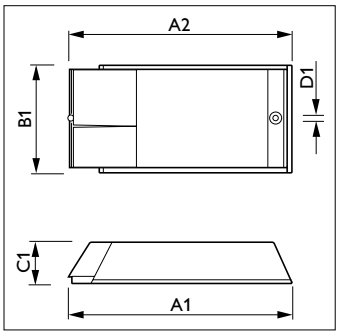
- System supplier: As supplier of HID lamps and electronic gear, Philips ensures that, from the earliest development stage, optimum lamp-gear performance is maintained
- European standards: Philips HID electronic gear comply with all relevant international rules and regulations

Compliances and approvals

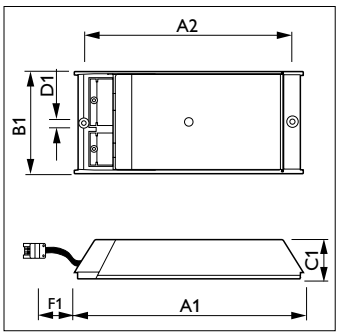
RoHS compliant
Green product for Compact 150W
ENEC or KEMA/VDE approved

Recommended lamp page 2.104

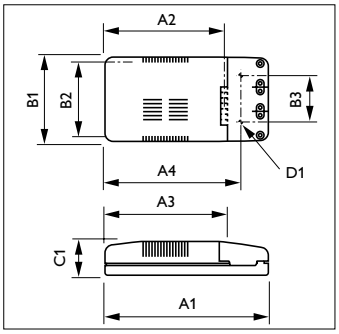
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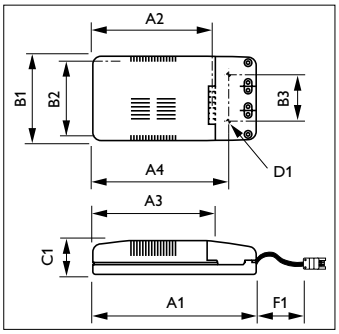
Type	A1Nom	A2Nom	B1Nom	B3Nom	C1Nom	D1Nom
HID-PrimaVision Compact 35/70 /I CDM 220-240V 50/60Hz SOFT START	188.0	170.0	83.0	-	34.5	4.8
HID-PrimaVision Compact 150 /I CDM 220-240V 50/60Hz	223.9	206.0	82.9	38.5	37.5	4.8



Type	A1Nom	A2Nom	B1Nom	B3Nom	C1Nom	D1Nom
HID-PrimaVision Compact 150 /G CDM 220-240V 50/60Hz	223.9	206.0	82.9	38.5	37.5	4.8



Type	A1Nom	A2Nom	A3Nom	A4Nom	B1Nom	B2Nom	B3Nom	C1Nom	D1Nom
HID-PrimaVision Compact 2x35 /I CDM 220-240V 50/60Hz	175.0	123.5	138.5	151.5	79.5	63.5	50.0	35.0	4.5
HID-PrimaVision Compact 35/70 /I CDM 220-240V 50/60Hz	150.0	98.5	113.5	126.5	79.5	63.5	50.0	35.0	4.5



Type	A1Nom	A2Nom	A3Nom	A4Nom	B1Nom	B2Nom	B3Nom	C1Nom	D1Nom	F1Nom
HID-PrimaVision Compact 35/70 a CDM 220-240V 50/60Hz	150.0	98.5	113.5	126.5	79.5	63.5	50.0	35.0	4.5	500


HID-PV C 35/70 /I


HID-PV C 150 /I


HID-PV C 35/70 /G


HID-PV C 150 /G

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-PrimaVision Compact 35 /I CDM 220-240V 50/60Hz	58	9	2.5
HID-PrimaVision Compact 35 /I CDM 220-240V 50/60Hz	24	24	0.35
HID-PrimaVision Compact 70 /I CDM 220-240V 50/60Hz	32	9	2.5
HID-PrimaVision Compact 70 /I CDM 220-240V 50/60Hz	14	33	0.5
HID-PrimaVision Compact 150 /I CDM 220-240V 50/60Hz	6	50	0.50

Electrical data

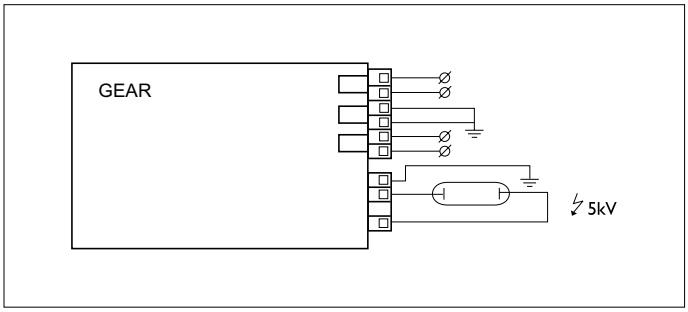
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient
HID-PrimaVision Compact 35 /I CDM 220-240V 50/60Hz SOFT START	1	35	4.5	50/60	220-240	80	80	50
HID-PrimaVision Compact 35 /I CDM 220-240V 50/60Hz SOFT START	1	35	4.5	50/60	220-240	70	80	55
HID-PrimaVision Compact 35 /G CDM 220-240V 50/60Hz	1	35	4.5	50/60	220-240	75	85	55
HID-PrimaVision Compact 70 /I CDM 220-240V 50/60Hz	1	70	6.8	50/60	220-240	75	75	45
HID-PrimaVision Compact 70 /I CDM 220-240V 50/60Hz	1	70	6.5	50/60	220-240	70	80	45
HID-PrimaVision Compact 70 /G CDM 220-240V 50/60Hz	1	70	6.5	50/60	220-240	75	85	55
HID-PrimaVision Compact 150 /I CDM 220-240V 50/60Hz	1	150	10.0	50/60	220-240	70	80	45
HID-PrimaVision Compact 2x35 /I CDM 220-240V 50/60Hz	2	35	13.0	50/60	220-240	70	80	55

Electrical data

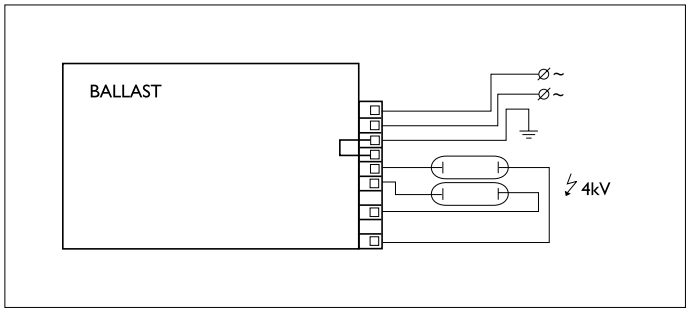
Type	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-PrimaVision Compact 35 /I CDM 220-240V 50/60Hz	4.0	150
HID-PrimaVision Compact 35 /I CDM 220-240V 50/60Hz	4.5	120
HID-PrimaVision Compact 35 /G CDM 220-240V 50/60Hz	4.5	120
HID-PrimaVision Compact 70 /I CDM 220-240V 50/60Hz	4.0	150
HID-PrimaVision Compact 70 /I CDM 220-240V 50/60Hz	4.5	120
HID-PrimaVision Compact 70 /G CDM 220-240V 50/60Hz	4.5	120
HID-PrimaVision Compact 150 /I CDM 220-240V 50/60Hz	5.0	200
HID-PrimaVision Compact 2x35 /I CDM 220-240V 50/60Hz	4.5	120

Ordering and packing data

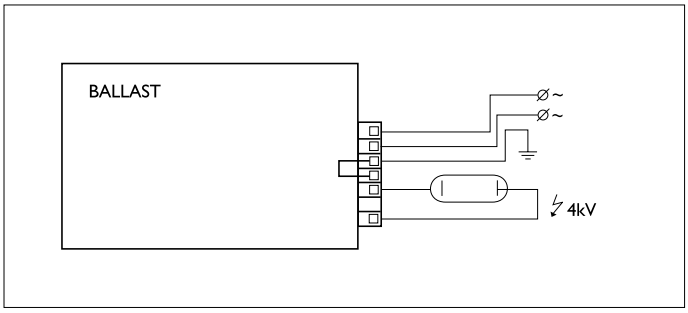
Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-PrimaVision Compact 35 /I CDM 220-240V 50/60Hz	0.345 kg	12	23.6 cm x 18.5 cm x 20.5 cm	8711500914798	914781 30
HID-PrimaVision Compact 35 /I CDM 220-240V 50/60Hz	0.242 kg	12	31.1 cm x 17.1 cm x 13.7 cm	8711500930132	930125 30
HID-PrimaVision Compact 35 /G CDM 220-240V 50/60Hz	0.313 kg	6	31.1 cm x 17.1 cm x 13.7 cm	8711500002112	002105 30
HID-PrimaVision Compact 70 /I CDM 220-240V 50/60Hz	0.345 kg	12	23.6 cm x 18.5 cm x 20.5 cm	8711500914774	914767 30
HID-PrimaVision Compact 70 /I CDM 220-240V 50/60Hz	0.242 kg	12	31.1 cm x 17.1 cm x 13.7 cm	8711500930170	930163 30
HID-PrimaVision Compact 70 /G CDM 220-240V 50/60Hz	0.313 kg	6	31.1 cm x 17.1 cm x 13.7 cm	8711500002136	002129 30
HID-PrimaVision Compact 150 /I CDM 220-240V 50/60Hz	0.48 kg	10	24.4 cm x 19.3 cm x 21.7 cm	8711500912886	912879 30
HID-PrimaVision Compact 150 /G CDM 220-240V 50/60Hz	0.495 kg	6	49 cm x 25.6 cm x 9.4 cm	8711500914453	914446 30
HID-PrimaVision Compact 2x35 /I CDM 220-240V 50/60Hz	0.271 kg	12	36.1 cm x 17.1 cm x 13.9 cm	8711500933317	933300 30



HID-PV C 35/70 SOFT START /150 /I/G



HID-PV C 2x35 /I



HID-PV C 35/70 /I/G



HID-PV m /S

Product Description

- Miniature, lightweight, one-piece electronic gear for 20W and 35W CDM Mini and 35W CDM lamps

Product Features

- Available as Standard (/S) for use in a luminaire
- 20W LPF also available as PCB (/P) version for use in a luminaire
- 20W available as High Power Factor (HPF) and Low Power Factor (LPF)
- Smallest gear available
- Minimal lamp power spread
- Microprocessor controlled
- Resonant ignition voltage <1.5kV (20W) and <2.0kV (35W)
- Lamp end-of-life detection
- High Tambient and Tcase temperatures
- Long lifetime of 40,000 h
- Push-in contacts
- High quality (< 500 ppm)
- Quality standard by excellence in development and manufacturing processes
- Miniaturisation for stylish luminaire design and retrofit halogen replacement
- Minimal lamp power tolerance gives optimal lamp performance
- Robust ignition by resonant ignition
- Reduces colour differences between lamps and initial lumen spread
- Silent operation
- Performance is independent of mains voltage
- Easy luminaire design-in
- Simple installation and cabling with push-in contacts
- High quality results in trouble-free installation

Applications

- Accent and decorative lighting for shops and retail, public spaces, lobbies and offices
- Climatic suitability: for indoor use only

Quality

Philips assures optimum quality regarding:

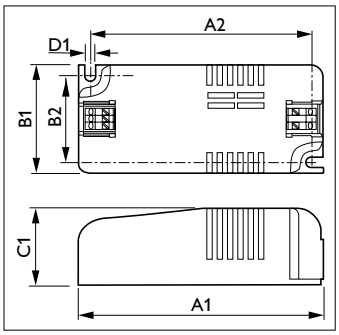
- System supplier: As supplier of HID lamps and electronic gear, Philips ensures that, from the earliest development stage, optimum lamp-gear performance is maintained
- European standards: Philips HID electronic gear comply with all relevant international rules and regulations

Compliances and approvals

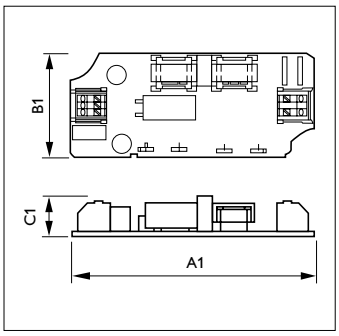
RoHS compliant
Green product
ENEC approved

Recommended lamp page 2.104

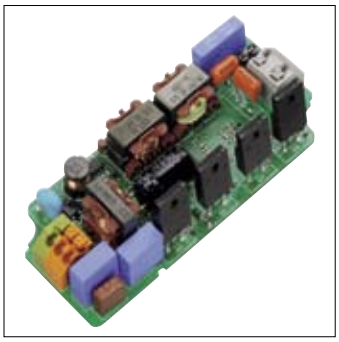
www.philips.com/OEM



Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HID-PrimaVision mini 20/35 CDM LPF/HPF 220-240V 50/60Hz	97.3	88.0	43.3	30.0	4.2



Type	A1Nom	B1Nom	C1Nom
HID-PrimaVision mini 20/P CDM LPF 220-240V 50/60Hz	94.0	40.0	26.0



HID-PV m /P

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-PrimaVision mini 1x020/S mCDM LPF 220-240V	36	30	0.40
HID-PrimaVision mini 1x020/S CDM HPF 220-240V	24	15	0.40

Electrical data

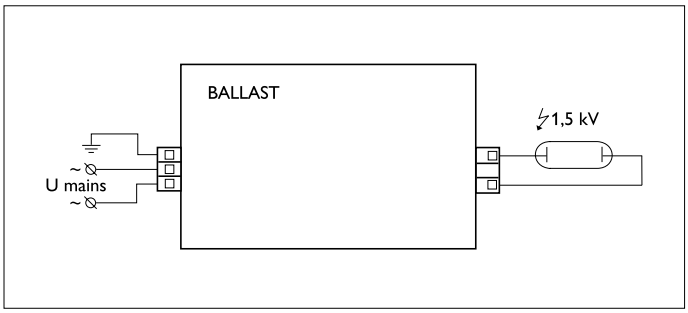
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient
HID-PrimaVision mini 20/S CDM LPF 220-240V 50/60Hz	1	20	3	50/60	220-240	65	75	50
HID-PrimaVision mini 20/P CDM LPF 220-240V 50/60Hz	1	20	3	50/60	220-240	85	95	50
HID-PrimaVision mini 20/S CDM HPF 220-240V 50/60Hz	1	20	4	50/60	220-240	85	85	50
HID-PrimaVision mini 35/S CDM HPF 220-240V 50/60Hz	1	35	6.0	50/60	220-240	85	85	50

Electrical data

Type	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-PrimaVision mini 1x020/S mCDM LPF 220-240V	1.4	200
HID-PrimaVision mini 1x020/P mCDM LPF 220-240V	1.4	200
HID-PrimaVision mini 1x020/S CDM HPF 220-240V	1.5	200
HID-PrimaVision mini 1x035/S CDM HPF 220-240V	2.0	200

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-PrimaVision mini 1x020/S mCDM LPF 220-240V	0.079 kg	12	18.5 cm x 11.5 cm x 12 cm	8711500536099	536082 30
HID-PrimaVision mini 1x020/P mCDM LPF 220-240V	0.06 kg	12	31.4 cm x 20.3 cm x 8.6 cm	8711500907622	907615 30
HID-PrimaVision mini 1x020/S CDM HPF 220-240V	0.16 kg	12	18.5 cm x 11 cm x 11.9 cm	8711500912374	912367 30
HID-PrimaVision mini 1x035/S CDM HPF 220-240V	0.168 kg	12	18.5 cm x 11 cm x 11.9 cm	8711500910639	910622 30



HID-PV m 20/35 LPF/HPF /S /P


MULBERRY



HID-PV m 35/I

Product Description

- Miniature, lightweight, one-piece electronic gear for 20W and 35W CDM Mini and 35W CDM lamps

Product Features

- Available as Independent (/I) for independent use on a (false) ceiling.
- Minimal lamp power spread
- Microprocessor controlled
- Resonant ignition voltage <1.5kV (20W) and <2.0kV (35W)
- Lamp end-of-life detection
- High Tambient and Tcase temperatures
- Long lifetime of 40,000 h
- 20W available as High Power Factor (HPF) and Low Power Factor (LPF)
- Push-in contacts
- Integrated strain relief
- High quality (< 500 ppm)
- Quality standard by excellence in development and manufacturing processes
- Miniature system for stylish luminaire design and retro-fit halogen replacement
- Minimal lamp power tolerance gives optimal lamp performance
- Robust ignition by resonant ignition
- Reduces colour differences between lamps and initial lumen spread
- Silent operation
- Performance is independent of mains voltage
- Easy design-in into the luminaire
- Simple installation and cabling with push-in contacts and with integrated strain relief
- High quality results in trouble-free installation

Applications

- Accent and decorative lighting for shops and retail, public spaces, lobbies and offices
- Climatic suitability: for indoor use only

Quality

Philips assures optimum quality regarding:

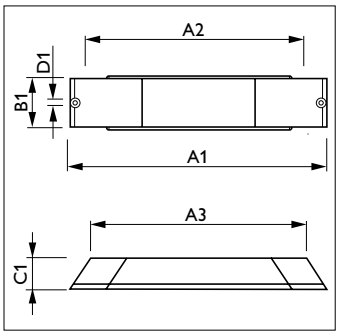
- System supplier: As supplier of HID lamps and electronic gear, Philips ensures that, from the earliest development stage, optimum lamp-gear performance is maintained
- European standards: Philips HID electronic gear comply with all relevant international rules and regulations

Compliances and approvals

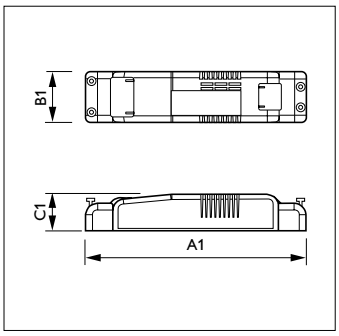
RoHS compliant
Green product
ENEC approved

Recommended lamp page 2.104

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Type	A1Nom	A2Nom	A3Nom	B1Nom	C1Nom	D1Nom
HID-PrimaVision mini 35/I	234.7	225.1	202.0	49.4	34.0	4.8



Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HID-PrimaVision mini 20/I CDM	190.0	154.0	43.3	30.0	4.2



HID-PV m 20/I

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-PrimaVision mini 1x035/I CDM 220-240V 50/60Hz	24	15	0.25
HID-PrimaVision mini 1x020/I mCDM LPF 220-240V	48	30	0.40

Electrical data

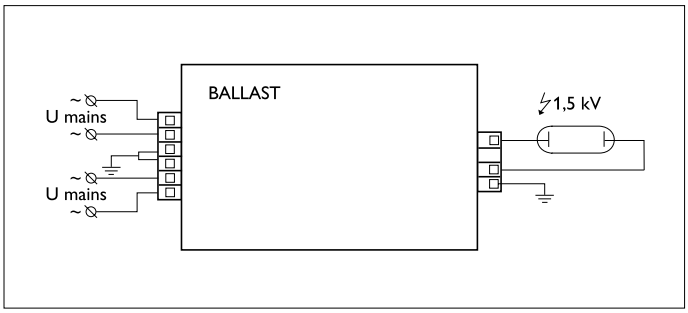
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient
HID-PrimaVision mini 1x035/I CDM 220-240V 50/60Hz	1	35	6.0	50/60	220-240	80	80	45
HID-PrimaVision mini 1x020/I mCDM LPF 220-240V	1	20	3	50/60	220-240	65	75	50

Electrical data

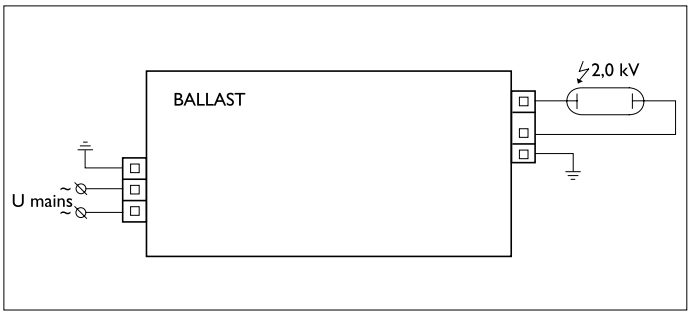
Type	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-PrimaVision mini 1x035/I CDM 220-240V 50/60Hz	2.0	200
HID-PrimaVision mini 1x020/I mCDM LPF 220-240V	1.4	200

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-PrimaVision mini 1x035/I CDM 220-240V 50/60Hz	0.312 kg	10	35.8 cm x 28.8 cm x 12.9 cm	8711500913920	913913 30
HID-PrimaVision mini 1x020/I mCDM LPF 220-240V	0.14 kg	12	20.2 cm x 18.5 cm x 12.6 cm	8711500909824	909817 30



HID-PV m 20/I



HID-PV m 35/I


KAREN MILLEN
BAKER



HID-PV 70 /S

Product Description

- Solid, one-piece electronic gear for 150W MH and CDM lamps and 70W CDM lamps

Product Features

- For use with Ceramic Discharge Lamps (CDM) and/or Metal Halide lamps (MH)
- Available as Standard (/S) for use in a luminaire, or with separate strain relief for independent use on a (false) ceiling
- For 70W CDM: Digital DALI interface for communication with the gear
- Minimal lamp power spread
- Microprocessor controlled
- Lamp end-of-life detection
- High Tambient and Tcase temperatures
- Long lifetime of 40,000 h
- Eliminates all visible lamp flicker
- Reduces colour differences between lamps and initial lumen spread
- Silent operation without hum
- Performance is independent of mains voltage
- Lamp life increased by up to 30% (CDM) or 50% (MH)
- Simple installation and cabling
- Push-in connectors
- Separate strain-relief
- For 70W: DALI interface enables communication with gear for switching on/off and read-out of status

Application

- 70W: accent and decorative, shops and retail, indoor public spaces, lobbies and offices
- 150W: as 70W for high ceilings
- Climatic suitability: for indoor and outdoor applications due to plastic housing and potting

Quality

Philips Quality assures optimum quality regarding:

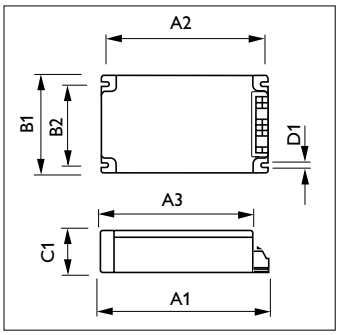
- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- European standards: Philips HID electronic gears comply with all relevant international rules and regulations

Compliances and approvals

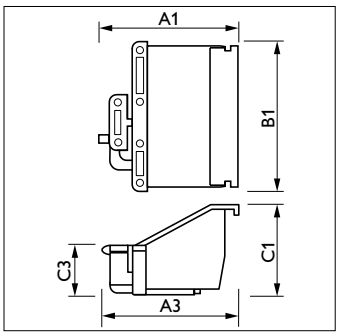
RoHS compliant
ENEC or KEMA/VDE approved

Recommended lamp page 2.104

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Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-PrimaVision 70/150 /S MH/CDM 220-240V 50/60Hz	150.0	134.0	136.0	90.0	70.0	40.0	4.5



Type	A1Nom	A3Nom	B1Nom	C1Nom	C3Nom
HID-STRAIN RELIEF	40	40	62	30	16



HID-PV DALI 70/S



HID-STRAIN RELIEF

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-PrimaVision 150 /S MH/CDM 220-240V 50/60Hz	9		0.50
HID-PrimaVision DALI 70 /S CDM 220-240V 50/60Hz	11	40	0.58

Electrical data

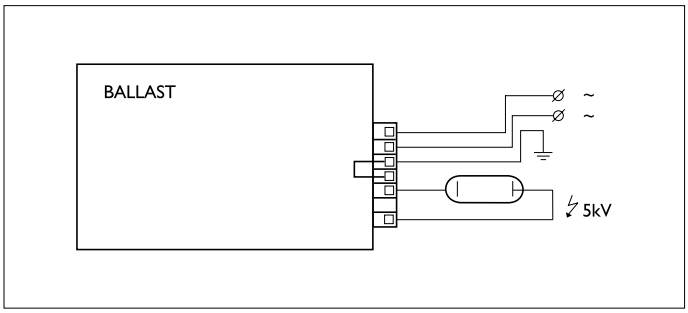
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient
HID-PrimaVision 150 /S MH/CDM 220-240V 50/60Hz	1	150		50/60	220-240	90	100	50
HID-PrimaVision DALI 70 /S CDM 220-240V 50/60Hz	1	70	7.0	50/60	220-240	90	100	50

Electrical data

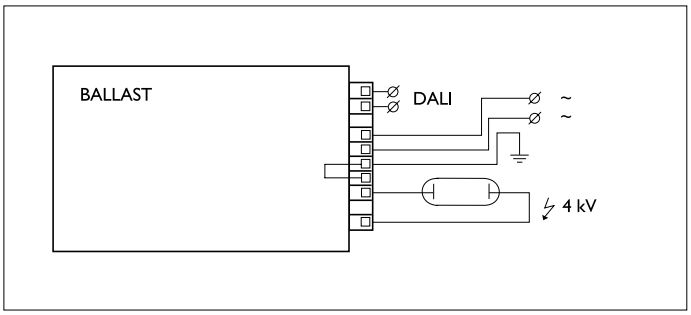
Type	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-PrimaVision 150 /S MH/CDM 220-240V 50/60Hz	4.50	120
HID-PrimaVision DALI 70 /S CDM 220-240V 50/60Hz	4,00	120

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-PrimaVision 150 /S MH/CDM 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500748768	748751 30
HID-PrimaVision DALI 70 /S CDM 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm		910486 30
HID-STRAIN RELIEF	0.022 kg	10	15.5 cm x 13.7 cm x 8.5 cm	8711500539878	539861 30



HID-PV 150 /S



HID-PV DALI 70 /S





HID-PV 250 /S

Product Description

- Solid, one-piece electronic gear for medium wattage CDM lamps (> 250W)

Features and Benefits

- For use with Ceramic Discharge Lamps (CDM)
- Available as Standard (/S) for use in a luminaire
- Minimal lamp power spread
- Microprocessor controlled
- Lamp end-of-life detection
- High Tambient and Tcase temperatures
- Long lifetime of 40,000 h
- Eliminates all visible lamp flicker
- Reduces colour differences between lamps and initial lumen spread
- Silent operation without hum
- Performance is independent of mains voltage
- Lamp life increased by up to 30% for CDM lamps
- Simple installation and cabling
- Push-in connectors

Applications

- High bay shop lighting
- Flood lighting
- Climatic suitability: for indoor and outdoor applications due to plastic housing and potting

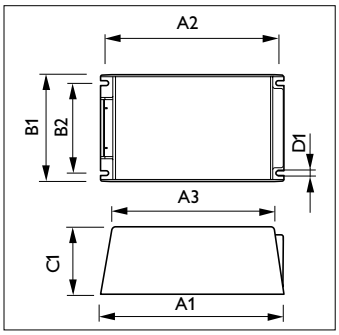
Quality

Philips assures optimum quality regarding:

- System supplier: As supplier of HID lamps and electronic gear, Philips ensures that, from the earliest development stage, optimum lamp-gear performance is maintained
- European standards: Philips HID electronic gear comply with all relevant international rules and regulations

Recommended lamp page 2.104

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Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-PrimaVision 250 /S CDM 220-240V 50/60Hz	166.0	156.0	97.0	81.5	61.0	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-PrimaVision 250 /S CDM 220-240V 50/60Hz	9	35	1

Electrical data

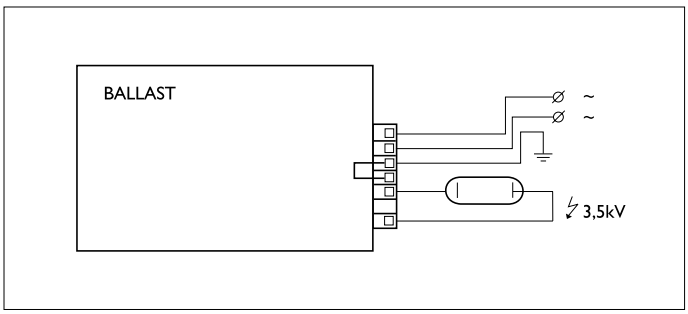
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient
HID-PrimaVision 250 /S CDM 220-240V 50/60Hz	1	250	22	50/60	220-240	80	90	55

Electrical data

Type	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-PrimaVision 250 /S CDM 220-240V 50/60Hz	3.1	300

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871150
HID-PrimaVision 250 /S CDM 220-240V 50/60Hz	1.4 kg	6	39.5 cm x 18.4 cm x 13.2 cm	8711500909831	909572 30



HID-PV



HID-PV C 50/100 /S

Product Description

- Lightweight, one-piece electronic gear for 50W and 100W SDW-TG lamps (mini White SON)

Product Features

- Available as Standard (/S) for use in a luminaire, or with separate strain relief for independent use on a (false) ceiling
- Minimal lamp power spread
- Lamp end-of-life detection
- High Tambient and Tcase temperatures
- Long lifetime of 40,000 h
- Independent use with separate strain relief
- High quality (< 500 ppm)
- Quality standard by excellence in development and manufacturing processes
- Minimal lamp power tolerance gives optimal lamp performance
- Reduces colour differences between lamps and initial lumen spread
- Silent operation
- Performance is independent of mains voltage
- Easy luminaire design-in
- High quality results in trouble-free installations

Applications

- Shop lighting (creates a cosy atmosphere, e.g. in furniture shops), excellent display of fresh goods (e.g. in butchers, bakeries, florists)
- Climatic suitability: for indoor use only

Quality

Philips assures optimum quality regarding:

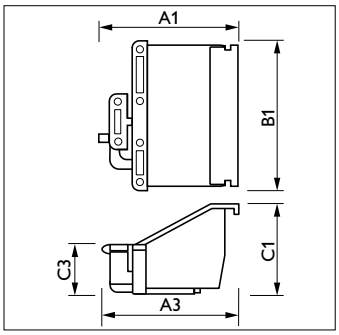
- System supplier: As supplier of HID lamps and electronic gear, Philips ensures that, from the earliest development stage, optimum lamp-gear performance is maintained
- European standards: Philips HID electronic gear comply with all relevant international rules and regulations

Compliances and approvals

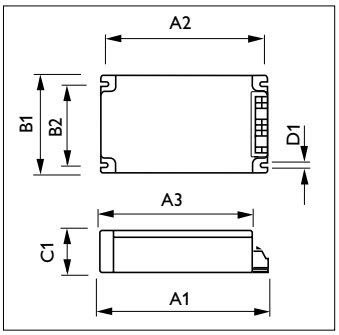
RoHS compliant
ENEC or KEMA/VDE approved

Recommended lamp page 2.104

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Type	A1Nom	A3Nom	B1Nom	C1Nom	C3Nom
HID-STRAIN RELIEF	40	40	62	30	16



Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-PrimaVision Compact 50 /S//100 S	150	134	136	90	70	38	4.5



HID-STRAIN RELIEF

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-PrimaVision Compact 50 /S SDW-TG 220-240V 50/60Hz	24	24	0.35
HID-PrimaVision Compact 100 /S SDW-TG 220-240V 50/60Hz	14	33	0.50

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient
HID-PrimaVision Compact 50 /S SDW-TG 220-240V 50/60Hz	1	50	6	50/60	220-240	75	85	60
HID-PrimaVision Compact 100 /S SDW-TG 220-240V 50/60Hz	1	100	9	50/60	220-240	75	85	60

Electrical data

Type	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-PrimaVision Compact 50 /S SDW-TG 220-240V 50/60Hz	4.0	200
HID-PrimaVision Compact 100 /S SDW-TG 220-240V 50/60Hz	4.0	200

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-PrimaVision Compact 50 /S SDW-TG 220-240V 50/60Hz	8711500909107	0.31 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500909121	909107 30
HID-PrimaVision Compact 100 /S SDW-TG 220-240V 50/60Hz	8711500909084	0.35 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500909091	909084 30
HID-STRAIN RELIEF	8711500539861	0.022 kg	10	15.5 cm x 13.7 cm x 8.5 cm	8711500539878	539861 30



CSLS

Product Description

- CSLS electronic control unit with impregnated (HID 'BASIC') or encapsulated (HID 'Heavy Duty') electromagnetic gears

Features and Benefits

- Electronic control unit ensures reliable starting and stabilizes lamp power for optimum performance (minimum colour deviation)
- Gears and electronic control units equipped with screw terminal blocks; other contact possibilities for gears on request
- Earthing-while-mounting facility (HID 'BASIC' gears); separate earth terminal (HID 'Heavy Duty')
- Simple installation and cabling

Applications

- Similar to those of the related lamps
- Climatic suitability:
  - CSLS + HID 'BASIC': restricted to built-in situations under normal conditions
  - CSLS + HID 'Heavy Duty': use in luminaires under humid conditions (not drip-proof)

Quality

Philips Quality assures optimum quality regarding:

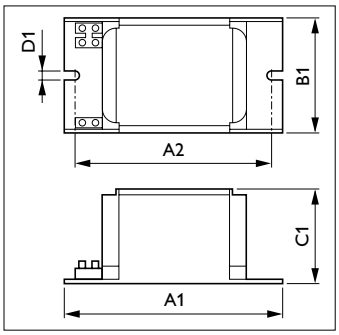
- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electronic gears comply with all relevant international rules and regulations.

Compliances and approvals

HID-em	
Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001
HID-ignitors	
Safety	EN 61347-2-1
Performance	EN 60927
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

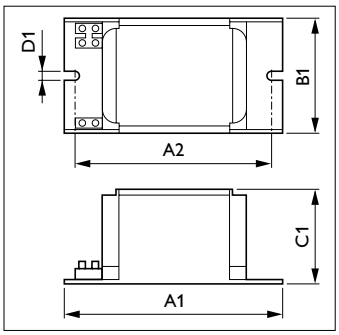
Recommended lamp page 2.104

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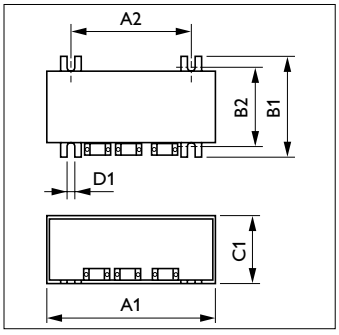
BSL

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BSL 35 L327 230/240V 50Hz BC1-118	118.0	94.0	61.0	52.0	6.2



BSL

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BSL 100 L30 220V 60Hz HD1-118	118.0	103.0	65.0	53.0	6.2



CSLS

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
CSLS 35 SDW-T 220-240V 50/60Hz	98.0	70.0	58.5	46.0	39.5	4.5



BSL



BSL

Electrical data

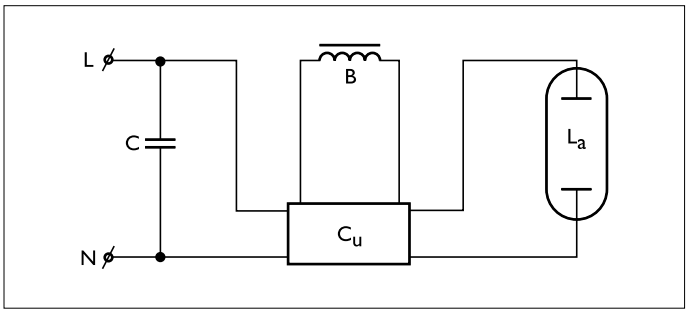
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	Response voltage (V)	T-case life (°C)	T-case maximum (°C)
BSL 35 L327 230/240V 50Hz BC1-118	1	35	6.3	50	230/240			
CSLS 35 SDW-T 220-240V 50/60Hz	1	35	2.5	50/60	220-240	210	90	90
BSL 50 L307-LT 230/240V 50Hz BC1-118	1	50	9.4	50	230/240			
CSLS 50 SDW-T 220-240V 50/60Hz	1	50	3.0	50/60	220-240	210	90	90
BSL 100 L202 230V 50Hz BC1-118	1	100	14.8	50	230			
BSL 100 L307 230/240V 50Hz BC1-118	1	100	14.8	50	230/240			
BSL 100 L30 220V 60Hz HD1-118	1	100	13.2	60	220			
BSL 100 L40 230V 50Hz HD1-118	1	100	15.0	50	230			
CSLS 100 SDW-T 220-240V 50/60Hz	1	100	4.0	50/60	220-240	210	90	90

Electrical data

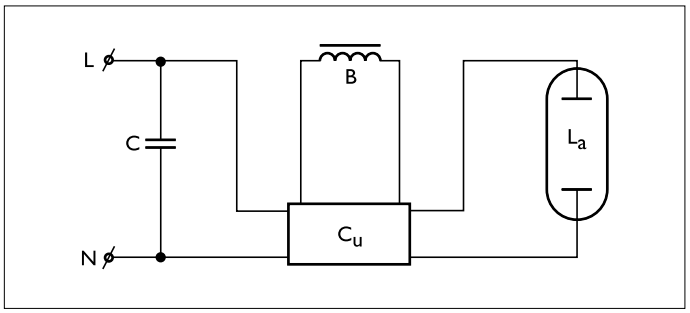
Type	T-ambient	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)	Design	Cable-Cap outputwires to earth (pF)
BSL 35 L327 230/240V 50Hz BC1-118		130	40	0.20	BC1-118	
CSLS 35 SDW-T 220-240V 50/60Hz	65					50
BSL 50 L307-LT 230/240V 50Hz BC1-118		130	55	0.35	BC1-118	
CSLS 50 SDW-T 220-240V 50/60Hz	65					50
BSL 100 L202 230V 50Hz BC1-118		130	80	0.55	BC1-118	
BSL 100 L307 230/240V 50Hz BC1-118		130	75	0.55	BC1-118	
BSL 100 L30 220V 60Hz HD1-118		130	65	0.55	HD1-118	
BSL 100 L40 230V 50Hz HD1-118		130	80	0.55	HD1-118	
CSLS 100 SDW-T 220-240V 50/60Hz	65					50

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BSL 35 L327 230/240V 50Hz BC1-118	0.87 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500744159	744142 30
CSLS 35 SDW-T 220-240V 50/60Hz	0.255 kg	18	30.8 cm x 22.3 cm x 9.6 cm	8711500908070	911124 30
BSL 50 L307-LT 230/240V 50Hz BC1-118	1.05 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500061294	920355 31
BSL 50 L327-LT 230/240V 50Hz BC1-118	1.05 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500742605	742599 31
CSLS 50 SDW-T 220-240V 50/60Hz	0.256 kg	18	30.8 cm x 22.3 cm x 9.6 cm	8711500908094	908087 30
BSL 100 L202 230V 50Hz BC1-118	1.3 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500060723	919861 30
BSL 100 L307 230/240V 50Hz BC1-118	1.3 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500060730	915306 30
BSL 100 L30 220V 60Hz HD1-118	1.26 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061836	919830 31
BSL 100 L40 230V 50Hz HD1-118	1.26 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061843	919847 31
CSLS 100 SDW-T 220-240V 50/60Hz	0.259 kg	18	30.8 cm x 22.3 cm x 9.6 cm	8711500908711	908704 30



BSL



CSLS

Lamp		Gear system for best performance		
Commercial name	**Technical name**	**Gear**	**Ignitor**	**Capacitor**
Mini MasterColour	CDM-Tm 20W	PrimaVision mini 20 CDM		
MASTER Colour CDM-TC	CDM-TC 35W	PrimaVision 035 CDM		
MASTER Colour CDM-R111	CDM-TC 70W	PrimaVision 070 CDM		
MASTER Colour CDM-T	CDM 35W	PrimaVision 035 CDM		
MASTER Colour CDM-TD	CDM 70W	PrimaVision 070 CDM		
MASTER Colour CDM-TP	CDM 150W	PrimaVision 150 CDM		
MASTER Colour CDM-R				
MASTER SDW-TG	SDW-TG 50W	PrimaVision 50W SDW-TG		
	SDW-TG 100W	PrimaVision 100W SDW-TG		
MASTER SDW-T	SDW-T 35W	BSL 35 L327	CSLS-35	6uF/250V
	SDW-T 50W	BSL 50L307	CSLS-50	9uF/250V
	SDW-T 100W	BSL 100 L307	CSLS-100	14uF/250V
MHN/W-TD	MHN/W-TD 70W	BMH 70 L407-ITS	SND-58 (SUD-40)	12uF/250V
	MHN/W-TD 150W	PrimaVision 150 CDM		
	MHN/W-TD 250W	BSN 250 L407-ITS	SND-58 (SUD-40)	18uF/250V

230/240V - 50Hz (400V - 50Hz)

Alternative gear system for good performance		
Gear	**Ignitor**	**Capacitor**
PrimaVision 2x035 CDM		
BMH 35 L407-ITS	SND-58 (SUD-40)	6uF/250V
BMH 70 L407-ITS	SND-58 (SUD-40)	12uF/250V
BSN 150 L407-ITS	SND-58 (SUD-40)	18uF/250V
BSN 150 L407-ITS	SND-58 (SUD-40)	18uF/250V



HID Lamps and Gear


BBVA

HID Lamps

Today, outdoor lighting is expected to do much more than simply enable us to see at night. Lighting has also become an essential tool that is widely used to create a more welcoming environment. Outdoor lighting, therefore now has both functional and decorative roles to play. In addition, the wide choice of lamps available means that there are many outdoor lighting solutions for each application area.

The best choice will depend on your needs, which can be cost of ownership, ambience or environment. Our lamps aim to meet some or all of these values. It provides a reference guide to the light properties of the full range of Philips lamps for outdoor lighting, and also indicates the application areas for which their benefits are most applicable.

Road and tunnel lighting

Improves traffic safety for everyone on the road, and at the same time provides guidance and orientation.. Here, the requirement is for lighting that is both functional and economical, combining optimum safety with the lowest costs of ownership. Lamps must have good lighting performance and energy efficiency, and every lamp must have a long lifetime. Reliability is essential, as traffic congestion during spot replacement of premature failures can be very expensive.

The recommended HID families that anticipate upon these lamp specifications are MASTER SON PIA, MASTER SOX and Ceramic Metal Halide.

Urban lighting

Covers streets, parks and squares, shopping and leisure areas in city centers and can serve a decorative as well as an amenity role. In addition to safety and orientation, it is capable of providing comfort, ambience, identity and even spectacle, helping to create a new and beautiful nightscape for residents and visitors alike. The primary requirement is good light quality, expressed by the color rendering index and color temperature of the lamp. The choice of lighting for residential areas, once made solely on functional criteria, is increasingly influenced by a perceived need for improved amenity, and improved vision for safety. As a result, high-quality white light is now making an appearance. Because traffic speeds are relatively low, security and comfort for pedestrians and cyclists are as important a requirement as road lighting for motorised traffic.

The ultimate HID choice is MASTER Cosmo White & MASTER City White, next to MASTER SON PIA in case functional requirements prevail.



Urban architectural lighting of buildings, bridges, statues and gardens can also help to create a nightscape even more striking than the same area as seen by day.
Today's architectural lighting does not necessarily involve high light levels but models architectural features with color and shade. High light quality and even colored right sources are appropriate in this application.

Compact HID lamps (Master Colour CDM & CDM Elite) next to Master SON & Master HPI are most suitable for this application area.

Sports lighting

Increases revenue by extending the activities of a sports club into the hours of darkness. Special care is needed with lighting design to avoid light entering players' eyes directly, wherever they may be in the playing area, and also to avoid light pollution in residential areas. In local **recreational facilities** and small clubs, the requirements are for functional lighting at low initial and running costs. Each lighting point should therefore provide high light output with a reasonable colour quality, and the lamps should have a long lifetime. As well as careful design to avoid glare and light spill, **professional sports lighting** must cater for the needs of colour TV coverage and photography. This requires extremely high light levels – three times those used in commercial offices – and superb colour rendering. Because of the limited burning period, lamp lifetime is a less important consideration than reliability.

Dedicated lamps for these applications are the MASTER MHN-FC for recreational and MASTER MHN LA & SA for professional sports.

Area lighting

Covers a range of applications, industrial areas, transport and parking facilities, services and care institutes, etc. It has gained in importance with the appearance of large industrial estates outside or at the edges of urban areas. Its role is to provide orientation and safe working conditions in the hours of darkness as well as by day. Area lighting must be, functional, economical and reliable, and provide glare-free illumination without causing light pollution to the surrounding environment. Parking areas and loading and unloading zones often require better colour rendering than the other areas. High light levels with a good efficacy and reasonable colour rendering, together with a long service lifetime are usually the key criteria in area lighting.

Recommended high power lamps are Quartz Metal Halide (MASTER HPI & MASTER MHN) as well as MASTER SON PIA



MHN-SA X830R

Product Description

- Compact quartz metal halide lamps with double-pinch

Product Features

- Very compact source (Short Arc) with high luminous efficacy and superior colour rendering
- Double-pinch concept results in long lifetime
- Natural white colour appearance, high colour rendering and good colour stability
- Daylight colour temperature eases transition from daylight to artificial lighting

Product Benefits

- Allows compact and very efficient luminaire systems with high precision optics for good beam control and minimal spill light
- Very good colour rendering creates a pleasant ambience with high visual comfort for players and spectators
- Continuous spectral distribution offers a superior solution for (semi-) professional stadiums with regular TV coverage

Application

- Professional sports lighting and floodlighting

Luminaires

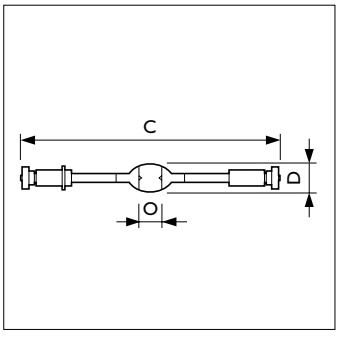
- MHN-SA lamps require UV-absorbing and protective front glass and correct thermal behaviour for optimal lamp performance

Environment

- This product is RoHS compliant
- This product is covered by WEEE

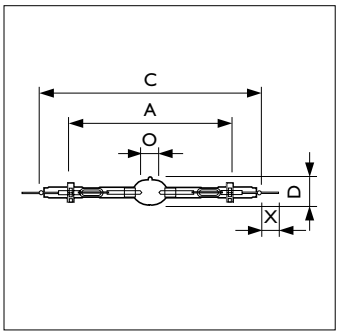
Recommended gear page 3.190

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MHN-SA (P)SFC

Type	CMax	DMax	ONom
MASTER MHN-SA 1800W/956 (P)SFC 230V UNP	364	41	25



MHN-SA XW



MHN-SA (P)SFC

Type	ANom	CMax	DMax	ONom	XNom
MASTER MHN-SA XW UNP	318	369	41	25	25

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MASTER MHN-SA 1800W/856/956 230V XW/(P)SFC UNP	17.3	1800.0	120	230	1800	No	198	5000
MASTER MHN-SA 1800W/956 (P)SFC 400V UNP	10.5	1850.0	205	400	1800	No	342	5000
MASTER MHN-SA 2000W/956 400V XW UNP	11.3	2040.0	205	400	2000	No	360	5000

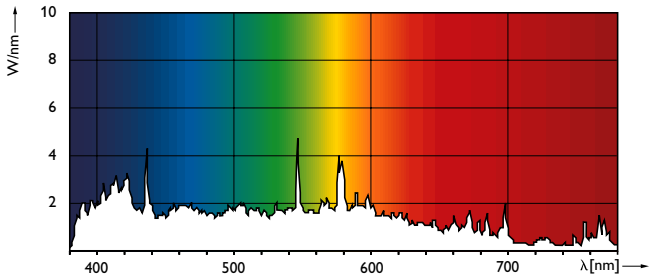
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER MHN-SA 1800W/856 230V XW UNP	170000	95	Daylight	5600	85	330	360	p15
MASTER MHN-SA 1800W/956 230V XW/(P)SFC UNP	155000	86	Daylight	5600	90	330	339	p15
MASTER MHN-SA 1800W/956 (P)SFC 400V UNP	160000	86	Daylight	5600	90	330	339	p15
MASTER MHN-SA 2000W/956 400V XW UNP	200000	98	Daylight	5600	90	330	362	p15

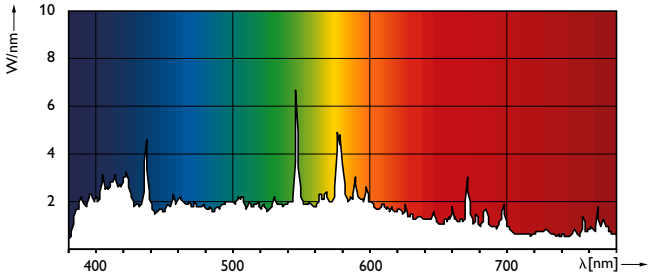
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER MHN-SA 1800W/856 230V XW UNP	MN-1800-H-X830R-/H	8711500202680	0.107 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500202680	202680 00
MASTER MHN-SA 1800W/956 230V XW UNP	MN-1800-H-X830R-/H	8711500201065	0.107 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500201065	201065 00
MASTER MHN-SA 1800W/956 (P)SFC 230V UNP	MN-1800-H-PSFc20=6-/H	8711500200754	0.219 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200754	200754 00
MASTER MHN-SA 1800W/956 (P)SFC 400V UNP	MN-1800-E-PSFc20=6-/H	8711500200761	0.22 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200761	200761 00
MASTER MHN-SA 2000W/956 400V XW UNP	MN-2000-E-X830R-/H	8711500200792	0.107 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200792	200792 00

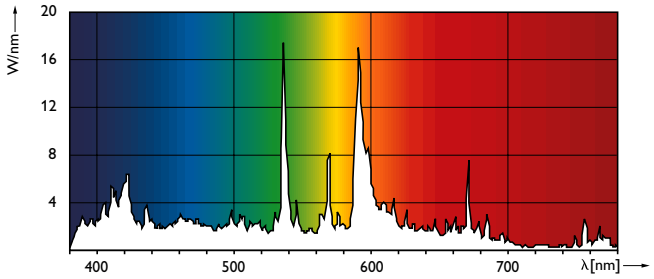
Spectral power distribution



MHN-SA 1800W 230V



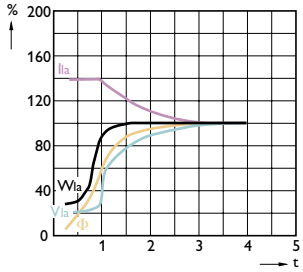
MHN-SA 1800W /956 400V



MHN-SA 2000W /956 400V

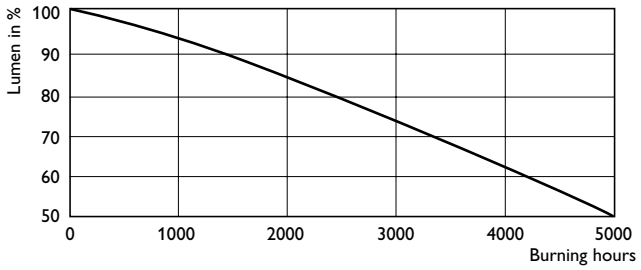
Performance diagram

Lamp performance during run up

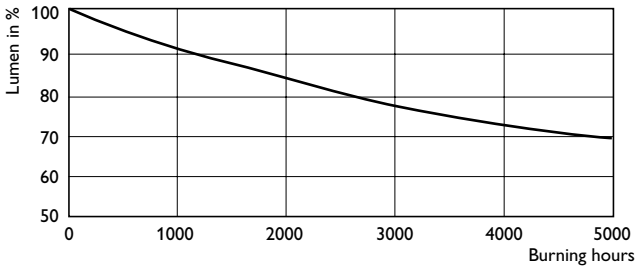


MHN-SA

Lumen maintenance diagram

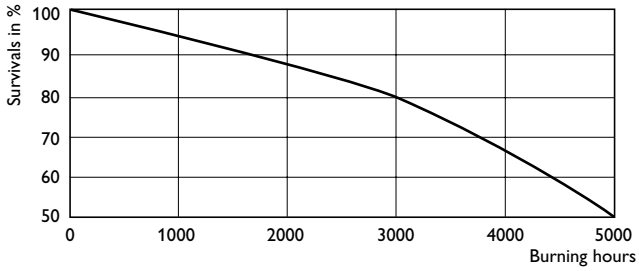


MHN-SA 1800W /856/956 230V/400V

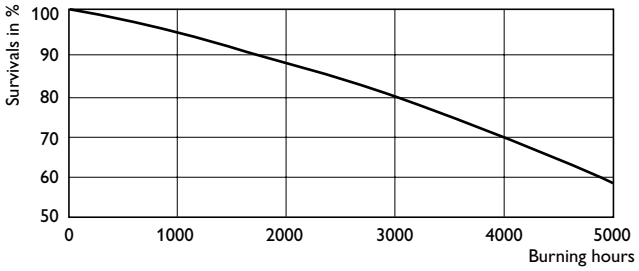


MHN-SA 2000W /956 400V

Life expectancy diagram

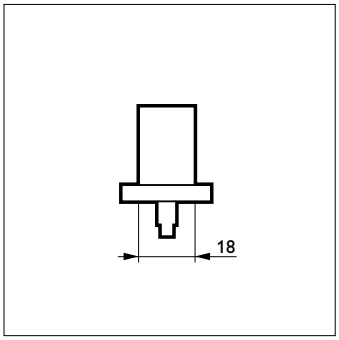


MHN-SA 1800W /856/956 230V/400V



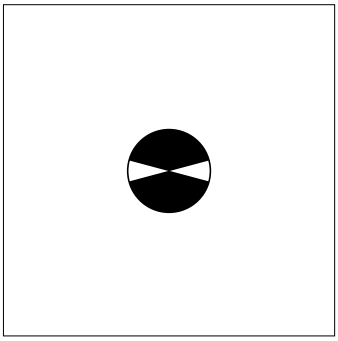
MHN-SA 2000W /956 400V

Cap Base



(P)SFC

Operating position



p15



MHN-LA 2000W

Product Description

- Compact quartz metal halide lamps with double-pinch

Product Features

- Compact source (Long Arc) with high luminous efficacy
- Double-pinch concept results in long lifetime
- Natural white colour appearance, high colour rendering and good colour stability
- Daylight colour temperature eases transition from daylight to artificial lighting

Product Benefits

- Allows compact and efficient luminaire systems with precision optics for good beam control and minimal spill light
- Good colour rendering creates a pleasant ambience with high visual comfort for players and spectators
- Continuous spectral distribution offers options for semi-professional stadiums and for professional stadiums with regular TV coverage

Application

- Professional and semi-professional sports lighting and floodlighting

Luminaires

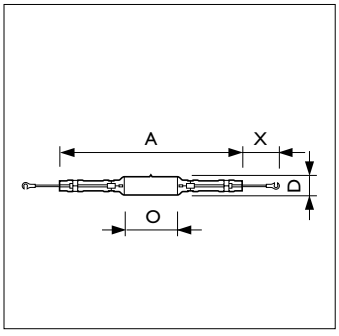
- MHN-LA lamps require UV-absorbing and protective front glass and correct thermal behaviour for optimal lamp performance

Environment

- This product is RoHS compliant.
- This product is covered by WEEE

Recommended gear page 3.190

www.philips.com/OEM



MHN-LA

Type	ANom	DMax	ONom	XNom
MASTER MHN-LA 1000W/842/956 230V XWH UNP	294	40	40.5	35
MASTER MHN-LA 2000W/842/956 400V XWH UNP	364	40	108	58



MHN-LA 1000W

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MASTER MHN-LA 1000W/842 230V XWH UNP	9.3	1040.0	125	230	1000	No	198	10000
MASTER MHN-LA 2000W/842 400V XWH UNP	9.6	2040.0	235	400	2000	No	342	12000
MASTER MHN-LA 2000W/956 400V XWH UNP	10.3	2040.0	225	400	2000	No	342	12000

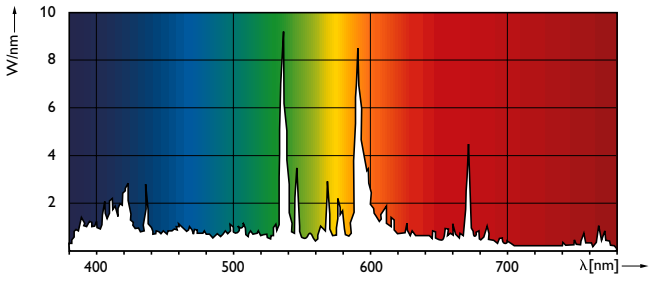
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER MHN-LA 1000W/842 230V XWH UNP	100000	96.2	Cool White	4200	80	370	370	p5
MASTER MHN-LA 1000W/956 230V XWH UNP	90000	86.5	Daylight	5600	90	330	339	p5
MASTER MHN-LA 2000W/842 400V XWH UNP	220000	108	Cool White	4200	80	370	370	p5
MASTER MHN-LA 2000W/956 400V XWH UNP	190000	93	Daylight	5600	90	330	339	p5

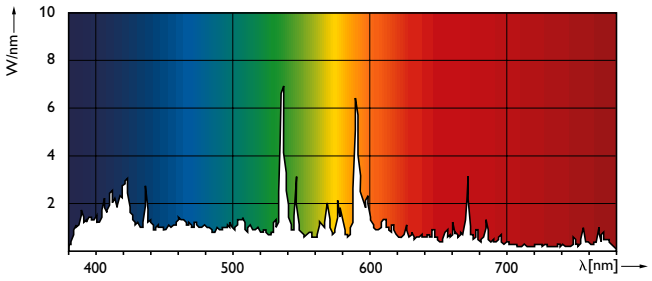
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER MHN-LA 1000W/842 230V XWH UNP	MN-1000-E-K-/H	8711500200785	0.141 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200785	200785 00
MASTER MHN-LA 1000W/956 230V XWH UNP	MN-1000-E-K-/H	8711500200778	0.137 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200778	200778 00
MASTER MHN-LA 2000W/842 400V XWH UNP	MN-2000-E-K-/H	8711500200747	0.172 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200747	200747 00
MASTER MHN-LA 2000W/956 400V XWH UNP	MN-2000-E-K-/H	8711500200730	0.168 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200730	200730 00

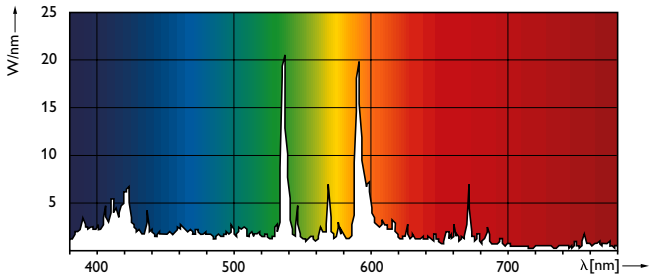
Spectral power distribution



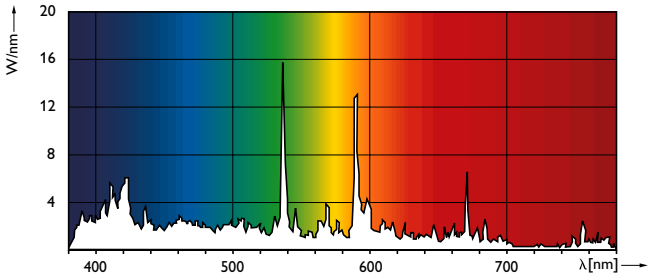
MHN-LA 1000W /842 230V



MHN-LA 1000W /956 230V



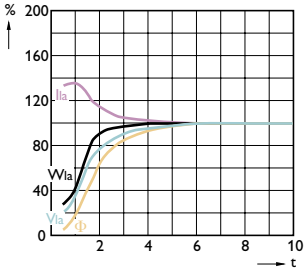
MHN-LA 2000W /842 400V



MHN-LA 2000W /956 400V

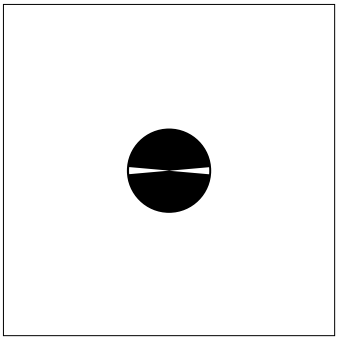
Performance diagram

Lamp performance during run up



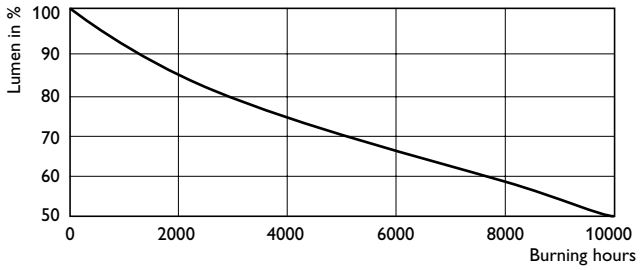
MHN-LA

Operating position

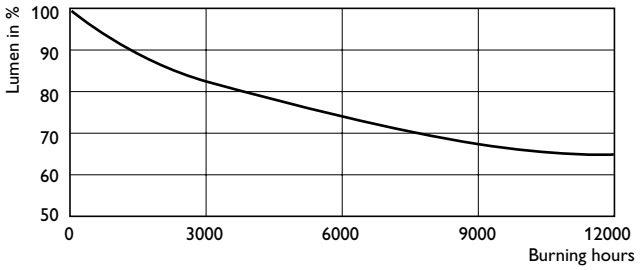


p5

Lumen maintenance diagram

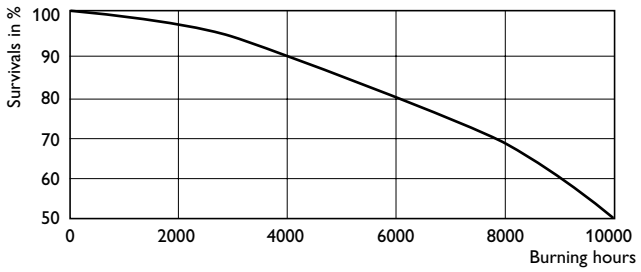


MHN-LA 1000W /842/956 230V

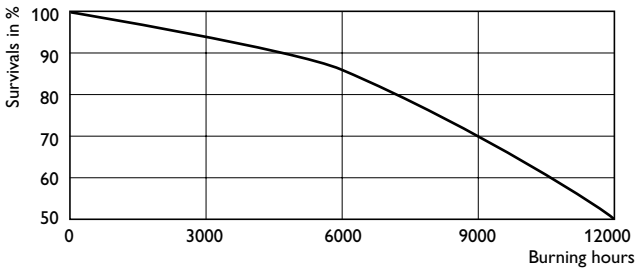


MHN-LA 2000W /842/956 400V

Life expectancy diagram



MHN-LA 1000W /842/956 230V



MHN-LA 2000W /842/956 400V





MHN-SB

Product Description

- Compact quartz metal halide lamp with single pinch

Product Features

- Compact source (Short Base lamp dimensions) with short electrode distance and high luminous efficacy
- Single pinch concept with long lifetime
- Natural white colour appearance, good colour rendering and stability
- Daylight colour temperature eases transition from daylight to artificial lighting

Product Benefits

- Allows compact and efficient luminaire systems with precision optics for good beam control and minimal light spill
- Long lifetime and high reliability in Short Base outer dimensions to minimise service needs and maintenance costs
- Good colour rendering for a pleasant ambience with high visual comfort

Application

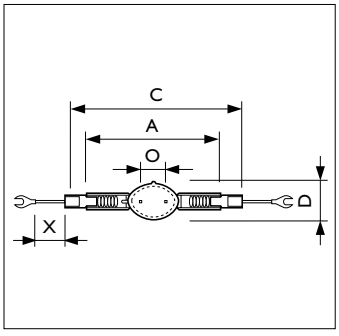
- Semi-professional sports, area and floodlighting

Luminaires

- Requires UV-absorbing and protective front glass
- Correct thermal conditions are required for optimal lamp performance

Recommended gear page 3.190

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MHN-SB

Type	ANom	CMin	DMax	ONom	XNom
MHN-SB 2000W/956 400V K12s-7 WH UNP	157	187	41	25	50

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MHN-SB 2000W/956 400V K12s-7 WH UNP	11.5	2040	205	400	2000	No	360	-

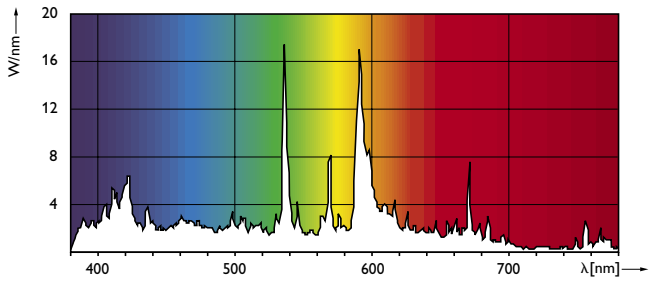
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MHN-SB 2000W/956 400V K12s-7 WH UNP	200000	100	Daylight	5600	90	325	355	p15

Ordering and packing data

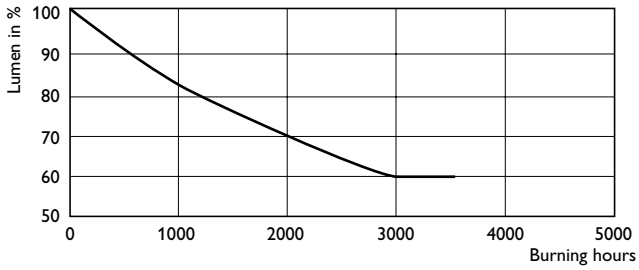
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MHN-SB 2000W/956 400V K12s-7 WH UNP	MN-2000-E-Cable-/H	8711500206732	0.08 kg	8711500206732	43 cm x 9.5 cm x 8.5 cm	8711500206732	206732 00

Spectral power distribution



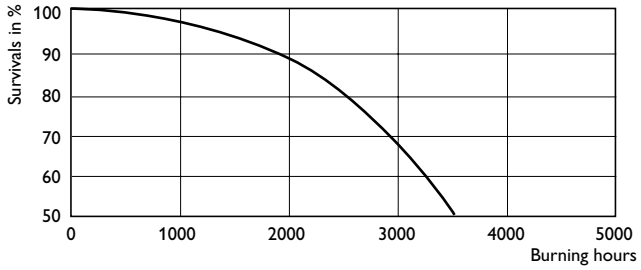
MHN-SB 2000W /956

Lumen maintenance diagram



MHN-SB 2000W /956

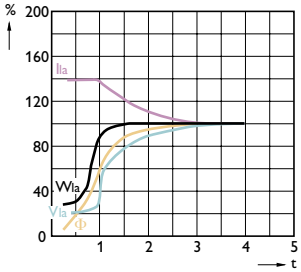
Life expectancy diagram



MHN-SB 2000W /956

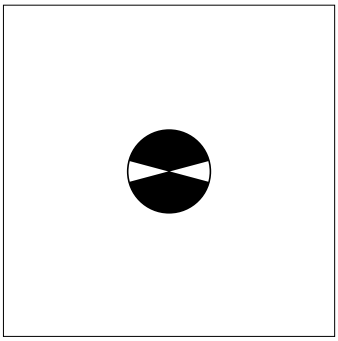
Performance diagram

Lamp performance during run up



MHN-SB

Operating position



p15



HPI-T 2000W

Product Description

- Quartz metal halide lamps with clear outer bulb

Product Features

- Clear tubular outer bulb
- Unique 3-band technology resulting in high luminous efficacy, both initially and over long lifetime
- Renders a natural white colour appearance and good colour stability

Product Benefits

- High safety and comfort level, maintained over life
- Minimal maintenance cost

Application

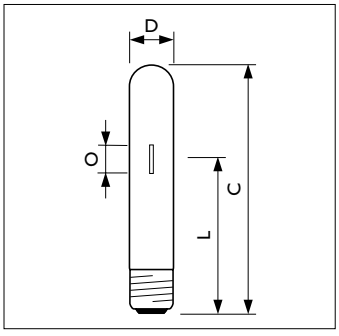
- Sports lighting, floodlighting of buildings and monuments, area lighting e.g. harbours and building sites

Luminaires

- HPI-T lamps require a protective front glass

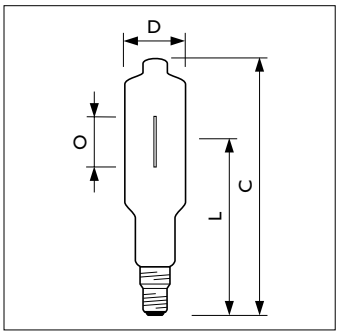
Recommended gear page 3.190

www.philips.com/OEM



HPI-T 1000W

Type	CMax	DMax	LNom	ONom
HPI-T 1000W/643 E40 220V CRP	382	66	240	80



HPI-T 2000W



HPI-T 1000W

Type	CMax	DMax	LNom	ONom
HPI-T 2000W/642 E40 380V CRP	430	101.5	267	120
HPI-T 2000W/646 E40 220V CRP	430	101.5	290	89

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
HPI-T 1000W/643 E40 220V CRP	8.25	985.0	130	220	1000	No	5000	198	12000
HPI-T 2000W/642 E40 380V CRP	9.1	1955	232	380	2000	No	5000	342	12000
HPI-T 2000W/646 E40 220V CRP	16.5	1960.0	130	220	2000	No	5000	198	12000

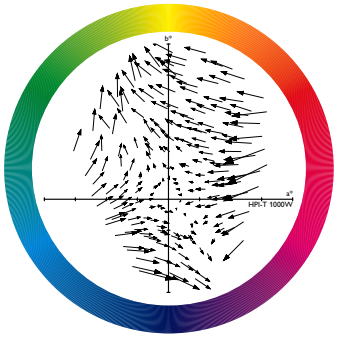
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
HPI-T 1000W/643 E40 220V CRP	85000	86	Cool White	4300	65	370	380	p20
HPI-T 2000W/642 E40 380V CRP	210000	107	Cool White	3800	65	397	403	p20
HPI-T 2000W/646 E40 220V CRP	189000	96	Cool White	4200	65	375	385	p75

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HPI-T 1000W/643 E40 220V CRP	MT-1000/43/2B-H-E40-/H	8711500183736	0.433 kg	4	18.6 cm x 18.6 cm x 42.6 cm	8711500183743	183736 45
HPI-T 2000W/642 E40 380V CRP	MT-2000/42/2B-H-E40-/H	8711500202352	0.616 kg	4	27.3 cm x 25.3 cm x 47.6 cm	8711500202369	202352 45
HPI-T 2000W/646 E40 220V CRP	MT-2000/46/2B-H-E40-/H	8711500183767	0.603 kg	4	27.3 cm x 25.3 cm x 47.3 cm	8711500183774	183767 45

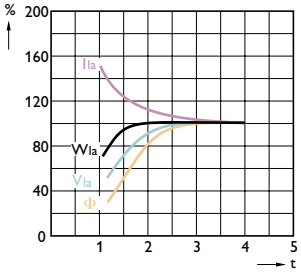
CRV diagram



HPI-T 1000W/2000W

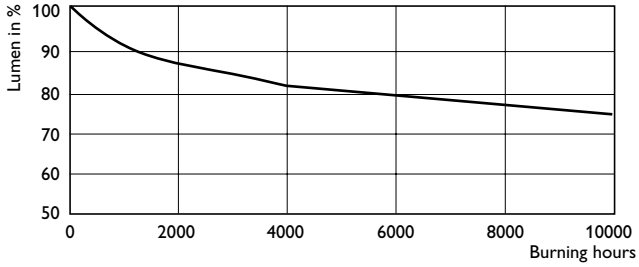
Performance diagram

Lamp performance during run up

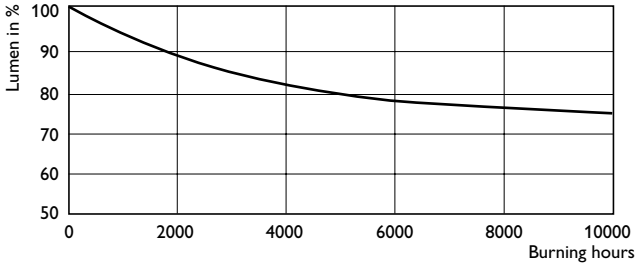


HPI-T

Lumen maintenance diagram

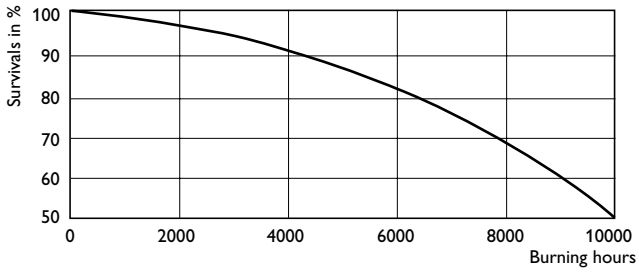


HPI-T 1000W/2000W /643/646

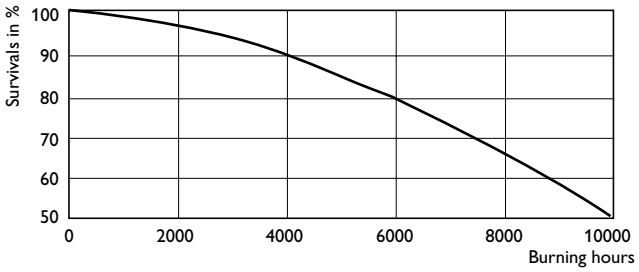


HPI-T 2000W /642

Life expectancy diagram

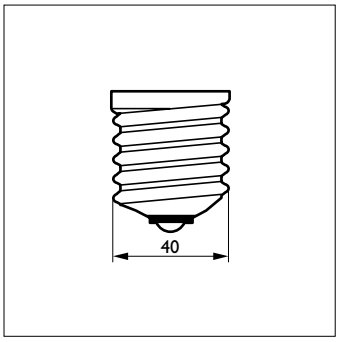


HPI-T 1000W/2000W /643/646



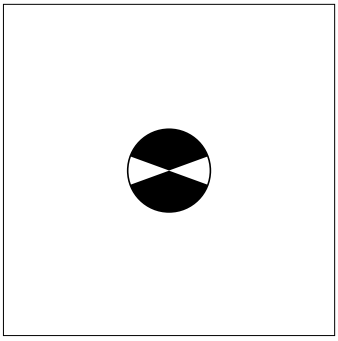
HPI-T 2000W /642

Cap Base

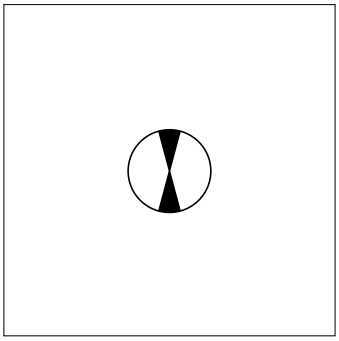


E40

Operating position



p20



p75





HPI-T

Product Description

- Quartz metal halide lamps with clear outer bulb

Product Features

- Clear tubular outer bulb
- Unique 3-band technology resulting in high luminous efficacy, both initially and over long lifetime
- Renders a natural white colour appearance and good colour stability

Product Benefits

- High safety and comfort level, maintained over life
- Minimal maintenance cost
- Initial investment saving options with "Plus"-concept

Application

- Sports lighting. floodlighting of buildings and monuments, area lighting e.g. harbours and building sites, canopy lighting e.g. petrol stations, horticultural lighting

Luminaires

- HPI-T Plus lamps require a protective front glass

System

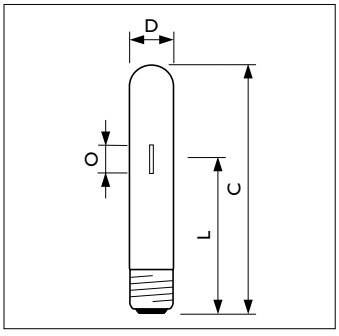
- Can be run on HPI-gear as well as on SON-gear ("Plus"-concept). The results in both light output and colour temperature are different

Environment

- Good environmental choice because of long service life
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 3.190

www.philips.com/OEM



HPI-T

Type	CMax	DMax	LNom	ONom
MASTER HPI-T Plus 250W/645 E40 SLV	255	46.5	158	29
MASTER HPI-T Plus 400W/645 E40 SLV	286	46.5	180	40

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MASTER HPI-T Plus 250W/645 E40 SLV	2.10	245	128	250	No	5000	198	20000
MASTER HPI-T Plus 400W/645 E40 SLV	3.4	382	125	400	No	5000	198	20000

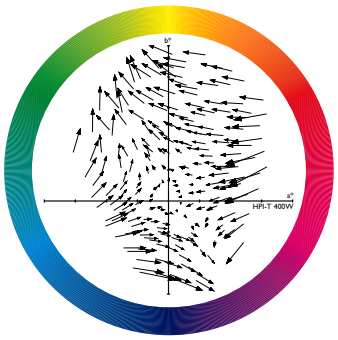
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER HPI-T Plus 250W/645 E40 SLV	20500	84	Cool White	4500	65	362	373	p20
MASTER HPI-T Plus 400W/645 E40 SLV	35000	89	Cool White	4500	65	362	370	p20

Ordering and packing data

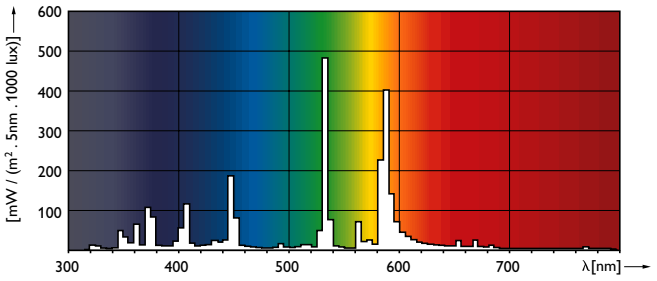
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER HPI-T Plus 250W/645 E40 SLV	MT-250/45/2B-H-E40-/H	8711500179890	0.161 kg	12	31.7 cm x 19.6 cm x 27.7 cm	8711500182975	179890 15
MASTER HPI-T Plus 250W/645 E40 SLV	MT-250/45/2B-H-E40-/H	8711500179890	0.161 kg	80	49.3 cm x 39.7 cm x 30.1 cm	8711500210890	179890 70
MASTER HPI-T Plus 400W/645 E40 SLV	MT-400/45/2B-H-E40-/H	8711500179906	0.18 kg	12	31.7 cm x 19.6 cm x 30.6 cm	8711500182999	179906 15
MASTER HPI-T Plus 400W/645 E40 SLV	MT-400/45/2B-H-E40-/H	8711500179906	0.18 kg	80	49.3 cm x 39.7 cm x 32.7 cm	8711500210883	179906 70

CRV diagram



HPI-T 250W/400W

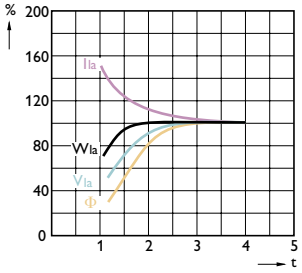
Spectral power distribution



HPI-T Plus 250W/400W

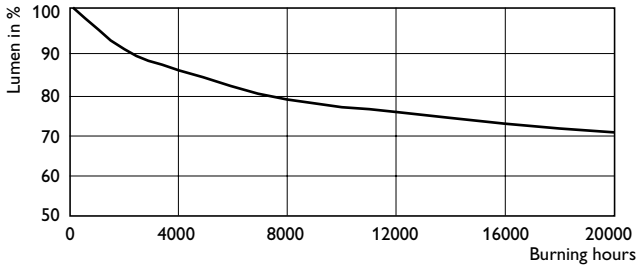
Performance diagram

Lamp performance during run up



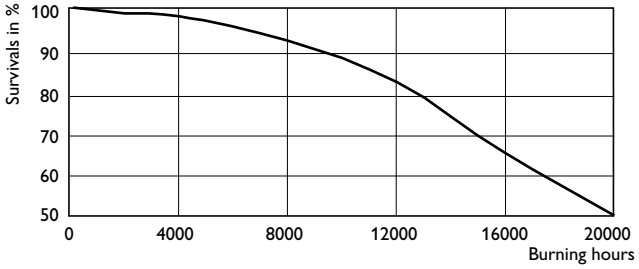
HPI-T

Lumen maintenance diagram



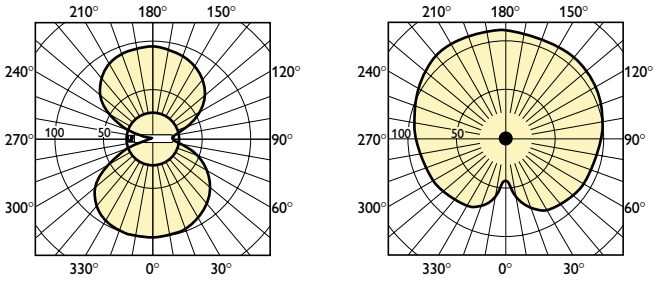
HPI-T 250W/400W /643/645

Life expectancy diagram



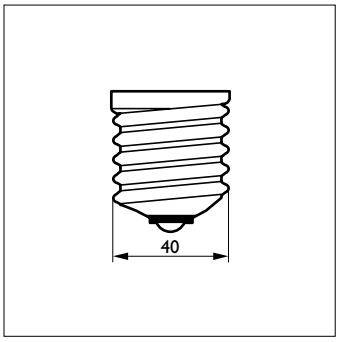
HPI-T 250W/400W /643/645

Photometric diagram



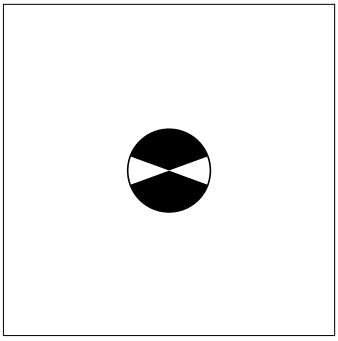
HPI-T

Cap Base

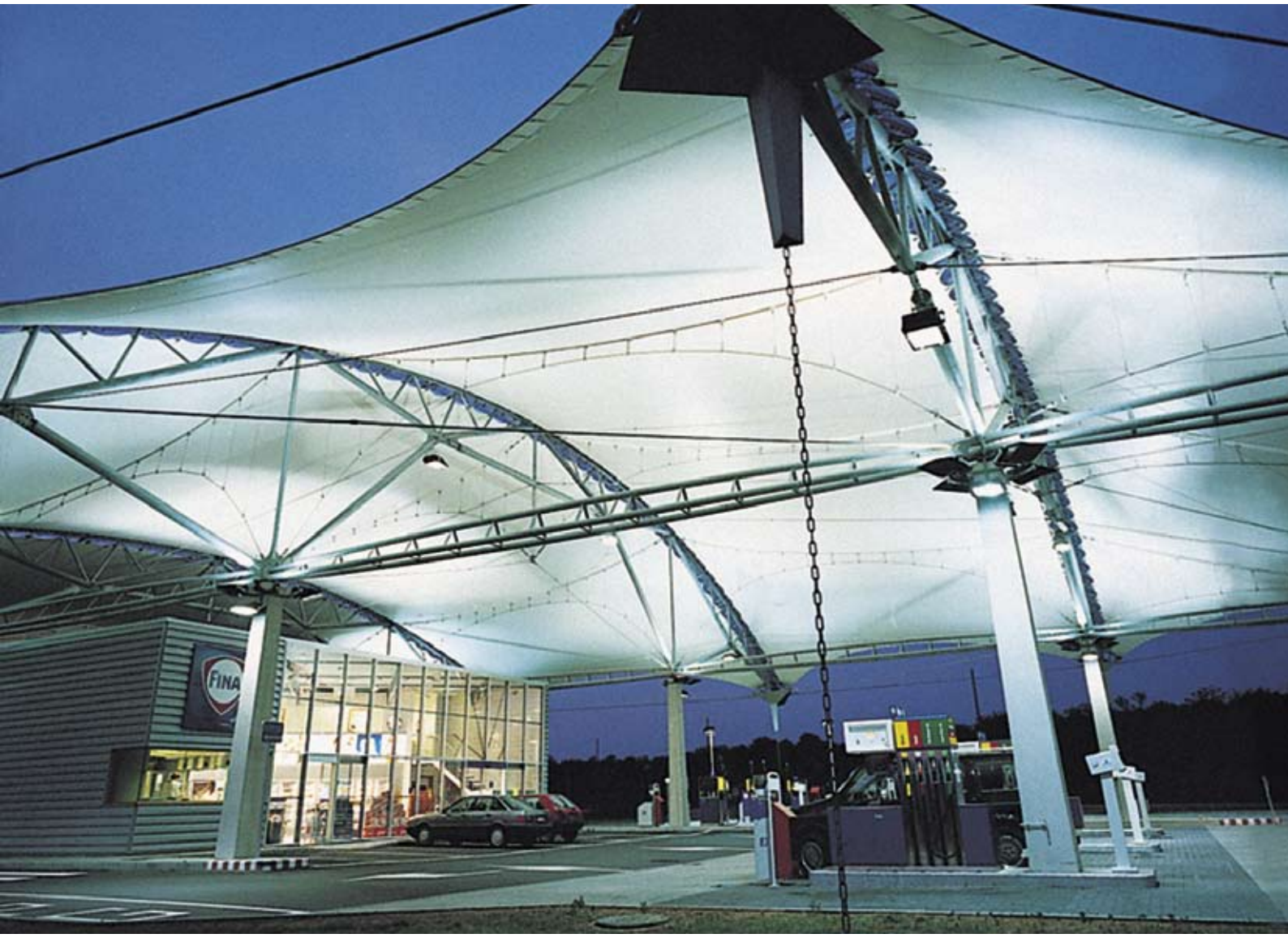


E40

Operating position



p20





HPI

Product Description

- Quartz metal halide lamps with opalized outer bulb

Product Features

- Ovoid, internally white coated outer bulb
- Unique 3-band technology resulting in high luminous efficacy, both initially and over long lifetime
- Available in cool white and daylight colour appearance demonstrating good colour stability
- "S"-type for direct retrofit for HPL lamps
- "P"-type for use without protective front shield

Product Benefits

- High safety and comfort level, maintained over life
- Minimal maintenance cost
- Initial investment saving options with "Plus"-concept and "S" and "P"-types
- Adjustable atmosphere creation by using appropriate colour temperature

Application

- High bay lighting, e.g. industrial workshops, exhibition halls, hypermarkets, shopping malls, DIY stores, churches, airports and train stations

Luminaires

- HPI Plus BU-P and BUS-P suitable for use in open luminaires
- For other HPI Plus lamps a protective front glass is required

System

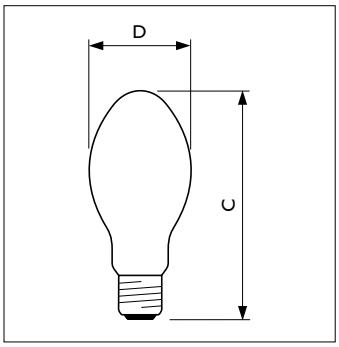
- Can be run on HPI-gear as well as on SON-gear ("Plus"-concept). The results in both light output and colour temperature are different
- HPI Plus BUS and BUS-P types require an HPL-gear and no ignitor

Environment

- Good environmental choice because of long service life
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 3.190

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HPI

Type	CMax	DMax
MASTER HPI Plus 250W/745/767 BU E40 CRP	284	121.5
MASTER HPI Plus 250W/745 BU-P E40 SLV	218	90
MASTER HPI Plus 400W/745/767 BU E40 CRP	286	121.5
MASTER HPI Plus 400W/745 BU-P E40 CRP	226	91
MASTER HPI Plus 400W/745 BU-P E40 SLV	290	117.5
MASTER HPI Plus 400W/745 HOR E40 CRP	290	122

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MASTER HPI Plus 250W/745/767 BU E40 CRP/SLV	2.2	253	128	250	No	5000	198	20000
MASTER HPI Plus 400W/745/767 BU(-P) (BUS) E40 CRP/SLV	3.4	395	125	400	No	5000	198	20000
MASTER HPI Plus 400W/745 HOR E40 CRP	3.4	382	125	400	No	5000	198	20000
MASTER HPI Plus 400W/745 BUS E40 CRP/SLV	3.4	395	125	400	No	-	198	20000

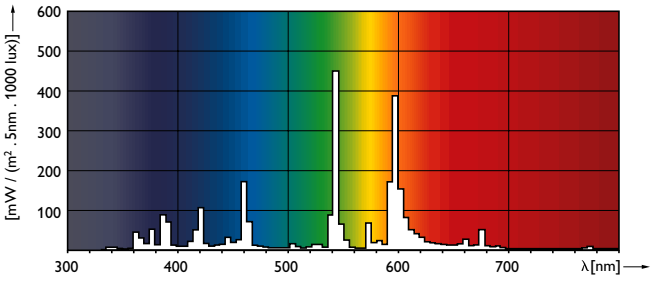
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER HPI Plus 250W/745 BU E40 CRP/SLV	18000	72	Cool White	4500	69	380	354	h15
MASTER HPI Plus 250W/767 BU E40 CRP	18000	72	Daylight	6700	69	308	318	h15
MASTER HPI Plus 400W/745 BU(-P) (BUS) E40 CRP/SLV	32500	82	Cool White	4500	69	360	362	h15
MASTER HPI Plus 400W/745 HOR E40 CRP	30000	77	Cool White	4500	69	361	367	p20
MASTER HPI Plus 400W/767 BU E40 CRP	32500	82	Daylight	6700	69	308	318	h15

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER HPI Plus 250W/745 BU E40 CRP	ME-250/45/2A-H-E40-/V	8711500181145	0.192 kg	12	47.5 cm x 30.6 cm x 24.6 cm	8711500181152	181145 15
MASTER HPI Plus 250W/745 BU E40 CRP	ME-250/45/2A-H-E40-/V	8711500181145	0.192 kg	20	58.3 cm x 40.1 cm x 24.6 cm	8711500210852	181145 05
MASTER HPI Plus 250W/745 BU E40 CRP	ME-250/45/2A-H-E40-/V	8711500181145	0.192 kg	24	58.3 cm x 40.1 cm x 24.6 cm	8711500200709	181145 30
MASTER HPI Plus 250W/745 BU-P E40 CRP	ME/S-250/45/2A-H-E40-/V	8711500202062	0.19 kg	12	47.5 cm x 30.6 cm x 24.6 cm	8711500202079	202062 15
MASTER HPI Plus 250W/745 BU-P E40 SLV	ME/S-250/45/2A-H-E40-/V	8711500211477	0.22 kg	12	47.2 cm x 30.6 cm x 24.6 cm	8711500211484	211477 15
MASTER HPI Plus 250W/767 BU E40 CRP	ME-250/67/2A-H-E40-90/225/V	8711500207395	0.25 kg	12	47.5 cm x 30.6 cm x 24.6 cm	8711500207401	207395 15
MASTER HPI Plus 400W/745 BU E40 CRP	ME-400/45/2A-H-E40-/V	8711500182524	0.25 kg	12	58 cm x 40.2 cm x 29.9 cm	8711500210838	182524 15
MASTER HPI Plus 400W/745 BU E40 CRP	ME-400/45/2A-H-E40-/V	8711500182524	0.25 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500182531	182524 10
MASTER HPI Plus 400W/745 BU-P E40 CRP	ME/S-400/45/2A-H-E40-/V	8711500194824	0.26 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500194855	194824 10
MASTER HPI Plus 400W/745 BU-P E40 SLV	ME/S-400/45/2A-H-E40-/V	8711500211439	0.392 kg	6	27.6 cm x 14.1 cm x 29.9 cm	8711500211446	211439 10
MASTER HPI Plus 400W/745 HOR E40 CRP	ME-400/45/2A-H-E40-/H	8711500181084	0.243 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500181091	181084 10
MASTER HPI Plus 400W/767 BU E40 CRP	ME-400/67/2A-H-E40-90/225/V	8711500207371	0.25 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500207388	207371 10
MASTER HPI Plus 400W/745 BUS E40 CRP	ME-400/45/2A-H/I-E40-/V	8711500181114	0.25 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500181121	181114 10
MASTER HPI Plus 400W/745 BUS-P E40 CRP	ME/S-400/45/2A-H/I-E40-/V	8711500193179	0.26 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500193261	193179 10
MASTER HPI Plus 400W/745 BUS-P E40 SLV	ME/S-400/45/2A-H/I-E40-/V	8711500211453	0.394 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500211460	211453 10

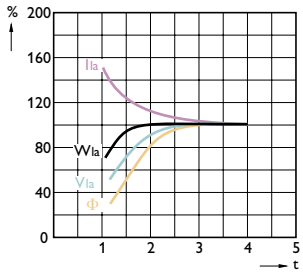
Spectral power distribution



HPI 400W

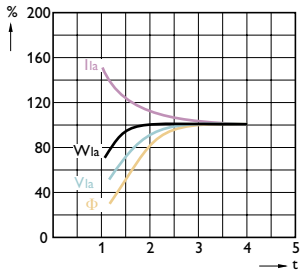
Performance diagram

Lamp performance during run up



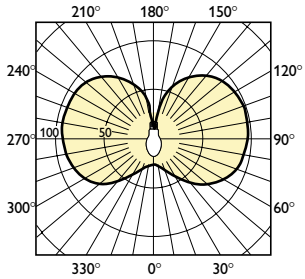
HPI

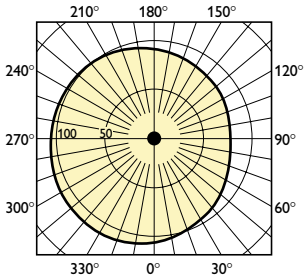
Lamp performance during run up



HPI

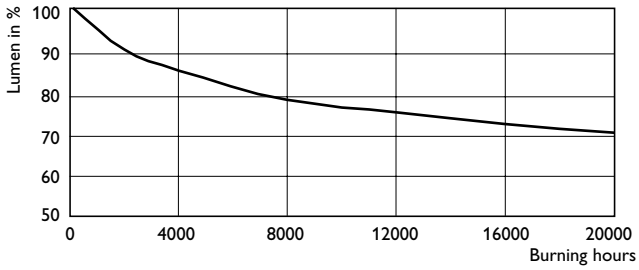
Photometric diagram





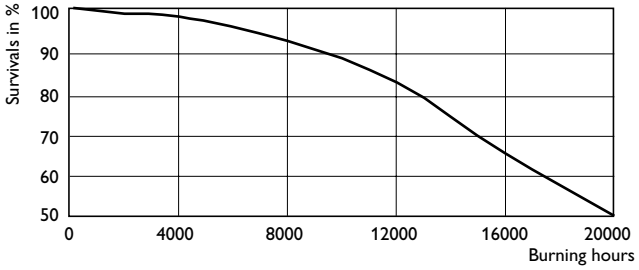
HPI

Lumen maintenance diagram



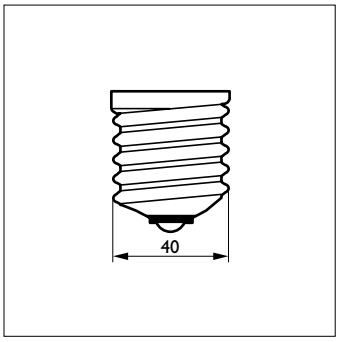
HPI 250W/400W /743/767

Life expectancy diagram



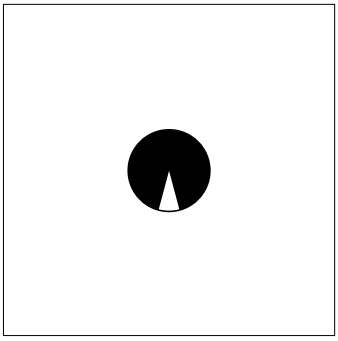
HPI 250W/400W /743/767

Cap Base

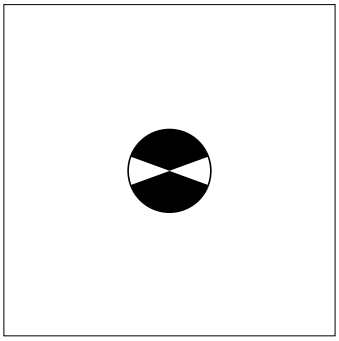


E40

Operating position



h15



p20





MH-T

Product Description

- Quartz metal halide lamps rendering coloured light

Product Features

- Single-ended lamp with clear tubular outer bulb
- Available in three colours: blue, green and violet
- Suitable for direct replacement from regular white HPI-T illumination to coloured flood lighting

Product Benefits

- Brings colourful light on any floodlit object and instant change of atmosphere
- High luminous output in comparison with white metal halide lamps using an additional colour filter
- Eliminates the need for expensive and fragile colour filters

Application

- Decorative lighting of buildings, landmarks, statues, monuments, parks, resorts and attractions
- Multi-functional lighting for promotional, seasonal and festive purposes, at special events etc.

Luminaires

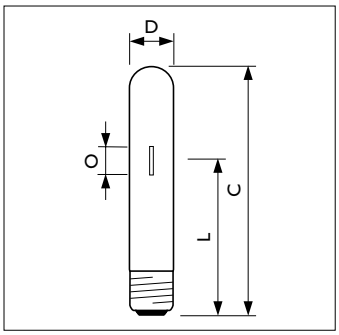
- Must be used in a closed luminaire

System

- ArtColour runs on HPI-gear only

Recommended gear page 3.190

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MH-T

Type	CNom	DNom	LMin	LNom	LMax	OMin	ONom	OMax
Artcolour MH-T 400W Blue/Green/Violet E40 SLV	283	46	164	168	172	43.5	44.5	45.5

Technical data

Type	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
Artcolour MH-T 400W Blue/Green/Violet E40 SLV	380	120	400	198	5000

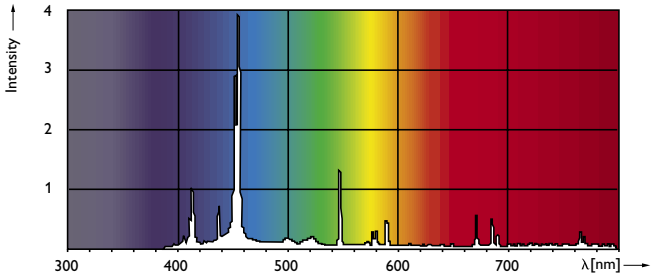
Light data

Type	Luminous Flux Lamp EM (lm)	Colour Designation	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
Artcolour MH-T 400W Blue E40 SLV	10000	Blue	2100	1800	p20
Artcolour MH-T 400W Green E40 SLV	29000	Green	2500	5900	p20
Artcolour MH-T 400W Violet E40 SLV	10000	Violet	3000	2000	p20

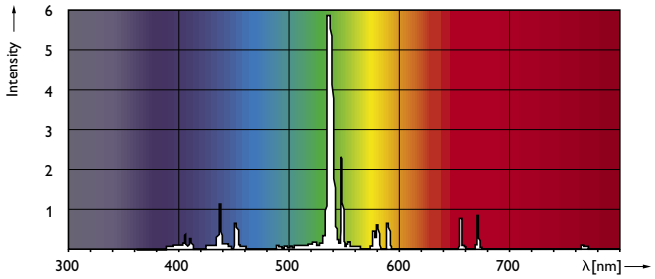
Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Artcolour MH-T 400W Blue E40 SLV	8711500201591	0.201 kg	6	24.7 cm x 19 cm x 35.6 cm	8711500201607	201591 10
Artcolour MH-T 400W Green E40 SLV	8711500201638	0.201 kg	6	24.7 cm x 19 cm x 34 cm	8711500201645	201638 10
Artcolour MH-T 400W Violet E40 SLV	8711500201652	0.209 kg	6	24.7 cm x 19 cm x 34 cm	8711500201669	201652 10

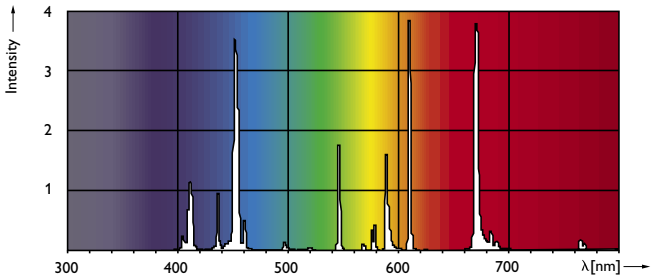
Spectral power distribution



MH-T Blue



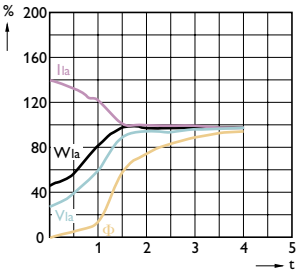
MH-T Green



MH-T Violet

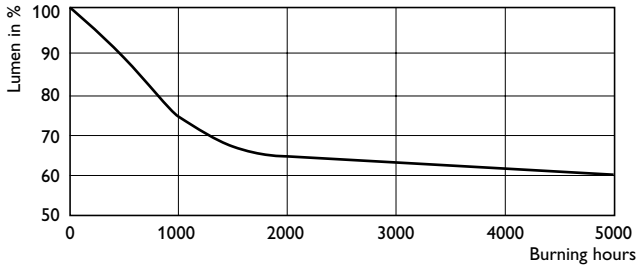
Performance diagram

Lamp performance during run up

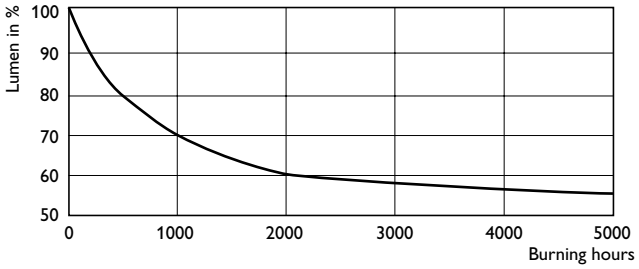


MH-T

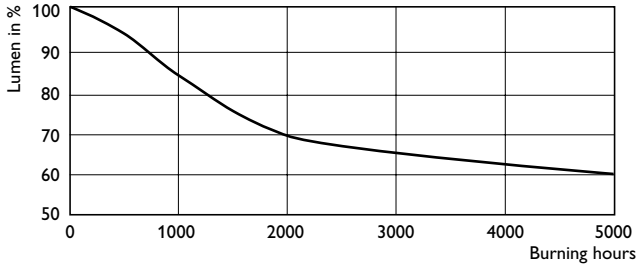
Lumen maintenance diagram



MH-T 400W BL

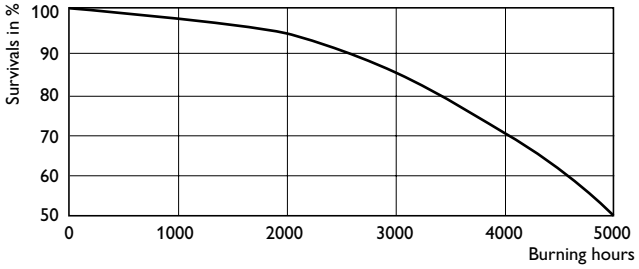


MH-T 400W GR

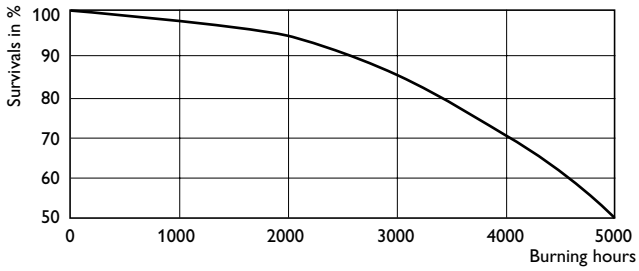


MH-T 400W VI

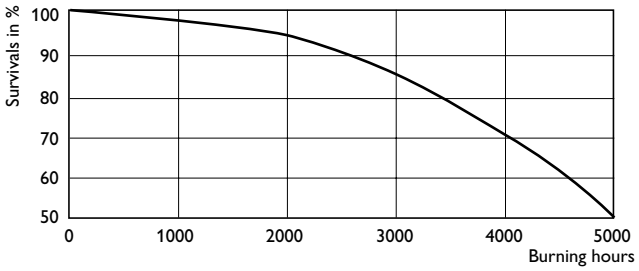
Life expectancy diagram



MH-T 400W BL

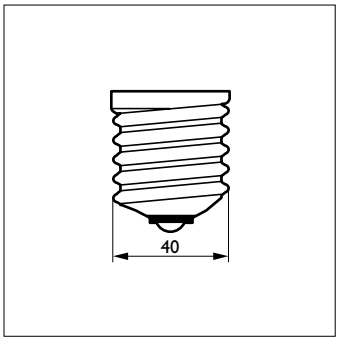


MH-T 400W GR



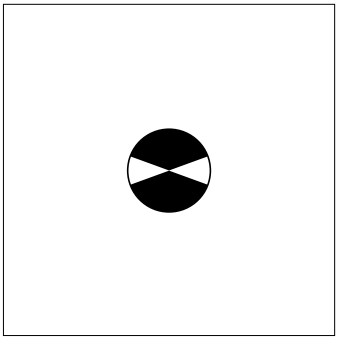
MH-T 400W VI

Cap Base



E40

Operating position



p20





MHN-FC 1000W

Product Description

- Compact quartz metal halide lamps with double pinch

Product Features

- Double-pinch concept results in long lifetime
- Choice of 1000 W and 2000 W types
- Natural white colour appearance
- Compact light source allows small luminaire design

Product Benefits

- Allows compact luminaire systems with precision optics for minimal light spill
- Good colour rendering creates a pleasant ambience with high visual comfort for players and spectators
- Continuous spectral distribution offers options for semi-professional stadiums and area lighting

Application

- Recreational sports and area floodlighting

Luminaires

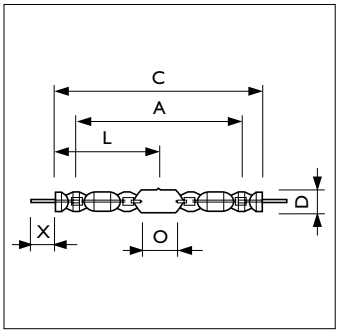
- MHN-FC lamps require a protective, UV-absorbing front glass and correct thermal behaviour for optimal lamp performance

Environment

- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 3.190

www.philips.com/OEM



MHN-FC

Type	ANom	DMax	ONom	XNom
MASTER MHN-FC 1000W/740 230V XW UNP	226	33	42.5	58
MASTER MHN-FC 2000W/740 400V XW UNP	290	33	108	58



MHN-FC 2000W

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MASTER MHN-FC 1000W/740 230V XW UNP	10	1035	125	230	1000	No	198	10000
MASTER MHN-FC 2000W/740 400V XW UNP	10.11	2032	220	400	2000	No	342	14000

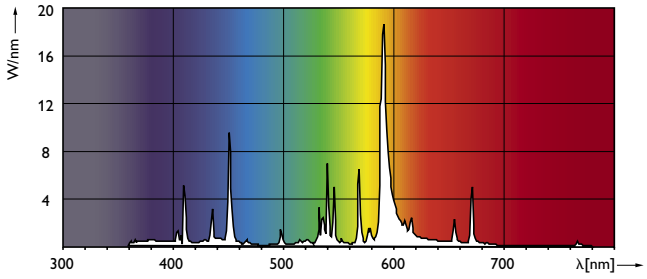
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER MHN-FC 1000W/740 230V XW UNP	93000	91	White	4100	65	379	383	p5
MASTER MHN-FC 2000W/740 400V XW UNP	210000	102	White	4200	60	380	419	p5

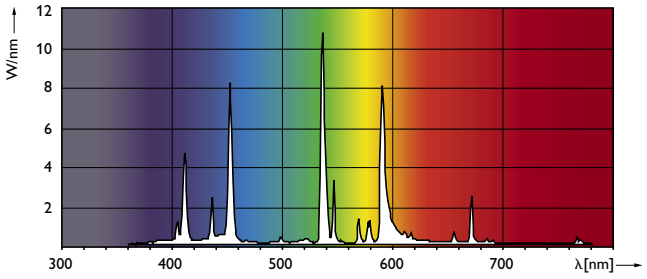
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER MHN-FC 1000W/740 230V XW UNP	MD-1000/40/2B-H-XW	8711500214249	0.14 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500214249	214249 00
MASTER MHN-FC 2000W/740 400V XW UNP	MD-2000/40/2B-H-XW	8711500213495	0.19 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500213495	213495 00

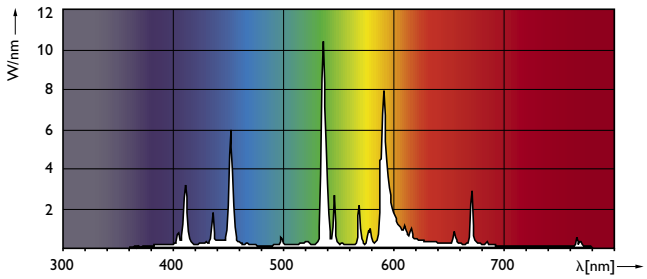
Spectral power distribution



MHN-FC 2000W /740

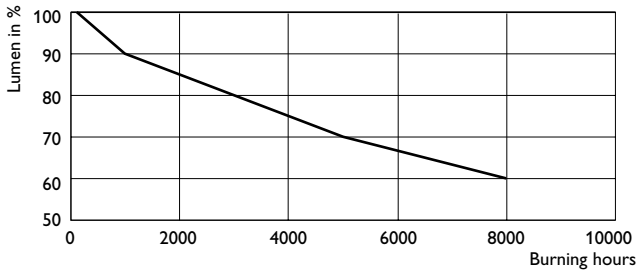


MHN-FC 1000W /750

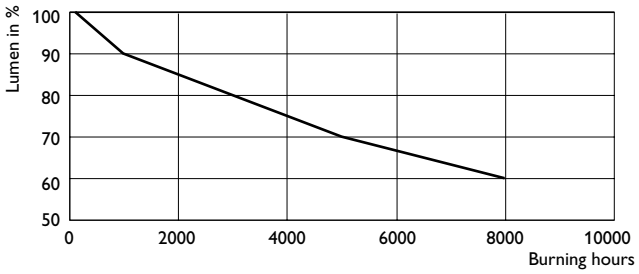


MHN-FC 1000W /740

Lumen maintenance diagram

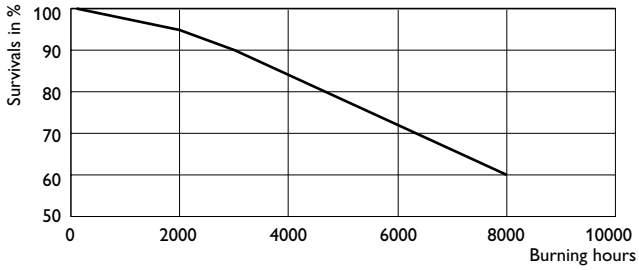


MHN-FC 1000W /740/750

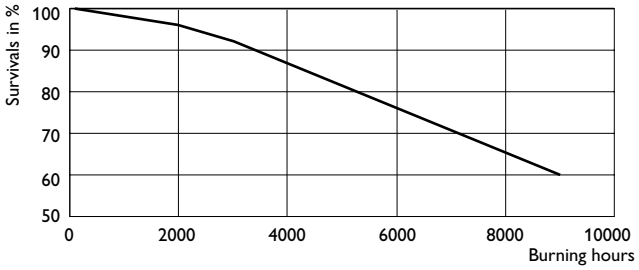


MHN-FC 2000W /740

Life expectancy diagram



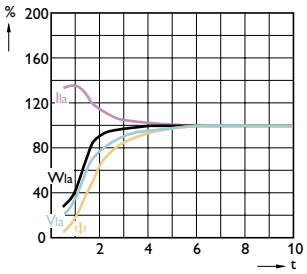
MHN-FC 1000W /740/750



MHN-FC 2000W /740

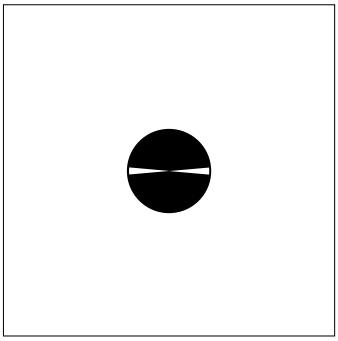
Performance diagram

Lamp performance during run up



MHN-FC

Operating position



p5





CPO-TW 140W PGZ12

Product Desription

- New-generation ceramic metal halide lamps for outdoor lighting with white light, using a new lamp base and clear quartz outer bulb

Product Features

- Extreme high energy efficiency
- Unique new burner design and positioning in combination with best lamp fixation (PGZ12)
- Compact size: 50% smaller than SON/HPL systems
- New electronic gear platform meets the most demanding public lighting requirements

Product Benefits

- Attractive white light
- Best optical efficacy allows greater spacing between luminaires, thereby reducing investment
- Highest energy saving and lowest cost of ownership
- Lower our energy cost with 10-150% compared with todays lightsources for outdoor applications
- Compact size & unique burnershape allows optimised optic and luminaire design
- Optimal lamp service lifetime and energy savings initially and over lifetime
- Robust, dedicated outdoor electronic Xtreme gear for long and reliable operation, ensuring future-proof outdoor installation

Application

- Urban Public Lighting for city centres, residential areas and roads

System

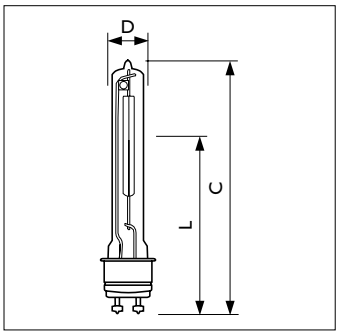
- Designed for use with electronic gear only
- Lamps and gear developed together to ensure optimal system operation for:
  - Lowest system energy initially and over lifetime
  - Robust, long-life outdoor-proof installation (lightning strike and peak voltage protection)

Environment

- Philips Green product product with high efficacy minimises environmental impact and CO_2emission:
- Good environmental choice due to highest energy efficiency in combination with compact white light
- Compact size for low material and packaging use
- RoHS compliant (lead-free), very low mercury content (max. 2.5 mg), covered by WEEE

Recommended gear page 3.190

www.philips.com/OEM



CPO-TW PGZ12

Type	CMax	DNom	DMax	LNom	ONom
MASTER CosmoWhite CPO-TW 45W/628 PGZ12 1CT	132	19	20	59	15
MASTER CosmoWhite CPO-TW 60W 728 PGZ12 1CT	132	19	20	59	15
MASTER CosmoWhite CPO-TW 90W/728 PGZ12 1CT	143	19	20	66	18
MASTER CosmoWhite CPO-TW 140W/728 PGZ12 1CT	147	19	20	66	20

Technical data

Type	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)
MASTER CosmoWhite CPO-TW 45W/628 PGZ12 1CT	0.5	45	90	45	No	5000	-	30	4
MASTER CosmoWhite CPO-TW 60W/728 PGZ12 1CT	0.65	60	92	60	No	5000	160	30	3
MASTER CosmoWhite CPO-TW 90W/728 PGZ12 1CT	0.97	90	92	90	No	5000	-	30	4
MASTER CosmoWhite CPO-TW 140W/728 PGZ12 1CT	1.49	140	94	140	No	5000	160	30	4

Light data

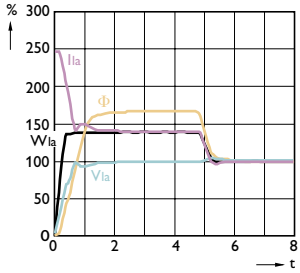
Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER CosmoWhite CPO-TW 45W/628 PGZ12 1CT	4300	96	White	2720	60	458	409	any
MASTER CosmoWhite CPO-TW 60W/728 PGZ12 1CT	6800	114	White	2730	66	453	402	any
MASTER CosmoWhite CPO-TW 90W/728 PGZ12 1CT	10450	116	White	2880	66	444	403	any
MASTER CosmoWhite CPO-TW 140W/728 PGZ12 1CT	16500	118	White	2860	66	444	401	any

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER CosmoWhite CPO-TW 45W/628 PGZ12 1CT	MT-45/28/2B-H-PGZ12	8711500211194	0.034 kg	12	20.6 cm x 17.2 cm x 19 cm	8711500211200	211194 15
MASTER CosmoWhite CPO-TW 60W/728 PGZ12 1CT	MT-60/28/2B-H-PGZ12	8711500208514	0.034 kg	12	20.6 cm x 17.2 cm x 19 cm	8711500208521	208514 15
MASTER CosmoWhite CPO-TW 90W/728 PGZ12 1CT	MT-90/28/2B-H-PGZ12	8711500211217	0.038 kg	12	20.6 cm x 17.2 cm x 20.7 cm	8711500211224	211217 15
MASTER CosmoWhite CPO-TW 140W/728 PGZ12 1CT	MT-140/28/2B-H-PGZ12	8711500208538	0.04 kg	12	20.6 cm x 17.2 cm x 20.7 cm	8711500208545	208538 15

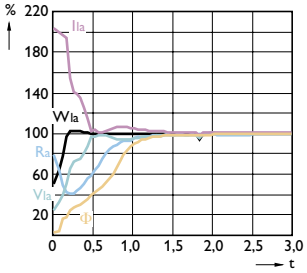
Performance diagram

Lamp performance during run up



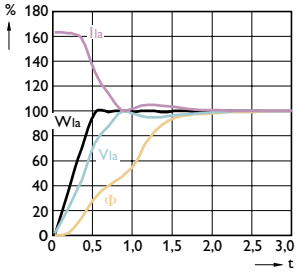
CPO-TW 45W

Lamp performance during run up



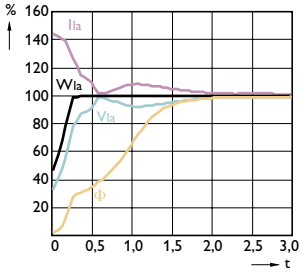
CPO-TW 60W

Lamp performance during run up



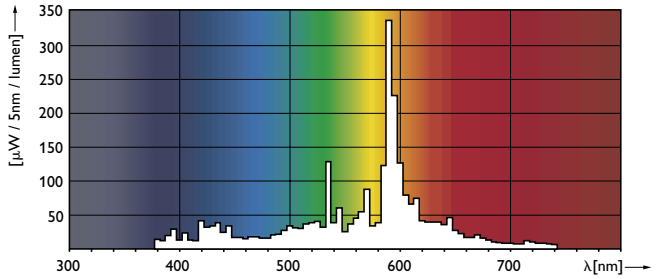
CPO-TW 90W

Lamp performance during run up

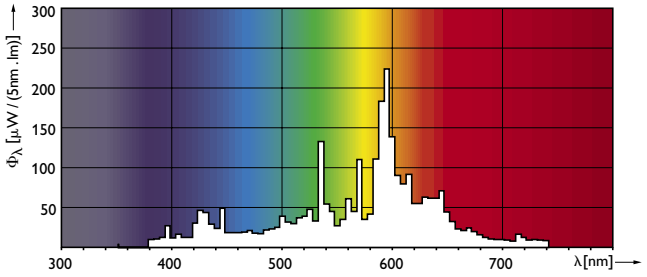


CPO-TW 140W

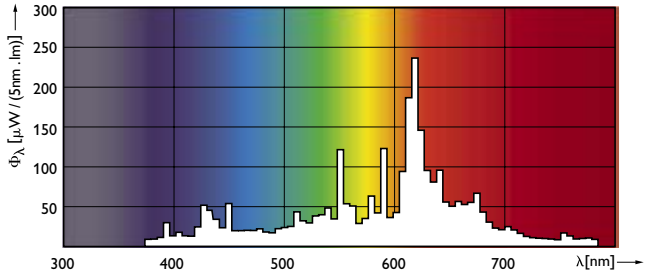
Spectral power distribution



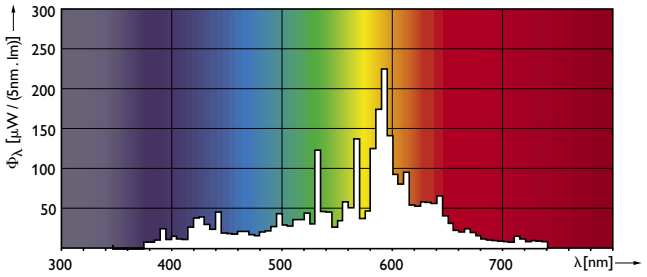
CPO-TW 45W /628



CPO-TW 60W

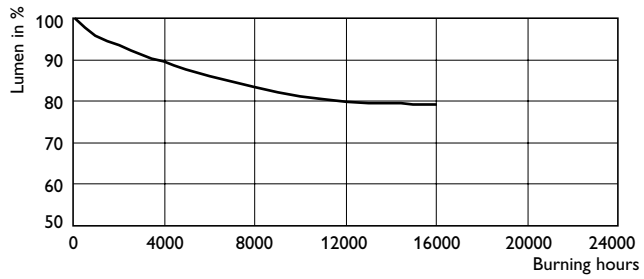


CPO-TW 90W



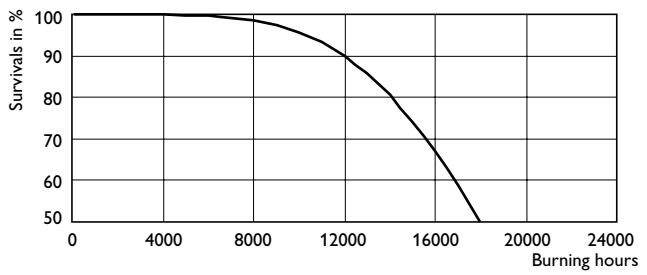
CPO-TW 140W

Lumen maintenance diagram



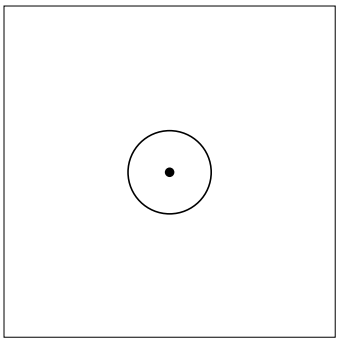
CPO-TW

Life expectancy diagram



CPO-TW

Operating position



any





CDO-TT 150W E40

Product Description

- Ceramic metal halide Outdoor with clear tubular outer bulb

Product Features

- Robust lamp with long lifetime
- Directly retrofit on HPS (SON) installations for upgrade from yellow to white light
- Good colour rendering and harmonized warm white colour temperature

Product Benefits

- Reduced cost of ownership compared to predecessor MASTERColour CDM-TT
- Comfortable warm colour impression with stable colour over lifetime
- Flexible light levels and reduced energy consumption possible via dimming option
- Upgrade for existing HPL installations with gear exchange

Application

- City centres, shopping centres and pedestrian areas, residential areas, road lighting and floodlighting

Luminaires

- In the highly unlikely event of lamp breakage by incorrect use, vandalism or end of life effects, the luminaire housing should be able to contain heated glass, metal and / or ceramic particles

System

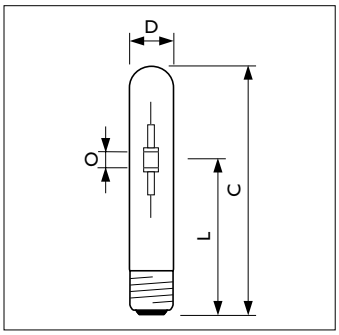
- Must be used with a SON gear and SON ignitor
- Warm restart time can be up to fifteen minutes. T15 ignitors are therefore advised
- Dimming only possible with electronic gear, DynaVision 1-10V
- Achieves optimal performance on Philips PrimaVision electronic gear

Environment

- Good environmental choice because of high energy effficiency in white light
- Products are RoHS compliant
- Products are covered by WEEE

Recommended gear page 3.190

www.philips.com/OEM



CDO-TT



CDO-TT 100W E40

Type	CMax	DMax	LNom	ONom
MASTER CityWhite CDO-TT 70W/828 E27 SLV	156	32.5	102	7
MASTER CityWhite CDO-TT 100W/828 E40 SLV	209	47	132	7
MASTER CityWhite CDO-TT 150W/828 E40 SLV	211	47	132	9
MASTER CityWhite CDO-TT 250W/828 E40 SLV	255	47	157	21.3

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER CityWhite CDO-TT 70W	1	72	90	70	Yes	2500	198	30	3	14000
MASTER CityWhite CDO-TT 100W	1.2	95	95	100	Yes	5000	198	30	2	14000
MASTER CityWhite CDO-TT 150W	1.8	147	100	150	Yes	5000	198	30	3	14000
MASTER CityWhite CDO-TT 250W	3	244	93	250	Yes	5000	198	30	3	9000

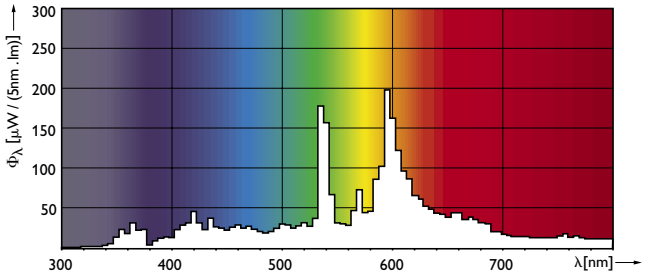
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER CityWhite CDO-TT 70W/828 E27 SLV	6300	88	Warm White	2800	83	452	402	any
MASTER CityWhite CDO-TT 100W/828 E40 SLV	8800	91	Warm White	2800	83	460	394	any
MASTER CityWhite CDO-TT 150W/828 E40 SLV	13500	92	Warm White	2800	85	460	403	any
MASTER CityWhite CDO-TT 250W/828 E40 SLV	22500	92	Warm White	2800	85	431	375	p5

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER CityWhite CDO-TT 70W/828 E27 SLV	MT-70/28/1B-H-E27	8711500205469	0.046 kg	12	16.6 cm x 13.4 cm x 18.9 cm	8711500205476	205469 15
MASTER CityWhite CDO-TT 100W/828 E40 SLV	MT-100/20/1B-H-E40	8711500206817	0.137 kg	12	31.7 cm x 19.6 cm x 23.6 cm	8711500206824	206817 15
MASTER CityWhite CDO-TT 150W/828 E40 SLV	MT-150/28/1B-H-E40	8711500205360	0.135 kg	12	31.7 cm x 19.6 cm x 23.6 cm	8711500205377	205360 15
MASTER CityWhite CDO-TT 250W/828 E40 SLV	MT-250/28/1B-H-E40	8711500209054	0.161 kg	12	31.7 cm x 19.6 cm x 27.7 cm	8711500209061	209054 15

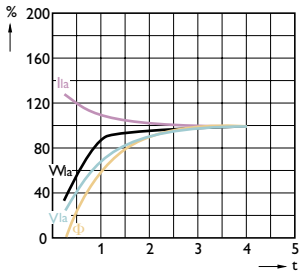
Spectral power distribution



CDO-TT /828

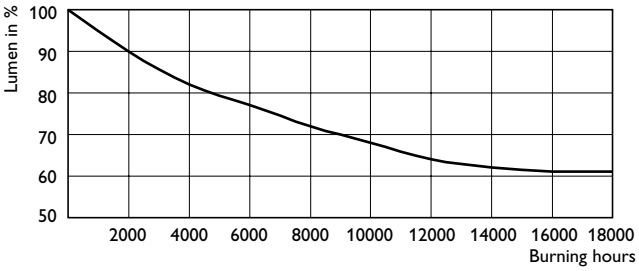
Performance diagram

Lamp performance during run up

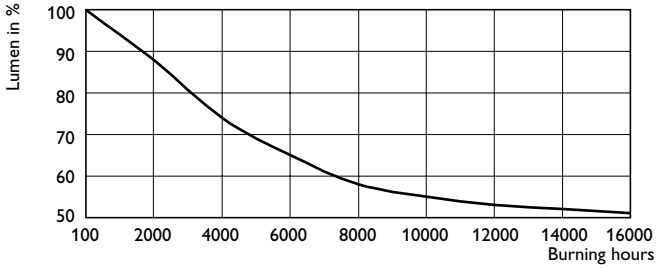


CDO-TT

Lumen maintenance diagram

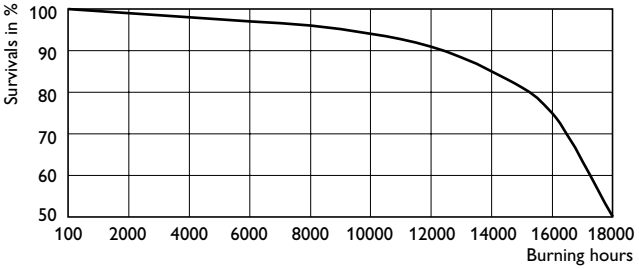


CDO-TT 70W/100W/150W

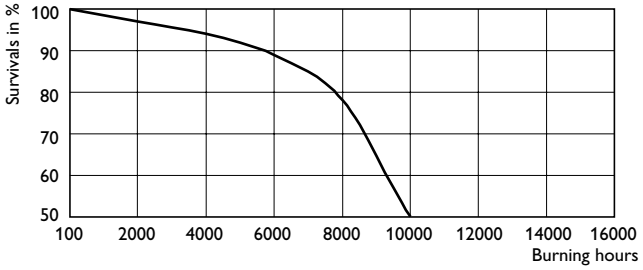


CDO-TT 250W

Life expectancy diagram

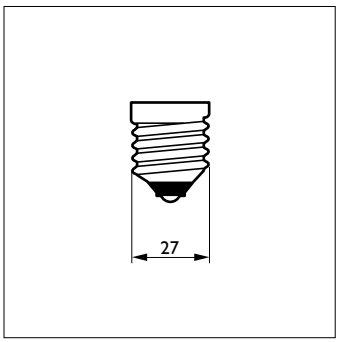


CDO-TT 70W/100W/150W

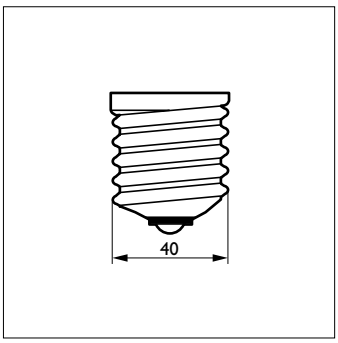


CDO-TT 250W

Cap Base

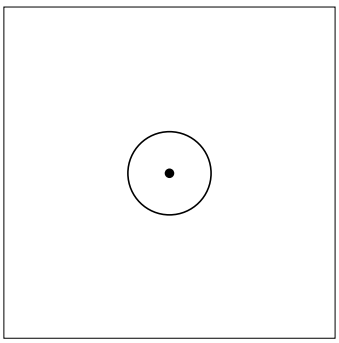


E27

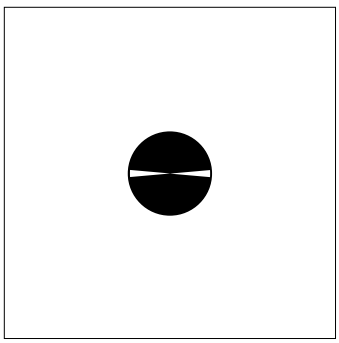


E40

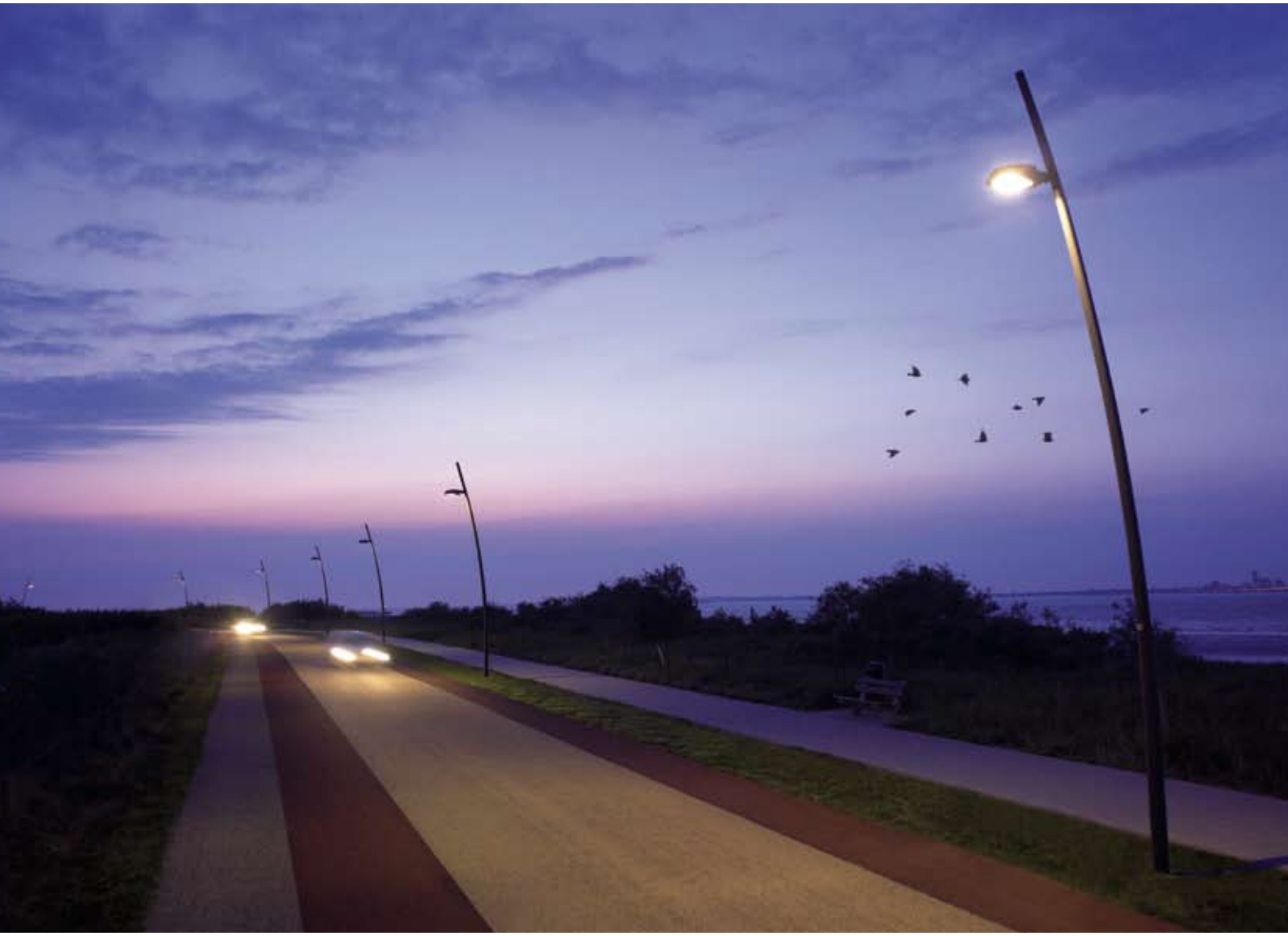
Operating position



any



p5

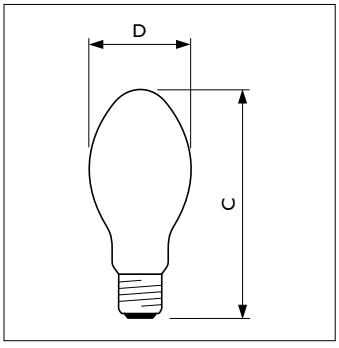




CDO-ET

Recommended gear page 3.190

www.philips.com/OEM



CDO-ET

Product Description

- Ceramic metal halide Outdoor with opalized ovoid outer bulb

Product Features

- Robust lamp with long lifetime
- Directly retrofit on HPS (SON) installations for upgrade from yellow to white light
- Good colour rendering and harmonized warm white colour temperature

Product Benefits

- Reduced cost of ownership compared to predecessor MASTERColour CDM-ET
- Comfortable warm colour impression with stable colour over lifetime
- Flexible light levels and reduced energy consumption possible via dimming option
- Upgrade for existing HPL installations with gear exchange

Application

- City centres, shopping centres and pedestrian areas, residential areas, road lighting and floodlighting

Luminaires

- In the highly unlikely event of lamp breakage by incorrect use, vandalism or end of life effects, the luminaire housing should be able to contain heated glass, metal and / or ceramic particles

System

- Must be used with a SON gear and SON ignitor
- Warm restart time can be up to fifteen minutes. T15 ignitors are therefore advised
- Dimming only possible with electronic gear, DynaVision 1-10V
- Achieves optimal performance on Philips PrimaVision electronic gear

Environment

- Good environmental choice because of high energy effficiency in white light
- Products are RoHS compliant
- Products are covered by WEEE

Type	CMax	DMax
MASTER CityWhite CDO-ET 70W/828 E27 SLV	156	71
MASTER CityWhite CDO-ET 100W/828 E40 SLV	186	75
MASTER CityWhite CDO-ET 150W/828 E40 SLV	230	91

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER CityWhite CDO-ET 70W	0.980	71	87	70	Yes	2500	198	30	3	14000
MASTER CityWhite CDO-ET 100W	1.2	95	90	100	Yes	5000	198	30	2	14000
MASTER CityWhite CDO-ET 150W	1.800	145	93	150	Yes	5000	198	30	3	14000

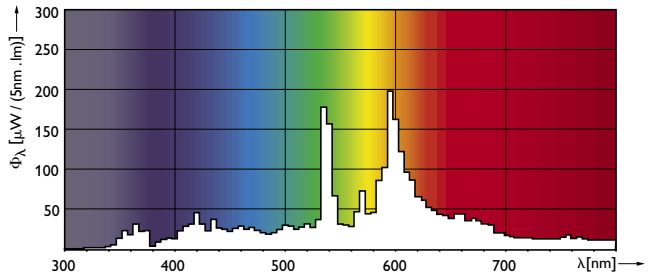
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER CityWhite CDO-ET 70W/828 E27 SLV	5600	79	Warm White	2820	78	449	405	any
MASTER CityWhite CDO-ET 100W/828 E40 SLV	8300	87	Warm White	2800	80	451	402	any
MASTER CityWhite CDO-ET 150W/828 E40 SLV	12500	86	Warm White	2800	82	460	403	any

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER CityWhite CDO-ET 70W/828 E27 SLV	ME-70/28/1B-H-E27	8711500205445	0.052 kg	24	45.5 cm x 30.7 cm x 17.2 cm	8711500205452	205445 30
MASTER CityWhite CDO-ET 100W/828 E40 SLV	ME-100/28/1B-H-E40	8711500206794	0.128 kg	24	59.4 cm x 35.6 cm x 20.5 cm	8711500206800	206794 30
MASTER CityWhite CDO-ET 150W/828 E40 SLV	ME-150/28/1B-H-E40	8711500205483	0.16 kg	12	47.5 cm x 30.6 cm x 24.6 cm	8711500205490	205483 15

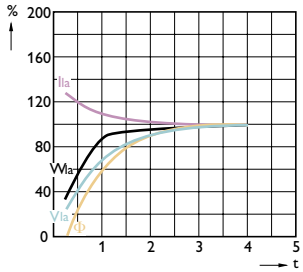
Spectral power distribution



CDO-ET /828

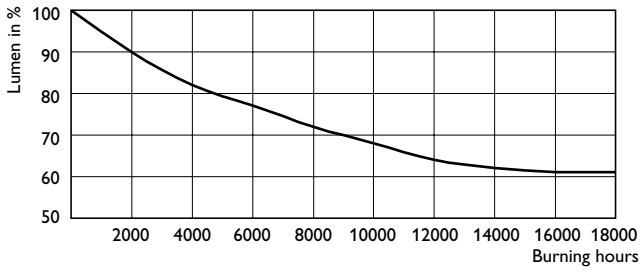
Performance diagram

Lamp performance during run up



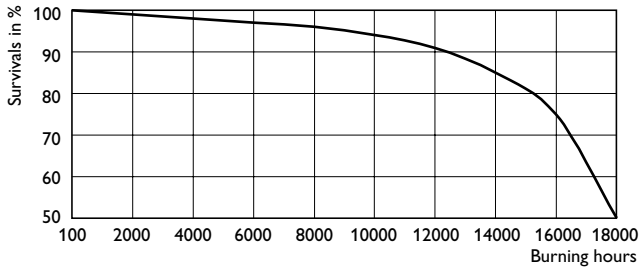
CDO-ET

Lumen maintenance diagram



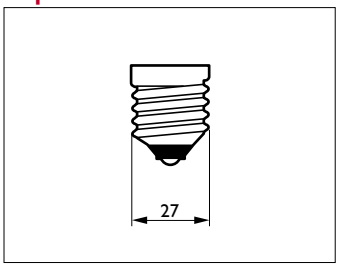
CDO-ET

Life expectancy diagram

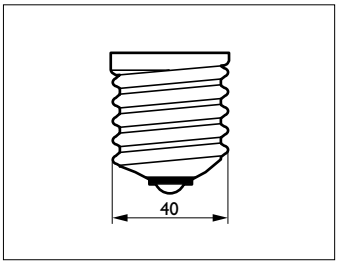


CDO-ET

Cap Base

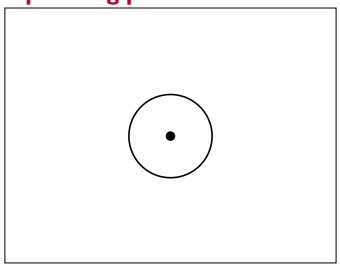


E27



E40

Operating position



any



CDM-TT 70W E27

Product Description

- High-intensity discharge lamps with a CDM discharge tube inside a SON lamp clear tubular outer bulb

Product Features

- Robust lamp giving a pleasant white light and a stable colour over lifetime
- Good colour rendering
- Dimming not recommended because of negative effects on lamp performance (lumen maintenance, colour and life)

Product Benefits

- Runs on SON gear so directly replaces equivalent wattage SON lamp for simple upgrade from yellow to white light

Application

- City centres, shopping centres and pedestrian areas, residential areas, road lighting
- City beautification: decorative lighting and floodlighting

Luminaires

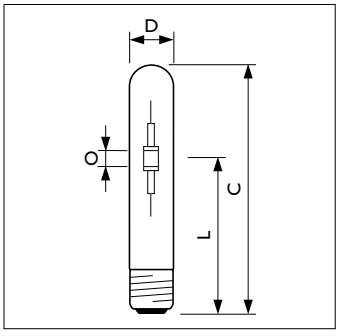
- In the highly unlikely event of lamp breakage by incorrect use, vandalism or end of life effects, the luminaire housing should be able to contain heated glass, metal and / or ceramic particles

System

- Must be used in combination with a gear and an ignitor
- Must be used with a SON gear and SON ignitor in accordance with SON IEC standards (ignition pulse between 1.8 kV and 2.5 kV for 70 W)
- For optimum lamp performance, the mains voltage may deviate by maximum +6/-8% from the voltage indicated on the type plate
- Warm restart time can be up to fifteen minutes. if the lamp does not start (e.g. with T5 ignitors), the installation must be switched off for fifteen minutes

Recommended gear page 3.190

www.philips.com/OEM



CDM-TT

Type	CMax	DMax	LNom	ONom
MASTERColour CDM-TT 70W/942 E27 SLV	156	32.5	102	6
MASTERColour CDM-TT 150W/942 E40 SLV	211	46	133	8

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-TT 70W/942 E27 SLV	0.970	73	91	70	No	1800	198	30	4	9000
MASTERColour CDM-TT 150W/942 E40 SLV	1850	145	93	150	No	2800	198	30	4	9000

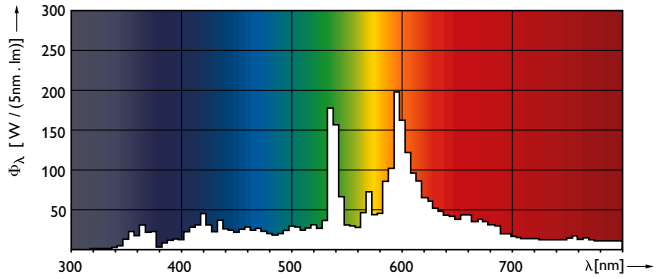
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTERColour CDM-TT 70W/942 E27 SLV	6400	85	Cool White	4200	90	369	370	any
MASTERColour CDM-TT 150W/942 E40 SLV	12000	83	Cool White	4200	90	386	369	any

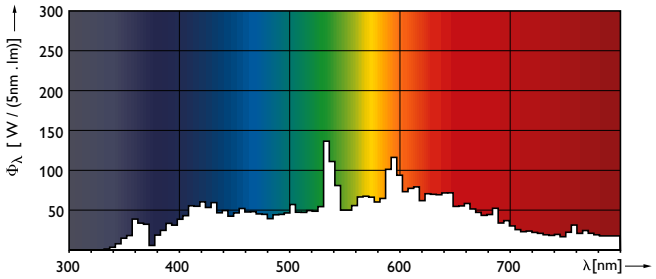
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERColour CDM-TT 70W/942 E27 SLV	MT-70/42/1A-H-E27	8711500209658	0.047 kg	12	16.6 cm x 13.4 cm x 18.9 cm	8711500209665	209658 15
MASTERColour CDM-TT 150W/942 E40 SLV	MT-150/42/1A-H-E40	8711500209672	0.135 kg	12	31.7 cm x 19.6 cm x 23.6 cm	8711500209689	209672 15

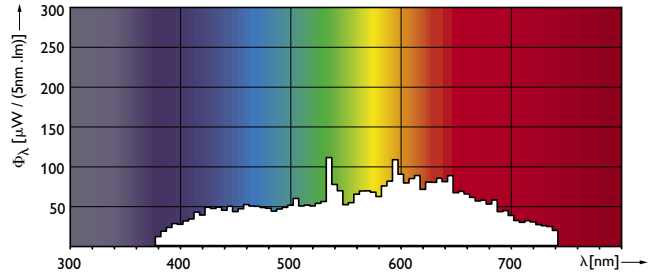
Spectral power distribution



CDM-TT /830



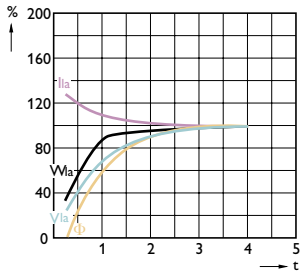
CDM-TT 70W /942



CDM-TT 150W /942

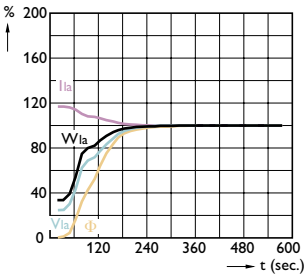
Performance diagram

Lamp performance during run up



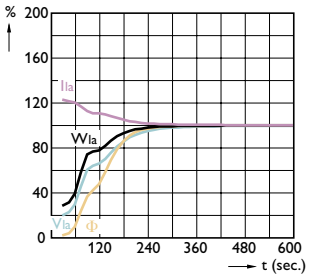
CDM-TT /830

Lamp performance during run up



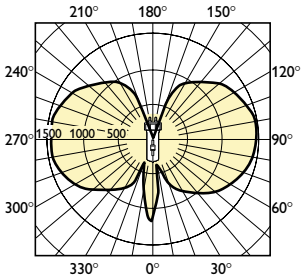
CDM-TT 70W /942

Lamp performance during run up

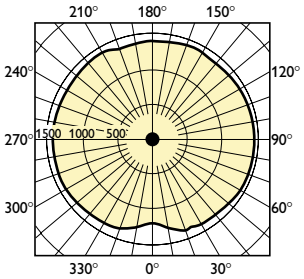


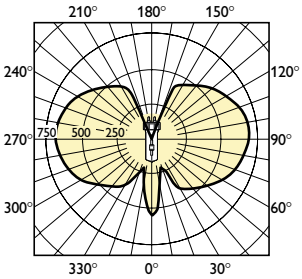
CDM-TT 150W /942

Photometric diagram

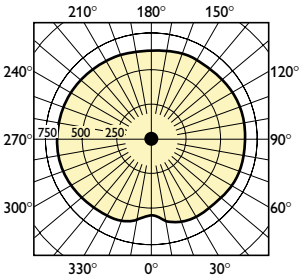


CDM-TT 150W

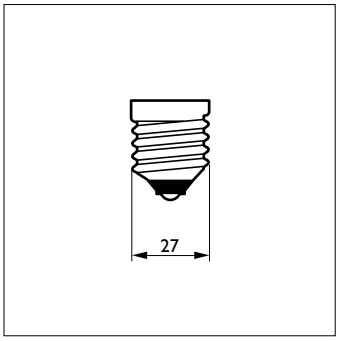




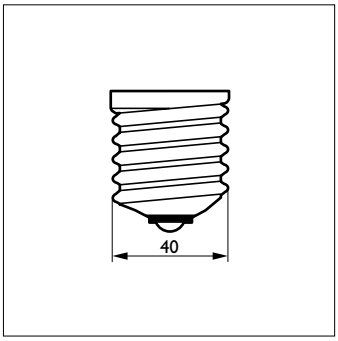
CDM-TT 70W



Cap Base

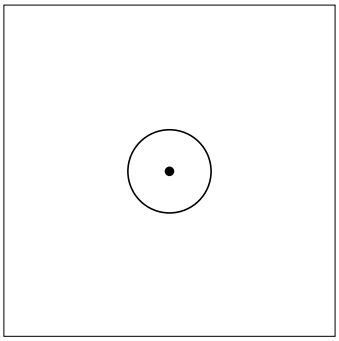


E27



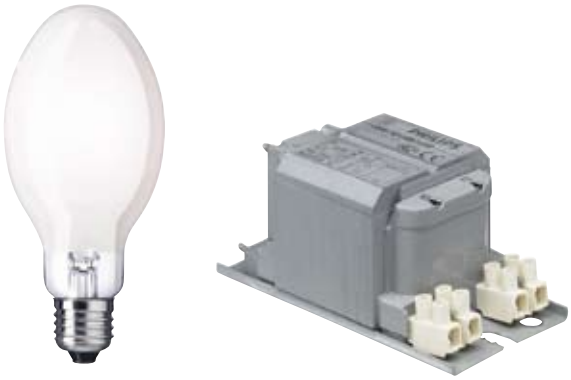
E40

Operating position



any


HOTEL



BeneKit 70W CO EM

Product Description

- BeneKit is a money-saving lamp and gear conversion kit that contains a MASTER CityWhite lamp and all the electrical control gear needed to operate the lamp

Product Features

- A single box with all the lamp and gear components to convert many old-technology, inefficient mercury vapour luminaires to high-efficiency MASTER CityWhite technology
- MASTER CityWhite lamps have higher efficiency and produce high-quality, white light
- Electronic gear options available

Product Benefits

- Improved efficiency and quality of light
- High-quality white light makes areas seem much more natural and pleasant to be in after dark
- Lower energy use means lower running costs and lower CO_2 emissions, benefiting both budgets and the environment

Application

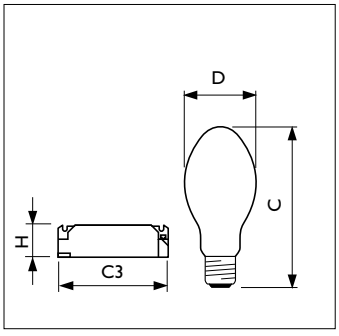
- Ideal for upgrading old-technology mercury vapour systems in luminaires that do not yet need replacement (typically ten to twenty years old)
- Also suitable for upgrading 'heritage' luminaires or those with a significant design
- Luminaires must be 'closed' type due to use of MASTER CityWhite metal halide lamps
- Ideal for installations where energy savings and environmental improvements are needed but where new luminaires are not yet possible or practical

Environment

- Low energy use means lower CO_2 emissions, reducing pollution and helping the environment

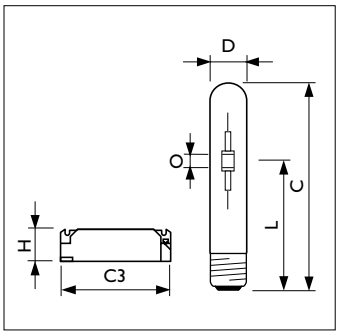
Recommended gear page 3.190

www.philips.com/OEM



BeneKit CDO-ET

Type	CMax	C3Nom	DMax	HNom
BeneKit CDO-ET 70W E27 EL KIT	156	-	71	-



BeneKit CDO-TT

Type	CMax	C3Nom	DMax	HNom
BeneKit CDO-TT 70W E27 EL KIT	156	-	32.5	-



BeneKit CDO-TT EL



BeneKit CDO-TT EM

Technical data

Type	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
BeneKit CDO-ET 70W E27 EL KIT	0.98	71	-	-	87	70	Yes	2500	198	9000
BeneKit CDO-TT 70W E27 EL KIT	0.98	72	-	-	90	70	Yes	2500	198	9000
BeneKit CDO-TT 70W E27 EM KIT	-	-	0.98	72	90	70	Yes	2500	198	9000

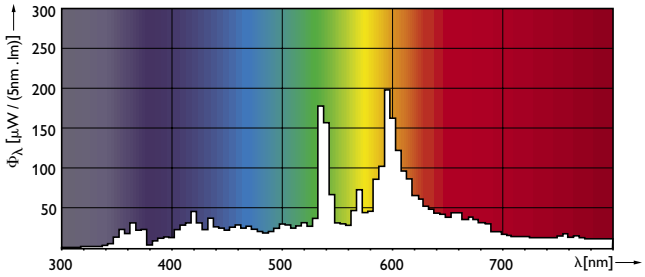
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EL (lm/W)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
BeneKit CDO-ET 70W E27 EL KIT	5600	-	79	-	Warm White	2820	78	449	401	any
BeneKit CDO-TT 70W E27 EL KIT	6300	-	88	-	Warm White	2700	78	452	402	any
BeneKit CDO-TT 70W E27 EM KIT	-	6300	-	88	Warm White	2700	78	452	402	any

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BeneKit CDO-ET 70W E27 EL KIT	ME/70/28/1B-H-E27	8711500212986	0.799 kg	4	33.9 cm x 30 cm x 21.4 cm	8711500212993	212986 45
BeneKit CDO-TT 70W E27 EL KIT	MT/70/28/1B-H-E27	8711500213020	0.793 kg	4	33.8 cm x 30 cm x 21.4 cm	8711500213037	213020 45
BeneKit CDO-TT 70W E27 EM KIT	MT/70/28/1B-H-E27	8711500213006	1.343 kg	4	33.8 cm x 30 cm x 21.4 cm	8711500213013	213006 45

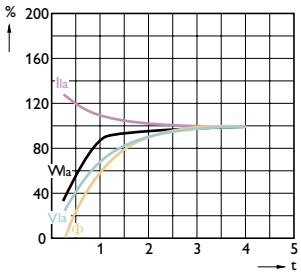
Spectral power distribution



BeneKit

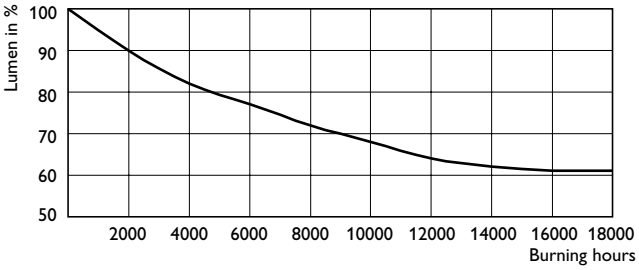
Performance diagram

Lamp performance during run up



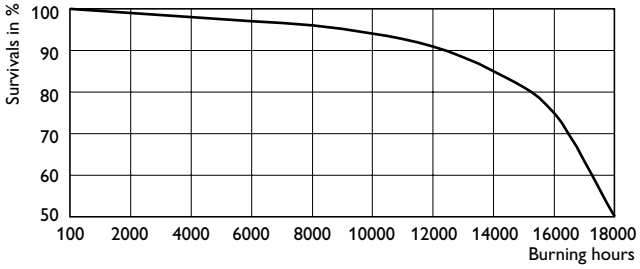
BeneKit

Lumen maintenance diagram



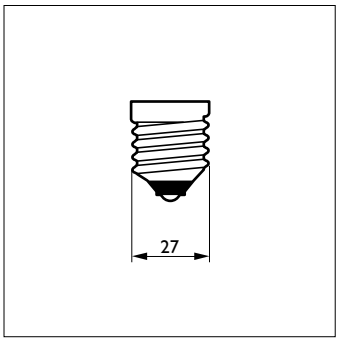
BeneKit

Life expectancy diagram



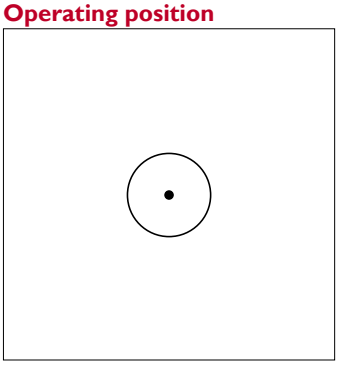
BeneKit

Cap Base



E27

Operating position



any



SON-T Agro E40

Product Description

- High Pressure Sodium lamp with clear outer bulb, high lumen maintenance and increased blue radiation

Product Features

- Clear tubular outer bulb
- “Agro” concept with increased blue radiation results in more compact and sturdy plant development
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- ZrAl getter ensures high lumen maintenance and few early failures

Product Benefits

- Optimised performance for horticultural applications, especially at lower lighting levels
- Optimizing plant development and quality with good leaf and bloom colour and extra branching

Application

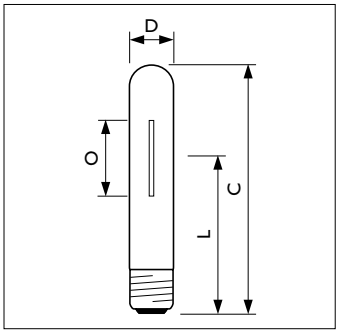
- Horticultural applications, plant irradiation

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 3.190

www.philips.com/OEM



SON-T

Type	CMax	DMax	LNom	ONom
MASTER Agro 400W E40 SLV	283	47	175	83

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER Agro	4.13	423.0	116	230	400	No	2800	198	10	5	30000

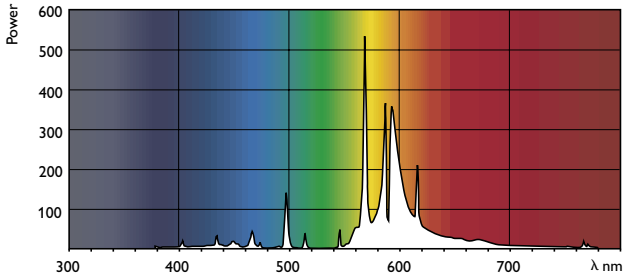
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER Agro 400W E40 SLV	55000	130	2000	25	520	415	any

Ordering and packing data

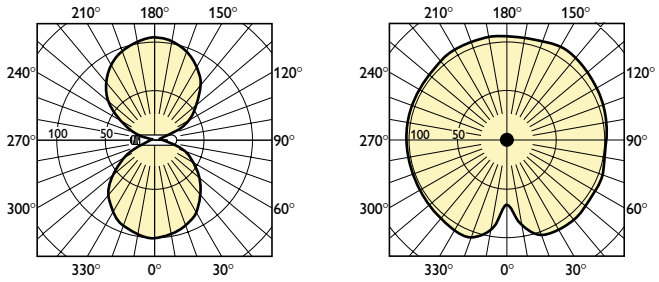
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER Agro 400W E40 SLV	ST-400-H/E-E40	8711500707505	0.192 kg	12	16.9 cm x 22.5 cm x 31.1 cm	8711500183019	707505 15

Spectral power distribution



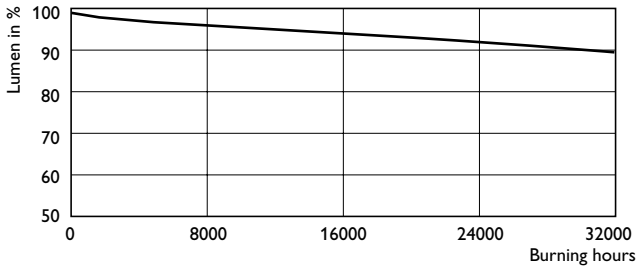
SON-T Agro 400W

Photometric diagram



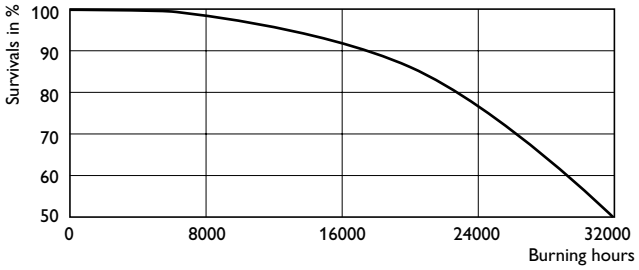
SON-T

Lumen maintenance diagram



SON-T 100W/150W/250W/400W

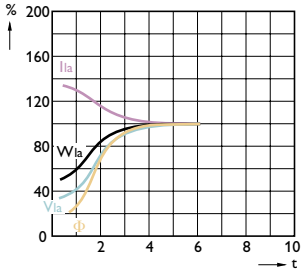
Life expectancy diagram



SON-T 100W/150W/250W/400W

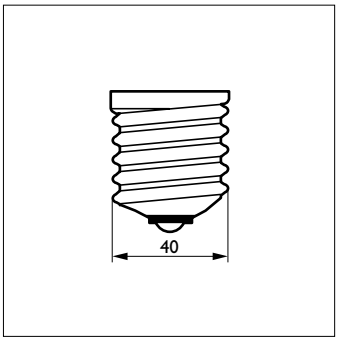
Performance diagram

Lamp performance during run up



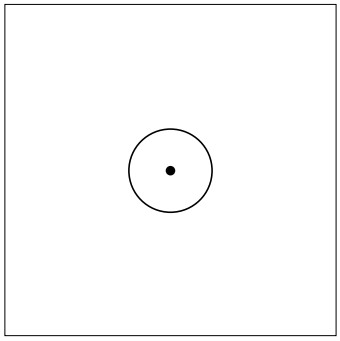
SON-T Agro 400W

Cap Base



E40

Operating position



any



SON-T Green Power/GreenPower CG T E39/E40 T40/T46

Product Description

- High Pressure Sodium lamp with clear outer bulb, high lumen maintenance and optimised micromol output

Product Features

- Clear tubular outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- ZrAl getter ensures high lumen maintenance and few early failures
- "Green Power" concept with optimised micromol output (growth light)
- "Plus" concept with high efficacy translated into high light output

Product Benefits

- Optimised performance for horticultural applications
- High lumen maintenance safeguards a constant crop quality and quantity over life

Application

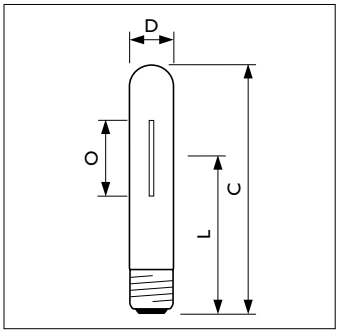
- Horticultural applications, plant irradiation

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 3.190

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SON-T

Type	CMax	DMax	LNom	ONom
MASTER GreenPower CG T 400W E40 SLV/UNP	275	46	175	83
MASTER GreenPower CG T 600W E40 SLV/UNP	275	46	166	102
MASTER GreenPower 600W 400V E40 SLV/UNP	283	47	169	102
MASTER GreenPower 600W 480V E40 SLV	283	47	168	120

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)
MASTER GreenPower CG T 400W E40	4.230	420	113	230	400	Yes	2800	198	10	5
MASTER GreenPower CG T 600W E40	6.3	605	115	230	600	Yes	3500	220	10	5
MASTER GreenPower 600W 400V E40	3.620	608	191	400	600	Yes	3500	398	10	5
MASTER GreenPower 600W 480V E40	3.620	595	208	480	600	Yes	3500	480	10	5

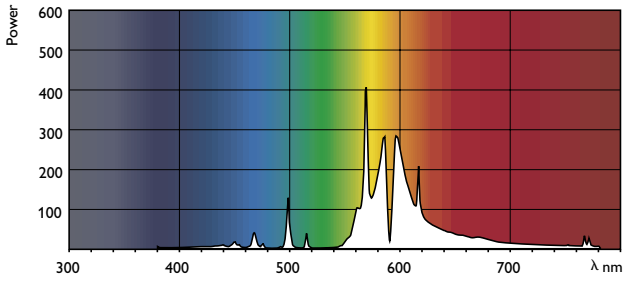
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER GreenPower CG T 400W E40 SLV/UNP	58500	140	-	20	-	-	any
MASTER GreenPower CG T 600W E40 SLV/UNP	88000	147	-	26	533	432	any
MASTER GreenPower 600W 400V E40 SLV/UNP	87500	144	2040	33	526	420	any
MASTER GreenPower 600W 480V E40 SLV	84500	142	2040	33	526	420	any

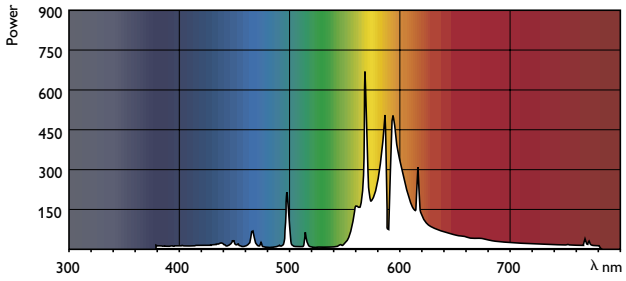
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER GreenPower CG T 400W E40 SLV	ST-400-H/S-E40	8711500201966	0.18 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500201973	201966 15
MASTER GreenPower CG T 400W E40 UNP	ST-400-H/S-E40	8711500202451	0.18 kg	60	60 cm x 40 cm x 32.5 cm	8711500202468	202451 75
MASTER GreenPower CG T 600W E40 SLV	ST-600-H/S-E40	8711500202024	0.182 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500202031	202024 15
MASTER GreenPower CG T 600W E40 UNP	ST-600-H/S-E40	8711500202291	0.182 kg	60	60 cm x 40 cm x 32.5 cm	8711500202307	202291 75
MASTER GreenPower 600W 400V E40 SLV	ST-600-H/S-E40	8711500203076	0.179 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500203083	203076 15
MASTER GreenPower 600W 400V E40 UNP	ST-600-H/S-E40	8711500203090	0.179 kg	60	60 cm x 40 cm x 32.5 cm	8711500203106	203090 75
MASTER GreenPower 600W 480V E40 SLV	ST-600-H/S-E40	8711500206480	0.18 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500206497	206480 15

Spectral power distribution



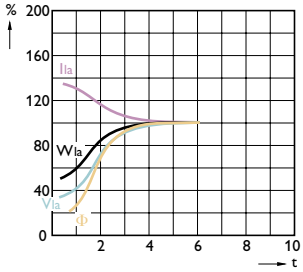
SON-T Green Power/GreenPower CG T 400W



SON-T Green Power 600W

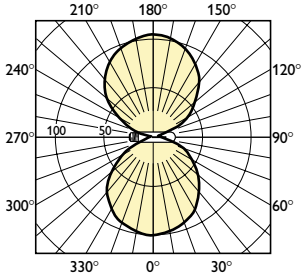
Performance diagram

Lamp performance during run up

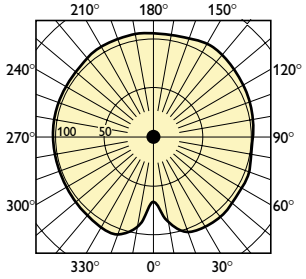


SON-T Green Power 600W

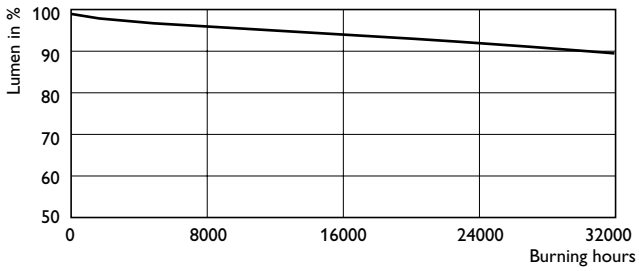
Photometric diagram



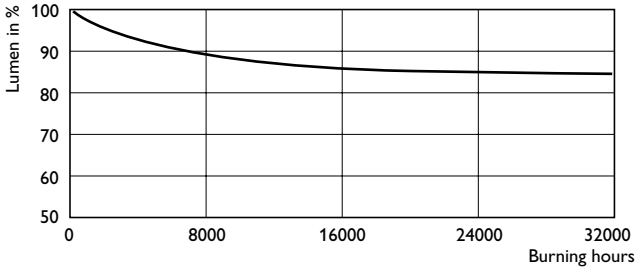
SON-T



Lumen maintenance diagram

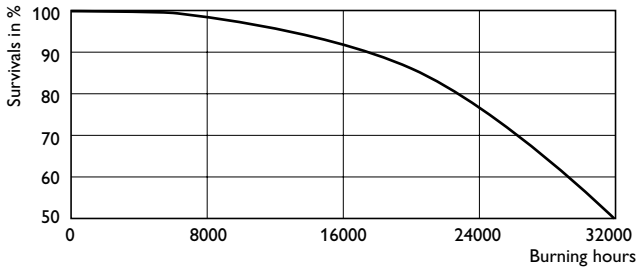


SON-T 100W/150W/250W/400W

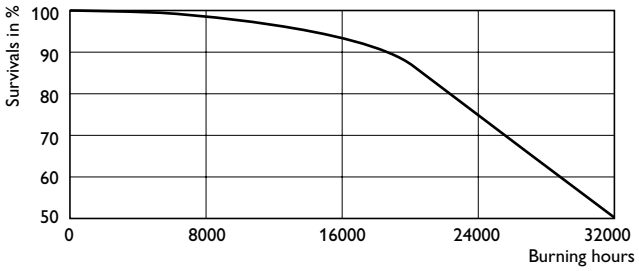


SON-T 600W

Life expectancy diagram

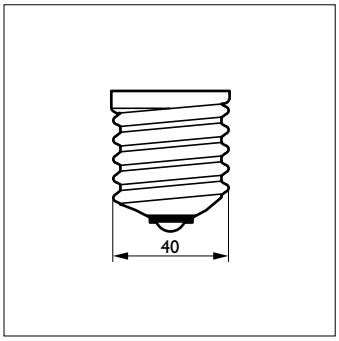


SON-T 100W/150W/250W/400W



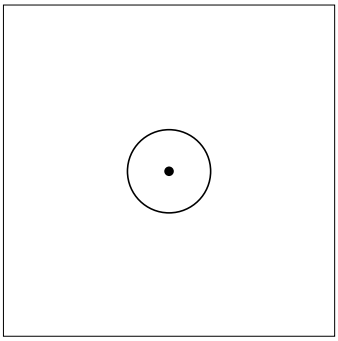
SON-T 600W

Cap Base



E40

Operating position



any





SON-T Plus E40

Product Description

- High Pressure Sodium lamp with clear tubular outer bulb, high output and long reliable lifetime

Product Features

- Clear tubular outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- Robust construction with few welding points is highly vibration- and shock-resistant, further reducing early failures and extending lamp life
- ZrAl getter ensures high lumen maintenance and few early failures
- "Plus" concept with high efficacy translated into high light output
- Completely lead-free lamps

Product Benefits

- Superior technology results in a long and reliable lifetime, high lumen maintenance and a reliable ignition over lifetime
- High energy efficacy and absence of lead (Pb) makes this a sound environmental offer
- High luminous efficacy makes this the most energy efficient HPS lamp

Application

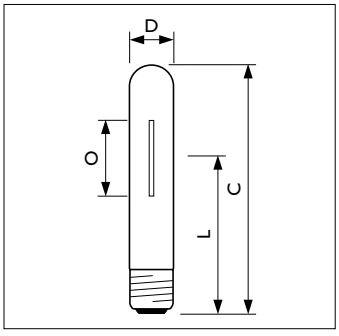
- Road and residential lighting
- Decorative floodlighting, illumination
- Industrial area lighting
- Recreational sports facilities indoor and outdoor
- Horticultural lighting

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- Products are RoHS compliant
- Products are covered by WEEE

Recommended gear page 3.190

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SON-T

Type	CMax	DMax	LNom	ONom
MASTER SON-T PIA Plus 50W/220 E27 SLV	156	38	102	35
MASTER SON-T PIA Plus 70W/220 E27 SLV	156	38	102	42
MASTER SON-T PIA Plus 100W/220 E40 SLV	210	48	132	47
MASTER SON-T PIA Plus 150W/220 E40 SLV	210	48	132	61
MASTER SON-T PIA Plus 250W/220 E40 SLV	257	48	158	64
MASTER SON-T PIA Plus 400W/220 E40 SLV	283	48	175	83
MASTER SON-T PIA Plus 600W/220 E40 SLV	283	47	174.2	126

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)
MASTER SON-T PIA Plus 50W/220 E27 SLV	0.75	50.0	91	230	50	Yes	1800	198
MASTER SON-T PIA Plus 70W/220 E27 SLV	1	70.0	90	230	70	Yes	1800	198
MASTER SON-T PIA Plus 100W/220 E40 SLV	1.2	100.0	100	230	100	Yes	2800	198
MASTER SON-T PIA Plus 150W/220 E40 SLV	1.8	150.0	100	230	150	Yes	2800	198
MASTER SON-T PIA Plus 250W/220 E40 SLV	3	250.0	100	230	250	Yes	2800	198
MASTER SON-T PIA Plus 400W/220 E40 SLV	4.5	400.0	100	230	400	Yes	2800	198
MASTER SON-T PIA Plus 600W/220 E40 SLV	5.8	600	115	230	600	No	3500	198

Technical data

Type	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER SON-T PIA Plus 50W/220 E27 SLV	5	4	28000
MASTER SON-T PIA Plus 70W/220 E27 SLV	5	4	28000
MASTER SON-T PIA Plus 100W/220 E40 SLV	5	4	32000
MASTER SON-T PIA Plus 150W/220 E40 SLV	10	4	32000
MASTER SON-T PIA Plus 250W/220 E40 SLV	10	5	32000
MASTER SON-T PIA Plus 400W/220 E40 SLV	10	5	32000
MASTER SON-T PIA Plus 600W/220 E40 SLV	10	5	28000

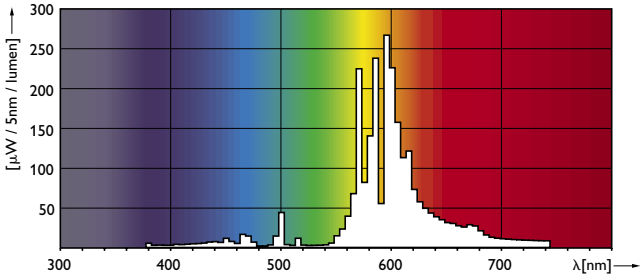
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER SON-T PIA Plus 50W/220 E27 SLV	4400	88	2000	25	540	420	any
MASTER SON-T PIA Plus 70W/220 E27 SLV	6600	91	2000	25	540	420	any
MASTER SON-T PIA Plus 100W/220 E40 SLV	10700	107	2000	25	535	420	any
MASTER SON-T PIA Plus 150W/220 E40 SLV	17500	110	2000	25	535	420	any
MASTER SON-T PIA Plus 250W/220 E40 SLV	33200	128	2000	25	530	420	any
MASTER SON-T PIA Plus 400W/220 E40 SLV	56500	138	2000	25	525	425	any
MASTER SON-T PIA Plus 600W/220 E40 SLV	90000	150	2000	25	524	426	any

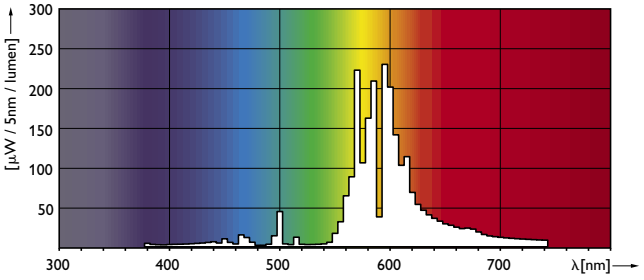
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SON-T PIA Plus 50W/220 E27 SLV	ST-50-H/S-E27	8711500192653	0.047 kg	12	16.6 cm x 13.4 cm x 18.9 cm	8711500193094	192653 15
MASTER SON-T PIA Plus 70W/220 E27 SLV	ST-70-H/S-E27	8711500192660	0.046 kg	12	16.6 cm x 13.4 cm x 18.9 cm	8711500193131	192660 15
MASTER SON-T PIA Plus 100W/220 E40 SLV	ST-100-H/S-E40	8711500192301	0.128 kg	12	22.5 cm x 16.9 cm x 24.2 cm	8711500192745	192301 15
MASTER SON-T PIA Plus 150W/220 E40 SLV	ST-150-H/S-E40	8711500192295	0.142 kg	12	24.2 cm x 16.9 cm x 22.5 cm	8711500192721	192295 15
MASTER SON-T PIA Plus 250W/220 E40 SLV	ST-250-H/E-E40	8711500179876	0.17 kg	12	22.5 cm x 16.9 cm x 29.3 cm	8711500182937	179876 15
MASTER SON-T PIA Plus 400W/220 E40 SLV	ST-400-H/E-E40	8711500179883	0.18 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500182951	179883 15
MASTER SON-T PIA Plus 600W/220 E40 SLV	ST-600-H/S-E40	8711500197429	0.177 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500197436	197429 15

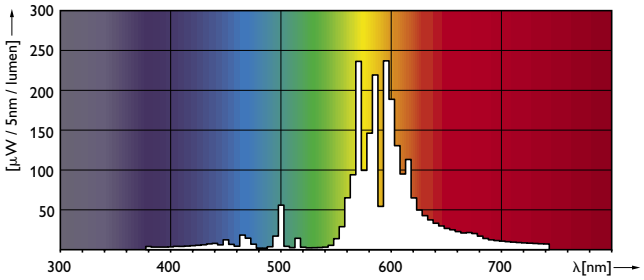
Spectral power distribution



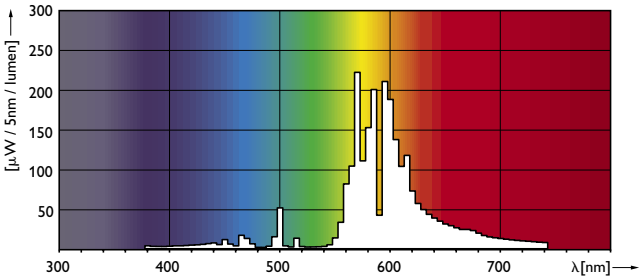
SON-T Plus 50W/70W E27



SON-T Plus 100W/150W/250W E40



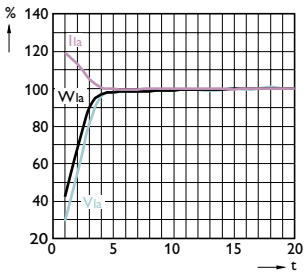
SON-T Plus 400W E40



SON-T Plus 600W E39/E40

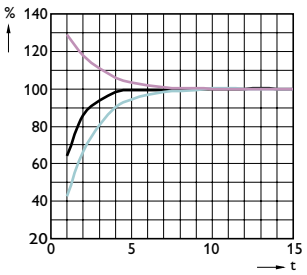
Performance diagram

Lamp performance during run up



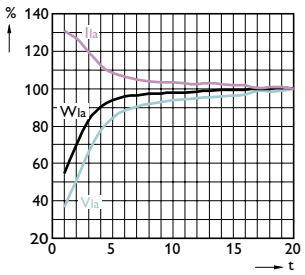
SON-T Plus 50W/70W E27

Lamp performance during run up



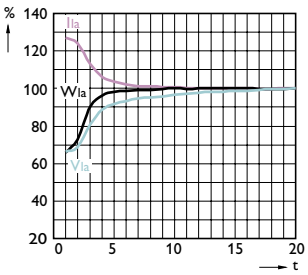
SON-T Plus 100W/150W/250W E40

Lamp performance during run up



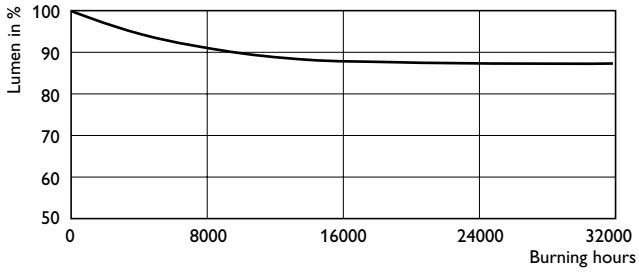
SON-T Plus 400W E40

Lamp performance during run up

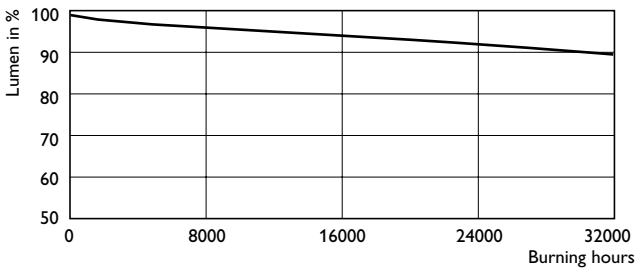


SON-T Plus 600W E39/E40

Lumen maintenance diagram

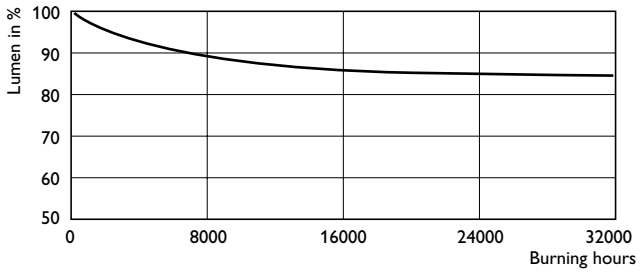


SON-T 50W/70W

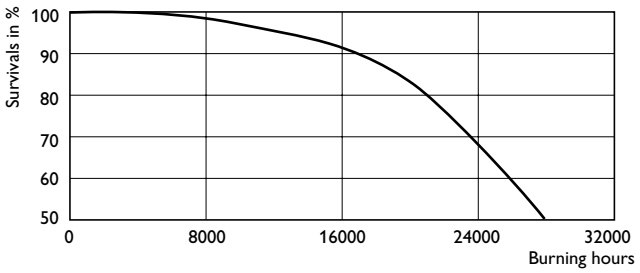


SON-T 100W/150W/250W/400W

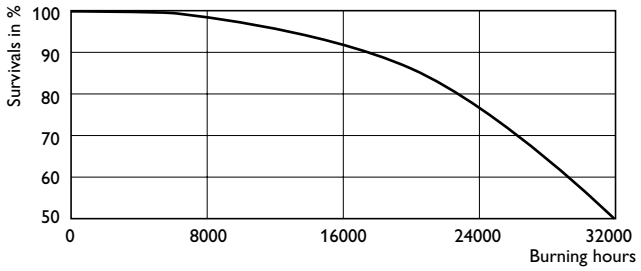
Life expectancy diagram



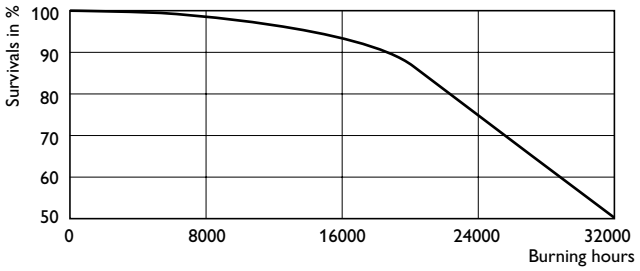
SON-T 600W



SON-T 50W/70W

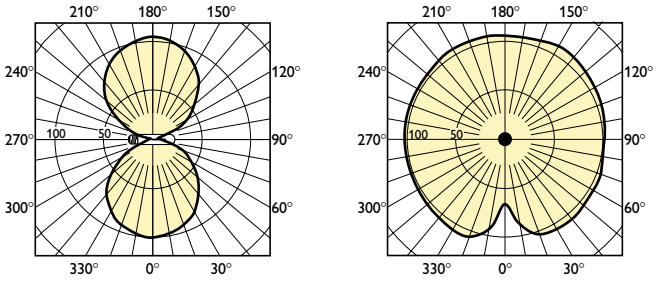


SON-T 100W/150W/250W/400W



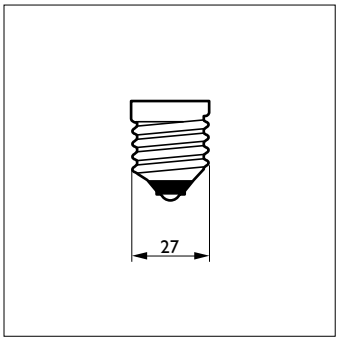
SON-T 600W

Photometric diagram

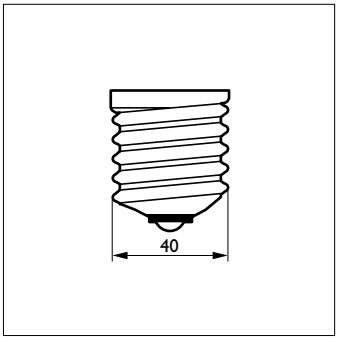


SON-T

Cap Base

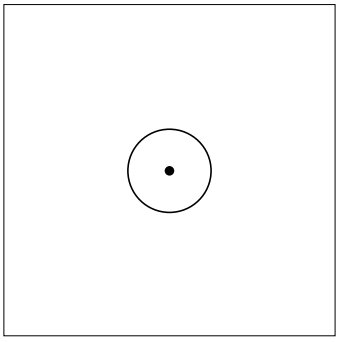


E27



E40

Operating position



any



SON PIA Plus E40

Product Description

- High Pressure Sodium lamp with opalized ovoid outer bulb, high output and long reliable lifetime

Product Features

- Ovoid, internally white coated outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- Robust construction with few welding points is highly vibration- and shock-resistant, further reducing early failures and extending lamp life
- ZrAl getter ensures high lumen maintenance and few early failures
- "Plus" concept with high efficacy translated into high light output
- Completely lead-free lamps

Product Benefits

- Superior technology results in a long and reliable lifetime, high lumen maintenance and a reliable ignition over lifetime
- High energy efficacy and absence of lead (Pb) makes this a sound environmental offer
- High luminous efficacy makes this the most energy efficient HPS lamp

Application

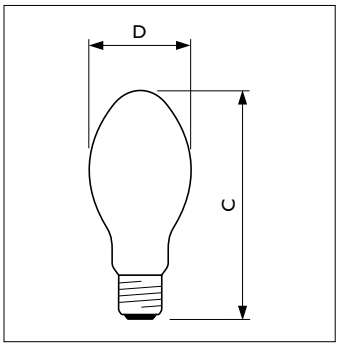
- Road and residential lighting
- Industrial lighting both indoor and outdoor
- Recreational sports facilities indoor and outdoor

Environment

- Good environmental choice because of high energy efficiency and long reliable life
- Products are RoHS compliant
- Products are covered by WEEE

Recommended gear page 3.190

www.philips.com/OEM



SON PIA

Type	CMax	DMax
MASTER SON PIA Plus 70W/220 I E27 SLV	152	70
MASTER SON PIA Plus 100W/220 E40 SLV	186	76
MASTER SON PIA Plus 150W/250W/220 E40 SLV	227	91
MASTER SON PIA Plus 400W/220 E40 SLV	290	121.5

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER SON PIA Plus 70W/220 I E27	0.980	71.50	92	70	Yes		198			28000
MASTER SON PIA Plus 100W/220 E40	1.2	100.0	100	100	Yes	2800	198	5	4	32000
MASTER SON PIA Plus 150W/220 E40	1.8	154	100	150	Yes	2800	198	10	4	32000
MASTER SON PIA Plus 250W/220 E40	2.85	260.0	105	250	Yes	2800	198	10	5	32000
MASTER SON PIA Plus 400W/220 E40	4.5	400.0	105	400	Yes	2800	198	10	5	32000

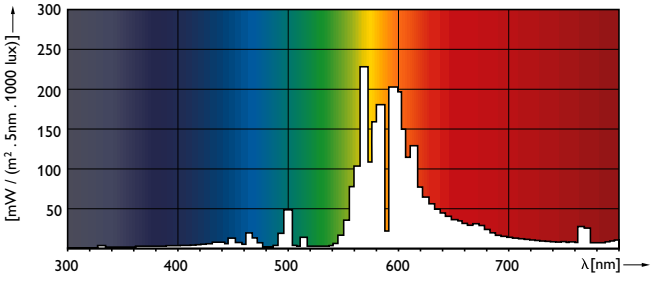
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER SON PIA Plus 70W/220 I E27 SLV	5900	82	1900	20	-	-	any
MASTER SON PIA Plus 100W/220 E40 SLV	10200	107	2000	25	535	420	any
MASTER SON PIA Plus 150W/220 E40 SLV	17000	114	2000	25	535	420	any
MASTER SON PIA Plus 250W/220 E40 SLV	31100	120	2000	25	530	420	any
MASTER SON PIA Plus 400W/220 E40 SLV	55500	135	2000	25	525	425	any

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SON PIA Plus 70W/220 I E27 SLV	SE-70-H/I-E27	8711500204264	0.055 kg	24	45.5 cm x 30.7 cm x 16.8 cm	8711500204271	204264 30
MASTER SON PIA Plus 100W/220 E40 SLV	SE-100-H/S-E40	8711500182258	0.125 kg	12	34.3 cm x 26 cm x 23.1 cm	8711500182265	182258 15
MASTER SON PIA Plus 150W/220 E40 SLV	SE-150-H/S-E40	8711500182289	0.156 kg	12	40 cm x 30.5 cm x 26.9 cm	8711500182296	182289 15
MASTER SON PIA Plus 250W/220 E40 SLV	SE-250-H/S-E40	8711500193445	0.17 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500193469	193445 15
MASTER SON PIA Plus 400W/220 E40 SLV	SE-400-H/S-E40	8711500193452	0.228 kg	12	51.9 cm x 39.2 cm x 33.1 cm	8711500195937	193452 15

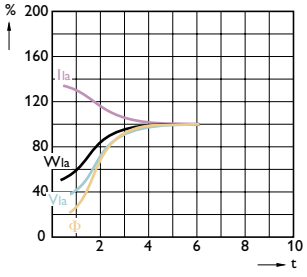
Spectral power distribution



SON PIA

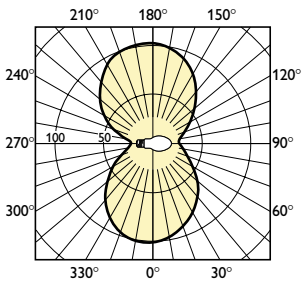
Performance diagram

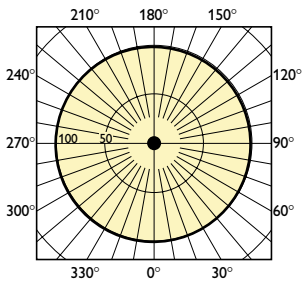
Lamp performance during run up



SON PIA Plus

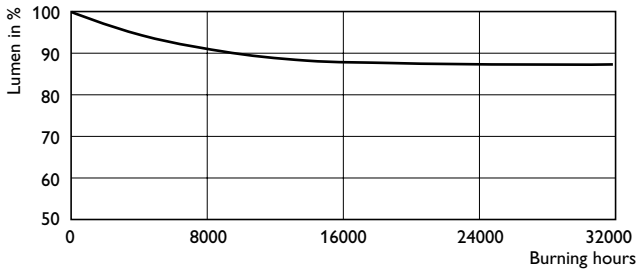
Photometric diagram



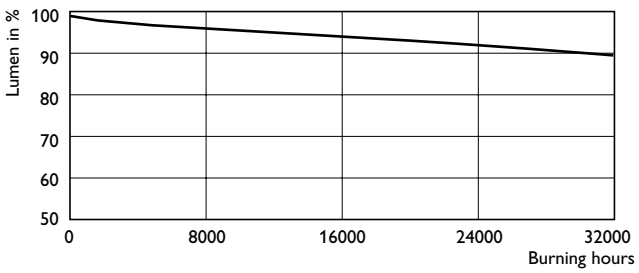


SON PIA

Lumen maintenance diagram

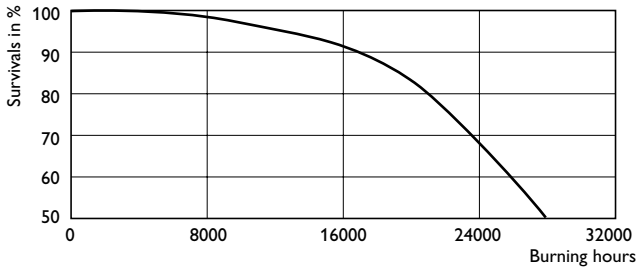


SON PIA 50W/70W

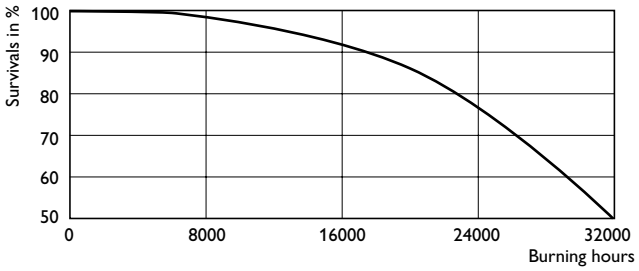


SON PIA 100W/150W/250W/400W

Life expectancy diagram

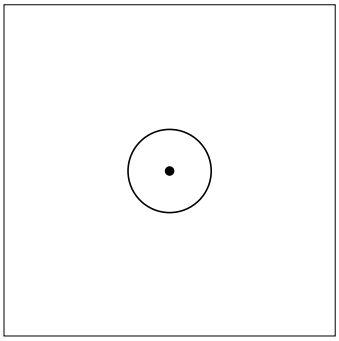


SON PIA 50W/70W



SON PIA 100W/150W/250W/400W

Operating position



any





SON-T Hg Free E40

Product Description

- High Pressure Sodium lamp with clear tubular outer bulb, long reliable lifetime and no Mercury

Product Features

- Clear tubular outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- Robust construction with few welding points is highly vibration- and shock-resistant, further reducing early failures and extending lamp life
- ZrAl getter ensures high lumen maintenance and few early failures
- Completely mercury (Hg) and lead-free lamps

Product Benefits

- Superior technology results in a long and reliable lifetime, high lumen maintenance and a reliable ignition over lifetime
- Absence of mercury and lead makes this a environmentally sound offer

Application

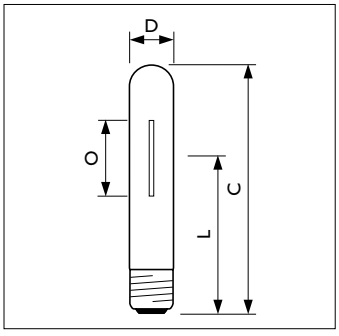
- Road and residential lighting
- Decorative floodlighting, illumination
- Industrial area lighting
- Recreational sports facilities indoor and outdoor

Environment

- Good environmental choice because of high energy efficiency, long reliable life and mercury free
- This product is a Philips Green product
- This product is RoHS compliant
- This product is covered by WEEE

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www.philips.com/OEM



SON-T

Type	CMax	DMax	LNom	ONom
MASTER SON-T PIA Hg-Free 100W/221 E40 SLV	210	46	132	70
MASTER SON-T PIA Hg-Free 150W/221 E40 SLV	211	48	132	73
MASTER SON-T PIA Hg-Free 250W/221 E40 SLV	257	47	158	82
MASTER SON-T PIA Hg-Free 400W/221 E40 SLV	279	46	175	111

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)
MASTER SON-T PIA Hg-Free 100W/221 E40 SLV	1.24	100.0	98	230	100	No	2800	198
MASTER SON-T PIA Hg-Free 150W/221 E40 SLV	1.8	150.0	98	230	150	No	2800	198
MASTER SON-T PIA Hg-Free 250W/221 E40 SLV	3	250	100	230	250	No	2800	198
MASTER SON-T PIA Hg-Free 400W/221 E40 SLV	4.6	400.0	98	230	400	No	2800	198

Technical data

Type	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER SON-T PIA Hg-Free 100W/221 E40 SLV	5	4	32000
MASTER SON-T PIA Hg-Free 150W/221 E40 SLV	10	4	32000
MASTER SON-T PIA Hg-Free 250W/221 E40 SLV	10	5	32000
MASTER SON-T PIA Hg-Free 400W/221 E40 SLV	10	5	32000

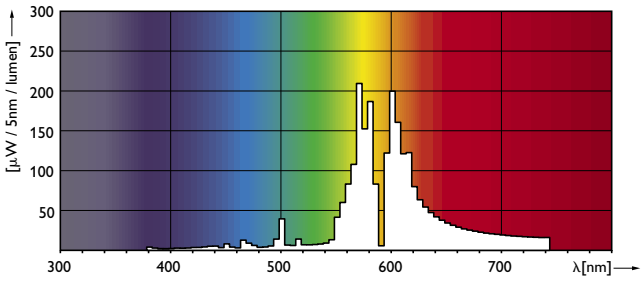
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER SON-T PIA Hg-Free 100W/221 E40 SLV	9000	88	2150	25	525	436	any
MASTER SON-T PIA Hg-Free 150W/221 E40 SLV	15000	100	2150	25	525	436	any
MASTER SON-T PIA Hg-Free 250W/221 E40 SLV	28000	110	2150	25	516	436	any
MASTER SON-T PIA Hg-Free 400W/221 E40 SLV	48000	120	2150	25	519	436	any

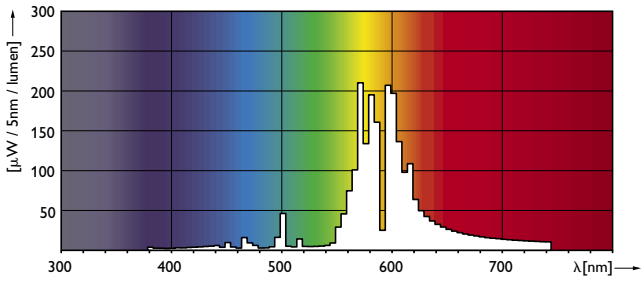
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SON-T PIA Hg-Free 100W/221 E40 SLV	ST-100-H/E-E40	8711500201379	0.095 kg	12	22.5 cm x 16.9 cm x 24.2 cm	8711500201386	201379 15
MASTER SON-T PIA Hg-Free 150W/221 E40 SLV	ST-150-H/E-E40	8711500200617	0.132 kg	12	22.5 cm x 16.9 cm x 24.2 cm	8711500200624	200617 15
MASTER SON-T PIA Hg-Free 250W/221 E40 SLV	ST-250-H/E-E40	8711500200594	0.16 kg	12	22.5 cm x 16.9 cm x 29.3 cm	8711500200600	200594 15
MASTER SON-T PIA Hg-Free 400W/221 E40 SLV	ST-400-H/E-E40	8711500200631	0.176 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500200648	200631 15

Spectral power distribution



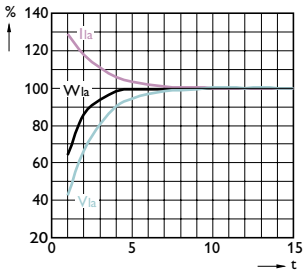
SON-T Hg Free 100W/150W/250W E40



SON-T Hg Free 400W E40

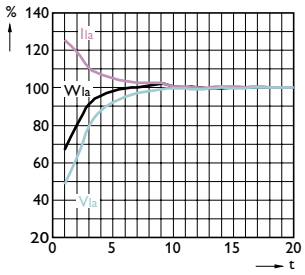
Performance diagram

Lamp performance during run up



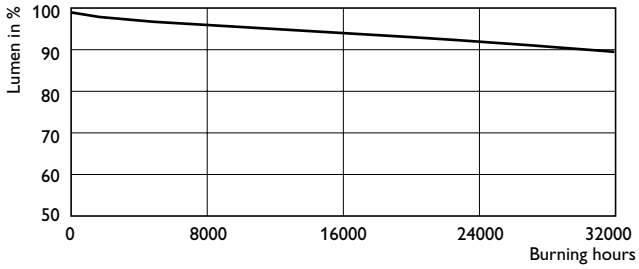
SON-T Hg Free 100W/150W/250W

Lamp performance during run up



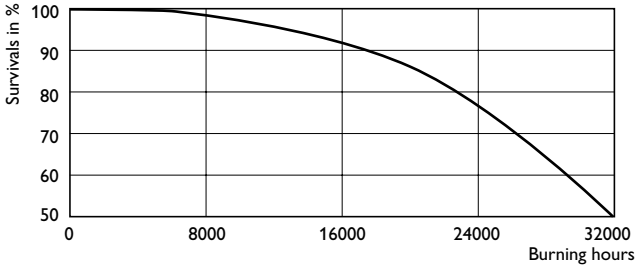
SON-T Hg Free 400W E40

Lumen maintenance diagram



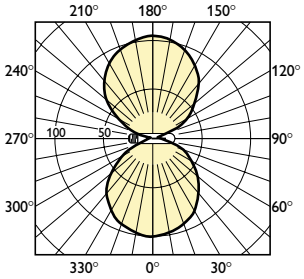
SON-T 100W/150W/250W/400W

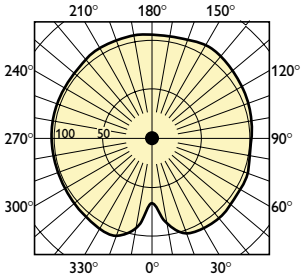
Life expectancy diagram



SON-T 100W/150W/250W/400W

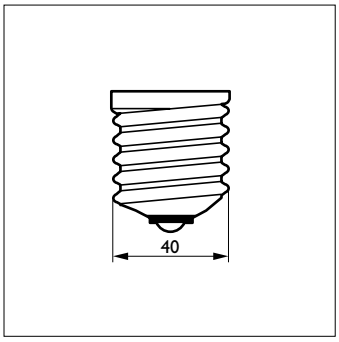
Photometric diagram





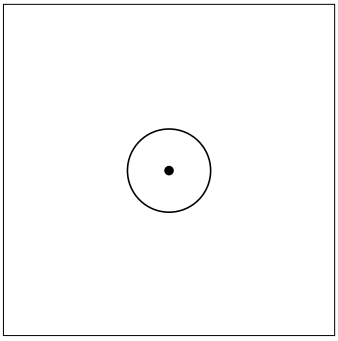
SON-T

Cap Base



E40

Operating position



any





SON PIA E27

Product Description

- High Pressure Sodium lamp with opalized ovoid outer bulb, long reliable lifetime and no Mercury

Product Features

- Ovoid, internally white coated outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- Robust construction with few welding points is highly vibration- and shock-resistant, further reducing early failures and extending lamp life
- ZrAl getter ensures high lumen maintenance and few early failures
- 150 W - 400 W mercury free; 50 W / 70 W filled with sodium-mercury amalgam
- Completely lead-free lamps

Product Benefits

- Superior technology results in a long and reliable lifetime, high lumen maintenance and a reliable ignition over lifetime
- Absence of mercury and lead makes this a environmentally sound offer

Application

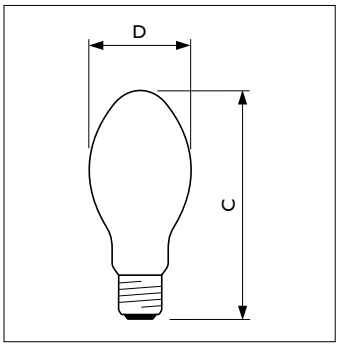
- Road and residential lighting
- Industrial area lighting
- Recreational sports facilities indoor and outdoor

Environment

- Good environmental choice because of high energy efficiency, long reliable life and mercury free
- Products are Philips Green product
- Products are RoHS compliant
- Products are covered by WEEE

Recommended gear page 3.190

www.philips.com/OEM



SON PIA

Type	CMax	DMax
MASTER SON PIA 50W/70W/220 E27 SLV	156	71
MASTER SON PIA Hg Free 150W/250W/221 E40 SLV	227	91
MASTER SON PIA Hg Free 400W/221 E40 SLV	290	121.5

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER SON PIA 50W/220 E27 SLV	0.76	50.0	90	50	No	1800	198	5	4	28000
MASTER SON PIA 70W/220 E27 SLV	0.98	70.0	90	70	No	1800	198	5	4	28000
MASTER SON PIA Hg Free 150W/221 E40 SLV	1.8	150.0	98	150	No	2800	198	10	4	32000
MASTER SON PIA Hg Free 250W/221 E40 SLV	3	250.0	100	250	No	2800	198	10	5	32000
MASTER SON PIA Hg Free 400W/221 E40 SLV	4.6	400.0	98	400	No	2800	198	10	5	32000

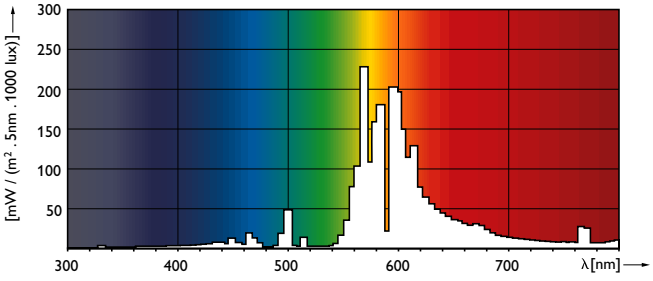
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER SON PIA 50W/220 E27 SLV	3500	70	2000	25	540	415	any
MASTER SON PIA 70W/220 E27 SLV	5600	80	2000	25	540	415	any
MASTER SON PIA Hg Free 150W/221 E40 SLV	14500	97	2150	25	525	436	any
MASTER SON PIA Hg Free 250W/221 E40 SLV	27000	108	2150	25	516	436	any
MASTER SON PIA Hg Free 400W/221 E40 SLV	48000	120	2150	25	519	436	any

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SON PIA 50W/220 E27 SLV	SE-50-H/E-E27	87115002014 47	0.051 kg	24	45.5 cm x 30.7 cm x 16.8 cm	87115002014 54	201447 30
MASTER SON PIA 70W/220 E27 SLV	SE-70-H/E-E27	87115002014 61	0.052 kg	24	45.5 cm x 30.7 cm x 16.8 cm	87115002014 78	201461 30
MASTER SON PIA Hg Free 150W/221 E40 SLV	SE-150-H/E-E40	87115002005 70	0.169 kg	12	40.3 cm x 30.5 cm x 26.9 cm	87115002005 87	200570 15
MASTER SON PIA Hg Free 250W/221 E40 SLV	SE-250-H/E-E40	87115002005 56	0.18 kg	12	40.3 cm x 30.5 cm x 26.9 cm	87115002005 63	200556 15
MASTER SON PIA Hg Free 400W/221 E40 SLV	SE-400-H/E-E40	87115002005 32	0.24 kg	12	51.9 cm x 39.2 cm x 33.1 cm	87115002005 49	200532 15

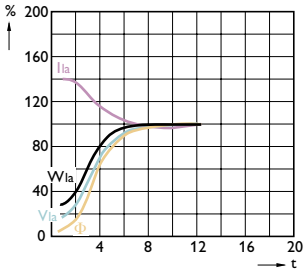
Spectral power distribution



SON PIA

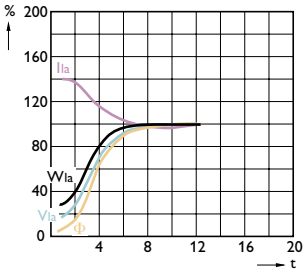
Performance diagram

Lamp performance during run up



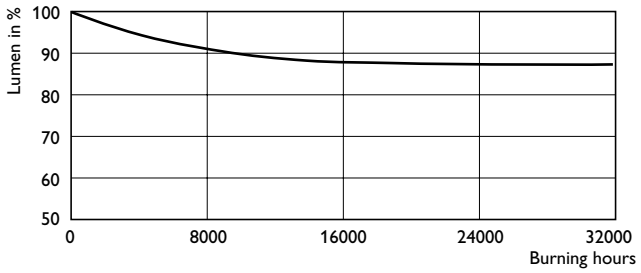
SON PIA Hg Free

Lamp performance during run up

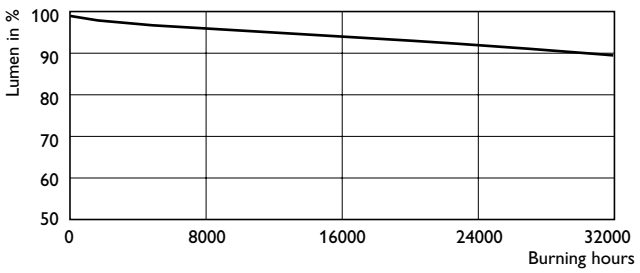


SON PIA ST 50W/70W

Lumen maintenance diagram

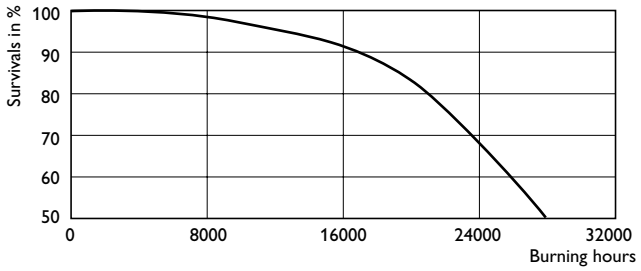


SON PIA 50W/70W

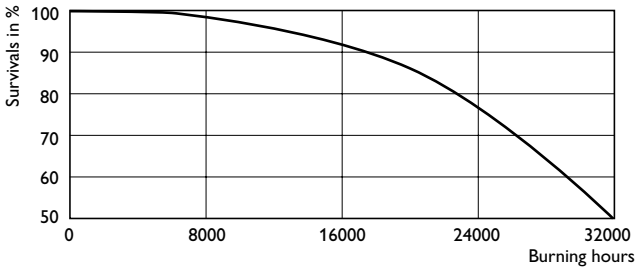


SON PIA 100W/150W/250W/400W

Life expectancy diagram

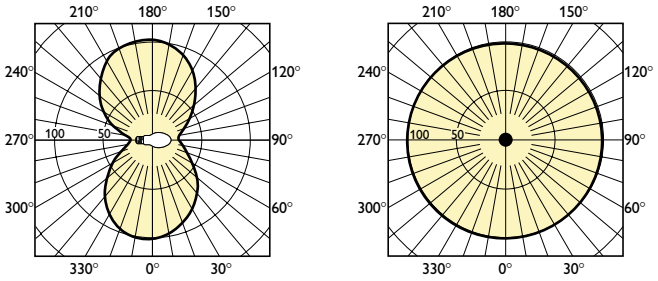


SON PIA 50W/70W



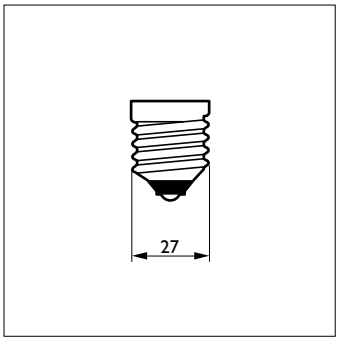
SON PIA 100W/150W/250W/400W

Photometric diagram

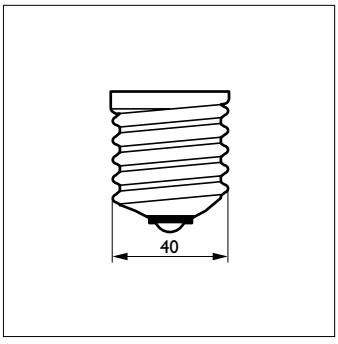


SON PIA

Cap Base

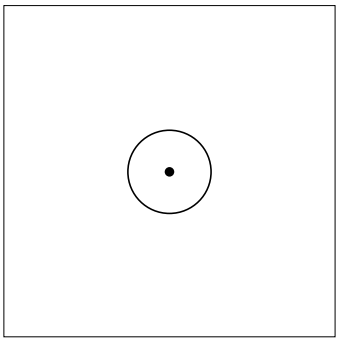


E27



E40

Operating position



any





SON-T E40

Product Description

- High Pressure Sodium lamp with clear tubular outer bulb

Product Features

- Clear tubular outer bulb
- High luminous efficacy
- Robust construction is vibration- and shock-resistant leading to a reliable life
- Dimming possible with dedicated gear

Product Benefits

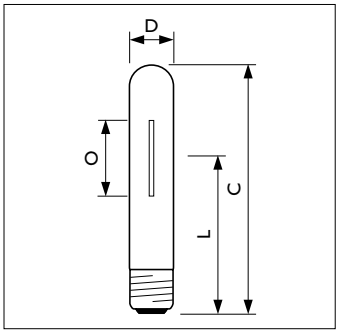
- SON-T is a cost-efficient and reliable solution in High Pressure Sodium

Application

- Road and residential lighting
- Decorative floodlighting
- Commercial and industrial applications
- Recreational sports facilities indoor and outdoor

Recommended gear page 3.190

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SON-T

Type	CMax	DMax	LNom	ONom
SON-T 70W/220 E27 SLV	156	38	102	42
SON-T 100W/220 E40 SLV	210	48	132	44
SON-T 150W/220 E40 SLV	210	48	132	61
SON-T 250W/220 E40 SLV	257	48	158	70
SON-T 400W/220 E40 SLV	283	48	175	87
SON-T 1000W/220 E40 1SL	390	67	240	153

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
SON-T 70W/220 E27 SLV	0.98	70.0	90	70	Yes	1800	198	5	5	24000
SON-T 100W/220 E40 SLV	1.2	100	100	100	Yes	2800	198	5	5	28000
SON-T 150W/220 E40 SLV	1.8	150.0	100	150	Yes	2800	198	10	5	28000
SON-T 250W/220 E40 SLV	3	250.0	100	250	Yes	2800	198	10	5	28000
SON-T 400W/220 E40 SLV	4.6	392.0	100	400	Yes	2800	198	10	5	28000
SON-T 1000W/220 E40 1SL	10.6	1000.0	105	1000	Yes	3000	198	10	6	16000

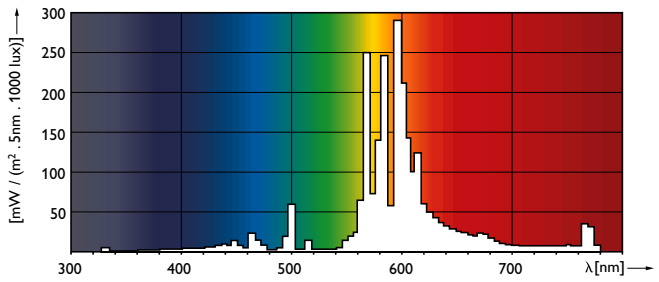
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
SON-T 70W/220 E27 SLV	6000	86	2000	25	540	413	any
SON-T 100W/220 E40 SLV	9000	90	2000	25	-	-	any
SON-T 150W/220 E40 SLV	15000	100	2000	25	535	415	any
SON-T 250W/220 E40 SLV	28000	112	2000	25	530	410	any
SON-T 400W/220 E40 SLV	48000	120	2000	25	525	415	any
SON-T 1000W/220 E40 1SL	130000	130	2000	25	515	420	any

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SON-T 70W/220 E27 SLV	ST-70-H/E-E27	8711500192677	0.045 kg	12	16.6 cm x 13.4 cm x 18.9 cm	8711500193117	192677 15
SON-T 100W/220 E40 SLV	ST-100-H/E-E40	8711500202413	0.134 kg	12	22.5 cm x 16.9 cm x 24.2 cm	8711500202420	202413 15
SON-T 150W/220 E40 SLV	ST-150-H/E-E40	8711500192271	0.144 kg	12	22.5 cm x 16.9 cm x 24.2 cm	8711500192684	192271 15
SON-T 250W/220 E40 SLV	ST-250-H/E-E40	8711500179838	0.165 kg	12	22.5 cm x 16.9 cm x 29.3 cm	8711500182876	179838 15
SON-T 400W/220 E40 SLV	ST-400-H/E-E40	8711500179845	0.175 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500182890	179845 15
SON-T 1000W/220 E40 1SL	ST-1000-H/E-E40	8711500184122	0.387 kg	4	18.6 cm x 18.6 cm x 42.6 cm	8711500184139	184122 45

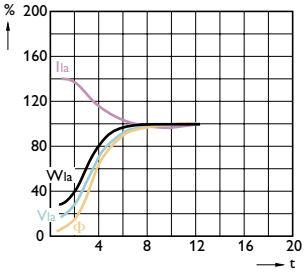
Spectral power distribution



SON-T

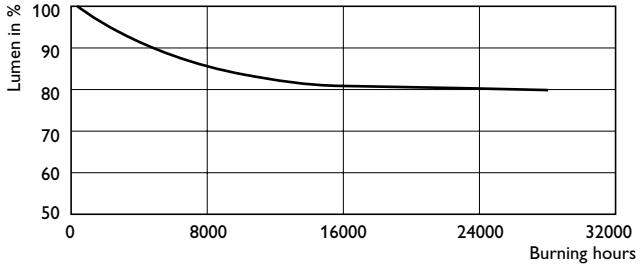
Performance diagram

Lamp performance during run up

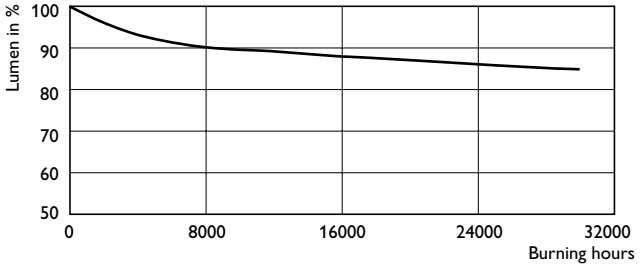


SON-T

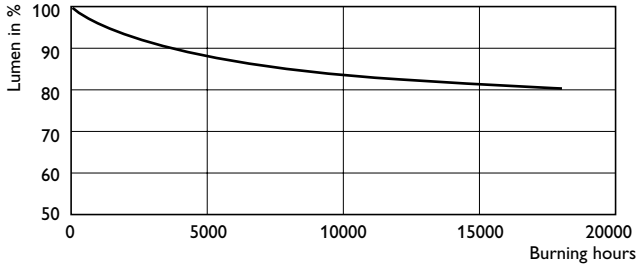
Lumen maintenance diagram



SON-T 70W

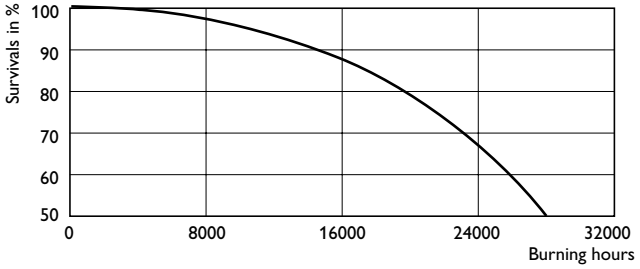


SON-T 100W/150W/250W/400W

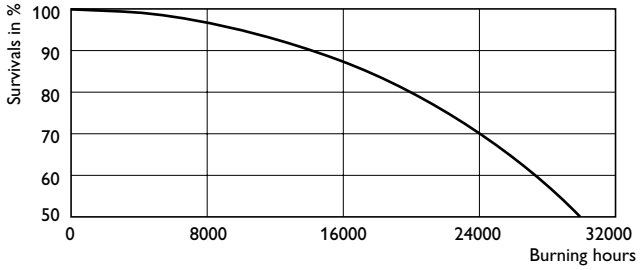


SON-T 1000W

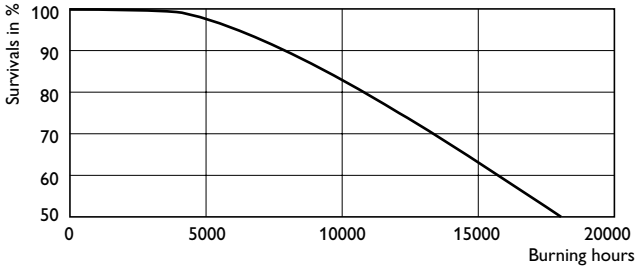
Life expectancy diagram



SON-T 70W

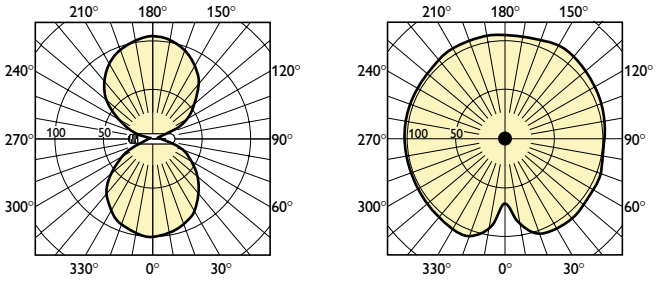


SON-T 100W/150W/250W/400W



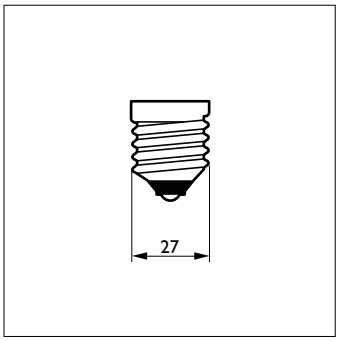
SON-T 1000W

Photometric diagram

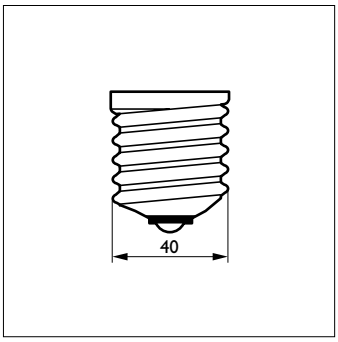


SON-T

Cap Base

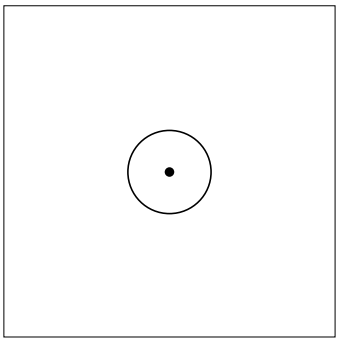


E27



E40

Operating position



any





SON E27

Product Description

- High Pressure Sodium lamp with opalized ovoid outer bulb

Product Features

- Ovoid, internally white coated outer bulb
- High luminous efficacy
- Robust construction is vibration- and shock-resistant leading to a reliable life
- Dimming possible with dedicated gear

Product Benefits

- SON is a cost-efficient and reliable solution in High Pressure Sodium

Application

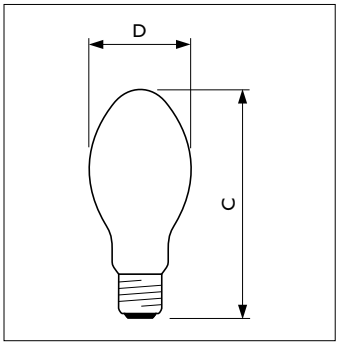
- Road and residential lighting
- Decorative floodlighting
- Commercial and industrial applications

System

- Require a gear and ignitor, except for SON 50W/70W I lamps which have an internal ignitor

Recommended gear page 3.190

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SON

Type	CMax	DMax
SON 50W/70W/220 E27 /I E27	156	71
SON 100W/220 E40	186	75
SON 150W/250W /220 E40	227	91
SON 400W/220 E40	290	122
SON 1000W/220 E40	400	166.5



SON 50W CL

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
SON 50W/220 E27 CRP/CL CRP	0.76	50.0	90	50	Yes	1800	198	5	5	24000
SON 70W/220 E27 CRP/SLV/ICT	0.98	70.0	90	70	Yes	1800	198	5	5	24000
SON 100W/220 E40 SLV	1.2	100	100	100	Yes	2800	198	5	5	28000
SON 150W/220 E40 SLV	1.8	147.0	100	150	Yes	1800	198	10	5	28000
SON 250W/220 E40 SLV	3	250.0	100	250	Yes	2800	198	10	5	28000
SON 400W/220 E40 SLV	4.45	400.0	105	400	Yes	2800	198	10	5	28000
SON 1000W/220 E40 CRP/SLV	10.3	1000.0	110	1000	Yes	3000	198	10	6	16000

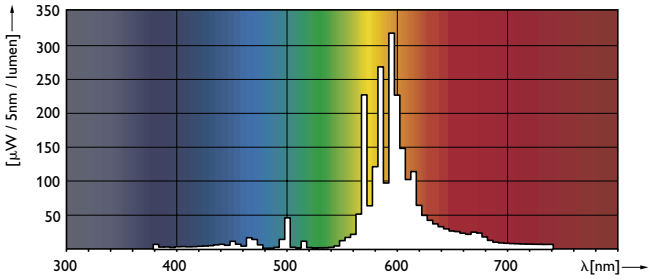
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
SON 50W/220 E27 CRP	3500	70	2000	25	540	415	any
SON 50W/220 I E27 CL CRP	3400	68	2000	25	-	-	any
SON 50W/220 I E27 CRP	3400	68	2000	25	540	415	any
SON 70W/220 E27 CRP	5600	79	2000	25	540	415	any
SON 70W/220 I E27 ICT	5600	80	2000	25	540	415	any
SON 70W/220 I E27 CL CRP	6000	85	2000	25	540	415	any
SON 100W/220 E40 SLV	8500	85	2000	25	-	-	any
SON 150W/220 E40 SLV	14500	99	2000	25	535	415	any
SON 250W/220 E40 SLV	27000	106	2000	25	530	410	any
SON 400W/220 E40 SLV	48000	122	2000	25	525	415	any
SON 1000W/220 E40 CRP	130000	130	2000	25	515	420	any

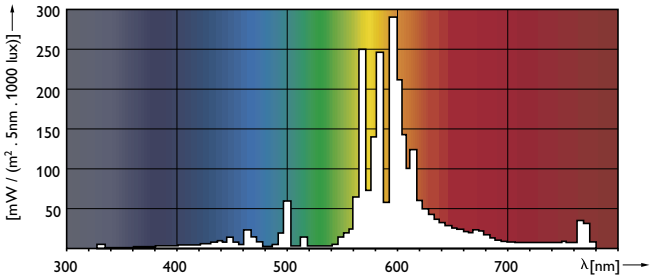
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SON 50W/220 E27 CRP	SE-50-H/E-E27	8711500181954	0.053 kg	24	45.5 cm x 30.7 cm x 17.2 cm	8711500181961	181954 30
SON 50W/220 I E27 CL CRP	SC-50-H/I-E27	8711500197504	0.058 kg	24	45.5 cm x 30.7 cm x 17.2 cm	8711500197511	197504 30
SON 50W/220 I E27 CRP	SE-50-H/I-E27	8711500181893	0.057 kg	24	45.6 cm x 30.8 cm x 17 cm	8711500181909	181893 30
SON 70W/220 E27 CRP	SE-70-H/E-E27	8711500181923	0.052 kg	24	45.6 cm x 30.8 cm x 17 cm	8711500181930	181923 30
SON 70W/220 E27 SLV	SE-70-H/E-E27	8711500204288	0.052 kg	24	45.5 cm x 30.7 cm x 16.8 cm	8711500204295	204288 30
SON 70W/220 I E27 1CT	SE-70-H/I-E27	8711500205407	0.064 kg	24	34 cm x 26.8 cm x 33.4 cm	8711500205414	205407 30
SON 70W/220 I E27 CL CRP	SC-70-H/I-E27	8711500197481	0.058 kg	24	45.5 cm x 30.7 cm x 17.2 cm	8711500197498	197481 30
SON 70W/220 I E27 CL SLV	SC-70-H/I-E27	8711500180513	0.058 kg	24	45.5 cm x 30.7 cm x 16.8 cm	8711500180520	180513 30
SON 70W/220 I E27 CRP	SE-70-H/I-E27	8711500181862	0.057 kg	24	45.6 cm x 30.8 cm x 17 cm	8711500181879	181862 30
SON 100W/220 E40 SLV	SE-100-H/E-E40	8711500202390	0.133 kg	12	26 cm x 34.3 cm x 23.1 cm	8711500202406	202390 15
SON 150W/220 E40 SLV	SE-150-H/E-E40	8711500182012	0.18 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500182029	182012 15
SON 250W/220 E40 SLV	SE-250-H/E-E40	8711500182043	0.175 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500182050	182043 15
SON 400W/220 E40 SLV	SE-400-H/E-E40	8711500181985	0.24 kg	12	52 cm x 39.3 cm x 32.9 cm	8711500195920	181985 15
SON 1000W/220 E40 CRP	SE-1000-H/E-E40	8711500184153	0.365 kg	6	56.8 cm x 38.2 cm x 43.9 cm	8711500184160	184153 10

Spectral power distribution



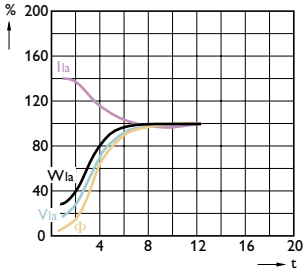
SON 50W/70W



SON

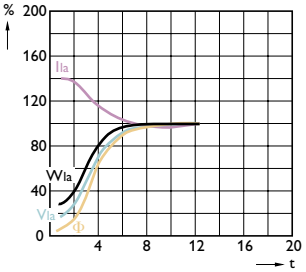
Performance diagram

Lamp performance during run up



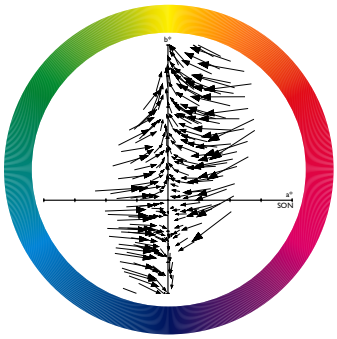
SON

Lamp performance during run up



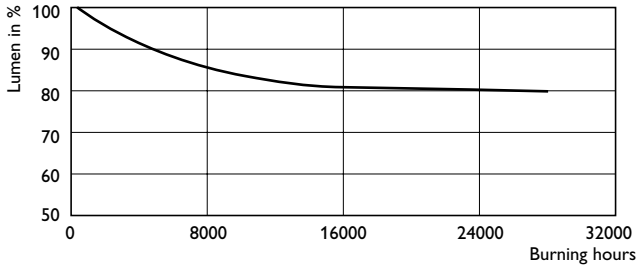
SON

CRV diagram

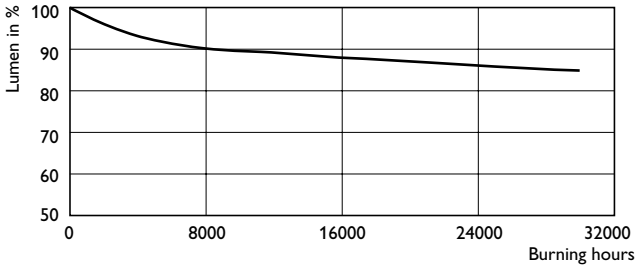


SON

Lumen maintenance diagram

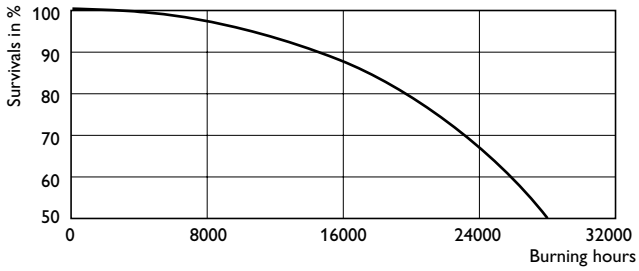


SON 50W/70W

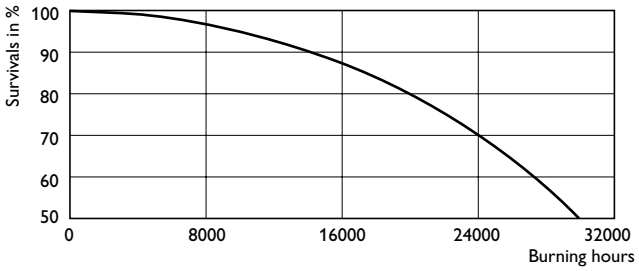


SON 100W/150W/250W/400W

Life expectancy diagram

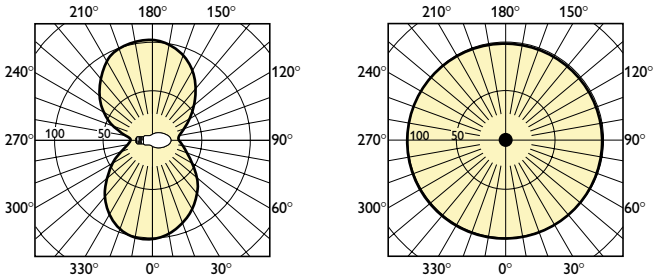


SON 50W/70W



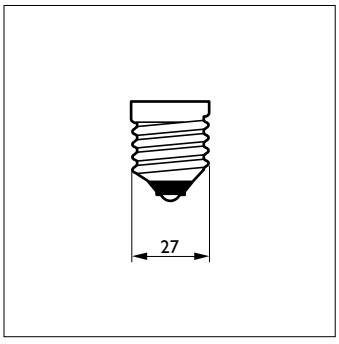
SON 100W/150W/250W/400W

Photometric diagram

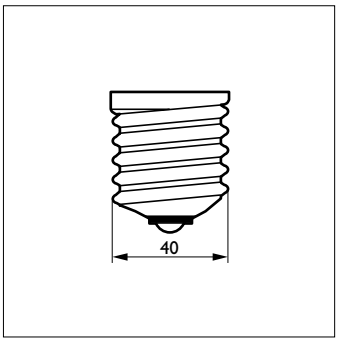


SON

Cap Base

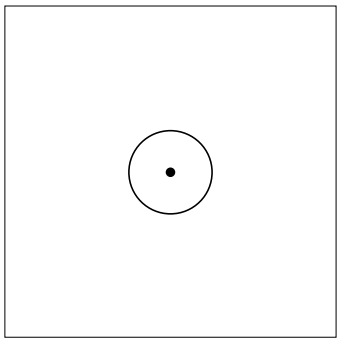


E27



E40

Operating position



any



SON-T

Product Description

- High Pressure Sodium lamp with clear tubular outer bulb and a comfortable colour impression

Product Features

- Clear tubular outer bulb
- Warm white colour temperature and acceptable colour rendering to create a pleasant ambience
- Robust construction is vibration- and shock-resistant leading to a reliable life

Product Benefits

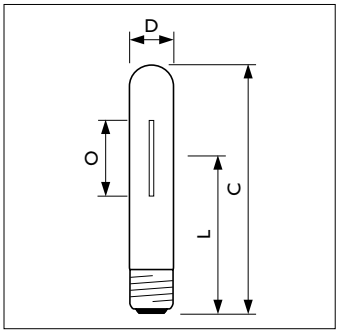
- The ideal balance between colour impression and energy efficacy

Application

- City centres and residential areas
- Decorative floodlighting
- Commercial and industrial applications
- Recreational sports facilities indoor and outdoor

Recommended gear page 3.190

www.philips.com/OEM



SON-T

Type	CMax	DMax	LNom	ONom
SON-T Comfort 150W/621 E40 SLV	211	47	132	43
SON-T Comfort 250W/621 E40 SLV	257	47	158	53
SON-T Comfort 400W/621 E40 SLV	283	47	175	59

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
SON-T Comfort 150W	1.82	150.0	105	150	No	2800	198	5	6	20000
SON-T Comfort 250W	3.05	250.0	105	250	No	2800	198	5	15	20000
SON-T Comfort 400W	4.5	400.0	100	400	No	2250	198	10	15	20000

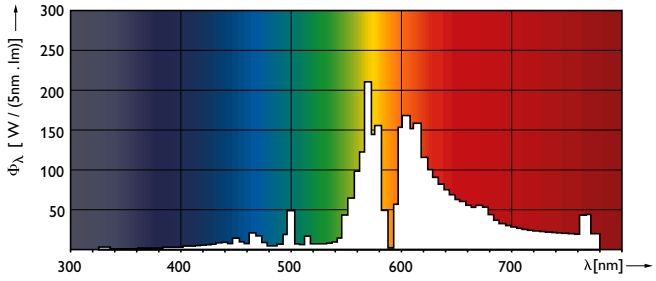
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
SON-T Comfort 150W/621 E40 SLV	13000	87	2150	65	513	419	any
SON-T Comfort 250W/621 E40 SLV	23000	92	2150	65	514	420	any
SON-T Comfort 400W/621 E40 SLV	38000	95	2150	65	510	415	any

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SON-T Comfort 150W/621 E40 SLV	STM-150-H/E-E40	8711500192288	0.134 kg	12	24 cm x 16.7 cm x 22.1 cm	8711500192707	192288 15
SON-T Comfort 250W/621 E40 SLV	STM-250-H/E-E40	8711500179852	0.166 kg	12	22.5 cm x 16.9 cm x 29.3 cm	8711500183187	179852 15
SON-T Comfort 400W/621 E40 SLV	STM-400-H/E-E40	8711500179869	0.177 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500182913	179869 15

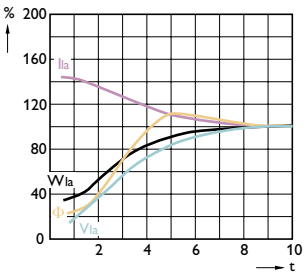
Spectral power distribution



SON-T

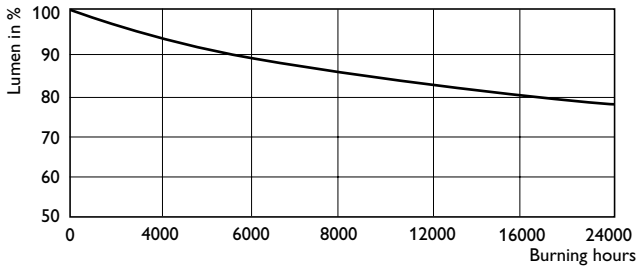
Performance diagram

Lamp performance during run up



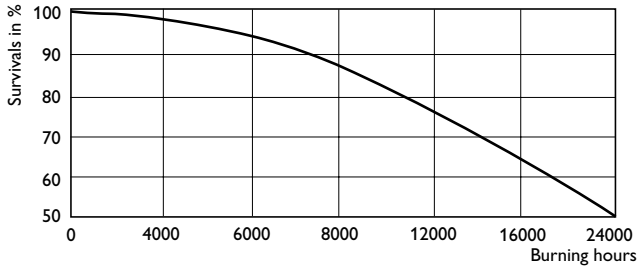
SON-T

Lumen maintenance diagram



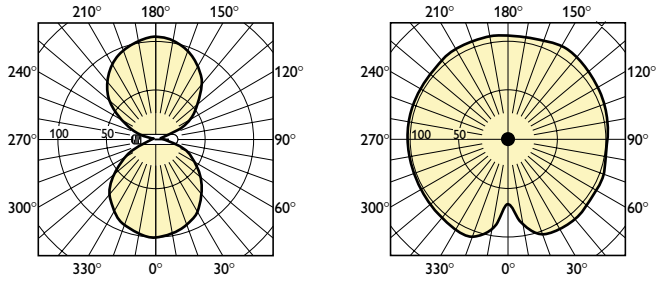
SON-T

Life expectancy diagram



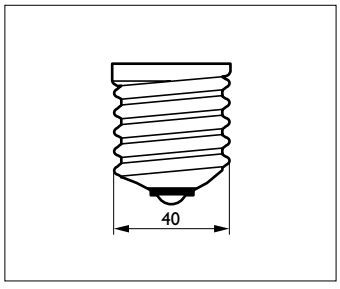
SON-T

Photometric diagram



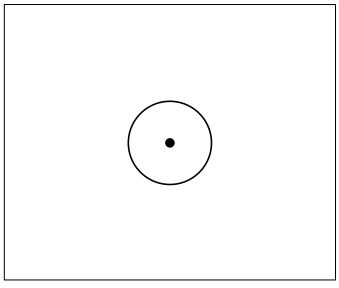
SON-T

Cap Base



E40

Operating position



any



SON E40

Product Description

- High Pressure Sodium lamp with opalized, ovoid outer bulb and a comfortable colour impression

Product Features

- Ovoid, internally white coated outer bulb
- Warm white colour temperature and acceptable colour rendering to create a pleasant ambience
- Robust construction is vibration- and shock-resistant leading to a reliable life

Product Benefits

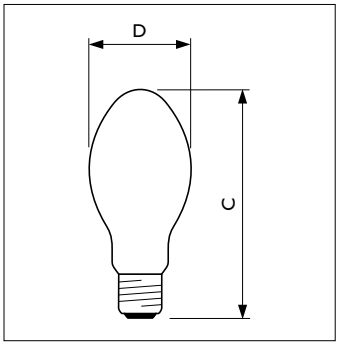
- The ideal balance between colour impression and energy efficacy

Application

- City centres and residential areas
- Commercial and industrial applications

Recommended gear page 3.190

www.philips.com/OEM



SON

Type	CMax	DMax
SON Comfort 150W/250W/621 E40 SLV	227	91
SON Comfort 400W/621 E40 SLV	290	121.5

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
SON Comfort 150W/621 E40 SLV	1.82	150.0	105	150	No	2800	198	5	6	20000
SON Comfort 250W/621 E40 SLV	3	250.0	105	250	No	2800	198	5	15	20000
SON Comfort 400W/621 E40 SLV	4.45	400.0	105	400	No	2250	198	10	15	20000

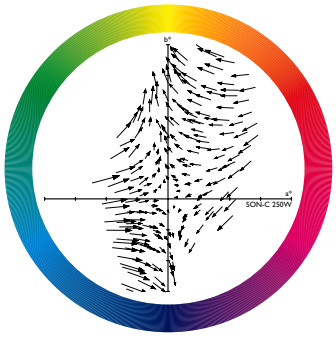
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
SON Comfort 150W/621 E40 SLV	12500	83	2150	65	513	419	any
SON Comfort 250W/621 E40 SLV	22000	88	2150	65	513	419	any
SON Comfort 400W/621 E40 SLV	37000	93	2150	65	513	419	any

Ordering and packing data

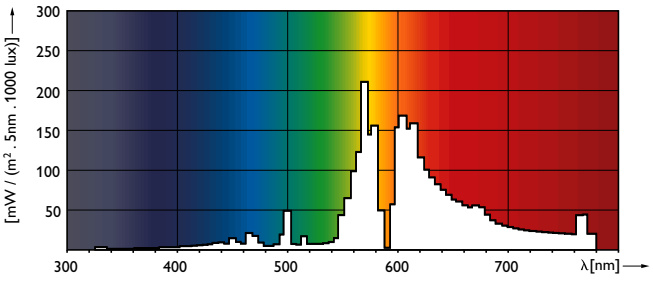
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SON Comfort 150W/621 E40 SLV	SEM-150-H/E-E40	8711500182166	0.172 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500182173	182166 15
SON Comfort 250W/621 E40 SLV	SEM-250-H/E-E40	8711500182197	0.18 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500182203	182197 15
SON Comfort 400W/621 E40 SLV	SEM-400-H/E-E40	8711500182227	0.24 kg	12	51.9 cm x 39.2 cm x 33.1 cm	8711500195944	182227 15

CRV diagram



SON

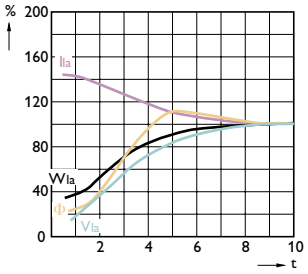
Spectral power distribution



SON

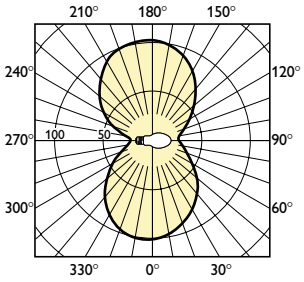
Performance diagram

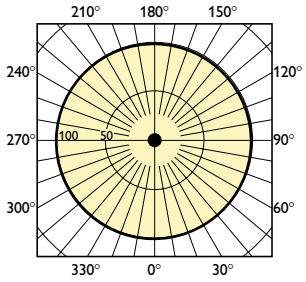
Lamp performance during run up



SON

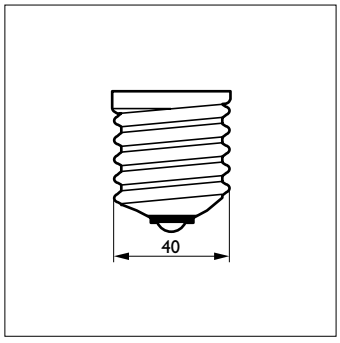
Photometric diagram





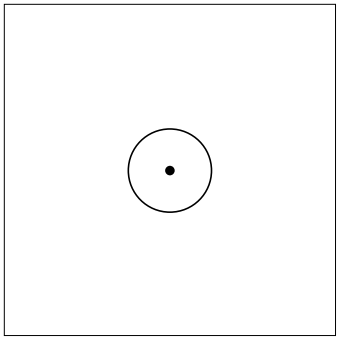
SON

Cap Base



E40

Operating position



any



SON H E40

Product Description

- High Pressure Sodium lamp with opalized outer bulb retrofit for High Pressure Mercury lamps

Product Features

- Direct replacement for mercury lamps as they operate on the same control gear
- High luminous efficacy
- Robust construction is vibration- and shock-resistant leading to a reliable life

Product Benefits

- Instant and cost-effective upgrade of light level and reduction of energy use replacing HPL

Application

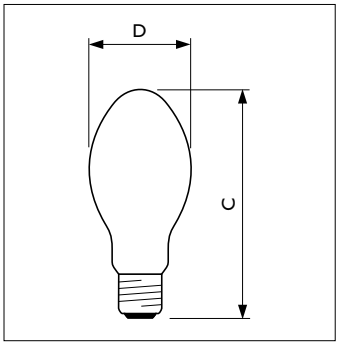
- Road and residential lighting
- Commercial and industrial applications

System

- Require an HPL gear without ignitor

Recommended gear page 3.190

www.philips.com/OEM



SON H

Type	CMax	DMax
SON H 68W/220 E27 SLV	164.4	71
SON H 110W/220 E27 SLV	169	71
SON H 220W/220 E40 SLV	227	91
SON H 350W/220 E40 SLV	290	121.5

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
SON H 68W/220 E27 SLV	0.815	69	107	68		198	10	5	28000
SON H 110W/220 E27 SLV	1.29	113	109	110	No	198	15	5	20000
SON H 220W/220 E40 SLV	2.2	220.0	120	220	No	190	10	5	20000
SON H 350W/220 E40 SLV	3.6	350.0	117	350	No	190	10	5	20000

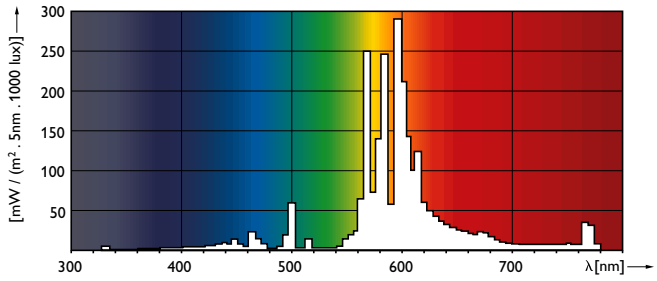
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
SON H 68W/220 E27 SLV	5400	78	1810	20	554	410	any
SON H 110W/220 E27 SLV	10400	92	2000	25	532	416	any
SON H 220W/220 E40 SLV	20000	91	2000	25	530	410	any
SON H 350W/220 E40 SLV	34000	97	2000	25	525	415	any

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SON H 68W/220 E27 SLV	SEQ-70-H-E27	8711500213990	0.055 kg	24	45.6 cm x 30.8 cm x 17 cm	8711500214171	213990 30
SON H 110W/220 E27 SLV	SEQ-110-H-E27	8711500201867	0.06 kg	24	45.6 cm x 30.8 cm x 18.7 cm	8711500201874	201867 30
SON H 220W/220 E40 SLV	SEQ-220-H-E40	8711500182074	0.17 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500182081	182074 15
SON H 350W/220 E40 SLV	SEQ-350-H-E40	8711500182135	0.236 kg	12	51.9 cm x 39.2 cm x 33.1 cm	8711500195913	182135 15

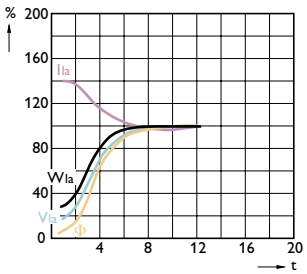
Spectral power distribution



SON H

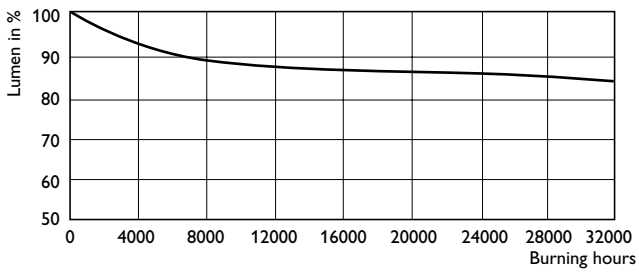
Performance diagram

Lamp performance during run up

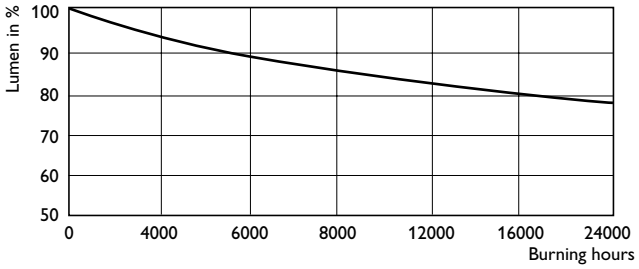


SON H

Lumen maintenance diagram

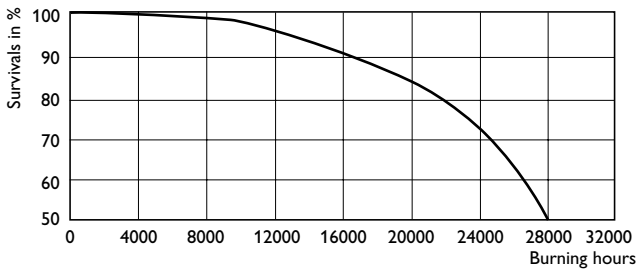


SON H 110W

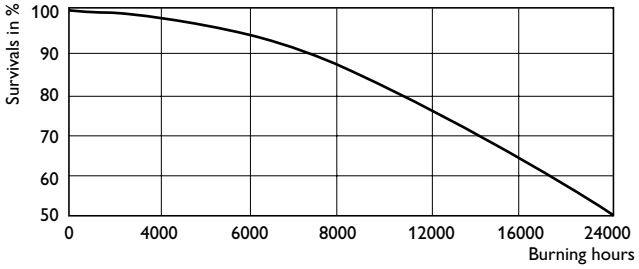


SON H 220W/350W

Life expectancy diagram

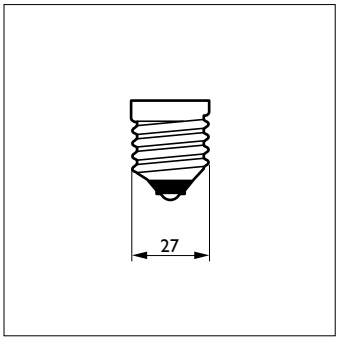


SON H 110W

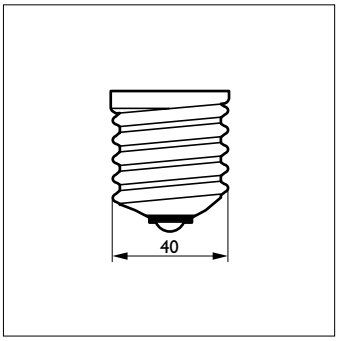


SON H 220W/350W

Cap Base

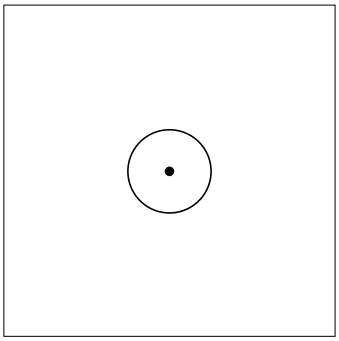


E27



E40

Operating position



any





SOX PSG

Product Description

- Low-pressure sodium vapour lamps with a U-shaped discharge tube enclosed in a clear tubular outer bulb under vacuum that is maintained by a solid-state getter

Product Features

- Philips Solid-state Getter (PSG) for highest reliability over life
- Uniform sodium distribution in the discharge tube by means of dimples for a more stable discharge, stable power consumption, shorter run-up time, higher efficacy and better lumen maintenance and lamp life
- Monochromatic yellow colour with non-existent colour rendering
- Burning position SOX 35 W and 55 W: base-up ±110° (universal burning position when luminaires installed in shock-free positions)

Product Benefits

- Highest reliability ensures the lowest total cost of ownership
- Stable power consumption through life maintains low energy use and contributes to low cost of ownership
- Extremely high luminous efficacy; the most efficient light sources for road, security and tunnel lighting

Application

- Road lighting, railway marshalling yards and crossings, airports, harbours and docks, quarries, foundries and rolling mills
- Security and orientation lighting

System

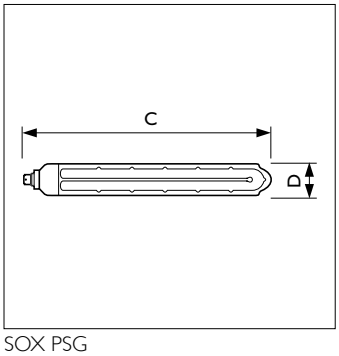
- Require a gear and an ignitor and capacitor or a leak transformer
- Use of HF electronic gear gives even higher efficacy (10 - 40% less energy consumption) plus zero influence of mains voltage fluctuations on lamp performance

Environment

- Good environmental choice because of highest energy efficiciency
- This product is covered by WEEE

Recommended gear page 3.190

www.philips.com/OEM



SOX PSG

Type	CMax	DMax
MASTER SOX PSG 35W BY22d T50 SLV	311	52
MASTER SOX PSG 55W BY22d T50 SLV	425	52

Technical data

Type	Lamp Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Time (sec)	Life to 50% failures (hrs)
MASTER SOX PSG 35W BY22d T50 SLV	70	0.6	35	No	390	10	18000
MASTER SOX PSG 55W BY22d T50 SLV	109	0.59	55	No	410	10	18000

Light data

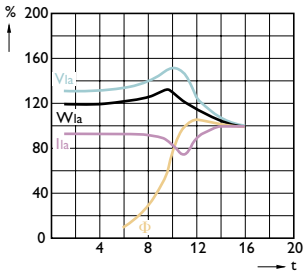
Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Operating Position
MASTER SOX PSG 35W BY22d T50 SLV	4800	129	h110
MASTER SOX PSG 55W BY22d T50 SLV	8100	142	h110

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871150
MASTER SOX PSG 35W BY22d T50 SLV	8711500599766	217 gr	12	25 cm x 19 cm x 39 cm	8711500599773	599766 15
MASTER SOX PSG 55W BY22d T50 SLV	8711500599643	300 gr	12	25 cm x 19 cm x 50.5 cm	8711500599728	599643 15

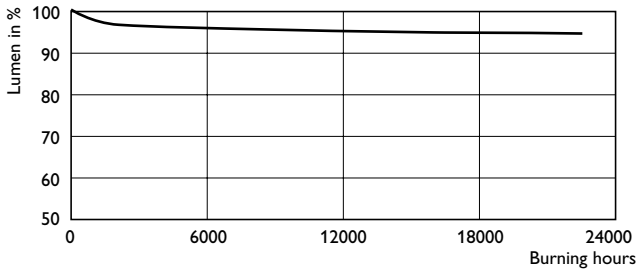
Performance diagram

Lamp performance during run up



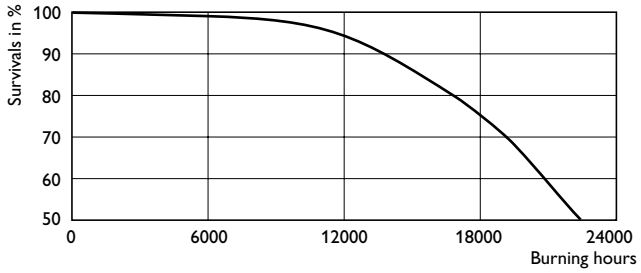
SOX PSG

Lumen maintenance diagram



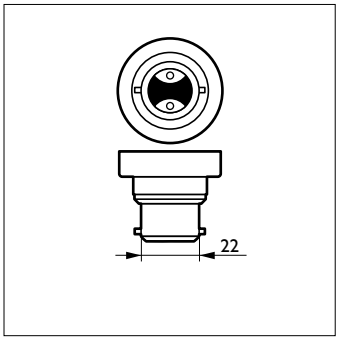
SOX PSG 35W/55W

Life expectancy diagram



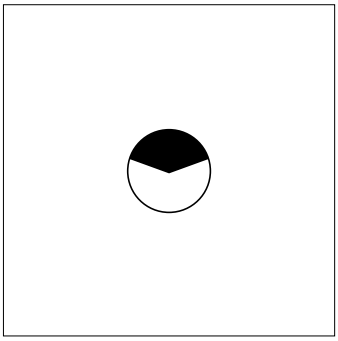
SOX PSG 35W/55W

Cap Base



BY22d

Operating position



h110



SOX E PSG

Product Description

- Low-pressure sodium vapour lamps with a U-shaped discharge tube enclosed in a clear tubular outer bulb under vacuum that is maintained by a solid-state getter

Product Features

- Philips Solid-state Getter (PSG) for highest reliability over life
- Uniform sodium distribution in the discharge tube by means of dimples for a more stable discharge, stable power consumption, shorter run-up time, higher efficacy and better lumen maintenance and lamp life
- Lower heat losses than standard SOX, resulting in even higher lamp efficacy
- Monochromatic yellow colour with non-existent colour rendering
- Burning position SOX-E 36W: base-up ±110° (universal burning position when luminaires installed in shock-free positions)

Product Benefits

- Highest reliability ensures the lowest total cost of ownership
- Stable power consumption through life maintains low energy use and contributes to low cost of ownership
- Extremely high luminous efficacy; the most efficient light sources for road, security and tunnel lighting

Application

- Road lighting, railway marshalling yards and crossings, airports, harbours and docks, quarries, foundries and rolling mills
- Security and orientation lighting

System

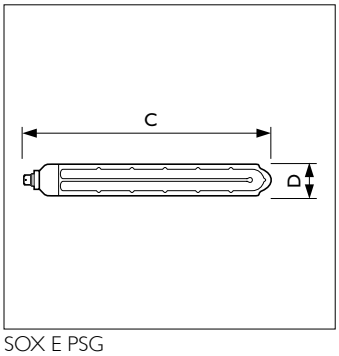
- Require a gear and an ignitor and capacitor or a leak transformer
- Use of HF electronic gear gives even higher efficacy (10 - 40% less energy consumption) plus zero influence of mains voltage fluctuations on lamp performance

Environment

- Good environmental choice because of highest energy efficiciency
- This product is covered by WEEE

Recommended gear page 3.190

www.philips.com/OEM



SOX E PSG

Type	CMax	DMax
MASTER SOX-E PSG 36W BY22d T50 SLV	425	52

Technical data

Type	Lamp Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Time (sec)	Life to 50% failures (hrs)
MASTER SOX-E PSG 36W BY22d T50 SLV	120	0.35	36	No	410	10	18000

Light data

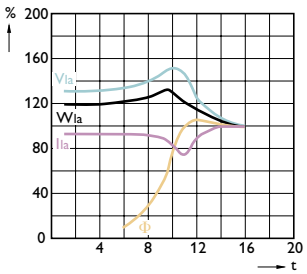
Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Operating Position
MASTER SOX-E PSG 36W BY22d T50 SLV	6200	163	h110

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SOX-E PSG 36W BY22d T50 SLV	8711500599803	300 gr	12	25 cm x 19 cm x 50.5 cm	8711500599810	599803 15

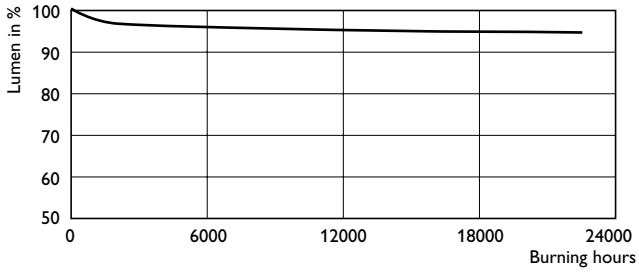
Performance diagram

Lamp performance during run up



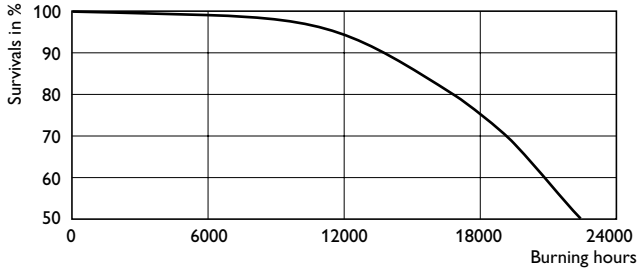
SOX E PSG

Lumen maintenance diagram



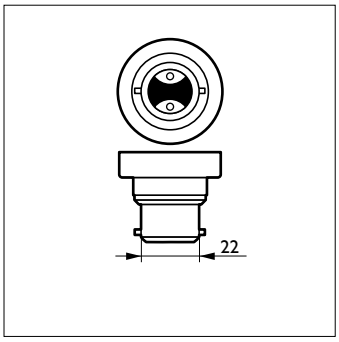
SOX E PSG 36W

Life expectancy diagram



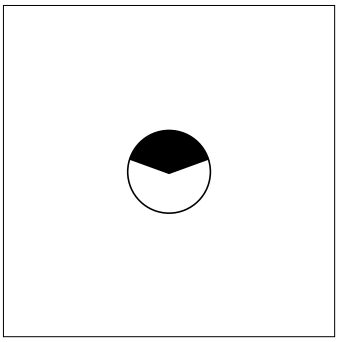
SOX E PSG 36W

Cap Base



BY22d

Operating position



h110



SOX E

Product Description

- Low Pressure Sodium lamp with improved efficacy

Product Features

- Uniform sodium distribution in the discharge tube by means of dimples for a more stable discharge, higher efficacy and better lumen maintenance and lamp life
- Special coating of SOX-E outer tube results in higher lamp efficacy than SOX
- Monochromatic yellow colour with non-existent colour rendering

Product Benefits

- Extremely high luminous efficacy makes these the most efficient light sources

Application

- Road lighting, railway marshalling yards and crossings, airports, harbours and docks, quarries, foundries and rolling mills
- Security and orientation lighting

System

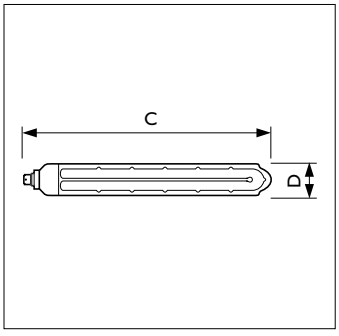
- On HF electronic gear SOX-E have even higher efficacy, saving up to 40% (system) energy

Environment

- Good environmental choice because of highest energy efficiciency
- This product is covered by WEEE

Recommended gear page 3.190

www.philips.com/OEM



SOX E

Type	CMax	DMax
MASTER SOX-E 18W BY22d 1SL	216	52
MASTER SOX-E 26W BY22d SLV	311	52
MASTER SOX-E 36W BY22d SLV	425	52
MASTER SOX-E 66W BY22d SLV	528	66
MASTER SOX-E 91W BY22d SLV	775	66
MASTER SOX-E 131W BY22d SLV	1120	66

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
MASTER SOX-E 18W BY22d 1SL	0.35	18.0	57	18	No	18000
MASTER SOX-E 26W BY22d SLV	0.45	27	69	26	No	18000
MASTER SOX-E 36W BY22d SLV	0.35	36.0	120	36	No	18000
MASTER SOX-E 66W BY22d SLV	0.62	65.0	123	66	No	18000
MASTER SOX-E 91W BY22d SLV	0.62	90.0	173	91	No	18000
MASTER SOX-E 131W BY22d SLV	0.62	127	250	131	No	18000

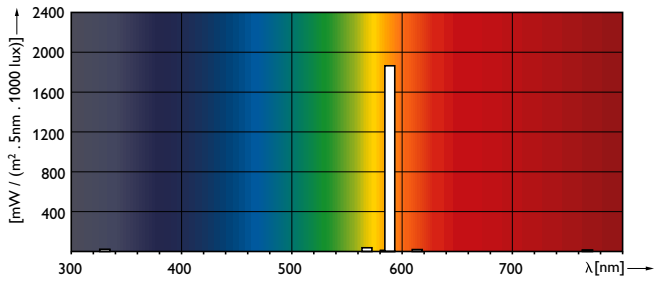
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Operating Position
MASTER SOX-E 18W BY22d 1SL	1800	100	h110
MASTER SOX-E 26W BY22d SLV	3600	141	h110
MASTER SOX-E 36W BY22d SLV	6200	163	p20
MASTER SOX-E 66W BY22d SLV	10500	172	p20
MASTER SOX-E 91W BY22d SLV	17500	194	p20
MASTER SOX-E 131W BY22d SLV	26200	206	p20

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SOX-E 18W BY22d 1SL	LSE-E18-BY22d	8711500192806	150 gr	12	24 cm x 18 cm x 27.5 cm	8711500193407	192806 15
MASTER SOX-E 26W BY22d SLV	LSE-E26-BY22d	8711500179746	225 gr	12	25 cm x 19 cm x 39 cm	8711500182692	179746 15
MASTER SOX-E 36W BY22d SLV	LSE-E36-BY22d	8711500179760	300 gr	12	25 cm x 19 cm x 50.5 cm	8711500182739	179760 15
MASTER SOX-E 66W BY22d SLV	LSE-E66-BY22d-/H	8711500179784	483 gr	12	30 cm x 22.5 cm x 61 cm	8711500182777	179784 15
MASTER SOX-E 91W BY22d SLV	LSE-E91-BY22d-/H	8711500179807	717 gr	12	30 cm x 22.5 cm x 90 cm	8711500182814	179807 15
MASTER SOX-E 131W BY22d SLV	LSE-E131-BY22d-/H	8711500179821	1033 gr	6	120 cm x 22 cm x 15 cm	8711500599995	179821 10
MASTER SOX-E 131W BY22d SLV	LSE-E131-BY22d-/H	8711500196866	1033 gr	6	120 cm x 22 cm x 15 cm	8711500194916	196866 10
MASTER SOX-E 131W BY22d SLV	LSE-E131-BY22d-/H	8711500196873	1033 gr	6	120 cm x 22 cm x 15 cm	8711500194923	196873 10
MASTER SOX-E 131W BY22d SLV	LSE-E131-BY22d-/H	8711500196880	1033 gr	6	120 cm x 22 cm x 15 cm	8711500194862	196880 10

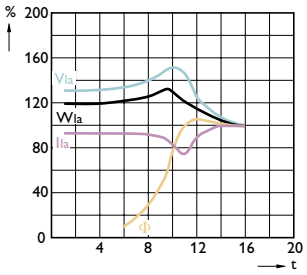
Spectral power distribution



SOX E 36W

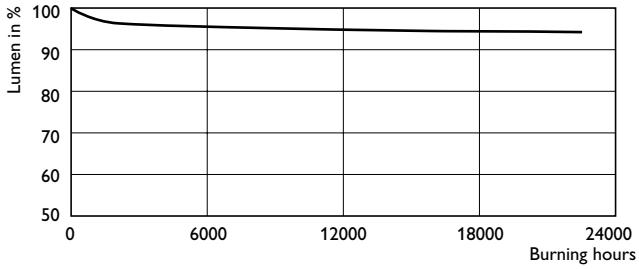
Performance diagram

Lamp performance during run up



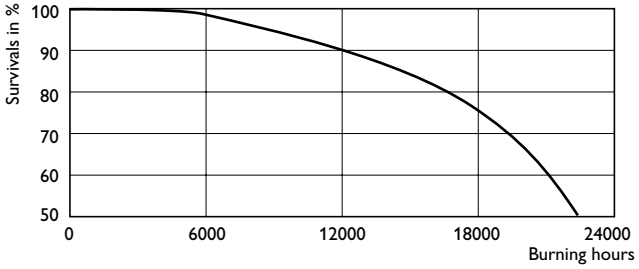
il

Lumen maintenance diagram



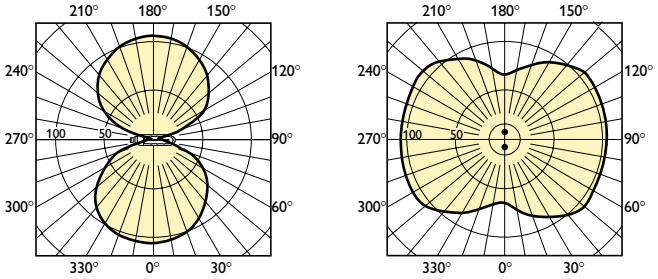
SOX E

Life expectancy diagram



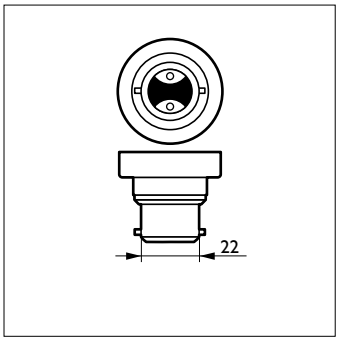
SOX E

Photometric diagram



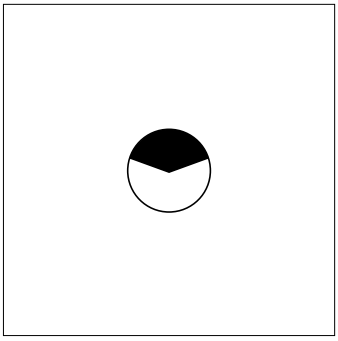
SOX E

Cap Base

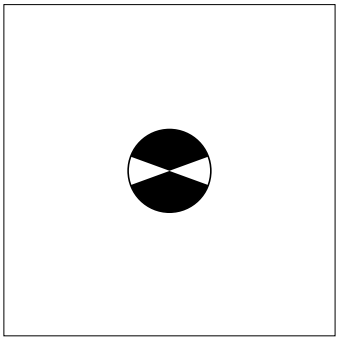


BY22d

Operating position



h110



p20



SOX

Product Description

- Low Pressure Sodium lamp

Product Features

- Uniform sodium distribution in the discharge tube by means of dimples for a more stable discharge, higher efficacy and better lumen maintenance and lamp life
- Monochromatic yellow colour with non-existent colour rendering

Product Benefits

- High luminous efficacy leads to low energy consumption

Application

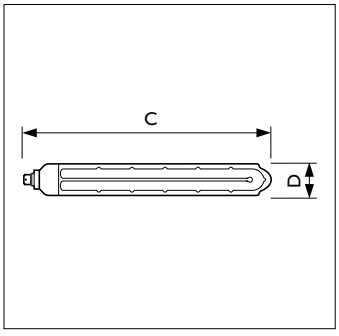
- Road lighting, railway marshalling yards and crossings, airports, harbours and docks, quarries, foundries and rolling mills
- Security and orientation lighting

System

- On HF electronic gear SOX have even higher efficacy, saving up to 40% (system) energy

Recommended gear page 3.190

www.philips.com/OEM



SOX

Type	CMax	DMax
SOX 35W BY22d 1SL	311	52
SOX 55W BY22d 1SL	425	52
SOX 90W BY22d 1SL	528	66
SOX 135W BY22d 1SL	775	66
SOX 180W BY22d 1SL	1120	66

Technical data

Type	Lamp Wattage EM (W)	Lamp Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
SOX 35W BY22d 1SL	37	70	0.6	35	No	18000
SOX 55W BY22d 1SL	56.0	109	0.59	55	No	18000
SOX 90W BY22d 1SL	91.0	112	0.94	90	No	18000
SOX 135W BY22d 1SL	135.0	164	0.95	135	No	18000
SOX 180W BY22d 1SL	180.0	240	0.91	180	No	18000

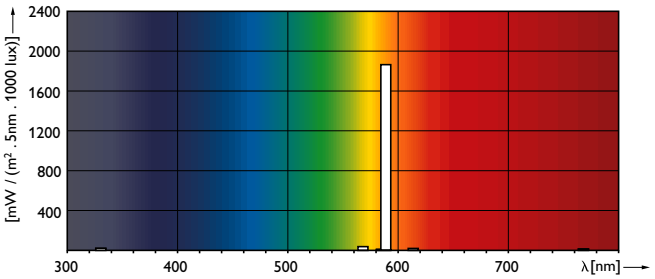
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Operating Position
SOX 35W BY22d 1SL	4550	129	h110
SOX 55W BY22d 1SL	7800	140	h110
SOX 90W BY22d 1SL	13700	152	p20
SOX 135W BY22d 1SL	22600	167	p20
SOX 180W BY22d 1SL	32000	176	p20

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SOX 35W BY22d 1SL	LS-35-BY22d	8711500179739	217 gr	12	25 cm x 19 cm x 39 cm	8711500182678	179739 15
SOX 55W BY22d 1SL	LS-55-BY22d	8711500179753	300 gr	12	25 cm x 19 cm x 50.5 cm	8711500182715	179753 15
SOX 90W BY22d 1SL	LS-90-BY22d-/H	8711500179777	483 gr	12	30 cm x 22.5 cm x 61 cm	8711500182753	179777 15
SOX 135W BY22d 1SL	LS-135-BY22d-/H	8711500179791	708 gr	12	30 cm x 22.5 cm x 90 cm	8711500182791	179791 15
SOX 180W BY22d 1SL	LS-180-BY22d	8711500179814	1033 gr	6	120 cm x 22 cm x 15 cm	8711500600004	179814 10
SOX 180W BY22d 1SL	LS-180-BY22d	8711500599940	1033 gr	6	120 cm x 22 cm x 15 cm	8711500599957	599940 10
SOX 180W BY22d SLV	LS-180-BY22d	8711500179814	1033 gr	9	120 cm x 30 cm x 22.5 cm	8711500182838	179814 37

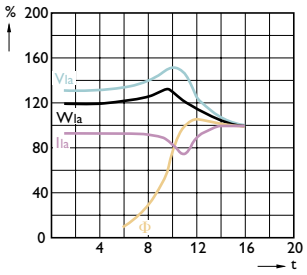
Spectral power distribution



SOX 55W

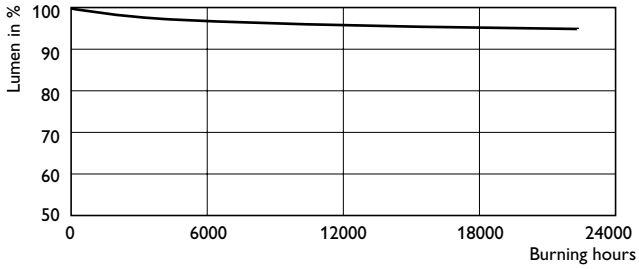
Performance diagram

Lamp performance during run up



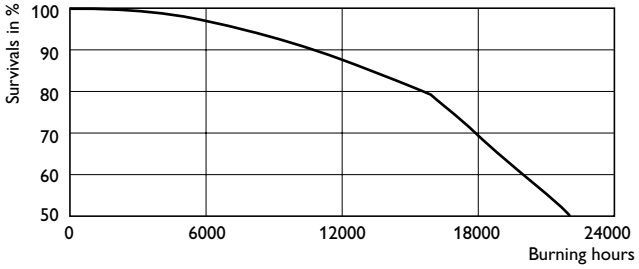
SOX

Lumen maintenance diagram



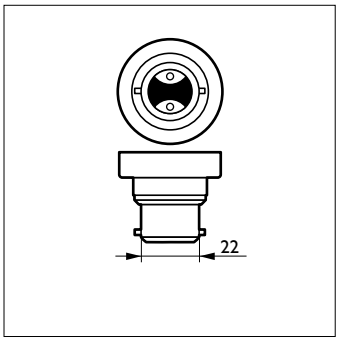
SOX

Life expectancy diagram



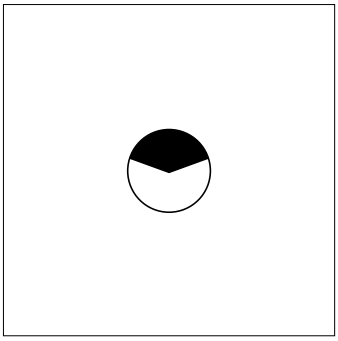
SOX

Cap Base

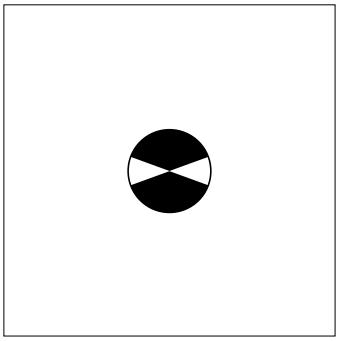


BY22d

Operating position



h110



p20





SOX

Product Description

- Low Pressure Sodium lamp with warranty

Product Features

- Uniform sodium distribution in the discharge tube by means of dimples for a more stable discharge, higher efficacy and better lumen maintenance and lamp life
- Monochromatic yellow colour with non-existent colour rendering

Product Benefits

- High luminous efficacy leads to low energy consumption
- Warranty gives less hassle and less unexpected early maintenance cost

Application

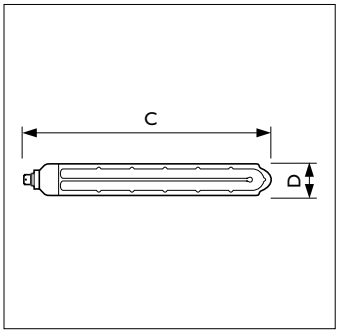
- Road lighting, railway marshalling yards and crossings, airports, harbours and docks, quarries, foundries and rolling mills
- Security and orientation lighting

System

- On HF electronic gear SOX have even higher efficacy, saving up to 40% (system) energy

Recommended gear page 3.190

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SOX

Type	CMax	DMax
SOX Plus 35W BY22d SLV	311	52
SOX Plus 55W BY22d SLV	425	52
SOX Plus 90W BY22d SLV	528	66
SOX Plus 135W BY22d SLV	775	66

Technical data

Type	Lamp Wattage EM (W)	Lamp Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
SOX Plus 35W BY22d SLV	37	70	0.6	35	No	18000
SOX Plus 55W BY22d SLV	56.0	109	0.59	55	No	18000
SOX Plus 90W BY22d SLV	91.0	112	0.94	90	No	18000
SOX Plus 135W BY22d SLV	135.0	164	0.95	135	No	18000

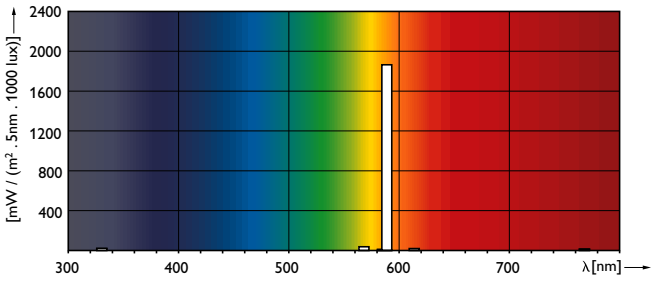
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Operating Position
SOX Plus 35W BY22d SLV	4550	129	h110
SOX Plus 55W BY22d SLV	7800	140	h110
SOX Plus 90W BY22d SLV	13700	152	p20
SOX Plus 135W BY22d SLV	22600	167	p20

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SOX Plus 35W BY22d SLV	LS-35-BY22d	8711500194695	217 gr	12	25 cm x 19 cm x 39 cm	8711500194701	194695 15
SOX Plus 55W BY22d SLV	LS-55-BY22d	8711500194718	300 gr	12	25 cm x 19 cm x 50 cm	8711500194725	194718 15
SOX Plus 90W BY22d SLV	LS-90-BY22d-/H	8711500194732	483 gr	12	30 cm x 22.5 cm x 61 cm	8711500194749	194732 15
SOX Plus 135W BY22d SLV	LS-135-BY22d-/H	8711500194756	708 gr	12	30 cm x 22.5 cm x 90 cm	8711500194763	194756 15

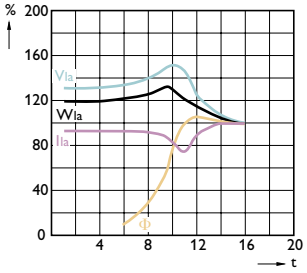
Spectral power distribution



SOX 55W

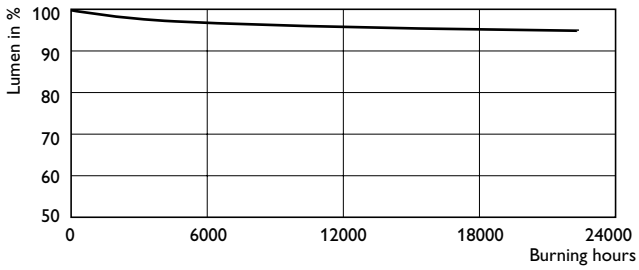
Performance diagram

Lamp performance during run up



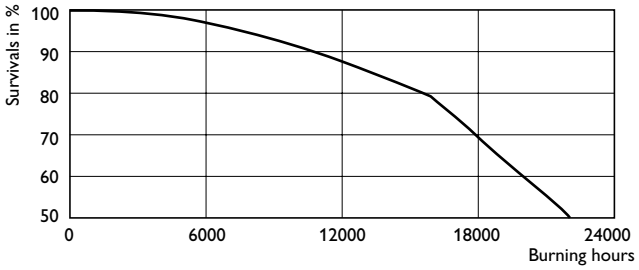
SOX

Lumen maintenance diagram



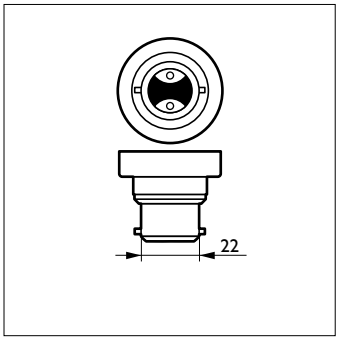
SOX

Life expectancy diagram



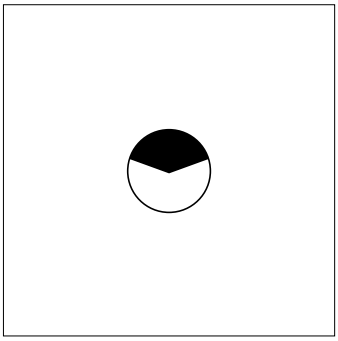
SOX

Cap Base

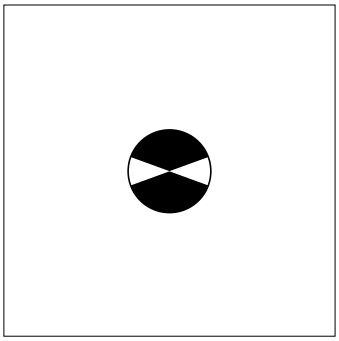


BY22d

Operating position



h110



p20





HPL 4 E27

Product Description

- High pressure mercury lamp with high service lifetime

Product Features

- Equipped with 1 or 2 auxiliary electrodes to ensure quick and reliable ignition
- Available in warm white and neutral white versions
- Higher efficacy and better colour rendering than standard HPL
- Extended service lifetime and virtually no early failures

Product Benefits

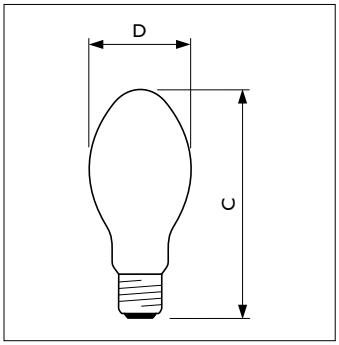
- The "4" refers to the recommended service lifetime of four years (for group relamping) in public lighting
- Offers greater safety and improved comfort
- Offers lower maintenance costs than standard HPL

Application

- Public Road Lighting

Recommended gear page 3.190

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HPL 4 E27

Type	CMax	DMax
HPL 4 50W/634/642 E27 SG SLV	130	56
HPL 4 80W/634/642 E27 SG SLV	155	71
HPL 4 125W/634/642 E27 SG SLV	173	76

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
HPL 4 50W/634/642 E27 SG SLV	0.61	50	95	50	No	180	24000
HPL 4 80W/634/642 E27 SG SLV	0.8	80	115	80	No	180	24000
HPL 4 125W/634/642 E27 SG SLV	1.15	125	125	125	No	180	24000

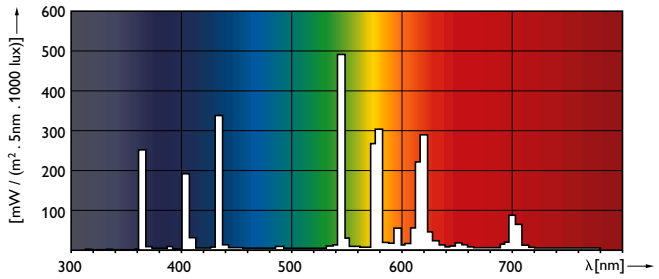
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
HPL 4 50W/634 E27 SG SLV	2000	40	White	3400	60	405	383	any
HPL 4 50W/642 E27 SG SLV	2000	36	Cool White	4200	60	371	370	any
HPL 4 80W/634 E27 SG SLV	4000	49.50	White	3400	60	403	380	any
HPL 4 80W/642 E27 SG SLV	4000	44.50	Cool White	4200	60	370	366	any
HPL 4 125W/634 E27 SG SLV	6800	54	White	3400	60	408	385	any
HPL 4 125W/642 E27 SG SLV	6800	50	Cool White	4200	60	374	373	any

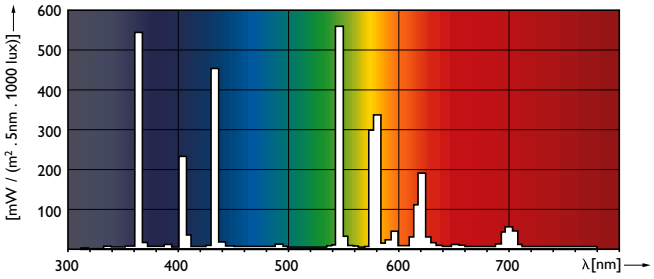
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HPL 4 50W/634 E27 SG SLV	QE-50/34/2B-H-E27	8711500203922	0.045 kg	24	24.5 cm x 18.5 cm x 27 cm	8711500203939	203922 30
HPL 4 50W/642 E27 SG SLV	QE-50/42/2B-H-E27	8711500203960	0.045 kg	24	24.5 cm x 18.5 cm x 27 cm	8711500203977	203960 30
HPL 4 80W/634 E27 SG SLV	QE-80/34/2B-H-E27	8711500203946	0.06 kg	24	34 cm x 26.8 cm x 33.4 cm	8711500203953	203946 30
HPL 4 80W/642 E27 SG SLV	QE-80/42/2B-H-E27	8711500203984	0.05 kg	24	34 cm x 26.8 cm x 33.4 cm	8711500203991	203984 30
HPL 4 125W/634 E27 SG SLV	QE-125/34/2B-H-E27	8711500203540	0.07 kg	24	48 cm x 32.4 cm x 19.5 cm	8711500203557	203540 30
HPL 4 125W/642 E27 SG SLV	QE-125/42/2B-H-E27	8711500204004	0.07 kg	24	48 cm x 32.5 cm x 19.5 cm	8711500204011	204004 30

Spectral power distribution



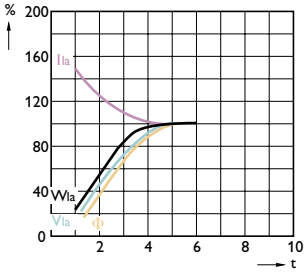
HPL 4 /634



HPL 4 /642

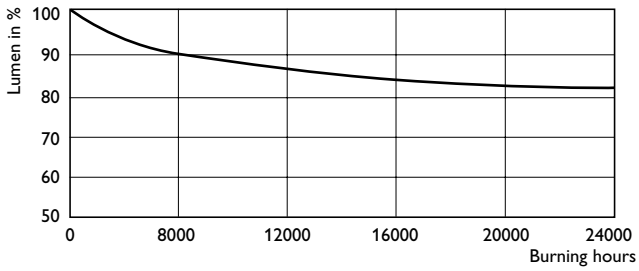
Performance diagram

Lamp performance during run up



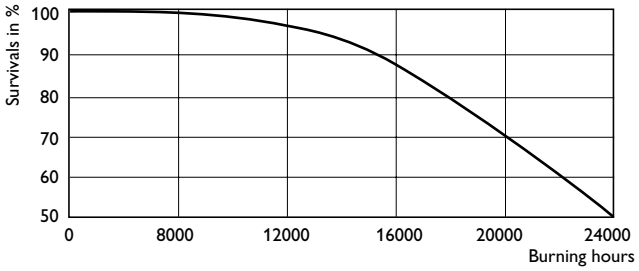
HPL 4

Lumen maintenance diagram



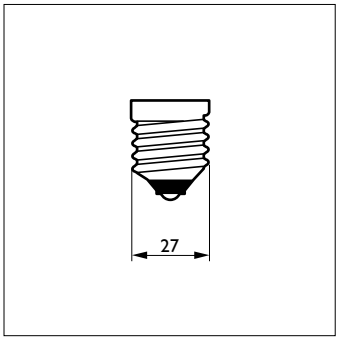
HPL 4

Life expectancy diagram



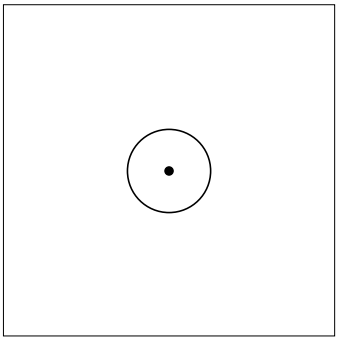
HPL 4

Cap Base



E27

Operating position



any





HPL E26/E27

Product Description

- High pressure mercury lamp with improved colour properties and light output

Product Features

- Equipped with one or two auxiliary electrodes to ensure quick and reliable ignition
- Special internal coating, providing warm white light with increased colour rendering
- Higher efficacy than standard HPL

Product Benefits

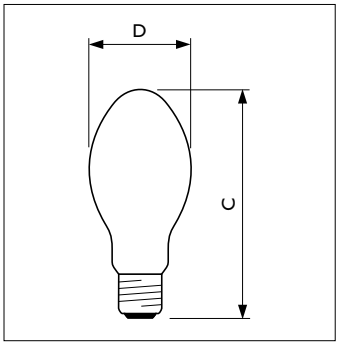
- Creates a comfortable atmosphere at limited investment
- High safety level thanks high light output

Application

- Public roads and residential areas, factories, transport sector and industrial area lighting

Recommended gear page 3.190

www.philips.com/OEM



HPL E26/E27/E40

Type	CMax	DMax
HPL Comfort 50W/534 E27 SG SLV	130	56
HPL Comfort 80W/534 E27 SG SLV	155	71
HPL Comfort 125W/534 E27 SG SLV	173	76
HPL Comfort 250W E40 HG CRP	226	91
HPL Comfort 400W E40 HG CRP	286	121.5

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
HPL Comfort 50W/534 E27 SG SLV	0.61	50.0	95	50	No	180	16000
HPL Comfort 80W/534 E27 SG SLV	0.8	80.0	115	80	No	180	16000
HPL Comfort 125W/534 E27 SG SLV	1.15	125.0	125	125	No	180	16000
HPL Comfort 250W E40 HG CRP	2.13	250.0	135	250	No	180	16000
HPL Comfort 400W E40 HG CRP	3.25	400.0	140	400	No	180	20000

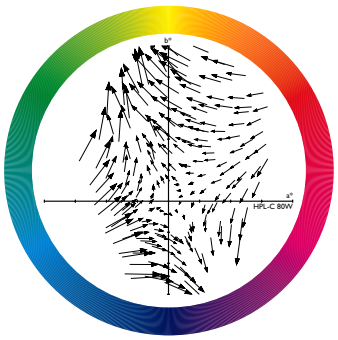
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
HPL Comfort 50W/534 E27 SG SLV	1800	36	White	3400	58	405	383	any
HPL Comfort 80W/534 E27 SG SLV	3600	45	White	3400	57	403	380	any
HPL Comfort 125W/534 E27 SG SLV	6200	49.5	White	3400	55	408	385	any
HPL Comfort 250W E40 HG CRP	14200	57	White	3300	51	419	392	any
HPL Comfort 400W E40 HG CRP	24200	61	White	3500	47	413	392	any

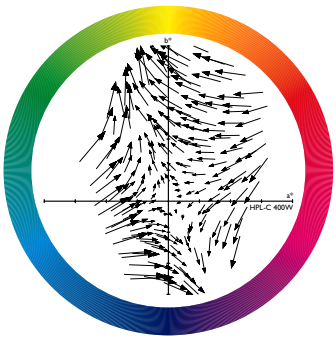
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HPL Comfort 50W/534 E27 SG SLV	QE-50/35/3-H-E27	8711500180872	0.045 kg	24	24.5 cm x 18.5 cm x 27 cm	8711500194077	180872 30
HPL Comfort 80W/534 E27 SG SLV	QE-80/35/3-H-E27	8711500180902	0.05 kg	24	34 cm x 26.8 cm x 33.4 cm	8711500180919	180902 30
HPL Comfort 125W/534 E27 SG SLV	QE-125/34/3-H-E27	8711500180995	0.07 kg	24	48 cm x 32.4 cm x 19.5 cm	8711500181008	180995 30
HPL Comfort 250W E40 HG CRP	QE-250/33/3-H-E40	8711500181022	0.198 kg	12	40.5 cm x 30.5 cm x 25.8 cm	8711500181039	181022 15
HPL Comfort 400W E40 HG CRP	QE-400/35/3-H-E40	8711500181053	0.253 kg	6	38.4 cm x 25.9 cm x 33.9 cm	8711500181060	181053 10

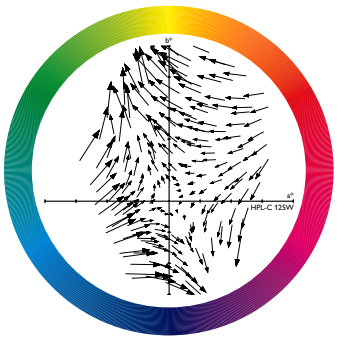
CRV diagram



HPL Comfort 80W

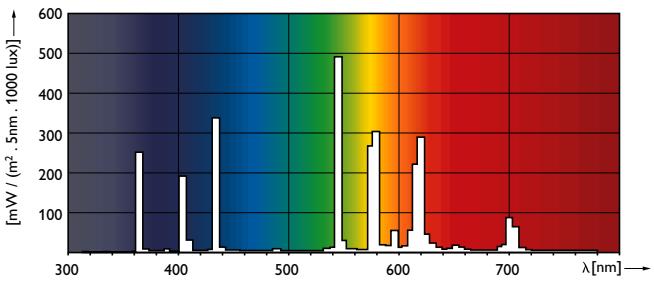


HPL Comfort 400W



HPL Comfort 50W/125W/250W

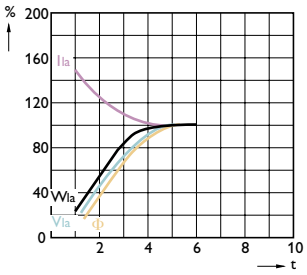
Spectral power distribution



HPL Comfort

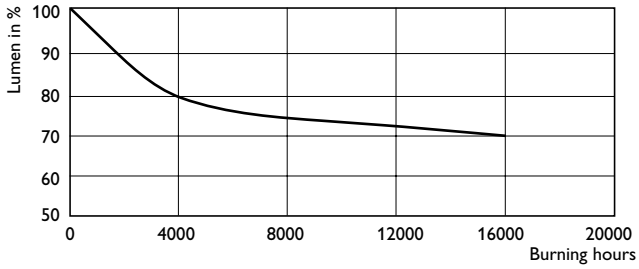
Performance diagram

Lamp performance during run up



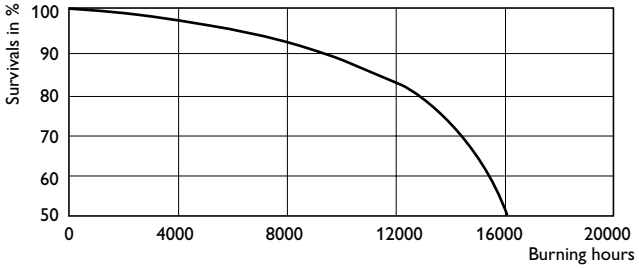
HPL

Lumen maintenance diagram



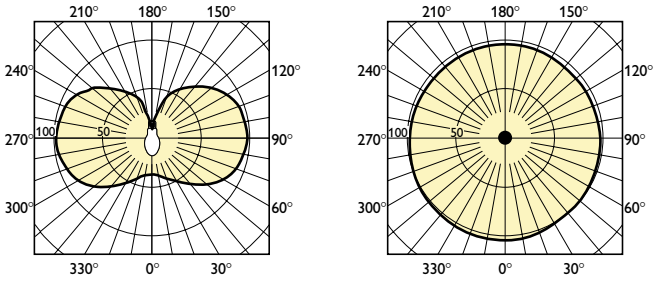
HPL 50W/80W/125W/250W/400W

Life expectancy diagram



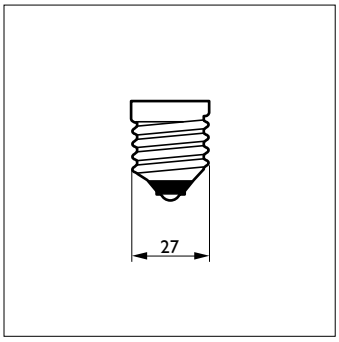
HPL 50W/80W/125W/250W/400W

Photometric diagram

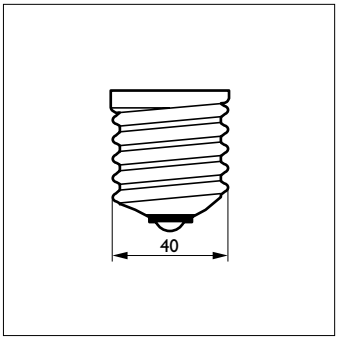


HPL Comfort 250W

Cap Base

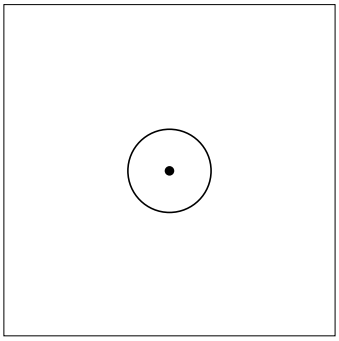


E27



E40

Operating position



any



HPL E40

Product Description

- Standard High Pressure Mercury lamp

Product Features

- Equipped with one or two auxiliary electrodes to ensure quick and reliable ignition
- Single-ended gas-filled glass bulb (HG-SG) with a quartz mercury vapour discharge tube
- Internally coated ovoid outer bulb, providing a cool, bluish white light with reasonable colour qualities

Product Benefits

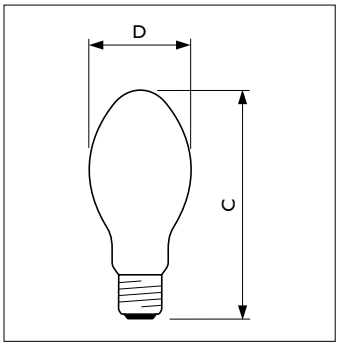
- Good budget alternative

Application

- All outdoor applications, factories, transport sector and industrial area lighting

Recommended gear page 3.190

www.philips.com/OEM



HPL E26/E27/E40

Type	CMax	DMax
HPL-N 50W/542 E27 SG SLV	130	56
HPL-N 80W/542 E27 SG SLV	155	71
HPL-N 125W/542 E27 HG SLV/SG ICT/SG SLV	173	76
HPL-N 125W/542 E40 HG SLV	184	76
HPL-N 125W/542 E26 HG SLV	170	76
HPL-N 250W/542 E40 HG CRP	226	91
HPL-N 400W/542 E40 HG CRP	286	121.5
HPL-N 700W/542 E40 HG CRP	328	141.5
HPL-N 1000W/542 E40 HG CRP	399	166.5

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
HPL-N 50W/542 E27 SG SLV	0.61	50.0	95	50	No	180	16000
HPL-N 80W/542 E27 SG SLV	0.8	80	115	80	No	180	16000
HPL-N 125W/542 E27 HG SLV	1.15	125.0	125	125	No	180	16000
HPL-N 125W/542 E40 HG SLV	1.15	125.0	125	125	No	198	20000
HPL-N 250W/542 E40 HG CRP	2.1	250.0	135	250	No	180	16000
HPL-N 400W/542 E40 HG CRP	3.25	400.0	140	400	No	180	16000
HPL-N 700W/542 E40 HG CRP	5.4	700.0	145	700	No	180	12000
HPL-N 1000W/542 E40 HG CRP	7.5	1000.0	145	1000	No	180	12000

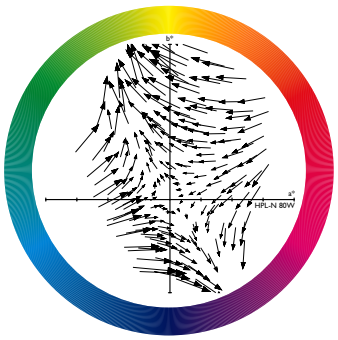
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
HPL-N 50W/542 E27 SG SLV	1800	36	Cool White	4200	49	371	370	any
HPL-N 80W/542 E27 SG SLV	3700	44.50	Cool White	4200	48	370	366	any
HPL-N 125W/542 E27 HG SLV	6200	50	Cool White	4100	46	374	373	any
HPL-N 125W/542 E27 SG 1CT	6200	50	Cool White	4200	46	374	373	any
HPL-N 250W/542 E40 HG CRP	12700	51	Cool White	4100	45	381	383	any
HPL-N 400W/542 E40 HG CRP	22000	55	Cool White	3900	45	384	384	any
HPL-N 700W/542 E40 HG CRP	38500	55	Cool White	3900	45	390	390	any
HPL-N 1000W/542 E40 HG CRP	58500	59	Cool White	3900	36	390	395	any

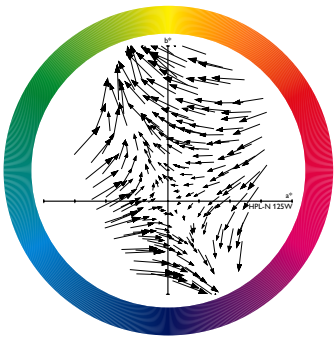
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HPL-N 50W/542 E27 SG SLV	QE-50/42/3-H-E27	8711500179913	0.045 kg	24	24.5 cm x 18.5 cm x 27 cm	8711500194053	179913 30
HPL-N 80W/542 E27 SG SLV	QE-80/43/3-H-E27	8711500179975	0.054 kg	24	45.9 cm x 30.9 cm x 16.4 cm	8711500179982	179975 30
HPL-N 125W/542 E27 HG SLV	QE-125/41/3-H-E27	8711500180155	0.091 kg	24	31.6 cm x 24.1 cm x 38.2 cm	8711500180162	180155 30
HPL-N 125W/542 E27 SG 1CT	QE-125/41/3-H-E27	8711500207135	0.07 kg	24	48 cm x 32.4 cm x 19.5 cm	8711500207142	207135 30
HPL-N 125W/542 E27 SG SLV	QE-125/41/3-H-E27	8711500180124	0.063 kg	24	48 cm x 32.4 cm x 19.5 cm	8711500180131	180124 30
HPL-N 125W/542 E27 SG SLV	QE-125/41/3-H-E27	8711500210104	0.07 kg	40	44.5 cm x 36.5 cm x 38.5 cm	8711500210111	210104 55
HPL-N 125W/542 E40 HG SLV	QE-125/41/3-H-E40	8711500180308	0.126 kg	24	31.7 cm x 24.1 cm x 36.3 cm	8711500180315	180308 30
HPL-N 125W/542 E26 HG SLV	QE-125/41/3-H-E26	8711500195746	0.076 kg	24	31.6 cm x 24.1 cm x 38.2 cm	8711500195753	195746 30
HPL-N 250W/542 E40 HG CRP	QE-250/41/3-H-E40	8711500180605	0.18 kg	12	41.3 cm x 31.5 cm x 26 cm	8711500180612	180605 15
HPL-N 400W/542 E40 HG CRP	QE-400/40/3-H-E40	8711500180452	0.245 kg	6	38.4 cm x 25.9 cm x 32 cm	8711500180469	180452 10
HPL-N 700W/542 E40 HG CRP	QE-700/39/3-H-E40	8711500183910	0.338 kg	6	49.3 cm x 33.8 cm x 36.1 cm	8711500183927	183910 10
HPL-N 1000W/542 E40 HG CRP	QE-1000/39/4-H-E40	8711500184030	0.42 kg	6	56.8 cm x 38.2 cm x 43.9 cm	8711500184047	184030 10

CRV diagram

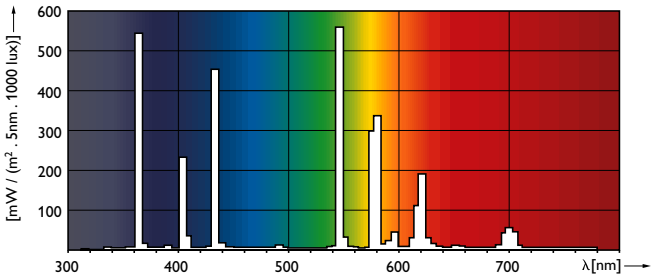


HPL N 50W/80W/250W/400W/



HPL N 125W

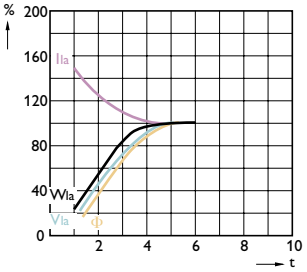
Spectral power distribution



HPL N

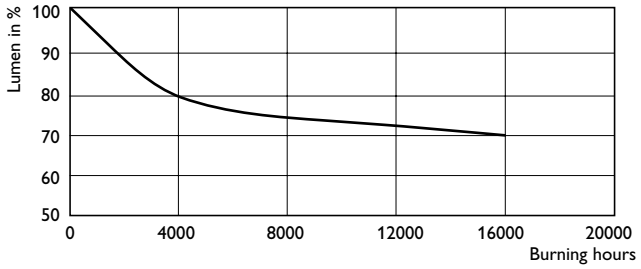
Performance diagram

Lamp performance during run up

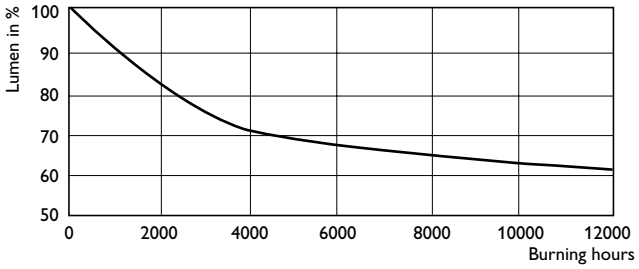


HPL

Lumen maintenance diagram

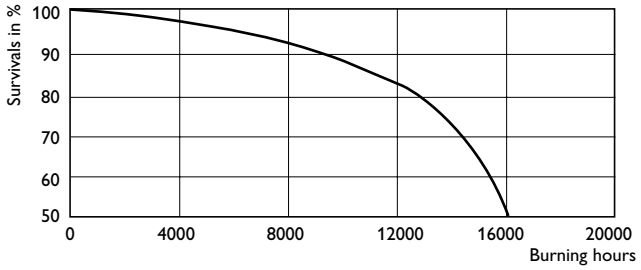


HPL 50W/80W/125W/250W/400W

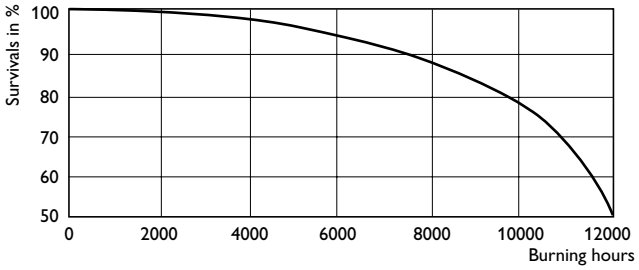


HPL 700W/1000W

Life expectancy diagram

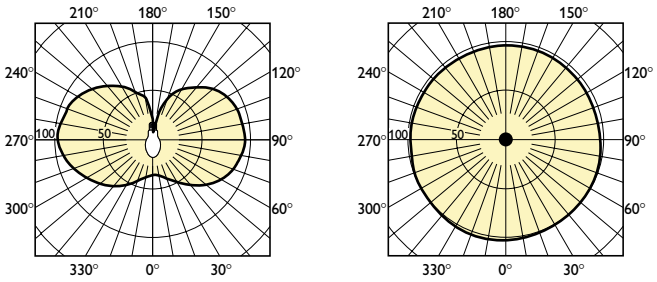


HPL 50W/80W/125W/250W/400W



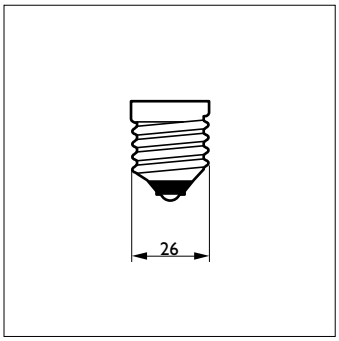
HPL 700W/1000W

Photometric diagram

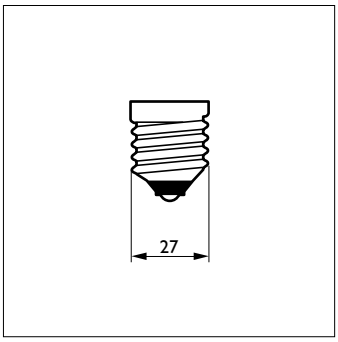


HPL N 250W

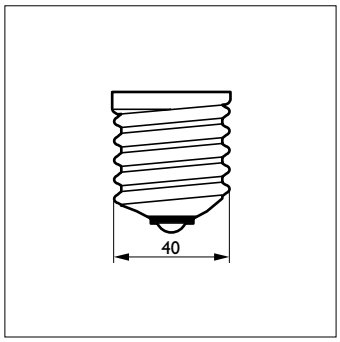
Cap Base



E26

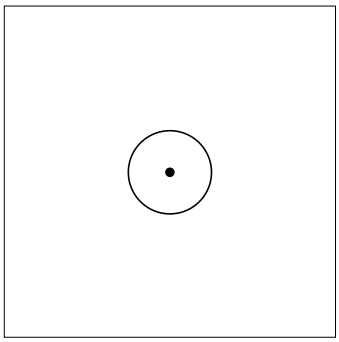


E27



E40

Operating position



any



ML E27

Product Description

- Mixed Light lamps

Product Features

- High-pressure mercury tube in series with a tungsten filament
- Runs on mains voltage without additional gear
- Combines a continuous spectrum from the incandescent source and a line spectrum from the high-pressure mercury source

Product Benefits

- Direct retrofit for incandescent lamps
- Higher efficacy and lifetime than incandescent

Application

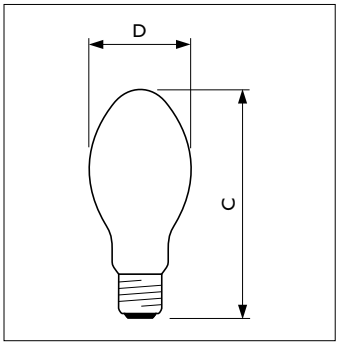
- Public outdoor lighting, car parks, workshops, garages and shops

Luminaires

- It is recommended to protect ML against water splashes
- ML lamps are not dimmable

Recommended gear page 3.190

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ML E27/E40

Type	CMax	DMax
ML 100W E27 225-235V SLV	151	70
ML 160W E27 225-235V SLV	168	75
ML 250W E27 225-235V SG SLV	211	90
ML 250W E40 225-235V HG SLV	224	90
ML 500W E40 225-235V HG SLV	282	120

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
ML 100W E27 225-235V SLV	.46	104	230	225-235	100	No	180	10000
ML 160W E27 225-235V SLV	.73	165	225	225-235	160	No	180	13000
ML 250W E27 225-235V SG SLV	1.2	260	225	225-235	250	No	180	10000
ML 500W E40 225-235V HG SLV	2.32	500	225	225-235	500	No	180	10000

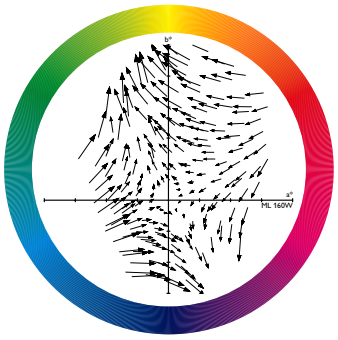
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
ML 100W E27 225-235V SLV	1100	10.5	3300	72	432	404	vbu/vbd30
ML 160W E27 225-235V SLV	3200	19	3600	65	399	378	vbu/vbd30
ML 250W E27 225-235V SG SLV	5500	21	3400	65	403	382	vbu/vbd45
ML 500W E40 225-235V HG SLV	13000	26	3700	50	396	387	vbu/vbd45

Ordering and packing data

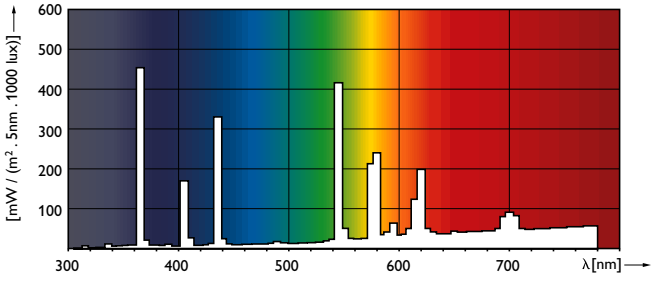
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
ML 100W E27 225-235V SLV	QB-100-225/235-E27	8711500180483	0.05 kg	24	34 cm x 26.8 cm x 33.4 cm	8711500180490	180483 30
ML 160W E27 225-235V SLV	QB-160-225/235-E27	8711500181350	0.082 kg	24	48 cm x 33 cm x 20 cm	8711500181367	181350 30
ML 250W E27 225-235V SG SLV	QB-250-225/235-E27	8711500201393	0.184 kg	12	42 cm x 32 cm x 24.5 cm	8711500201409	201393 15
ML 250W E40 225-235V HG SLV	QB-250-225/235-E40	8711500201294	0.184 kg	12	41.5 cm x 31 cm x 24.8 cm	8711500201300	201294 15
ML 500W E40 225-235V HG SLV	QB-500-225/235-E40	8711500201331	0.23 kg	6	38.5 cm x 26 cm x 32 cm	8711500201348	201331 10

CRV diagram



ML

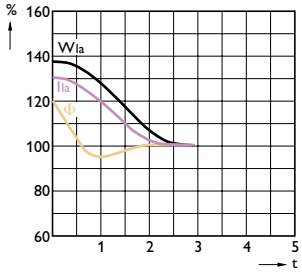
Spectral power distribution



ML

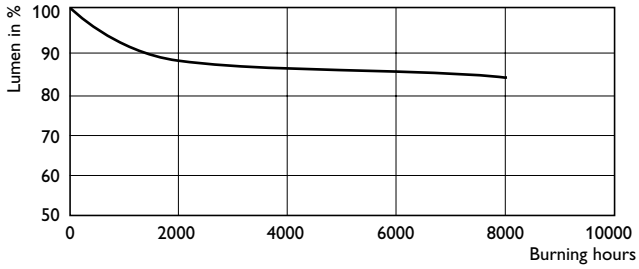
Performance diagram

Lamp performance during run up

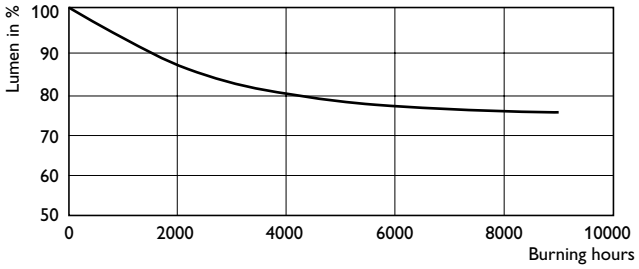


ML

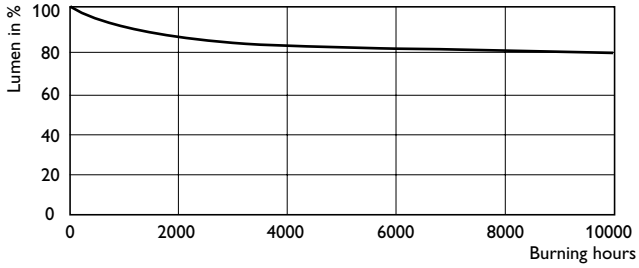
Lumen maintenance diagram



ML 100W

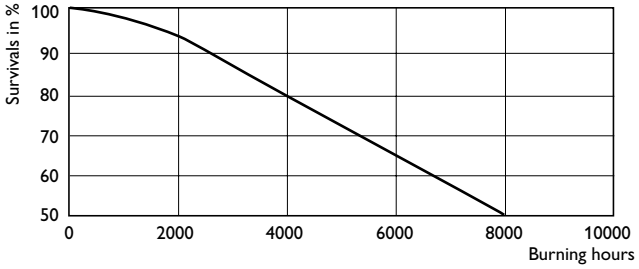


ML 160W

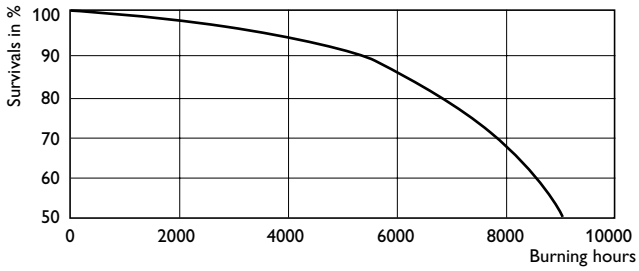


ML 250W/500W

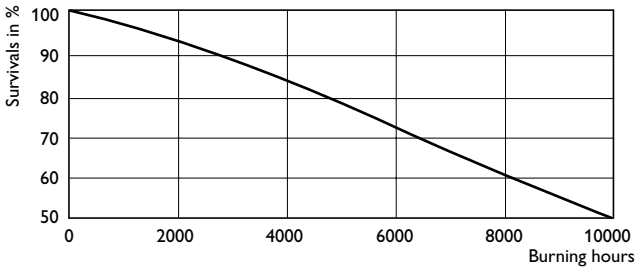
Life expectancy diagram



ML 100W

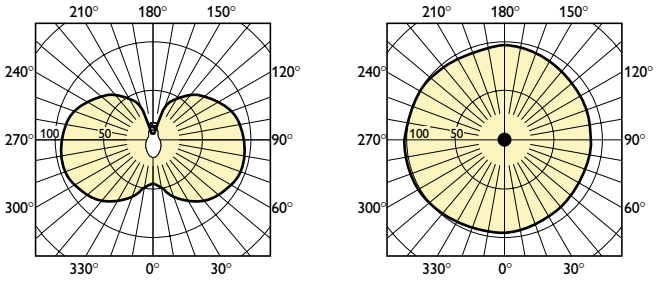


ML 160W



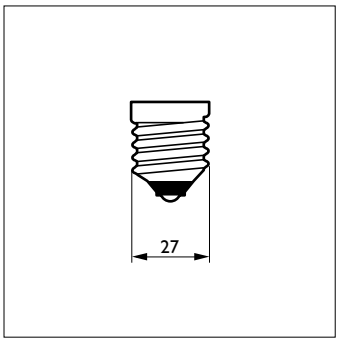
ML 250W/500W

Photometric diagram

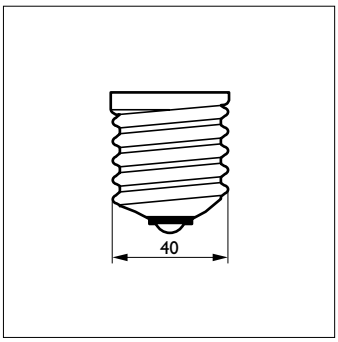


ML 250W

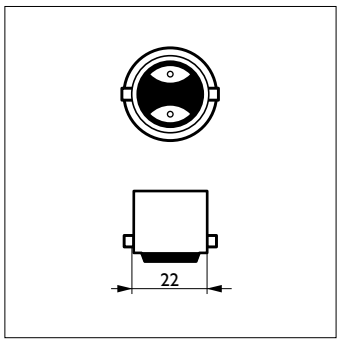
Cap Base



E27

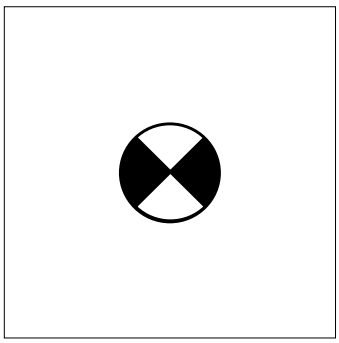


E40

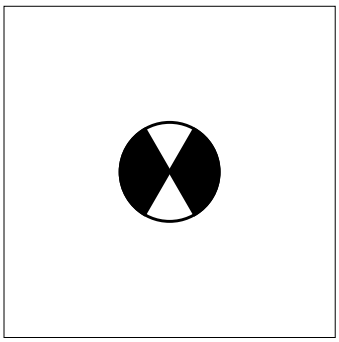


B22

Operating position



vbu/vbd45



vbu/vbd30



HID Control Gear

The Philips HID electronic gear range was designed for total compatibility with Philips HID lamps.
Philips is leader in the field of electronic technology and we have applied this knowledge to our developments of control gear for lighting products. Each lamp and gear combination requires extensive life testing before being released as a complete system. The result is an optimal light performance.

Our products are rapidly gaining years of proven reliability in running HID lamps, even in extreme outdoor environments. Our portfolio includes products to operate Low Pressure Sodium, High Pressure Sodium, Metal Halide, Compact HID, and CosmoPolis gear.

Electronic HID gear

Many of the latest lamps can only be operated on modern electronic control gear. The use of electronic gear is generally advised for most lamp types because of the many advantages it brings to our end users

- High system efficiency to save energy
- Lower maintenance costs due to enhanced lumen maintenance and practical lamp life
- Compact size and low weight provide design flexibility and easy installation
- Constant lamp power; mains voltage fluctuations do not affect light output and give maximum lamp life
- No power factor correction needed so no capacitors to fail further reducing maintenance costs.
- Only one component to simplify installation and servicing.
- Above all, an electronic installation is future proofed, ready for the addition of centralised control systems.
- Electronic outdoor gear designed to resist physical stress (vibrations) and aggressive air contaminations (dust, moisture, etc)



Besides electronics a broad selection of electromagnetic gear is offered for wide range of lamp types and powers from 35W up to 2000W. You can rely on the experience of Philips and the fact that all Philips lamps are fully released that performance of Philips lamps are best on Philips gear.

Electromagnetic HID gear

Depending on the specific application and/or economic considerations, Philips can supply two types of electromagnetic ballasts; Heavy Duty and Basic gear types.
Heavy Duty gear is fully encapsulated and have a special protected bottom-plate for humid or aggressive environment conditions or were extra long lifetime and high reliability is needed. HID-Basic gear is impregnated for general use in enclosed applications and should not be exposed to humid environments. All electromagnetic gear has been designed for a problem-free lifetime of 10 years continuous operation.

For both MH and high-pressure Sodium gear Philips offers conventional ballasts with internal thermal protection. These types can be recognised by the TS indication.

For the whole range of lamps, a full range of electronic ignitors is offered. Philips prefers and advice customers to use the so-called by Philips developed semi-parallel ignitors (also called impulser type). Together with the gear these ignitors induces ignition-pulses which takes care for reliable lamp-ignition under all conditions for both new and old lamps. The advances of the semi-parallel systems is that gear can be installed remotely (typically 20 meter between gear and lamp is possible). Furthermore has the system much lower watt losses and the ignitor is not in the lamp-current leads and thereby becomes very reliable.

Next step to reliability are the digital ignitors, these ignitor-types detect faulty lamps in an early stage and prevent cycling and unnecessary stress on the system, for CDM lamps these ignitors are obligatory.

Philips gear is designed for lowest watt losses and for ease of use tapping possibilities to select mains-voltages 230/240V, 50Hz and 220/230V, to limit the tables in this OEM-guide only 230/240V types are given.



HID-PV

Product Description

- Compact, one-piece, electronic drivers for high-pressure sodium (SON) lamps and metal halide (CDO) lamps

Features and Benefits

- Lamp power independent of lamp life and mains voltage 203-254V
- Low-frequency, electronic gear for stable, flicker-free lamp operation; increases lamp life by 20 – 30% depending on application
- Self-stopping facility prevents cycling of old lamps
- Full protection of driver and installation against fault conditions such as overtemperature and end of lamp life
- Suitable for use in outdoor luminaires
- Cage clamp terminal connections with push-button release
- Simple installation and cabling

Applications

- Road / tunnel lighting
- Residential lighting
- Indoor and outdoor applications, recommended outdoor luminaire classification > IP 23

Quality

Philips Quality assures optimum quality regarding:

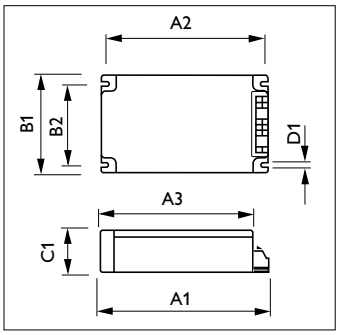
- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/driver performance is maintained.
- European standards: Philips HID electronic drivers comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 55022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

Recommended lamp page 3.190

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HID-PV

Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-PrimaVision SON/CDO	150.0	134.0	136.0	90.0	70.0	40.0	4.5

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-PrimaVision 70 /S SON/CDO 220-240V 50/60Hz	8	35	0.5
HID-PrimaVision 100/150 /S SON/CDO 220-240V 50/60Hz	8	50	0.50

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-PrimaVision 70 /S SON/CDO 220-240V	1	70	50/60	220-240	90	100	50	4.5	120
HID-PrimaVision 100 /S SON/CDO 220-240V	1	100	50/60	220-240	90	100	50	4.50	120
HID-PrimaVision 150 /S SON/CDO 220-240V	1	150	50/60	220-240	90	100	50	4.50	120

Ordering and packing data

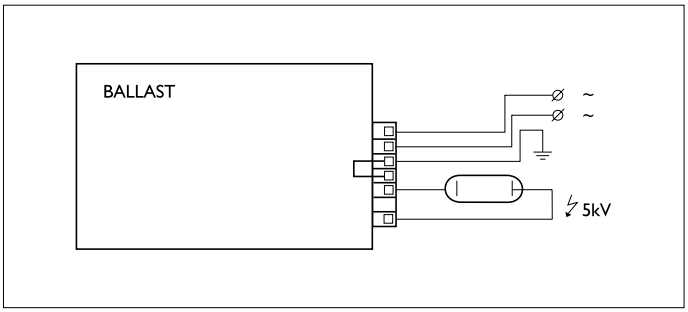
Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-PrimaVision 70 /S SON/CDO 220-240V 50/60Hz	8711500930248	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500930255	930248 30
HID-PrimaVision 100 /S SON/CDO 220-240V 50/60Hz	8711500928986	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500928993	928986 30
HID-PrimaVision 150 /S SON/CDO 220-240V 50/60Hz	8711500929006	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500929013	929006 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for performance +6%-8	203 - 254 V
With tolerances for operation	180 - 264 V
Mains frequency	50/60 Hz
Power factor	> 0.98
Earth leakage current	< 0.5 mA per driver
Overvoltage protection	48 hrs at 325 Vac
	2 hrs at 366 Vac
	5 min. at 400 Vac
Lamp operation	
Operation frequency (typical)	125 Hz
Ignition voltage 100/150W	3 - 4 kV
70W	2 - 2.5 kV
Cable capacity	
SON	Max. 1 nF
CDO	Max. 200 pF
Air and creepage distance from any (metal) part that may become live, to earthed environment (class I) or test finger (class II)	> 4 mm

Notes:

1. With three-phase mains supply, neutral should never be disconnected; otherwise circuitry could be damaged.
2. For proper EMC, wiring inside luminaire should be as straight and as short as possible; mains wires should not run parallel to lamp wires.
3. Driver should be mounted in luminaire > min IP 23.
4. Thermo-protected circuit incorporates self-resetting facility; ignition attempts stop after 7 min.; mains supply must be switched off and on to reset driver.
5. Automatic restart after lamp replacement or voltage dip, lamp may take up to 18 min. to restart.
6. Insulation resistance test: 500 Vdc from Line/Neutral to Earth (not between Line and Neutral). Ensure that the Neutral is reconnected again after abovementioned test is carried out and before the installation is put into operation.



HID-PV

Inrush current

Conversion table for max. quantities of drivers on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of drivers
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of drivers can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of drivers is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of drivers is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of drivers by 20%.
6. The maximum number of drivers which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Wire cross-section:

On the mains side	0.75…2.5 mm^2	advised rating: Uo/U = 250/250V
On the lamp side	0.75…2.5 mm^2	advised rating: Uo/U = 250/250V
Strip length	6 mm	





HID-DV

Product Description

- Compact, one-piece, electronic dimming driver for built-in or stand-alone applications with high-pressure sodium (SON) and metal halide lamps (CDO)

Features and Benefits

- 1-10V input for dim-control signal
- Lamp power independent of lamp life and mains voltage 203-254V
- Low-frequency, electronic, dimmable gear for stable, flicker-free lamp operation; increases lamp life by 20 – 30% depending on application
- SON lamps can be dimmed between 100 - 35% of power (100 - 20% light output)
- CDO lamps can be dimmed between 100 - 60% of power (100 - 50% light output)
- Self-stopping facility prevents cycling of old lamps
- Full protection of driver and installation against fault conditions such as overtemperature and end of lamp life
- Suitable for use in outdoor luminaires
- Cage clamp terminal connections with push-button release
- Simple installation and cabling

Applications

- Road / tunnel lighting
- Residential lighting
- Indoor and outdoor applications, recommended outdoor luminaire classification > IP 23

Quality

Philips Quality assures optimum quality regarding:

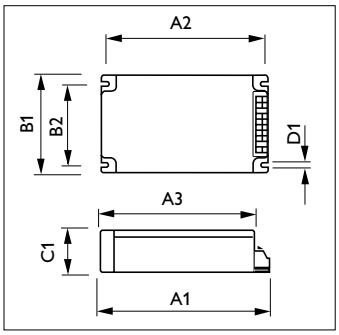
- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/driver performance is maintained.
- European standards: Philips HID electronic drivers comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 55022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

Recommended lamp page 3.190

www.philips.com/OEM



HID-DV

Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-DynaVision 1-10V SON/CDO	150.0	134.0	136.0	90.0	70.0	40.0	4.5

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-DynaVision 1-10V 100/150 SON/CDO	8	50	0.5
HID-DynaVision 1-10V 70 SON/CDO	12	35	0.5

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-DynaVision 1-10V 100 /S CDO 220-240V	1	100	50/60	220-240	90	100	50	4.00	200
HID-DynaVision 1-10V 100 /S SON 220-240V	1	100	50/60	220-240	90	100	50	4.00	1000
HID-DynaVision 1-10V 150 /S CDO 220-240V	1	150	50/60	220-240	90	100	45	4.00	200
HID-DynaVision 1-10V 150 /S SON 220-240V	1	150	50/60	220-240	90	100	45	4.00	1000
HID-DynaVision 1-10V 70 /S CDO 220-240V	1	70	50/60	220-240	90	100	50	2.50	200
HID-DynaVision 1-10V 70 /S SON 220-240V	1	70	50/60	220-240	90	100	50	2.50	1000

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-DynaVision 1-10V 100 /S CDO 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500931337	931320 30
HID-DynaVision 1-10V 100 /S SON 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500749062	749055 30
HID-DynaVision 1-10V 150 /S CDO 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500538109	538093 30
HID-DynaVision 1-10V 150 /S SON 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500538086	538079 30
HID-DynaVision 1-10V 70 /S CDO 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500931351	931344 30
HID-DynaVision 1-10V 70 /S SON 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500927330	927323 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for performance +6%-8%	203 - 254 V
With tolerances for operation	180 - 264 V
Mains frequency	50/60 Hz
Power factor 100% power	> 0.98
Power factor 35%, SON, 60%, CDO, power	> 0.93
Earth leakage current	< 0,5 mA per driver
Overvoltage protection	48 hrs at 325 Vac 2 hrs at 366 Vac 5 min. at 400 Vac

Lamp operation	
Operation frequency (typical)	125 Hz
Ignition voltage	3 - 4 kV
Cable capacity	
SON	Max. 1 nF
CDO	Max. 200 pF
Air and creepage distance from any (metal) part that may become live, to earthed environment (class I) or test finger (class II)	> 4 mm

Notes:
1. With three-phase mains supply, neutral should never be disconnected; otherwise circuitry could be damaged.
2. For proper EMC, wiring inside luminaire should be as straight and as short as possible; mains wires should not run parallel to lamp wires.
3. Driver should be mounted in luminaire > min IP 23.
4. Thermo-protected circuit incorporates self-resetting facility; ignition attempts stop after 7 min.; mains supply must be switched off and on to reset driver.
5. Insulation resistance test: 500 Vdc from Line/Neutral to Earth (not between Line and Neutral). Ensure that the Neutral is reconnected again after abovementioned test is carried out and before the installation is put into operation.

Control Characteristics

Control input	DALI
Control potentiometer (to be connected on 1-10V input)	0-100 kΩ

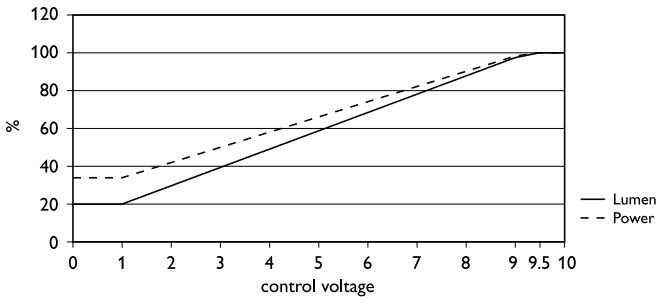
Input is protected against mains voltage connection
Dimming fading rates are implemented to guarantee optimal lamp
Behaviour for SON Lamps:

Run up time before dimming*	5 minutes
Fade down time** (100%-20%)	< 1.5 minutes
Fade up time** (20%-100%)	< 1 minute
Power indication	35 - 100%
Corresponding light level (see graph)	20% - 100%

Behaviour for CDO Lamps:

Run up time before dimming*	10 minutes
Fade down time** (100%-60%)	< 1.5 minutes
Fade up time** (60%-100%)	< 1 minute
Power indication	60 - 100%
Regulating light level (see graph)	50% - 100%

* EMC attention should be given with cable > 3 mtr.
** Run-up time, and fading down/up rates are determined to guarantee reliable lamp
operations.



HID-DV 1-10V

Inrush current

Conversion table for max. quantities of drivers on other types of Miniature Circuit Breaker

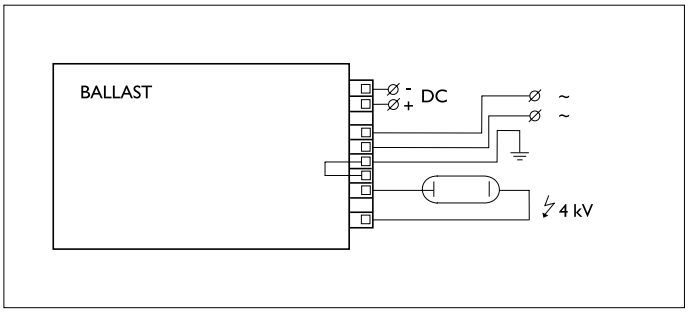
MCB type	Rating	Relative number of drivers
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:
1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of driver can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of drivers is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of drivers is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of drivers by 20%.
6. The maximum number of drivers which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Wire cross-section:

On the mains side	0.75…2.5 mm^2	advised rating: Uo/U = 250/250V
On the lamp side	0.75…2.5 mm^2	advised rating: Uo/U = 250/250V
Strip length	6 mm	



HID-DV 1-10V





HID-DV

Product Description

- Compact, one-piece, electronic dimming driver for built-in or stand-alone applications with high-pressure sodium (SON) and metal halide lamps (CDO)
- Digital DALI interface to communicate with and program the driver

Features and Benefits

- DALI interface enables two way communication
- Lamp power independent of lamp life and mains-voltage 203-254V
- Low-frequency, electronic, dimmable gear for stable, flicker-free lamp operation; increases lamp life by 20 – 30% depending on application
- SON lamps can be dimmed between 100% - 35% of power (100 - 20% light output)
- CDO lamps can be dimmed between 100 - 60% of power (100 - 50% light output)
- Self-stopping facility prevents cycling of old lamps
- Full protection of driver and installation against fault conditions such as overtemperature and end of lamp life
- Suitable for use in outdoor luminaires
- Cage clamp terminal connections with push-button release
- Simple installation and cabling

Applications

- Road / tunnel lighting
- Residential lighting
- Indoor and outdoor applications, recommended outdoor luminaire classification > IP 23

Quality

Philips Quality assures optimum quality regarding:

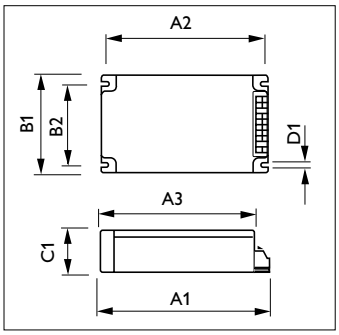
- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/driver performance is maintained.
- European standards: Philips HID electronic drivers comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 5 5022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

Recommended gear page 3.190

www.philips.com/OEM



HID-DV

Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-DynaVision DALI	150.0	134.0	136.0	90.0	70.0	40.0	4.5

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-DynaVision DALI 100-150 /S CDO/SON/SDW	6	50	0.45

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-DynaVision DALI 100-150 /S CDO/SON/SDW	1	100-150	50/60	220-240	90	100	45	4.00	1000

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-DynaVision DALI 100-150 /S CDO/SON/SDW	8711500928733	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500928740	928733 30

Electrical installation notes

Mains operation	
Rated mains voltage	220-240 V
With tolerances for performance +6%-8%	203-254 V
With tolerances for operation	180-264 V
Mains frequency	50/60 Hz
Power factor 100% power	>0.98
Power factor 35% power	>0.93
Earth leakage current	<0.2 mA per driver
Overvoltage protection	48 hrs at 325 Vac 2 hrs at 366 Vac 5 min. at 400 Vac
Lamp operation	
Operation frequency (typical)	125 Hz
Ignition voltage	3-4 kV
Cable capacity	
SON-100-150W lamps (2.7 kV)	Max. 1 nF
CDO-lamps (3.3 kV)	Max. 0.5 nF
Air and creepage distance from any (metal) part that may become live, to earthed environment (class I) or test finger (class II)	>4 mm

Notes:

1. With three-phase mains supply, neutral should never be disconnected; otherwise circuitry could be damaged.
2. For proper EMC, wiring inside luminaire should be as straight and as short as possible; mains wires should not run parallel to lamp wires.
3. Driver should be mounted in luminaire >min IP 23.
4. Thermo-protected circuit incorporates self-resetting facility; ignition attempts stop after seven minutes; mains supply must be switched off and on to reset driver.
5. Insulation resistance test: 500 Vdc from Line/Neutral to Earth (not between Line and Neutral). Ensure that the Neutral is reconnected again after abovementioned test is carried out and before the installation is put into operation.

Control characteristics

Control input	DALI

Input is protected against mains voltage connection

Dimming fading rates are implemented to guarantee optimal lamp

Behaviour for SON Lamps:

Run up time before dimming*	5 minutes
Fade down time** (100%-20%)	< 1.5 minutes
Fade up time** (20%-100%)	< 1 minute
Power indication	35 - 100%
Corresponding light level (see graph)	20% - 100%

Behaviour for CDO Lamps:

Run up time before dimming*	10 minutes
Fade down time** (100%-60%)	< 1.5 minutes
Fade up time** (60%-100%)	< 1 minute
Power indication	60 - 100%
Regulating light level (see graph)	50% - 100%

* EMC attention should be given with cable > 3 mtr.

** Run-up time, and fading down/up rates are determined to guarantee reliable lamp operations.

Inrush current

Conversion table for max. quantities of drivers on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of drivers
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

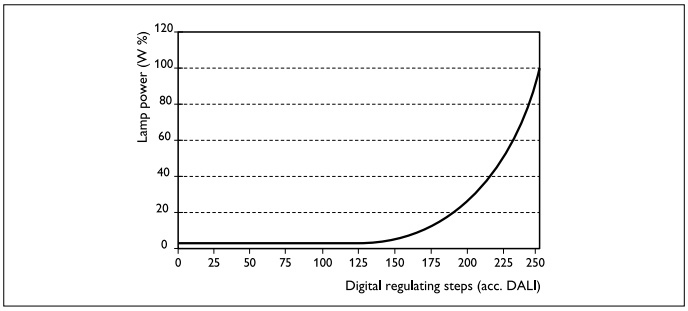
Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of drivers can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of drivers is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of drivers is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of drivers by 20%.
6. The maximum number of drivers which can be connected to one Residual Current Detector of 30 mA is 30.

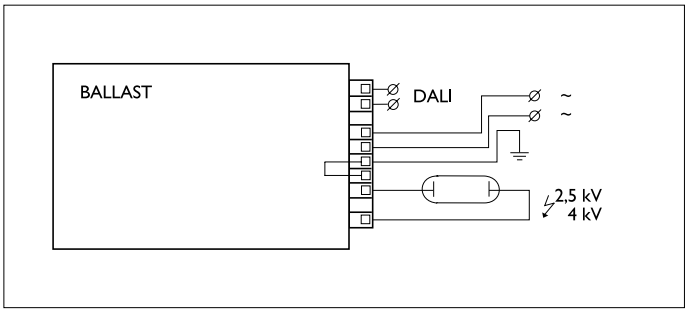
Mechanical installation notes

Wire cross-section:

On the mains side	0.75…2.5 mm^2	advised rating: Uo/U = 250/250V
On the lamp side	0.75…2.5 mm^2	advised rating: Uo/U = 250/250V
Strip length	6 mm	



HID-DV DALI



HID-DV DALI





EXC

Product Description

- One-piece, compact, lightweight high-frequency electronic driver

Features and Benefits

- Replaces electromagnetic gear, ignitor and capacitor
- Provides equivalent light output at up to 36% lower energy consumption
- One multi-voltage unit gives constant light output at mains voltages between approximately 200 and 255 V
- Slim cross-section and light weight facilitate luminaire design
- Single-insert contacts
- Simple installation and cabling

Applications

- Public lighting outdoor, e.g. road, residential, tunnels
- Climatic suitability: restricted to built-in situations where relative humidity is limited (luminaire classification min. IP 54)

Quality

Philips Quality assures optimum quality regarding:

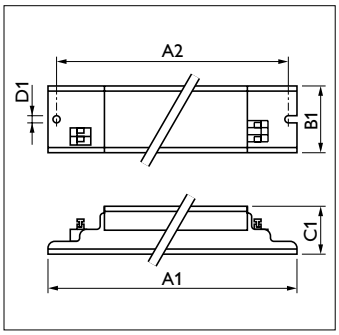
- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/driver performance is maintained.
- European standards: Philips HID electronic drivers comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 55022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

Recommended lamp page 3.190

www.philips.com/OEM



EXC

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
EXC 35/36/55/66 SOX(-E)	280.0	265.0	39.0	28.0	4.2
EXC 91 SOX-E	335.0	325.0	39.0	28.0	4.2

Inrush current

Type	Inrush current Peak (A)	Inrush current Width (ms)
EXC 35/36 SOX(-E)	30	0.15
EXC 55/66 SOX(-E)	40	0.15
EXC 91 SOX-E	50	0.22

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Cable-Cap outputwires mutual (pF)
EXC 35 SOX 220-240V 50/60Hz	1	35	4	50/60	220-240	65	65	50	200
EXC 36 SOX-E 220-240V 50/60Hz	1	36	4	50/60	220-240	65	65	50	200
EXC 55 SOX 220-240V 50/60Hz	1	55	4	50/60	220-240	65	65	50	200
EXC 66 SOX-E 220-240V 50/60Hz	1	66	5	50/60	220-240	65	65	50	200
EXC 91 SOX-E 220-240V 50/60Hz	1	91	7	50/60	220-240	65	65	50	200

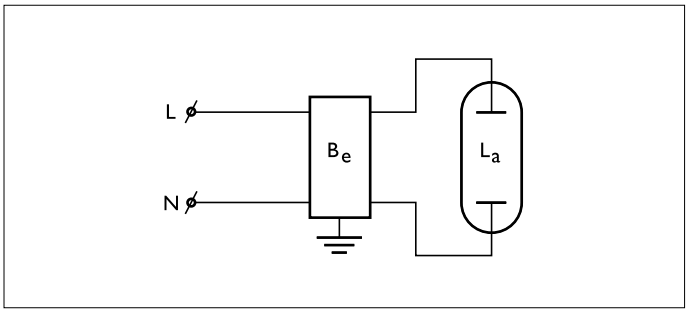
Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
EXC 35 SOX 220-240V 50/60Hz	0.266 kg	25	31.3 cm x 22.5 cm x 21.4 cm	8711500062390	062383 30
EXC 36 SOX-E 220-240V 50/60Hz	0.267 kg	25	31.3 cm x 22.5 cm x 21.4 cm	8711500062413	062406 30
EXC 55 SOX 220-240V 50/60Hz	0.289 kg	25	31.3 cm x 22.5 cm x 21.4 cm	8711500062437	062420 30
EXC 66 SOX-E 220-240V 50/60Hz	0.289 kg	25	31.3 cm x 22.5 cm x 21.4 cm	8711500062451	062444 30
EXC 91 SOX-E 220-240V 50/60Hz	0.333 kg	10	37.6 cm x 20.6 cm x 7.6 cm	8711500741097	741080 30

Electrical installation notes

Note:

In order to reset stop circuit of electronic driver, mains supply must be switched off for ten seconds when replacing defective lamp.



EXC



HID-PVXT45

Product Description

- Compact, robust, outdoor, one-piece, electronic gears for CosmoPolis White (CPO-TW) lamps

Features and Benefits

- Single easily-installed, self-contained component
- High system efficiency – up to 92%
- Xtreme long lifetime gear: 60,000 hours 95% survival rate (or 80,000 hours with 90% survival rate) at nominal temperature
- Peak voltage protection safeguards the lamp; surge protection safeguards the gear (differential mode/common mode 2kV/4kV)
- Full lightning protection (10kV L/N to GND)
- Guaranteed system performance at all mains voltages from 198-254 V
- Double insulated so easy to use in Class 2 applications
- Stable, flicker-free lamp operation
- Self-stopping facility prevents cycling of old lamps
- Size suitable for both luminaire and pole mounting and also for retrofit installations (same footprint as electromagnetic systems)
- Cage clamp terminal connections with pushbutton release
- Compact and environment-friendly system

Applications

- Road and street lighting
- Residential lighting
- City beautification
- Indoor and outdoor applications, recommended outdoor luminaire classification > IP 23

Environment

- Philips Green product with high efficacy minimises environmental impact and CO_2 emission
- RoHS compliant
- ENEC or KEMA/VDE approved

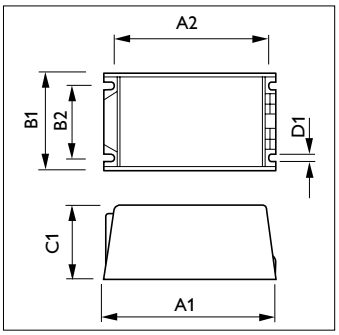
Quality

Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- European standards: Philips HID electronic gears comply with all relevant international rules and regulations

Recommended lamp page 3.190

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HID-PV Xt

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-PrimaVision Xtreme 45/60 /S CPO-TW	135.0	125.7	65.0	46.8	65.0	4.8
HID-PrimaVision Xtreme 90/140 /S CPO-TW	150.0	140.7	65.0	46.8	65.0	4.8

Inrush current

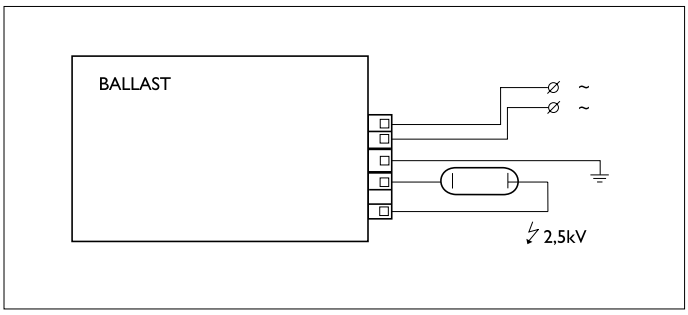
Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-PrimaVision Xtreme 45/60 /S CPO-TW 220-240V 50/60Hz	11	37	0.29

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-PrimaVision Xtreme 45 /S CPO-TW 220-240V	1	45	6.5	50/60	220-240	80	90	50	2.4	1000
HID-PrimaVision Xtreme 60 /S CPO-TW 220-240V	1	60	7.3	50/60	220-240	80	90	50	2.4	1000
HID-PrimaVision Xtreme 90 /S CPO-TW 220-240V	1	90	9.0	50/60	220-240	80	90	50	2.1	1000
HID-PrimaVision Xtreme 140 /S CPO-TW 220-240V	1	140	12.7	50/60	220-240	80	90	50	2.1	1000

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-PrimaVision Xtreme 45 /S CPO-TW 220-240V 50/60Hz	0.95 kg	12	40.1 cm x 15.6 cm x 16.3 cm	8711500915078	915061 30
HID-PrimaVision Xtreme 60 /S CPO-TW 220-240V 50/60Hz	0.85 kg	12	40.1 cm x 15.6 cm x 16.3 cm	8711500914910	914903 30
HID-PrimaVision Xtreme 90 /S CPO-TW 220-240V 50/60Hz	0.95 kg	12	27.5 cm x 17.1 cm x 22.8 cm	8711500914934	914927 30
HID-PrimaVision Xtreme 140 /S CPO-TW 220-240V 50/60Hz	0.95 kg	12	27.5 cm x 17.1 cm x 22.8 cm	-	-



HID-PV Xt



HID-DV

Product Description

- Stand-alone dimming, lightweight, one-piece electronic gear for CosmoWhite lamps

Features and Benefits

- Step dimming from 100% down to 60% within three pre-programmed cycles - 6, 8 and 10 hours – at start times determined in the dimming cycle
- No external control components nor additional signal wiring required
- Single easily-installed, self-contained component
- High system efficiency – up to 92%
- Xtreme long lifetime gear: 60,000 hours 95% survival rate (or 80,000 hours with 90% survival rate) at nominal temperature
- Peak voltage protection safeguards the lamp; surge protection safeguards the gear (differential mode/common mode 2kV/4kV)
- Full lightning protection (10kV L/N to GND)
- Guaranteed system performance at all mains voltages from 198-254 V
- Double insulated so easy to use in Class 2 applications
- Stable, flicker-free lamp operation
- Self-stopping facility prevents cycling of old lamps
- Size suitable for both luminaire and pole mounting and also for retrofit installations (same footprint as electromagnetic systems)
- Cage clamp terminal connections with pushbutton release
- Compact and environment-friendly system

Applications

- Road and street lighting
- Residential lighting
- City beautification
- Indoor and outdoor applications, recommended outdoor luminaire classification > IP 23

Environment

- Philips Green product with high efficacy minimises environmental impact and CO_2 emission
- RoHS compliant
- ENEC or KEMA/VDE approved

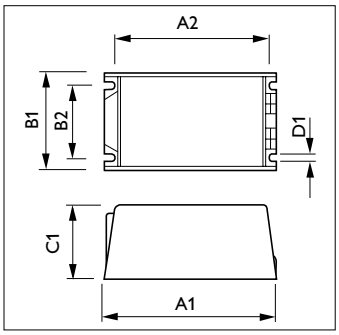
Quality

Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- European standards: Philips HID electronic gears comply with all relevant international rules and regulations

Recommended lamp page 3.190

www.philips.com/OEM



HID-DV

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-DynaVision LS Xt 60 CPO-TW	135.0	120.9	65.0	46.8	65.0	4.8

Inrush current

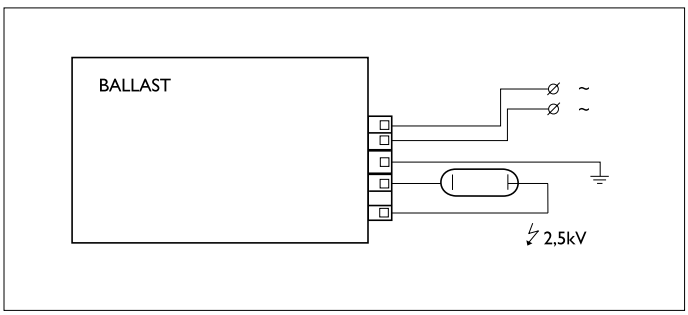
Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-DynaVision LS Xt 60 CPO-TW	11	37	0.29

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-DynaVision LS	1	60	7.3	50/60	220-240	70	70	50	2.4	1000

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-DynaVision LS-6 Xt 60 /S CPO-TW 220-240V	0.85 kg	12	40.1 cm x 15.6 cm x 16.3 cm	8711500915092	915085 30
HID-DynaVision LS-8 Xt 60 /S CPO-TW 220-240V	0.85 kg	12	40.1 cm x 15.6 cm x 16.3 cm	8711500915115	915108 30
HID-DynaVision LS-10 Xt 60 /S CPO-TW 220-240V	0.85 kg	12	40.1 cm x 15.6 cm x 16.3 cm	8711500915153	915122 30



HID-DV



HID-DVC

Product Description

- HID-DynaVision Controller for combination with dimming gear (BSH), electromagnetic gear (BSN) and ignitor

Features and Benefits

- Offers the possibility of creating 250W and 400W SON dimming systems with electromagnetic gear
- Can be added on to existing luminaires, practically no cable-length restrictions
- Light level can be continuously dimmed from 100 to 20% (approx. 35% system power)
- 1-10V input for dim-control signal
- Constant lamp power for mains overvoltage, power control at all dimming levels
- HID-DV Controller in Aluminium house, M8 stud for mounting, screw connectors for wiring
- Electromagnetic gears equipped with screw terminal blocks

Applications

- Similar to those of the related lamps (SON), for continuous dimming in telecontrol or telemanagement system
- Can also be used as two-level dimming system with switched line control when used in combination with an SDU
- Climatic suitability: use in luminaries or poles under normal humid conditions (IP > 23)

Quality

Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electronic gears comply with all relevant international rules and regulations.

Compliances and approvals

HID-em	
Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001
HID-ignitors	
Safety	EN 61347-2-1
Performance	EN 60927
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC

CE-marking	
Environmental standard	ISO 14001
HID-electronics	
Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 55022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547

Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

Recommended lamp page 3.190

www.philips.com/OEM



BSH

Inrush current

Type	Inrush current Peak (A)	Inrush current Width (ms)
HID-DynaVision Control 250/400 SON 220-240V 50/60Hz	3.6	0.10
HID-DynaVision Control BSH 250/400 L36 220/240V 50/60Hz HD1-118	-	-

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient
HID-DynaVision Control 250 SON 220-240V 50/60Hz	1	250	40	50/60	220-240	85	85	50
HID-DynaVision Control 400 SON 220-240V 50/60Hz	1	400	50	50/60	220-240	85	85	50
HID-DynaVision Control BSH 250/400 L36 220/240V 50/60Hz HD1-118	1	250/400	11.0-20.0	50/60	220/240	-	-	-

Electrical data

Type	T-winding	Delta-T normal conditions (°C)	Design
HID-DynaVision Control 250 SON 220-240V 50/60Hz	-	-	-
HID-DynaVision Control 400 SON 220-240V 50/60Hz	-	-	-
HID-DynaVision Control BSH 250/400 L36 220/240V 50/60Hz HD1-118	130	75	HD1-118

Ordering and packing data

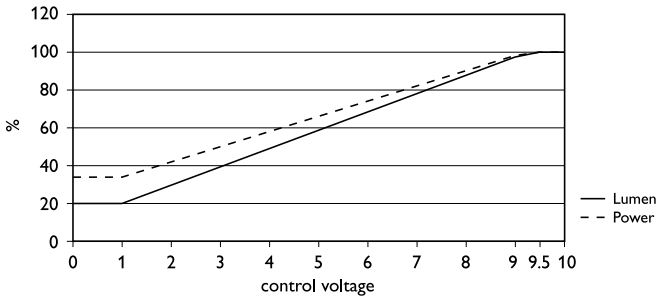
Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-DynaVision Control 250 SON 220-240V 50/60Hz	0.363 kg	6	15.5 cm x 13.7 cm x 8.5 cm	8711500748553	748546 30
HID-DynaVision Control BSH 250/400 L36 220/240V 50/60Hz HD1-118	1.265 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500539854	539847 31
HID-DynaVision Control 400 SON 220-240V 50/60Hz	0.363 kg	6	15.5 cm x 13.7 cm x 8.5 cm	8711500748652	748645 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for performance	203 - 254 V
With tolerances for operation	180 - 264 V
Mains frequency	50/60 Hz
Operation frequency (typical)	50 Hz
Power factor* (nominal power)	> 0.92
Power factor* (35% power)	> 0.7
*With rated PF capacitor value	
Earth leakage current (per gear)	< 0.5 mA
Overvoltage protection	48 hrs at 325 Vac
	2 hrs at 366 Vac
	5 min at 400 Vac
Cable length to normal gear	No limit.

Notes:

1. With three-phase mains supply, neutral should never be disconnected; otherwise circuitry could be damaged.
2. Gear must be earthed.
3. Power factor correction capacitor should be connected directly on the mains; when installing this device in front of existing gear, the original capacitor has to be removed.



HID-DVC

Control characteristics

Control input	
Control voltage input	1-10 V
Protected against mains voltage connection	Yes
Control resistance (to be connected on 1-10V input)	0 - 100 kΩ
Regulating light level SON 250/400 W	20 - 100%

After ignition or lamp restrike allways 100% level for 5 min

Gear dimming fading rates are:

SON 250/400 W	
Fade up (35-100%)	< 1.0 min
Fade down (100-35%)	< 1.5 min

Mechanical installation notes

Wire cross-section:	
On the mains side	0.75…2.5 mm^2
On the lamp side	0.75…2.5 mm^2
Strip length	6 mm





SDU

Product Description

- Interface for two-level control of electronic gears with 1-10V dim input with 230V switched line signal

Features and Benefits

- HF-Regulator for Fluorescent lamps: dimming from 100 to 50%
- In combination with HID-DynaVision drivers for SON (SDU-01/H) or CDO (SDU-01/L) lamps: dimming from 100 to 50%
- When SDU is connected the dim-input of the electronic gear is not galvanically isolated anymore!
- SDU in synthetic 'standard' ignitor house with M8 stud, screw connectors for wiring

Applications

- Public lighting where two-level dimming is required combined with the advantages of electronic operation

Quality

Philips Quality assures optimum quality regarding:

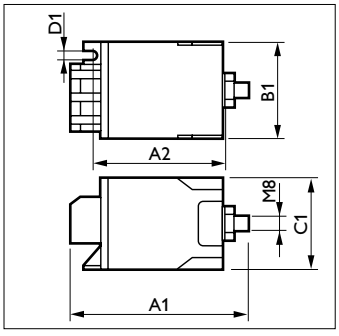
- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electronic gears comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 55022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

Recommended lamp page 3.190

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SDU-01/H /L

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
SDU-01/H /L 220-240V 50/60Hz	89.0	70.0	41.0	38.0	4.3

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case maximum (°C)	T-ambient
SDU-01/H /L	1-4	13-600	50/60	220-240	85	80

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8727900
SDU-01/H	0.043 kg	20	20 cm x 17.5 cm x 11 cm	8711500747297	800845 00
SDU-01/L	0.043 kg	20	20 cm x 17.5 cm x 11 cm	8711500747273	800869 00

Electrical installation notes

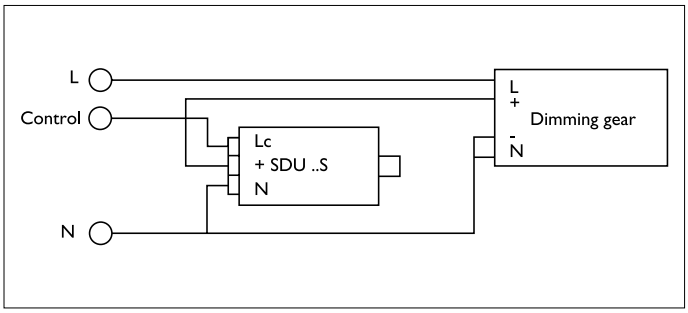
Mains operation

With tolerances for performance -8%…+6%	220 - 240 V
Control voltage	198 - 260 V
Max input current	160 mA
Operation frequency	50/60 Hz

Mechanical installation notes

Wire cross-section:

On the mains side	0.75…2.5 mm^2
Strip length	6 mm



SDU



BSN

Product Description

- Impregnated electromagnetic copper/iron gears for use with an external semi parallel ignitor for CDM, CDO, MH, HPI (Plus) and SON lamps

Features and Benefits

- All gears are equipped with ThermoSwitch for protection against end-of-lamp-life phenomena
- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Control gear can be installed remotely; substantial distance allowed between gear/ignitor & lamp
- Equipped as standard with screw terminal blocks; insert contact on request
- Earthing-while-mounting facility
- Gear can also be used in combination with series (superimposed) ignitor
- Gears for alternative mains voltages/frequencies on request

Applications

- Ideal for the following applications:
  - Recreational sports lighting, indoor and outdoor
  - Road and residential lighting
  - Floodlighting of buildings and monuments
  - Area lighting, e.g. harbors, building sites
  - Canopy lighting, e.g. petrol stations
  - Horticulture
- Climatic suitability: restricted to built-in situations where relative humidity is limited

Quality

Philips Quality assures optimum quality regarding:

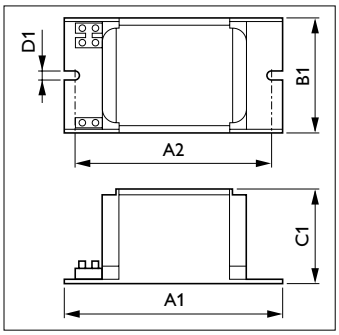
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

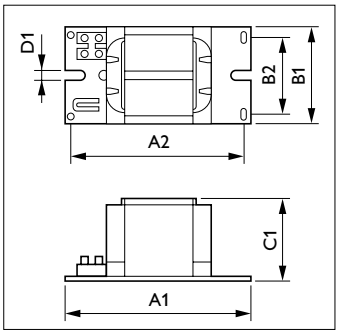
Recommended lamp page 3.190

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BMH/BSN

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BMH 35/70	118.0	94.0	61.0	52.0	6.2
BSN 50	118.0	94.0	61.0	52.0	6.2
BSN 100	123.0	98.0	61.0	52.0	6.2
BSN 150	134.0	113.0	76.0	65.0	6.2
BSN 250	160.0	139.0	76.0	65.0	6.2



BSN

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
BSN 400/600	166.0	145.0	97.0	78.5	83.0	6.5



BMH

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)	Design
BMH 35 L427-ITS 230/240V 50Hz	1	35	7.0	50	230/240	130	65/70	0.24	BC1-118
BMH 70 L302-ITS 230V 50Hz BC1-118	1	70	12.8	50	230	130	70	0.45	BC1-118
BSN 50 L427-ITS 230/240V 50Hz BC1-118	1	50	8.1/8.5	50	230/240	130	60/65	0.30	BC1-118
BSN 100 L407-ITS 230/240V 50Hz BC1-123	1	100	13.5/14.1	50	230/240	130	70/75	0.60	BC1-123
BSN 150 L407-ITS 230/240V 50Hz BC2-134	1	150	16.3	50	230/240	130	70	0.85	BC2-134
BSN 250 L407-ITS 230/240V 50Hz BC2-160	1	250	25.2/26.3	50	230/240	130	70	1.31	BC2-160
BSN 400 L307-TS-R 230/240V 50Hz BC3-166	1	400	29/30	50	230/240	130	70/75	2.3	BC3-166
BSN 400 L407-ITS 230/240V 50Hz BC3-166	1	400	30.0	50	230/240	130	75	2.20	BC3-166
BSN 600 L3030-ITS 480V 60Hz BC3-166	1	600	37	60	480	130	70	1.60	BC3-166
BSN 600 L407-ITS 230/240V 50Hz BC3-166	1	600	34.0	50	230/240	130	75	3.10	BC3-166
BSN 600 L309-ITS 400V 50Hz BC3-166	1	600	37	50	400	130	75	1.87	BC3-166

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BMH 35 L427-ITS 230/240V 50Hz	1.01 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500749208	749192 30
BMH 70 L302-ITS 230V 50Hz BC1-118	1.1 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500061355	739704 31
BSN 50 L427-ITS 230/240V 50Hz BC1-118	0.87 kg	960	120 cm x 80 cm x 44.5 cm	8711500749604	749581 40
BSN 100 L407-ITS 230/240V 50Hz BC1-123	1.22 kg	6	19.6 cm x 13.8 cm x 11.1 cm	8711500747754	747747 30
BSN 150 L407-ITS 230/240V 50Hz BC2-134	1.82 kg	6	24.2 cm x 14.9 cm x 13.7 cm	8711500739094	739087 30
BSN 250 L407-ITS 230/240V 50Hz BC2-160	2.9 kg	6	24.2 cm x 17.5 cm x 13.7 cm	8711500739179	739162 30
BSN 400 L307-TS-R 230/240V 50Hz BC3-166	4.3 kg	2	21 cm x 17.9 cm x 9 cm	8711500736338	736321 30
BSN 400 L407-ITS 230/240V 50Hz BC3-166	4.3 kg	2	21 cm x 17.9 cm x 9 cm	8711500934406	538635 31
BSN 600 L3030-ITS 480V 60Hz BC3-166	5.2 kg	168	120 cm x 80 cm x 25.8 cm	8711500931795	931788 40
BSN 600 L407-ITS 230/240V 50Hz BC3-166	5.2 kg	2	21 cm x 17.9 cm x 9 cm	8711500538819	538802 30
BSN 600 L309-ITS 400V 50Hz BC3-166	5.2 kg	2	21 cm x 17.9 cm x 9 cm	8711500748362	748355 30

Electrical installation notes

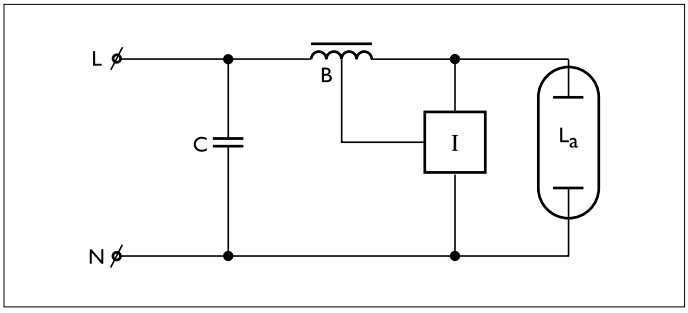
Mains operation

With tolerances for performance	-8% / +6%
With tolerances for operation	-10% / +10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85

Mechanical installation notes

Wire cross-section:

On the mains side	0.75-2.5 mm^2
Strip length	6 mm



BMH/BSN





BSN

Product Description

- Impregnated electromagnetic copper/iron gears for use with an external series (superimposed) ignitor for CDO, MH, HPI (Plus) and SON lamps (no ignitor needed for SON-I lamps)

Features and Benefits

- Reinforced insulation for protection class II luminaire
- All gears are equipped with ThermoSwitch protection against end-of-lamp-life phenomena
- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped as standard with screw terminal blocks; insert contact on request
- Earthing-while-mounting facility
- Gears for alternative mains voltages/frequencies on request

Applications

- Ideal for the following applications:
  - Recreational sports lighting, indoor and outdoor
  - Floodlighting of buildings and monuments
  - Area lighting, e.g. harbors, building sites
  - Canopy lighting, e.g. petrol stations
  - Road and residential lighting
- Climatic suitability: restricted to built-in situations where relative humidity is limited

Quality

Philips Quality assures optimum quality regarding:

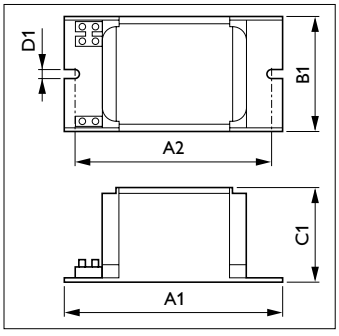
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

Recommended lamp page 3.190

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Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001



BMH

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BMH 35	118.0	94.0	61.0	52.0	6.2
BSN 70	118.0	94.0	61.0	52.0	6.2
BSN 100	123.0	98.0	61.0	52.0	6.2
BSN 150	134.0	113.0	76.0	65.0	6.2
BSN 250	160.0	139.0	76.0	65.0	6.2

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)	Design
BMH 35 L307-TS-R 230/240V 50Hz	1	35	7.8/8.2	50	230/240	130	45/50	0.24	BC1-118
BSN 70 L307-TS 230/240V 50Hz BC1-118	1	70	14.1	50	230/240	130	85	0.45	BC1-118
BSN 70 L307-TS-R 230/240V 50Hz BC1-118	1	70	12.7/13.1	50	230/240	130	60/65	0.40	BC1-118
BSN 100 L322-ITS 230V 50Hz BC1-123	1	100	14.1	50	230	130	75	1.0	BC1-123
BSN 100 L407-ITS 230/240V 50Hz BC1-123	1	100	14.1/14.7	50	230/240	130	70/75	1.00	BC1-123
BSN 150 L307-TS 230/240V 50Hz BC2-134	1	150	17.4	50	230/240	130	70	0.85	BC2-134
BSN 150 L307-TS-R 230/240V 50Hz BC2-134	1	150	17.4/17.9	50	230/240	130	70/75	0.90	BC2-134
BSN 150 L322-ITS 230V 50Hz BC2-134	1	150	18.3	50	230	130	70	0.85	BC2-134
BSN 250 L307-TS 230/240V 50Hz BC2-160	1	250	22.7	50	230/240	130	70	1.40	BC2-160
BSN 250 L307-TS-R 230/240V 50Hz BC2-160	1	250	22.7/23.3	50	230/240	130	70/75	1.50	BC2-160

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BMH 35 L307-TS-R 230/240V 50Hz	1.01 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500736116	063991 30
BSN 70 L307-TS 230/240V 50Hz BC1-118	1.2 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500060792	917171 31
BSN 70 L307-TS-R 230/240V 50Hz BC1-118	1.215 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500736154	736147 30
BSN 100 L322-ITS 230V 50Hz BC1-123	1.3 kg	6	19.6 cm x 13.8 cm x 11.1 cm	8711500737816	737809 30
BSN 100 L407-ITS 230/240V 50Hz BC1-123	1.3 kg	6	19.6 cm x 13.8 cm x 11.1 cm	8711500737748	737731 30
BSN 150 L307-TS 230/240V 50Hz BC2-134	1.7 kg	6	24.2 cm x 14.9 cm x 13.7 cm	8711500739193	739186 30
BSN 150 L307-TS-R 230/240V 50Hz BC2-134	1.7 kg	6	24.2 cm x 14.9 cm x 13.7 cm	8711500736277	736260 30
BSN 150 L322-ITS 230V 50Hz BC2-134	2.08 kg	415	120 cm x 80 cm x 40 cm	8711500738028	737892 41
BSN 250 L307-TS 230/240V 50Hz BC2-160	2.7 kg	6	24.2 cm x 17.5 cm x 13.7 cm	8711500737328	737311 30
BSN 250 L307-TS-R 230/240V 50Hz BC2-160	2.7 kg	6	24.2 cm x 17.5 cm x 13.7 cm	8711500736314	736307 30
BSN 250 L322-ITS 230V 50Hz BC2-160	2.9 kg	268	120 cm x 80 cm x 40 cm	8711500737724	737717 41

Electrical installation notes

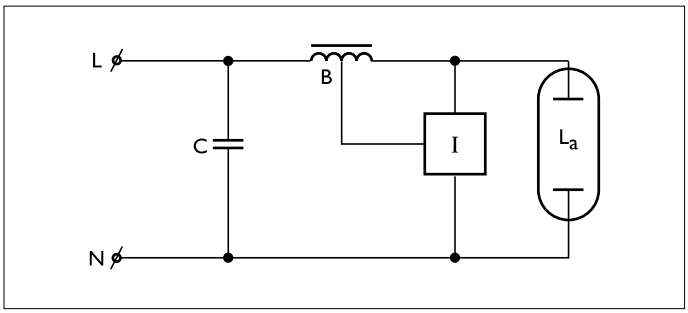
Mains operation

With tolerances for performance	-8% / +6%
With tolerances for operation	-10% / +10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85

Mechanical installation notes

Wire cross-section:

On the mains side	0.75-2.5 mm^2
Strip length	6 mm



BMH/BSN



BSN

Product Description

- Impregnated electromagnetic copper/iron double-wattage gears for use with an external series (superimposed) ignitor for CDO, MH, HPI (Plus) and SON lamps

Features and Benefits

- Double wattage & double voltage gears
- Possibility of dimming with an external controller
- All gears are equipped with ThermoSwitch protection against end-of-lamp-life phenomena
- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped as standard with screw terminal blocks; insert contact on request
- Earthing-while-mounting facility
- Gears for alternative mains voltages/frequencies on request

Applications

- Ideal for the following applications:
  - Road and residential lighting
  - Recreational sports lighting, indoor and outdoor
  - Floodlighting of buildings and monuments
  - Area lighting, e.g. harbors, building sites, city centres, shopping centres, pedestrian areas
  - Canopy lighting, e.g. petrol stations
- Climatic suitability: restricted to built-in situations where relative humidity is limited

Quality

Philips Quality assures optimum quality regarding:

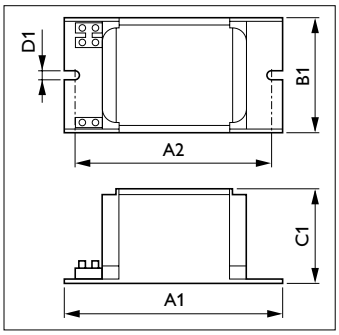
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

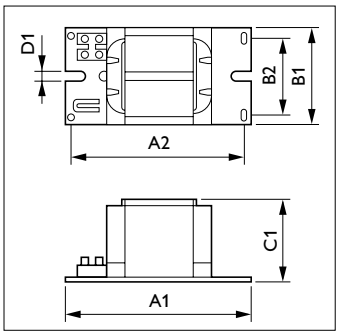
Recommended lamp page 3.190

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BSN

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BSN 50/70	118.0	94.0	61.0	52.0	6.2
BSN 70/100	123.0	98.0	61.0	52.0	6.2
BSN 100/150	134.0	113.0	76.0	65.0	6.2



BSN

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
BSN 150/250 & 250/400	166.0	145.0	97.0	78.5	83.0	6.5

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)	Design
BSN 50/70 L407-TS 230/240V 50Hz BC1-118	1	50/70	10.3/11.6	50	230/240	130	60/70	0.30/0.45	BC1-118
BSN 70/100 L407-TS 230/240V 50Hz BC1-123	1	70/100	11.2/15.3	50	230/240	130	60/75	0.45/0.6	BC1-123
BSN 100/150 L407-TS 230/240V 50Hz	1	100/150	10.0/17.7	50	230/240	130	40/65	0.6/0.85	BC2-134
BSN 150/250 L407-TS 230/240V 50Hz	1	150/250	13.2/27.1	50	230/240	130	40/80	0.85/1.4	BC3-166

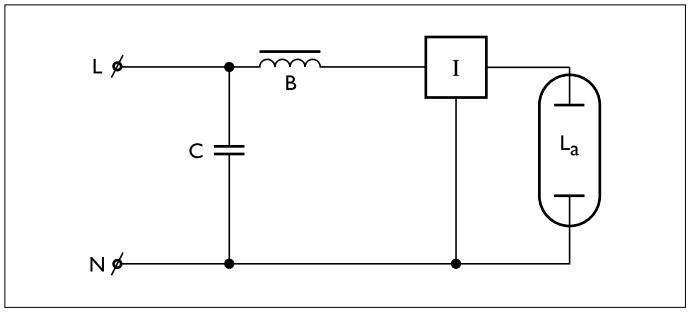
Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BSN 50/70 L407-TS 230/240V 50Hz BC1-118	1.2 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500539410	539403 31
BSN 70/100 L407-TS 230/240V 50Hz BC1-123	1.31 kg	6	19.6 cm x 13.8 cm x 11.1 cm	8711500060501	060495 30
BSN 100/150 L407-TS 230/240V 50Hz	2.17 kg	6	24.2 cm x 14.9 cm x 13.7 cm	8711500063922	063915 30
BSN 150/250 L407-TS 230/240V 50Hz	3.365 kg	2	21 cm x 17.9 cm x 9 cm	8711500736369	736352 30
BSN 250/400 L407-TS 230/240V 50Hz	5.36 kg	2	21 cm x 17.9 cm x 9 cm	8711500060440	060433 30

Electrical installation notes

Mains operation

With tolerances for performance	-8% / +6%
With tolerances for operation	-10% / +10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85



BSN

Mechanical installation notes

Wire cross-section:

On the mains side	0.75-2.5 mm^2
Strip length	6 mm



BSN

Product Description

- Encapsulated electromagnetic copper/iron gears for use with an external semi-parallel ignitor for CDM, CDO, MH, HPI (Plus) and SON lamps (no ignitor needed for SON-I lamps)

Features and Benefits

- Outstanding product life (ten - fifteen years)
- Excellent resistance to chemical attack, humid conditions and high environmental stress crack resistance
- Separate earth terminal
- All gears are equipped with ThermoSwitch protection against end-of-lamp-life phenomena
- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped as standard with screw terminal blocks
- Gear can also be used in combination with a series (superimposed) ignitor
- Gears for alternative mains voltages/frequencies on request

Applications

- Ideal for the following applications:
  - Outdoor: tunnels and parking areas
  - Outside luminaire: in the pole or electrical cabinet
  - Road and residential lighting
  - Area lighting, e.g. harbors, building sites, city centres, shopping centres, pedestrian areas
- Climatic suitability: use in luminaires under normal humidity conditions (not drip-proof)

Quality

Philips Quality assures optimum quality regarding:

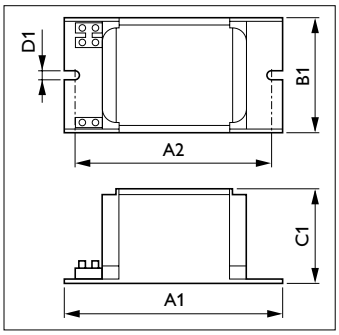
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

Recommended ballast page 3.190

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BSN

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HID-HeavyDuty BSN 50/70	118.0	103.0	65.0	53.0	6.2
HID-HeavyDuty BSN 100	123.0	108.0	65.0	53.0	6.2
HID-HeavyDuty BSN 150 L33	126.0	107.5	81.0	66.0	6.2
HID-HeavyDuty BSN 150 L34	134.0	115.5	81.0	66.0	6.2
HID-HeavyDuty BSN 250 L33	151.0	132.5	81.0	66.0	6.2
HID-HeavyDuty BSN 250 L34	160.0	141.5	81.0	66.0	6.2
HID-HeavyDuty BSN 400	166.0	147.5	102.0	84.0	6.2

Electrical data

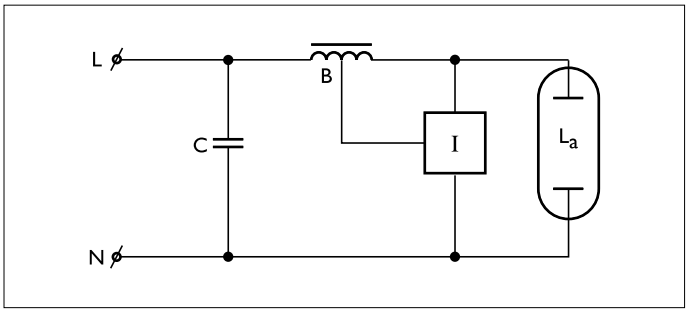
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)	Design
HID-HeavyDuty BSN 50 L33-TS 230V 50Hz	1	50	10.9	50	230	130	60	0.30	HD1-118
HID-HeavyDuty BSN 50 L34 240V 50Hz	1	50	10.0	50	240	130	65	0.30	HD1-118
HID-HeavyDuty BSN 70 L33-TS 230V 50Hz	1	70	11.0	50	230	130	55	0.45	HD1-118
HID-HeavyDuty BSN 70 L34-TS 240V 50Hz	1	70	11.5	50	240	130	55	0.45	HD1-118
HID-HeavyDuty BSN 100 L33-TS 230V 50Hz	1	100	13.6	50	230	130	70	0.60	HD1-123
HID-HeavyDuty BSN 100 L34-TS 240V 50Hz	1	100	13.8	50	240	130	75	0.60	HD1-123
HID-HeavyDuty BSN 150 L33-TS 230V 50Hz	1	150	19.0	50	230	130	75	0.85	HD2-126
HID-HeavyDuty BSN 150 L34-TS 240V 50Hz	1	150	20.0	50	240	130	70	0.85	HD2-134
HID-HeavyDuty BSN 250 L33-TS 230V 50Hz	1	250	29.0	50	230	130	80	1.40	HD2-151
HID-HeavyDuty BSN 250 L34-TS 240V 50Hz	1	250	27.0	50	240	130	80	1.40	HD2-160
HID-HeavyDuty BSN 400 L33-TS 230V 50Hz	1	400	28.0	50	230	130	70	2.20	HD3-166
HID-HeavyDuty BSN 400 L34-TS 240V 50Hz	1	400	32.0	50	240	130	70	2.20	HD3-166

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-HeavyDuty BSN 50 L33-TS 230V 50Hz HD1-118	1 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500748232	748225 30
HID-HeavyDuty BSN 50 L34 240V 50Hz HD1-118	1 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500062093	915399 31
HID-HeavyDuty BSN 70 L33-TS 230V 50Hz HD1-118	1.28 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500062154	059680 31
HID-HeavyDuty BSN 70 L34-TS 240V 50Hz HD1-118	1.28 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500062161	059703 31
HID-HeavyDuty BSN 100 L33-TS 230V 50Hz HD1-123	1.3 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061614	059727 31
HID-HeavyDuty BSN 100 L34-TS 240V 50Hz HD1-123	1.3 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061621	059741 31
HID-HeavyDuty BSN 150 L33-TS 230V 50Hz HD2-126	1.8 kg	6	25.3 cm x 14.2 cm x 13.9 cm	8711500059611	059604 30
HID-HeavyDuty BSN 150 L34-TS 240V 50Hz HD2-134	1.8 kg	6	25.3 cm x 15 cm x 13.9 cm	8711500059635	059628 30
HID-HeavyDuty BSN 250 L33-TS 230V 50Hz HD2-151	2.7 kg	6	25.3 cm x 16.7 cm x 13.9 cm	8711500059659	059642 30
HID-HeavyDuty BSN 250 L34-TS 240V 50Hz HD2-160	3.05 kg	6	25.3 cm x 17.6 cm x 13.9 cm	8711500059673	059666 30
HID-HeavyDuty BSN 400 L33-TS 230V 50Hz HD3-166	4.55 kg	4	21.6 cm x 18.2 cm x 17.7 cm	8711500059772	059765 30
HID-HeavyDuty BSN 400 L34-TS 240V 50Hz HD3-166	4.55 kg	4	21.6 cm x 18.2 cm x 17.7 cm	8711500059796	059789 30

Electrical installation notes

Mains operation	
With tolerances for performance	-8% / +6%
With tolerances for operation	-10% / +10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85



BSN

Mechanical installation notes

Wire cross-section:	
On the mains side	0.75-2.5 mm^2
Strip length	6 mm





BHL

Product Description

- Impregnated electromagnetic copper/iron gears for HPL and HPI (Plus) lamps

Features and Benefits

- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped as standard with screw terminal blocks; insert contacts on request
- Earthing-while-mounting facility
- Simple installation and cabling
- ThermoSwitch added for maximum safety
- Gears for alternative mains voltages/frequencies on request

Applications

- Ideal for the following applications:
  - High-bay lighting, e.g. industrial workshops, exhibition halls, hypermarkets, shopping malls, DIY stores, churches, airports, railway stations
  - Road and residential lighting
  - Recreational sports lighting, indoor and outdoor
  - Floodlighting of buildings and monuments
  - Area lighting, e.g. harbors, building sites
  - Canopy lighting, e.g. petrol stations
- Climatic suitability: restricted to built-in situations where relative humidity is limited

Quality

Philips Quality assures optimum quality regarding:

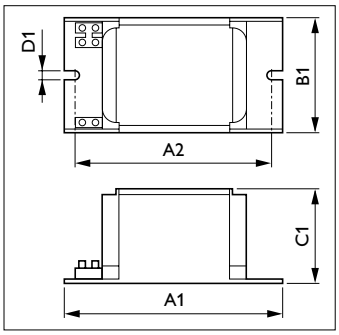
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

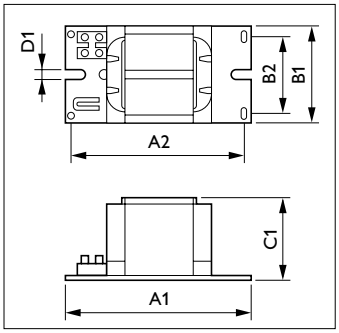
Recommended lamp page 3.190

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BHL

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BHL 50 & 50/80	160.0	139.0	76.0	65.0	6.2
BHL 80 & 80/125	-	-	-	-	-
BHL 250 L202	126.0	105.0	76.0	65.0	6.2
BHL 250 L327	123.0	98.0	61.0	52.0	6.2
BHL 400 L202	151.0	130.0	76.0	65.0	6.2
BHL 400 L327	134.0	113.0	76.0	65.0	6.2



BHL 125 L202 - A

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BHL 125 L202 - A 230V 50Hz	118.0	94.0	61.0	52.0	6.2



BHL 125 L202 - A

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)	Design
BHL 50 L307 230/240V 50Hz BC1-118	1	50	8.7	50	230/240	130	55	0.30	BC1-118
BHL 50/80 L427 230/240V 50Hz BC1-118	1	50/80	8.2/10.4	50	230/240	130	65	0.30/0.45	BC1-118
BHL 80 L202 230V 50Hz BC1-118	1	80	10.4	50	230	130	65	0.45	BC1-118
BHL 80/125 L407 230/240V 50Hz BC1-118	1	80/125	9.2/14.2	50	230/240	130	75	0.45/0.70	BC1-118
BHL 80/125 L302 230V 50Hz BC1-118	1	80/125	-	50	230	130	-	-	BC1-118
BHL 125 L202 230V 50Hz BC1-118	1	125	14.0	50	230	130	75	0.70	BC1-118
BHL 125 L202 - A 230V 50Hz	1	125	16.4	50	230	130	85	0.7	BC1-118
BHL 125 L307 230/240V 50Hz BC1-118	1	125	14.0	50	230/240	130	85	0.70	BC1-118
BHL 250 L202 230V 50Hz BC2-126	1	250	17.9	50	230	130	70	1.35	BC2-126
BHL 250 L327-TS 230/240V 50Hz BC2-134	1	250	18.5/19.4	50	230/240	130	80	1.40	BC2-134
BHL 400 L202 230V 50Hz BC2-151	1	400	21.5	50	230	130	65	2.15	BC2-151
BHL 400 L327-TS 230/240V 50Hz BC2-160	1	400	21.4/24.5	50	230/240	130	65/70	2.20	BC2-160

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BHL 50 L307 230/240V 50Hz BC1-118	0.86 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500060891	919076 30
BHL 50/80 L427 230/240V 50Hz BC1-118	1.05 kg	720	120 cm x 80 cm x 32.9 cm	8711500742674	742643 40
BHL 80 L202 230V 50Hz BC1-118	0.87 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500061324	945433 30
BHL 80/125 L407 230/240V 50Hz BC1-118	1.3 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500060693	945549 31
BHL 80/125 L302 230V 50Hz BC1-118	1.3 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500060679	945532 31
BHL 125 L202 230V 50Hz BC1-118	1.05 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500060938	919434 31
BHL 125 L202 - A 230V 50Hz	1.135 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500737359	737342 30
BHL 125 L307 230/240V 50Hz BC1-118	1.05 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500060921	919090 31
BHL 250 L202 230V 50Hz BC2-126	1.85 kg	6	24.2 cm x 14.1 cm x 13.7 cm	8711500738172	738165 30
BHL 250 L327-TS 230/240V 50Hz BC2-134	1.85 kg	6	24.2 cm x 14.9 cm x 13.7 cm	8711500536068	536051 30
BHL 400 L202 230V 50Hz BC2-151	2.95 kg	6	24.2 cm x 16.6 cm x 13.7 cm	8711500739216	739209 30
BHL 400 L327-TS 230/240V 50Hz BC2-160	2.95 kg	6	24.2 cm x 17.5 cm x 13.7 cm	8711500536044	536037 30

Electrical installation notes

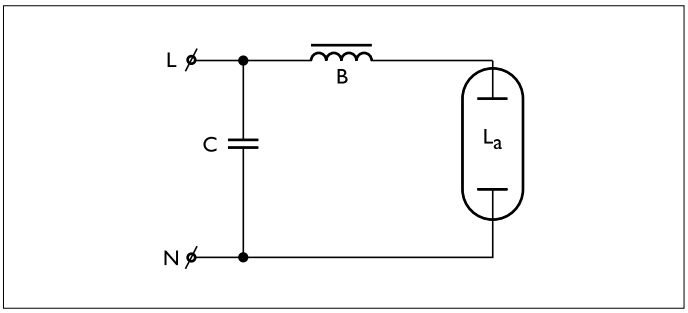
Mains operation

With tolerances for performance	-8% / +6%
With tolerances for operation	-10% / +10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85

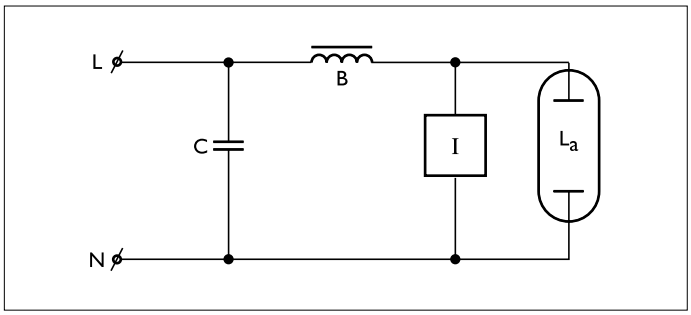
Mechanical installation notes

Wire cross-section:

On the mains side	0.75-2.5 mm^2
Strip length	6 mm



BHL 50, 50/80, 80, 80/125, 125



BHL 250/400


CEAT
CEAT



BHL

Product Description

- Encapsulated electromagnetic copper/iron gears for HPL and HPI (Plus) lamps

Features and Benefits

- Outstanding product life (ten - fifteen years)
- Excellent resistance to chemical attack, humid conditions and high environmental stress crack resistance
- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped as standard with screw terminal blocks
- Separate earth terminal (HID 'Heavy Duty')
- Simple installation and cabling
- Gears for alternative mains voltages/frequencies on request

Applications

- Ideal for the following applications:
  - Recreational sports lighting, indoor and outdoor
  - Floodlighting of buildings and monuments
  - Area lighting, e.g. harbors, building sites
  - Canopy lighting, e.g. petrol stations
  - High bay lighting, e.g. industrial workshops, exhibition halls, hypermarkets, shopping malls, DIY stores, churches, airports, railway stations
- Climatic suitability: use in luminaires under normal humidity conditions (not drip-proof)

Quality

Philips Quality assures optimum quality regarding:

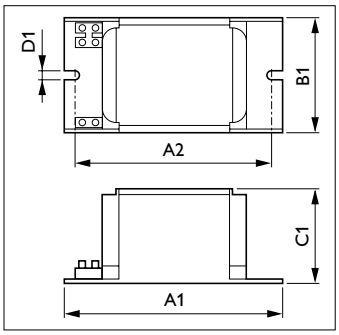
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

Recommended lamp page 3.190

www.philips.com/OEM



BHL

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HID-HeavyDuty BHL 50/80/125	118.0	103.0	65.0	53.0	6.2
HID-HeavyDuty BHL 250 L32	134.0	115.5	81.0	66.0	6.2
HID-HeavyDuty BHL 250 L40	126.0	107.5	81.0	66.0	6.2
HID-HeavyDuty BHL 400 L32	160.0	141.5	81.0	66.0	6.2
HID-HeavyDuty BHL 400 L40	151.0	132.5	81.0	66.0	6.2

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)	Design
HID-HeavyDuty BHL 50/80 L48 230V 50Hz	1	50/80	7.0/10.0	50	230	130	55	0.30/0.45	HD1-118
HID-HeavyDuty BHL 80 L32 240V 50Hz	1	80	10.5	50	240	130	60	0.45	HD1-118
HID-HeavyDuty BHL 80 L40 230V 50Hz	1	80	10.5	50	230	130	60	0.45	HD1-118
HID-HeavyDuty BHL 80/125 L48 230V 50Hz	1	80/125	9.6/12.2	50	230	130	75	0.45/0.70	HD1-118
HID-HeavyDuty BHL 125 L32 240V 50Hz	1	125	13.2	50	240	130	70	0.70	HD1-118
HID-HeavyDuty BHL 125 L40 230V 50Hz	1	125	12.7	50	230	130	70	0.70	HD1-118
HID-HeavyDuty BHL 250 L32 240V 50Hz	1	250	20.5	50	240	130	85	1.35	HD2-134
HID-HeavyDuty BHL 250 L40 230V 50Hz	1	250	19.5	50	230	130	85	1.35	HD2-126
HID-HeavyDuty BHL 400 L32 240V 50Hz	1	400	23.0	50	240	130	85	2.15	HD2-160
HID-HeavyDuty BHL 400 L40 230V 50Hz	1	400	22.0	50	230	130	80	2.15	HD2-151

Ordering and packing data

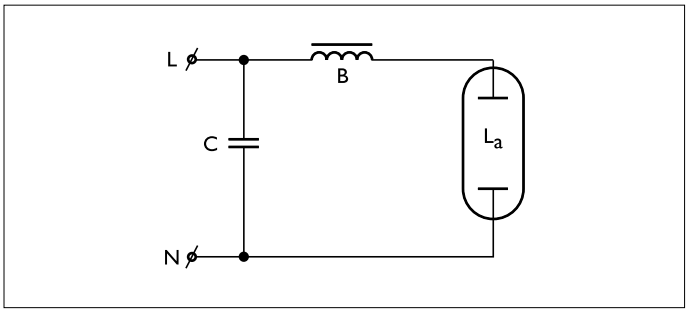
Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-HeavyDuty BHL 50/80 L48 230V 50Hz HD1-118	1.25 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061768	919649 31
HID-HeavyDuty BHL 80 L32 240V 50Hz HD1-118	1 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061690	919373 31
HID-HeavyDuty BHL 80 L40 230V 50Hz HD1-118	1 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061683	919359 31
HID-HeavyDuty BHL 80/125 L48 230V 50Hz HD1-118	1.25 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061782	919694 31
HID-HeavyDuty BHL 125 L32 240V 50Hz HD1-118	1.26 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061720	919441 31
HID-HeavyDuty BHL 125 L40 230V 50Hz HD1-118	1.26 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061744	915146 31
HID-HeavyDuty BHL 250 L32 240V 50Hz HD2-134	2.1 kg	6	25.3 cm x 15 cm x 13.9 cm	8711500932709	944894 30
HID-HeavyDuty BHL 250 L40 230V 50Hz HD2-126	1.84 kg	6	25.3 cm x 14.2 cm x 13.9 cm	8711500934604	919502 30
HID-HeavyDuty BHL 400 L32 240V 50Hz HD2-160	3.05 kg	6	25.3 cm x 17.6 cm x 13.9 cm	8711500932440	919557 30
HID-HeavyDuty BHL 400 L40 230V 50Hz HD2-151	2.75 kg	6	25.3 cm x 16.7 cm x 13.9 cm	8711500934703	919533 30

Electrical installation notes

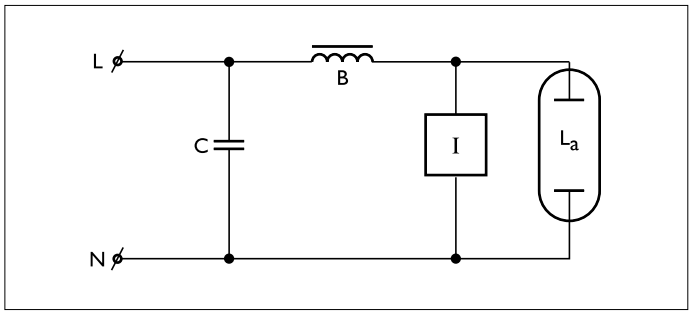
Mains operation	
With tolerances for performance	-8% / +6%
With tolerances for operation	-10% / +10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85

Mechanical installation notes

Wire cross-section:	
On the mains side	0.75-2.5 mm^2
Strip length	6 mm



BHL 50/80, 80, 80/125, 125



BHL 250/400



BHD

Product Description

- Encapsulated gears for use with SON (T) (Plus), HPL, HPI and MH lamps with rated wattages of 1000W and above

Features and Benefits

- Class I rated (i.e. with earthing facility)
- Compact dimensions and minimal watt losses (typically 5% of system power), thanks to orthocyclic winding process
- Both single-phase (220-230-240V) and 3-phase (380-400-415V) models
- Equipped as standard with screw terminal blocks
- Encapsulated design for excellent protection against moisture ingress
- Narrow cross-section is ideal for pole-mounting situations
- Gears for alternative mains voltages/frequencies on request

Applications

- Ideal for the following applications:
  - Floodlighting of large buildings, facades and monuments
  - Sports lighting, e.g. stadiums, arenas
  - Area lighting, e.g. harbors, building sites, industrial complexes

Quality

Philips Quality assures optimum quality regarding:

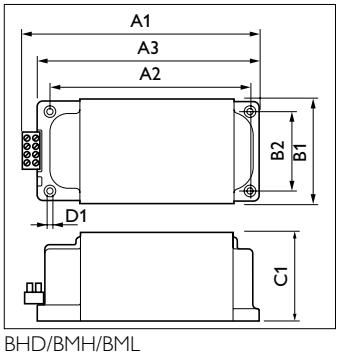
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

Recommended gear page 3.190

www.philips.com/OEM



BHD/BMH/BML

Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-HighPower BHD 2000 L76/L77	317.0	282.0	306.0	117.0	88.0	102.0	6.5
HID-HighPower BMH 1800 L43/L78 & 2000 L76	317.0	282.0	306.0	117.0	88.0	102.0	6.5
HID-HighPower BHL 1000 L02/L78	207.0	172.0	196.0	117.0	88.0	102.0	6.5
HID-HighPower BHL 2000 L50	257.0	222.0	246.0	117.0	88.0	102.0	6.5
HID-HighPower BHL 2000 L76/L78	317.0	282.0	306.0	117.0	88.0	102.0	6.5
HID-HighPower BSN 1000 L02/L43/L78	257.0	222.0	246.0	117.0	88.0	102.0	6.5

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)	Design
HID-HighPower BHL 1000 L02 220V 50Hz HP-207	1	1000	40.0	50	220	130	70	5.30	HP-207
HID-HighPower BHL 1000 L78 230/240V 50Hz HP-207	1	1000	35.0	50	230/240	130	70	5.30	HP-207
HID-HighPower BSN 1000 L02 220V 50Hz HP-257	1	1000	56.0	50	220	130	70	5.40	HP-257
HID-HighPower BSN 1000 L43 220V 60Hz HP-257	1	1000	56.0	60	220	130	70	5.40	HP-257
HID-HighPower BSN 1000 L78 230/240V 50Hz HP-257	1	1000	54.0	50	230/240	130	70	5.40	HP-257
HID-HighPower BMH 1800 L43 220V 60Hz HP-317	1	1800	80.0	60	220	130	80	8.80	HP-317
HID-HighPower BMH 1800 L78 230/240V 50Hz HP-317	1	1800	86.0	50	230/240	130	80	8.80	HP-317
HID-HighPower BHD 2000 L76 380/400/415V 50Hz HP-317	1	2000	80.0	50	380-415	130	65	6.60	HP-317
HID-HighPower BHD 2000 L77 400/415/430V 50Hz HP-317	1	2000	85.0	50	400-430	130	75	6.60	HP-317
HID-HighPower BHL 2000 L50 380/400V 50Hz HP-257	1	2000	48.0	50	380/400	130	70	6.40	HP-257
HID-HighPower BHL 2000 L76 380/400/415V 50Hz HP-317	1	2000	77.0	50	380-415	130	70	64.00	HP-317
HID-HighPower BHL 2000 L78 230/240V 50Hz HP-317	1	2000	92.0	50	230/240	130	70	10.60	HP-317
HID-HighPower BMH 2000 L76 380/400/415V 50Hz HP-317	1	2000	72.0	50	380-415	130	65	5.60	HP-317

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-HighPower BHL 1000 L02 220V 50Hz HP-207	8.5 kg	1	22 cm x 13 cm x 10.5 cm	8711500062314	062314 00
HID-HighPower BHL 1000 L78 230/240V 50Hz HP-207	8.5 kg	1	22 cm x 13 cm x 10.5 cm	8711500062376	062376 00
HID-HighPower BSN 1000 L02 220V 50Hz HP-257	12.5 kg	1	27 cm x 13 cm x 10.5 cm	8711500062284	062284 00
HID-HighPower BSN 1000 L43 220V 60Hz HP-257	12.5 kg	1	27 cm x 13 cm x 10.5 cm	8711500062277	062277 00
HID-HighPower BSN 1000 L78 230/240V 50Hz HP-257	12.5 kg	1	27 cm x 13 cm x 10.5 cm	8711500062369	062369 00
HID-HighPower BMH 1800 L43 220V 60Hz HP-317	17.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500062352	062352 00
HID-HighPower BMH 1800 L78 230/240V 50Hz HP-317	17.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500059901	059901 00
HID-HighPower BHD 2000 L76 380/400/415V 50Hz HP-317	17.3 kg	1	33 cm x 16 cm x 18.1 cm	8711500742766	742766 00
HID-HighPower BHD 2000 L77 400/415/430V 50Hz HP-317	17.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500538178	538178 00
HID-HighPower BHL 2000 L50 380/400V 50Hz HP-257	8.5 kg	1	27 cm x 13 cm x 10.5 cm	8711500062291	062291 00
HID-HighPower BHL 2000 L76 380/400/415V 50Hz HP-317	15.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500063847	063847 00
HID-HighPower BHL 2000 L78 230/240V 50Hz HP-317	16.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500063854	063854 00
HID-HighPower BMH 2000 L76 380/400/415V 50Hz HP-317	17.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500060129	060129 00

Electrical installation notes

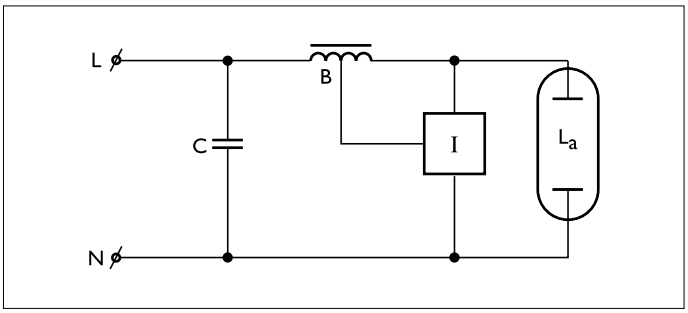
Mains operation

With tolerances for performance	-8%...+6%
With tolerances for operation	-10%...+10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85

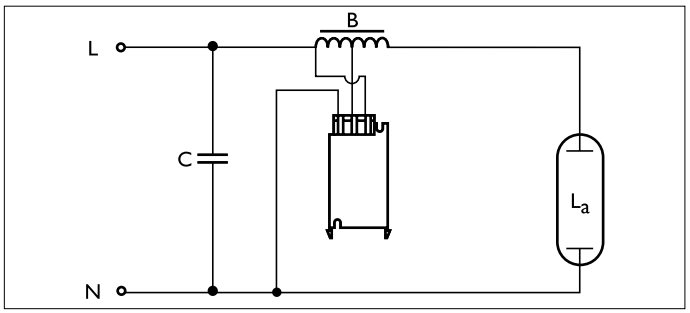
Mechanical installation notes

Wire cross-section:

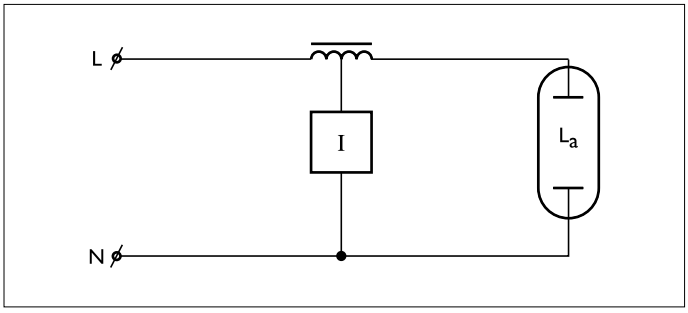
On the mains side	0.75…2.5 mm^2
Strip length	6 mm



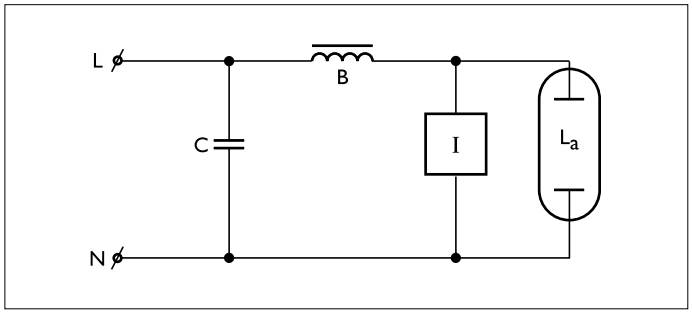
SN 56/SN 59



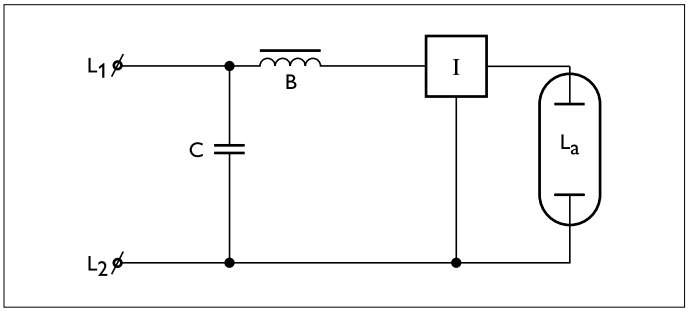
SN 61



SI 52



SI 54



Series ignitor





BSX

Product Description

- Impregnated electromagnetic copper/iron gears for use with an external ignitor for SOX and SOX-E lamps

Features and Benefits

- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped with double-insert contacts
- Simple installation and cabling
- Gears for alternative mains voltages/frequencies on request

Applications

- Ideal for the following applications:
  - Road lighting, railway marshalling yards and crossings, airports, harbors and docks, quarries, foundries and rolling mills
  - Security and orientation lighting
- Climatic suitability: use in luminaires or poles under normal humidity conditions (not drip-proof)

Quality

Philips Quality assures optimum quality regarding:

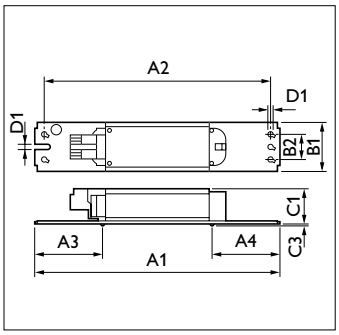
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

Recommended lamp page 3.190

www.philips.com/OEM



BSX

Type	A1Nom	A2Nom	A3Nom	A4Nom	B1Nom	B2Nom	C1Nom	C3Nom	D1Nom
BSX 26/35 + 35/55	196.0	180.0	54.0	54.0	39.0	20.0	28.0	1.5	4.2

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)	Design
BSX 26 L80 220V 50Hz BC0-196	1	26	9.1	50	220	130	55	0.16	BC0-196
BSX 26 L81 230V 50Hz BC0-196	1	26	9.4	50	230	130	55	0.16	BC0-196
BSX 26 L82 240V 50Hz BC0-196	1	26	9.8	50	240	130	55	0.16	BC0-196
BSX 35 L80 220V 50Hz BC0-196	1	35	11.3	50	220	130	60	0.22	BC0-196
BSX 35 L81 230V 50Hz BC0-196	1	35	11.7	50	230	130	60	0.22	BC0-196
BSX 35/55 L204 240V 50Hz BC1-118	1	35/55	9.3	50	240	130	60	0.23	BC1-118
BSX 35/55 L82 240V 50Hz BC0-196	1	35/55	12.0	50	240	130	65	0.22	BC0-196

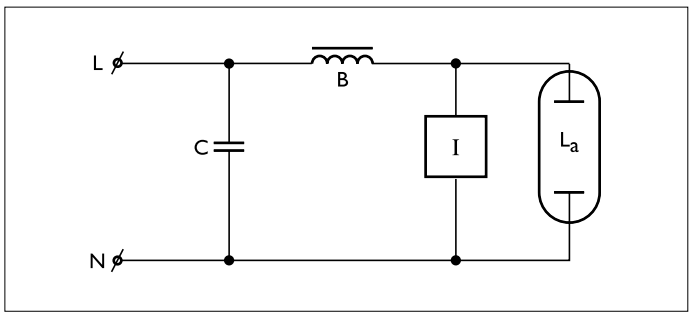
Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BSX 26 L80 220V 50Hz BC0-196	0.77 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500943965	920461 30
BSX 26 L81 230V 50Hz BC0-196	0.77 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500943996	920492 30
BSX 26 L82 240V 50Hz BC0-196	0.77 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500944023	920515 30
BSX 35 L80 220V 50Hz BC0-196	0.925 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500944054	920478 30
BSX 35 L81 230V 50Hz BC0-196	0.925 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500944085	920508 30
BSX 35/55 L204 240V 50Hz BC1-118	0.87 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500061300	915177 30
BSX 35/55 L82 240V 50Hz BC0-196	0.925 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500944115	920539 30

Electrical installation notes

Mains operation

With tolerances for performance	-8% / +6%
With tolerances for operation	-10% / +10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85



BSX

Mechanical installation notes

Wire cross-section:

On the mains side	0.75-2.5 mm^2
Strip length	6 mm



BSX

Product Description

- Encapsulated electromagnetic copper/iron gears for use with an external ignitor for SOX and SOX-E lamps

Features and Benefits

- Outstanding product life (ten - fifteen years)
- Excellent resistance to chemical attack, humid conditions and high environmental stress crack resistance
- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped with screw terminal blocks
- Simple installation and cabling
- Gears for alternative mains voltages/frequencies on request

Applications

- Ideal for the following applications:
  - Road lighting, railway marshalling yards and crossings, airports, harbors and docks, quarries, foundries and rolling mills
  - Security and orientation lighting
- Climatic suitability: use in luminaires or poles under normal humidity conditions (not drip-proof)

Quality

Philips Quality assures optimum quality regarding:

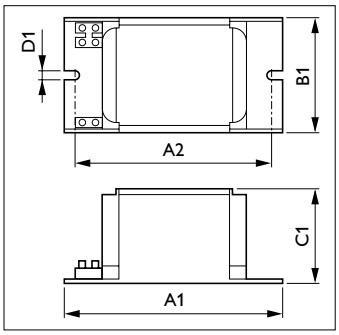
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

Recommended lamp page 3.190

www.philips.com/OEM



BSX

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HID-HeavyDuty BSX 50Hz HD1-118	118.0	103.0	65.0	53.0	6.2

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)	Design
HID-HeavyDuty BSX 26 L32 240V 50Hz HD1-118	1	26	6.2	50	240	130	45	0.16	HD1-118
HID-HeavyDuty BSX 26 L40 230V 50Hz HD1-118	1	26	6.0	50	230	130	45	0.16	HD1-118
HID-HeavyDuty BSX 35 L40 230V 50Hz HD1-118	1	35	9.2	50	230	130	55	0.23	HD1-118
HID-HeavyDuty BSX 35/55 L32 240V 50Hz HD1-118	1	35/55	9.6	50	240	130	65	0.23	HD1-118
HID-HeavyDuty BSX 90 L32 240V 50Hz HD1-118	1	90	13.3	50	240	130	65	0.50	HD1-118
HID-HeavyDuty BSX 90 L40 230V 50Hz HD1-118	1	90	12.2	50	230	130	65	0.50	HD1-118

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-HeavyDuty BSX 26 L32 240V 50Hz HD1-118	1 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061966	920041 31
HID-HeavyDuty BSX 26 L40 230V 50Hz HD1-118	1 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061959	920027 31
HID-HeavyDuty BSX 35 L40 230V 50Hz HD1-118	0.9 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061911	919991 31
HID-HeavyDuty BSX 35/55 L32 240V 50Hz HD1-118	0.9 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061928	920003 31
HID-HeavyDuty BSX 90 L32 240V 50Hz HD1-118	1.26 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061874	915344 31
HID-HeavyDuty BSX 90 L40 230V 50Hz HD1-118	1.26 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061867	919939 31

Electrical installation notes

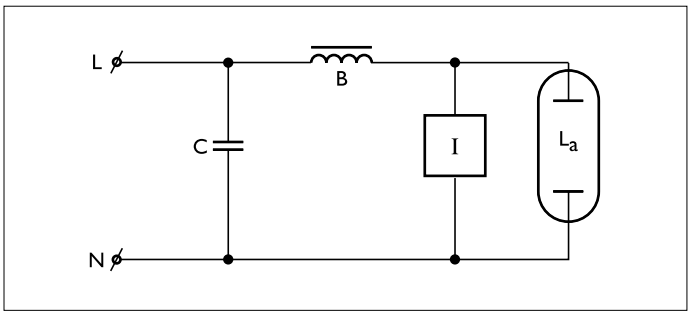
Mains operation

With tolerances for performance	-8% / +6%
With tolerances for operation	-10% / +10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85

Mechanical installation notes

Wire cross-section:

On the mains side	0.75-2.5 mm^2
Strip length	6 mm



BSX



BSX

Product Description

- Constant-wattage (potted) electromagnetic copper/iron gears for use with an external ignitor for SOX and SOX-E lamps

Features and Benefits

- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Series capacitor required in circuits with constant-wattage gears
- Equipped with screw terminal blocks
- Simple installation and cabling

Applications

- Ideal for the following applications:
  - Road lighting, railway marshalling yards and crossings, airports, harbors and docks, quarries, foundries and rolling mills
  - Security and orientation lighting
- Climatic suitability: restricted to built-in situations where relative humidity is limited

Quality

Philips Quality assures optimum quality regarding:

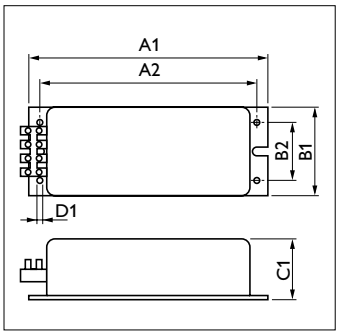
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

Recommended lamp page 3.190

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BSX

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
BSX 36 H66/55 H26 230-240V 50Hz CW-173/44	173.0	157.0	64.0	42.0	44.0	4.2
BSX 90 H26 220-230V 50Hz CW-173/52	173.0	157.0	64.0	42.0	52.0	4.2
BSX 91 135 H96 220-240V 50Hz CW-149/67	149.0	135.0	80.0	42.0	67.0	4.2
BSX 131 H96 220-240V 50Hz CW-178/74	178.0	162.0	100.0	42.0	74.0	4.2
BSX 180 H96 220-240V 50Hz CW-178/78	178.0	162.0	100.0	42.0	78.0	4.2

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Design
BSX 36 H66 230-240V 50Hz CW-173/44	1	36	10.5	50	230-240	130	55	CW-173/44
BSX 55 H26 220-230V 50Hz CW-173/44	1	55	19.5	50	220-230	130	70	CW-173/44
BSX 90 H26 220-230V 50Hz CW-173/52	1	90	18.7	50	220-230	130	70	CW-173/52
BSX 91 H96 220-240V 50Hz CW-149/67	1	91	16.5	50	220-240	130	55	CW-149/67
BSX 131 H96 220-240V 50Hz CW-178/74	1	131	20.0	50	220-240	130	55	CW-178/74
BSX 131 H96 220-240V 50Hz CW-178/74	1	131	22.5	50	220-240	130	55	CW-178/74
BSX 135 H96 230-240V 50Hz CW-149/67	1	135	22.5	50	230-240	130	70	CW-149/67
BSX 180 H96 220-240V 50Hz CW-178/78	1	180	32.0	50	220-240	130	70	CW-178/78

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BSX 36 H66 230-240V 50Hz CW-173/44	1.7 kg	12	27.5 cm x 21 cm x 17.5 cm	8711500938411	920034 30
BSX 55 H26 220-230V 50Hz CW-173/44	1.7 kg	12	27.5 cm x 21 cm x 17.5 cm	8711500932129	919960 30
BSX 90 H26 220-230V 50Hz CW-173/52	2.16 kg	10	33 cm x 20 cm x 13.5 cm	8711500932068	919908 30
BSX 91 H96 220-240V 50Hz CW-149/67	2.9 kg	8	35 cm x 18.5 cm x 15 cm	8711500932242	920393 30
BSX 131 H96 220-240V 50Hz CW-178/74	3.183 kg	6	27.5 cm x 20 cm x 12 cm	8711500932280	915245 30
BSX 131 H96 220-240V 50Hz CW-178/74	4.35 kg	4	42 cm x 20 cm x 8.2 cm	8711500932204	919786 30
BSX 135 H96 230-240V 50Hz CW-149/67	2.9 kg	8	35 cm x 18.5 cm x 15 cm	8711500932228	920072 30
BSX 180 H96 220-240V 50Hz CW-178/78	4.2 kg	4	42 cm x 20 cm x 8.2 cm	8711500932167	939005 30

Electrical installation notes

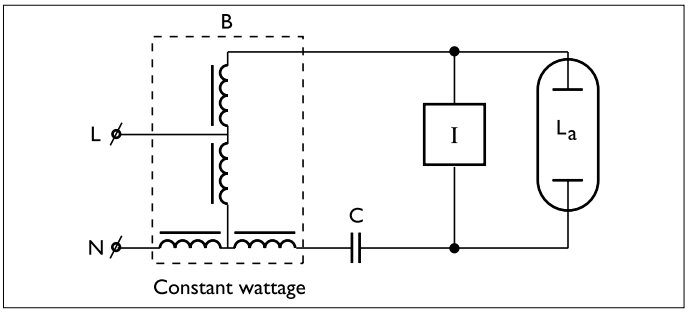
Mains operation

With tolerances for performance	-8% / +6%
With tolerances for operation	-10% / +10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85

Mechanical installation notes

Wire cross-section:

On the mains side	0.75-2.5 mm²
Strip length	6 mm



BSX



BHA

Product Description

- Impregnated electromagnetic copper/iron gears for HPA lamps

Features and Benefits

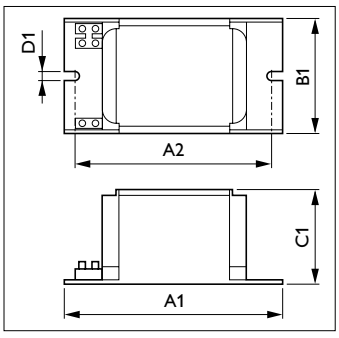
- Equipped as standard with insert terminal blocks; screw contacts on request
- Earthing-while-mounting facility
- Simple installation and cabling
- Gear can also be used in combination with semi-parallel ignitor
- Gears for alternative mains voltages/frequencies on request

Applications

- Ideal for sun tanning; widely used in solariums where relative humidity is limited
- Forced cooling is required, especially when used in enclosed equipment

Recommended lamp page 3.190

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BHA

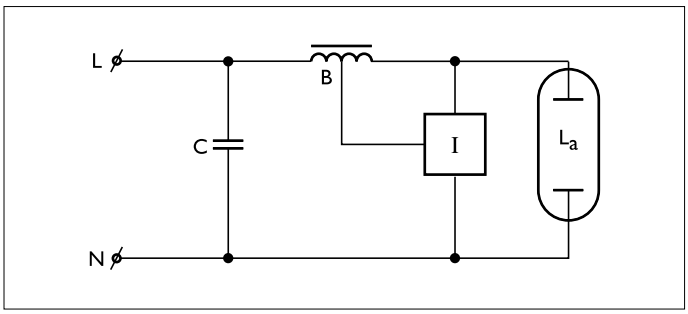
Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BHA 100 L222 230V 50Hz BC1-118	118.0	94.0	61.0	52.0	6.2
BHA 250 L322-I 230V 50Hz BC2-134	134.0	113.0	76.0	65.0	6.2
BHA 400/500 L322-I 230V 50Hz BC2-160	160.0	139.0	76.0	65.0	6.2

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)	Design
BHA 100 L222 230V 50Hz BC1-118	1	100	10.0	50	230	130	70	-	BC1-118
BHA 250 L322-I 230V 50Hz BC2-134	1	250	31.8	50	230	130	75	1.40	BC2-134
BHA 400 L322-I 230V 50Hz BC2-160	1	400	31.8	50	230	140	100	2.20	BC2-160
BHA 500 L322-I 230V 50Hz BC2-160	1	500	40.0	50	230	140	100	2.60	BC2-160

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC **8711500**
BHA 100 L222 230V 50Hz BC1-118	1.05 kg	324	120 cm x 80 cm x 40 cm	8711500536174	748607 41
BHA 250 L322-I 230V 50Hz BC2-134	1.85 kg	400	120 cm x 80 cm x 33.9 cm	8711500931108	931092 40
BHA 400 L322-I 230V 50Hz BC2-160	2.95 kg	280	120 cm x 80 cm x 27.1 cm	8711500539946	539922 40
BHA 500 L322-I 230V 50Hz BC2-160	2.95 kg	280	120 cm x 80 cm x 27.1 cm	8711500539915	539908 40



BHA



SUD 10-S/40-S

Product Description

- Electronic ignitors for HID lamps

Features and Benefits

- Available in semi-parallel (Pulse), series (Superimposed pulse) and parallel versions
- Ignitors ensure reliable and smooth starting behaviour
- Ignitors equipped as standard with screw terminal blocks
- Digital ignitors for highest reliability
- All T5 and T15 types incorporate timer to switch off ignitor after 5 or 15 minutes with failing lamp to prevent cycling
- Compact dimensions and light weight
- Simple screw or click-fit mounting, or stud mounting for rapid assembly

Applications

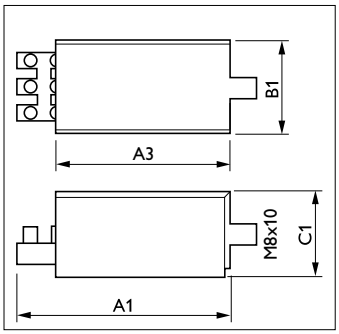
- Similar to those of the related lamps and gears

Compliances and approvals

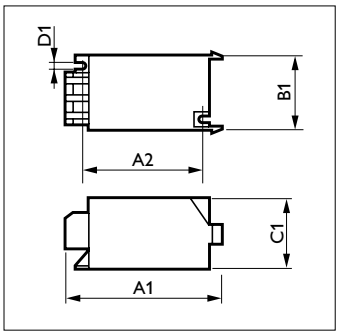
Safety	EN 61347-2-1
Performance	EN 60927
RFI	EN 55015
Harmonic current emissions	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

Recommended lamp page 3.190

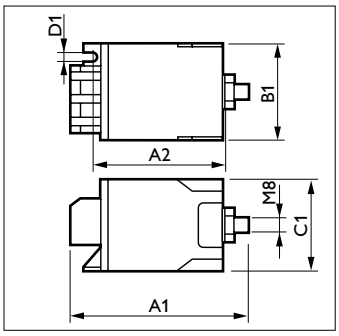
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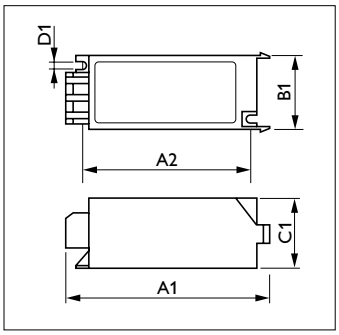
Type	A1Nom	A3Nom	B1Nom	C1Nom
SU 10-S	88.0	72.0	36.0	32.0
SUD 10-S	78	62	36	32



Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
SI 51 / SN 57 / SN 57T15	84.5	65.0	41.0	38.0	4.3
SND 57	84.5	65.0	41.5	38.5	4.3
SX 131	85.5	-	41.5	38.5	-



Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
SND 57-S	89.0	70.0	41.5	38.5	4.3
SN 57T15-S / SI 51-S / SN 57-S	89.0	70.0	41.0	38.0	4.3



Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
SN 56 / SI 54 / SN 61 / SX 26	114.5	95.0	41.0	38.0	4.3
SND 88	114.5	95.0	41.5	38.5	4.3



SND 88/89



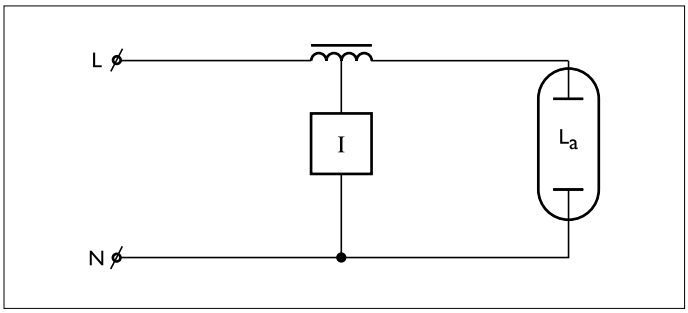
SN 58T5-S

Electrical data

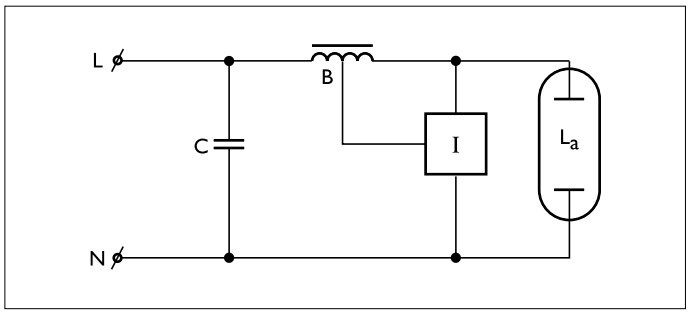
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	Response voltage (V)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Number of ignition pulses (x)	Cable-Cap wires device/lamp (nF)
SI 51 220-240V	1	250/400	1.0	50/60	220-240	190	80	75	0.75	1	150
SI 51-S 220-240V	1	1000	1.0	50/60	220-240	190	80	75	0.75	1	150
SI 52 220-240V	1	250/400	1.0	50/60	220-240	190	80	75	0.75	1	35
SI 54 360-415V	1	2000	1.0	50/60	360-415	330	80	75	1.5	1	120
SN 56 220-240V	1	1000/1800	1.0	50/60	220-240	198	60	55	5.00	2	10
SN 57 220-240V	1	50/70	0.5	50/60	220-240	195	90	75	2.50	2	2
SN 58 220-240V	1	35-400	0.5	50/60	220-240	190	90	85	5.00	2	2
SN 58-S 220-240V	1	50/70	0.5	50/60	220-240	198	90	85	5.00	2	2
SN 59 220-240V	1	1000/1800	1.0	50/60	220-240	196	80	75	5.00	2	4
SND 57/57-S 220-240V	1	50/70	1.0	50/60	220-240	195	90	85	2.5	-	-
SND 58 220-240V	1	35-600	1.0	50/60	220-240	195	90	85	5.0	-	-
SND 88 400V	1	600	1.5	50/60	400	290	90	80	5.0	-	-
SND 90 480V	1	600	1.5	60	480	370	90	80	5.0	-	-
SN 57T15 220-240V	1	50/70	1.0	50/60	220-240	195	90	75	2.50	2	1
SN 57T5 220-240V	1	50/70	1.0	50/60	220-240	195	90	75	2.50	2	2
SN 58T15 220-240V	1	35-250	1.0	50/60	220-240	195	90	75	5.00	2	1
SN 58T15-S 220-240V	1	35-250	1.0	50/60	220-240	195	90	60	5.00	2	1
SN 58T5 220-240V	1	100-600	1.0	50/60	220-240	195	90	75	5.00	2	2
SN 58T5-S 220-240V	1	100-400	1.0	50/60	220-240	195	90	75	5.00	2	2
SN 61 220-240V	1	1000/1800	1.5	50/60	220-240	190	90	80	5.00	1	4
SU 10-S 220-240V	1	50/70	1.0	50/60	220-240	198	105	90	2.50	2	0.2
SU 40-S 220-240V	1	100-400	3.0	50/60	220-240	198	105	70	5.00	2	0.2
SUD 10-S 220-240V	1	50/70	1.0	50/60	220-240	-	105	90	2.3	-	-
SUD 40-S 220-240V	1	100-400	3.0	50/60	220-240	-	105	70	5.0	-	-
SX 131 220-240V	1	131	1.0	50/60	220-240	198	80	75	1.4	-	5
SX 26 220-240V	1	26/35	1.0	50/60	220-240	198	80	75	1.0	-	5
SX 70 220-240V	1	90	1.0	50/60	220-240	198	80	75	1.2	-	5
SX 72 220-240V	1	36/55	1.0	50/60	220-240	198	80	75	1.0	-	5
SX 73 220-240V	1	180	1.0	50/60	220-240	198	80	75	1.4	-	5
SX 74 220-240V	1	91/135	1.0	50/60	220-240	198	80	75	1.4	-	2
SX 76 220-240V	1	66/90	1.0	50/60	220-240	198	80	75	1.0	-	5

Ordering and packing data

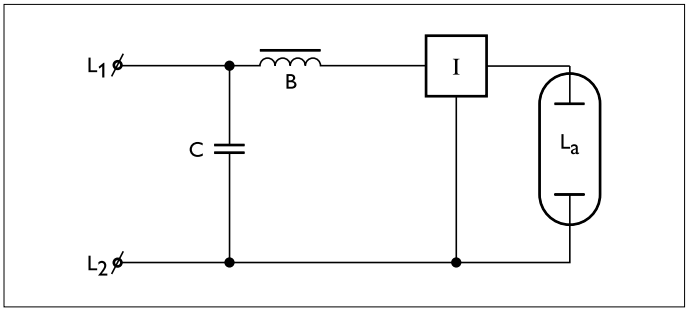
Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SI 51 220-240V 50/60Hz	8711500915535	0.047 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500908353	915535 30
SI 51-S 220-240V 50/60Hz	8711500747495	0.051 kg	20	20 cm x 17.5 cm x 11 cm	8711500747501	747495 30
SI 52 220-240V 50/60Hz	8711500915542	0.06 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500908377	915542 30
SI 54 360-415V 50/60Hz	8711500915481	0.083 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500908339	915481 30
SN 56 220-240V 50/60Hz	8711500915603	0.078 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500907530	915603 30
SN 57 220-240V 50/60Hz	8711500915559	0.04 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500907547	915559 30
SN 57-S 220-240V 50/60Hz	8711500060525	0.042 kg	20	20 cm x 17.5 cm x 11 cm	8711500060532	060525 30
SN 58 220-240V 50/60Hz	8711500915566	0.04 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500907554	915566 30
SN 58-S 220-240V 50/60Hz	8711500741752	0.044 kg	20	20 cm x 17.5 cm x 11 cm	8711500741769	741752 30
SN 59 220-240V 50/60Hz	8711500915573	0.072 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500913487	915573 30
SND 57 220-240V 50/60Hz	8711500930668	0.05 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500930675	930668 30
SND 57-S 220-240V 50/60Hz	8711500930729	0.05 kg	20	20 cm x 17.5 cm x 11 cm	8711500930736	930729 30
SND 58 220-240V 50/60Hz	8711500930682	0.05 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500930699	930682 30
SND 58-S 220-240V 50/60Hz	8711500930705	0.053 kg	20	20 cm x 17.5 cm x 11 cm	8711500930712	930705 30
SND 88 400V 50/60Hz	8711500910349	0.07 kg	120	43 cm x 23.5 cm x 26 cm	8711500910356	910349 40
SND 89 400V 50/60Hz	8711500910363	0.07 kg	120	43 cm x 23.5 cm x 26 cm	8711500910370	910363 40
SND 90 480V 60Hz	8711500931740	0.062 kg	120	43 cm x 23.5 cm x 26 cm	8711500932006	931740 40
SND 91 480V 60Hz	8711500934062	0.064 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500934079	934062 30
SND 91 480V 60Hz	8711500934062	0.064 kg	120	43 cm x 23.5 cm x 26 cm	8711500934697	934062 40
SN 57T15 220-240V 50/60Hz	8711500744692	0.046 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500744708	744692 30
SN 57T15-S 220-240V 50/60Hz	8711500745972	0.048 kg	20	20 cm x 17.5 cm x 11 cm	8711500745989	745972 30
SN 57T5 220-240V 50/60Hz	8711500743152	0.046 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500743169	743152 30
SN 58T15 220-240V 50/60Hz	8711500743176	0.049 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500743183	743176 30
SN 58T15-S 220-240V 50/60Hz	8711500745934	0.049 kg	20	20 cm x 17.5 cm x 11 cm	8711500745941	745934 30
SN 58T5 220-240V 50/60Hz	8711500742995	0.046 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500743008	742995 30
SN 58T5-S 220-240V 50/60Hz	8711500745958	0.049 kg	20	20 cm x 17.5 cm x 11 cm	8711500745965	745958 30
SN 61 220-240V 50/60Hz	8711500916396	0.066 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500907585	916396 30
SU 10-S 220-240V 50/60Hz	8711500537836	0.14 kg	30	23 cm x 17 cm x 13 cm	8711500537843	537836 30
SU 40-S 220-240V 50/60Hz	8711500537911	0.15 kg	30	23 cm x 17 cm x 13 cm	8711500537928	537911 30
SUD 10-S 220-240V 50/60Hz	8711500931443	0.15 kg	30	23 cm x 17 cm x 13 cm	8711500931450	931443 30
SUD 40-S 220-240V 50/60Hz	8711500930354	0.15 kg	30	22.5 cm x 17 cm x 13 cm	8711500930361	930354 30
SX 131 220-240V 50/60Hz	8711500915894	0.065 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500908230	915894 30
SX 26 220-240V 50/60Hz	8711500915900	0.081 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500914385	915900 30
SX 70 220-240V 50/60Hz	8711500915498	0.086 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500914378	915498 30
SX 72 220-240V 50/60Hz	8711500915610	0.081 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500914361	915610 30
SX 73 220-240V 50/60Hz	8711500920058	0.06 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500908209	920058 30
SX 74 220-240V 50/60Hz	8711500915696	0.09 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500914354	915696 30
SX 76 220-240V 50/60Hz	8711500916402	0.094 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500914330	916402 30



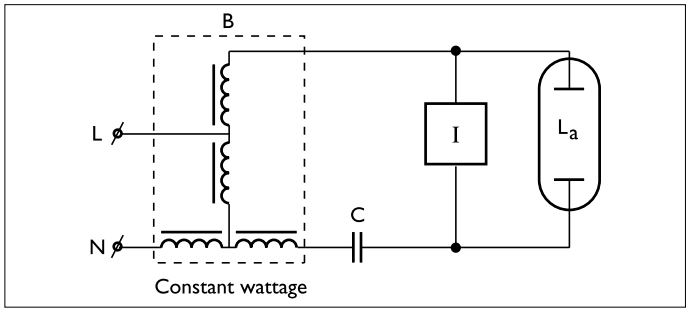
SI 52



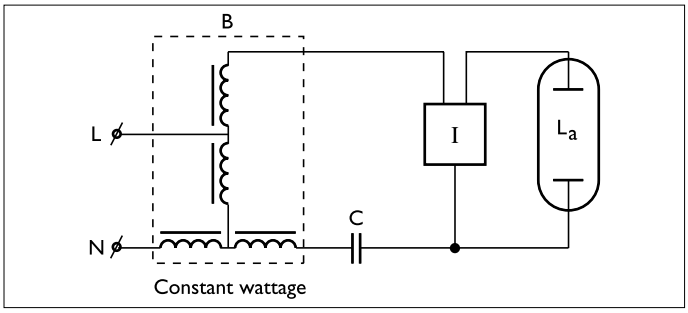
SN 50/56/57/57-S/58/58-S/59



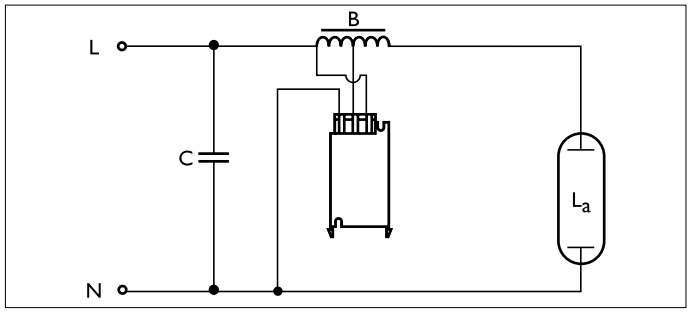
SU/SUD



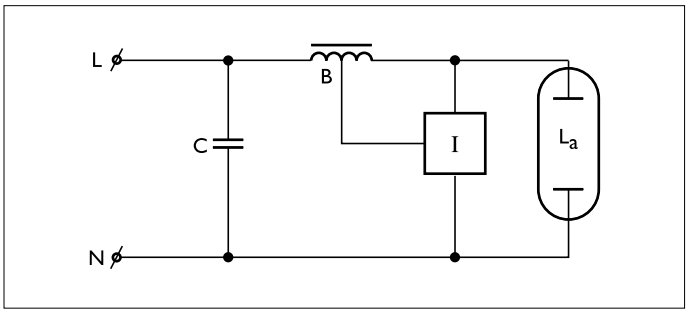
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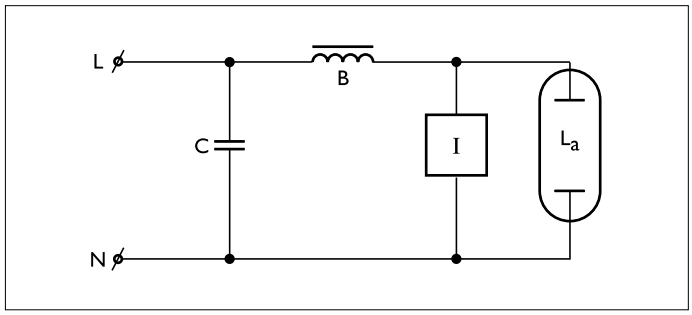
SX 131/73



SN 61



SND



SI 51/51-S/54



Lamp		Gear system for best performance		
Commercial name	**Technical name**	**Gear**	**Ignitor**	**Capacitor**
MASTER CosmoWhite CPO-TW	CPO-TW 45W	Prima/DynaVision Xtreme 45 CPO		
	CPO-TW 60W	Prima/DynaVision Xtreme 60 CPO		
	CPO-TW 90W	Prima/DynaVision Xtreme 90 CPO		
	CPO-TW 140W	Prima/DynaVision Xtreme 140 CPO		
MASTER Colour City CDO-T(T)/ET	CDO 70W	Prima/DynaVision 070 SON/CDO		
	CDO 100W	Prima/DynaVision 100 SON/CDO		
	CDO 150W	Prima/DynaVision 150 SON/CDO		
MASTER SON-T PIA PLUS	SON 50W	BSN 50 L407-ITS	SND-57 (SUD-10)	10uF/250V
MASTER SON PIA PLUS	SON 70W	Prima/DynaVision 70 SON/CDO		
MASTER SON-T PIA	SON 100W	Prima/DynaVision 100 SON/CDO		
Pro SON	SON 150W	Prima/DynaVision 150 SON/CDO		
	SON 250W	BSN 250 L407-ITS	SND-58 (SUD-40)	32uF/250V
	SON 400W	BSN 400 L407-ITS	SND-58 (SUD-40)	45uF/250V
	SON 600W	BSN 600 L407-ITS	SND-58	60uF/250V
	SON 600W-400V	BSN 600 L309-ITS	SND-88/SND-89	20uF/450V
	SON 1000W	BSN 1000 L78	SN-56/SN-59	100uF/250V
SON-I	SON-I 50W	BSN 5070 L407-TS	-	10uF/250V
	SON-I 70W	BSN 5070 L407-TS	-	12uF/250V
SON-H Pro	SON-H 110W	BHL 80125 L407	-	10uF/250V
	SON-H 220W	BHL 250 L307	-	18uF/250V
	SON-H 350W	BHL 400 L307	-	25uF/250V
MASTER HPI PLUS	HPI PLUS 250W BU	BHL 250 L307(-TS)	SI-51	18uF/250V
	HPI PLUS 400W BU	BHL 400 L307(-TS)	SI-51	25uF/250V
	HPI PLUS 400W BUS	BHL 400 L307(-TS)	-	25uF/250V
HPI-T Pro	HPI-T 1000W/230V	BHL 1000 L78	SI-52	65uF/250V
	HPI-T 2000W/220-240V	BHL 2000 L78	SI-52	125uF/250V
	HPI-T 2000W/380-415V	BHL 2000 L76	SI-54	35uF/450V
HPL-N	HPL-N 50W	BHL 5080 L407	-	7uF/250V
HPL-N	HPL-N 80W	BHL 5080 L407	-	8uF/250V
HPL-N	HPL-N 125W	BHL 80125 L407	-	10uF/250V
HPL-N	HPL-N 250W	BHL 250 L307	-	18uF/250V
HPL-N	HPL-N 400W	BHL 400 L307	-	25uF/250V
HPL-N	HPL-N 1000W/230V	BHL 1000 L78	SI-52	65uF/250V
MASTER MHN-SA	MHN-SA 1800W/230V	BMH 1800 L78	SN-56/SN-59	200uF/250V
MASTER MHN-SA	MHN-SA 1800W/400V	BHD 2000 L76	380MZN2000	75uF/450V
MASTER MHN-SA	MHN-SA 2000W/400V	BHD 2000 L76	380MZN2000	70uF/450V
MASTER MHN-LA	MHN-LA 1000W/230V	BSN 1000 L78	SN-56/SN-59	100uF/250V
MASTER MHN-LA	MHN-LA 2000W/400V	BHD 2000 L76	380MZN2000	65uF/450V
SOX Pro	SOX 35W	EXC 35		
SOX Pro	SOX 55W	EXC 55		
SOX Pro	SOX 90W	BSX 90 H26	SX-70	7.6uF/300V
SOX Pro	SOX 135W	BSX 135 H96	SX-74	6.8uF/420V
SOX Pro	SOX 180W	BSX 180 H96	SX-73	4.4uF/650V
MASTER SOX-E	SOX-E 18W	BSX 18 L81	SX-26	4.5uF/250V
MASTER SOX-E	SOX-E 26W	BSX 26 L81	SX-26	6uF/250V
MASTER SOX-E	SOX-E 36W	EXC 36		
MASTER SOX-E	SOX-E 66W	EXC 66		
MASTER SOX-E	SOX-E 91W	EXC 91		
MASTER SOX-E	SOX-E 131W	BSX 131 H96	SX-131	3.4uF/650V
			no ignitor for QL but power coupler	
QL 55W Twist Base	QL 55W	HF-Generator QL 55W S/03	Power Coupler QL 55W Twist base	
QL 55W Twist Base	QL 85W	HF-Generator QL 85W 200-277V	Power Coupler QL 85W Twist base	
QL 55W Twist Base	QL 165W	HF-Generator QL 165W S/01	Power Coupler QL 165W Twist base	

230/240V - 50Hz (400V - 50Hz)

Alternative gear system for good performance		
Gear	**Ignitor**	**Capacitor**
Prima/DynaVision 60 CPO Prima/DynaVision 140 CPO		
BSN 70 L407-ITS BSN 100 L407-ITS BSN 150 L407-ITS	SND-57 (SUD-10) SND-58 (SUD-40) SND-58 (SUD-40)	12uF/250V 12uF/250V 18uF/250V
BSN 50 L33-TS BSN 70 L407-ITS BSN 100 L407-ITS BSN 150 L407-ITS BSN 250 L33-TS BSN 400 L33-TS	SND-57 (SUD-10) SND-57 (SUD-10) SND-58 (SUD-40) SND-58 (SUD-40) SND-58 (SUD-40) SND-58 (SUD-40)	10uF/250V 12uF/250V 12uF/250V 18uF/250V 32uF/250V 45uF/250V
BSN 50 L33-TS BSN 70 L33-TS	- -	10uF/250V 12uF/250V
BHL 80125 L48 BHL 250 L40 BHL 400 L40	- - -	10uF/250V 18uF/250V 25uF/250V
BSN 250 L407-ITS BSN 400 L407-ITS BSN 400 L407-ITS	SND-58 / SI-51 SND-58 / SI-51	32uF/250V 45uF/250V 45uF/250V
BHL 5080 L48 BHL 5080 L48 BHL 80125 L48 BHL 250 L40 BHL 400 L40	- - - - -	7uF/250V 8uF/250V 10uF/250V 18uF/250V 25uF/250V
	-	
	-	
BSX 35 L81 BSX 55 H26 BSX 90 L40	SX-26 SX-72 SX-76	8uF/250V 5.7uF/450V 10uF/230V
BSX 26 L40 BSX 36 H66 BSX 90 H40 BSX 91 H96	SX-26 SX-72 SX-76 SX-74	6uF/230V 4.4uF/300V 7.6uF/300V 5,2uF/300V



Lighting Controls



Well-Being & Total cost of ownership

Benefits of Lighting Control

Modern lighting controls deliver a range of benefits, most of which can be measured in real improvements to the profits of a business. From straightforward energy savings, through reduced maintenance costs to potential increases in productivity, lighting controls have clearly demonstrated their worth.
Over the past 25 years Philips lighting controls have developed a full range of solutions designed to deliver these benefits.

Comfort by personal control

Dimming control enables lighting to be adjusted to suit users' preferences, changing tasks and different conditions of use. For example in a meeting room the lighting required for showing presentations will be different to that for studying documents or video conferencing. Similarly in an office the lighting levels will be very depending on the task (e.g. PC work or paperwork) or the individuals age or preferences.

Flexibility

Control systems allow the lighting system to deliver customised lighting to every user. Light levels and scenes can be easily re-programmed to suit different preferences.

Adaptability

Sometimes also referred to as flexibility this is how easy it is to change the lighting installation. For example when the layout of offices is changed and partitions are moved lighting controls can avoid uneconomic wiring changes.
DALI control wiring allow luminaires to be re-grouped into new areas without wiring changes. Wire free remote controls enable lighting systems to be installed and changed without vertical wiring to wall switches.
This also includes, for example, a change from a brightly lit showroom to subdued lighting for visual display use.

Energy Saving

No company likes to be seen to be wasteful. Lighting controls ensure that lighting is only provided when and where it is needed. Advanced sensors are used to integrate daylight and to detect occupancy. These solutions have been shown to reduce lighting use by as much as 80%. Result -no obvious waste or compromise of comfort.

Installation Cost Saving

Occupancy sensors and wireless controls avoid the use of wired switches. Control products compatible with a 'plug-in' approach to installation can save up to 70% of the 'on-site' labour time. And these savings continue during the life of the building whenever changes are needed.

Comfort

In business today the provision of a comfortable environment for people to learn, work, shop, eat, rest and play is vital for success. With Philips' controls, the lighting can be set to suit the task, the experience, individual preferences and the required mood – and then rapidly change them as well.

Functions

Daylight linking/ Constant lux

Continuous automatic adjustment of lighting in response to the changing contribution from natural daylight provides a constant light level on the working surface.

Maintained illuminance

A light sensor is used to monitor the light level and automatically compensates for the gradual loss of light due to lamp lumen depreciation and soiling of optics and surroundings. This avoids the need to overlight initially in the maintenance cycle and allows further energy savings.

Absence/ presence detection by movement detection

Movement detectors are used to ensure that lighting is only switched on when needed. Depending on the system and programme used the detection of a movement can switch lights on but the absence of movement will always be used to switch the lights off. The delay before switch off can be adjusted and in some systems switch off or dim options can be chosen when no one is present.

Remote control

Infrared transmitters allow remote control of the lighting at the press of a button. Wall mounted transmitters can be used to switch and dim lighting in open plan areas or at the entrance to rooms like conventional wall switches eliminating vertical wiring. Handheld transmitters allow individual control from the desk and can be used to recall lighting scenes. Remote controls can also be used to commission the lighting installation from the ground.

Preset scenes

When more than one lighting channel or circuit is present (in a conference room or executive office for example) then each circuit can be controlled separately to create a lighting scene. This scene can then be memorized and recalled by pressing a single preset button.

Legislation

Climate change, as well as health and safety are provoking governments into making more and more regulations, standards and legislation. Most lighting designs will not easily meet these demands without the addition of a control solution. In this field, Philips lighting controls has unrivalled knowledge and experience to share.

Key features

Automatic control

1. Movement detection
   To control lighting within a specific area, sensing of occupancy by movement detection ensures that lights are activated only when needed.
2. Daylight linking
   Natural light is energy saving and beneficial to individual users. Light output can respond to daylight conditions, maintaining a constant level of indoor lighting and ensuring comfort at all times.
3. Time schedule
   Daily programming of the management of lighting installations enables the correct lighting levels to be achieved at all times, by changing lighting levels, by switching lights on and off or by adjusting the way control systems respond to other devices.

Manual control

4. Pushbuttons/wall switches
   Lighting Control systems can also be operated manually by connecting conventional wall switches or pushbuttons to the inputs in the lighting control module.
5. Infrared remote control
   In offices and meeting rooms where the lighting requirements change frequently, wireless infrared control offers the flexibility to set the lighting, and change it at any time.

Lighting effects

6. Maintained illuminance
   Set desired light levels and maintain them throughout the life of the lamp to achieve significant cost savings.
7. Dimming control
   As more and more light sources can be economically dimmed, lighting controls need to provide both switching and dimming capabilities.
8. Scene-setting
   To meet the needs of different tasks, events or moods, a selection of lighting scenes can be created, stored and recalled at the touch of a button.
9. Control of any lighting type
   As lighting designs often require multiple types of lamps, Lighting Controls are designed to work with almost any light source.
10. Colour changing
    The ability to change the colour temperature of a lighting installation makes it possible to either create a more comfortable working environment or introduce dynamic lighting effects in architecture.

1-10V, "Touch and Dim" and DALI dim Interface

Philips dimming ballasts are available in three versions:
analogue 1-10V, digital "Touch and Dim" and DALI (Digital Addressable Lighting Interface).
It is important to ensure that the correct ballast is used with the chosen control system (see selection matrix).
The 1-10V system is the most common and has been the industry standard for many years.
Dimming is via a control pair and switching is done via the 230V mains.
The DALI system is the industry standard for digital ballasts and differs from 1-10V in two major ways:

- Digital switching via the control pair.
- Addressing, ballasts on the same control pair can be controlled separately by giving them different addresses.

The combination of these two facts means that the control circuits are independent of the 230V supply and can be changed without rewiring. The DALI protocol is the basis of the MultiDim and Actilume system.
"Touch and Dim" is a simple hassle free dimming solution for manual control applications.
It is a hard wired pushbutton solution offering personal light comfort.

System selection matrix

Use the following table to select the control system which best suits your users application needs

	Integrated in luminiare				Stand Alone	
Functionality	Touch and Dim	LuxSense	ActiLume	ActiLume Color	Occuswitch	MultiDim
Presence detection			✔		✔	✔
Daylight override			✔		✔	✔
Dayllight regulation		✔	✔			
Personal Light Level Control	✔✔✔		✔	✔		✔
Personal Colour Temperature Control				✔		
Application						
Open plan office		✔✔✔	✔✔✔		✔✔	✔
Cellular office	✔✔✔	✔✔✔	✔✔✔		✔✔	✔
Meeting room				✔✔		✔✔✔
Class room	✔✔✔	✔✔	✔✔✔			✔✔
Lecture room				✔		
Toilets					✔✔✔	
Corridor		✔✔	✔✔	✔	✔✔	
Warehouse					✔	✔✔✔
Factory						
Supermarket				✔✔✔		✔✔
Boutique				✔✔✔		✔✔✔
Functions						
Pushbuttons / manual	✔✔✔		✔✔✔	✔✔✔		✔✔✔
Remote control			✔✔✔	✔✔✔		✔✔✔
Movement detection			✔✔✔		✔✔✔	✔✔
Light sensing		✔✔	✔✔✔		✔	✔✔
Scene setting				✔✔✔		✔✔✔
Halogen dimming						✔✔✔
Custom pushbuttons	✔✔		✔			✔✔✔
IR Remote control			✔✔	✔✔✔	✔✔	✔✔
Colour changing				✔✔✔		✔✔

✔✔✔ = Perfect Fit
✔✔ = Excellent Fit
✔ = Good Fit

Luminaire based control solutions

The simplest way to lighting control

To increase comfort, energy saving and flexibility in offices, Philips offers miniature lighting controls within the luminaires.
Philips Lighting offers wide range of functions such as daylight linking, movement detection, remote control and scene setting with energy savings of up to 75%. Philips control solutions enable lighting controls to be applied in a building at any stage of a project. The sensor-controller combination within the luminaire has little impact, or none at all, on the electrical installation.

Touch and Dim - Simple lighting control at the touch of a button.

Push button dimming ballasts enable simple personal dimming and switching using a simple push-to-make switch from any manufacturer. Several switches may be connected to allow control from several locations in the room. Alternatively a switch may be mounted in an individual luminaire, for example using a pull switch to control a suspended luminaire or a push button in a desk lamp or uplighter.

LuxSense – Daylight-dependent regulation option

Luminaires with this option contain an unobtrusive light sensor, regulating light to the required level depending on the amount of daylight. Energy saving results from both the use of daylight and the compensation of the over-design effect (maintained illuminance).
With today's efficient lamps and optics, the compensation of the over-design is very effective, particularly in retrofit projects. Average energy savings can reach up to 35%. LuxSense is available as a separate product for TL5 and TL-D luminaires. Easy mounting, also for open luminaires.

ActiLume, is an easy to install and use, fluorescent lighting dimming system for offices that offers maximum comfort and automatic energy/ CO_2 savings of up to 75%. ActiLume switches the lights in an office automatically on and off on occupancy and regulates the lights down when enough daylight enters the room. A simple push on the sensor is enough to set up the system for open plan or cell office environments. This means installers and end-users do not have to worry about complicated programming or manual controls.
ActiLume consists of a sensor and controller unit, built in a luminaire, ready to use. It contains three sensors: a light sensor for daylight depending regulation, a movement detector for occupancy control and an IR receiver for remote control. The lighting can also be controlled manually, either by a wired switch with a single push switch, (Touch and Dim), or with a remote control. The system is operated with Philips DALI HF-REGULATORII ballasts.

Actilume Color - Imagine that you can create the ultimate experience for your customer just by the use of light. ActiLume Color is a flexible lighting controller that allows dynamics to coloured fluorescent (RGB) lamps and LEDs. For even more options, the Actilume Color can be used stand alone, or in a network based on DALI (Colour) or DMX (RDM). With its out of the box functionality, and no need for commissioning, the product is very easy to use.

Stand Alone control solutions

Occuswitch – Lighting control the easy way

The Occuswitch is a movement detector with a build in switch. It will switch the lights off in a room or area when it is vacated and thus save up to 30% of electrical energy. The Occuswitch can switch any load up to 6 A. and control an office area of around 20m^2.
A detachable mains connector enables easy installation and mounting of the Occuswitch in the ceiling. A separate Wieland cable is available for easy, fast and trouble-free installation.

The Occuswitch is designed for use in offices and similar applications, including toilets, storage rooms, etc. It is optimized for recessed ceiling mounting and for mounting heights between 2.5 and 3.5 meter. A separate surface box is available to allow surface mounting as well, with either recessed wiring or surface mounted ducts.
The advanced Occuswitch can be connected in parallel (max 10) to cover larger areas like open plan offices. The use of different mains groups or even phases is no problem.

MultiDim - Scene setting and colour mixing

Digital control solution

Philips DALI MultiDim offers today's most versatile and easy-to-install solution that brings the benefits of digital lighting control to many different application areas. Whether in shops, offices, conference rooms, hotels, restaurants or other applications.

Quick and economic installation

MultiDim consists of an integrated range of DALI-compatible devices that can be combined flexibly to create exactly the desired control functions. The systems addressable digital architecture means that only a single two-core cable is needed to interconnect all units. The possibility to eliminate conventional vertical wall wiring both reduces installation time and cost, and greatly increases the ease with which later changes can be implemented.

Freedom in lighting design

MultiDim offers unbeatable freedom and ease of lighting system design. The MultiDim controllers can be used in combination with DALI-compatible fluorescent lamp ballasts and lamp interface units (both high voltage incandescent lamps and low voltage halogen lamps). Where necessary, control functions can be provided by adding the required MultiDim units such as dimmers, control panels, IR remote control units and Multi-sensors for light levels and room occupancy.

Maximising flexibility with DALI

Thanks to the systems digital addressable control and communication concept, each unit in the DALI network has its own unique address that allows it to be switched and controlled independently. The systems single control line can be used to control different groups of lamps, and up to 63 devices connected to the same physical control wire can be addressed and controlled independently.



LPS100/00

Product Description

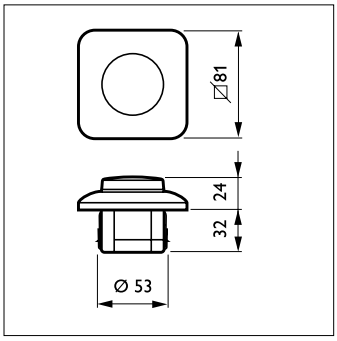
- Manual rotary potentiometer with microswitch for recessed or surface mounting. In combination with one or more electronic HF lightregulating ballasts, electronic light regulators or 1-10V controllers, it serves to control the light level of fluorescent lamps, halogen lamps or incandescent lamps

Applications

- The potentiometers are used in combination with the electronic HF lightregulating ballasts for manually controlling the light level of fluorescent lamps in areas such as offices, meeting rooms, etc.
- The built-in microswitch enables the lights to be switched on and off by means of a separate relay or contactor
- The potentiometers can also be used for setting the reference level in light sensor controlled installations

Note: Alternative manual dimming solutions can be made using HF-Regulator "Touch and Dim" in combination with a free choice of retractable pushbutton switch

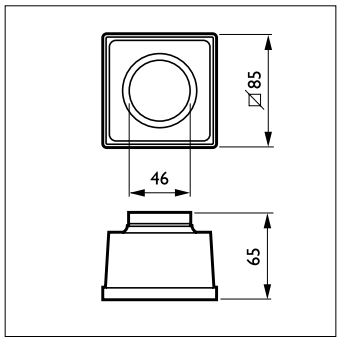
www.philips.com/OEM
www.philips.com/lightingcontrols



LPS100/00



LPS100/01



LPS100/01

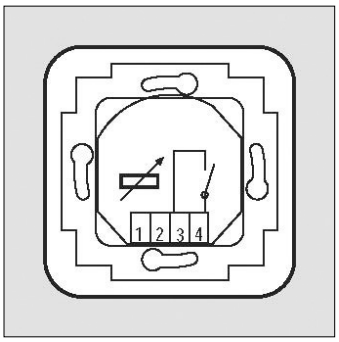
Technical data

1-10V

Type	Output voltage	Current	Microswitch max. voltage
LPS100/00	1-10Vdc	Max 50mA (current sinking)	250Vac.
LPS100/01	1-10Vdc	Max 50mA (current sinking)	250Vac.

Switching capacity LPS100/00 and LPS100/01

Ballast type	Max. allowed load
HF-R 118	6 ballasts
HF-R 218	5 ballasts
HF-R 136	4 ballasts
HF-R 236	3 ballasts
HF-R 158	4 ballasts
HF-R 258	2 ballasts



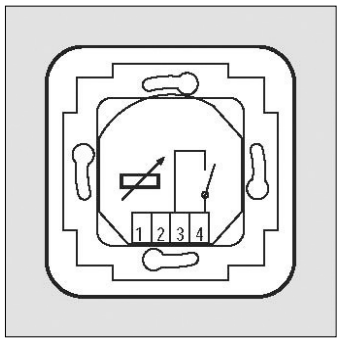
LPS100/00

1– 1-10V dc to HF reg.ballasts or controller

2+

3 microswitch

4 microswitch



LPS100/01

1– 1-10V dc to HF reg.ballasts or controller

2+

3 microswitch

4 microswitch

Related documentation

- Installation instruction

Miscellaneous

The outgoing low-voltage leads and the mains voltage leads should be kept separate from each other

- Housing material ABS, colour white
- Screw type terminals for solid wire cross section 2.5 mm^2

Remarks

If more than the allowed number of ballasts have to be switched, an external contactor must be used.

For electronic ballasts the in-rush current is the limiting factor.

Ordering and Packing data

Type	Box dimensions (mm)	Qty.	Material	Weight (Kg) net	Weight (Kg) gross	EOC 8711500
LPS100/00 Unit box	96 x 88 x 75	1	cardboard	0.088	0.120	
LPS100/00 Outer box	588 x 383 x 221	60	cardboard	5.280	8.100	746542 00
LPS100/01 Unit box	96 x 88 x 75	1	cardboard	0.142	0.175	
LPS100/01 Outer box	588 x 383 x 221	60	cardboard	8.520	11.300	746559 00

Touch and Dim

DALI



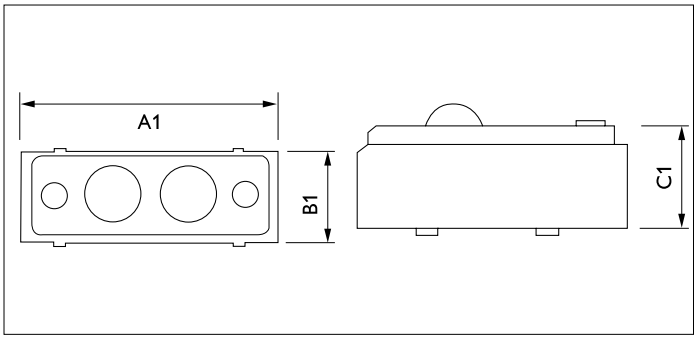
ActiLume

Product description

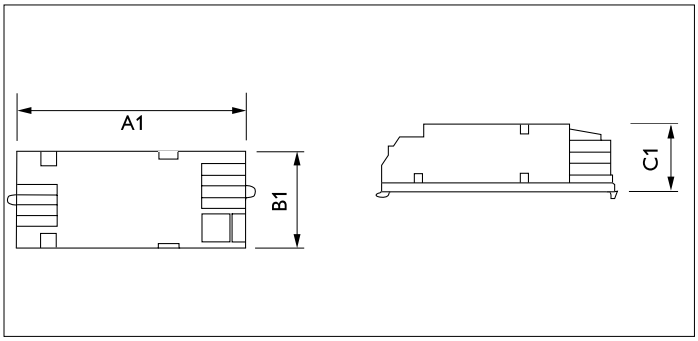
The Philips ActiLume lighting control system consists of a small, lightweight sensor and controller, designed for easy integration into luminaires. ActiLume is a true Plug and Play solution for open plan (up to 11 luminaires) or cell offices (e.g. 4 luminaires). It is used in a master and slave luminaire concept, easy to use and easy to install. Specific application brochures are available to help specify and apply the system in an optimal way.

Features and benefits

- Philips ActiLume is a DALI based lighting control system designed for maximum comfort and energy savings up to 75% (in fully automatic mode and when used in combination with Philips HF-REGULATORII Touch and DALI ballasts).
- ActiLume is a Plug & Play system, no specific lighting control training is needed. Moreover, the system is supported with simple, dedicated application and installation sheets.
- The ActiLume system consists out of three state-of-art miniature sensors combined with a controller containing a series of pre - programmed modes.
- The two most applied modes, cell or open plan offices, can be selected via a simple push on the service button.
- The light sensor is sensitive for visible radiation (matching the human eye) providing automatic savings with daylight depending regulation, without any visible discomfort for the user.
- The movement detector is very sensitive to human movements and contains a 15 minutes delay to provide optimal functionality whilst maximizing energy saving during absence.
- Personal control solutions can be created by connecting a mains rated spring-back switch to the controller or by using an infrared remote control unit.
- In addition ActiLume offers the possibility to select so called “comfort modes” in line with new EN 12464 indoor lighting norm. These modes can be recalled by using a simple mode selection tool IRT8098/00.
- If needed further customization can easily be established by changing the factory settings via the mode selection tool IRT8098
- The ActiLume controller contains two DALI outputs. These outputs are pre-programmed (factory setting) as a window and corridor row with a fixed light offset.
- The system can be extended with 1 or 2 additional movement detectors, LRM8118/00 to maximize movement coverage. This respectively reduces the number of ballasts per controller to 10 or 9.
- Factory light level setting is at 600 lux at a reflection factor of 0.3.



Sensor LRI1653/00



Controller LCC1653/00

	A1	B1	C1
Sensor LRI1653/00	44.7	16.4	15.8
Controller LCC1653/00	79.4	30.0	22.2

Applications

- The ActiLume system is designed for all office applications, from open plan to cell offices, lobbies or toilets, and from corridor to small meeting rooms.
- It offers dedicated modes, e.g. for schools, light-lines and direct/indirect lighting concepts.
- It even contains a specific comfort mode combining maximum energy savings and additional comfort based on a practical EN 12464 solution (mode 4, 5 or 9).

Plug & Play control regimes

- Mode 1: Switching light off when the area is not occupied, saving maximum energy in a cell office situation.
- Mode 2: Maintaining a (lower) light level when the area is not occupied, avoiding dark areas in an open plan office.
- Next to the modes the following functions can be changed independently:
  - Power up behaviour
  - Default light level
  - Background level

Related equipment

- ActiLume movement detector, extension sensor LRM8118/00
- Surface mount adaptor LRH8100/00
- Simple mode selection tool IRT8098/00
- Advanced mode selection tool IRT8099/00
- Two-key hand held transmitter IRT8010/00 and wall holder LRH8010/00
- Two-key transmitter IRT8050/00
- 4 preset transmitter IRT8030/00

Philips quality

This applies optimum quality with respect to:

- System supplier
- As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards
- Philips lighting control equipment complies with all relevant international rules and regulations.

Compliances and approvals

• RFI<30 MHz:	EN 55015
• RFI>30 MHz:	EN 55022 A
• Immunity:	EN 61547
• Safety:	EN 61347-1
	EN 61374-2-11
• Quality standard:	ISO 9001
• Environmental standard:	ISO 14001
• Approval marks:	ENEC
• CE marking	

Technical data for installation

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for safety: +/- 10%	198 - 264 V
Tolerances for performance +6%-8%	202 - 254 V
Mains frequency	50/60 Hz
Input power (system)	0,8 - 1,3 W

Number of ballasts	Number of extension sensors LRM8118/00
11	0
10	1
9	2

Technical data for design and mounting in fixtures

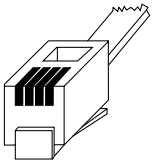
Operating conditions	
Ambient temperature	0 °C to 55 °C
	Sensor and controller
Rel. humidity	20% to 85%,
	no condensation
Tcase	75 °C
Storage conditions	-25 °C to +85 °C
Rel. humidity	10% to 95%

www.philips.com/OEM
www.philips.com/lightingcontrols

Sensor LRI1653/00

Connection

RJ-10 4-Pole
Fixed to
LRI1653/00, 100 cm
cable



RJ10
4P4C

Housing (casing)

Material — Polycarbonate UL94V-0

Glow wire test — 850 °C / 5 s

Safety, basic insulation — ≥ 1500 V

When placed at a height of 3 m the following values are valid:

Infrared receiver

Signal
Range



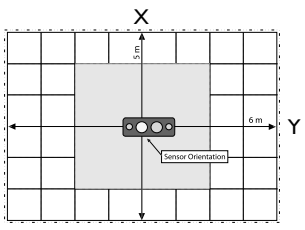
Light sensor

Ambient light monitoring
monitoring 25 to 350 lux
at sensor
Monitoring area



Movement detector

Passive Infra Red (PIR)
Detection area at 2.5 m height:
- 4x4 m (sensitive for small movements)
- 6x5 m (sensitive for large movements)

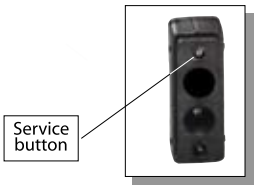


Maximum height PIR: 3.5 m
- X-angle PIR: 82°
- Y-angle PIR: 100°

Service button

The service button can be used to:

a) To select the user mode 1 and 2.
The user mode can be toggled between mode 1 and 2 by means of a short push on the service button (<1 seconds)



After key release the lamp will flash to indicate the selected user mode:
1 flash = User mode 1 (Cell office application)
2 flashes = User mode 2 (Open plan office application)
More modes can be recalled by using IRT8099/00.

b) Adjust the factory set reference light level.
Pressing the service button (>3 seconds) until the lamp gives a light flash (wink) will start the automatic calibration procedure.
The light output of the luminaires connected to the window side (DALI 1) is set to 80%. The light output of the luminaires connected to the corridor side (DALI 2) is set to 100%.

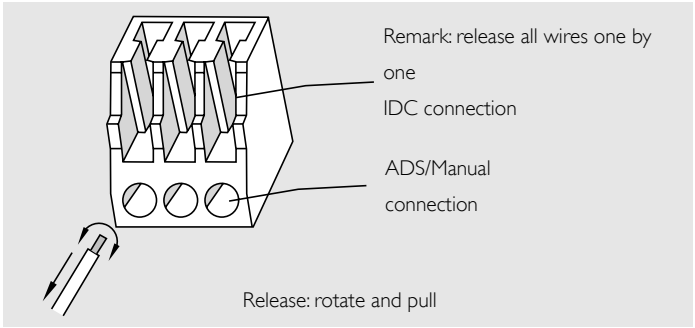
After 30 seconds the ActiLume controller is saving the actual light level as new reference light level (indicated by a second flash).
This 30 seconds time delay is required to have sufficient time to step aside or remove a stepladder.

Controller unit LCC1653/00

DALI Output	In user mode 1 and user mode 2 the system is programmed as one channel. When enough daylight enters the room, the amount of artificial light will be automatically reduced and the DALI 2 output (corridor row) is programmed with a light offset of 30%. In other modes (which can be recalled with IRT8099/00) ActiLume can use two channels depending the applications functionality.
Mains switch	By connecting a mains rated springback switch to connection Ls (Line-switched), dimming and switching on/off will be possible according the Touch and Dim functionality. (Maximum 1 switch per controller) Switch to be connected to the controller!
Remote control	It is also possible to use remote control IRT8010/00, IRT8030/00 or IRT8050/00. The IRT 8010/00 needs to be pointed to the sensor. The IRT8030/00 and IRT8050/00 have a X-Y-Z beam direction, making it suitable for wall mounting and table top use.
Glow wire test	850 °C / 5 s
Safety, basic insulation	M 1500 V
Material	Polycarbonate UL94 V-0
Mounting	The controller housing contains snap-in pins for quick fixation. The diameter of the fixation holes should be maximum 4.5 mm. The snap-in pins are designed for a metal thickness of maximum 0.8 mm. The maximum distance between the fixation holes is 78 mm.

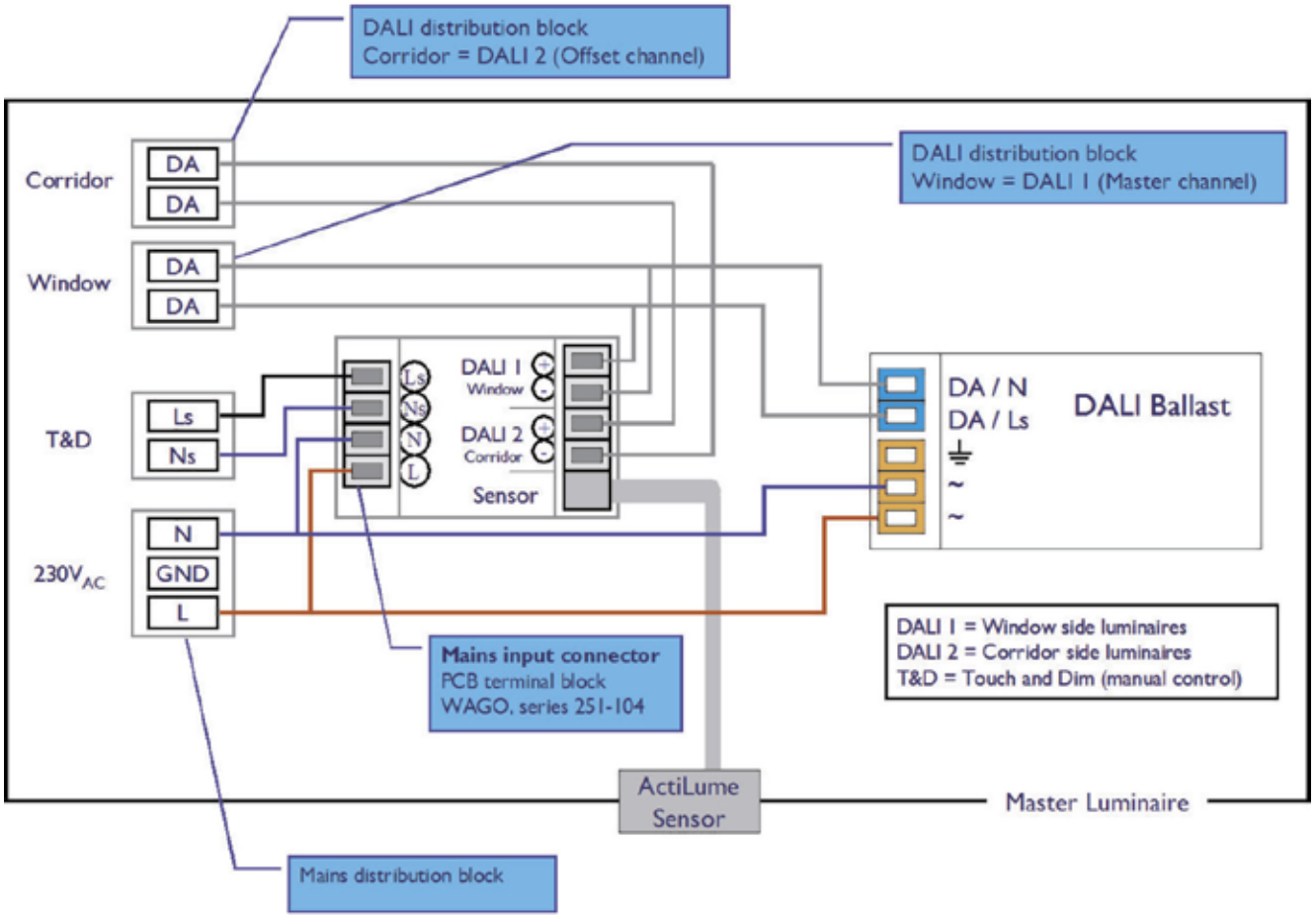
Connector type

Connection wiring is greatly simplified through use of WAGO 251 universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring.



Wire cross-section

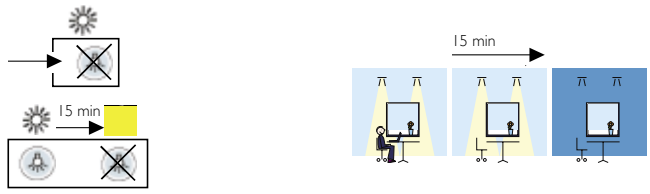
ADS manual connection	0.5 mm - 1.0 mm^2
IDC connection *Stranded wire	0.5 mm – 0.75 mm^2(*)
Strip length	8.0 – 9.0 mm



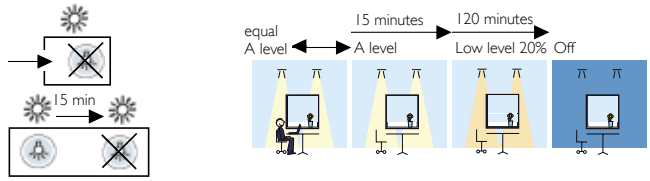
ActiLume Modes

Besides the two Plug and Play modes for cell office and open plan office, it is possible to recall 8 other application modes as mentioned below. This makes the ActiLume system very flexible for all different kinds of applications. With the aid of the advanced mode selection tool IRT8099/00 all 10 different modes can be selected. Once selected, the mode can be stored and copied via a point and shoot method. Even when the luminaires are switched off for a longer period, stored parameters are kept.

Mode 1: Cell office



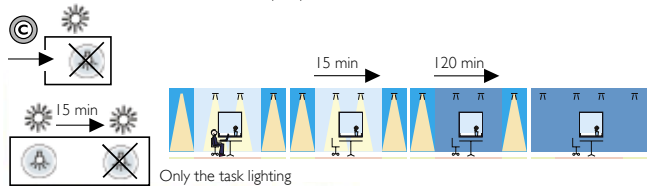
Mode 2: Open plan office



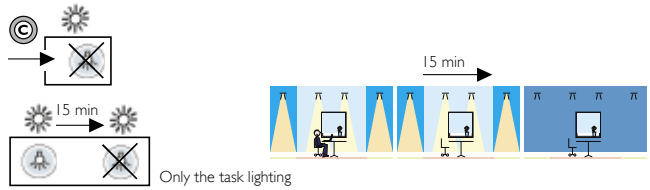
Mode 3: School/Classroom



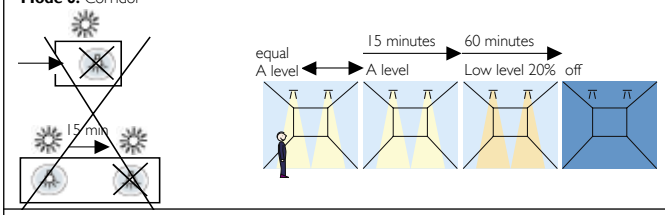
Mode 4: Comfort mode EN 12464 for open plan offices



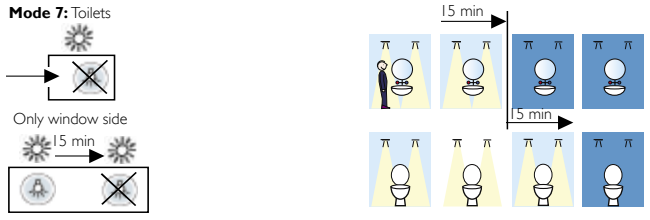
Mode 5: Comfort mode EN 12464 for cell offices



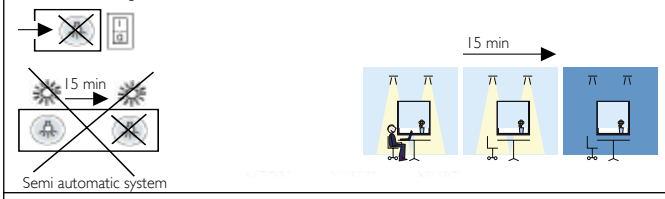
Mode 6: Corridor



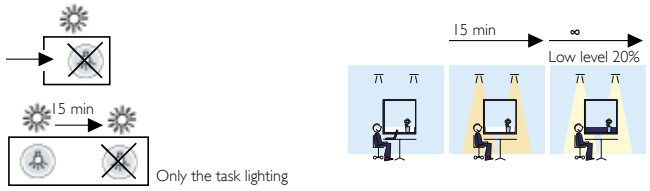
Mode 7: Toilets



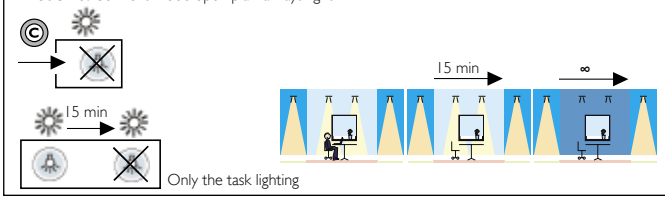
Mode 8: Meeting rooms



Mode 9: Open plan 'always light'



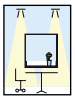
Mode 10: Comfort mode open plan 'always light'



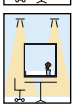
Legend



Presence
Area is occupied



Absence
Light stays on
(internal timer is activated to
clock absence time)



Absence
Light dims down to a background level
(internal timer is activated to clock absence time) or
surrounding light at 100%



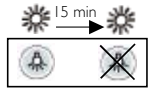
Absence
Light switched off



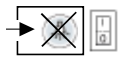
Comfort mode



When enough daylight is detected, the lights will NOT be switched on automatically when someone enters the room



When enough daylight is detected (measured over 15 minutes), the lights will automatically be switched off



Lights need to be switched on manually



Controller LCC1653/00



Sensor LRI1653/00



Simple mode selection tool
IRT8098/00

Simple mode selection tool for ActiLume (mode 1 and mode 2 selection).
Light set point calibrator.
Easy to Use.
Batteries are included.



Advanced mode selection tool
IRT8099/00

Mode selection tool for ActiLume luminaires.
Inexpensive tool to adjust light levels and to switch between functionality modes.
Batteries are included.



Extension sensor LRM8118/00

Extension sensor for ActiLume to cover movement in open plan or light lines solution.



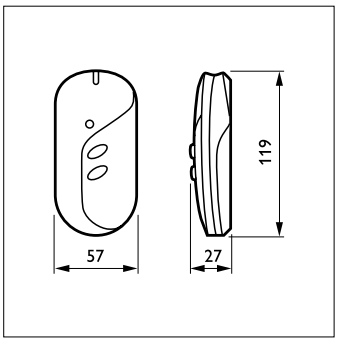
Surface mount adaptor
LRH 8100/00

Ceiling box for the ActiLume extension sensor LRM8118/00

Ordering data

	Weight (kg)	Packaging pcs	EOC
Controller LCC1653/00	0.03 (per piece)	48	910424 30
Sensor LRI1653/00 1m cord	0.03 (per piece)	48	910462 30
Sensor LRI1653/00 60 cm cord	0.03 (per piece)	48	913272 30
Kit Controller & Sensor KIT1653/00	0.06 (per kit)	12	910448 30
Extension sensor LRM8118/00	0.20	1	730783 00
Surface mount adaptor LRH8100/00	0.01	1	519203 00
Simple mode selection tool IRT8098/00	0.08	1	730806 00
Advanced mode selection tool IRT8099/00	0.22	1	518893 00

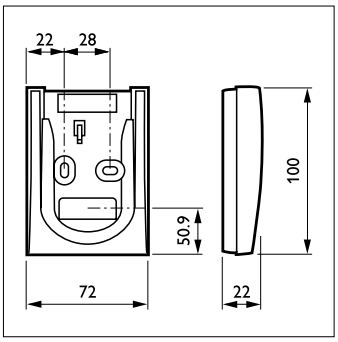




Hand-held two-key transmitter IRT8010/00

Hand-held two-key transmitter, for infrared control of various lighting control systems. ActiLume can also dim the lights (by pressing a button >0.5 sec). The unit is supplied with batteries. A wall holder is separately available.

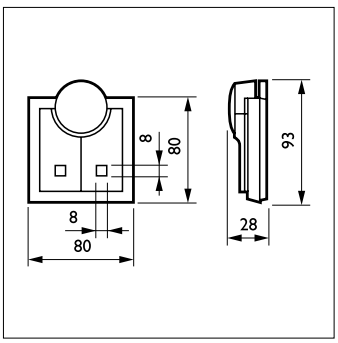




Wall holder LRH8010/00

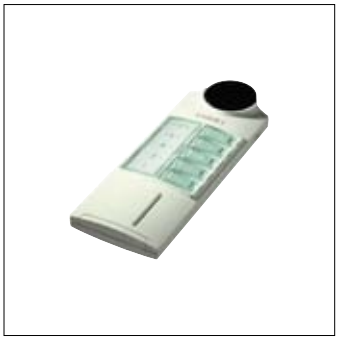
Wall holder for the IRT8010/00 hand-held two-key transmitter.

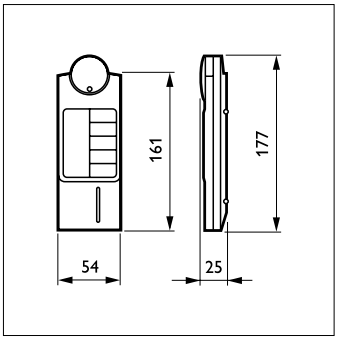




Two-key infrared remote control IRT8050/00

Two-key infrared remote control transmitter for wall mounting and table-top use. The unit can be used in ActiLume. The actual function of the two large keys can be selected with a dip switch in the battery compartment. A dip switch is also used to select the group address.





Four-preset hand-held transmitter IRT8030/00

Four-preset hand-held transmitter, suitable for infrared control of ActiLume applications. It has 4 keys for presets and one key for "all off". Keys for individual control and preset programming are located under a hinged cover at the bottom of the transmitter. The group address selector switch is contained in the battery compartment. The unit is supplied complete with wall holder and batteries.

Dimensions in mm

Ordering data

	Weight (kg)	EOC
TRANSM IR POINT IRT8010/00	0.06	517490 00
MOUNT IR POINT LRH8010/00	0.03	517971 00
TRANSM IR 2KEY WALL IRT8050/00	012	517070 00
TRANSM IR TRIOS IRT8030/00	0.22	517636 00



Actilume Color Controller

Product description

The Philips ActiLume Color is a DALI controller for colour based lighting applications. The system consists of a colour controller, and a small lightweight sensor, designed for easy integration into luminaires. Also a programming kit is available, which consists of the ActiLume Color Studio programming software and a RS232/DALI gateway. The ActiLume Color controller can be operated with a remote control, or with either DALI (optimized for Philips MultiDim), DALI Color or DMX user interfaces. Complete DALI input interface support is expected at the beginning of 2009, because of the ongoing process of DALI Color standardisation. Whenever there is referred to DALI (Color) in this document, this limitation must be considered. The ActiLume Color is a true Plug and Play solution for retail and hospitality, which can control up to 10 luminaires per controller. For larger systems, the ActiLume Color controller can operate within a DALI, DALI Color or DMX (RDM) network, No commissioning is required for the DALI based lamp drivers connected to the ActiLume Color Controller, which makes it easy to use and easy to install. An application brochure is available to help specify and apply the system in an optimal way.

Features and benefits

- Philips ActiLume Color is a flexible Stand-alone, DALI and DMX based DALI lighting control system designed for dynamic and static colour effects in small, medium-sized and large applications.
- ActiLume Color is a flexible Plug & Play system; therefore no specific lighting control training is needed. Moreover, the system is supported with simple, dedicated application and installation sheets. In addition, the ActiLume Color system can also be operated in larger and existing DALI or DMX backbone based networks.
- The simplest system is operated by an infrared remote control to recall 10 preprogrammed dynamic sequences and 10 static scenes.
- ActiLume Color has open interfaces that allow proprietary user interfaces based on RC5 (like infrared remote controls), DMX or DALI (Color).
- Per ActiLume Color controller, a maximum of 10 colour luminaires can be controlled via the DALI R(ed), G(reen), and B(lue) output ports. In addition, 40 ActiLume Colors can be connected to the DALI Ext port. This allows for a second level of ActiLume Color controllers (repeater function). When the DALI Color standard is fully implemented it is also possible to connect other DALI Color based fixtures, like LEDs, to enlarge flexibility of the system.
- Easy to use programming of own dynamic colour sequences with ActiLume Color Studio software. The files of the programmed sequences and earlier chosen colour palettes can be shared easily via internet/email.
- For larger systems within shops or public areas, it is possible to commission the ActiLume Color controllers within an existing network. This also allows creating groups.
- Large building facades can be lit by using a MultiDim control to synchronize up to 60 Actilume Color controllers (or 600 RGB fixtures). Furthermore, the MultiDim controller can provide a scheduler function, and other sensors.

Applications

The ActiLume Color system has been designed for all indoor application within retail, hospitality, and public spaces, especially to attract people and to surprise them.
It can be used for both dynamic sequences from very short to very slow (24 hr cycle), and static colours that are selected to support e.g. seasonal fashion, merchandize change, or a specific atmosphere in a bar or restaurant.
It offers max. 16 preprogrammed sequences corresponding with seasons (Christmas, autumn) and daily situations (nature, sun set).

Plug & Play control regimes

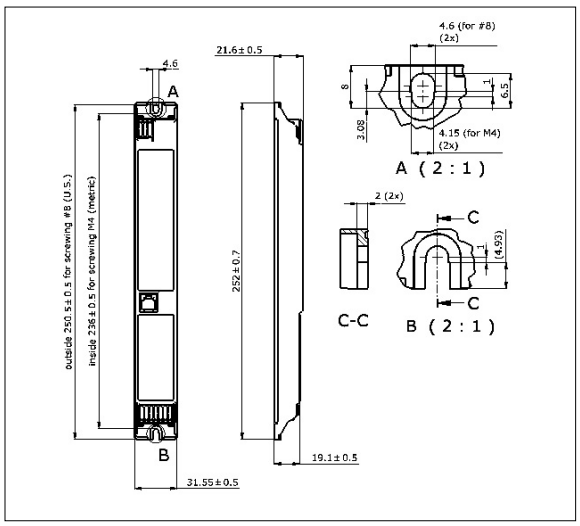
- Simple systems with one ActiLume Color controller are typically operated by MultiDim push button controls or remote control. The lamp drivers are directly connected to the Red, Green, or Blue outputs without any commissioning.
- LED drivers equipped with DALI Color can easily be connected to the ActiLume Color Controller, and can fully be integrated in the pre-programmed scenes or dynamic sequences.
- Larger systems with all luminaires providing the same color can be realized by connecting up to 40 ActiLume Color Controllers (to the DALI-ext port) on one "master" ActiLume Color controller, which is operated by a MultiDim push button or a remote control.

Philips quality

This applies optimum quality with respect to:

- System supplier
- As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards
- Philips lighting control equipment complies with all relevant international rules and regulations.

www.philips.com/OEM
www.philips.com/lightingcontrols



Type	A1	B1	C1
ActiLume Color controller LLC1670/00	252	31.5	21.6
Sensor IRR1651/00 without cap	44	16	18
Sensor IRR1654/00 with cap	46	19	18
Sensor IRR8125/10 invisible	70	20	20
Remote Control IRT1670/00	157	42	20

Technical data

Conformity & Standards

RFI<30 MHz	EN 55015
RFI>30 MHz	EN 55022 A
Immunity	EN 61547
Safety	EN 61347-1
	EN 61374-2-11 (SELV Equivalent)
	NEMA 410
	UL935
Quality standard	ISO 9001
Environmental standard	ISO 14001
Approval marks	ENEC:
	72/23/EEC (low voltage)
	89/336/EEC (electromagnetic compatibility)
	CSA
	UL-recognized (UL1310 for class II power supplies)
CE marking	

Installation

Mains operation	Rated mains voltage 120-277 V
With tolerances for safety	+/- 10% 100-300 V
Mains frequency	50/60 Hz
Output power (system)	
• R output	Maximum 10 DALI loads (20 mA)
• G output	Maximum 10 DALI loads (20 mA)
• B output	Maximum 10 DALI loads (20 mA)
• Ext output	Maximum 40 DALI loads (80 mA)
• DMX	64 mA
• Sensor	5 mA

Design and mounting in fixtures

Operating conditions	Ambient temperature 5°C ... 50°C
Controller and sensor	
Rel. humidity operating	20% … 85%, no condensation
Tcase	75°C
Storage Conditions	-25°C … +70°C
Rel. humidity storage	10% … 95%
Lifetime	10% failure rate at 50k hrs with Tcase of 75°C

DMX operation

Operating temperature	+5 … 55°C
Protocol standards	ANSI 1.11-2004 (USITT DMX512-A)
	ANSI 1.20-2006 (RDM)
Connector	8-position modular connector (RJ45)
Transient/Burst Immunity	IEC 61000-4-4/5, level 2 on IO: 0.5kV
and Surge	UL840: overvoltage category II (<50V): 0.5kV
Network requirements	According to EIA-485-A specification

Controller unit L LC1670/00

In MultiDim operation and based on the pre-programmed colours, ActiLume Color calculates the different dim levels for the Red, Green and Blue lamps, and the fading (dim levels) in between two colour points. On the extended output, additional ActiLume Colors can be operated within the same sequences or scenes. Moreover, from the beginning of 2009, this output can also be used to connect additional DALI Color devices to create larger set-ups.
In DMX operation, the real time DMX commands are directly translated into DALI commands on the output side.

ActiLume Color interfaces:

4x DALI current limited outputs,
- DALI-R: 10 DALI loads max
- DALI-G: 10 DALI loads max
- DALI-B: 10 DALI loads max
- DALI-EXT: 40 DALI loads max (mentioned as group RGBE_DA)

1x ActiLume Multi-Sensor input, called SENSOR

1x RS-485 connection, based on DMX (RDM)

The controller only supports the RDM address setting. The RDM requires bidirectional RS-485 (half duplex) and a factory programmed device unique ID.

Transmission load	32 devices, with terminators
Transmission level range	0 ≤V≤+6 wrt common
Transmission frequency	250kBits/s ± 2%
Reception level range	+12/-7 wrt common
Reception frequency	250kBit/s ± 2,5%

Turn around time of DMX transceiver: 176 µs after transmission of the last stop bits. When a DMX-RDM controller expects a responds, the device must place its transmitter in high impedance state within 88us after transmission of the last stop-bit (of the last transmitted byte). Time between slots (data-bytes) may not exceed 76us.

1x DALI passive input, (DALI GP) [Full DALI (Color) implementation expected in the beginning of 2009]

Transmit:

Short circuit current	max 250mA
High level range	11.5 … 20.5V
Low level range	–4.5 … 4.5V
Rise/fall time	10 …50 µs
Transmission frequency	1200Hz +/- 5%

Receive:

High level range	9.5 … 300V
Low level range	–6.5 … 6.5V
Rise/fall time	10 …50 ms (mains), 0 …100 µs (DALI)
Reception frequency	50/60Hz (mains), 1200Hz +/- 10% (DALI)

1x Universal mains input

User interfaces

Remote control

IRT1670/00 needs to be pointed to the sensor (IRR1651/00 or IRR1654) for starting dynamic sequences or static scenes.

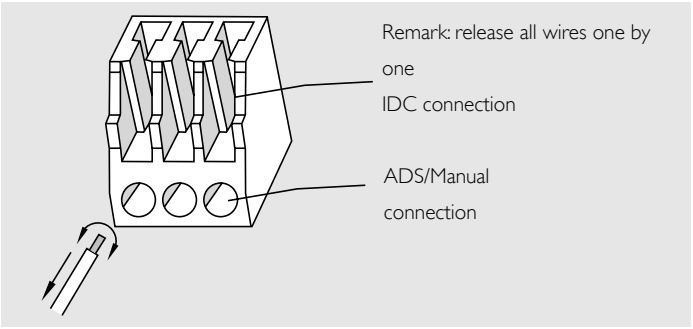
Philips MultiDim

Broadcast commands will start pre-programmed sequences/static colours.

DALI COLOR (209) based controls (expected for 2009)
DALI Color commands will activate ActiLume Color and all other (Lamp/LED) drivers based on DALI Color.

Glow wire test	850 °C / 5 s
Safety, basic insulation	< 2000 V
Material	Polycarbonate + ABS Bayblend KU-2 1514 UL94 V-0
Housing color	Dark gray
Mounting	The minimum distance between the fixation holes is 236 mm.

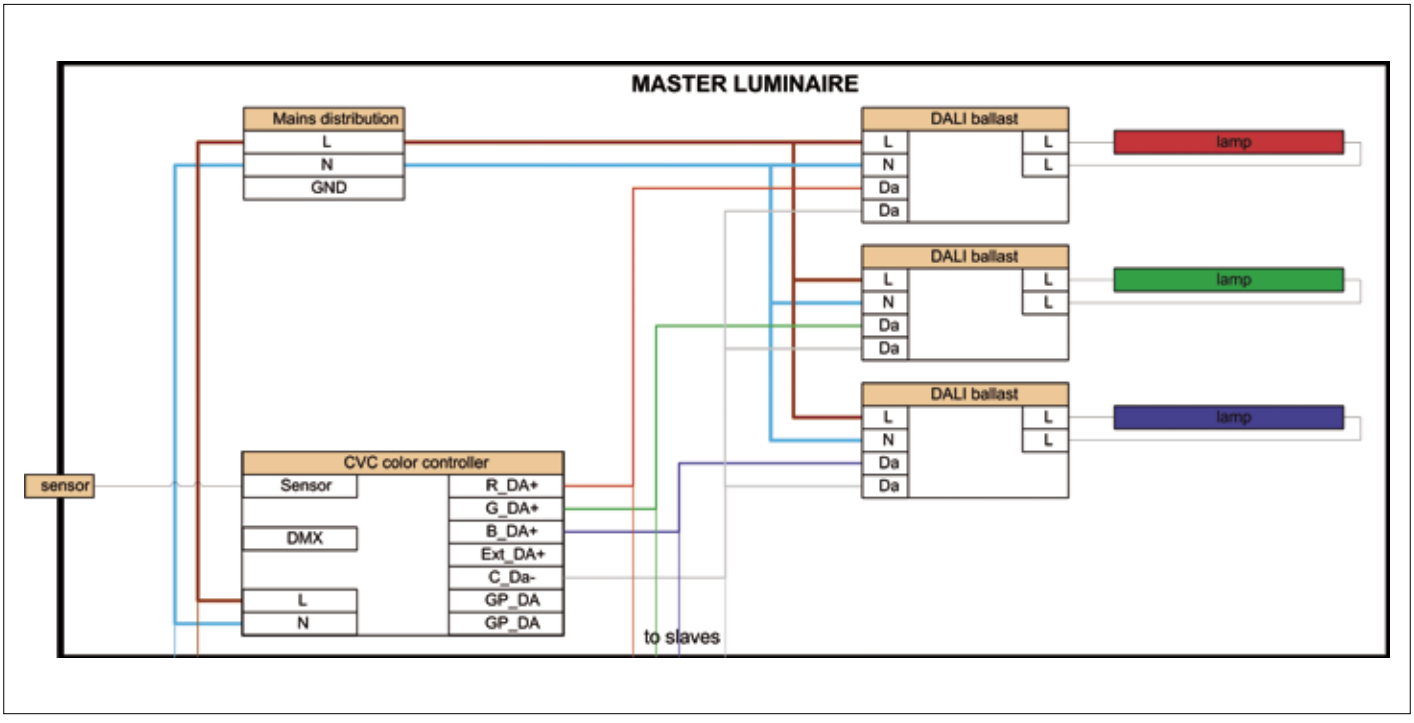
Connections for DALI and mains:



IDC Connection	0.5 mm … 0.75 mm2 (*) ADS or manual push wire insert 0.5 mm … 1.0 mm^2 (*) Stranded wire
Strip length	8.0 … 9.0 mm

Sensor IRR1651/00 without cap
Sensor IRR1655/00 with cap
Sensor IRR8125/10 invisible

Connection	RJ-10 4-Pole 100 cm cable
Housing (casing)	
Material	Polycarbonate UL94 V-0
Glow wire test	950 °C / 5 s
Safety, basic insulation	< 2000 V
Infrared receiver	RC5 signal Minimum range 20 m2
Cap material IRR1654	Polycarbonate, RAL7035



Wiring scheme

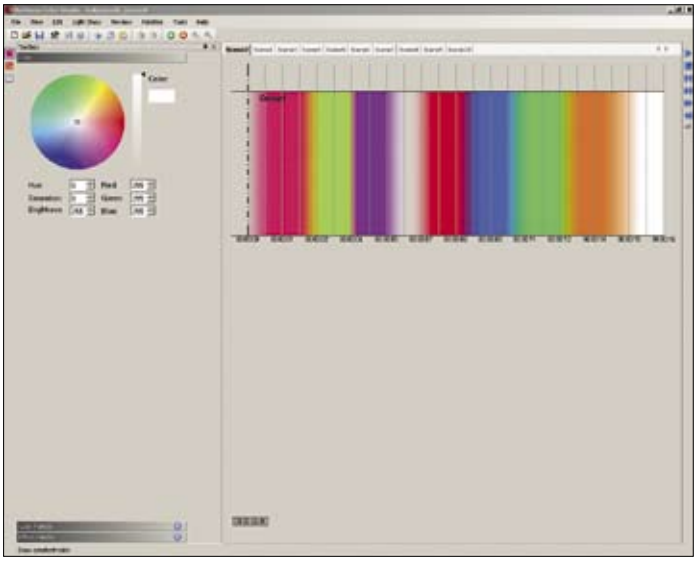
Advanced colour selection remote control IRT1670/00

This remote control can be used for selecting pre-programmed colour sequences and static colors. Already programmed dynamic sequences can be played faster (in half of the time), or slower (factor 3 or 6 slower). Static colours can be selected in hue and dim level and stored into the controller.

Batteries are included.



ActiLume Color Programming Kit LCK1670/00 or LCK1671/00



Consists of:

- **Actilume Color Studio**
  ActiLume Color Studio is intuitive software for programming sequences into the ActiLume Color controller. It allows direct preview, light plan overview, and grouping.

- **RS232 Cable**
  The RS232 cable connects a PC via the serial port to the RS232-DALI gateway.

- **Power cable** (Only LCK1670/00)

- **RS232-DALI gateway**
  The RS232 – DALI Gateway translates all communication between the personal computer and the DALI network. The connection between PC and the DALI network is only necessary when the sequences are uploaded into the ActiLume Color Controller. Two versions are available: 230V (LCK1670/00) and 24V (LCK1671/00).

Ordering and Packing data

Type	Description	Weight (kg)	Packaging (pcs)	EOC
LLC1670/00	Controller	0,107	24	915 719 30
IRR1651/00	IR Sensor without cap	0,026	48	730 639 99
IRR1654/00	IR Sensor with cap	0,027	24	915 856 30
IRR8125/10	IR Sensor invisible	0,028	1	731 315 99
IRT1670/00	Remote control	0,030	18	915 832 30
LCK1670/00	Programming kit	0,700	1	-
LCK1671/00	Programming kit	0,640	1	-





LRM1070/1080

Product Description

- The Occuswitch is a movement detector with a build in switch.
- It will switch the lights off in a room or area when it is vacated and thus save up to 30% of electrical energy.
- The Occuswitch family exists of:
  - LRM1070 Basic Occuswitch
  - LRM1080 Advanced Occuswitch
  - LCC1070 Wieland cable
  - LRH1070 Ceiling mounting box

Product Features

- The Occuswitch can switch any load up to 6 A and controls an office area of around 20 m^2.
- A detachable mains connector enables easy installation and mounting of the Occuswitch in the ceiling.
- A separate Wieland cable is available for easy, fast and trouble-free installation.
- (Advanced only) Up to 10 units can operate in parallel.
- Automatic switch on can be prevented when sufficient daylight is available, to create additional savings.
- Lights can automatically be switched off when sufficient daylight becomes available to create even more savings.

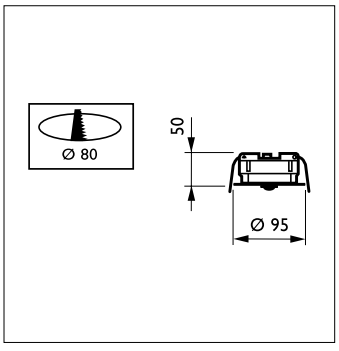
Product Benefits

- Energy savings up to 30% on occupancy control.
- Energy savings up to 45% using occupancy control and daylight switching.
- Adding to the flexibility in a room or area.
- Increases the lifespan of the lamps.
- Full automated control

Application

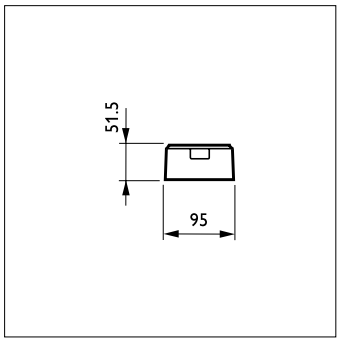
- The Occuswitch is designed for use in offices, schools and similar applications, including toilets, storage rooms, etc.
- It is optimized for recessed ceiling mounting and for mounting heights between 2.5 and 3.5 meter.
- The surface box allows surface mounting
- The advanced Occuswitch can be connected in parallel (max 10) to cover larger areas like open plan offices.

www.philips.com/OEM
www.philips.com/lightingcontrols





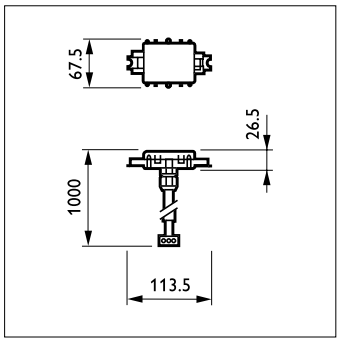
Ceiling box for surface mounting of Occuswitch (LRM1070, LRM1080)



LRH1070



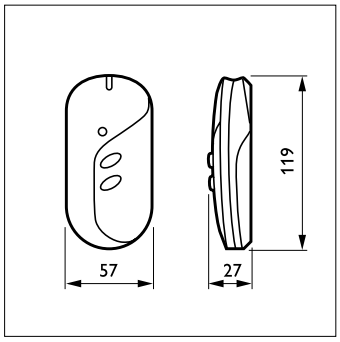
Extension cable for Wieland connection of Occuswitch (LRM1070, LRM1080)



LCC1070



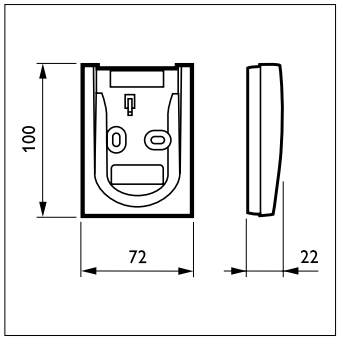
Hand-held two-key transmitter, for infrared control of various lighting control systems. The group address selector switch is contained in the battery compartment. The unit is supplied with batteries. A wall holder is available. This transmitter is not designed to be operated from the wall holder.



IRT8010



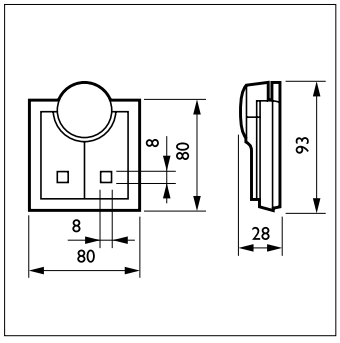
Wall holder for the IRT8010 hand-held two-key transmitter



LRH8010



Two-key infrared remote control transmitter for wall mounting and table-top use. The actual function of the two large keys can be selected with a dip switch in the battery compartment. A dip switch is also used to select the group address.



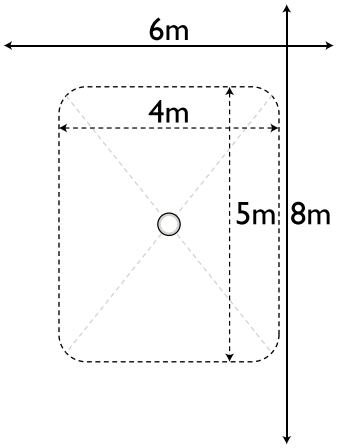
IRT8050



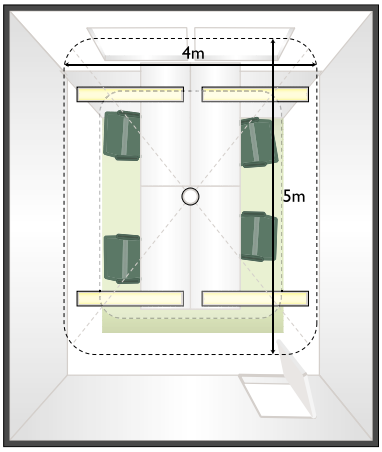
Commissioning tool for Occuswitch, Luminaires with ActiLume and Saber sensors. Easy to use and inexpensive tool to adjust the functionality and/or calibrate light levels. The functionality is depending on the product it is used with. Batteries are included.

Detection pattern

The Occuswitches detection pattern (see drawing) is 4 by 5 meters for small movements (desk work) and 6 by 8 meters for larger movements like walking.



Detection pattern



Standard application

Functions (both versions)

Automatic control

The Occuswitch switches the lights on automatically when presence is detected and switches the lights off 1..30 minutes after the area is vacated.

Daylight override

It is possible to prevent the automatic switch on when sufficient daylight is available in order to create additional savings.

Daylight switching

When daylight switching is active, the lights will automatically be switched off when sufficient daylight becomes available. And turned back on when the light level drops below the required level.

Smart timer

The smart timer will extend the delay time by 10 minutes if movement is detected shortly after switch off, assuming that the area is still in use, but very little movement is made.

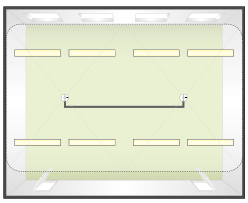
Shield

The Occuswitch has a retractable shield that can be used to shield off areas like corridors, adjacent to the area the Occuswitch is controlling.

Functions (advanced version)

Parallel operation

It is possible to connect up to 10 Occuswitches in parallel via a separate bus signal. When one of the Occuswitches detects movement all units will switch the lights on. The bus signal is fully isolated, so each Occuswitch can be used on any mains group or phase, allowing the use of several mains groups in an area and easy wiring.



Parallel operation

Local override

With a remote control it is possible to override the automatic operation of the Occuswitch, for instance to switch off the lights during occupancy.

Absence mode

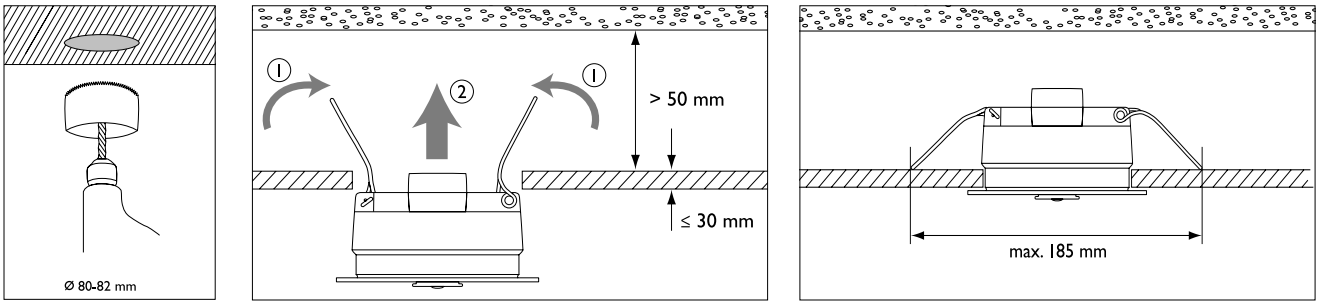
When a remote control is used it is also possible to disable the automatic switch on when people enter the area the Occuswitch is controlling.

Remote tool

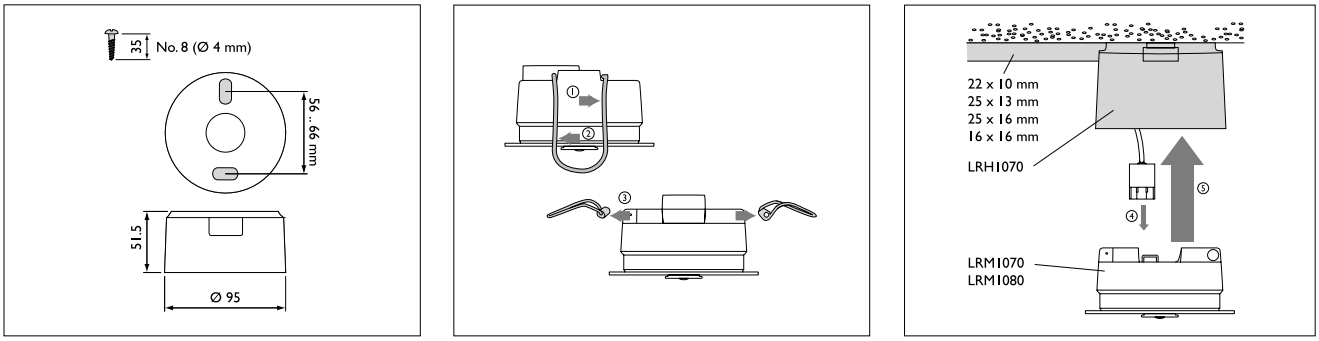
With a remote control tool (IRT8099) it is possible to change the light level settings without the need to reach for the Occuswitch itself.
Using the tool it is possible to change the power-up setting from its default (switch on).
The Occuswitch will not switch on at power-up and start detection 30 seconds later.

Mechanical installation

The Occuswitch can be mounted in two ways; recessed in the ceiling or surface mounted using the ceiling box.
The ceiling box (LRH1070) has breakout ports for cable ducts and a breakout centerpiece.
When selecting a location for the Occuswitch avoid obvious cold spots so that condensation does not occur.



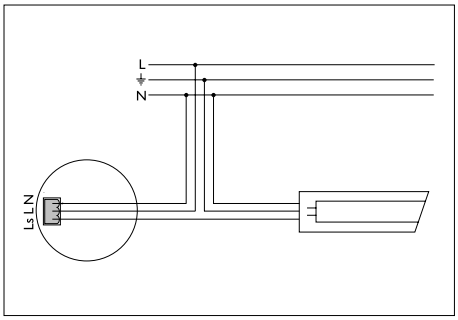
Fixing the Occuswitch in a celling (recessed)



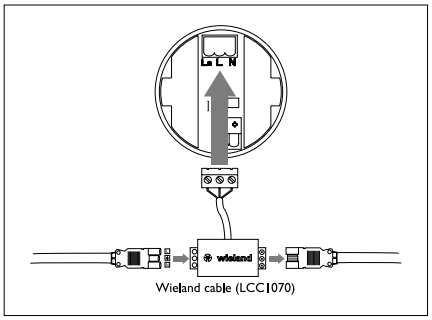
Fixing the Occuswitch in a celling (surface mounted)

Electrical installation

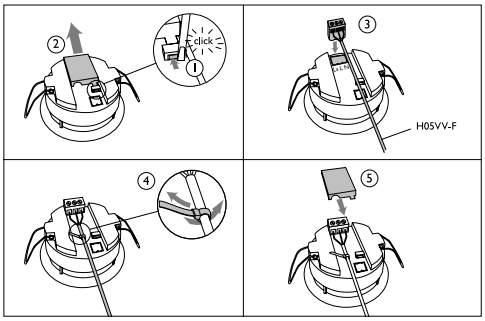
The Occuswitch can be installed with either conventional wiring or Wieland connectors. For the last option the Wieland cable (LCC1070) is required. The Occuswitch comes with a detachable mains connector for easy installation. This connector is removed if the Wieland cable is used. The mains connection is protected by a retractable cover and secured with a tie rap.



Installation (conventional wiring)

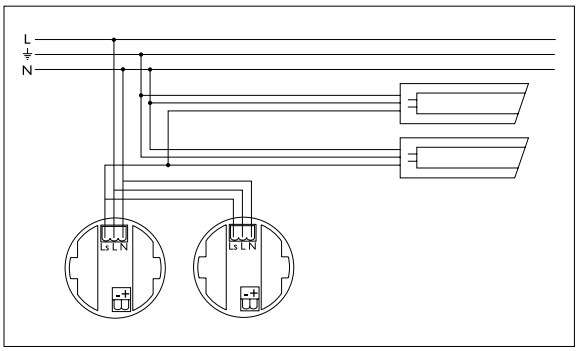


Installation (Wieland)

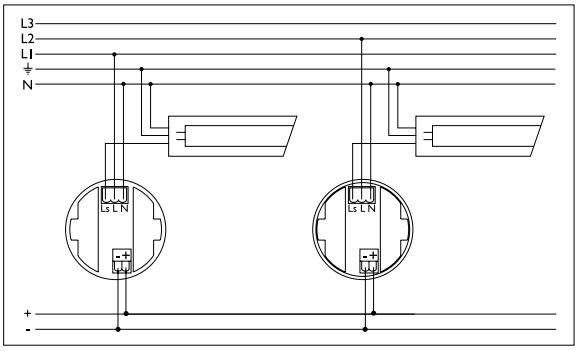


Parallel operation

Parallel operation is used to enlarge the covering area of the Occuswitch. This can be done in two ways; either by parallel installation or by using the parallel connection of the advanced Occuswitch (LRM1080). Parallel installation limits the total load to 6A and restricts the application to one mains group. The LRM1080 uses a bus signal to indicate occupancy to other units. All units can be used up to 6A each and with several mains groups (or even phases). A short delay between the different units during switch of may occur.



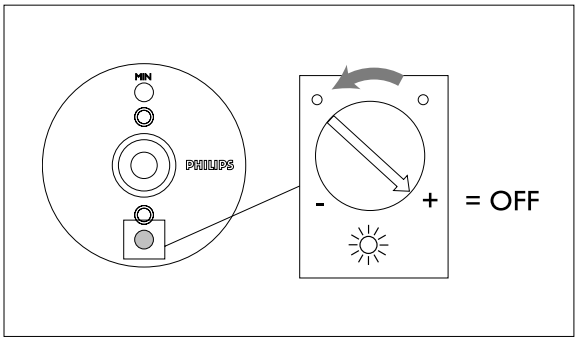
Parallel operation (advanced only)

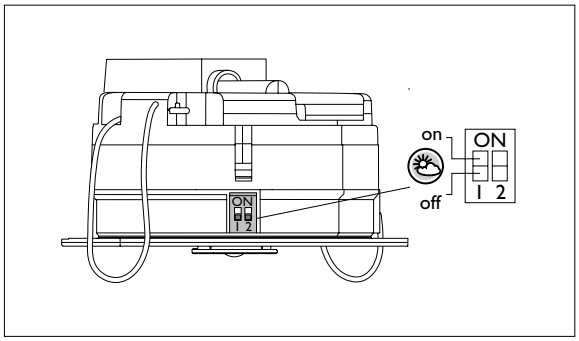


Parallel installation

Daylight override

The daylight override function prevents the lights from switching on when sufficient daylight is available. To enable this function it is necessary to set the required light level by changing the dial from the OFF position. To disable this function turn the dial left into the OFF position.





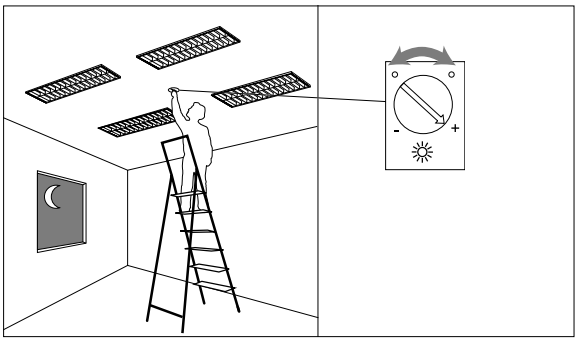
Enabling daylight override and switching

Daylight switching

This function will actively switch the lights off if sufficient daylight is available.
To enable this function the DIP switch for this function has to be set in the ON position and the light level must be set (see daylight override).
When this function is enabled, lights will switch off when the light level is above 220% for more than 15 minutes.
When switching off, the available daylight reaches at least 120% of the required light level. The lights will switch on again when the light level drops below the required level.

Note
This function can only work correctly if the required light level is the same as the installed light level. The Occuswitch will automatically raise the switch off level if the required light level is set well below the installed light level (for instance 500 Lux required with 1000 Lux installed). This will prevent the lights from switching on and off in a 15 minute cycle.
The Occuswitch can switch off once or twice (with a 15 minute delay) for reference purposes. This cycle will repeat every time the Occuswitch is reconnected to the mains power.

Calibration
Turn the dial to raise or lower the required light level.

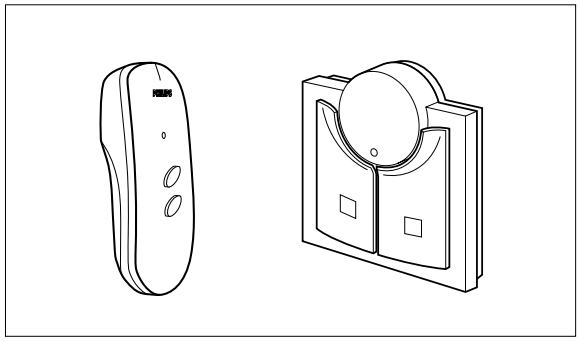


Calibration

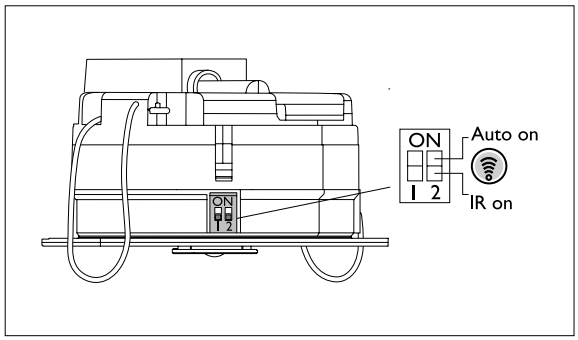
Local control (LRM1080)

The Occuswitch (advanced version) will react to commands given by a Philips Lighting remote control. There is no special setting required.
Although the Occuswitch will operate with all remotes capable of sending the right codes, the IRT8050 (wall mounted) and IRT8010 (hand held with holder) are the best suited for this application.
The Occuswitch will respond to channel 1 codes (on/off). By default it will respond to group A and general codes.
Only with the IRT8099 it is possible to change the group address to make a distinction between different Occuswitches and transmitters. The Occuswitch does not react to preset commands.
The remote control should be operated within the detection area of the Occuswitch.

Absence mode
The Occuswitch will not switch on the lights automatically in absence mode. A remote control has to be used to switch on the lights. The Occuswitch will switch off 1..30 minutes after the area is vacated. Set the DIP switch in the right position to activate the absence mode.



IRT8010 and IRT8050



Enable absence mode

Warnings (both versions)

The Occuswitch should not be used in the following situations

- In applications outside the specification range, most notable heights above 3,5 meter.
- Environmental conditions other than in a normal office environment (temperature, humidity).
- In applications with heat sources like electrical heaters, within the detection range of the Occuswitch.
- In combination with lighting sources, or other devices, that can be damaged if they are switched off and on in a short period of time.

Warnings (advanced version)

The Occuswitch should not be used in the following situations

- In applications with (semi continuous) IR appliances like IRDA communication, IR communication between PDA and phones and other devices, Headsets operating with IR communication, etc. etc. Please note that some devices with IR communication send IR messages, even when there is no communication link. These features must be disabled.
- In applications with electronic ballasts that operate up or near the IR transmission frequency of 36Khz. Also when these ballasts are not used in combination with the Occuswitch, but the light from the lamps they operate is visible to the IR receiver.

Packing data

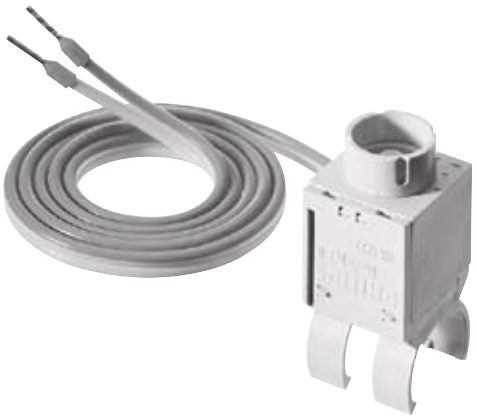
Type	Unit	Dimensions	Qty	Material	Weight (kg)	
					net	gross
LRM1070 Occuswitch basic	Unit box	105 x 95 x 58 mm	1	card board	0.20	0.23
LRM1070 Occuswitch basic	Outer box	400 x 300 x 300 mm	42	card board	5	5.6
LRM1080 Occuswitch Advanced	Unit box	105 x 95 x 58 mm	1	card board	0.20	0.23
LRM1080 Occuswitch Advanced	Outer box	400 x 300 x 300 mm	42	card board	5	5.6
LRH1070 Ceiling box	Unit box	105 x 95 x 58 mm	1	card board	0.10	0.13
LRH1070 Ceiling box	Outer box	400 x 300 x 300 mm	42	card board	1.5	2.4
LCC1070 Wieland cable 3p	Unit box	n.a.	1	plastic bag	0.15	n.a.
LCC1070 Wieland cable 3p	Outer box	289 x 214 x 178 mm	18	card board	2.4	2.7
IRT8050 2-key wall transmitter	Unit box	124 x 92 x 50 mm	1	card board	0,15	0,17
IRT8050 2-key wall transmitter	Outer box	205 x 192 x 133 mm	8	card board	0,92	1,38
IRT8010 IR transmitter	Unit box	131 x 58 x 87 mm	1	card board	0,06	0,10
IRT8010 IR transmitter	Outer box	240 x 135 x 87 mm	12	card board	1,20	1,27

Ordering data

Type	MOQ	EAN code 1 pc.	EAN code bulk packing	EOC
LRM1070 Occuswitch basic	42	87 11559 731384	8711559731391	731384 99
LRM1080 Occuswitch Advanced	42	87 11559 731407	8711559731414	731407 99
LRH1070 Ceiling box	42	87 11559 731438	8711559731421	731438 99
LCC1070 Wieland cable 3p	18	87 11559 731773	8711559731780	731773 99
IRT8050 2-key wall transmitter	8	87 11559 517070	8711559517087	517070 99
IRT8010 IR transmitter	12	87 11559 517490	8711559517506	517490 99
IRT8010 Wall holder	12	87 11559 517971	8711559517711	517971 99
IRT8099 Commissioning tool	1	n.a.	8711559518893	518893 99

Technical data

Storage conditions	
Temperature	-20 .. +70°C
Relative humidity	20% to 90%; no condensation
Operating conditions	
Temperature	+5 .. +50°C
Relative humidity	20% to 90%; no condensation
Mains connection	
Voltage	230VAC +/10%; 50/60Hz
Maximum load	6 A. (1380 VA) any load.
Connector screw terminal	MRT3P7.62-3VE or GMVSTBW2.5/3-ST-7.62
Maximum wire range	1.5 .. 2.5 mm^2
Mains distribution system	TN-S, 16A max, with neutral grounded
Power consumption	
Stand-by	1.2 W
Max.	1.2 W
Parallel interface	
Maximum	10 units in parallel SELV signal, max 5 V. Free Topology Wiring
Polarity	Sensitive
Connector type	Screw terminal CPF5.08-2VE or MSTB2.5/2-ST-5.08
Maximum wire range	1.5 .. 2.5 mm^2
Maximum length	100 m
LED indicators	Red LED on movement
Switch off delay	1 .. 30 minutes
Light levels	250 .. 1000 Lux (30% reflection)
Detection range	see diagram The remote control and light sensor work in a similar range.
Standards	EN/IEC 60669-2-1 Electronic switches
Classification	Class I
Pollution degree	2
Over voltage	Category III
Approbation	Product complies with the relevant European Directive (CE) KEMA
Protection Class	IP20
Flammability	UL94 V-0
Glow wire test	960°C/5s
Insulation	Double insulation (4kV) between Mains and SELV
EMC	
Compliance	IEC (EN) 60669-2-1
Immunity	IEC (EN) 61547
Emission	IEC (EN) 55015 and IEC (EN) 55022, class B
Weight	0.2 Kg



LRL1220TL5 assembly

Product Description

- LuxSense is a DayLight Regulation option (DLR) for luminaires equipped with a Philips HFR ballast. The sensor measures the reflected light coming from the surface below. It dims down the lamp output when the light level exceeds the required light level defined by the light sensor setpoint.
- LuxSense can be installed in the luminaire either clicked to the lamp with a lamp clip or optional clicked to the end lamella of the optic with a bracket.
- LuxSense is available: as a complete set with a sensor and a lamp clip: LRL 1220 TL-D for TLD lamps and LRL 1220 TL5 for T5 lamps.

Product Features

- LuxSense is connected to the 1-10Vdc control input of the HFR ballast.
- LuxSense dims light down to the minimum level of the ballast (3% for the Philips HFR ballast)
- LuxSense is calibrated for use in a standard office situation with 600 lux installed and 500 lux required.
- If needed, LuxSense can be manually adjusted by a rotating diaphragm to adjust the setpoint. The sensitivity of the sensor can be changed within a range from 1/3 to 3.
- The new setpoint can be copied for all luxsense luminaires with similar daylight and reflections conditions
- LuxSense can regulate up to 20 luminaires equipped with Philips HFR ballasts

Application

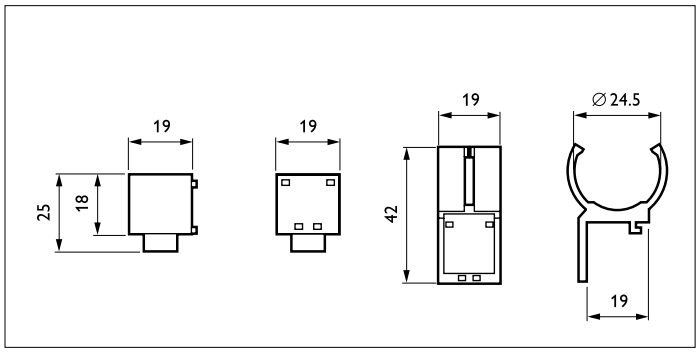
- LuxSense is meant to save energy by reducing excessive light due to:
  - over design (e.g. 600 lux installed and 500 lux required)
  - daylight ingress (see savings potential below)
- Energy savings potential is 35% on average:
  ± 10% (window/corridor side)
  ± 5% (summer/winter season)
  ± 5% (south/north side)

Assumptions: 600 lux installed, 500 lux required, average European office building, luminaire position on 1m resp 3,5 m from the window, compared to an equivalent installation with electronic non dimmable ballast (HFP).

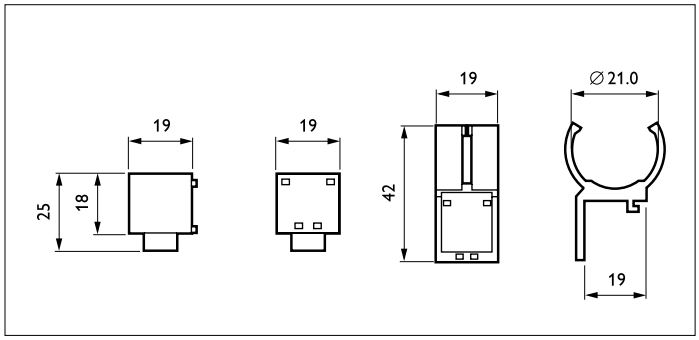
- LuxSense is designed for average ceiling heights of 2.5 to 3 m.
- LuxSense can be used alone or in combination with other controls products in order to add the daylight regulation functionality. (e.g.: combination of LuxSense with Occuswitch).

www.philips.com/OEM
www.philips.com/lightingcontrols

Dimensions in mm



LRL1220TLD



LRL1220T5

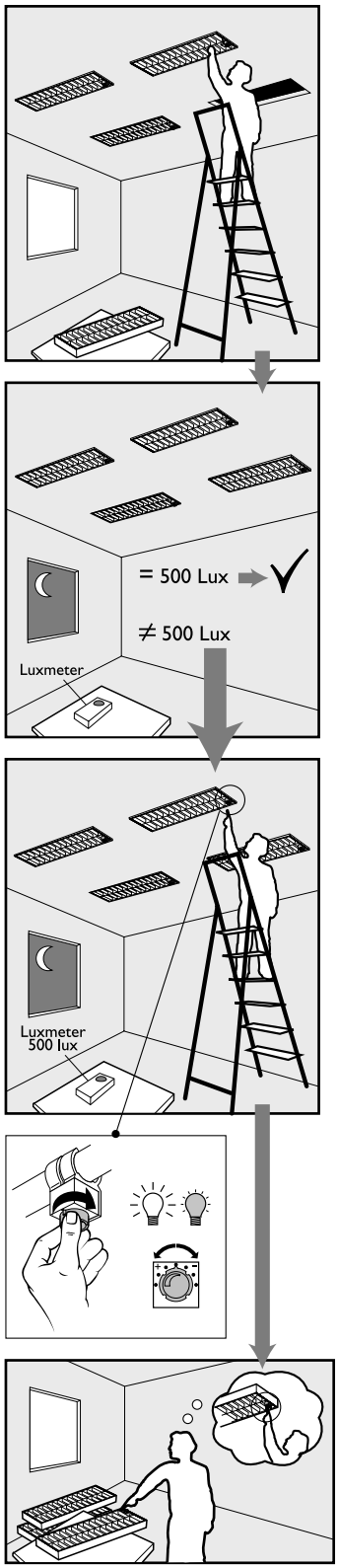
Ordering data

Type	Quanty (Pcs)	Weight (Kg)	EOC
LRL1220TLD	100	ca. 4.5	670126 00
LRL1220TL5	100	ca. 4.5	670102 00

		SOUTH	NORTH
SUMMER	WINDOWSIDE	55%	45%
	CORRIDORSIDE	35%	25%
WINTER	WINDOWSIDE	45%	35%
	CORRIDORSIDE	25%	15%

Energy saving potential of LuxSense depending on location and season

Installation



Mount the luminaire with LuxSense daylight Regulation option.

Measure the lux level under the light sensor (with no or negligible daylight contribution).

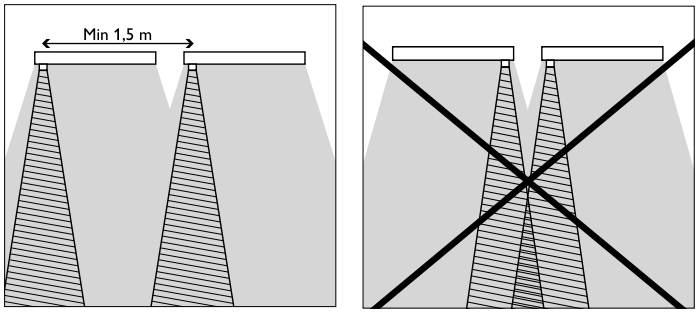
If needed, turn the diaphragm until the required light level is reached (with no or negligible daylight contribution).

Manual adjustment of the light sensor.

Copy the new setpoint in other rooms in case of similar daylight and reflection conditions below the sensor.

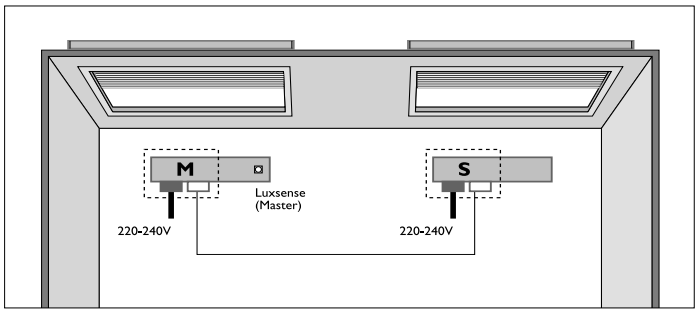
Warning: the required light level should be no more than 30% lower than the average installed light level, without daylight contribution (e.g. 625 lux installed, adjustment down to 430 lux is possible).

Installation warning

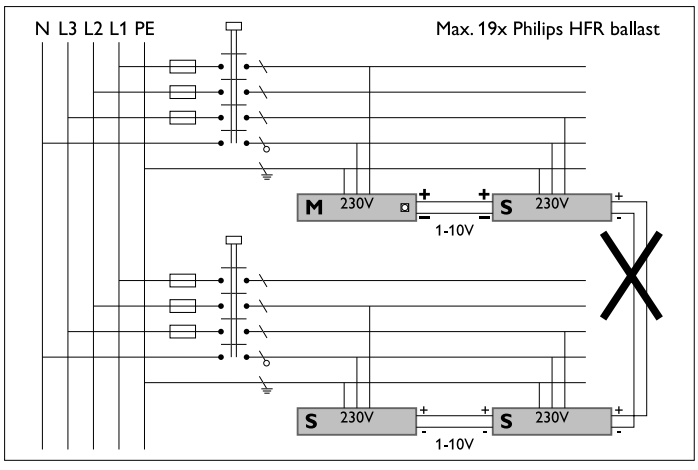


Throughlooping LuxSense Master luminaire (M) to slave luminaire (S)

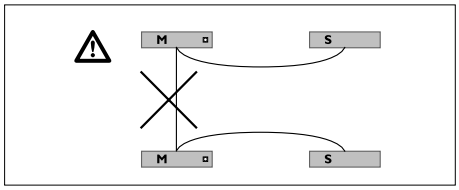
- Up to 19 slave luminaires can be looped through to 1 Master luminaire if all luminaires are equipped with Philips HFR ballasts.
- Slave luminaires should have similar daylight conditions to the Master luminaire



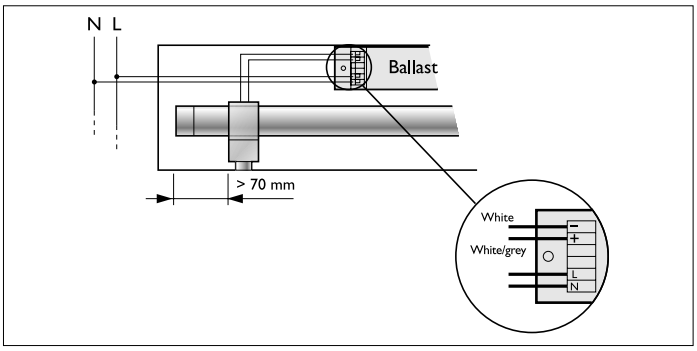
- Through looping shall be done by connecting 1-10V "+ to +" and "– to –"
- Through looping of luminaires shall only be done within the same distribution circuit



- Never loop through 2 Master luminaires!



Installation of LuxSense into the luminaire

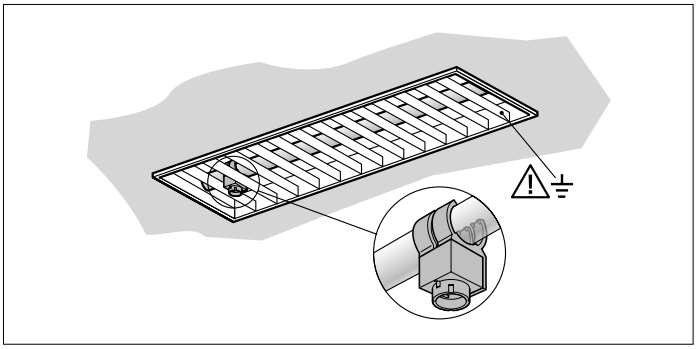


Connecting diagramme of the sensor to the ballast

- The maximum temperature ta should always remain below 70 ˚C
- The sensitivity opening angle should never be obscured by the optics or any other part of the luminaire
- Metal optics shall be properly connected to "earth"

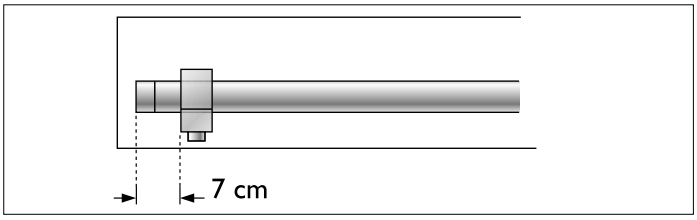
LuxSense can be fixed in the luminaire either with a lamp clip or a special lamella bracket.

a. Mounting on the lamp



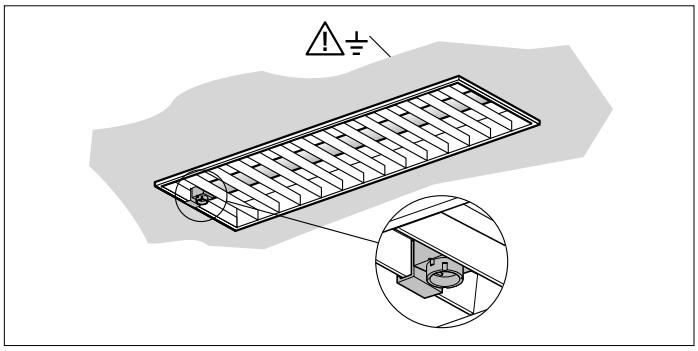
LuxSense mounted with a lamp clip

- Only for TLD and T5 HE lamps
- Never with T5 HO lamp



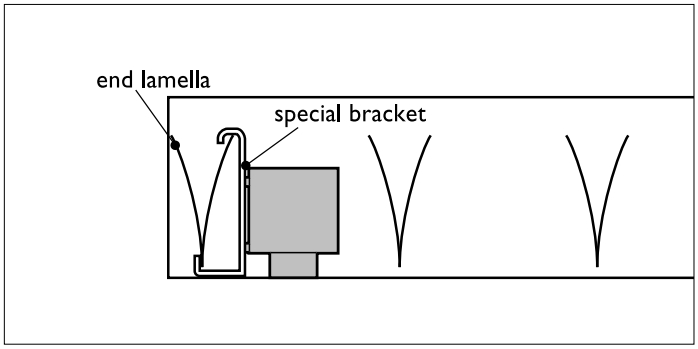
- LuxSense shall be positioned 7 cm way from the end cap on the (electrical) "cold" side of the TL lamp. This is the side of the lamp that is connected to the terminals of the ballast that allows for the longest wiring to the lamp.

b. Mounting on the end lamella

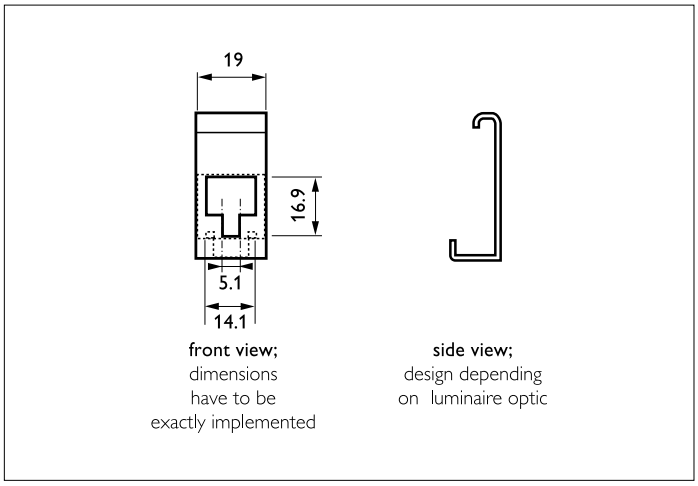


LuxSense mounted with an end lamella bracket

- As an alternative, the sensor can be mounted to the end lamella with a special bracket provided by the luminaire manufacturer.
- The lamella bracket shall be designed in such a way that ta<70˚C.
- It is recommended to mount the sensor 7 cm away from the end cap on the (electrical) "cold" side of the TL lamp.



LuxSense on end lamella bracket



Dimensions for end lamella bracket

Technical data

Operation conditions	
Ambient temperature	5°C to 55°C
Rel. humidity	15% to 90%, no condensation
Max. temperature of clip to lamp contact surface	70°C
Storage conditions	
Ambient temperature	-25°C to 70°C
Rel. humidity	5% to 95% at 25°C

Safety

When connected to the control input of a Philips HFR ballast, the sensor has double isolation to mains connected parts.

Connection

2x0,5mm^2, flying leads, length 700mm.

Colour coding of cable:

white/grey + ,white –.
When connected wrongly to the ballast dim input, the ballast input is short circuited, resulting in minimum light output.

Housing

material	ASA
colour	light grey (similar to RAL 7035)

Weight/dimensions EMC

Approx. 20 grams, 25x21x19mm.

Control signal input

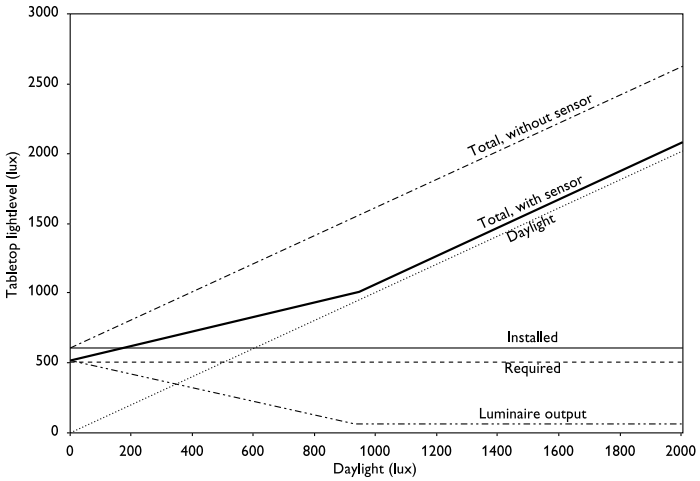
According to IEC 1547/EN 50082-1
- operating voltage: +1,5 - +10Vdc
- operating current sink 100µA-3mA (sufficient for 20 Philips HFR ballasts)
- control voltage variation: < 0,5V over current and temp.range
- default setting: 5Vdc at 37,5 lux/ 140µA (factory calibration tool)
- step response: within 2 sec. on 5V after power-up in case of insufficient ambient light
- max. input voltage (maximum rating): 15 Vdc
- max. current sink (maximum rating): 50 mA

Optical characteristics

- It is assumed that the reflection in a room is such that a light level of 500 lux on a table (0,8 mtr in height) will result in 25 lux seen by the controller at ceiling height (2.5 mtr) under a viewing angle of 45°
- The opening angle can be adapted by the diafragm control, realizing an attenuation factor between 1/3 and 3.

Controls characteristics

LuxSense compensates approximately for 50% of the added light (simulated and measured with a fluorescent light source). See graph below. In case of a natural light source, the compensation is higher than 50%.



LuxSense controls characteristics

Please note that LuxSense is not designed for maintaining a constant light level.





MultiDim Modular Control Panels

Product Description

- The MultiDim system can exist of up to 63 DALI ballasts & control modules
- 16 scenes / 16 groups
- "Out-of-box" operation (broadcast)
- Static and limited time/sequence control
- Great variety of control panels
- Controls DALI, 1..10V., incandescent or halogen lighting.

Product Features and Benefits

- Easy to install
- Polarity free, limits wiring mistakes
- One 2-core cable, connects all
- Movement and light sensors
- Graphic touch panel
- Remote control
- Easy to program
- By user friendly PC software
- With remote control
- Fully flexible scene setting system
- Energy savings
- Easy to change settings
- Easy to operate

Applications

- Shopping malls, museums, hotels, smart homes
- Restaurants, theme bars, reception areas, demo areas
- Meeting rooms, offices, class rooms.
- Board rooms.

With its capacity to control up to 16 different lighting groups, MultiDim is suitable for applications using different types of luminaires including incandescent, halogen and fluorescent (HF-DALI) lamps. In addition MultiDim can also be used to switch on projectors, lower projection screens or close window blinds at just the touch of a button.

www.philips.com/OEM
www.philips.com/lightingcontrols

About MultiDim Systems

DALI Compatibility and Compliance

The MultiDim controllers can be used with any DALI compatible ballast or Lamp Interface Unit.

In addition, all MultiDim Lamp Interface Units (such as the 800 Watt Dimmer) can be used in conjunction with other manufacturer's DALI compatible control systems.

However, it may not be possible (and is not recommended) to use MultiDim controllers on the same system as other types of DALI controller.

Cable Choice

The electrical specification for DALI systems provides a great deal of flexibility in both the choice of cable used and how it is installed. The basic requirements are:

- The cable should be mains rated
- 2 wire, 0.5 - 1.5 mm^2
- The maximum voltage drop on the DALI cable must not exceed 2Volts (for standard cables, this means that the total length of connecting cable can be up to 300 metres)

This means that standard mains cable can be used successfully. Particularly useful where a system is being retrofitted to an existing installation.

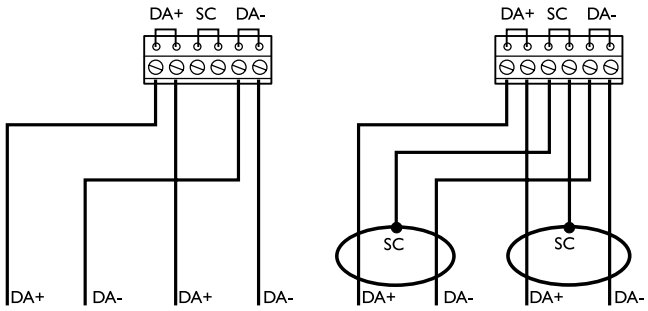
Cable Topology

As you can see from the layout diagram on the following page, there are few restrictions on the cable topology.

No special terminations are required, and there are no complex rules about how the nodes should be connected together.

Ring configurations should be avoided, but otherwise the only requirements are that the cable be continuous throughout, and that each node be connected to the cable at some point.

Nodes can be daisy chained together in series and spurs be added at any point. The cable topology can be optimised to either simplify testing or to minimise cable use.



MultiDim Terminal Connections Using Standard Cable.

MultiDim Terminal Connections Using Screened Cable

DALI Connections

All MultiDim units are fitted with removable connectors with paired terminals for the DALI connection. These provide a simple means of linking through.

Power Supply Requirements

MultiDim Controllers without a direct mains connection must be provided with power via the DALI control cable. This has the advantage that no additional power cabling is required, but it does mean that you have to ensure that an adequate power supply is available on the system.

This supply must be designed for DALI use and be capable of providing sufficient power to supply the controllers connected to the system. In addition, to maintain signalling integrity, it must not be capable of providing more than 250mA to the system.

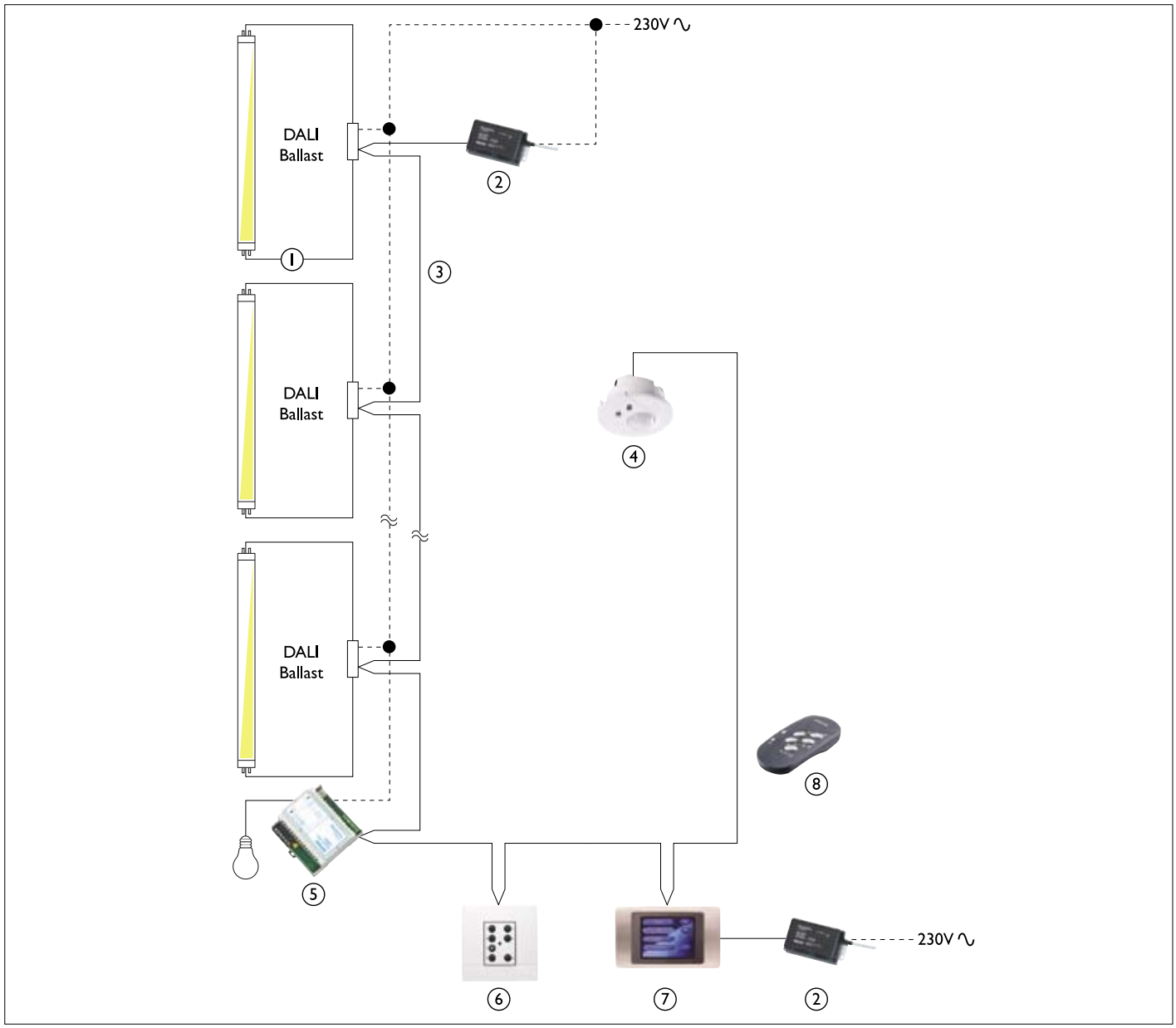
See DCMD400, DCMD401 for details of the dedicated MultiDim Power Supply Units.

Configuration

All MultiDim units are fully configurable. They are supplied pre-configured with factory default settings that ensure that a system will be functional as soon as the power is applied.

This has the advantage that a newly installed system will provide basic operation from the moment the power is first applied. For simple systems, this may be all that is required. But for systems that are more complex (and to gain access to advanced MultiDim functions) the system must be reconfigured using one of three different methods:

- **Configuration Using Button Controllers.**
  Seven, eight and five button MultiDim panel controllers provide some limited configuration features from the control buttons. These include the ability to store four pre-set light levels and the ability to customise those levels.
- **Configuration Using the IR Remote Control Unit.**
  The MultiDim IR remote control unit can be used to configure a number of advanced system functions. For more details see DCMD303.
- **Configuration Using MultiDim User Software.**
  The MultiDim User Software (DCMD502) is a Windows based software configuration tool, designed to make setting up a complex system as simple as possible.
  See: www.dimming.philips.com for more details.



Typical Layout of a MultiDim System

1. The MultiDim system can be used with any DALI compliant electronic ballast for fluorescent lamps.

2. Power for MultiDim controllers can be supplied by the DCMD401 (illustrated), the DCMD400 DIN rail mounted power supply, or some mains connected MultiDim units such as the DCMD450 Dimmer.

3. Low cost cables can be used to interconnect all of the system components. The total length of the cable should not exceed 300m for a single system.

4. The MultiDim Multi-sensor provides IR, light level and occupancy sensors, which can be used to provide energy saving functions such as automatic operation and constant light level.

5. The MultiDim 800 Watt dimmer is a fully compatible DALI LIU for use with incandescent lamps and low voltage electronic transformers.

6. MultiDim control panels are modular in construction. Sliders, rotary controls and a number of different push button panels are available.

7. The 3.5" full color MultiDim touchscreen provides unique possibilities for designing customized graphical user interfaces.

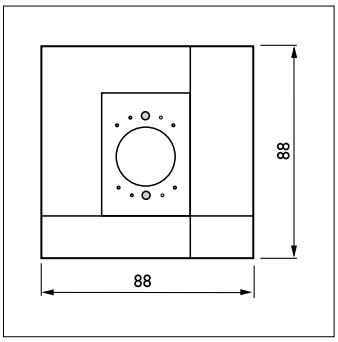
8. The MultiDim IR remote control unit provides both means of controlling individual units and a simple configuration tool. All of the control panels and the Multi-sensor are fitted with IR sensors for use with the remote control.

MultiDim modular control panels

MultiDim control modules can be inserted into frames that can either hold 1 or 3 modules. The modular construction offers maximum flexibility and allows many different panel configurations to be constructed. All control modules are fitted with a LED indicator and an IR receiver.

Note: MultiDim control modules and MultiDim frames (as pictured below) are not supplied together, thus need to be ordered separately.

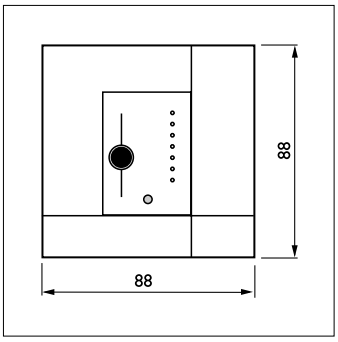




DCMD100

MultiDim rotary module providing dimming functionality.

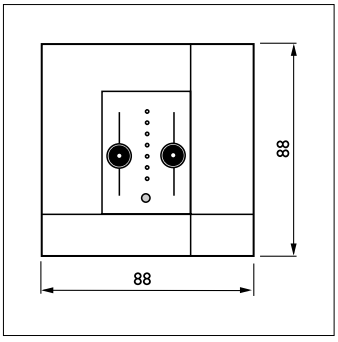




DCMD110

MultiDim control module with single slider providing dimming functionality.

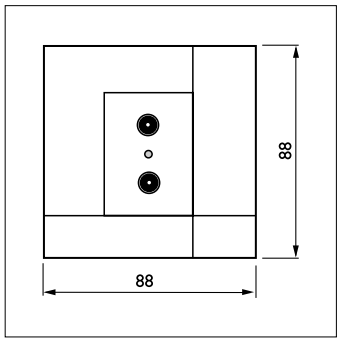




DCMD111

MultiDim control module with twin sliders both providing dimming functionality.

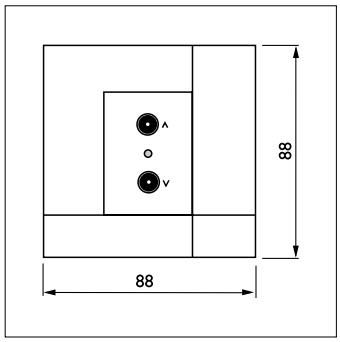




DCMD121

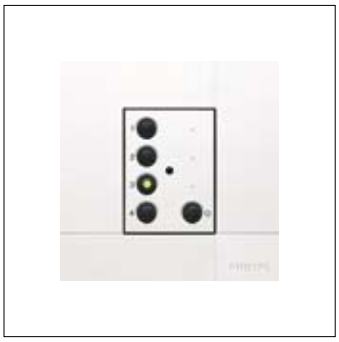
MultiDim 2-button control module providing ON and OFF functionality.

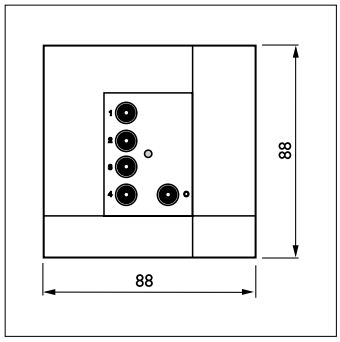




DCMD122

MultiDim 2-button control module providing raise and lower functionality.

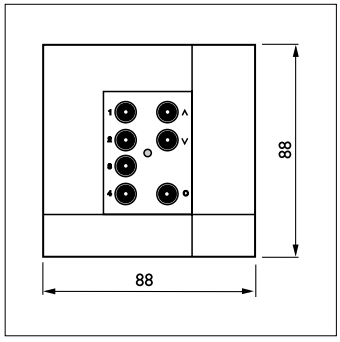




DCMD124

MultiDim 5-button control module providing 4 scene buttons and OFF button.

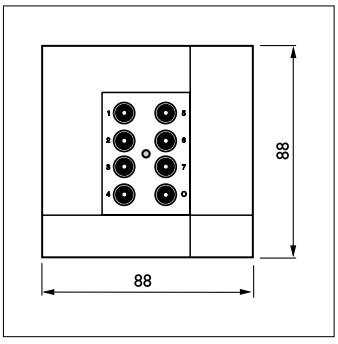




DCMD125

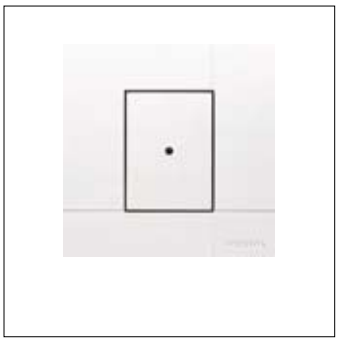
MultiDim 7-button control module providing 4 scene buttons, 2 raise / lower buttons and OFF button.

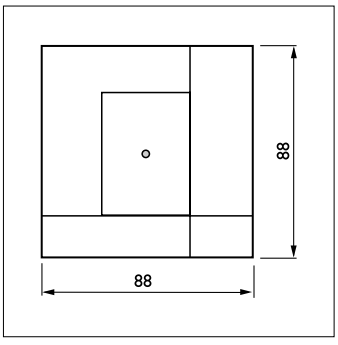




DCMD126

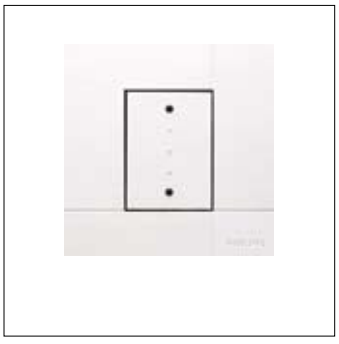
MultiDim 8-button control module providing 7 scene buttons and OFF button.

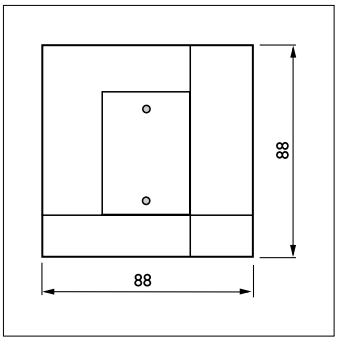




DCMD150

MultiDim single blank module used to cover an empty module position in a frame.

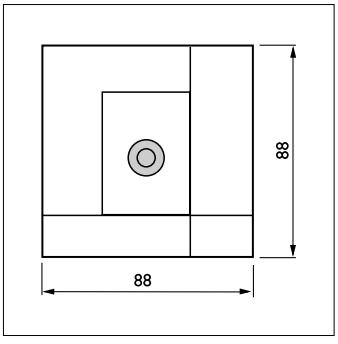




DCMD170

This MultiDim module provides IR receiver functionality only.

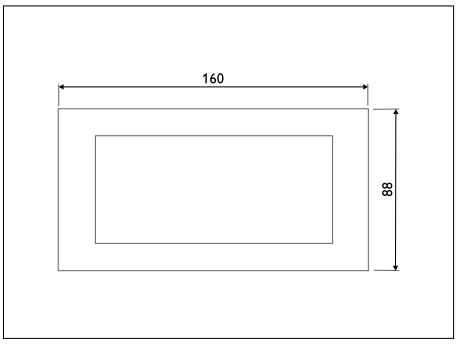




DCMD180

This MultiDim module provides a hardware programming point for a PC or laptop computer to be connected to the MultiDim system via a dedicated serial interface cable.

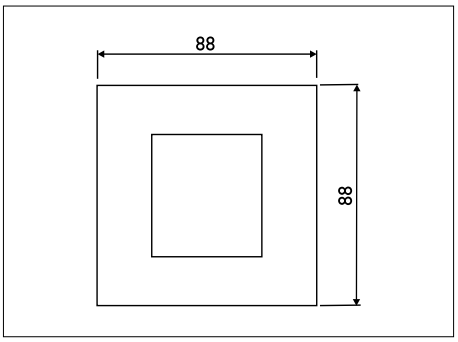




DCMD200D

Triple gang chassis plate and fascia panel, designed for use with a standard, double gang backbox. This provides a mounting for up to three modules.

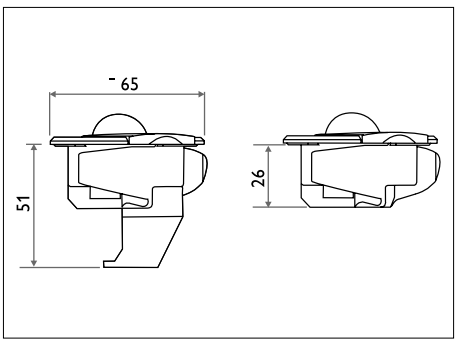




DCMD200S

Single gang chassis plate and fascia panel, designed for use with a standard, single gang backbox. This provides a mounting for a single module

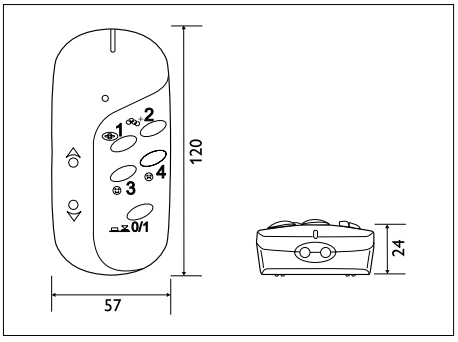




DCMD302

MultiSensor, containing the sensors required for an automated DALI lighting control system. The MultiSensor contains an Infra-Red receiver for use with the MultiDim IR Remote, a constant light sensor, and a PIR occupancy sensor with a range of up to 4.5 metres.

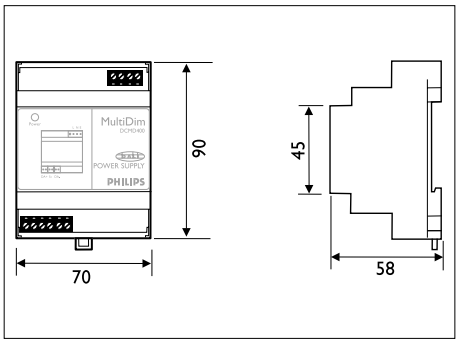




DCMD303

MultiDim Infra-red remote control, designed to work in conjunction with all Philips MultiDim products fitted with an IR receiver, including the Philips MultiDim control panels and MultiSensor.



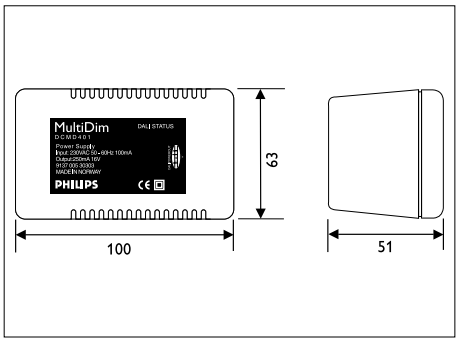


DCMD400

MultiDim DIN rail mounted power supply to feed the DALI-wire.

The power supply is capable of a maximum load of 250 mA.



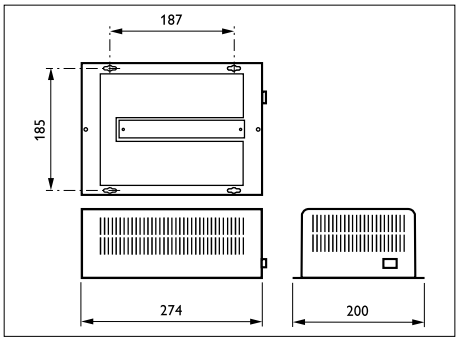


DCMD401

MultiDim ceiling mounted power supply to feed the DALI-wire.

The power supply is capable of a maximum load of 250 mA.

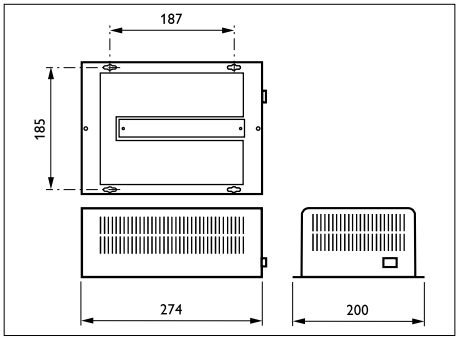




DCMD416

Solo Dimmer, capable of dimming a single channel with total loads of up to 16A. It is suitable for controlling a variety of light sources. The dimmer is controlled by a digital signal, using the DALI (Digital Addressable Lighting Interface) protocol.

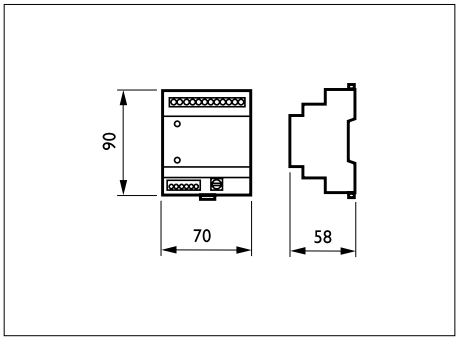




DCMD425

Solo Dimmer, capable of dimming a single channel with total loads of up to 25A. It is suitable for controlling a variety of light sources. The dimmer is controlled by a digital signal, using the DALI (Digital Addressable Lighting Interface) protocol.

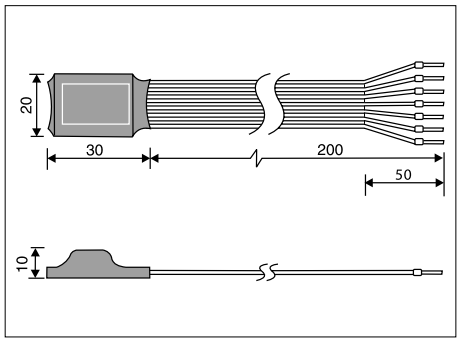




DCMD440

The Input unit provides 8-volt free input contacts. The input unit has three modes of operation, two of these emulate push button panels using momentary contacts, and the third mode is for use with continuous closure contacts. Like the other controls in the MultiDim range the input unit is pre-configured for out-of-box operation. This means you can be in control of your light from the moment that power is first applied.

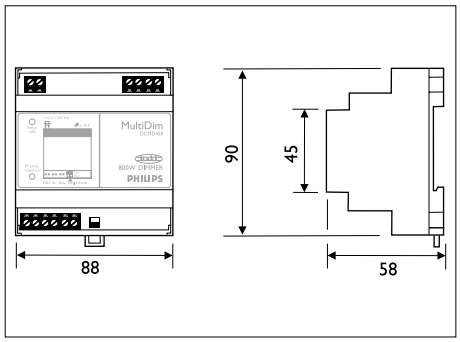




DCMD444

This MultiDim pushbutton interface allows the user to connect their own button panels to be connected to the MultiDim system. For retractive (push to make) buttons only.

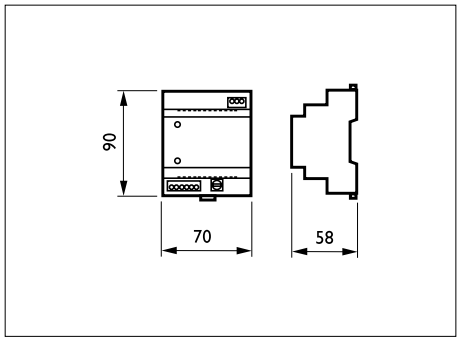




DCMD450

The 800 W transistor dimmer (trailing edge) is a DIN rail-mounted unit that can control a maximum load of up to 800 W. It can be connected to mains-voltage (incandescent) lamps directly, or to low-voltage (halogen) lamps via an electronic transformer.

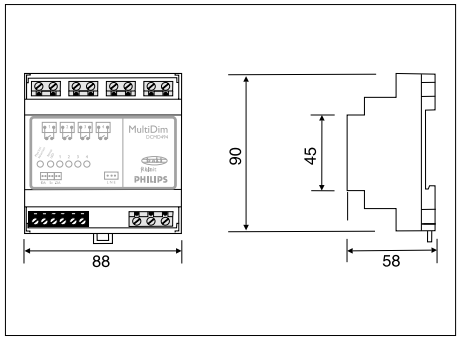




DCMD472

The 1-10 V Converter has been designed to control HF-R ballasts. This ensures that MultiDim systems are compatible with and easily integrated into existing systems. The converter can switch a maximum of 12 HF-R ballasts. The analogue 1-10 V signal and the digital DSI signal can control 50 HF-R ballasts.





DCMD494

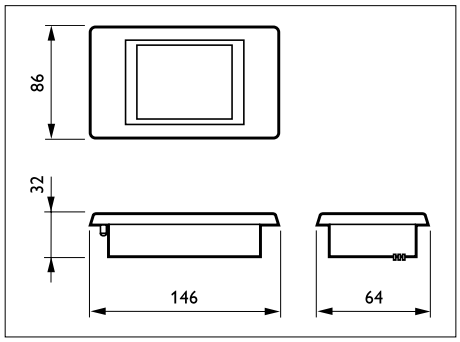
This MultiDim relay unit features 4 outputs capable of handling loads of up to 8A per output.



DCMD502

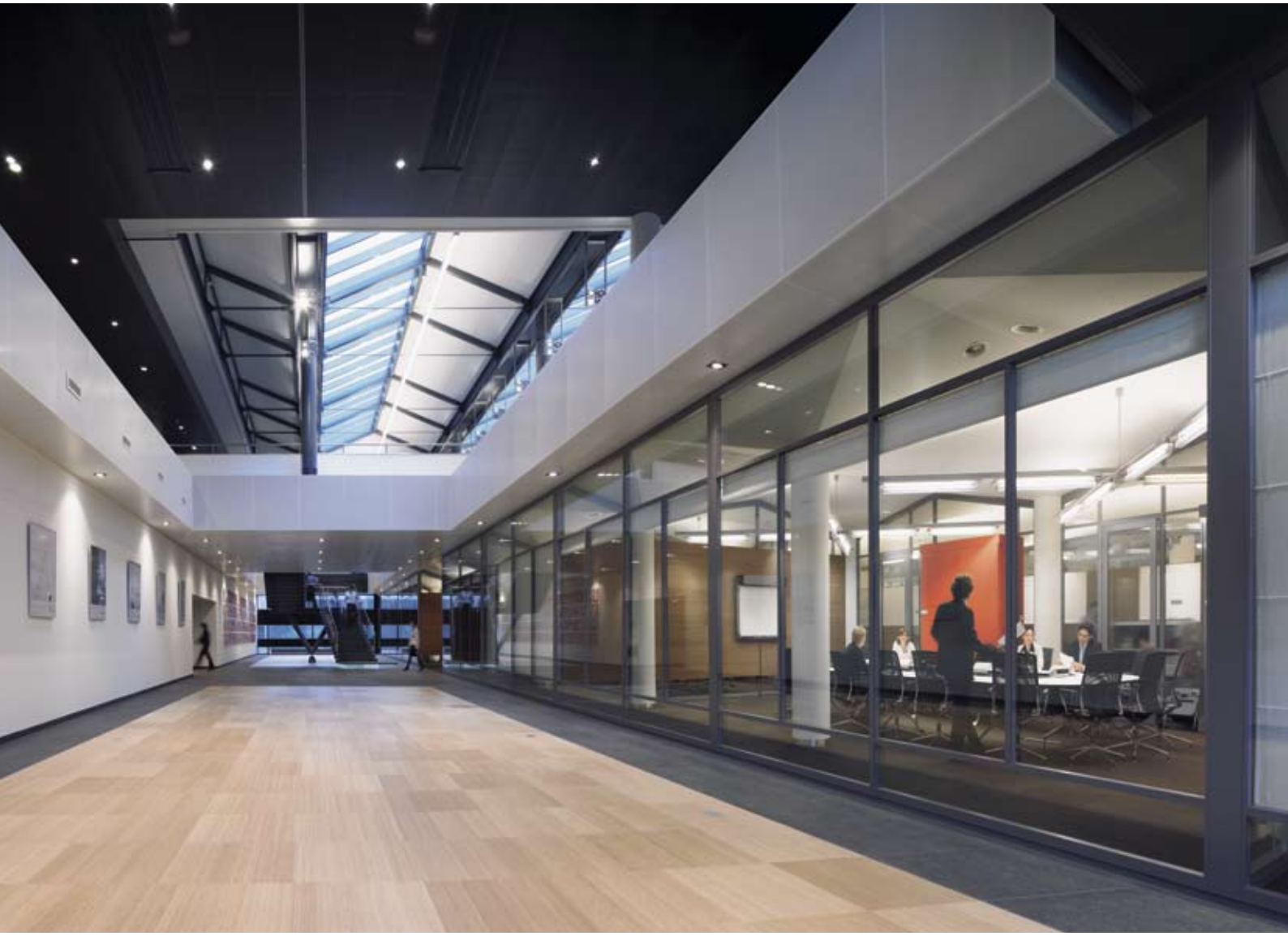
MultiDim PC programming kit comprises configuration software, a serial interface cable and a programming point.

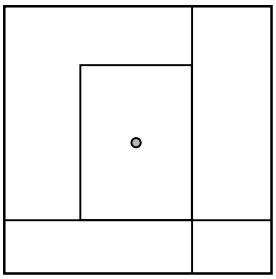




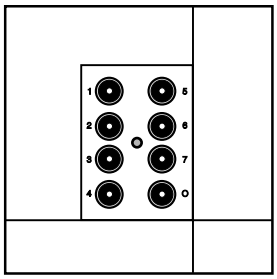
DCMD9242

The Touchpanel is a touch sensitive full color LCD screen that can be used for controlling and programming a MultiDim lighting control system. Key criteria for the consumer market such as ease-of-use and installation have been fully incorporated. With a full color 3.5" high-resolution touch screen the Touchpanel also offers first-class display quality combined with attractive looks that further boost the panels appeal. The Touchpanel can be configured easily to meet individual customer lighting control requirements.

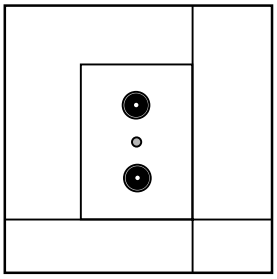




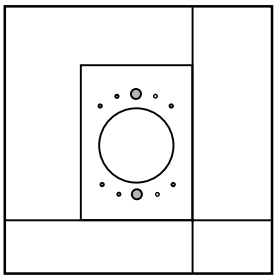
DCMD170 - IR Receiver



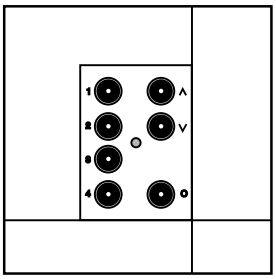
DCMD126 - 8-Button



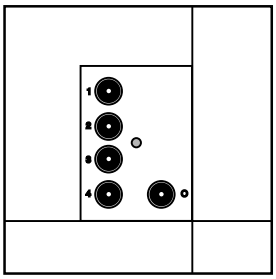
DCMD121 - 2-Button On/Off



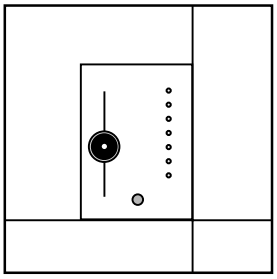
DCMD100 - Rotary



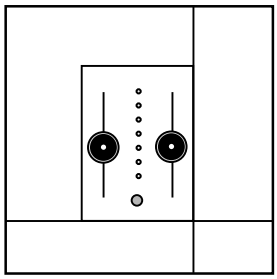
DCMD125 - 7-Button



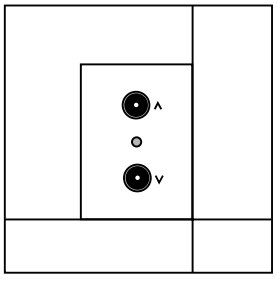
DCMD124 - 5-Button



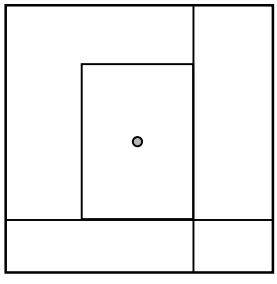
DCMD110 - Single Slider



DCMD111 - Twin Slider



DCMD122 - 2-Button Raise/Lower



DCMD150 - Blank Panel

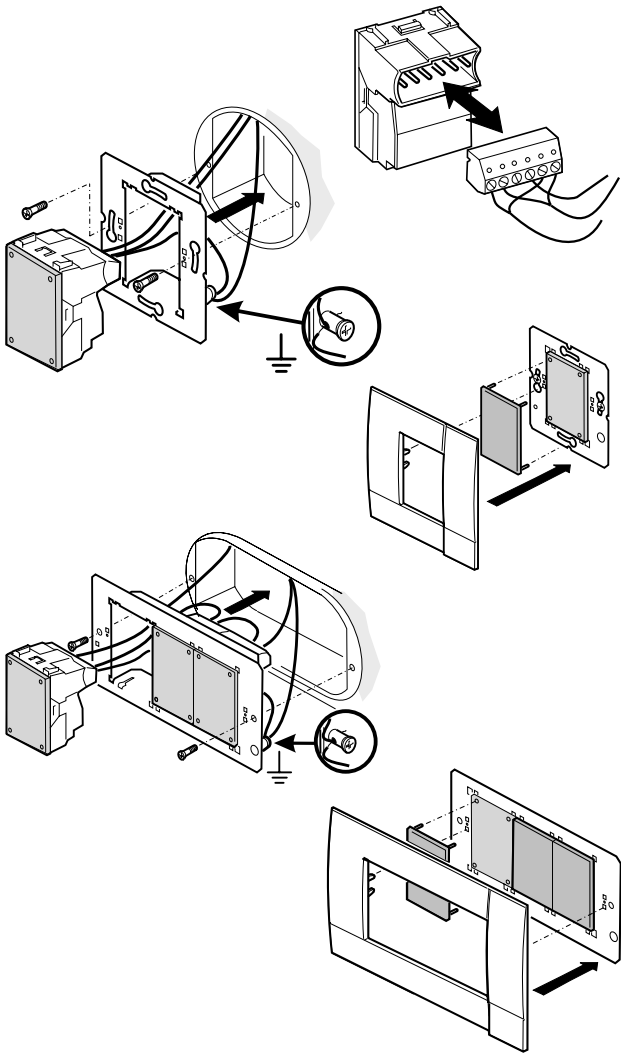
Introduction

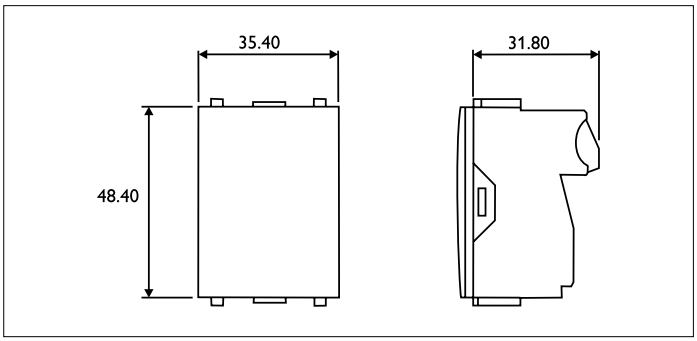
A range of DALI compatible manual control panels that can be configured to suit almost any control requirement. The range includes pushbutton, rotary, and slider control modules, all of which can be inserted into either single or module double gang fascia panels. The modular construction provides flexibility and allows many different panel configurations to be constructed.

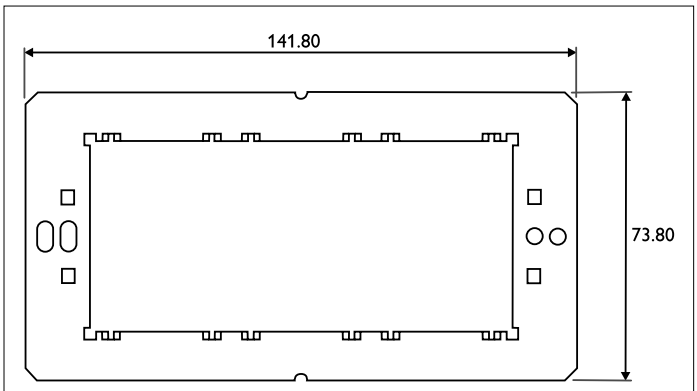
All of the control modules are fitted with indicator LEDs and an IR receiver that allows the module to operate with the MultiDim IR remote control unit.

Configuration

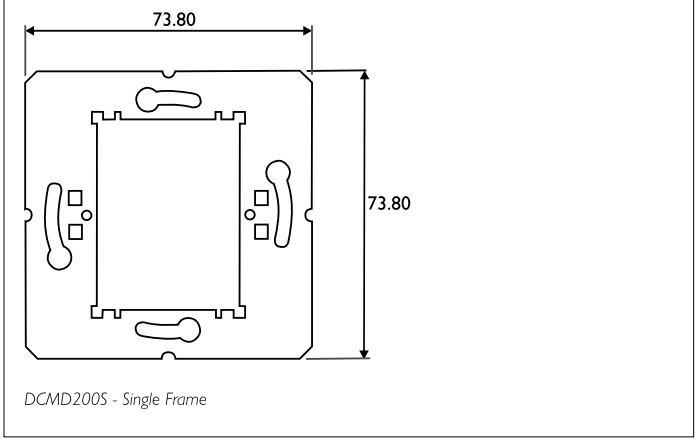
Each control is supplied pre-configured with immediately usable default settings, but can be easily re-configured to suit a particular application using either the MultiDim IR Remote, or MultiDim User Software. 8, 7 and 5 button controllers also provide limited configuration features via the control buttons.



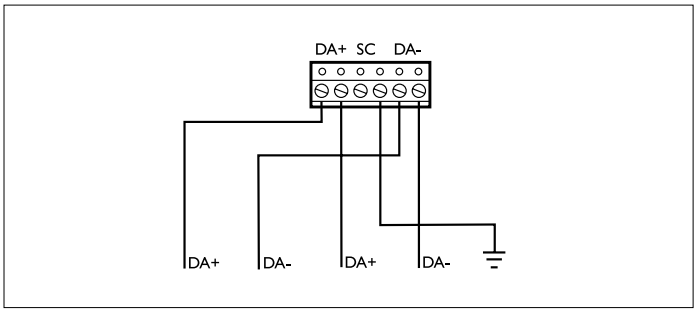




DCMD200D - Double Frame



DCMD200S - Single Frame



Module Dimensions

The chassis plates and fascia panels are designed to fit both DIN and UK standard backboxes with a minimum depth of 35mm.

Mechanical Data

The modular controllers are available in satin white plastic finish. The various control panel combinations can be constructed from the following separately packaged components:

- The Control Modules (see opposite for variations).
- Single gang chassis plate and fascia panel, designed for use with a standard, single gang backbox. This provides a mounting for a single module.
- Double gang chassis plate and fascia panel, designed for use with a standard, double gang backbox. This provides a mounting for up to three modules.

DALI Cable Connection

Standard MultiDim removable connectors with paired terminals. A connection between the SC terminal and a local earth is required for EMC protection.

Technical data

Module Power Supply Requirements

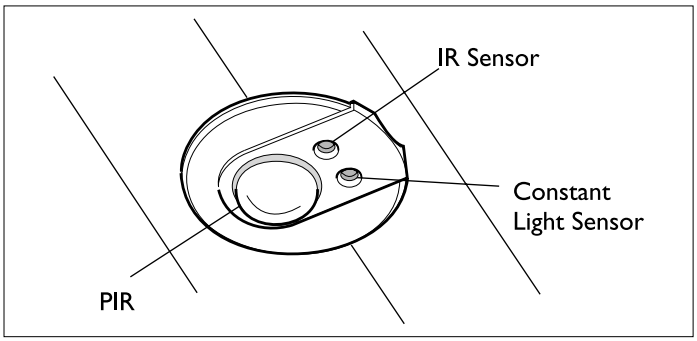
Supplied via DALI network cables.	13 to 19V, 10 mA

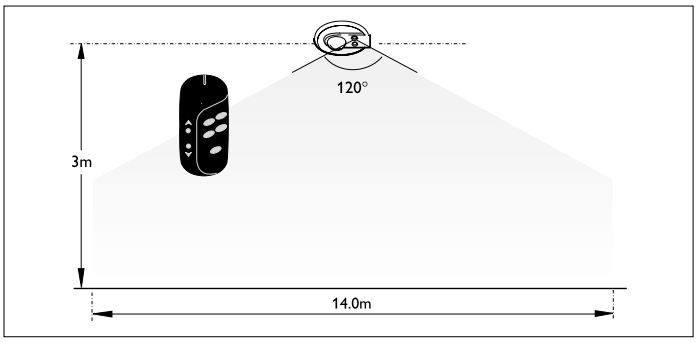
Conformity & Standards (EMC)

Emission	EN 55015
Immunity	EN 6147
Safety	EN 60669-1, IEC 60669-2-1
Isolation	4kV
IP rating	30

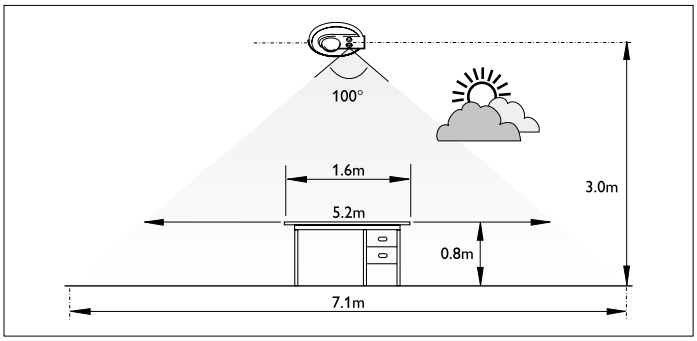
Operating conditions

Ambient temperature	0°C to +35°C
Storage temperature	-10°C to +70°C
Relative humidity	90% maximum, non-condensing

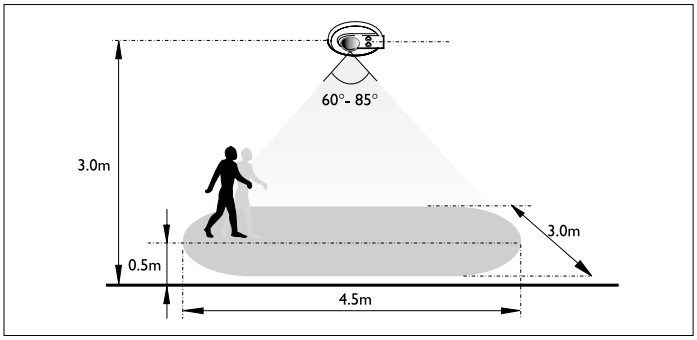




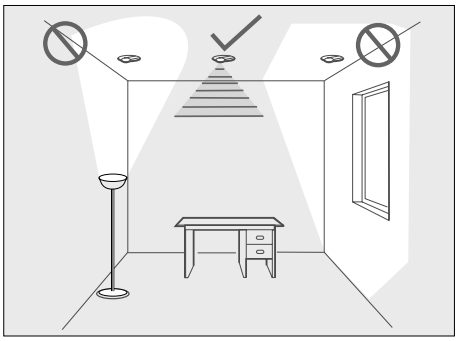
IR Sensor Range and Angle of View



Constant Light Sensor Range and Angle of View (without Restrictor)



PIR Sensor Range and Angle of view



Introduction

A ceiling mounted module, containing the sensors required for an automated DALI lighting control system. The MultiSensor contains an Infra-Red receiver for use with the MultiDim IR Remote, a constant light sensor (which measures reflected light from below the device), and a PIR occupancy sensor with a range of up to 4.5 metres.

PIR Operation

The PIR sensor can be used on its own to provide automatic control of lighting depending on the room's occupancy. The operation and timing of the PIR is fully configurable and includes the ability to set the unit to provide "off only" operation and an adjustable "PIR transition time" that can improve the life-span of fluorescent tubes used in corridor applications.

Local Switch

The MultiSensor is provided with terminal connectors for a local wall switch. This provides a manual dimming function if required.

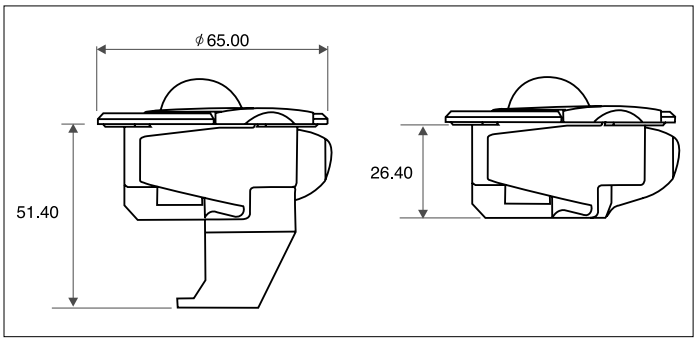
Configuration

The MultiSensor is supplied pre-configured with immediately usable default settings. However, it can be easily re-configured using either the IR Remote, or MultiDim User Software.

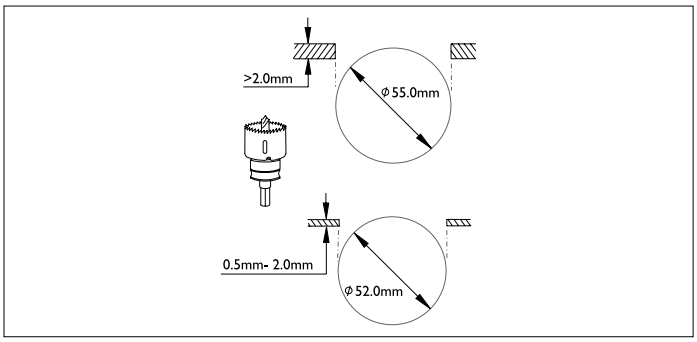
In addition, the MultiSensor is fitted with five rear mounted DIL switches that will allow some of the main functions to be pre-configured. The DIL switch settings are applied when power is first applied but can be overridden using the MultiDim IR Remote, or MultiDim DCMD502 User Software.

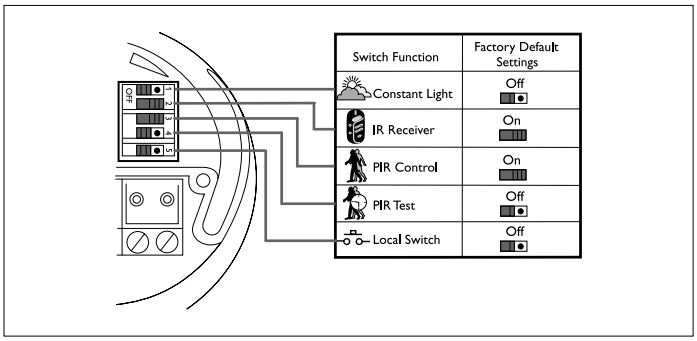
Constant Light Operation

The PIR and constant light sensors operate together to provide automatic constant light control of the surrounding lamps.
For effective constant light operation, careful positioning of the MultiSensor is essential. In particular, it is important to ensure that the sensor is not exposed to direct light, and that it is positioned in such a way that most of the light that it receives is under its control. Mount the MultiSensor away from direct light entering through windows. See the installation instructions for more details.
The constant light feature is disabled by default and must be enabled using the MultiDim IR Remote Control or MultiDim User Software, or by flipping the corresponding DIL switch on the back of the multisensor.

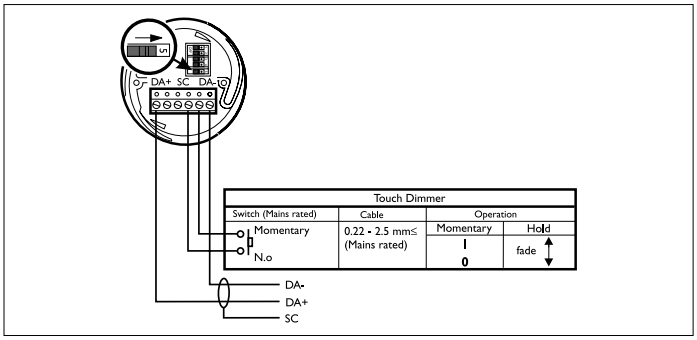


DCMD302 - for ceiling mounting With the cable shroud removed

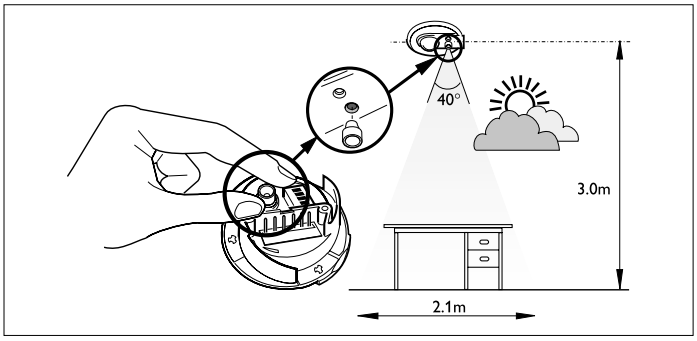




Manual Configuration Using the MultiSensor's DIL switch



Connecting a Local Switch



Fitting the Constant Light Sensor Viewing Angle Restrictor

Fixing Data

The MultiSensor's housing is designed for push fit mounting into a ceiling, or inside a luminaire casing. Its spring-loaded mounting system will allow it to be fitted into a wide range of fixing materials, including sheet metal and fibrous ceiling tiles. For thin materials, a slightly smaller mounting hole is required.

Technical data

DALI Cable Connection

Standard MultiDim removable connectors with paired terminals.

Module Power Supply

Supplied via DALI network cables	13 to 19V, 15 mA

Constant Light Sensor

Viewing Angle	100° (40° with viewing angle restrictor)
Range	5 to 5000 lux.
SW1 Switch Functions	
- On	Set level to nominal value
- Off	Defaults to maximum

IR Receiver

Operation	Omni-directional
Frequency	36kHz
SW2 Switch Functions	
- On	Receives all remote control commands
- Off	Ignores remote control commands (except configuration commands)

PIR Sensor

Operation	Omni-directional pyro-electric
SW3 Switch Functions	
- On	Last level recall
- Off	PIR response ignored
SW4 (PIR Test) Switch Functions	
- On	Time-out reduced to 10 seconds, use for testing
- Off	Normal PIR function (default 20 minute time-out)

Local switch

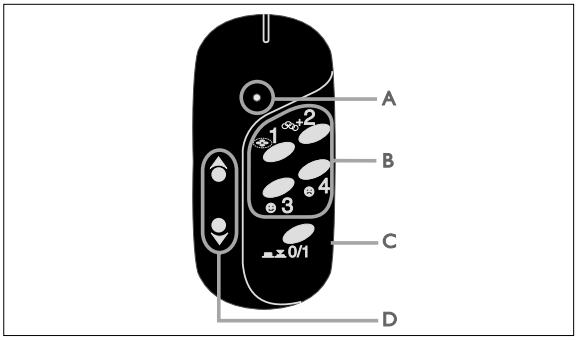
Operation	Single mechanical switch connected as shown provides "touch dimmer" style operation
SW5 Switch Functions	
- On	Local Switch enabled
- Off	Local Switch disabled

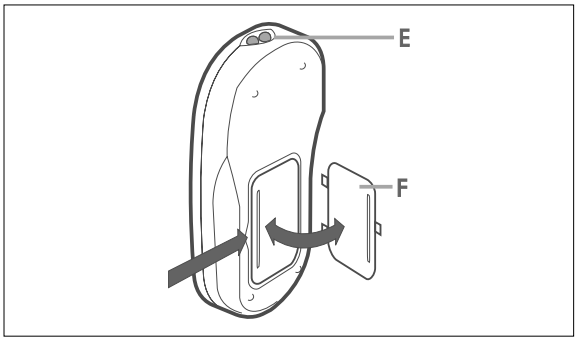
Conformity and Standards (EMC)

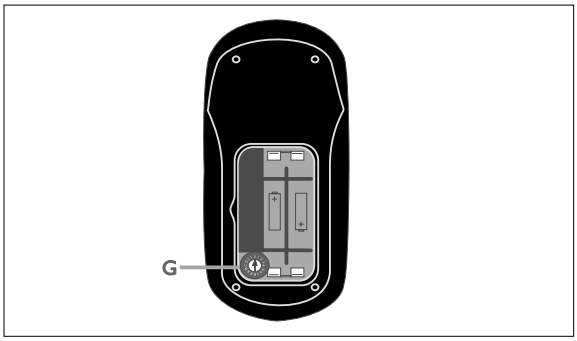
Emission	EN 55015
Immunity	EN 61547
Safety	IEC 60950
Isolation	4kV
IP rating	30

Operating Conditions

Ambient temp	0°C to +50°C
Storage temp	-10°C to +70°C
Relative Humidity	90% maximum, non-condensing







A LED Indicator (Flashes when a button is operated)
B Scene Recall/Configuration
C On/Off/Shift
D Modifier Keys
E Transmitter
F Battery Cover
G Rotary Switch (Normal position 0)

Introduction

The MultiDim Infra-red remote control is designed to work in conjunction with all Philips MultiDim products fitted with an IR receiver, including the Philips MultiDim control panels and MultiSensor.

The IR Remote is a dual function device. Its main purpose is to provide a simple and intuitive remote control for MultiDim control systems.
When used as such, it provides a number of basic functions, including On/Off, Raise/Lower, and selecting from four predefined Scenes.

However, the IR Remote can also be used as a basic configuration tool for simple systems where the use of MultiDim User Software and its associated Programming Point is inconvenient.

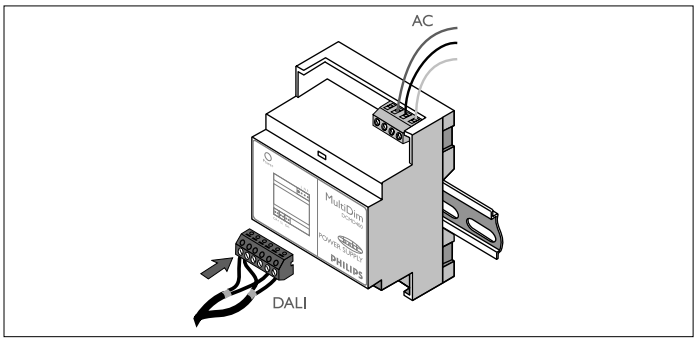
In this case, the control buttons are used in combination to provide basic configuration functions. This includes, creating and adding to groups of lamps, setting pre-set scenes and disabling or enabling IR receivers. The IR Remote will allow the settings to be locked to prevent the user from accidentally making changes to the configuration.

Basic Control Functions

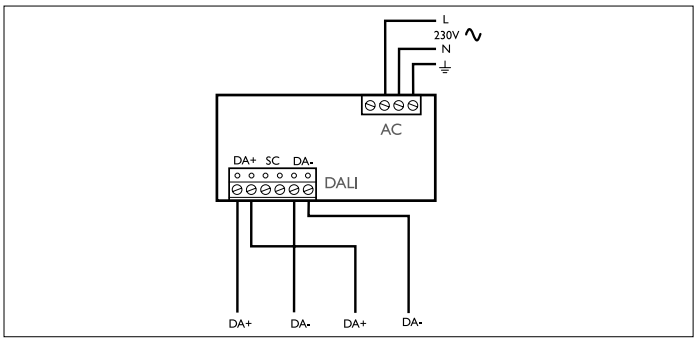
On/Off
Recall Scene 1-4
Raise/Lower lamp levels
Store Scene

Configuration Functions

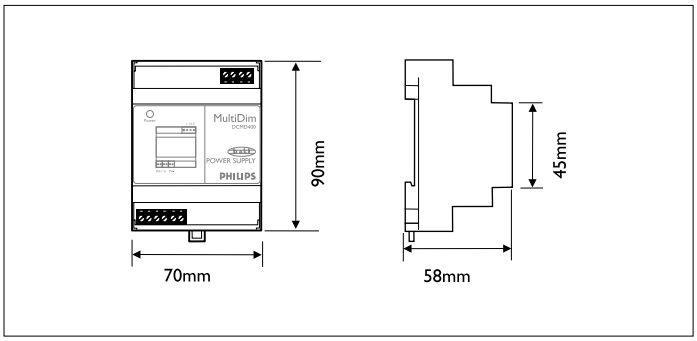
Set default Preset Levels (1=100%, 2=75%, 3=50%, 4=25%)
Creating Group
Add to Group
Creating Scene
Restrict the IR Control signal to Specific Groups
Disable/Enable IR sensors on specific controllers
Configuration Lock (prevents users inadvertently changing the settings)



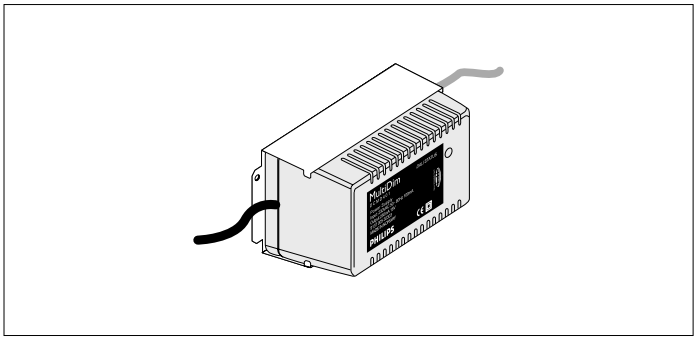
DCMD400



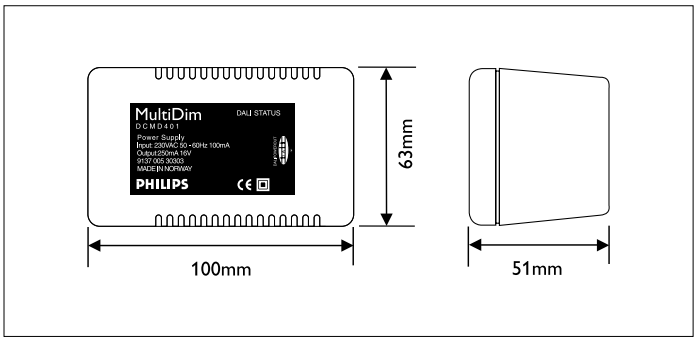
DCMD400 Module Wiring



DCMD400 Module Dimensions



DCMD401



DCMD401 Module Dimensions

Introduction

Power for MultiDim devices can be supplied from a number of different sources. Some mains connected MultiDim units (such as the 800 Watt Dimmer) are provided with an internal DALI power supply. If the system contains one of these, it will provide an ideal source of power.

Alternatively, a dedicated MultiDim power supply unit (DCMD400 or DCMD401) can be used. Both of these units have similar output capabilities and can supply the maximum of 250 mA permitted for a DALI system. However, the DCMD400 is designed for DIN rail mounting in a control cabinet and the DCMD401 for mounting in a ceiling void.

Note. If a power supply unit is connected to the system no additional power supplies may be applied

Technical Data

Conformity & Standards (EMC)

Emission	EN 50081-1
Immunity	EN 50082-1
Safety	EN 60950
	EN 60065
IP Rating	30

Operating Conditions

Storage Temperature	-10°C tot +70°C
Operating Temperature	
- DCMD400	0° to +50°C
- DCMD401	0° to +40°C
Relative Humdity	90% max, non-condensing

Mains Supply

DCMD400 Supply Voltage	230VAC (nom), 197-264VAC(abs)
DCMD400 Supply Frequency	50Hz (nom), 48-62Hz (abs)
DCMD401 Supply Voltage	230VAC -10%/ +6%,
DCMD400 Supply Frequency	50-60Hz

DALI Supply

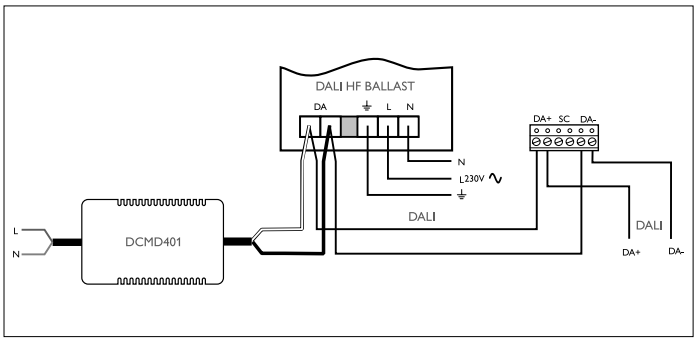
Power Output	250 mA (nom)

DALI Cable

DCMD400	Standard MultiDim removable connectors with paired terminals
DCMD401	1m, 2x0.75mm stranded

Mains Cable

DCMD400	<4mm solid core
	<2.5mm stranded
DCMD401	1.5m, 2x0.75mm stranded



DCMD401 Module Wiring

Installation Notes

1. The external supply must be protected. It is recommended that a 2 A MCB is used.

2. All cabling must be 230V mains rated.

3. The DCMD400 is for installation in a restricted access location only



DCMD416/425 Solo Dimmer

Introduction

The DCMD416 and DCMD425 are Solo Dimmers capable of dimming a single channel with total loads of up to 16A and 25A respectively. They are suitable for controlling a variety of light sources, including Incandescent Lamps, Halogen Lamps, 26 or 38mm Fluorescent Tubes or Cold Cathode Tubes. The dimmers are controlled by a digital signal, using the DALI (Digital Addressable Lighting Interface) protocol. The unit is designed to work with any DALI compatible controller; this requirement is fully met by MultiDim's range of modular panel controllers.

Technical data

Conformity & Standards (EMC)

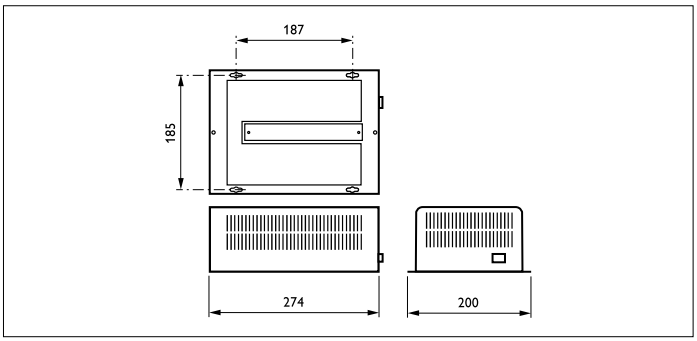
Emission	EN 55015
Immunity	EN 61547
Safety	EN 60950
IP rating	30

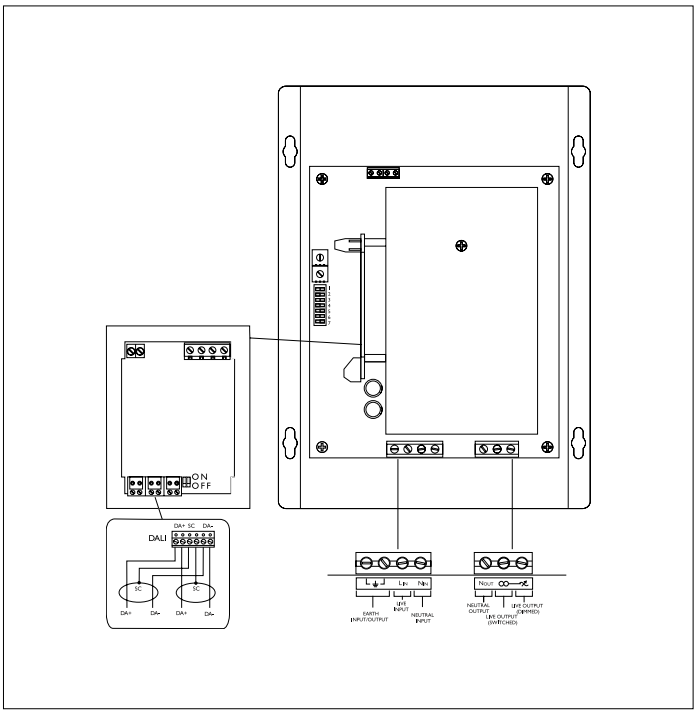
Operating Conditions

Storage Temperature	-10 to +70°C
Operating Temperature	0 to +35°C
Thermal Protection	Transformer: resettable fuse Power devices: thermal sensing
Relative Humidity	90% (non-condensing)

Mains Supply Input

Supply Voltage	230VAC (nominal); 180–264VAC (absolute), single phase
Supply Frequency	48-52Hz or 58-62Hz (switch set)
Supply Quality	All data is based on a pure sinusoidal mains supply
Supply Filtering	Signals over 400 Hz are filtered
Power Consumption	7.5W (max) off-load (DCMD416/ DCMD425) 44W / 72W* (max) on-load
Terminal Details	Cable size up to 4mm² stranded or 6mm² solid





Power Output

Output Relay Rating	16A / 25A* (single-pole) (controls switched and dimmed outputs)
Output Voltage Compensation	3% variation with 10% supply variation
Maximum Load Current	16A / 25A*
Power Factor of Load	Min. 0.5 inductive
Overload & Short-Circuit Protection	External to product, maximum 16A/25A* (Preferred M.C.B. EN60 898 Type C)
Current Rise Time	Typically 100µs at 90° firing into a tungsten load
Terminal Details	Cable size up to 4mm² stranded or 6mm² solid
DALI Supply Output	240mA switchable

* Specification for DCMD425

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www.philips.com/lightingcontrols



DCMD440 Input Unit

Introduction

The DCMD440 offers eight bi-stable volt-free switched inputs. The unit is supplied as a DIN rail mounted input device and allows custom switches, sensors, time clocks and other on/off devices to be connected via volt free contacts to a MultiDim system.

Technical data

Conformity & Standards (EMC)

Emission	EN 55015
Immunity	EN 61547
Safety	EN 60950
IP rating	30

Operating Conditions

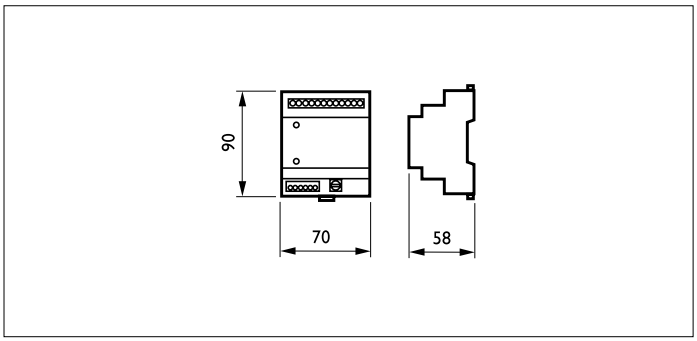
Operating Temperature	0°C - 40°C
Relative Humidity	90% max. non-condensing

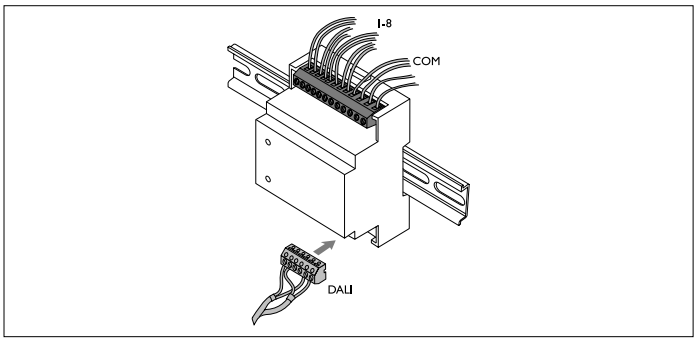
Power Supply (DALI)

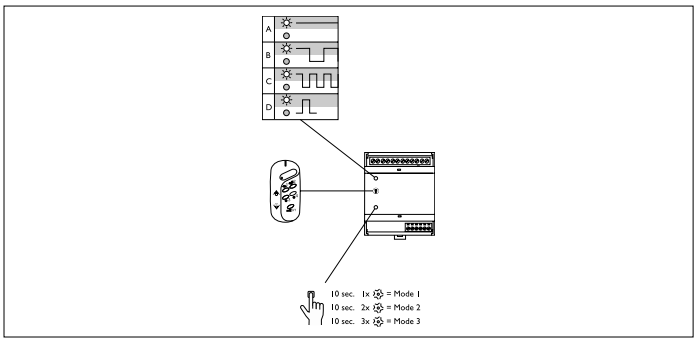
Voltage	9.5 - 22.5 V, 10 mA
Frequency	36 kHz
DALI Cable	2-wire, 0.5 - 1.5mm

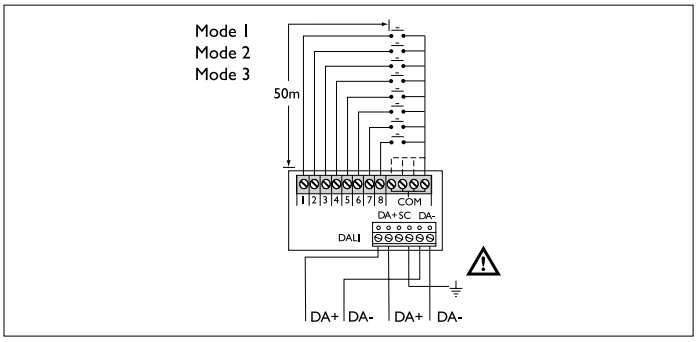
Inputs

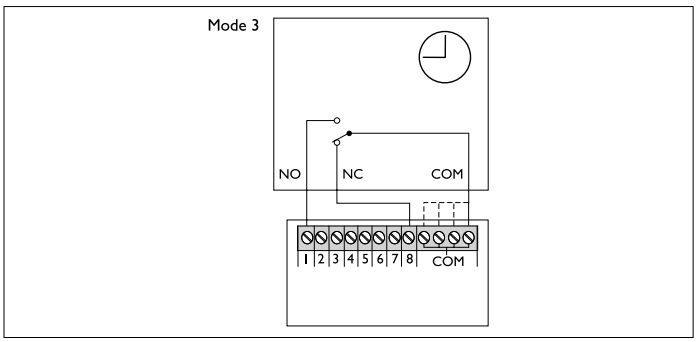
Details	8 bi-stable volt-free switched inputs
Isolation	Double insulated (DALI to Inputs) to 3.2 kV
Cable	4mm (maximum length 50 m per input)
Short-Circuit Current	0.5 mA max
Switching Period	50 ms (Minimum)











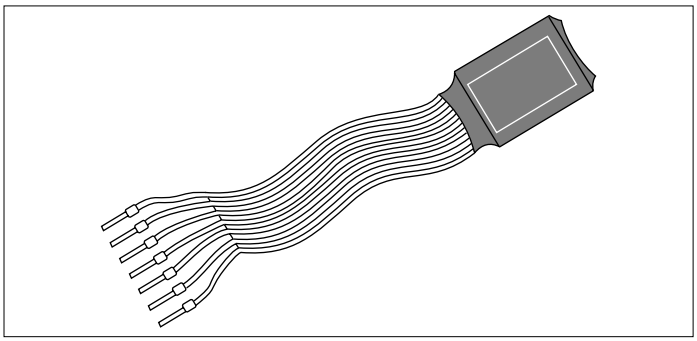
Installation notes

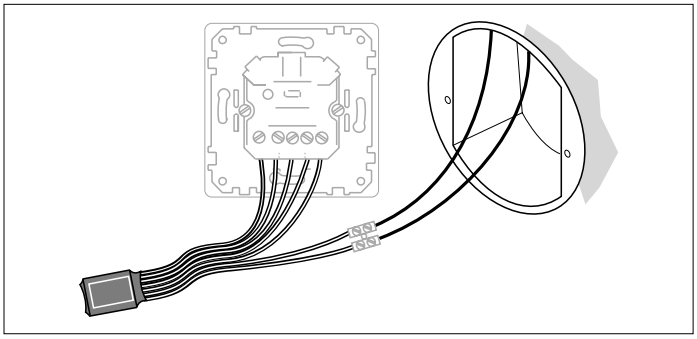
1. For installation in a restricted access location only.
2. Isolate the unit before installation.
3. Installation wiring must NOT compromise the safety isolation.
4. All DALI cabling must be 230 V mains rated.

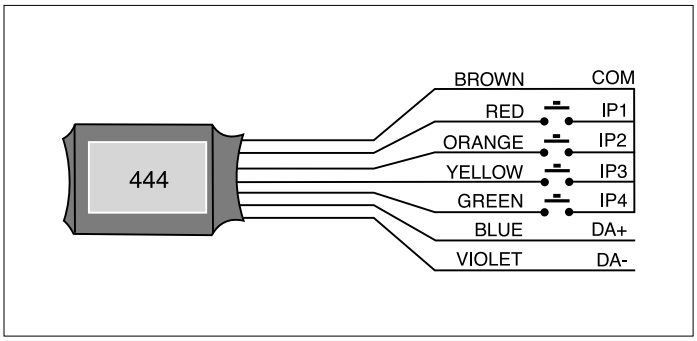
Operation notes

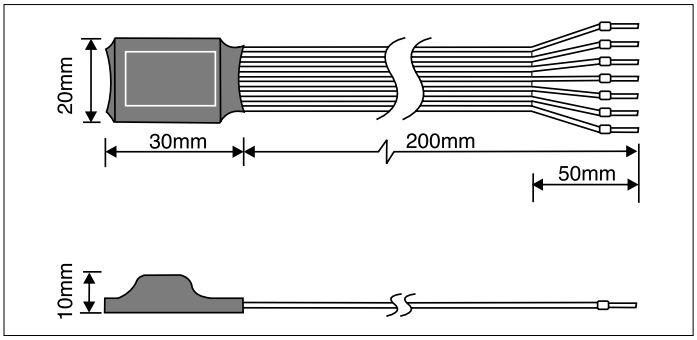
1. The IR Remote will provide configuration functions.
   See the IR Remote System Configuration Manual for full instructions.
2. In Mode 1 and Mode 2, closing a Scene Store/Recall input circuit for more than 10 seconds will result in the current lighting level being stored as a Scene. These modes are for use in momentary contact switches applications only.
3. Mode 3 can be used in both momentary and continuous contact applications and provides no configuration functions via the inputs.
4. Press and hold to select Mode.

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Introduction

The MultiDim Push-button Interface is a small, pre-wired, encapsulated printed circuit board containing all of the electronic components of a fully DALI compatible controller. It provides a simple method of adding custom designed switches to a MultiDim lighting control system.

The Push-button Interface can be used with switches, sensors, time clocks, or other on/off control

Key Features

- Pre-configured with three scene recall and one touch dimmer inputs
- Fits into all standard size back boxes and architrave style back boxes
- Touch dimming with a momentary push switch
- Can be used with momentary or latching switches
- Fully programmable using MultiDim User Software

Technical Data

Conformity & Standards (EMC)

Emission	EN 55015
Immunity	EN 61547
Safety	EN 60950
IP rating	20

Operating Conditions

Storage Temperature	-10 to +70°C
Operating Temperature	0 to 40°C
Relative Humidity	90% (non-condensing)

Voltage-free Switched Inputs

Connections	1-4 Inputs (active low) COM Input Ground
Voltage Pins 1-4	5V nominal with switch open, must be less than 0.3V switch closed
Overload Protection	±7V
Short-circuit Current	0.5 mA maximum
Debounce Period	50 mS

Connections

DALI	Ribbon cable terminated with 1.2 mm^2 Ferrules
Switch	Ribbon cable terminated with 1.2 mm^2 Ferrules

Power

DALI Supply Output	None (Use external DALI power supply)
DALI Consumption	10 mA

Default Functions

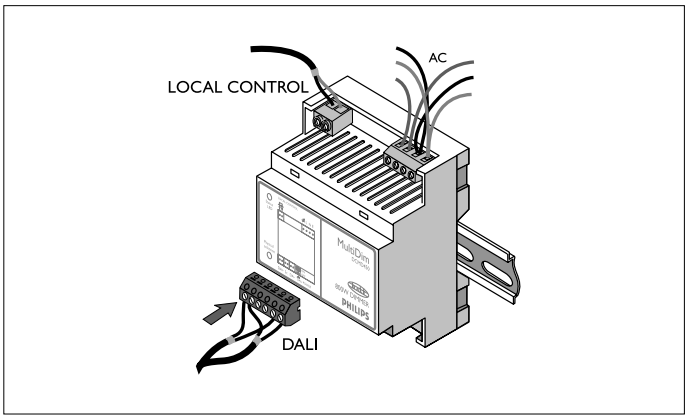
IP1 (Red)	Store/Recall Scene 1
IP2 (Orange)	Store/Recall Scene 2
IP3 (Yellow)	Store/Recall Scene 3
IP4 (Green)	Touch Switch Control

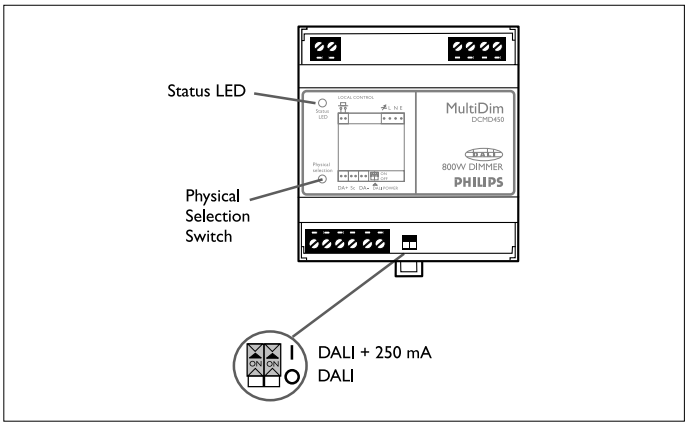
Note.

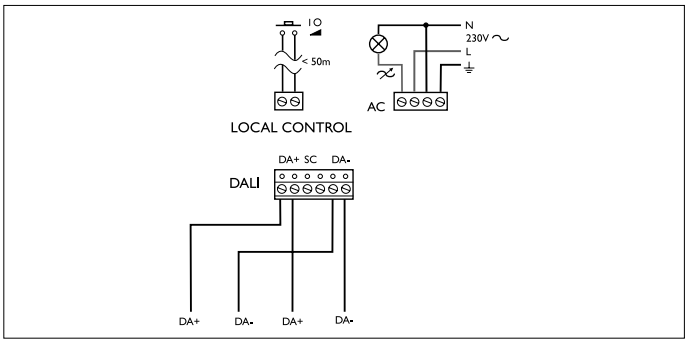
The default functions can be re-configured using MultiDim User Software.

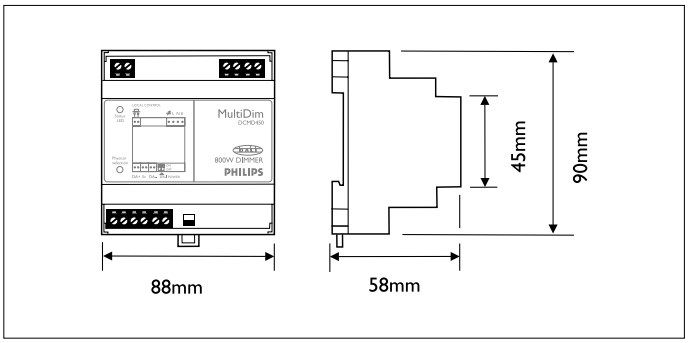
Installation Notes

1. All switches and cables must be mains rated.
2. To avoid interference problems the pre-wired leads should not be increased in length.









Introduction

The MultiDim 800 Watt Transistor Dimmer is a fully DALI compatible Lamp Interface Unit, designed to allow incandescent lamps to be incorporated into a DALI controlled lighting system.

The dimmer is a DIN-rail mounted unit that can control a maximum load of up to 800W. It can be connected to mains voltage lamps directly, or to low voltage lamps via an electronic transformer designed for both capacitive and resistive loads.

The dimmer is provided with local switch terminals, an indicator LED, a physical selection switch and a built-in DALI power supply.

The local switch terminals will allow a momentary push button switch to provide local "touch dimmer" style control. The indicator LED provides status and fault indications, and the physical selection switch is used to identify the device during system configuration.

The DALI power supply is switch activated, and will provide up to the maximum of 250mA, 18V to the DALI system.

Note that, if the power supply is enabled, no additional power supplies may be applied.

Technical data

Conformity & Standards (EMC)

Emission	EN 55015
Immunity	EN 61547
Safety	EN 60950
IP rating	30

Operating Conditions

Storage Temperature	-10 to +70°C
Operating Temperature	0 to +35°C
Relative Humidity	90% (non-condensing)

Connection

DALI	Standard MultiDim removable connectors with paired terminals
Mains	<4mm² solid core <2.5mm² stranded

Power

Mains Supply	220 to 240VAC, 50Hz
DALI supply output	250 mA

Installation Notes

1. The dimmer is for use with incandescent lamps and low voltage electronic transformers. It is not suitable for use with fluorescent ballasts or conventional transformers.
2. The external supply must be protected. It is recommended that a 6 A MCB is used.
3. All cabling must be 230V mains rated.
4. For installation in a restricted access location only.



DCMD472 DALI 1-10V interface

Introduction

The DCMD472 1-10V interface has been designed to control electronic ballasts which comply with EN 60929 and ballasts which comply with the DSI standard. The unit offers out of the box operation and provides control using DALI standard broadcast commands. The unit can be easily programmed by using the group selection switch. The DCMD472 enables easy integration of MultiDim systems into already existing lighting systems. The converter can switch up to 12 HF-R ballasts or a maximum current of 10 A, whichever limit is first. For larger loads use an external contactor with a high in-rush current rating. The analogue 1-10V signal and the digital DSI signal can control up to 50 electronic ballasts.

Technical data

Conformity & Standards (EMC)

Emission	EN 55015
Immunity	EN 61547
Safety	EN 60950
IP rating	30

Operating Conditions

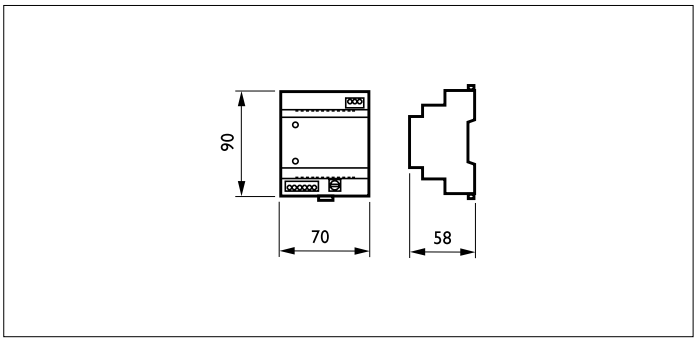
Operating Temperature	0 to +40°C
Relative Humidity	90% (non-condensing)

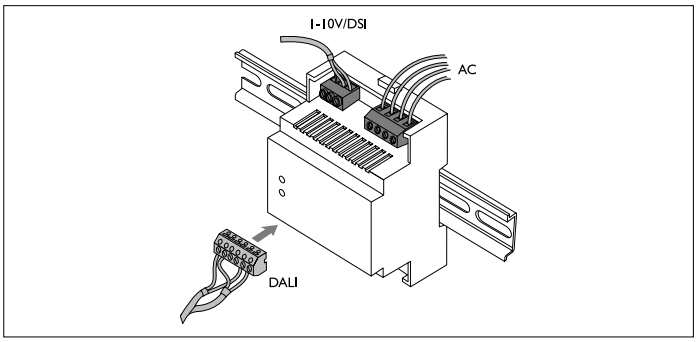
Power

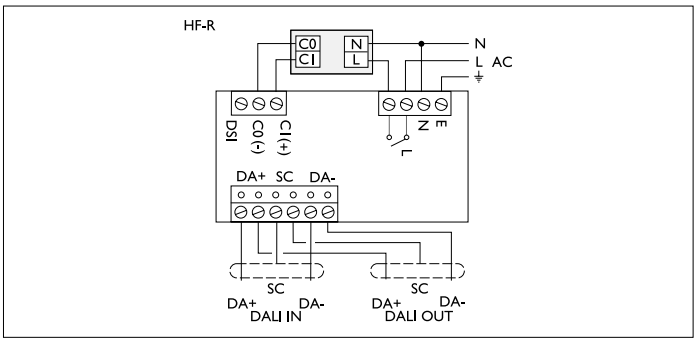
Mains Supply	90-264 VAC; 45-65Hz
Switched Live Output	10 A resistive load (max. load 12 pcs HF-R)
1-10V Output	0.1 -100 mA (max. load 50 pcs HF-R)
DSI Output	100 mA (max. load 50 pcs DSI Ballast)

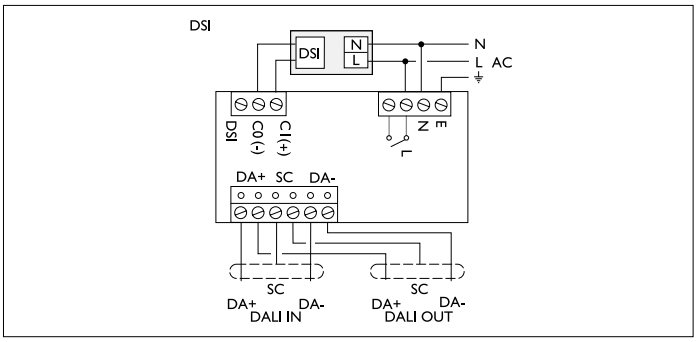
Connections

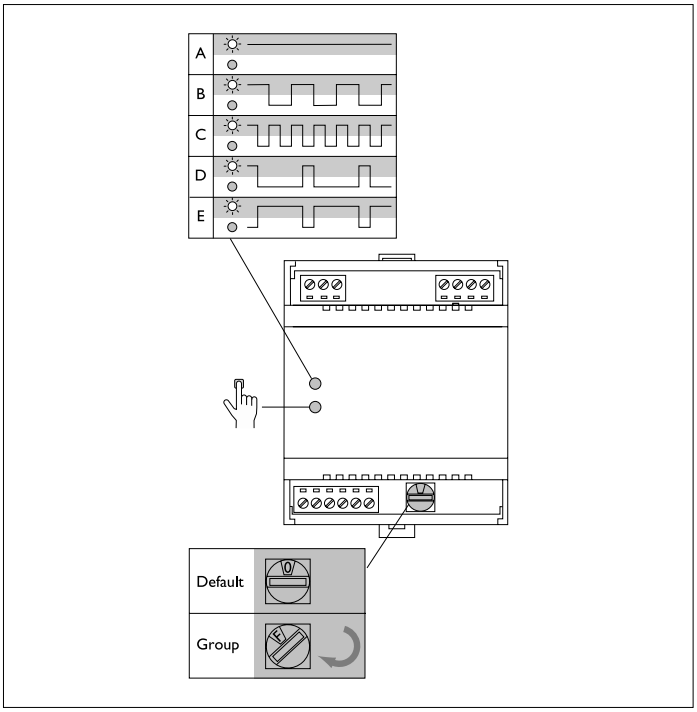
DALI Cable	2-wire 0.5 -1.5 mm^2 stranded (max. length 300 m)
Mains Cable	1.0 -2.5 mm2 stranded/1-4mm^2 solid
1-10V Cable	2-wire 0.5 -1.5 mm^2 stranded (max. length 100 m)
DSI Cable	2-wire 0.5 -1.5 mm^2 stranded (max. length 300 m)







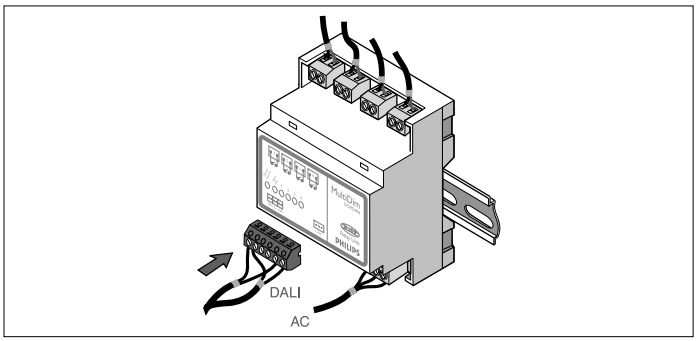


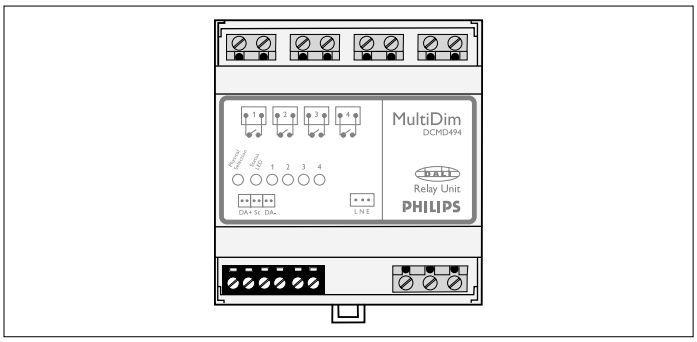


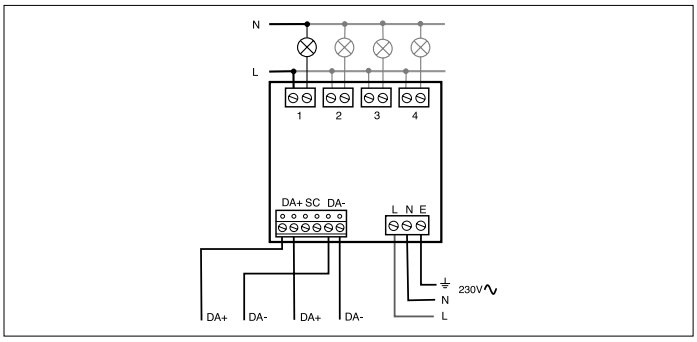
Installation Notes

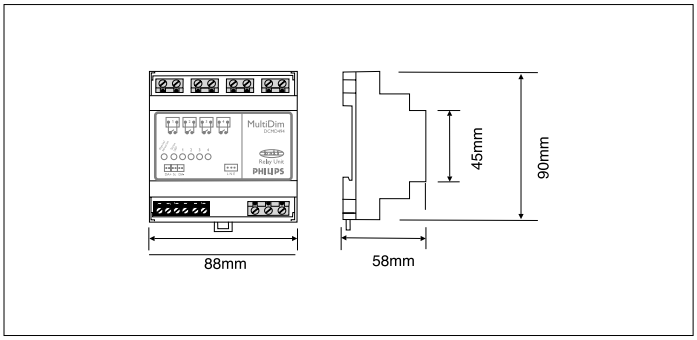
1. The switched live output is suitable for use with up to 12 pcs of HF-R ballasts or a maximum current of 10 A, whichever limit is first. For larger loads use an external contactor with a high in-rush current rating.
2. Isolate the mains supply before installation. The external supply must be protected. It is recommended that a 10 A MCB is used.
3. Select the device Group (switch SW1):
   0 Normal DALI Group operation (default setting).
   1-F Allocate the converter to the selected Group (1-15).
4. All cabling must be 230 V mains rated.
5. For installation in a restricted access location only.

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Introduction

The relay unit is a DIN-rail mounted unit containing four individually programmable relays. The relays are volt free and their Normally Open contacts can switch up to 10 A directly.

The unit is fitted with a status LED, four relay state indicator LEDs and a physical selection switch. The status LED provides status and fault indications. The relay state LEDs illuminate when the respective relay is closed.

The switch is used to identify the device during system configuration, but can also be used as a manual override switch.

Note: This unit does not contain a DALI power supply and therefore one must be incorporated elsewhere in the system.

Technical Data

Conformity & Standards (EMC)

Emission	EN 55015
Immunity	EN 61547
Safety	EN 60950
IP rating	30

Operating Conditions

Storage Temperature	-10 to +70°C
Operating Temperature	0 to +40°C
Relative Humidity	90% (non-condensing)
Relay Loads (Max)	10A resistive, 8A incandescent 5A HID (cos π ≥ 0.9) 12 Philips HF ballasts

Connections

DALI	Standard MultiDim removable connectors with paired terminals 0.5mm² to 2.5mm² stranded or solid core
Mains	Up to 4mm² solid core or up to 2.5mm² stranded

Note: If equipment is used in an electrically noisy environment, the DALI cable should be screened and connected to the earth.

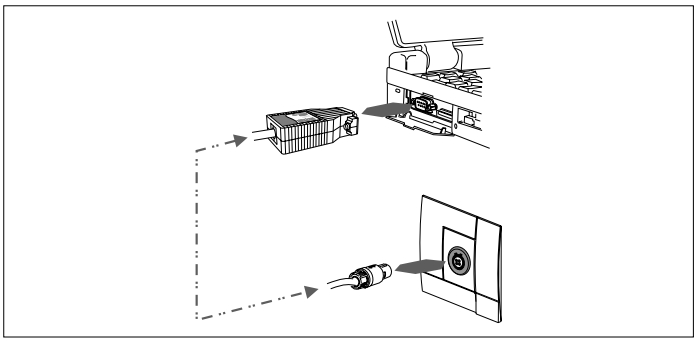
Power

Mains Supply	220 to 240 VAC, 50-60 Hz
DALI Supply Output	None
DALI Consumption	2 mA

Installation Notes

1. The relay unit is for use with non-dimmable loads up to 10 A resistive and must be de-rated for other load types, see Technical Data for full details.
2. The external mains supply to the unit must be protected. It is recommended that a 4 A MCB is used.
3. All cabling must be 230 V mains rated.











Introduction

The MultiDim Programming Kit contains a licensed copy of the MultiDim User Software, a Programming Point module, and an adapter cable which will allow the system to be connected directly to a PC.

The MultiDim User Software is a Windows based software configuration tool, designed to make setting up a MultiDim system as simple and intuitive as possible. It has an Explorer style interface that allows the most common operations to be carried out through drag and drop operations. Beneath this is a system of menus and dialogue boxes that provide access to every aspect of a MultiDim system.

To use the software as a configuration tool, the computer must be connected to the system via the special adapter cable that is provided with the kit. This cable must be inserted into a system programming point module that must be installed as part of the MultiDim system.

Demonstration Version

A free demonstration version of the software is available for download from: http://www.dimming.philips.com. This version is fully working, with the exception that it cannot be used in the online mode required for system configuration.

Recommended System

An IBM PC compatible computer running:

- Microsoft© Windows XP to 95 (with Internet Explorer V3.02)
- Intel Pentium™ based computer
- 32MB RAM Minimum
- Mouse or other pointing device
- CD-ROM drive

Programming Kit Contents

- MultiDim User Software
- Programming Point Panel
- Adapter Cable



DCMD9242 TouchPanel

Introduction

The DCMD9242 is a 3,5" high resolution Touch Screen which provides the user with a wide variety of possibilities to customize user interfaces graphically as well as using timed events such as scheduling and sequencing. The Touch screen fits a standard double gang box with a depth of 46mm. All installation accessories including the gang box are supplied with the unit.

Technical data

Operating Conditions

Storage Temperature	-10 to +70°C
Operating Temperature	0 to +35°C
Relative Humidity	90% (non-condensing)

Connections

DALI Cable	2-wire, 1.0 mm² to 1.5 mm². Example: Belden 8471.
Ethernet	Not used. This port will be supported in a future firmware release.

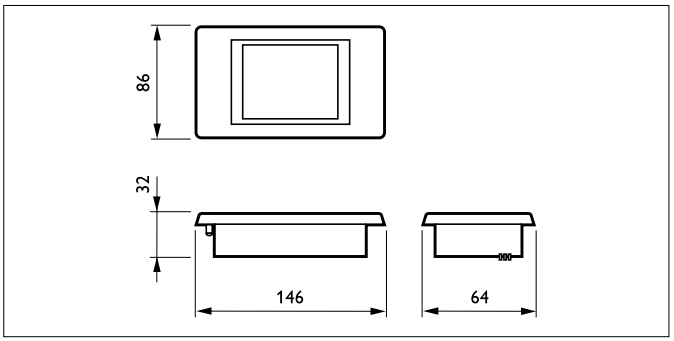
Power supply

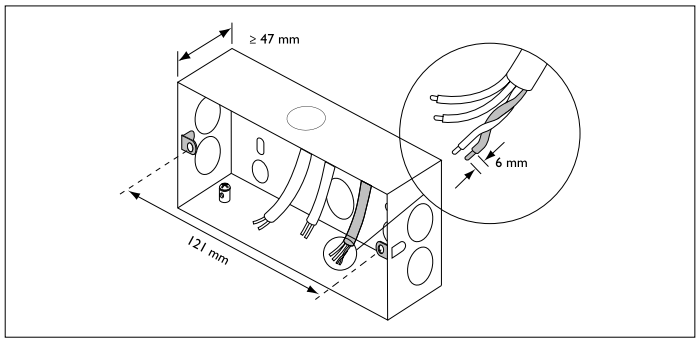
Voltage	14-50 V DC (DCMD400 or DCMD401 power supply recommended)
Power & data Connector	Connector block with screw terminals is supplied with the touchpanel.

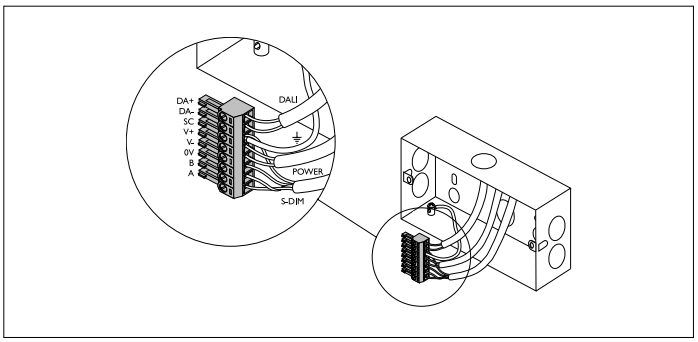
Included in the package

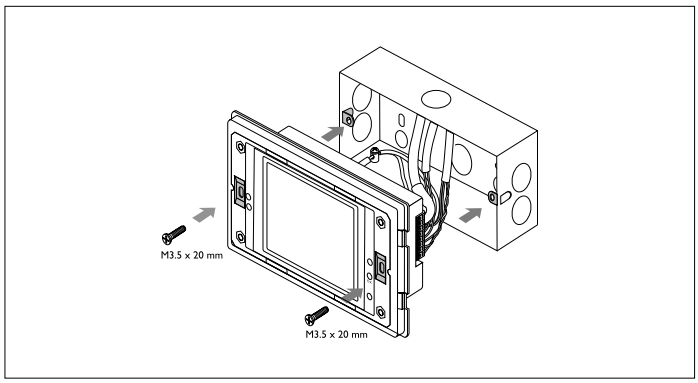
- CD with PC software for backing up screen designs.
- USB cable for connection between PC and touch screen
- Double gang, 46 mm deep back box supplied.
- Fixing Screw and cable tie
- Installation instructions

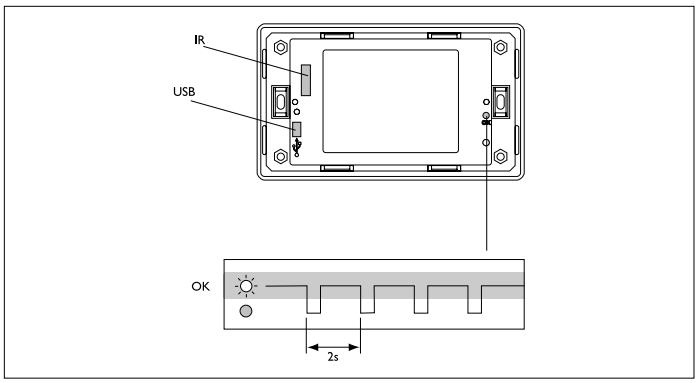
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www.philips.com/lightingcontrols











Ordering and Packing Data

Type	Description	EOC	Weight (Kg) net	Weight (Kg) gross	Dimensions x w x h mm
DCMD100	Rotary module	747921 00	0,04	0,08	35x48x44
DCMD110	Single slider module	747938 00	0,05	0,08	35x48x48
DCMD111	Twin slider module	747945 00	0,05	0,08	35x48x48
DCMD121	2 button on/off module	747952 00	0,04	0,08	35x48x39
DCMD122	2 button raise/lower module	747969 00	0,04	0,07	35x48x39
DCMD124	5 button module	747976 00	0,04	0,08	35x48x39
DCMD125	7 button module	747983 00	0,04	0,08	35x48x39
DCMD126	8 button module	747990 00	0,04	0,08	35x48x39
DCMD150	Single blank module	748003 00	0,02	0,05	35x48x38
DCMD170	IR receiver module	748010 00	0,04	0,07	35x48x38
DCMD180	Programming point module	748027 00	0,03	0,07	35x48x38
DCMD200D	Double frame -white	748034 00	0,01	0,17	160x88x14
DCMD200S	Single frame - white	748041 00	0,06	0,10	88x88x14
DCMD302	Ceiling Multisensor	747877 00	0,06	0,11	DIA 65x66
DCMD303	7 button IR transmitter	747884 00	0,08	0,09	120x55x25
DCMD400	DIN rail power supply	747891 00	0,12	0,17	90x70x58
DCMD401	Ceiling mounted power supply	748744 00	0,59	0,64	120x51x63
DCMD416	Solo Dimmer 16 Amp	731667 99	2,20	2,50	210x300x90
DCMD425	Solo Dimmer 25 Amp	731674 99	2,20	2,50	210x300x100
DCMD440	Input Unit	731681 99	0,15	0,17	90x70x58
DCMD444	Pushbutton interface	928887 00	0,01	0,02	205x20x10
DCMD450	800W DALI dimmer	747914 00	0,24	0,26	75x95x60
DCMD472	1-10V converter	731698 99	0,18	0,20	70x95x60
DCMD494	Relay unit	928894 00	0,30	0,34	90x88x58
DCMD502	Programming kit	749802 00	0,96	0,96	267x212x79
DCMD9242	TouchPanel	731650 99	0,83	0,95	90x130x90


heijmans

LED Lighting Systems



LED lighting systems

With the rapid advancement in LED technology improving their light, there is no doubt that LEDs have opened the door to many new and exciting lighting opportunities. Philips LED lighting solutions incorporate the most advanced technology, and, as the world focuses on environmental issues, LEDs, recognised for their energy efficient performance, are set to play an increasingly important role to help with our responsibility towards the environment. All Philips LED solutions offer optimum systems performance with all components are designed to work together. :

LEDs – bringing new dimensions to the retail experience

With the flexible Philips Lexel modules, you can easily create innovative and inspiring shop atmospheres with changing tones of white light and different colours to attract passing shoppers who will feel drawn to explore further. Lexel architecture is compatible with most lighting control protocol: DALI and DMX. The module has a fixed form factor, ensuring compatibility with future luminaire development.

The Philips Lexel module consists of a fully integrated LED system that consistently delivers the same colour, without colour shift, over time or between luminaires. The modules available include a Spot (for accent lighting), a Linear (for wall washing, grazing) and a down light (for general lighting) solution.

Use them to highlight shop windows, focus islands and shop-in-shop concepts. They emphasise dramatic effect, command attention, create mood, and define the brand experience.

Other application areas

In offices, you can focus attention in key areas, such as the boardroom and the main entrance. The accurate colours can enhance the brand experience. In hospitality settings, you can create ambience, highlight a bar, dramatise an elevator or signal a reception area.

LEDs in general lighting

Philips Fortimo LED DLM is the first serious LED proposition for luminaire manufactures for functional general lighting in the professional market. The system represents a breakthrough in LED energy efficiency, in combination with higher lumen packages.

Philips MASTER LED lamps are based on advanced, ultra compact Philips Luxeon Rebel power LEDs with industry – leading lumen output per package .Designed with a GU10 and E27 fitting for direct retrofit halogen and incandescent replacement; it means you benefit from instant energy savings with no extra investment for new luminaires and no compromise on light quality. Compared with halogen or incandescent lamp equivalent the Philips MASTER LED offers up to 80% energy saving.


Bonduelle
Bonduelle
Bonduelle
Bonduelle
Bonduelle
Bonduelle

LED solutions for signage when first impressions count

Customers want signs that look great, enhance their brand image and keep working perfectly over long periods. Furthermore, customers are looking for ways to decrease their maintenance costs, to start saving on their signage energy bills and enhance their green image.

Compared to older lighting technologies like neon or fluorescent, LEDs offer longer lifetimes, easy installation and bright uniform illumination for consistent branding. Furthermore, our Affinium LED posterbox modules eradicate unsightly "zebra-effect" (striped-light) often associated with fluorescent lamps and guarantees perfect images with a high quality sparkling light effect.

LEDs have already made a huge impact on the signage business, as they have a long lifetime and low energy consumption. Philips has a dedicated range of LED solutions specifically designed for the signage industry suitable for both indoor and outdoor use.

LEDs light up freezer displays

Philips Affinium LED freezer modules are a brighter, more energy-efficient way to light up the sales of refrigerated and frozen foods. Designed for new installations as well as replacements for less efficient fluorescent lamps in existing glass door cabinets, they offer improved product visibility and presentation with a lower cost of ownership. An environmentally friendly, cost-effective and low maintenance solution that looks good from any angle.



Lexel LED Spot System

Product Description

- LED system enabling the creation of various atmospheres with changing tones of white light and different colours
- Designed for accent lighting applications in the professional market
- LED system consists of LED spot module and LED driver (with power supply and control interface)

Product Features

- Selection of white and coloured shades
  - Unlimited colour selection using CIE colour gamut coordinates
  - White Colour Temperature (CCT) range from 2700 – 6500K
  - Intelligent feedback and calibration system ensures accurate colour and CCT settings
- Comfortable light
  - No heat or UV
  - Dimmable, instant 100% light
  - Unique control interface allows same light source to be used in a DALI, DMX or RDM network or with simple manual control
- Long lifetime of 50,000 hrs with 50% lumen maintenance
  - 75% lumen maintenance after 35,000 h
  - Highly efficient thermal management system cools LEDs to preserve life and lumen output

Product Benefits

- Create various lighting atmospheres with changing tones of white light and different colours with the same light source
- Colour quality and consistency over time and among luminaires thanks to 25,000 h lifetime with 100% lumen maintenance
- Uniform colours also in shadows
- Designed for easy use by luminaire manufacturers and to enable a faster luminaire creation process
- Gives luminaire manufacturers access to the latest Solid State Lighting technology without significant R&D investments
- Comfortable, pleasant light without heat or UV
- Prevents discolouring or fading of colours in food or materials
- Easy connection to external DALI, DMX, RDM user interfaces or as simple manual control

Application

- Shops
  - Shop windows, wall-washers, leisure areas, focus islands, shop-in-shop concepts: where dramatic effect, attracting attention and creating specific themes and brand experience are important
- Offices
  - Presentation areas such as reception, boardrooms and restaurants to enhance brand experience
- Hospitality
  - Lobbies, reception areas, restaurants, bars, elevator halls to create specific themes and brand experience

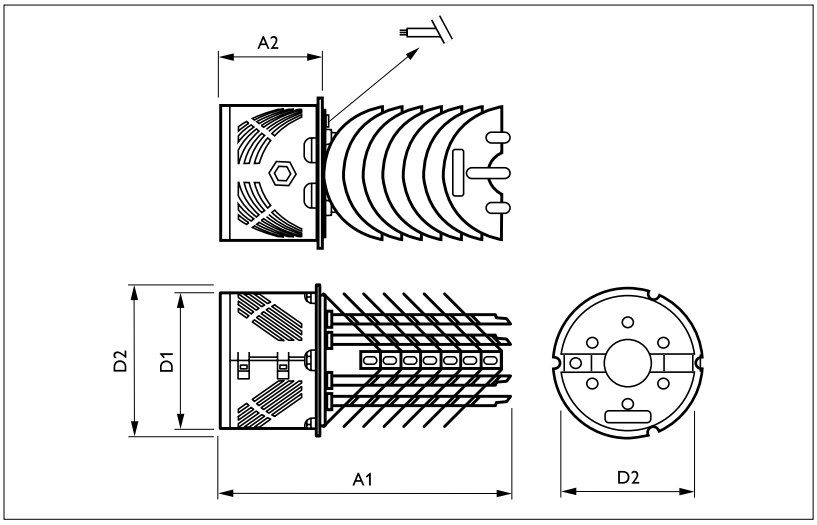
Availability

- From 4th quarter 2008

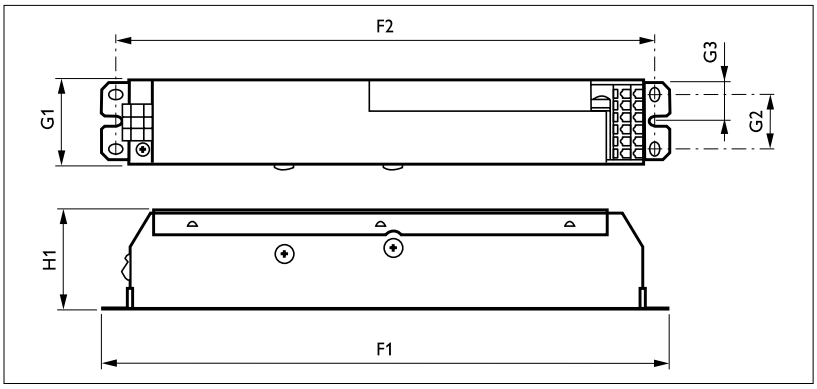
Environment

- RoHS compliant
- The LED product portfolio is continuously being updated. Please visit http://www.philips.com/OEM for the latest information

www.philips.com/OEM



Type	A1	A2	D1	D2
Lexel LED Spot System	195	64.5	90	100



Type	F1	F2	G1	G2	G3	H1
Lexel LED Spot System	241.3	228.6	37.1	23.1	18.5	42.1



Lexel LED DLM System

Product Description

- LED system enabling the creation of various atmospheres with changing tones of white light and different colours
- Designed for general lighting applications in the professional market
- LED system consists of LED module and LED driver (with power supply and control interface)

Product Features

- Selection of white and coloured shades
  - Colour selection using CIE colour gamut coordinates
  - White Colour Temperature (CCT) range from 2700 – 6500K
  - Intelligent feedback system ensuring Ra >80 and colour consistency
  - Optimised light mixing chamber
- Future-proof, easy-to-use modules
  - Fixed form factor
  - Fixed lumen packages
  - Easy mounting features for heat sink and optics
- Comfortable light
  - No heat or UV
  - Dimmable, instant 100% light
  - Unique control interface allows same light source to be used in a DALI, DMX or RDM network
  - 75% lumen maintenance after 35,000 h

Product Benefits

- Create various lighting atmospheres with changing tones of white light and different colours with the same light source
- Colour quality and consistency over time and among luminaires
- Uniform colours also in shadows
- Designed for easy use by luminaire manufacturers and to enable a faster luminaire creation process
- Very high optical luminaire efficiencies
- Gives luminaire manufacturers access to the latest Solid State Lighting technology without significant R&D investments
- Comfortable, pleasant light without heat or UV
- Prevents discolouring or fading of colours in food or materials
- Easy connection to external DALI, DMX or RDM user interfaces

Application

- Shops
  - Shop windows, wall-washers, leisure areas, focus islands, shop-in-shop concepts: where dramatic effect, attracting attention and creating specific themes and brand experience are important
- Offices
  - Presentation areas such as reception, boardrooms and restaurants to enhance brand experience
- Hospitality
  - Lobbies, reception areas, restaurants, bars, elevator halls to create specific themes and brand experience

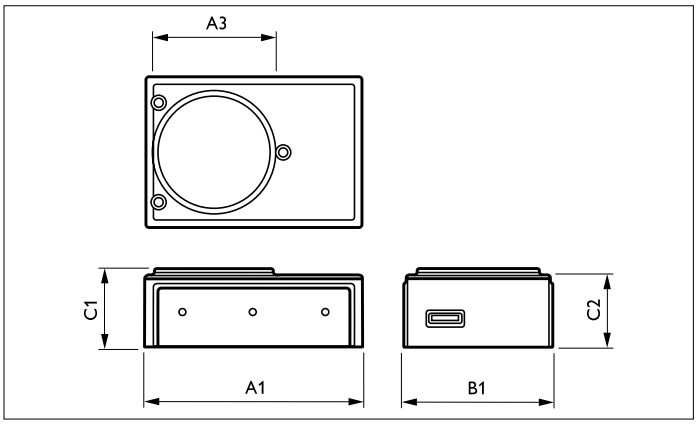
Availability

From 4th quarter 2008

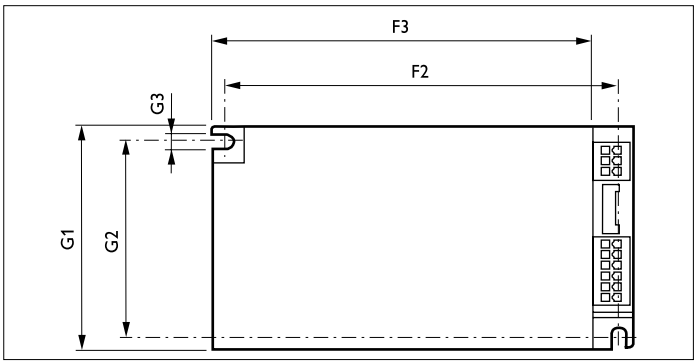
Environment

- RoHS compliant
- The LED product portfolio is continuously being updated. Please visit http://www.philips.com/OEM for the latest information

www.phlips.com/OEM



Type	A1	A3	B1	C1	C2
Lexel LED DLM system	121.6	66.8	82.8	43.7	40.2



Type	F2	F3	G1	G2	G3
Lexel LED DLM system	128.5	-	74	63.6	4.5



Fortima LED DLM

Product description

- The Fortimo LED DLM system represents an LED breakthrough in energy efficiency and higher lumen packages
- The system constists of an LED module and a driver with a cable (optional) designed for new luminaires together with a heat sink
- Designed for general lighting applications in the professional market
- High efficient, optimized LED driver with and without dimming functionality
- Available in 1100 Lm and 2000 Lm versions in 4000 K, with Ra 80
- Check out www.philips.com/fortimo for the latest information

Product features

- Breakthrough efficacy of LED module and driver of up to 62 lm/W (comparable to 110 lm/W bare LED efficiency)
- Equipped with a special Fortimo phosphor technology
- High light output of 1100 lm (18W) and 2000 lm (45W)
- Consistent colours between different modules and high quality white LED light (Ra>80 and 4000K colour temperature)
- Fixed form factor and lumen packages
- Easy mounting features for heat sink and optics
- Optical luminaire efficiency of up to 95% possible
- Instant, dimmable white light
- Long lifetime of 50,000 hours with 70% lumen maintenance after 35K hours

Product benefits

- An LED breakthrough in energy efficiency and higher lumen packages
- The first serious LED proposition for luminaire manufacturers for functional and general lighting
- The high quality, bright, white light that is produced is very similar to that of compact fluorescent.
- The driver is one of the most efficient on the market
- Future proofed, as it is specifically designed to incorporate improved LED efficacies, with no changes to dimensions, driver or lumen output.
- Comfortable white light without heat or UV, which prevents discolouring or fading of colours in food or material
- Globally released product with CE and ENEC approval, with a dedicated US version for UL

Applications

- General lighting in:
  - Offices (representative areas such as receptions, boardrooms, restaurants etc.)
  - Public buildings (cinemas, theatres, swimming pools, exhibition halls)
  - Hotel lobbies and receptions
  - Retail (high end shops, supermarkets bakery/butcher areas, leather goods etc.)
  - Urban outdoor lighting (ground lighting, post top lanterns)

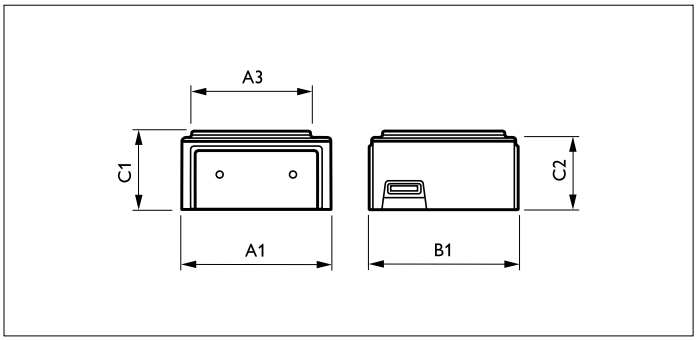
Availability

- DLM systems available without dimming functionality from September 2008 and with dimming option from early 2009
- Range extensions in lumen package and colour temperature: planned during 2009

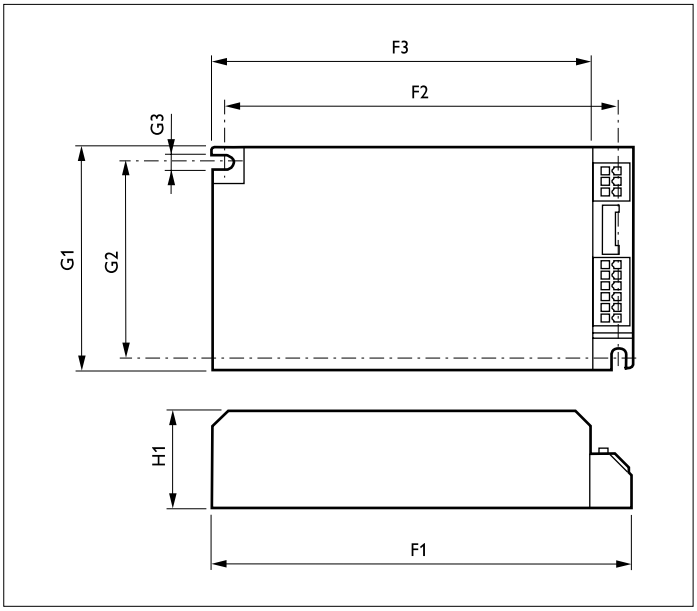
Environment

- The Philips Fortimo LED DLM system is a green product, offering an LED breakthrough in energy efficiency: efficacy of LED module and driver of up to 62 lm/W at 4000K and with a colour rendering of 80. It is fully RoHS compliant. For latest information, please check www.philips.com/fortimo.

www.philips.com/OEM



A1	A3	B1	C1	C2
81.6	66.8	82.8	43.7	40.2



F1	F2	F3	G1	G2	G3	H1
138	128.5	-	74	63.6	4.5	32

Provisional specifications after 100 hours (2008)

Philips Fortimo LED DLM system	Power (W)	Light Output (lm)	Efficacy LED module + driver (lm/W)	Comparable LED efficiency (lm/W)	Input voltage (V)	Colour Temperature (K)	Colour rendering index (Ra)	Colour consistency initial & @10K hrs. (SDCM)
Fortimo LED DLM1100 18W/840 220-240	18	1.1	62	110	220-240	4	80	5/6
Fortimo LED DLM2000 45W/840 220-240	45	2	45	110	220-240	4	80	5/6

Philips Fortimo LED DLM system	Average life time (K/hrs.)	Lumen maintenance @35K hrs. (%)	Class	Power factor (%)	Total harmonic distortion (%)	Tc Life LED module (°C)	Tc max LED Module (°C)	Tc Life LED driver (°C)	Burning position
Fortimo LED DLM1100 18W/840 220-240	50	70	I	>90	<20%	45	75	65	Universal
Fortimo LED DLM2000 45W/840 220-240	50	70	I	>90	<20%	65	75	65	Universal



MASTER LED E27 A55

Product Description

- LED-based lamps with GU10 and E27 fittings for direct retrofit halogen and incandescent replacement

Product Features

- Choice of GU10 and E27/NR63 reflector and E27 bulb types suitable for majority of current luminaires
- 7W MASTER LED has light output equivalent to 40W incandescent, 35W halogen or 9W compact fluorescent lamps integrated
- Based on advanced, ultra-compact Philips Luxeon Rebel power LEDs with industry-leading lumen output per package
- Choice of warm white or cool white light colours
- Instant start, switching by sensor possible
- Ultra-long lifetime of 45,000 hours at 50% failure
- Even better sustainability than compact fluorescent integrated lamps: even lower energy consumption, no mercury or other hazardous substances

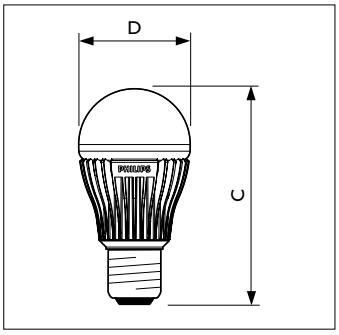
Product Benefits

- Direct retrofit: instant energy savings with no extra investment for new luminaires
- Up to 80% energy savings compared with equivalent halogen or incandescent lamps
- Ultra-low power consumption is ideal for 24/7 lighting applications
- Payback time typically only around 1 year at 24/7 lighting applications
- No compromise in light quality
- Reflector types have high-efficacy beam with clearly defined beam spread
- Low maintenance through long lifetime and low failure rate
- Cool beam, no UV or IR radiation

Application

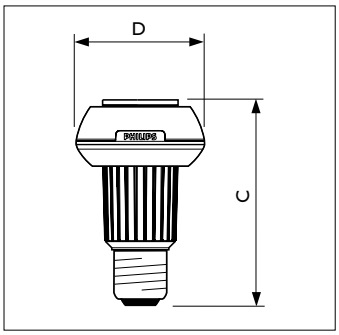
- Direct retrofit replacement for halogen and incandescent lamps in hospitality/hotel and similar applications, especially with long burning hours
- Spot, task and general lighting in nearly all existing luminaires

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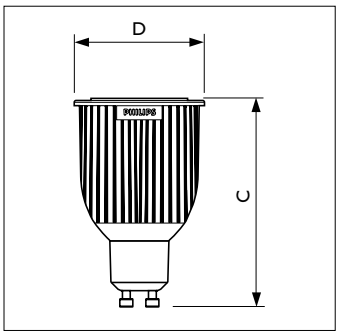
MASTER LED E27 A55

Type	CNom	DNom
MASTER LED 7W E27 CW 230V A55 1CT	106.5	55.5



MASTER LED E27 NR63

Type	CNom	DNom
MASTER LED 7W E27 CW 230V NR63 25D 1CT	101.2	63.3



MASTER LED GU10

Type	CNom	DNom
MASTER LED 7W GU10 CW 230V 40D 1CT	80.5	50.2



MASTER LED GU10



MASTER LED E27 NR63

Technical data

Type	Bulb	Bulb Finish	Wattage	Wattage Technical	Line Frequency (Hz)	Average Lifetime (hrs)
MASTER LED 7W E27 CW 230V A55 1CT	A55	Frosted	7	6.3	50-60	45000
MASTER LED 7W E27 CW 230V NR63 25D 1CT	NR63	-	7	6.3	50-60	45000
MASTER LED 7W GU10 CW 230V 40D 1CT	Reflector	-	7	6.3	50-60	45000

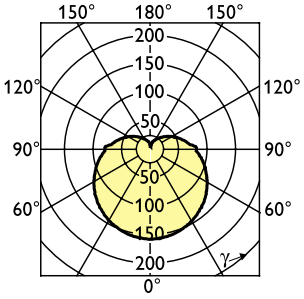
Light data

Type	Luminous FLux	Luminous Efficacy Lamp (Lm/W)	Luminous Intensity (cd)	Colour Designation	Colour Temperature (K)	Correlated Colour Temperature (K)	Colour Rendering Index (RA)	Beam Angle (°)
MASTER LED 7W E27 CW 230V A55 1CT	230	36.51		Cool White	4200	4200	70	
MASTER LED 7W E27 WW 230V A55 1CT	155	24.60		Warm White	3100	3100	85	
MASTER LED 7W E27 CW 230V NR63 25D 1CT/GU10 CW 25D	230	36.51	800	Cool White	4200	4200	70	25
MASTER LED 7W E27 CW 230V NR63 40D 1CT/GU10 CW 25D	220	34.92	320	Cool White	4200	4200	70	40
MASTER LED 7W E27 WW 230V NR63 25D 1CT	155	24.60	500	Warm White	3100	3100	80	25
MASTER LED 7W E27 WW 230V NR63 40D 1CT	150	23.81	200	Warm White	3100	3100	80	40
MASTER LED 7W GU10 WW 230V 25D 1CT	155	24.60	500	Warm White	3100	3100	85	25
MASTER LED 7W GU10 WW 230V 40D 1CT	150	23.81	200	Warm White	3100	3100	85	40

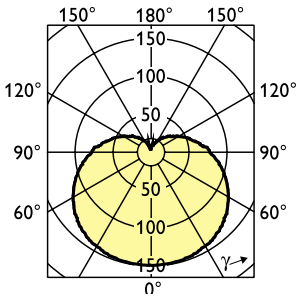
Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EOC 8727900
MASTER LED 7W E27 CW 230V A55 1CT	8727900536478	0.145 kg	6	24 cm x 17.3 cm x 12.2 cm	536478 10
MASTER LED 7W E27 WW 230V A55 1CT	8727900536485	0.145 kg	6	24 cm x 17.3 cm x 12.2 cm	536485 10
MASTER LED 7W E27 CW 230V NR63 25D 1CT	8727900536416	0.116 kg	6	21 cm x 15.6 cm x 9.8 cm	536416 10
MASTER LED 7W E27 CW 230V NR63 40D 1CT	8727900536454	0.176 kg	6	27 cm x 19 cm x 11.6 cm	536454 10
MASTER LED 7W E27 WW 230V NR63 25D 1CT	8727900536423	0.116 kg	6	21 cm x 15.6 cm x 9.8 cm	536423 10
MASTER LED 7W E27 WW 230V NR63 40D 1CT	8727900536461	0.176 kg	6	27 cm x 19 cm x 11.6 cm	536461 10
MASTER LED 7W GU10 CW 230V 25D 1CT	8727900536386	0.116 kg	6	21 cm x 15.6 cm x 9.8 cm	536386 00
MASTER LED 7W GU10 CW 230V 40D 1CT	8727900536430	0.176 kg	6	27 cm x 19 cm x 11.6 cm	536430 10
MASTER LED 7W GU10 WW 230V 25D 1CT	8727900536393	0.116 kg	6	21 cm x 15.6 cm x 9.8 cm	536393 10
MASTER LED 7W GU10 WW 230V 40D 1CT	8727900536447	0.176 kg	6	27 cm x 19 cm x 11.6 cm	536447 10

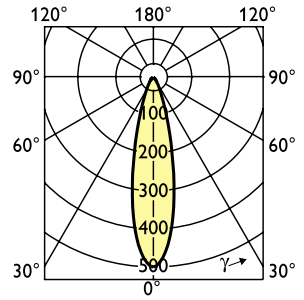
Photometric diagram



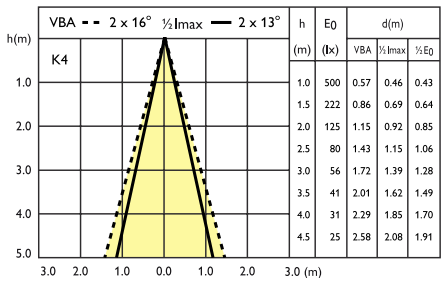
MASTER LED E27A55 CW



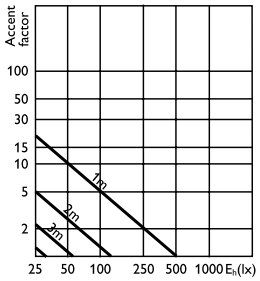
MASTER LED E27A55 WW

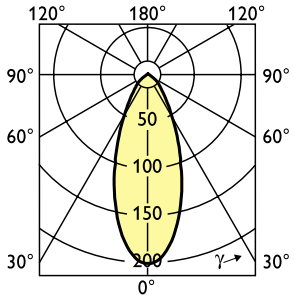


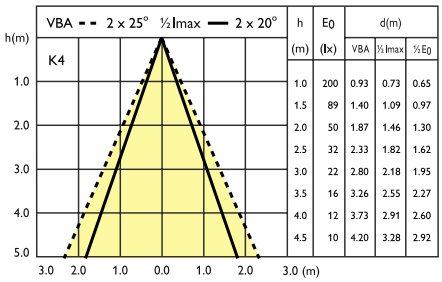
MASTER LED GU10 WW 25d



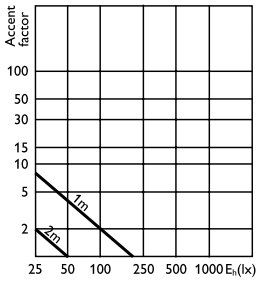
h (m)	E0 (lx)	d(m) VBA	½Imax	½E0
1.0	500	0.57	0.46	0.43
1.5	222	0.86	0.69	0.64
2.0	125	1.15	0.92	0.85
2.5	80	1.43	1.15	1.06
3.0	56	1.72	1.39	1.28
3.5	41	2.01	1.62	1.49
4.0	31	2.29	1.85	1.70
4.5	25	2.58	2.08	1.91



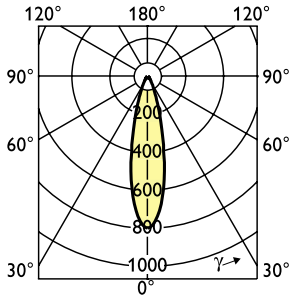


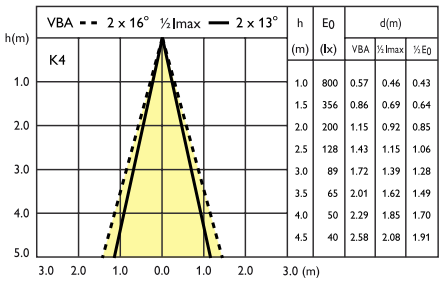


h (m)	E0 (lx)	d(m) VBA	½Imax	½E0
1.0	200	0.93	0.73	0.65
1.5	89	1.40	1.09	0.97
2.0	50	1.87	1.46	1.30
2.5	32	2.33	1.82	1.62
3.0	22	2.80	2.18	1.95
3.5	16	3.26	2.55	2.27
4.0	12	3.73	2.91	2.60
4.5	10	4.20	3.28	2.92

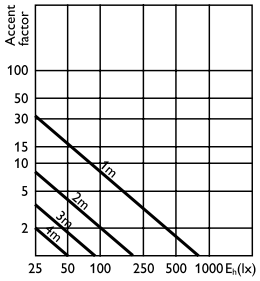


MASTER LED GU10 WW 40d

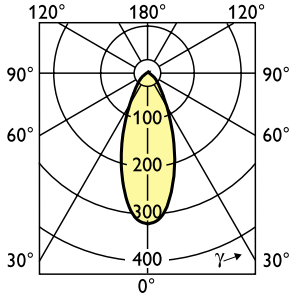


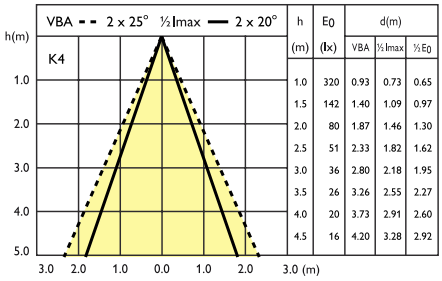


h (m)	E0 (lx)	d(m) VBA	½Imax	½E0
1.0	800	0.57	0.46	0.43
1.5	356	0.86	0.69	0.64
2.0	200	1.15	0.92	0.85
2.5	128	1.43	1.15	1.06
3.0	89	1.72	1.39	1.28
3.5	65	2.01	1.62	1.49
4.0	50	2.29	1.85	1.70
4.5	40	2.58	2.08	1.91

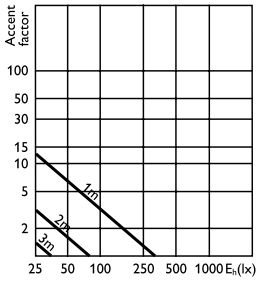


MASTER LED GU10 CW 25d

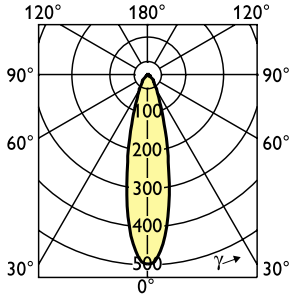


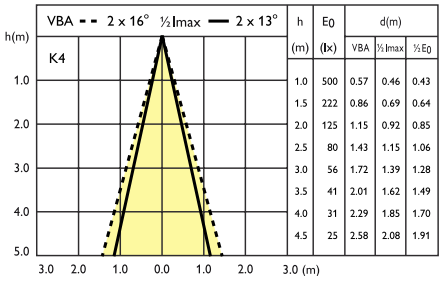


h (m)	E0 (lx)	d(m) VBA	½Imax	½E0
1.0	320	0.93	0.73	0.65
1.5	142	1.40	1.09	0.97
2.0	80	1.87	1.46	1.30
2.5	51	2.33	1.82	1.62
3.0	36	2.80	2.18	1.95
3.5	26	3.26	2.55	2.27
4.0	20	3.73	2.91	2.60
4.5	16	4.20	3.28	2.92

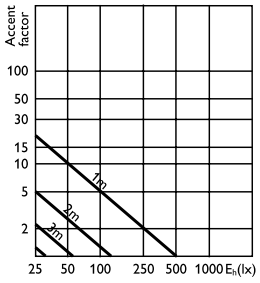


MASTER LED GU10 CW 40d

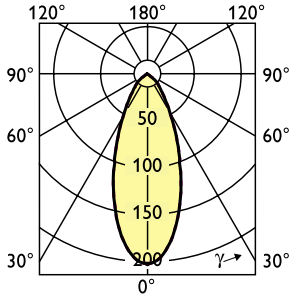


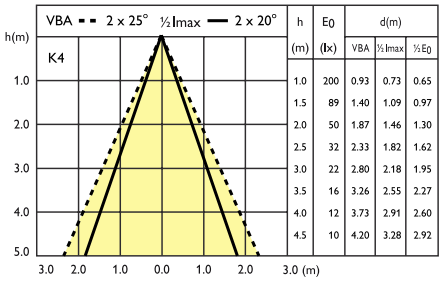


h (m)	E0 (lx)	d(m) VBA	½Imax	½E0
1.0	500	0.57	0.46	0.43
1.5	222	0.86	0.69	0.64
2.0	125	1.15	0.92	0.85
2.5	80	1.43	1.15	1.06
3.0	56	1.72	1.39	1.28
3.5	41	2.01	1.62	1.49
4.0	31	2.29	1.85	1.70
4.5	25	2.58	2.08	1.91

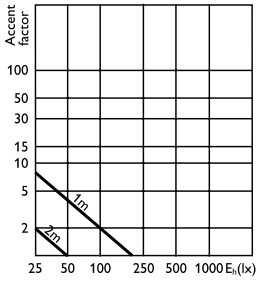


MASTER LED E27 NR63 WW 25d

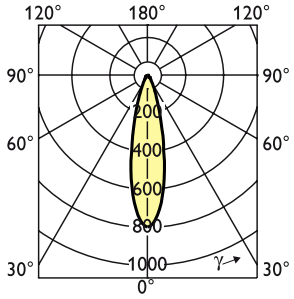


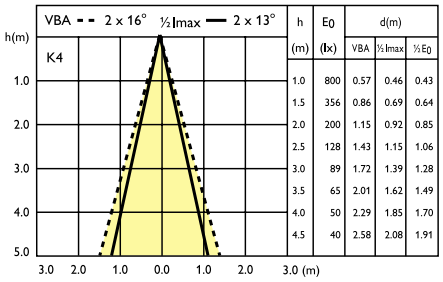


h (m)	E0 (lx)	d(m) VBA	½Imax	½E0
1.0	200	0.93	0.73	0.65
1.5	89	1.40	1.09	0.97
2.0	50	1.87	1.46	1.30
2.5	32	2.33	1.82	1.62
3.0	22	2.80	2.18	1.95
3.5	16	3.26	2.55	2.27
4.0	12	3.73	2.91	2.60
4.5	10	4.20	3.28	2.92

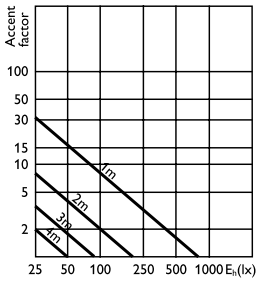


MASTER LED E27 NR63 WW 40d

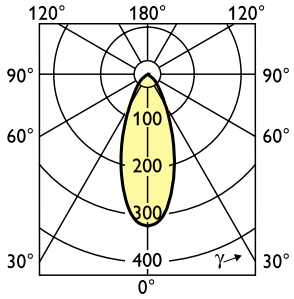


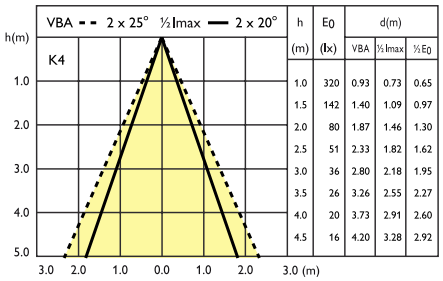


h (m)	E0 (lx)	d(m) VBA	d(m) ½Imax	d(m) ½E0
1.0	800	0.57	0.46	0.43
1.5	356	0.86	0.69	0.64
2.0	200	1.15	0.92	0.85
2.5	128	1.43	1.15	1.06
3.0	89	1.72	1.39	1.28
3.5	65	2.01	1.62	1.49
4.0	50	2.29	1.85	1.70
4.5	40	2.58	2.08	1.91

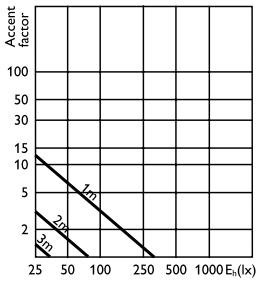


MASTER LED E27 NR63 CW 25d





h (m)	E0 (lx)	d(m) VBA	d(m) ½Imax	d(m) ½E0
1.0	320	0.93	0.73	0.65
1.5	142	1.40	1.09	0.97
2.0	80	1.87	1.46	1.30
2.5	51	2.33	1.82	1.62
3.0	36	2.80	2.18	1.95
3.5	26	3.26	2.55	2.27
4.0	20	3.73	2.91	2.60
4.5	16	4.20	3.28	2.92



MASTER LED E27 NR63 CW 40d





Affinium LED string system

Product Description

- Complete, easy-to-install system comprising a flexible line of wire-connected LEDs in combination with a Philips LED Power Driver
- Ideal for signlighting; channel letters and bandlighting

Product Features

- Broad light output angle of 130° for coloured versions and 110° for the white version ensuring uniform light distribution.
- Flexible LED strings can be cut at any desired position, as long as the first LED installed after the driver is a LED Driver Device (LDD)
- Can be mounted directly on a sign backplate with clips or tape for quick, easy sign creation
- Energy consumption below 3 W/m compared with 20 W/m for neon
- Fully outdoor-proof (IP66)
- Instant starting, even at temperatures as low as -20°C
- Operating ambient temperature range –20 to +70°C
- Packed on 20 m reel
- The LED Power Drivers which operate the string have slim dimensions and copper-core insulated wires for easy connection
- Available software tools to support customer presentation: LED Sign Advisor (design tool) and Cost Savings Calculator (shows savings based on actual customer data)

Product Benefits

- Benefits for signmakers:
  - easy installation
  - outdoor-proof (IP66)
  - excellent light and colour uniformity of signs
  - ideal for both large and small signs
- Quality and cost savings for signmakers' customers:
  - reliable, high-quality brand presentation
  - energy consumption only below 3 W/m compared with 20 W/m for neon, for substantial savings in operating costs
  - high reliability and long lifetime of LED strings offer savings in maintenance costs
  - both the LED strings and drivers are maintenance-free for up to 50,000 hours, while conventional systems often need replacing after just 20,000 hours
  - lumen maintenance 50% at 50,000 hours ($T_{ambient}$70°C)
- Guaranteed performance and service based on proven system reliability:
  - long lifetime of LEDs and all other components
  - exhaustive system testing
  - outdoor-proof to IP66 (both system and components)
  - excellent heat management
  - high customer satisfaction together with low service call rates for signmakers

Application

- Sign lighting; channel letters and band lighting

System

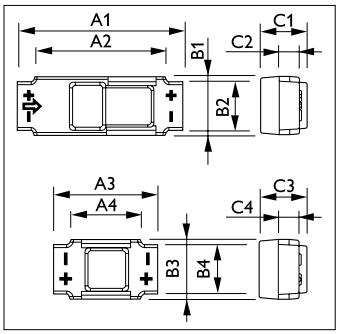
- Available in both white and coloured versions (red, amber, green, blue)
- Choice of LED Power Drivers of 20, 60 or 100 W and various accessories for fast and reliable installation

Environment

- Philips Green product
- High energy efficiency; up to 80% savings compared with fluorescent and neon lighting
- RoHS compliant – mercury and lead free

Recommended driver page 5.80
Recommended accessories page 5.26

www.philips.com/OEM
www.philips.com/signage



Top: dimensions LED driver device

Below: dimensions LED device

Type	A1Nom	A2Nom	A3Nom	A4Nom	B1Nom	B2Nom	B3Nom	B4Nom	C1Nom	C2Nom	C3Nom	C4Nom	D1Nom
Affinium LED string lp/mp	42.6	34.6	26	18	15	12.5	15	12.5	12	5.2	10.9	5.2	-



LED Driver Device in an Affinium LED string



Affinium LED string starting with one LED Driver Device followed by two LED Devices



LED Device in an Affinium LED string

Technical data

Type	Pitch Length (mm)	Voltage	Wattage	T-ambient (°C)	T-case maximum (°C)
Affinium LED string lp amber P10 UNP	100	24	0.221	70	45
Affinium LED string lp blue P10 UNP	100	24	0.233	70	45
Affinium LED string lp w3000 P10 UNP	100	24	0.114	70	45
Affinium LED string mp amber P10 UNP	100	24	0.228	60	45
Affinium LED string mp w6300 P10 UNP	100	24	0.228	60	45

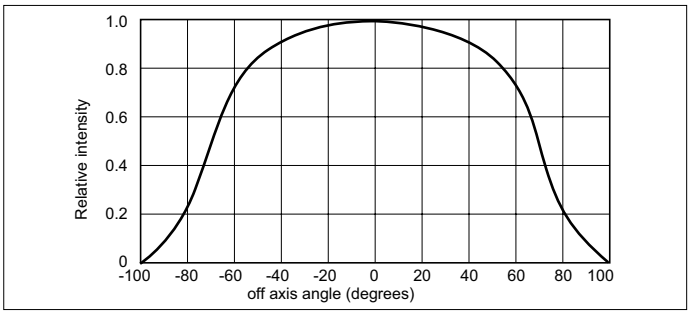
Light data

Type	Luminous Flux (lm) per device	Luminous Flux per meter	Colour Designation	Correlated Colour Temperature (K)	Wavelength Red	Wavelength Green	Wavelength Blue	Wavelength Amber	Beam Angle (°)
Affinium LED string lp amber P10 UNP	4.5	45	Amber 594	-	-	-	-	594	130
Affinium LED string lp blue P10 UNP	2.8	28	Blue 476	-	-	-	476	-	130
Affinium LED string lp green P10 UNP	6.3	63	Green 526	-	-	526	-	-	130
Affinium LED string lp red P10 UNP	7	70	Red 624	-	624	-	-	-	130
Affinium LED string lp w3000 P10 UNP	5.0	50	White 3000	3000	-	-	-	-	110
Affinium LED string lp w6300 P10 UNP	5.8	58	White 6300	6300	-	-	-	-	110
Affinium LED string lp w8000 P10 UNP	5.8	58	White 8000	8000	-	-	-	-	110
Affinium LED string mp amber P10 UNP	8.5	85	Amber 594	-	-	-	-	594	130
Affinium LED string mp blue P10 UNP	4.5	45	Blue 476	-	-	-	476	-	130
Affinium LED string mp w3000 P10 UNP	13	130	White 3000	3000	-	-	-	-	110
Affinium LED string mp w6300 P10 UNP	16	160	White 6300	6300	-	-	-	-	110

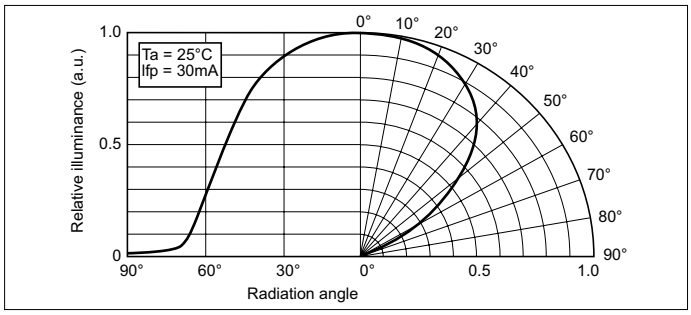
Ordering and packing data

Type	EAN code 1 reel/20 mtr	Weight	Dimensions packing	EAN code packing	EOC 8711559
Affinium LED string lp amber P10 UNP	8711559763699	1.55 kg	54 cm x 54 cm x 3.5 cm	8711559763705	763699 00
Affinium LED string lp blue P10 UNP	8711559763712	1.55 kg	54 cm x 54 cm x 3.5 cm	8711559763729	763712 00
Affinium LED string lp green P10 UNP	8711559763736	1.55 kg	54 cm x 54 cm x 3.5 cm	8711559763743	763736 00
Affinium LED string lp red P10 UNP	8711559763675	1.55 kg	54 cm x 54 cm x 3.5 cm	8711559763682	763675 00
Affinium LED string lp w3000 P10 UNP	8711559764429	1.55 kg	54 cm x 54 cm x 3.5 cm	8711559764436	764429 00
Affinium LED string lp w6300 P10 UNP	8711559763750	1.55 kg	54 cm x 54 cm x 3.5 cm	8711559763767	763750 00
Affinium LED string lp w8000 P10 UNP	8711559764986	1.55 kg	54 cm x 54 cm x 3.5 cm	8711559764993	764986 00
Affinium LED string mp amber P10 UNP	8711559766102	1.55 kg	54 cm x 54 cm x 3.5 cm	8711559766119	766102 00
Affinium LED string mp blue P10 UNP	8711559766089	1.55 kg	54 cm x 54 cm x 3.5 cm	8711559766096	766089 00
Affinium LED string mp w3000 P10 UNP	8711559766041	1.55 kg	54 cm x 54 cm x 3.5 cm	8711559766058	766041 00
Affinium LED string mp w6300 P10 UNP	8711559764481	1.55 kg	54 cm x 54 cm x 3.5 cm	8711559764498	764481 00

Affinium LED string high power (hp) will be introduced medio 2008



Relative intensity vs off angle for the coloured LEDs



Relative illuminance vs radiation angle for the white LEDs

Quantities of LEDs per driver (for upto three branches*)

No extra wire

Affinium LED string	max. nr. of LEDs	LED Power Driver Version 20W	60W	100W
white (cool & warm)	per driver[1]	100	300	504
	per branch[2]	100	180	180
green	per driver[1]	72	216	360
	per branch[2]	72	152	152
blue	per driver[1]	90	200	405
	per branch[2]	90	155	155
amber	per driver[1]	60	195	330
	per branch[2]	60	135	135
red	per driver[1]	75	225	375
	per branch[2]	75	170	170
Affinium LED string medium power	**max. nr. of LEDs**	**LED Power Driver Version 20W**	**60W**	**100W**
Affinium LED string medium power types	per driver[1]	48	152	252
	per branch[2]	48	152	152

Note:

per driver[1] per driver the nr. of LEDs divided over the branches may not exceeded and
per branch[2] if more branches (upto 3) are used the nr. of LEDs per branch may not be exceeded
* if you want to apply more than 3 branches, please contact your local Philips office

You can find information on extended cable lengths between dirvers and LED strings in the technical application and installation manuals.



LED string kit 2m

Product Description

- All-in-one-box solution allowing quick, easy configuration and installation of flexible wire-connected LEDs for architectural and decorative lighting applications

Product Features

- Complete, easy-to-install system comprising a flexible line of wire-connected LEDs with Philips LED Power Driver, connectors, wiring, tape pads and Quick Installation Guide
- Available in both white and coloured (red, green, blue, amber) versions offering excellent light and colour uniformity of signs
- Available for string lengths of 2 and 6 m
- Flexible LED strings can be cut at any desired position, as long as the first LED installed after the LED power driver is a LED driver device (LDD)
- Uniform light distribution: broad light output angle of 130° (coloured) and 110° (white)
- Can be mounted directly on a sign backplate with clips or tape for quick, easy sign creation
- Energy consumption only below 3 W/m compared with 20 W/m for neon
- Green product line, being at least 80% more efficient than traditional fluorescent lighting
- Robust and fully outdoor-proof (IP66)
- Instant starting, even at temperatures as low as -20°C
- Operating ambient temperature range –20 to +70°C
- Mercury-free and lead-free
- Slim LED Power Drivers have copper-core insulated wires for easy connection

Product Benefits

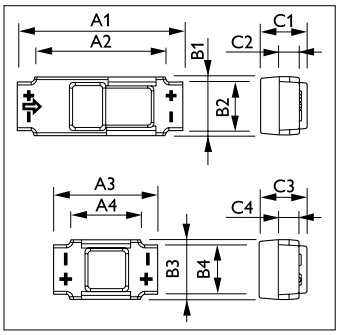
- Easy configuration and installation
- Outdoor-proof (IP66)
- Excellent light and colour uniformity in applications (e.g. coves)
- Energy consumption only below 3 W/m for substantial savings in operating costs
- High reliability and long lifetime of LED strings offer savings in maintenance costs
- Both the LED strings and drivers are maintenance-free for up to 50,000 hours
- Lumen maintenance 50% at 50,000 hours ($T_{ambient}$ 70°C)

Application

- Architectural and decorative lighting
  - Cove lighting, shelf lighting, stairs, etc.
- Sign lighting; channel letters and band lighting

Recommended driver page 5.80

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Top: dimensions LED driver device

Below: dimensions LED device

Type	A1Nom	A2Nom	A3Nom	A4Nom	B1Nom	B2Nom	B3Nom	B4Nom	C1Nom	C2Nom	C3Nom	C4Nom
Affinium LED string kit 2m/6m	42.6	34.6	26	18	15	12.5	15	12.5	12	5.2	10.9	5.2

Technical data

Type	Pitch Length (mm)	Wattage	T-ambient (°C)	T-case maximum (°C)
Affinium LED string kit amber/red	100	0.221	70	45
Affinium LED string kit blue/green	100	0.233	70	45
Affinium LED string kit 2m w3000/w6300	100	0.114	70	45

Light data

Type	Luminous Flux (lm) per device	Luminous Flux per meter	Colour Designation	Correlated Colour Temperature (K)	Wavelength Red	Wavelength Green	Wavelength Blue	Wavelength Amber	Beam Angle (°)
Affinium LED string kit 2m amber UNP	4.5	45	Amber 594	-	-	-	-	594	130
Affinium LED string kit 2m blue UNP	2.8	28	Blue 476	-	-	-	476	-	130
Affinium LED string kit 2m green UNP	6.3	63	Green 526	-	-	526	-	-	130
Affinium LED string kit 2m red UNP	7	70	Red 624	-	624	-	-	-	130
Affinium LED string kit 2m w3000 UNP	4.1	41	White 3000	3000	-	-	-	-	110
Affinium LED string kit 2m w6300 UNP	5.8	58	White 6300	6300	-	-	-	-	110

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711559
Affinium LED string kit 2m amber UNP	8711559764122	0.4 kg	10	61 cm x 23 cm x 22 cm	8711559764139	764122 30
Affinium LED string kit 2m blue UNP	8711559764146	0.4 kg	10	61 cm x 23 cm x 22 cm	8711559764153	764146 30
Affinium LED string kit 2m green UNP	8711559764160	0.4 kg	10	61 cm x 23 cm x 22 cm	8711559764177	764160 30
Affinium LED string kit 2m red UNP	8711559764108	0.4 kg	10	61 cm x 23 cm x 22 cm	8711559764115	764108 30
Affinium LED string kit 2m w3000 UNP	8711559764443	0.4 kg	10	61 cm x 23 cm x 22 cm	8711559764450	764443 30
Affinium LED string kit 2m w6300 UNP	8711559764184	0.4 kg	10	61 cm x 23 cm x 22 cm	8711559764191	764184 30
Affinium LED string kit 6m amber UNP	8711559764221	0.8 kg	5	56 cm x 23 cm x 22 cm	8711559764238	764221 30
Affinium LED string kit 6m blue UNP	8711559764245	0.8 kg	5	56 cm x 23 cm x 22 cm	8711559764252	764245 30
Affinium LED string kit 6m green UNP	8711559764269	0.8 kg	5	56 cm x 23 cm x 22 cm	8711559764276	764269 30
Affinium LED string kit 6m red UNP	8711559764207	0.8 kg	5	56 cm x 23 cm x 22 cm	8711559764214	764207 30
Affinium LED string kit 6m w3000 UNP	8711559764467	0.8 kg	5	56 cm x 23 cm x 22 cm	8711559764474	764467 30
Affinium LED string kit 6m w6300 UNP	8711559764283	0.8 kg	5	56 cm x 23 cm x 22 cm	8711559764290	764283 30



LED string generation 1

Product Description

- Complete system comprising a flexible line of wire-connected LEDs in combination with an Xitanium™LED driver

Product Features

- Broad light output angle of 130° for coloured versions and 110° for the white versions, ensuring uniform light distribution.
- Available in colours & white versions
- Can be mounted directly to virtually any backplate or substrate
- Instant starting, even at temperatures as low as -20°C
- Energy consumption below 3 W/m compared with 20 W/m for neon
- Fully outdoor-proof: IP66
- Operating ambient temperature range –20 to +70°C
- Packed on 20 m reel
- Mercury-free & Lead-free (RoHS compliant)

Product Benefits

- Flexible, water-resistant (IP66) and robust
- Ideal for new, energy-efficient outdoor signage, band-lighting and architectural applications
- Compact, slim dimensions and highly flexible geometry open up numerous new lighting design opportunities
- Easily optimised system brightness by selecting number of LEDs
- Energy savings of up to 80% compared with conventional sources
- Much higher brilliance than conventional filtered sources, e.g. fluorescent
- Extremely robust: nothing to crack, leak or rupture
- Low-voltage power supply (24 V) for safe installation and operation
- Almost maintenance-free for up to 50,000 hours with acceptable lumenmaintenance of 50% at $T_{ambient}$ 70°C

Application

- Signs, displays and band lighting
- Contour lighting around canopies, walkways and buildings
- Decorative applications such as cove lighting and wall-washing
- Internal and external orientation and directional lighting
- Traffic guidance lighting

System

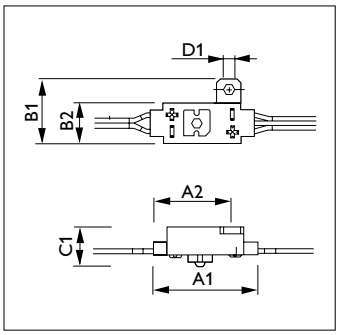
- Choice of Xitanium™LED drivers for indoor and outdoor use in a choice of system wattages

Environment

- Philips Green product product
- High energy efficiency; up to 80% savings compared with fluorescent and neon lighting
- RoHS compliant – mercury and lead free

Recommended driver page 5.80

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LED String device

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
LED String	31	22.5	21.5	12	12	3.3

Technical data

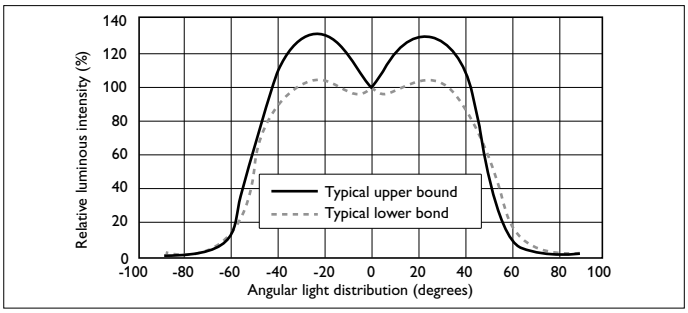
Type	Pitch Length (mm)	Wattage	T-ambient (°C)
LED String Amber 594 P10 0.35A UNP	100	0.221	70
LED String Blue 476 P10 0.35A UNP	100	0.233	70
LED String White 3000K P10 0.35A UNP	100	0.114	70

Light data

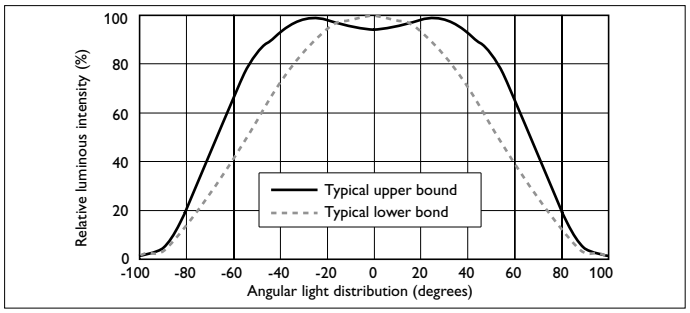
Type	Luminous Flux (lm) per device	Luminous Flux per meter	Colour Designation	Correlated Colour Temperature (K)	Beam Angle (°)
LED String Amber 594 P10 0.35A UNP	4.5	45	Amber 594	-	130
LED String Blue 476 P10 0.35A UNP	2.8	28	Blue 476	-	130
LED String Green 526 P10 0.35A UNP	6.3	63	Green 526	-	130
LED String Red 624 P10 0.35A UNP	7	70	Red 624	-	130
LED String White 3000K P10 0.35A UNP	5.0	50	White 3000K	3000	110
LED String White 6300K P10 0.35A UNP	5.8	58	White 6300K	6300	110

Ordering and packing data

Type	EAN code 1 reel/20 mtr	Weight	Qty bulk packing	Dimensions bulk packing	EAN code packing	EOC 8711559
LED String Amber 594 P10 0.35A UNP	8711559763835	1.4 kg	1	54 cm x 54 cm x 3.5 cm	8711559763842	763835 00
LED String Blue 476 P10 0.35A UNP	8711559763859	1.4 kg	1	54 cm x 54 cm x 3.5 cm	8711559763866	763859 00
LED String Green 526 P10 0.35A UNP	8711559763873	1.4 kg	1	54 cm x 54 cm x 3.5 cm	8711559763880	763873 00
LED String Red 624 P10 0.35A UNP	8711559763811	1.4 kg	1	54 cm x 54 cm x 3.5 cm	8711559763828	763811 00
LED String White 3000K P10 0.35A UNP	8711559766935	1.4 kg	1	54 cm x 54 cm x 3.5 cm	8711559766935	766935 00
LED String White 6300K P10 0.35A UNP	8711559763897	1.4 kg	1	54 cm x 54 cm x 3.5 cm	8711559763903	763897 00



Relative luminous flux vs off angle for LED string devices of colours and White



Relative luminous flux vs off angle for LED String White 6300K



Affinium LED string system

Product Description

- A range of installation accessories for Philips Affinium LED string low and medium power, such as connectors (with enclosed connector applicator), connector tool, extension cable, mounting clips and double-sided adhesive tape pads

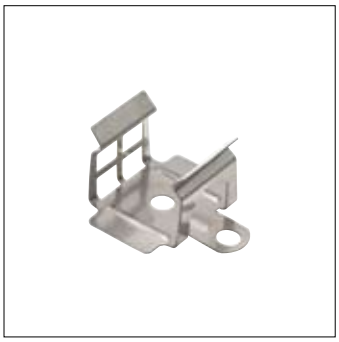
Product Features

- The connector applicator is enclosed in the packing of the connector Xtend
- Double-sided adhesive tape pads have been tested for use on stainless steel, aluminium and PMMA
- If adhesive tape pads are to be used on non-tested materials or coatings, compatibility with adhesive tape should be ensured
- Dedicated mounting clips can be used when adhesive tape pads do not provide sufficient adhesion
- If there is any doubt about the adhesive strength of the adhesive tape pads to the mounting surface, the dedicated mounting clips should be used instead
- Both the connector types (Xtend and End Cap) ensure a reliable IP66 rated connection of the LED String

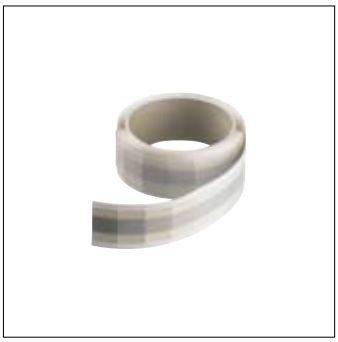
Environment

- RoHS compliant

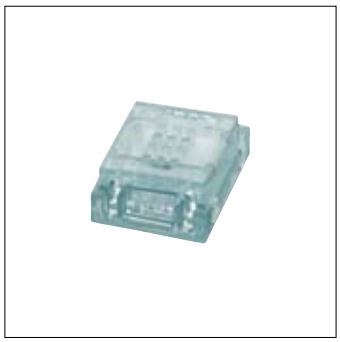
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LED string mounting clip



LED string (LS) mounting tape pads



LED string (LS) connector end cap



Connector Applicator (left) included in packing of LED connector xtend (right)



Connector tool for Affinium LED string



LED string (LS) extension cable 4 wires for Affinium LED string



LED string (LS) xtend

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711559
connector end cap UNP	8711559763996	4.8 gr	10	7.7 cm x 4.8 cm x 4.2 cm	8711559764009	763996 30
connector tool UNP	8711559765686	700 gr	1	29 cm x 25 cm x 10 cm	8711559765693	765686 00
connector xtend UNP	8711559763972	4.8 gr	10	7.7 cm x 4.8 cm x 4.2 cm	8711559764078	763972 30
extension cable 4-wire UNP	8711559763934	735 gr	1	18 cm x 18 cm x 1.5 cm	8711559764054	763934 00
mounting clip UNP	8711559763910	1.215 gr	200	10 cm x 10 cm x 10 cm	8711559763927	763910 30
mounting tape 1680 pads UNP	8711559764030	67 gr	1	25 cm x 25 cm x 2.5 cm	8711559764047	764030 00
mounting tape 210 pads UNP	8711559764016	75 gr	1	11 cm x 11 cm x 2.5 cm	8711559764023	764016 00



LED strip RGB (including colour changing adapter)

Product Description

- All-in-one kit for easy creation of customized LED solutions containing four LED strips, mains power adapter, connectors and fixing accessories

Product Features

- Choice of mono colours (red, green, blue, amber, cool white and warm white) or colour-changing strips
- Control unit included with colour-changing strips
- Low energy consumption (approximately 5 W per kit with mono colours and approximately 14 W per kit with colour-changing); far lower than conventional light sources
- Good luminance, uniformity and light output
- Long lifetime (10,000 hours for mono colours, 20,000 hours for white strips)
- Ideal for use in narrow spaces, e.g. where TL is not possible
- IP20 ingress protection (solid objects)
- Mercury-free

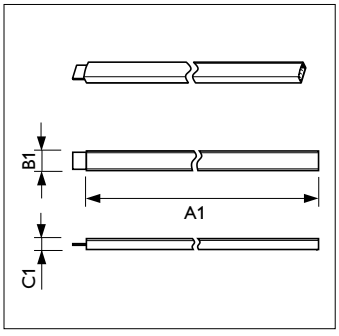
Product Benefits

- Complete LED solution
- Maximum design freedom for varied, creative applications
- Easy to install, no special application knowledge needed
- Simple fixing by tape or clips
- Very robust for easy, secure transport and installation

Application

- Suitable for indoor use
- Ideal for a wide range of creative decorative or architectural applications, e.g. built into furniture and displays, shelf lighting, wall washing etc.
- Can be used for orientation and guidance applications as well

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LED strip

Type	A1Min	A1Max	B1Nom	C1Nom
LED strip RGB	355	365	14.4	8
LED strip amber/blue/green/red/cool or warmwhite	300	310	10	10



LED strip amber, blue, green, red, cool white or warm white

Technical data

Type	Spacing between LEDs (mm)	Wattage	T-ambient (°C)
LED strip amber/blue/green/red/cool or warmwhite	25	0.8	45
LED strip RGB	30	2.6	45

Light data

Type	Colour Designation
LED strip amber UNP	Amber 590
LED strip blue UNP	Blue 467
LED strip green UNP	Green 525
LED strip red UNP	Red 630
LED strip RGB UNP	RGB
LED strip w3500 UNP	White 3500
LED strip w5000 UNP	White 5000

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
LED strip amber UNP	8727900550238	0.302 kg	20	38 cm x 36 cm x 38 cm	8727900550306	550238 05
LED strip blue UNP	8727900550207	0.302 kg	20	38 cm x 36 cm x 38 cm	8727900550276	550207 05
LED strip green UNP	8727900550214	0.302 kg	20	38 cm x 36 cm x 38 cm	8727900550283	550214 05
LED strip red UNP	8727900550221	0.302 kg	20	38 cm x 36 cm x 38 cm	8727900550290	550221 05
LED strip RGB UNP	8727900550252	0.354 kg	20	42 cm x 41 cm x 38 cm	8727900550320	550252 05
LED strip w3500 UNP	8727900550269	0.302 kg	20	38 cm x 36 cm x 38 cm	8727900550337	550269 05
LED strip w5000 UNP	8727900550245	0.302 kg	20	38 cm x 36 cm x 38 cm	8727900550313	550245 05



Intuos LED module system

Product Description

- Complete LED subsystem for integration in luminaires and other applications, consisting of LED modules, LED power drivers and control interfaces

Product Features

- LED modules contain LUXEON Power LEDs, optics, driver electronics, control functions and integrated heat sink to ensure reliable and highly efficient performance
- Choice of LED module shapes: 1 x 4 LEDs rectangular, 2 x 2 LEDs square or single 1 x 1 LED versions
- Choice of LED colours: red, blue, green, amber, cool white or warm white
- Colour consistency of LEDs of same type; each module type is made with LEDs from same colour bin
- Choice of 1W or 3W LED power ratings
- Lumen output calibrated to achieve maximum deviation of ±15%
- Choice of narrow, medium-wide or line beam optics
- LED power drivers transform mains supply to 24V DC to operate the LED modules
- Distances of up to 10 m possible between last modules and power supply/control interface using standard cable (0.5 mm^2)
- Integrated control functions for colour control and dimming
- Control interface for connection to external DALI or DMX control systems to create a range of dynamic lighting effects
- System package includes mechanical module connectors and cable connectors
- The LED modules are designed to be used as a subsystem requiring an application compliant housing in wet and outdoor applications

Product Benefits

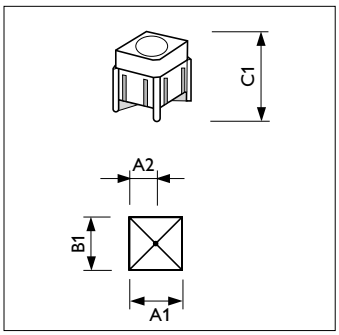
- Highly flexible modular system
- LED module blocks can be joined together in flexible 'Lego'-like arrays to produce creative lighting systems
- Highly saturated colours allow appealing colour effects
- Solid-state devices are vibration- and shock-resistant for high reliability
- UV- and IR-free beam allows safe use with light- and heat-sensitive products
- Long lifetime of 50.000 h for low maintenance costs
- Excellent lumen maintenance and very low early failure rate
- Integrated optics for optimum ease of use and rapid system development
- Low-voltage operation (20-24V DC) for safety and ease of use
- Optimum design freedom with remote location of power supply and control interface
- Cold-start capability down to -30°C for unrestricted use under low-temperature conditions

Applications

- Cove lighting in hotel lobbies and rooms, bar area
- Wall washing in shops, shopwindows and reception area's
- Spot lighting in showcases, product displays and artwork
- Integrated lighting in furniture
- Local general lighting in lifts, escalators, corridors and toilet area's

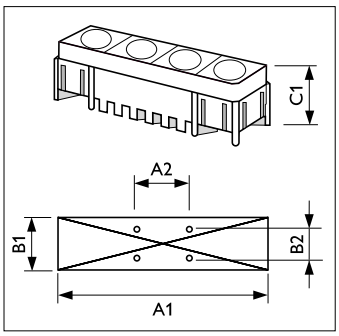
Recommended driver page 5.80
Recommended control interface page 5.38

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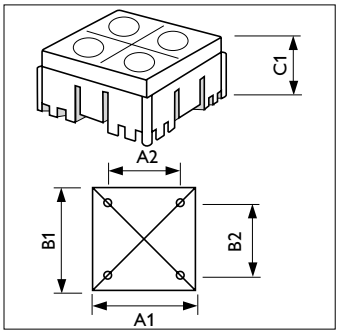
LMS - 1x1

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom
Intuos LMS 1x1 1W	35	17.5	35	-	35
Intuos LMS 1x1 3W	35	17.5	35	-	50



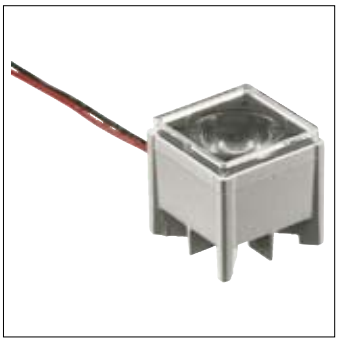
LMS - 1x4

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom
Intuos LMS 1x4 4W	140	42	35	20	35
Intuos LMS 1x4 12W	140	42	35	20	50

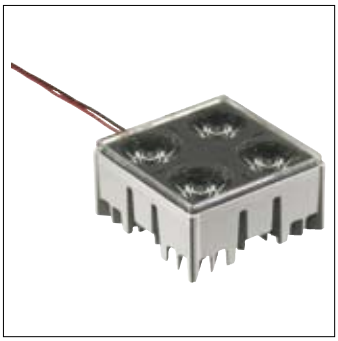


LMS - 2x2

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom
Intuos LMS 2x2 4W	70	40	70	40	35
Intuos LMS 2x2 12W	70	40	70	40	50



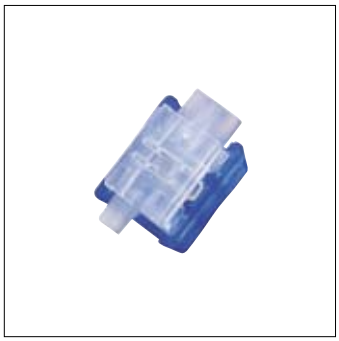
typical LED Module (1x1), optics differs per type



typical LED Module (2x2), optics differs per type



typical LED Module (1x4), optics differs per type



LMS Cable connector

Technical data

Type	Shape	Voltage	Wattage	Wattage Technical	T-ambient (°C)	T-case maximum (°C)
Intuos LMS 1x1 1W	1x1	20-24	1	1.5	-30	60
Intuos LMS 1x1 3W	1x1	20-24	3	3	-30	70
Intuos LMS 1x4 4W	1x4	20-24	4	4.5	-30	60
Intuos LMS 1x4 12W	1x4	20-24	12	12	-30	70
Intuos LMS 2x2 4W	2x2	20-24	4	4.5	-30	60
Intuos LMS 2x2 12W	2x2	20-24	12	12	-30	70

Light data

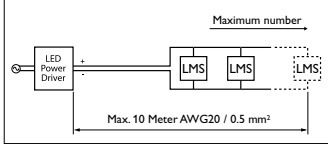
Type	Luminous Flux (lm) @ Tcase max	Colour Designation	Correlated Colour Temperature (K)	Wavelength Red	Wavelength Green	Wavelength Blue	Wavelength Amber
Intuos LMS 1x1 1W/767	22	Cool White	6700	-	-	-	-
Intuos LMS 1x1 1W/932	10	Warm White	3150	-	-	-	-
Intuos LMS 1x1 1W A/2x2 4W	-	Amber	-	-	-	-	592.0
Intuos LMS 1x1 1W B/2x2 4W/2x2 12W	-	Blue	-	-	-	470.0	-
Intuos LMS 1x1 1W G/2x2 4W/2x2 12W	-	Green	-	-	535.0	-	-
Intuos LMS 1x1 1W R/2x2 4W	-	Red	-	620.5	-	-	-
Intuos LMS 1x1 3W/763	33	Cool White	6300	-	-	-	-
Intuos LMS 1x4 4W/767/2x2 4W/767	88	Cool White	6700	-	-	-	-
Intuos LMS 1x4 4W/932/2x2 4W/932	40	Warm White	3150	-	-	-	-
Intuos LMS 1x4 4W RGBA 8Dx50	-	RGBA	-	620.5	535.0	470.0	592.0
Intuos LMS 1x4 12W/763/2x2 12W	130	Cool White	6300	-	-	-	-

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Intuos LMS 1x4 4W 20-24VDC RGBA 8Dx50	8711559761985	140 gr	5	32 cm x 22 cm x 7 cm	8711559761992	761985 30
Intuos LMS 1x1 1W 20-24VDC/767 36D UNP	8711559760247	40 gr	10	32 cm x 22 cm x 7 cm	8711559760254	760247 30
Intuos LMS 1x1 1W 20-24VDC/767 8D UNP	8711559760223	40 gr	10	32 cm x 22 cm x 7 cm	8711559760230	760223 30
Intuos LMS 1x1 1W 20-24VDC/767 8Dx50 UNP	8711559760261	40 gr	10	32 cm x 22 cm x 7 cm	8711559760278	760261 30
Intuos LMS 1x1 1W 20-24VDC/932 36D UNP	8711559760186	40 gr	10	32 cm x 22 cm x 7 cm	8711559760193	760186 30
Intuos LMS 1x1 1W 20-24VDC/932 8D UNP	8711559760124	40 gr	10	32 cm x 22 cm x 7 cm	8711559760131	760124 30
Intuos LMS 1x1 1W 20-24VDC/932 8Dx50 UNP	8711559760209	40 gr	10	32 cm x 22 cm x 7 cm	8711559760216	760209 30
Intuos LMS 1x1 1W 20-24VDC A 36D UNP	8711559760346	40 gr	10	32 cm x 22 cm x 7 cm	8711559760353	760346 30
Intuos LMS 1x1 1W 20-24VDC A 8D UNP	8711559760322	40 gr	10	32 cm x 22 cm x 7 cm	8711559760339	760322 30
Intuos LMS 1x1 1W 20-24VDC B 36D UNP	8711559760384	40 gr	10	32 cm x 22 cm x 7 cm	8711559760391	760384 30
Intuos LMS 1x1 1W 20-24VDC B 8D UNP	8711559760360	40 gr	10	32 cm x 22 cm x 7 cm	8711559760377	760360 30
Intuos LMS 1x1 1W 20-24VDC G 36D UNP	8711559760421	40 gr	10	32 cm x 22 cm x 7 cm	8711559760438	760421 30
Intuos LMS 1x1 1W 20-24VDC G 8D UNP	8711559760407	40 gr	10	32 cm x 22 cm x 7 cm	8711559760414	760407 30
Intuos LMS 1x1 1W 20-24VDC R 36D UNP	8711559760308	40 gr	10	32 cm x 22 cm x 7 cm	8711559760315	760308 30
Intuos LMS 1x1 1W 20-24VDC R 8D UNP	8711559760285	40 gr	10	32 cm x 22 cm x 7 cm	8711559760292	760285 30
Intuos LMS 1x1 3W 20-24VDC/763 36D UNP	8711559761169	55 gr	10	32 cm x 22 cm x 7 cm	8711559761176	761169 30
Intuos LMS 1x1 3W 20-24VDC/763 8D UNP	8711559761145	55 gr	10	32 cm x 22 cm x 7 cm	8711559761152	761145 30
Intuos LMS 1x1 3W 20-24VDC/763 8Dx50 UNP	8711559761183	55 gr	10	32 cm x 22 cm x 7 cm	8711559761190	761183 30
Intuos LMS 1x1 3W 20-24VDC B 36D UNP	8711559761220	55 gr	10	32 cm x 22 cm x 7 cm	8711559761237	761220 30
Intuos LMS 1x1 3W 20-24VDC B 8D UNP	8711559761206	55 gr	10	32 cm x 22 cm x 7 cm	8711559761213	761206 30
Intuos LMS 1x1 3W 20-24VDC G 36D UNP	8711559761268	55 gr	10	32 cm x 22 cm x 7 cm	8711559761275	761268 30
Intuos LMS 1x1 3W 20-24VDC G 8D UNP	8711559761244	55 gr	10	32 cm x 22 cm x 7 cm	8711559761251	761244 30

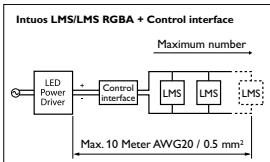
Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Intuos LMS 1x4 4W 20-24VDC/767 36D UNP	8711559760803	140 gr	5	32 cm x 22 cm x 7 cm	8711559760810	760803 30
Intuos LMS 1x4 4W 20-24VDC/767 8D UNP	8711559760780	140 gr	5	32 cm x 22 cm x 7 cm	8711559760797	760780 30
Intuos LMS 1x4 4W 20-24VDC/767 8Dx50	8711559760827	140 gr	5	32 cm x 22 cm x 7 cm	8711559760834	760827 30
Intuos LMS 1x4 4W 20-24VDC/932 36D UNP	8711559760742	140 gr	5	32 cm x 22 cm x 7 cm	8711559760759	760742 30
Intuos LMS 1x4 4W 20-24VDC/932 8D UNP	8711559760728	140 gr	5	32 cm x 22 cm x 7 cm	8711559760735	760728 30
Intuos LMS 1x4 4W 20-24VDC/932 8Dx50	8711559760766	140 gr	5	32 cm x 22 cm x 7 cm	8711559760773	760766 30
Intuos LMS 1x4 4W 20-24VDC A 36D UNP	8711559760902	140 gr	5	32 cm x 22 cm x 7 cm	8711559760919	760902 30
Intuos LMS 1x4 4W 20-24VDC A 8D UNP	8711559760889	140 gr	5	32 cm x 22 cm x 7 cm	8711559760896	760889 30
Intuos LMS 1x4 4W 20-24VDC B 36D UNP	8711559760940	140 gr	5	32 cm x 22 cm x 7 cm	8711559760957	760940 30
Intuos LMS 1x4 4W 20-24VDC B 8D UNP	8711559760926	140 gr	5	32 cm x 22 cm x 7 cm	8711559760933	760926 30
Intuos LMS 1x4 4W 20-24VDC G 36D UNP	8711559760988	140 gr	5	32 cm x 22 cm x 7 cm	8711559760995	760988 30
Intuos LMS 1x4 4W 20-24VDC G 8D UNP	8711559760964	140 gr	5	32 cm x 22 cm x 7 cm	8711559760971	760964 30
Intuos LMS 1x4 4W 20-24VDC R 36D UNP	8711559760865	140 gr	5	32 cm x 22 cm x 7 cm	8711559760872	760865 30
Intuos LMS 1x4 4W 20-24VDC R 8D UNP	8711559760841	140 gr	5	32 cm x 22 cm x 7 cm	8711559760858	760841 30
Intuos LMS 1x4 12W 20-24VDC/763 36D UNP	8711559761022	185 gr	5	32 cm x 22 cm x 7 cm	8711559761039	761022 30
Intuos LMS 1x4 12W 20-24VDC/763 8D UNP	8711559761008	185 gr	5	32 cm x 22 cm x 7 cm	8711559761015	761008 30
Intuos LMS 1x4 12W 20-24VDC/763 8Dx50	8711559761046	185 gr	5	32 cm x 22 cm x 7 cm	8711559761053	761046 30
Intuos LMS 1x4 12W 20-24VDC B 36D UNP	8711559761084	185 gr	5	32 cm x 22 cm x 7 cm	8711559761091	761084 30
Intuos LMS 1x4 12W 20-24VDC B 8D UNP	8711559761060	185 gr	5	32 cm x 22 cm x 7 cm	8711559761077	761060 30
Intuos LMS 1x4 12W 20-24VDC G 36D UNP	8711559761121	185 gr	5	32 cm x 22 cm x 7 cm	8711559761138	761121 30
Intuos LMS 1x4 12W 20-24VDC G 8D UNP	8711559761107	185 gr	5	32 cm x 22 cm x 7 cm	8711559761114	761107 30
Intuos LMS 2x2 4W 20-24VDC/767 36D UNP	8711559760520	145 gr	5	39 cm x 15 cm x 9 cm	8711559760537	760520 30
Intuos LMS 2x2 4W 20-24VDC/767 8D UNP	8711559760506	145 gr	5	39 cm x 15 cm x 9 cm	8711559760513	760506 30
Intuos LMS 2x2 4W 20-24VDC/932 36D UNP	8711559760469	145 gr	5	39 cm x 15 cm x 9 cm	8711559760476	760469 30
Intuos LMS 2x2 4W 20-24VDC/932 8D UNP	8711559760445	145 gr	5	39 cm x 15 cm x 9 cm	8711559760452	760445 30
Intuos LMS 2x2 4W 20-24VDC A 36D UNP	8711559760629	145 gr	5	39 cm x 15 cm x 9 cm	8711559760636	760629 30
Intuos LMS 2x2 4W 20-24VDC A 8D UNP	8711559760605	145 gr	5	39 cm x 15 cm x 9 cm	8711559760612	760605 30
Intuos LMS 2x2 4W 20-24VDC B 36D UNP	8711559760667	145 gr	5	39 cm x 15 cm x 9 cm	8711559760674	760667 30
Intuos LMS 2x2 4W 20-24VDC B 8D UNP	8711559760643	145 gr	5	39 cm x 15 cm x 9 cm	8711559760650	760643 30
Intuos LMS 2x2 4W 20-24VDC G 36D UNP	8711559760704	145 gr	5	39 cm x 15 cm x 9 cm	8711559760711	760704 30
Intuos LMS 2x2 4W 20-24VDC G 8D UNP	8711559760681	145 gr	5	39 cm x 15 cm x 9 cm	8711559760698	760681 30
Intuos LMS 2x2 4W 20-24VDC R 36D UNP	8711559760582	145 gr	5	39 cm x 15 cm x 9 cm	8711559760599	760582 30
Intuos LMS 2x2 4W 20-24VDC R 8D UNP	8711559760568	145 gr	5	39 cm x 15 cm x 9 cm	8711559760575	760568 30
Intuos LMS 2x2 12W 20-24VDC/763 36D UNP	8711559761305	190 gr	5	39 cm x 15 cm x 9 cm	8711559761312	761305 30
Intuos LMS 2x2 12W 20-24VDC/763 8D UNP	8711559761282	190 gr	5	39 cm x 15 cm x 9 cm	8711559761299	761282 30
Intuos LMS 2x2 12W 20-24VDC B 36D UNP	8711559761367	190 gr	5	39 cm x 15 cm x 9 cm	8711559761374	761367 30
Intuos LMS 2x2 12W 20-24VDC B 8D UNP	8711559761343	190 gr	5	39 cm x 15 cm x 9 cm	8711559761350	761343 30
Intuos LMS 2x2 12W 20-24VDC G 36D UNP	8711559761404	190 gr	5	39 cm x 15 cm x 9 cm	8711559761411	761404 30
Intuos LMS 2x2 12W 20-24VDC G 8D UNP	8711559761381	190 gr	5	39 cm x 15 cm x 9 cm	8711559761398	761381 30
Intuos LMS Cable Connector UNP	8711559761824	1 gr	100	10 cm x 10 cm x 10 cm	8711559761831	761824 30
Intuos LMS Module Connector UNP	8711559761800	2 gr	100	10 cm x 10 cm x 10 cm	8711559761817	761800 30



LED power driver	LMS 1W	LMS 4W	LMS 3W	LMS 12W
20 W	9	3	4	1
60 W	30	10	15	3
100 W	54	18	27	6
	Maximum number of connectable LMS			

LMS - 20-24VDC



LED power driver	Control interface 36 W	LMS 1W	LMS 4W	LMS 3W	LMS 12W
20 W	1	9	3	4	1
60 W	1	20	6	10	2
	2	30*	10*	15*	3*
100 W	1	20	6	10	2
	2	32*	10*	16*	4*
	3	30*	10*	15*	3*
		Maximum number of connectable LMS			

* LMS should be evenly divided over the control interfaces

Note: Not valid for LMS on/off



Intuos LED modules on/off

Product Description

- Part of a complete LED subsystem for integration in luminaires and other applications. The system consists of LED modules with basic on/off functionality and LED power drivers

Product Features

- LED modules contain LUXEON LEDs, optics, driver electronics and integrated heat sink to ensure reliable and highly efficient performance
- Choice of LED module shapes: 1 x 4 LEDs rectangular, 2 x 2 LEDs square or single 1 x 1 LED versions
- Choice of LED colours: red, blue, green, amber, cool white or warm white
- Colour consistency of LEDs of same type; each module type is made with LEDs from same colour bin
- Choice of 1W or 3W LED power ratings
- Distances of up to 10 m possible between last modules and power supply/control interface using standard cable (0.5 mm^2)
- System package includes mechanical module connectors and cable connectors
- The LED modules are designed to be used as a subsystem requiring an application compliant housing in wet and outdoor applications

Product Benefits

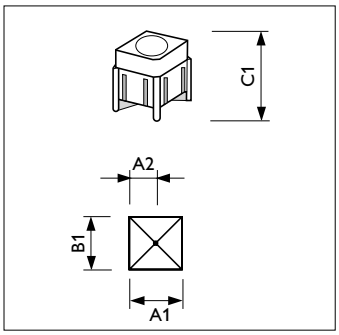
- Highly flexible modular system with virtually unlimited freedom of configuration
- LED module blocks can be joined together in flexible 'Lego'-like arrays to produce creative lighting systems
- Highly saturated colours allow appealing colour effects
- Solid-state devices are vibration- and shock-resistant for high reliability
- UV- and IR-free beam allows safe use with light- and heat-sensitive products
- Long lifetime of 50,000 h for low maintenance costs
- Excellent lumen maintenance and very low early failure rate
- Integrated optics for optimum ease of use and rapid system development
- Low-voltage operation (24V DC) for safety and ease of use
- Optimum design freedom with remote location of power supply
- Cold-start capability down to -30°C for unrestricted use under low-temperature conditions

Applications

- Cove lighting in hotel lobbies and rooms, bar area
- Wall washing in shops, shopwindows and reception area's
- Spot lighting in showcases, product displays and artwork
- Integrated lighting in furniture
- Local general lighting in lifts, escalators, corridors and toilet area's

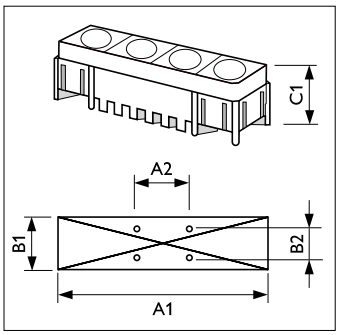
Recommended driver page 5.80

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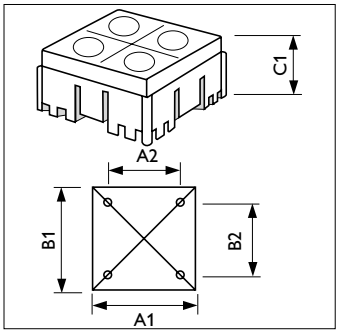
LMS - 1x1

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom
Intuos LMS 1x1 1W	35	17.5	35	-	35
Intuos LMS 1x1 3W	35	17.5	35	-	50



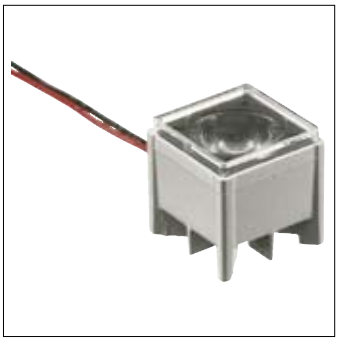
LMS - 1x4

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom
Intuos LMS 1x4 4W	140	42	35	20	35
Intuos LMS 1x4 12W	140	42	35	20	50

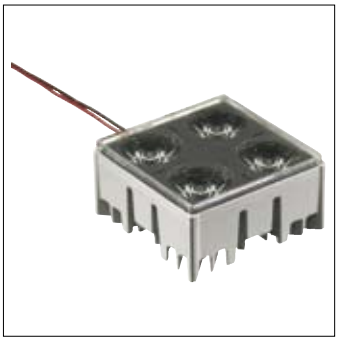


LMS - 2x2

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom
Intuos LMS 2x2 4W	70	40	70	40	35
Intuos LMS 2x2 12W	70	40	70	40	50



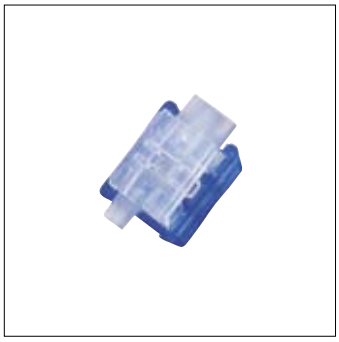
typical LED Module (1x1), optics differs per type



typical LED Module (2x2), optics differs per type



typical LED Module (1x4), optics differs per type



LMS Cable connector

Technical data

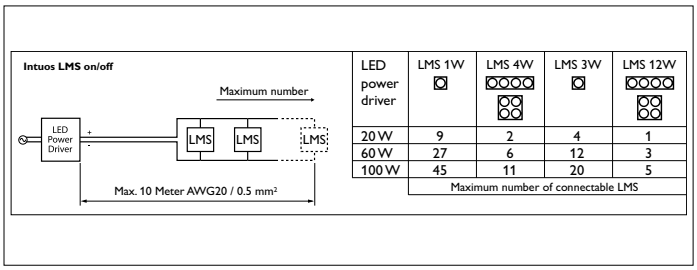
Type	Shape	Voltage	Wattage	Wattage Technical	T-ambient (°C)	T-case maximum (°C)
Intuos LMS 1x1 1W	1x1	24	1	1.8	-30	60
Intuos LMS 1x1 3W	1x1	24	3	4.0	-30	70
Intuos LMS 1x4 4W	1x4	24	4	7.3	-30	60
Intuos LMS 1x4 12W	1x4	24	12	16.0	-30	70
Intuos LMS 2x2 4W	2x2	24	4	7.3	-30	60
Intuos LMS 2x2 12W	2x2	24	12	16.0	-30	70

Light data

Type	Luminous Flux (lm) @ Tcase max	Colour Designation	Correlated Colour Temperature (K)	Wavelength Red	Wavelength Green	Wavelength Blue	Wavelength Amber
Intuos LMS 1x1 1W/763	21	Cool White	6300	-	-	-	-
Intuos LMS 1x1 1W A	-	Amber	-	-	-	-	592.0
Intuos LMS 1x1 1W B	-	Blue	-	-	-	475.0	-
Intuos LMS 1x1 1W G	-	Green	-	-	535.0	-	-
Intuos LMS 1x1 1W R	-	Red	-	620.5	-	-	-
Intuos LMS 1x1 3W/763	32	Cool White	6300	-	-	-	-
Intuos LMS 1x4 4W/763	88	Cool White	6300	-	-	-	-
Intuos LMS 1x4 12W/763/2x2 4W/763	130	Cool White	6300	-	-	-	-
Intuos LMS 2x2 4W/763/2x2 12W/763	40	Warm White	3150	-	-	-	-

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711559
Intuos LMS 1x1 1W 24VDC/763 36D on/off UNP	8711559762395	0.05 kg	10	32 cm x 22 cm x 7 cm	8711559762401	762395 30
Intuos LMS 1x1 1W 24VDC/763 8D on/off UNP	8711559762371	0.05 kg	10	32 cm x 22 cm x 7 cm	8711559762388	762371 30
Intuos LMS 1x1 1W 24VDC A 8D on/off UNP	8711559762432	0.05 kg	10	32 cm x 22 cm x 7 cm	8711559762449	762432 30
Intuos LMS 1x1 1W 24VDC B 8D on/off UNP	8711559762456	0.05 kg	10	32 cm x 22 cm x 7 cm	8711559762463	762456 30
Intuos LMS 1x1 1W 24VDC G 8D on/off UNP	8711559762470	0.05 kg	10	32 cm x 22 cm x 7 cm	8711559762487	762470 30
Intuos LMS 1x1 1W 24VDC R 8D on/off UNP	8711559762418	0.05 kg	10	32 cm x 22 cm x 7 cm	8711559762425	762418 30
Intuos LMS 1x1 3W 24VDC/763 36D on/off UNP	8711559762531	0.065 kg	10	32 cm x 22 cm x 7 cm	8711559762548	762531 30
Intuos LMS 1x1 3W 24VDC/763 8D on/off UNP	8711559762517	0.065 kg	10	32 cm x 22 cm x 7 cm	8711559762524	762517 30
Intuos LMS 1x4 4W 24VDC/763 8Dx50 on/off	8711559762616	0.16 kg	5	32 cm x 22 cm x 7 cm	8711559762623	762616 30
Intuos LMS 1x4 4W 24VDC A 8Dx50 on/off UNP	8711559762678	0.16 kg	5	32 cm x 22 cm x 7 cm	8711559762685	762678 30
Intuos LMS 1x4 4W 24VDC B 8Dx50 on/off UNP	8711559762692	0.16 kg	5	32 cm x 22 cm x 7 cm	8711559762708	762692 30
Intuos LMS 1x4 4W 24VDC G 8Dx50 on/off UNP	8711559762715	0.16 kg	5	32 cm x 22 cm x 7 cm	8711559762722	762715 30
Intuos LMS 1x4 4W 24VDC R 8Dx50 on/off UNP	8711559762654	0.16 kg	5	32 cm x 22 cm x 7 cm	8711559762661	762654 30
Intuos LMS 1x4 12W 24VDC/763 8Dx50 on/off	8711559762739	0.19 kg	5	32 cm x 22 cm x 7 cm	8711559762746	762739 30
Intuos LMS 2x2 4W 24VDC/763 36D on/off UNP	8711559762579	0.16 kg	5	39 cm x 15 cm x 9 cm	8711559762586	762579 30
Intuos LMS 2x2 4W 24VDC/932 36D on/off UNP	8711559762555	0.16 kg	5	39 cm x 15 cm x 9 cm	8711559762562	762555 30
Intuos LMS 2x2 12W 24VDC/763 36D on/off UNP	8711559762593	0.21 kg	5	39 cm x 15 cm x 9 cm	8711559762609	762593 30
Intuos LMS Cable Connector UNP	8711559761824	1 gr	100	10 cm x 10 cm x 10 cm	8711559761831	761824 30
Intuos LMS Module Connector UNP	8711559761800	2 gr	100	10 cm x 10 cm x 10 cm	8711559761817	761800 30



LED power driver	LMS 1W	LMS 4W	LMS 3W	LMS 12W
20 W	9	2	4	1
60 W	27	6	12	3
100 W	45	11	20	5
	Maximum number of connectable LMS			

LMS - 24VDC





CI 36W DALI/DMX

Product Description

- Control interface for use with LMS LED modules to enable dynamic lighting applications, e.g. dimming and dynamic colour control

Products Features

- Converts a standard DALI or DMX signal into a control signal for the LED modules; this signal is added to the low-voltage power line and sent to the LED modules
- Auto detection of DALI or DMX control signals
- Must be used in series with a stable 24V DC power supply (Philips LED power driver recommended)
- Push-in connectors
- Two wire connection to LED modules

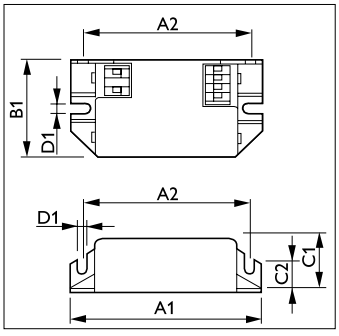
Product Benefits

- Compatible with external control systems on basis of DALI and DMX
- Easy wiring

Applications

- Dimming and dynamic colour applications with LMS LED modules in decorative and architectural lighting

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CI 36W DALI/DMX

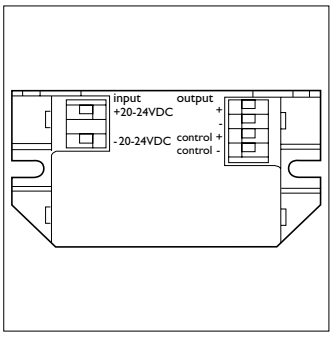
Type	A1Nom	A2Nom	B1Nom	C1Nom	C2Nom	D1Nom
Intuos CI 36W 20-24VDC DALI/DMX UNP	80	70	40	22	10	4.4

Technical data

Type	Voltage	Wattage	Wattage Technical	T-ambient (°C)	T-case maximum (°C)
Intuos CI 36W 20-24VDC DALI/DMX UNP	20-24	36	2.5	-30	60

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711559
Intuos CI 36W 20-24VDC DALI/DMX UNP	8711559761787	150 gr	5	10 cm x 10 cm x 10 cm	8711559761794	761787 30



CI 36W DALI/DMX



LPM - 15W 6300K 570mm(22.4")/6300K 570mm(22.4") 200

Product Description

- The Affinium LED posterbox module is a substitute for fluorescent lamps in all rectangular illuminated advertisements, signs or displays
- There are two ranges:
  - 1. Affinium LED posterbox module (standard): available in two 305 mm modules with two or three LEDs or two 570 mm modules with three or five LEDs
  - 2. Affinium LED posterbox module 200: the 200 range gives twice as much light as the standard range, and is available in 305 mm length with three LEDs or 570 mm length with five LEDs
  - The different dimensions simplify fitting the modules into box signs of various sizes

Product Features

- Provide ideal illumination for consistent high-quality images in box signs without the 'zebra' stripes often seen with traditional fluorescent lighting
- Cool white colour temperature of around 6300 K
- Elliptical beam mixes the light, creating an indirect lighting effect
- Aluminium profiles wash light across the display using new Philips technology (patent pending) that makes optimal use of the light by recycling it in the box
- Robust for safe, easy transport
- Suitable for dry and damp locations, both outdoor and indoor (IP4x), moisture-protected in accordance with damp-heat (EN 60068-2-78) and salt-mist (EN 60068-2-11 Ka) tests
- Easy to fit inside a box sign or display with screws or tape
- Instant starting, even at temperatures as low as -20°C
- Operating ambient temperature range –20 to +60°C
- Less light spill through LED technology
- LED Power Drivers have slim dimensions and copper-core insulated wires for easy connection
- Module lifetime rated at 50,000 hrs (50% lumen maintenance)

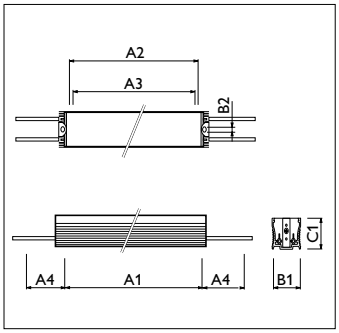
Product Benefits

- Quick and easy to install by using various combinations of modules with a Philips LED Power Driver
- High efficiency of LED lighting so displays use much less energy or can be left switched on for longer
- Robust for safe, easy transport
- Benefits for signmakers:
  - Easy, trouble-free installation and maintenance
  - High reliability
  - No more flickering or partially illuminated displays
  - No more complex, custom-made fluorescent backlights
  - Uniform light with no more 'zebra' stripes across display boxes and facade signs
  - Long life for extremely low maintenance
  - Energy-efficient solution compared with traditional fluorescent lamps
  - Four variations are easy to fit in box signs of various sizes

- Quality and cost savings for signmakers' customers:
  - Consistent branding across outlets
  - Creates perfect images – uniform and bright light with no 'zebra' effect
  - Clear messaging with optimal readability to attract attention
  - High reliability and long lifetime offer savings in maintenance costs
  - Lower energy consumption than conventional lamps for substantial savings
  - Both modules and drivers are maintenance-free for up to 50,000 hours (conventional systems often need replacing after just 20,000 hours)
  - Lumen maintenance 50% at 50,000 hours ($T_{ambient}$ 60°C)
- Guaranteed performance and service based on proven system reliability:
  - Philips Affinium LED posterbox module and driver have a three-year guarantee
  - Instant light thanks to LED technology
  - Suitable for dry and damp locations, both outdoor and indoor use
  - Excellent heat management

Application

- Philips Affinium LED posterbox module (LPM) can be directly substituted for fluorescent lamps in all rectangular illuminated advertisements, signs or displays, to give all signs in all outlets uniform, exceptional quality



System

- Philips Affinium LED posterbox module comes in two ranges:
  - 1. Affinium LED posterbox module (standard):
    One 305 mm module with two LEDs
    One 305 mm module with three LEDs
    One 507 mm module with three LEDs
    One 507 mm module with five LEDs´
  - 2. Affinium LED posterbox module 200:
    One 305 mm module with three LEDs
    One 507 mm module with five LEDs
    The 200 range gives twice as much light as the standard range
- Choice of 20 W, 60 W or 100 W LED power drivers and various accessories for fast, reliable installation

Environment

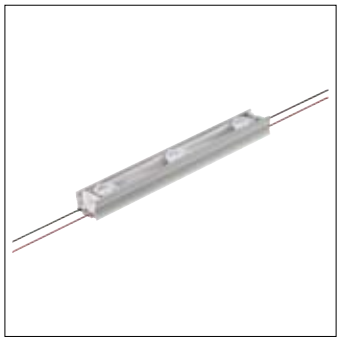
- Philips Green product
- High energy efficiency; in general 50% savings compared with fluorescent lighting
- RoHS compliant – mercury and lead free

Recommended driver page 5.80
Recommended accessories page 5.44

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www.philips.com/signage

Type	A1Nom	A2Nom	A3Nom	A4Nom	B1Nom	B2Nom	C1Nom
Affinium LED posterbox modules 6W 6300K 305mm UNP	309	296	283	150	36	4.5	27
Affinium LED posterbox modules 9W 6300K 570mm UNP	572.5	559.5	547	150	36	4.5	27


LPM - 6W 6300K 305mm(12")


LPM - 9W 6300K 305mm(12")/6300K


LPM - 9W 6300K 570mm(22.4")


LPM - 15W 6300K 570mm(22.4")/

Technical data

Type	Spacing between LEDs (mm)	Wattage	Wattage Technical	T-ambient (°C)	T-case maximum (°C)	Average Lifetime (hrs)
Affinium LED posterbox modules 6W 6300K 305mm	240	6	8	-20/60	75	50000
Affinium LED posterbox modules 9W 6300K 305mm	120	9	12	-20/60	75	50000
Affinium LED posterbox modules 9W 6300K 570mm	240	9	12	-20/60	75	50000
Affinium LED posterbox modules 15W 6300K 570mm	120	15	20	-20/60	75	50000
Affinium LED posterbox modules 9W 6300K 305mm 200	120	9	12	-20/60	75	50000
Affinium LED posterbox modules 15W 6300K 570mm 200	120	15	20	-20/60	75	50000

Light data

Type	Luminous FLux	Luminous Intensity (cd)	Colour Designation	Correlated Colour Temperature (K)
Affinium LED posterbox modules 6W 6300K 305mm	100	250	White 6300K	6300
Affinium LED posterbox modules 9W 6300K 305mm	150	250	White 6300K	6300
Affinium LED posterbox modules 15W 6300K 570mm	250	250	White 6300K	6300
Affinium LED posterbox modules 9W 6300K 305mm 200	270	450	White 6300K	6300
Affinium LED posterbox modules 15W 6300K 570mm 200	450	450	White 6300K	6300

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EOC 8711559
Affinium LED posterbox modules 6W 6300K 305mm UNP	8711559765501	0.238 kg	10	34 cm x 23 cm x 8.5 cm	765501 30
Affinium LED posterbox modules 9W 6300K 305mm UNP	8711559765488	0.238 kg	10	34 cm x 23 cm x 8.5 cm	765488 30
Affinium LED posterbox modules 9W 6300K 570mm UNP	8711559765549	0.413 kg	10	60.5 cm x 23 cm x 8.5 cm	765549 30
Affinium LED posterbox modules 15W 6300K 570mm UNP	8711559765525	0.413 kg	10	60.5 cm x 23 cm x 8.5 cm	765525 30
Affinium LED posterbox modules 9W 6300K 305mm	8711559766942	0.238 kg	10	34 cm x 23 cm x 8.5 cm	766942 30
Affinium LED posterbox modules 15W 6300K 570mm	8711559766966	0.413 kg	10	60.5 cm x 23 cm x 8.5 cm	766966 30

Maximum number of modules to be connected to a LED Power Driver

LED Power Driver	LPM 6W 305mm	LPM 9W 305mm	LPM 9W 570mm	LPM 15W 570mm
20W	3	2	2	1
60W	10	6	6	4
100W	15	10	10	6


Scarabee
sports outdoor



Product Description

- Range of installation accessories for Affinium LED posterbox modules, including connectors, a connector tool and mounting tape

Product Features

- LMP connectors and connector tool enable a solid, reliable connection between the posterbox modules and the driver
- Mounting tape tested on stainless steel, aluminium and PMMA (testing recommended before use on other materials or coatings; if in doubt, use of screws is recommended)
- 3M tissues and VHB™cleaner recommended for cleaning the box sign, modules and driver if LPM mounting tape is used
- For USA and Canada, a special 3M 314 connector can be used to comply with UL and CSA approvals

Product Benefits

- Quick, easy installation
- Solid and reliable connections

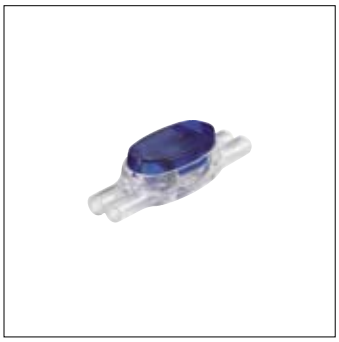
Application

- Box signs meeting IP23 or higher

Environment

- RoHS compliant

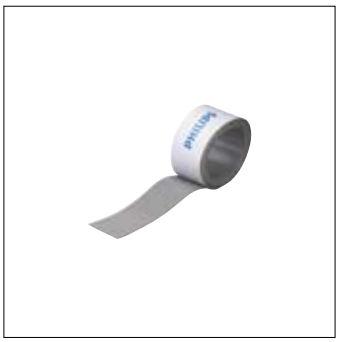
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www.philips.com/signage



LPM connector



LPM connector tool



LPM mounting tape 3m

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711559
LPM connector UNP	8711559 765563	7 gr	15	12 cm x 4 cm x 6 cm	8711559 765570	765563 30
LPM connector tool UNP	8711559 765587	0.25 kg	1	25.4 cm x 15.2 cm x 3.8 cm	8711559 765594	765587 00
LPM mounting tape UNP	8711559 765600	91 gr	1	11.2 cm x 2.6 cm x 11.2 cm	8711559 765617	765600 00





Affinium LED freezer module LFM 200 center

Product Description

- Affinium LED freezer modules for replacement of traditional tubular fluorescent lamps in full-height glass-door freezer cabinets. Mounting sets and the Philips 100 W LED power driver to complete the lighting system are available separately

Product Features

- Available in 1500 mm and 1700 mm lengths with cool white or neutral white colour temperatures
- Each length and lighting level is available in three versions:
  - a center module
  - a side 1 module
  - a side 2 module
  - The side 1 or 2 modules can be placed on either side of the freezer, depending on whether the wire of the module is connected to the driver at the top or bottom of the freezer
- Low energy consumption: up to 70% less than traditional fluorescent lighting
- Excellent performance at very low temperatures: immediate illumination after switch-on at temperatures down to -25°C
- Ideal for high-quality display lighting without flickering, colour differences or non-functioning units as with traditional fluorescent lighting
- Guaranteed performance and proven system reliability: three-year Philips system guarantee
- Module lifetime rated at 50,000 h (70% lumen maintenance)
- Black module housing
- Operating temperature –25 to +10°C
- Safety temperature –30 to +30°C
- Storage temperature –30 to +60°C

Product Benefits

- Give retailers an excellent total cost of ownership with attractive payback times for freezer lighting:
  - up to 70% energy savings
  - 90% reduction in lamp replacements
- Greatly improved visual impression of both the merchandise on display and the entire freezer
- Unique optical system reduces glare by preventing direct visibility of LED light source
- Significantly improved sustainability thanks to lower energy consumption, reduced waste, and elimination of hazardous substances, such as mercury and lead
- Quick and easy to install: complete system with LED module, mounting set and 100 W LED power driver
- Safety Extra Low Voltage (SELV) operation ensures safety even if wiring or units are damaged (provided an SELV-rated power supply is used)

Application

- Designed to replace traditional tubular fluorescent lamps in vertical full-height glass-door freezer cabinets

Recommended driver page 5.80
Recommended accessories page 5.56

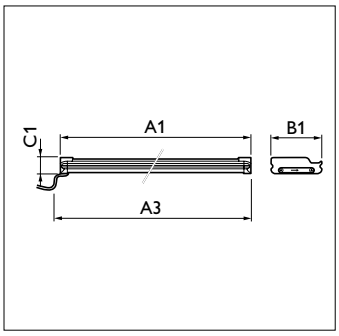
System

- Complete system includes Philips LFM 200 Affinium LED freezer modules, mounting sets and 100 W LED power driver

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www.philips.com/ledrefrigeration

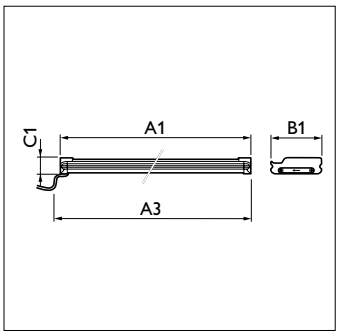
Environment

- Philips Green product
- High energy efficiency; up to 70% savings compared with fluorescent lighting
- RoHS compliant – mercury and lead free



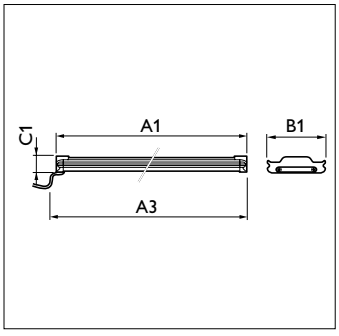
side 1 modules

Type	A1Nom	A3Nom	B1Nom	C1Nom
Affinium LFM200 1500mm side 1	1500	1510	49	24
Affinium LFM200 1700mm side 1	1700	1710	49	24



side 2 modules

Type	A1Nom	A3Nom	B1Nom	C1Nom
Affinium LFM200 1500mm side 2	1500	1510	49	24
Affinium LFM200 1700mm side 2	1700	1710	49	24



center modules

Type	A1Nom	A3Nom	B1Nom	C1Nom
Affinium LFM200 1500mm center	1500	1510	56	24
Affinium LFM200 1700mm center	1700	1710	56	24


LFM 200 center module


LFM 200 side 1 module


LFM 200 side 2 module

Light data

Type	Colour Designation	Correlated Colour Temperature (K)	Colour Rendering Index (RA)
Affinium LFM200 CW	Cool White	5650	70
Affinium LFM200 NW	Neutral White	4200	65

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711559
Affinium LFM200 1500mm center 20W CW UNP	1.3 kg	1	155 cm x 7.5 cm x 4 cm	8711559766263	766263 00
Affinium LFM200 1500mm side 1 12W CW UNP	1.2 kg	1	155 cm x 7.5 cm x 4 cm	8711559766287	766287 00
Affinium LFM200 1500mm side 2 12W CW UNP	1.2 kg	1	155 cm x 7.5 cm x 4 cm	8711559766300	766300 00
Affinium LFM200 1500mm center 25W CW UNP	1.3 kg	1	155 cm x 7.5 cm x 4 cm	8711559765808	765808 00
Affinium LFM200 1500mm side 1 15W CW UNP	1.2 kg	1	155 cm x 7.5 cm x 4 cm	8711559765822	765822 00
Affinium LFM200 1500mm side 2 15W CW UNP	1.2 kg	1	155 cm x 7.5 cm x 4 cm	8711559765846	765846 00
Affinium LFM200 1500mm center 20W NW UNP	1.3 kg	1	155 cm x 7.5 cm x 4 cm	8711559766324	766324 00
Affinium LFM200 1500mm side 1 12W NW UNP	1.2 kg	1	155 cm x 7.5 cm x 4 cm	8711559766348	766348 00
Affinium LFM200 1500mm side 2 12W NW UNP	1.2 kg	1	155 cm x 7.5 cm x 4 cm	8711559766362	766362 00
Affinium LFM200 1500mm center 25W NW UNP	1.3 kg	1	155 cm x 7.5 cm x 4 cm	8711559766201	766201 00
Affinium LFM200 1500mm side 1 15W NW UNP	1.2 kg	1	155 cm x 7.5 cm x 4 cm	8711559766225	766225 00
Affinium LFM200 1500mm side 2 15W NW UNP	1.2 kg	1	155 cm x 7.5 cm x 4 cm	8711559766249	766249 00
Affinium LFM200 1700mm center 25W CW UNP	1.5 kg	1	175 cm x 7.5 cm x 4 cm	8711559766447	766447 00
Affinium LFM200 1700mm side 1 15W CW UNP	1.4 kg	1	175 cm x 7.5 cm x 4 cm	8711559766461	766461 00
Affinium LFM200 1700mm side 2 15W CW UNP	1.4 kg	1	175 cm x 7.5 cm x 4 cm	8711559766485	766485 00
Affinium LFM200 1700mm center 31W CW UNP	1.5 kg	1	175 cm x 7.5 cm x 4 cm	8711559765860	765860 00
Affinium LFM200 1700mm side 1 20W CW UNP	1.4 kg	1	175 cm x 7.5 cm x 4 cm	8711559765884	765884 00
Affinium LFM200 1700mm side 2 20W CW UNP	1.4 kg	1	175 cm x 7.5 cm x 4 cm	8711559765907	765907 00
Affinium LFM200 1700mm center 25W NW UNP	1.5 kg	1	175 cm x 7.5 cm x 4 cm	8711559766508	766508 00
Affinium LFM200 1700mm side 1 15W NW UNP	1.4 kg	1	175 cm x 7.5 cm x 4 cm	8711559766522	766522 00
Affinium LFM200 1700mm side 2 15W NW UNP	1.4 kg	1	175 cm x 7.5 cm x 4 cm	8711559766546	766546 00
Affinium LFM200 1700mm center 31W NW UNP	1.5 kg	1	175 cm x 7.5 cm x 4 cm	8711559766386	766386 00
Affinium LFM200 1700mm side 1 20W NW UNP	1.4 kg	1	175 cm x 7.5 cm x 4 cm	8711559766409	766409 00
Affinium LFM200 1700mm side 2 20W NW UNP	1.4 kg	1	175 cm x 7.5 cm x 4 cm	8711559766423	766423 00


Festini
Cornetto
+2
FREE
GRATIS
Classics



LFM 210 center version

Product Description

- Affinium LED freezer modules for replacement of traditional tubular fluorescent lamps in in half-height glass-door freezer cabinets. Mounting sets and the Philips 100W LED power driver to complete the lighting system are available separately

Product Features

- Available in 745 mm and 940 mm lengths with cool white and neutral white colour temperatures
- Each length and lighting level is available in three versions:
  - a center module
  - a side 1 module
  - a side 2 module
  - The side 1 or 2 modules can be placed on either side of the freezer, depending on whether the wire of the module is connected to the driver at the top or bottom of the freezer
- Low energy consumption: up to 70% less than traditional fluorescent lighting
- Excellent performance at very low temperatures: immediate illumination after switch-on at temperatures down to -25°C
- Ideal for high-quality display lighting without flickering, colour differences or non-functioning units as with traditional fluorescent lighting
- Guaranteed performance and proven system reliability: three-year Philips system guarantee
- Module lifetime rated at 50,000 h (70% lumen maintenance)
- Black module housing
- Operating temperature –25 to +10°C
- Safety temperature –30 to +30°C
- Storage temperature –30 to +60°C

Product Benefits

- Give retailers an excellent total cost of ownership with attractive payback times for freezer lighting:
  - up to 70% energy savings
  - 90% reduction in lamp replacements
- Greatly improved visual impression of both merchandise on display and the entire freezer
- Unique optical system reduces glare by preventing direct visibility of LED light source
- Quick and easy to install: complete system with LED module, mounting set and 100 W LED power driver
- Safety Extra Low Voltage (SELV) operation ensures safety even if wiring or units are damaged (provided an SELV-rated power supply is used)

Application

- Designed to replace traditional tubular fluorescent lamps in vertical half--height glass-door freezer cabinets

System

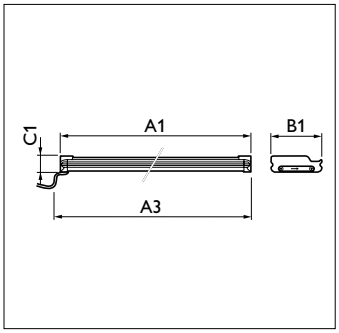
- Complete system includes Philips LFM 210 Affinium LED freezer modules, mounting sets and 100 W LED power driver

Recommended driver page 5.80
Recommended accessories page 5.56

Environment

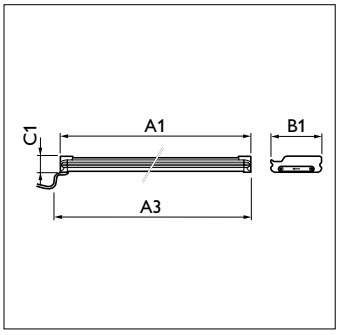
- Philips Green product
- High energy efficiency; up to 70% savings compared with fluorescent lighting
- RoHS compliant – mercury and lead free

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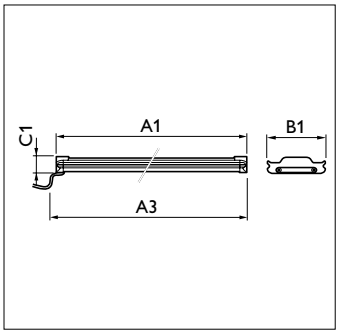
side 1 modules

Type	A1Nom	A3Nom	B1Nom	C1Nom
Affinium LFM210 745mm side 1	745	755	49	24
Affinium LFM210 940mm side 1	940	950	49	24



side 2 modules

Type	A1Nom	A3Nom	B1Nom	C1Nom
Affinium LFM210 745mm side 2	745	755	49	24
Affinium LFM210 940mm side 2	940	950	49	24



center modules

Type	A1Nom	A3Nom	B1Nom	C1Nom
Affinium LFM210 745mm center	745	755	56	24
Affinium LFM210 940mm center	940	950	56	24



LFM 210 center module



LFM 210 side 1 module



LFM 210 side 2 module

Light data

Type	Colour Designation	Correlated Colour Temperature (K)	Colour Rendering Index (RA)
Affinium LFM210 CW	Cool White	5650	70
Affinium LFM210 NW	Neutral White	4200	65

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711559
Affinium LFM210 745mm center 10W CW UNP	0.8 kg	1	79.5 cm x 7.5 cm x 4 cm	8711559765921	765921 00
Affinium LFM210 745mm side 1 7W CW UNP	0.7 kg	1	79.5 cm x 7.5 cm x 4 cm	8711559765945	765945 00
Affinium LFM210 745mm side 2 7W CW UNP	0.7 kg	1	79.5 cm x 7.5 cm x 4 cm	8711559765969	765969 00
Affinium LFM210 745mm center 10W NW UNP	0.8 kg	1	79.5 cm x 7.5 cm x 4 cm	8711559766560	766560 00
Affinium LFM210 745mm side 1 7W NW UNP	0.7 kg	1	79.5 cm x 7.5 cm x 4 cm	8711559766584	766584 00
Affinium LFM210 745mm side 2 7W NW UNP	0.7 kg	1	79.5 cm x 7.5 cm x 4 cm	8711559766607	766607 00
Affinium LFM210 940mm center 15W CW UNP	1.2 kg	1	99 cm x 7.5 cm x 4 cm	8711559765983	765983 00
Affinium LFM210 940mm side 1 8W CW UNP	1.1 kg	1	99 cm x 7.5 cm x 4 cm	8711559766003	766003 00
Affinium LFM210 940mm side 2 8W CW UNP	1.1 kg	1	99 cm x 7.5 cm x 4 cm	8711559766027	766027 00
Affinium LFM210 940mm center 15W NW UNP	1.2 kg	1	99 cm x 7.5 cm x 4 cm	8711559766744	766744 00
Affinium LFM210 940mm side 1 8W NW UNP	1.1 kg	1	99 cm x 7.5 cm x 4 cm	8711559766768	766768 00
Affinium LFM210 940mm side 2 8W NW UNP	1.1 kg	1	99 cm x 7.5 cm x 4 cm	8711559766782	766782 00





Affinium LED freezer modules 223

Product description

- Affinium LED freezer modules LFM 223 for replacement of traditional tubular fluorescent lamps to light frozen food, can for example be placed under the cabinet of the half-height glass-door freezer or used as under-shelf lighting above a well. Mounting sets, 2.5 m cable (optional) and 100W LED power driver to complete the lighting system are available separately.

Product features

- Available in 1150 mm and 900 mm length, and cool white colour temperature
- Low energy consumption: up to 70% less than traditional fluorescent lighting
- Excellent performance at very low temperatures: immediate illumination after switch-on at temperatures down to -25°C
- Ideal for high-quality display lighting without flickering, colour differences or non-functioning units as with traditional fluorescent lighting
- Guaranteed performance and proven system reliability: three-year Philips system guarantee
- Module lifetime rated at 50,000 h (70% lumen maintenance)
- Black module housing
- Operating temperature -25 to +10°C
- Safety temperature -30 to +30°C

Product benefits

- Allows retailers to create a coherent style in their freezer department
- Give retailers an improved Total Cost of Ownership
  - up to 70% energy savings
  - 90 % reduction in lamp replacements
- The unique optical system prevents the LED light source from being directly visible, reducing any annoying glare
- Quick and easy to install: complete system with LED module, mounting sets, 2.5 m cable (optional) and 100W LED power driver
- Safety Extra Low Voltage (SELV) operation ensures safety even if wiring or units are damaged (provided an SELV-rated power supply is used)

Application

- Designed to replace traditional tubular fluorescent lamps to light frozen food in open-well freezer cases; can for example be used under the cabinet of the half-height glass-door or as under-shelf lighting

System

- Complete system includes Philips LFM 223 Affinium LED freezer modules, 2.5 m cable (optional), 100W LED power driver and mounting set. A slide mounting set is available for under-shelf lighting, and a 20° and 45° mounting set is available for installation under cabinets

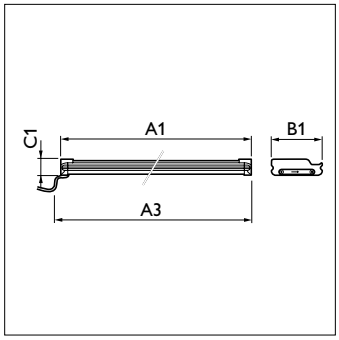
Environment

- Philips Green product with high efficacy minimizes environmental impact and CO2 emissions
- Good environmental choice due to highest energy efficiency; up to 70% savings compared with fluorescent lighting
- RoHS compliant

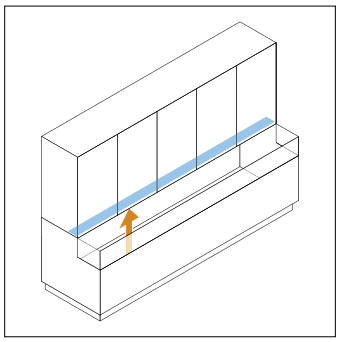
Recommended driver see page 5.80

Recommended accessoires see page 5.58

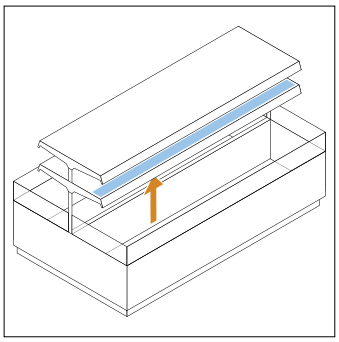
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Type	A1	A3	B1	C1
LFM223 900mm (35") 10W CW (cool white)	900	30	49	24
LFM223 1150mm (45") 12W CW (cool white)	1150	30	49	24



Installation under the cabinet to light frozen food in the under well



Installation under the shelf to light food in the well

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711559
LFM223 900mm (35") 10W CW (cool white)	750 gr	1	95 cm x 7.5 cm x 4 cm	8711559767208	767208 00
LFM223 1150mm (45") 12W CW (cool white)	950 gr	1	120 cm x 7.5 cm x 4 cm	8711559767192	767192 00



Mounting set for a center module

Product Description

- Mounting set for easy installation of the LFM 200 and LFM 210 LED freezer modules, consisting of two brackets and one stopper to fix one module in the freezer mullion

Product Features

- Available in various versions: center mounting set for fixing the LFM center module, and side mounting set for the LFM side 1 or 2 module, both in a high and low profile to fit into the mullion of the freezer
- The two brackets are installed above and below the mullion, after which the module clicks into the brackets
- The stopper at the bottom fixes the module in place, preventing it from sliding down
- Supplied in boxes of 20 sets

Product Benefits

- Allows easy installation of Affinium LED freezer modules LFM 200 and 210, with choice of versions for center or side mounting

Application

- For use inside mullions of refrigerated display cabinets with LFM 200 and 210 modules

System

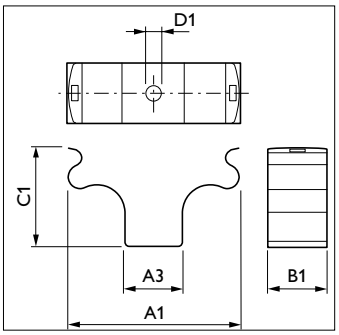
- The mounting set is part of a complete lighting system for use inside glass door refrigerated cabinets. The main components of the system are the Affinium LED freezer modules and LED power driver

Environment

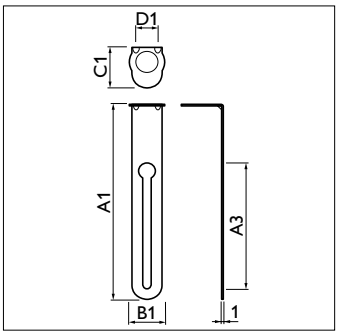
- RoHS compliant

Recommended LED page 5.46

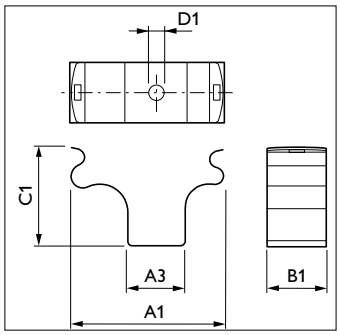
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Bracket for center module



Stopper



Bracket for side 1 and 2 module

Type		A1Nom	A3Nom	B1Nom	C1Nom	D1Nom
LFM200&210 Center Mounting Set (Low)	bracket	57.5	20	20	20	5.5
	stopper	110	70	18	25	13
LFM200&210 Side Mounting Set (Low)	bracket	50.5	20	20	20	5.5
	stopper	110	70	18	25	13
LFM200&210 Center Mounting Set (High)	bracket	50.5	20	20	33.6	5.5
	stopper	110	70	18	25	13
LFM200&210 Side Mounting Set (High)	bracket	52	20	20	33.6	5.5
	stopper	50.5	70	18	25	13


Mounting set for a center module


Mounting set for a side 1 or 2 module

Ordering and packing data

Type	weight	EAN code 1 piece	EAN code Bulk packing	EAN code 8711559	Qty Bulk packing	Dimensions bulk packing (l x w x h) in cm
LFM200&210 Center Mounting Set (Low)	0.035 kg	8711559765723	8711559765730	765723 30	20	20 x 15.6 x 10
LFM200&210 Side Mounting Set (Low)	0.035 kg	8711559765747	8711559765754	765747 30	20	20 x 15.6 x 10
LFM200&210 Center Mounting Set (High)	0.035 kg	8711559765761	8711559765778	765761 30	20	20 x 15.6 x 10
LFM200&210 Side Mounting Set (High)	0.035 kg	8711559765785	8711559765792	765785 30	20	20 x 15.6 x 10



Affinium LED freezer modules 223

Product description

- Different mounting sets and cable for easy installation of the LFM 223 LED freezer modules in well freezer cases; under cabinet or under shelf

Product features

- 'Slide mounting set', including two brackets, for easy mounting of LFM 223 modules under the shelf above open-well freezers; or
- Mounting set 20 or 45°, each including two brackets, for installing the LFM 223 modules under half height glass door freezers to correct the modules to the horizontal level
- LFM 200 and 210 mounting set side low, including two brackets and one stopper, for installing the LFM 223 modules under half height glass door freezers directly in a horizontal position.
- LFM 2xx cable of 2.5 m to connect the LFM 223 modules to the driver
- Supplied in boxes of 20 sets

Product benefits

- Choice of mounting sets and cable for LFM 223 modules
- Easy installation

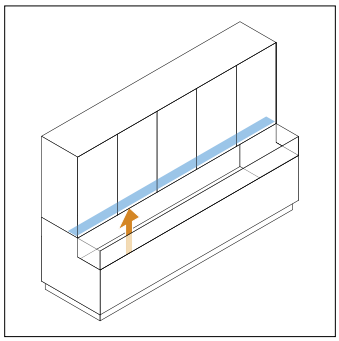
Application

- For use to light up the frozen food in well freezers, with under-cabinet or under-shelf installation

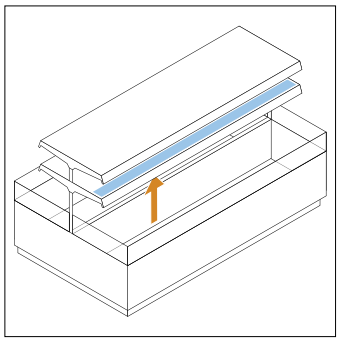
System

- Part of a complete lighting system to light up frozen food in well freezers
- System components are LFM 223 Affinium LED freezer modules, LED power driver, 2.5 m cable and applicable mounting sets

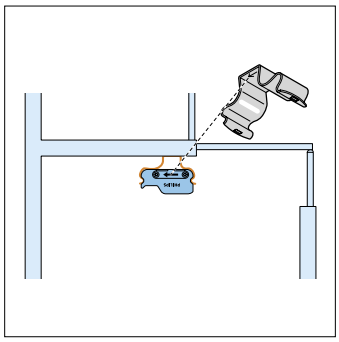
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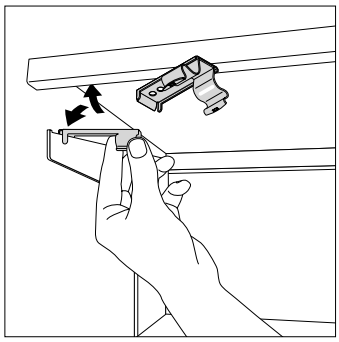
Installation under the cabinet to light frozen food in the under well.



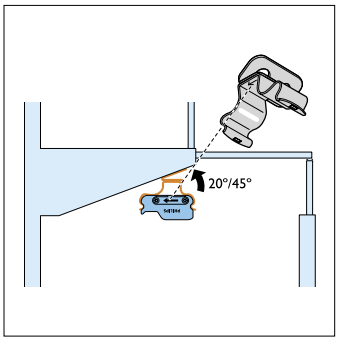
Installation under the shelf to light food in the well.



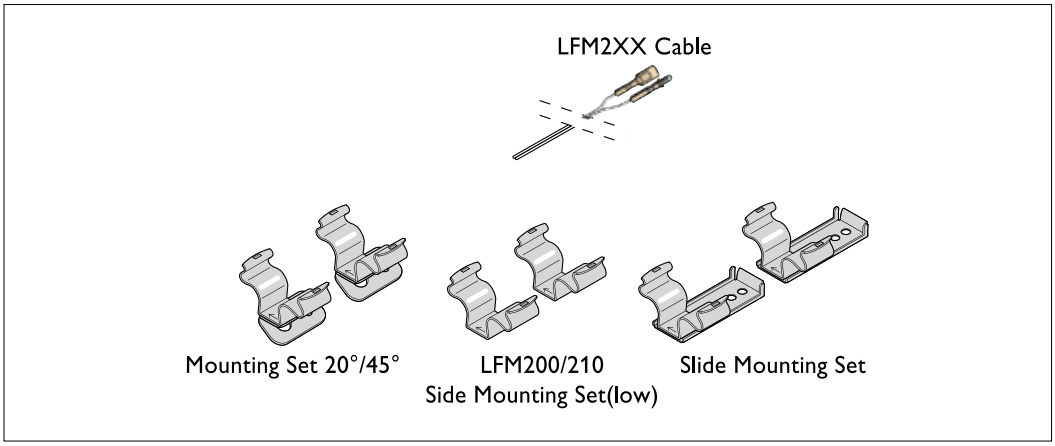
Mounting set LFM 200/210 for installing the LFM 223 modules under half height glass door freezers to place the modules directly in a horizontal position.



'Slide mounting set' for easy mounting of LFM 223 modules under the shelf above open-well freezers.



Mounting set 20 or 45° for installing the LFM 223 modules under half height glass door freezers to correct the modules to the horizontal level.

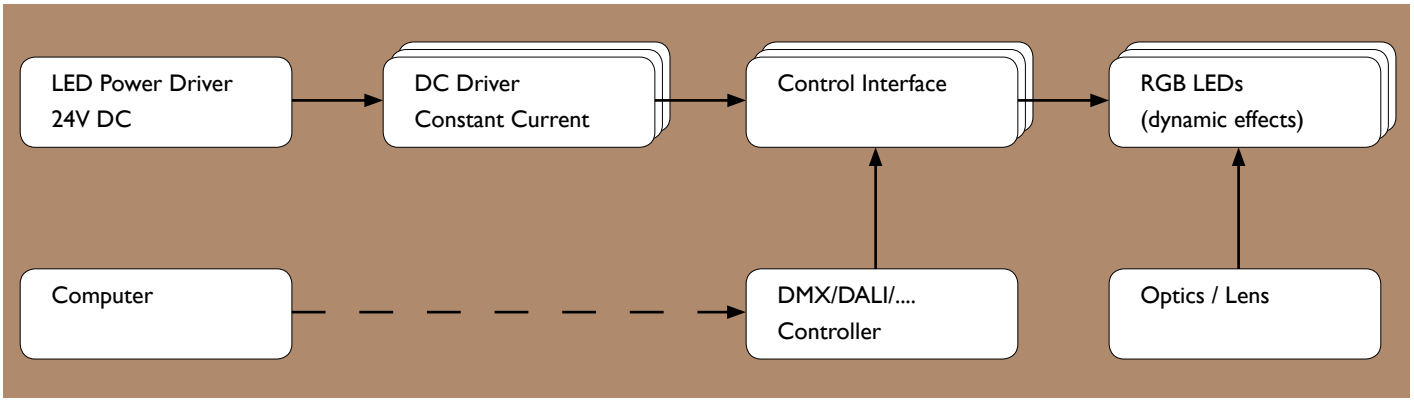


Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC
LFM22X Slide Mounting Set	87115597672 15	20 gr	1700	20 cm x 22 cm x 7 cm	87115597672 22	767215 30
LFM22X Mounting Set 20°	87115597672 39	20 gr	1200	20 cm x 15.6 cm x 10 cm	87115597672 46	767239 30
LFM22X Mounting Set 45°	87115597672 53	20 gr	1200	20 cm x 15.6 cm x 10 cm	87115597658 08	767253 30
LFM2XX Cable 2.5 m	87279008015 52	20 gr	2500	30 cm x 22 cm x 7 cm	87279008015 52	801552 00
LFM200 & 210 Side Mounting Set Low	87115597657 54	35 gr	20	20 cm x 15.6 cm x 10 cm	87115597657 54	765747 30

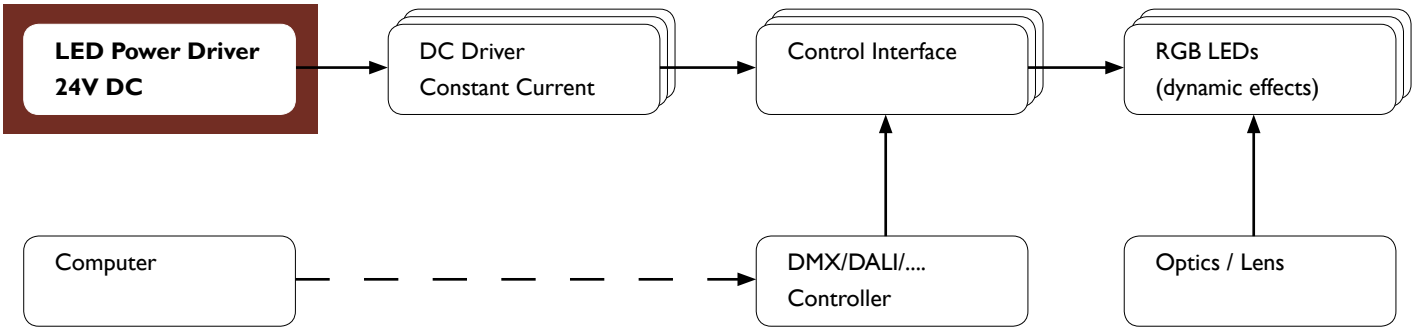
LED Gear

- LED Power Drivers
- Xitanium Constant Current Drivers
- Ambiscene Control Interface



LED Integrated System

What is a Philips LED Power Driver?



LED Integrated System

- LED Power Drivers/Supplies from Philips Lighting are designed specifically for Philips LED String and LED Module System.
- Designed for an operating life matching that of LEDs.
- Universal mains input ensures the installation in practically any location.



Description

Philips LED Power Drivers have a universal mains input (100-240V) and generate a 24VDC or 12VDC voltage. The LED Power Drivers have an operating life matching that of LEDs. The range consist of a slim 20W version with a plastic housing and 60 and 100W versions with a metal housing. All three types have been tested according IP66.

Philips LED Power Drivers perfectly operate the Philips LED based systems including:

- Affinium LED String a wire connected string of LEDs for safer, more energy efficient signs and architectural effects
- The LED Module System lighting blocks that can be joined in a flexible "domino" like arrays to produce creative luminaires and displays
- LED Strips

Excellent reliability

LED Power Drivers last up to 50,000 hours, to take advantage of the long life of LEDs. They come with the Philips electronic ballast guarantee Low-temperature performance (-30°C) So you can be confident in any outdoor application (tested according IP66)

Hazard-free & universal mains (100-240V)

All major safety requirements (as defined in CE, UL, CSA and VDE) are met. Furthermore all three types come in universal mains, so you can install them in practically any location

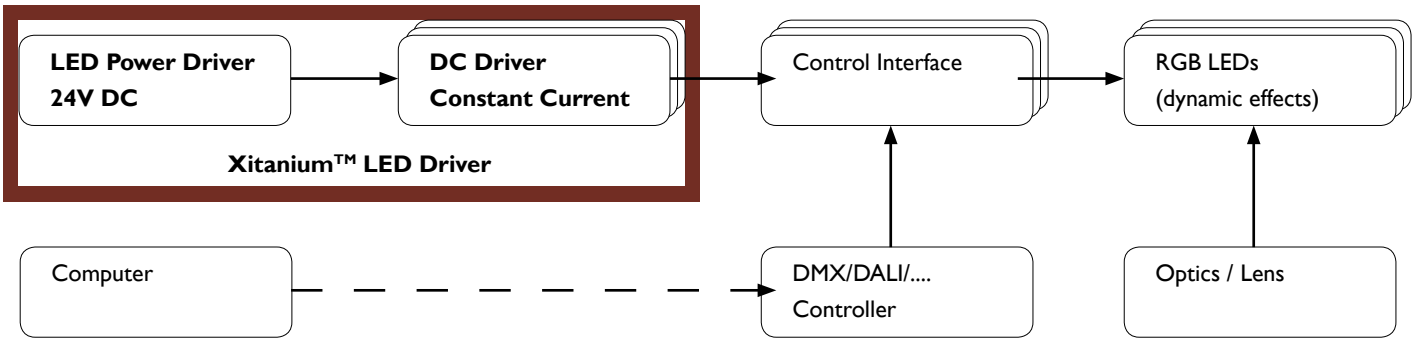
Improved safety

Philips LED Power Drivers generate a limited output voltage and also provide isolation for safe operation (SELV)

Typical applications include

- Channel letter/contour lighting
- Architectural lighting
- Retail/theme lighting
- Orientation lighting
- Entertainment lighting
- Emergency and security lighting

What is a Xitanium™ LED Driver?



LED Integrated System



Outdoor Driver.

Xitanium LED Drivers from Philips are designed specifically to power Luxeon high power LEDs. Philips has used its extensive expertise in electronics to ensure that Driver and LED are perfectly 'fine-tuned' to each other, and that the exceptionally steady DC output enhances the long life and optimum operation of the high power LEDs.



Indoor Driver



Mini Driver

Description

These drivers are included in the illumination segment of the Xitanium™ family of products. The Xitanium™ drivers are designed specifically to optimally power Luxeon™ high power LEDs. The constant DC current output provides the long life and optimum operation of high power LEDs. Xitanium™ drivers have an operating life matching that of LEDs. The 25W dimming driver controls the LEDs by pulsing the LEDs on and off in relation with the input voltage for the driver's light regulation circuit. The input voltage for this light regulation circuit varies from 1V to 10V DC: 1V results in a minimum lighting level (5% LED output) and 10V in a maximum (100% LED output). The PMW-frequency is 700Hz (± 10%). Dimming does not affect LED life. The outdoor versions have an IP66 rating.

Xitanium™ LED Drivers

Xitanium™ drivers also perfectly operate the Philips LED based systems including:

- The LED Module System: lighting blocks which can be joined in flexible "domino" like arrays to produce creative luminaries and displays
- LED String: a wire connected string of LEDs for safer, more energy efficient signs and architectural effects
- Luxeon LEDs from the Lumileds Lighting company are state-of-the-art solid-state lighting devices – the brightest LEDs on the market in a very compact package. Ideal for high-lumen, general lighting.

New design opportunities

The Xitanium's small, compact size enables you to innovate with new, low-profile fixture designs.

Hazard-free

All the major safety requirements (as defined in CE, ENEC, KEMA, and UL) are met, so you can install them in practically any location. Excellent reliability Xitanium LED Drivers last up to 50,000 hours, to take advantage of the long life of LEDs. They come with the Philips electronic ballast guarantee.

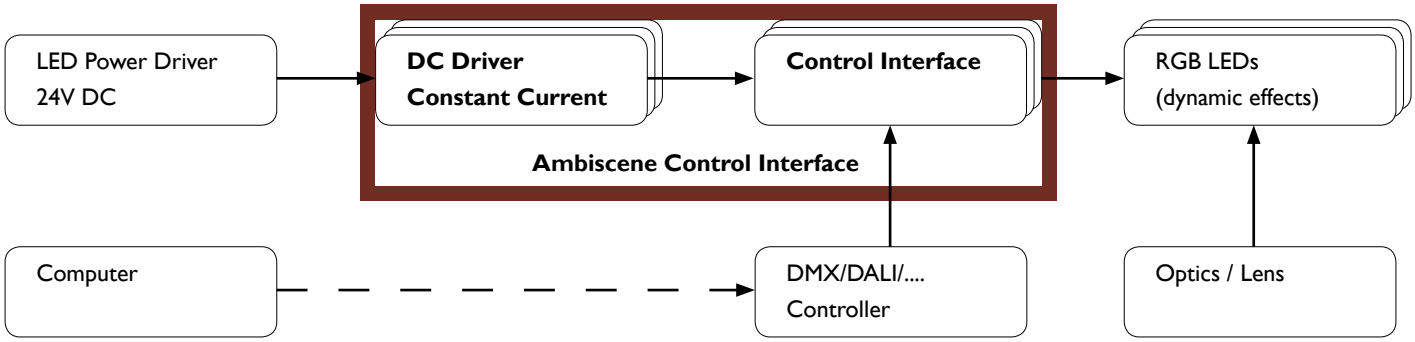
Wide choice
Extensive product portfolio gives you a wide choice. Portfolio consist of in- and outdoor types with power ratings from 12 to 80W, including a 25W for dimming possibilities.

Improved safety
Xitanium LED Drivers generate a limited output voltage and current and also provide isolation for safe operation. Low-temperature performance (-40°C) So you can be confident in any outdoor application (IP66).

Universality
Although optimized for high power Luxeon LEDs, the Xitanium range of Drivers is also suitable for other LED based systems.

Typical applications include:
- Channel letter/contour lighting
- Architectural lighting
- Retail/theme lighting
- Orientation lighting (path lighting)
- Entertainment lighting
- Emergency and security

What is the Ambiscene Control Interface?



LED Integrated System

Ambiscene, Easy to use and cost effective solution to create exciting effects with LEDs
Low voltage electronic driver for 350mA and 700mA for LEDs. Driver is suitable for 24VDC an LED Power Driver is advised to convert mains into 24VDC. 3 individually controllable output channels are available. Light output can be controlled via DMX512 or DALI interface. Dimming method of LEDs by means of Pulse Width Modulation.



Xitanium Control Interface 67W

Product Description

- Low voltage electronic driver for 350mA and 700mA for LEDs
- Driver is suitable for 24VDC only, driver cannot be connected to the mains; a separate power supply is required to convert mains into 24VDC
- Three individually controllable output channels are available. Light output can be controlled via DMX512 or DALI interface. Dimming method of LEDs by means of Pulse Width Modulation

Features and Benefits

- 1. Freedom in lighting design
  - Compact dimensions 284mm*43mm*24 mm
  - Standard cables can be used to connect the control interface
  - Different LED connection possibilities and current selection (350mA +700mA)
  - Possibility to control 3 individual channels (for RGB)
  - Common anode connection makesit compatible with mostly used LED components on the market
  - With DALI 16 scenes possible
  - With DMX as many scenes as the DMX controller enables
- 2. Safe operation
  - Dimming down in case of over temperature leds will automatically dim down when reaching 70 degrees (by connecting NTC temperature sensor)
  - Protected against incorrect wiring
  - Wide input voltage tolerance: less sensitive to output fluctuation
  - Possibility to make a quick self test by playing rotaries in stand alone mode
  - Overload/no load driver protection
  - Overtemperature protection inside the driver
- 3. User friendly DMX addressing
  - Thanks to rotaries you see what you have set, no need to calculate
  - Less errors in addressing
  - If you want to set address of 24 then you set 024 on the rotary switches and not 11000 (binary dip switch)
  - DMX valid addresses 001 to 510
- 4. Easy mode selection
  - 1 rotary switch you can turn to select the mode 1number for 1 mode
  - Auto detect DALI signal
  - DALI preprogrammed at number 1,2,3
  - Stand alone mode preprogrammed: colour bouncing program with adjustable speed
  - Possibility to choose a fixed colour (7 choices of colours)
  - Easy current selection per channel thanks to dip switches

Applications

- RGB Colour Mixing
- Floodlighting
- Cove & Cornice Lighting

- Architectural Lighting
- This driver is suitable for built-in operation only
- Suitable for indoor application

Quality

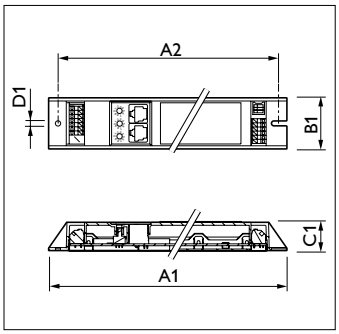
Philips Quality implies optimum quality with regard to:

- System supplier: As manufacturer of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- International standards: Philips electronic gears comply with relevant international rules and regulations

Compliances and approvals

Compliant with CE, ENEC, VDE, KEMA and SELV

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Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
LED Control Interface RGB CI 24V 67W 350/700mA DALI/DMX	284.0	265.0	43.5	24.5	4.2

Electrical data

Type	Rated Gear-Lamp Power	Design	Extra Info
LED Control Interface RGB CI 24V 67W 350/700mA DALI/DMX	67	24	24V 67W 350/700mA DALI/DMX

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
LED Control Interface RGB CI 24V 67W 350/700mA DALI/DMX	0.286 kg	20	30.8 cm x 23.1 cm x 13.2 cm	8711500913883	913876 30

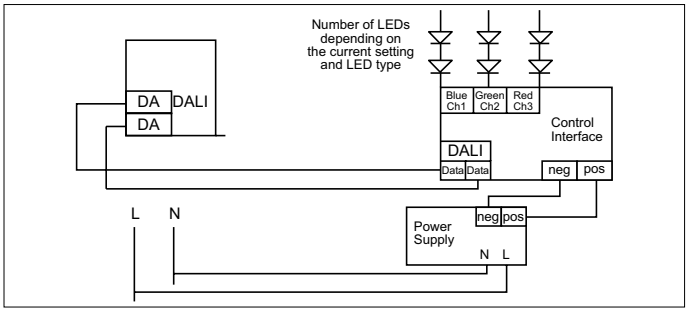
Electrical installation notes

Note:

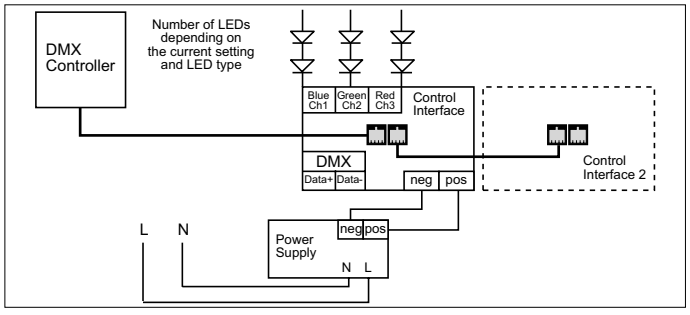
Special attention is required for parallel connections in case of Vf binning differences.

Control characteristics

Three individually controllable output channels are available. Light output can be controlled via DMX512 or DALI interface. Dimming method of LEDs by means of Pulse Width Modulation.



Wiring Diagram DALI



Wiring Diagram DMX



Xitanium LED Driver Indoor

Product Description

- Constant current LED driver for indoor applications

Features and Benefits

- New design opportunities
  - The Xitanium's small, compact size enables you to innovate with new, low-profile fixture designs.
- Hazard-free
  - All the major safety requirements (as defined in CE, ENEC, KEMA, SELV and UL) are met, so you can install them in practically any location.
- Excellent reliability
  - Xitanium LED Drivers last up to 50,000 hours, to take advantage of the long life of LEDs. They come with the Philips electronic gear guarantee.
- Wide choice
  - Extensive product portfolio gives you a wide choice. Portfolio consist of types with power ratings from 4 to 40W, including a 25W for dimming possibilities.
- Improved safety
  - Xitanium LED Drivers generate a limited output voltage and current and also provide isolation for safe operation.
- Low-temperature performance (-40°C)
  - So you can be confident in any application.
- Universality
  - Although optimised for high power LuxeonTM LEDs, the Xitanium range of Drivers is also suitable for other LED based systems, including:
  - The LED module system: lighting blocks which can be joined in flexible "domino" like arrays to produce creative luminaries and displays
  - LED string: a wire connected string of LEDs for safer, more energy efficient signs and architectural effects

Applications

- Spot/Track Lighting
- Undercabinet Lighting
- Task Lighting
- Orientation/Step Lighting
- Appliance Lighting
- Gaming/Casino Lighting

Quality

Philips Quality implies optimum quality with regard to:

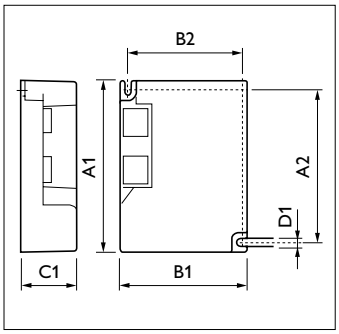
- System supplier: As manufacturer of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- International standards: Philips electronic gears comply with relevant international rules and regulations

Compliances and approvals

Compliant with all major safety requirements (as defined in CE, ENEC, KEMA, SELV and UL)

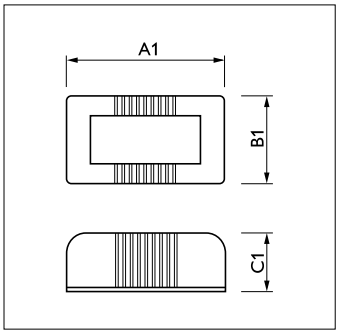
Recommended LED page 5.80

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LED Driver Indoor

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
LED Driver DIM/Indoor 25W/40W	83.0	73.4	77.0	67.4	33.8	4.4



LED 4/8

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
LED Driver Indoor 4W/8W/0.35A 100-255V	65.0	-	35.0	23.0	-



LED Driver Indoor

Electrical data

Type	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case maximum (°C)	T-ambient	Design	Extra Info
LED Driver DIM/Indoor 25W/1.05A-24V 230V	25	50	230	85	60	1.05A	24V
LED Driver Indoor 40W/1.75A-24V 230V	40	50	230	85	60	1.75A	24V
LED Driver Indoor 4W/0.35A 100-255V	4	50/60	100-255	65	60	0.35A	2.8-12V
LED Driver Indoor 8W/0.7A 100-255V	8	50/60	100-255	65	60	0.70A	

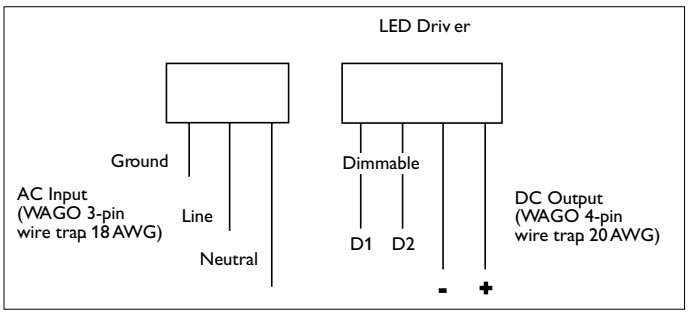
Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC
LED Driver DIM 25W/1.05A-24V 230V	0.175 kg	12	28 cm x 16 cm x 8 cm	8711500927415	927408 30
LED Driver Indoor 25W/1.05A-24V 230V	0.175 kg	12	28 cm x 16 cm x 8 cm	8711500927378	927361 30
LED Driver Indoor 40W/1.75A-24V 230V	0.25 kg	12	28 cm x 16 cm x 8 cm	8711500927392	927385 30
LED Driver Indoor 4W/0.35A 100-255V	0.074 kg	100	32 cm x 22 cm x 24 cm	8710163062198	062181 30
LED Driver Indoor 8W/0.7A 100-255V	0.074 kg	100	32 cm x 22 cm x 24 cm	8710163062235	062228 30

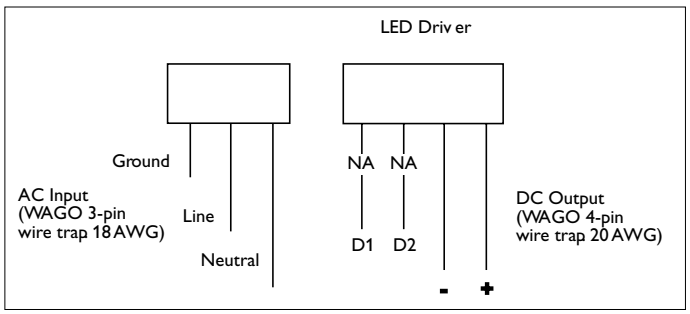
Electrical installation notes

Note:

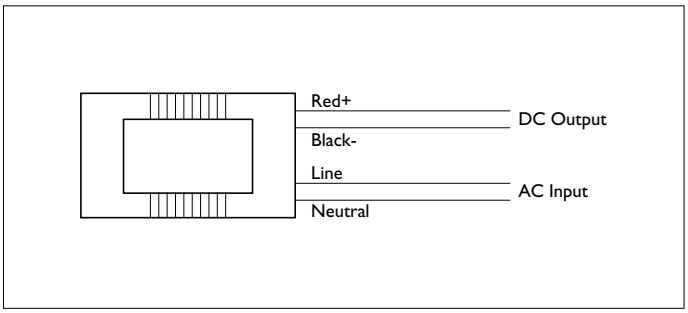
Special attention is required for parallel connections in case of Vf binning differences. w



LED Driver Indoor 25W



LED Driver Indoor 40W



LED Driver Indoor 4W/8W



LED Driver Outdoor 12W/17W

Product Description

- Constant current LED driver for outdoor applications

Features and Benefits

- New design opportunities
  - The Xitanium's small, compact size enables you to innovate with new, low-profile fixture designs.
- Hazard-free
  - All the major safety requirements (as defined in CE, ENEC, KEMA, SELV and UL) are met, so you can install them in practically any location.
- Excellent reliability
  - Xitanium LED Drivers last up to 50,000 hours, to take advantage of the long life of LEDs. They come with the Philips electronic gear guarantee.
- Wide choice
  - Extensive product portfolio gives you a wide choice. Portfolio consist of types with power ratings from 12 to 80W.
- Improved safety
  - Xitanium LED Drivers generate a limited output voltage and current and also provide isolation for safe operation.
- Low-temperature performance (-40°C)
  - So you can be confident in any outdoor application (IP66).
- Universality
  - Although optimised for high power LuxeonTM LEDs, the Xitanium range of Drivers is also suitable for other LED based systems, including:
  - The LED module system: lighting blocks which can be joined in flexible "domino" like arrays to produce creative luminaries and displays
  - LED string: a wire connected string of LEDs for safer, more energy efficient signs and architectural effects

Applications

- Channel letter/contour lighting
- Architectural lighting
- Retail/theme lighting
- Orientation lighting (path lighting)
- Entertainment lighting
- Emergency and security

Quality

Philips Quality implies optimum quality with regard to:

- System supplier: As manufacturer of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- International standards: Philips electronic gears comply with relevant international rules and regulations

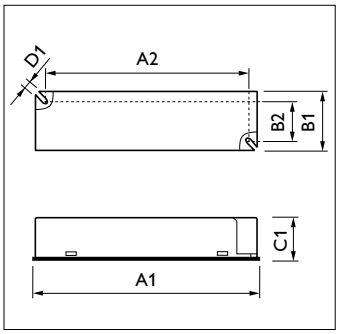
Compliances and approvals

Compliant with all major safety requirements (as defined in CE, ENEC, KEMA, SELV and UL)

IP66 rating for outdoor use

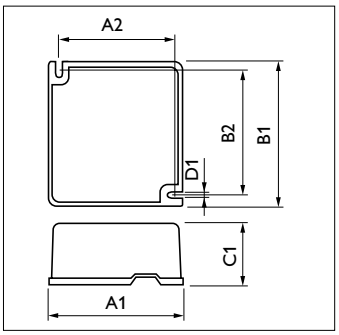
Recommended LED page 5.80

www.philips.com/OEM



LED Driver Outdoor

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
LED Driver Outdoor 12W/17W/0.35A-33V 230V	132.0	122.4	34.2	24.6	25.0	4.5
LED Driver Outdoor 67W/80W/2.80A-24V 230V	240.0	225.0	43.2	30.0	29.5	4.4



LED Driver Outdoor



LED Driver Outdoor 67W/80W



LED Driver Outdoor 40W

Electrical data

Type	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case maximum (°C)	T-ambient	Design	Extra Info
LED Driver Outdoor 12W/0.35A-33V 230V	12	50	230	90	60	0.35A	33V
LED Driver Outdoor 17W/0.70A-24V 230V	17	50	230	90	60	0.70A	24V
LED Driver Outdoor 67W/2.80A-24V 230V	67	50	230	90	60	2.80A	24V
LED Driver Outdoor 80W/3.15A-24V 230V	80	50	230	90	60	3.15A	24V

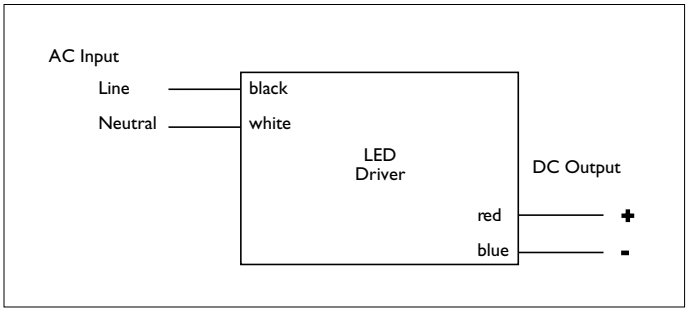
Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
LED Driver Outdoor 12W/0.35A-33V 230V	0.15 kg	10	20.5 cm x 19.5 cm x 6 cm	8711500930460	930453 30
LED Driver Outdoor 17W/0.70A-24V 230V	0.15 kg	10	20.5 cm x 19.5 cm x 6 cm	8711500930965	930958 30
LED Driver Outdoor 67W/2.80A-24V 230V	0.64 kg	20	33.7 cm x 31.1 cm x 10.2 cm	8711500931214	931207 30
LED Driver Outdoor 80W/3.15A-24V 230V	0.64 kg	20	33.7 cm x 31.1 cm x 10.2 cm	8711500931252	931245 30

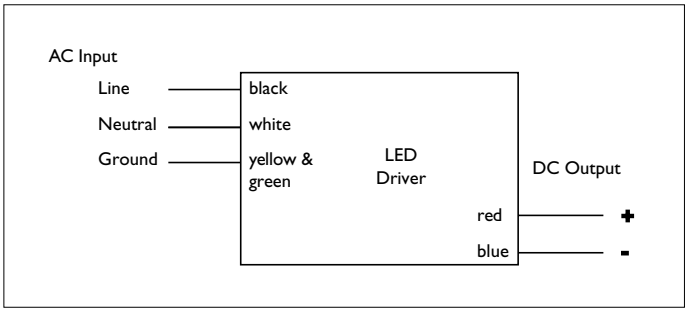
Electrical installation notes

Note:

Special attention is required for parallel connections in case of Vf binning differences.



LED Driver Outdoor 12W/17W/67W/80W



LED Driver Outdoor 40W


Mercedes-Benz



LED Power Driver Outdoor 24V 60/100W

Product Description

- Constant voltage LED power supply

Features and Benefits

- Philips LED Power Drivers perfectly operate the Philips LED based systems including:
  - Philips Affinium LED string: a wire connected string of LEDs for safer, more energy efficient signs and architectural effects.
  - The LED Module System: lighting blocks that can be joined in a flexible "domino" like arrays to produce creative luminaires and displays.
- Excellent reliability
  - LED Power Drivers last up to 50,000 hours, to take advantage of the long life of LEDs. They come with the Philips electronic gear guarantee.
- Low-temperature performance (-30°C)
  - So you can be confident in any outdoor application (tested according IP66).
- Hazard-free & universal mains (100-240V)
  - All major safety requirements (as defined in CE, UL, CSA and VDE) are met. Furthermore all three types come in universal mains, so you can install them in practically any location.
- Improved safety
  - Philips LED Power Drivers generate a limited output voltage and also provide isolation for safe operation (SELV).

Application

- Channel letter/contour lighting
- Architectural lighting
- Retail/theme lighting
- Refrigerated displays
- Orientation lighting
- Entertainment lighting
- Emergency and security lighting

Quality

Philips Quality implies optimum quality with regard to:

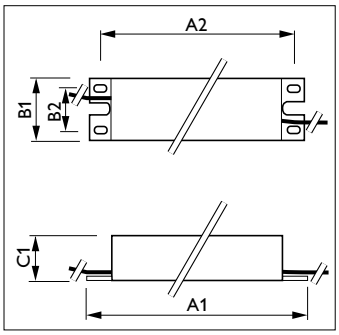
- System supplier: As manufacturer of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- International standards: Philips electronic gears comply with relevant international rules and regulations

Compliances and approvals

Compliant with all major safety requirements (as defined in CE, UL, CSA and VDE)

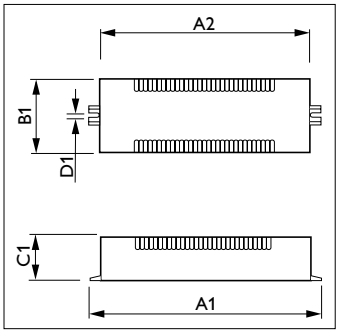
Recommended lamp page 5.80

www.philips.com/OEM



LED Power Driver Outdoor 24V 60/100W

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
LED Power Driver Outdoor 100-240V 60W/100W 24V	241	228.6	43	26.6	30	4.4



LED Power Driver Outdoor 24V 20W

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
LED Power Driver Outdoor 100-240V 20W 24V	140	130	37	18.5	25	4.4



LED Power Driver Outdoor 24V 20W

Electrical data

Type	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case maximum (°C)	T-ambient	Design	Extra Info
LED Power Driver Outd. 100-240V 20W 24V	20	50/60	100-240	70	60	20W	24V
LED Power Driver Outd. 100-240V 60W 24V	60	50/60	100-240	70	60	60W	24V
LED Power Driver Outd. 100-240V 100W 24V	100	50/60	100-240	70	60	100W	24V

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
LED Power Driver Outd. 100-240V 20W 24V	0.18 kg	10	22.2 cm x 26.9 cm x 10.4 cm	8711500911957	911940 30
LED Power Driver Outd. 100-240V 60W 24V	0.62 kg	10	30 cm x 29.9 cm x 8.9 cm	8711500911476	911469 30
LED Power Driver Outd. 100-240V 100W 24V	0.62 kg	10	30 cm x 29.9 cm x 8.9 cm	8711500911971	911964 30

Mechanical installation notes

Environmental ratings

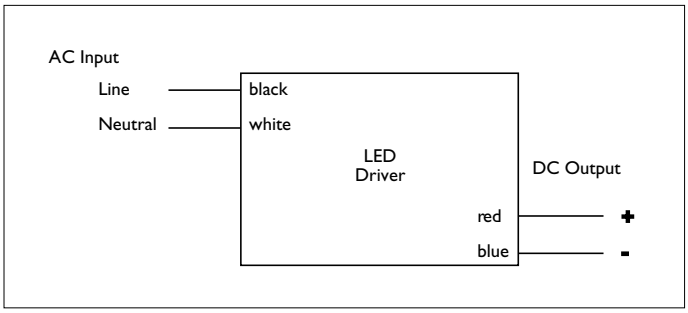
Note:

1. Case temperature should be measured at test point (Tc) as marked on driver label
2. The housing provides protection against the ingress of dust and heavy seas or water jets, tested according the IP66 classification for luminaries by the IEC

Dimensional drawings

Notes:

1. All dimensions are in mm
2. Drawings are not to scale
3. Two mounting slots for M4 or #6 screws
4. Lead wires: 300mm length, 0.8 mm^2 solid-core copper



LED Power Driver Outdoor


Swedbank



10W dim

Product Description

- Mains dimmable LED driver
- 10 W or 30 W, 700 mA

Product Features

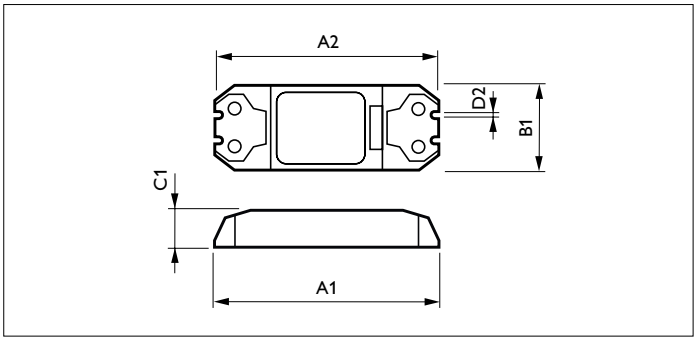
- Works with trailing edge dimmers
- Dimmable on mains dimmers:
  - halogen dimmers
  - conventional dimmers
- Large dimming range from 20 to 100%
- Over voltage protection
- Short circuit protection
- Over temperature protection
- Progressive linear dimming
- No steps
- Suitable for independent use

Product Benefits

- Compact size thin housing
- Easy replacement of halogen transformer + lamps
- Excellent dimming behavior; no dimming steps visible, no humming
- Longer lifetime of total system compared to halogen system (lamp +driver)
- No flickering
- Energy saving

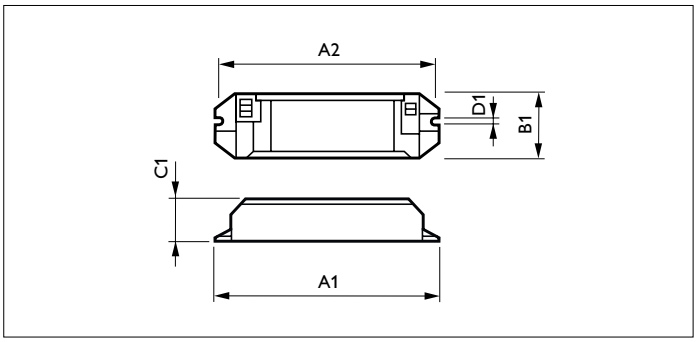
Application

- Shops and shop windows, offices and public buildings museums
- Decorative indoor
- Home



10W dim

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30W dim

Type	A1	A2	B1	C1	D1	D2
10W	120	114.5	45	20	13.5	3.5
30W	150	136	40	28	4.2	-



30W dim

Quick selection table on load

Description	Configuration options
LED Driver indoor 10W dim	3 white Rebel LEDs
LED Driver indoor 30W dim	6 ~ 12 white Rebel LEDs

Technical data

Type	Input			Output		Case Temp Max.	Dimming Range
	Rated Voltage V	Max. Current A	Max. Power W	Rated Current A	Max. Voltage V		
10W	220-240	0.06A	10W	0.07A	14V	80	25%-100%
30W	220-240	0.17A	30W	0.07A	18V-42V	80	20%-100%

* Dimming range depends on the dimmer used, 20%-25% is a typical value that was proven with the tested dimmers. 100% not dimmed or no dimmer.

Compatibility with Philips Lumileds

Type	Current	Type V	Max V	#LEDs 10W	#LEDs 30W
2x Luxeon I**	350 mA**	3.42	3.99	2x3**	2x10**
Luxeon III	700 mA	3.7	4.47	3	9
Luxeon V	700 mA	6.84	8.31	1-2*	5-6*
K2	700 mA	3.42	4.23	3-4*	9-12*
Rebel	700 mA	3.15	3.99	3-4*	10-12*

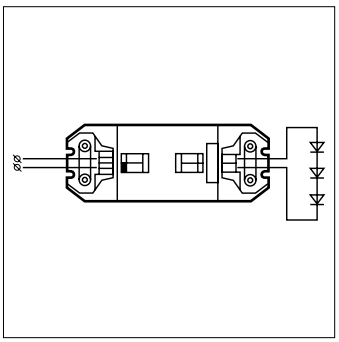
** 2x Luxeon I in parallel circuit * depending on Vf bin

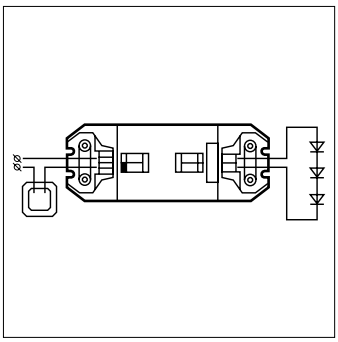
Ordering data

Type	12nc	EOC	Units/packing
Xitanium Led dimmable driver 10W 24V	913710053666	871016306416130	36
Xitanium Led dimmable driver 20/30W 24V	913710053866	871016306418530	20

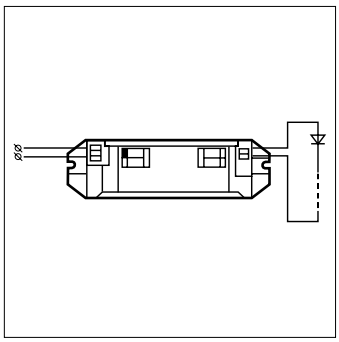
Approved dimmer list:

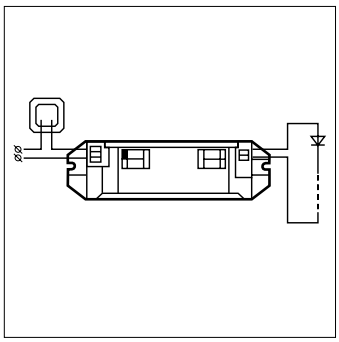
Brand	Description	Supplier	Supplier reference
PEHA	Tronic-dimmer 433 HAB	Tronic dimmer	433 HAB
GIRA	Universal-drehdimmer	GIRA	1176 00/100
GAMMA	Halogeendimmer 20-300W	Merten	5771
Siemens	Delta I Halogeendimmer 20-600W	Siemens	5TC8 284
Niko	09-017	Niko	09-017
GAMMA	Eletronische dimmer	Drespa/Tronic dimmer	0817/433 HAB





Xitanium Led dimmable driver 10W 24V





Xitanium Led dimmable driver 20/30W 24V

LED systems	LED power driver 20 W outdoor 	LED power driver 60 W outdoor 	LED power driver 100 W outdoor 	Xitanium LED driver 17 W outdoor 
Affinium LED posterbox module 		•	•	
Affinium LED string system 	•	•	•	
Intuos LED module system 	•	•	•	•
Affinium LED freezer modules 		•	•	





Compact Fluorescent Lamps Integrated



Compact Fluorescent Lamps Integrated (CFL-I)

Energy savers to safeguard the world

Philips compact fluorescent lamps with integral control gear

Philips invented compact fluorescent energy savers (CFL-I) a quarter of a century ago. Since then, continuous development has produced better light quality, longer, more reliable life, lower mercury content and an increasingly compact design. In addition, the range available has greatly expanded to meet virtually all existing applications and even created new ones.
Today, compact fluorescent lamps are increasingly used both indoors and outdoors, summer and winter, for decorative and display purposes as well as for providing easily-installed low-cost amenity lighting.

The first Philips energy savers were designed to replace ordinary incandescent filament lamps, to combat rising energy costs following an oil crisis. Now, the need for CFL-I lamps is even more fundamental - they also play a major role in combating climate change due to CO_2 emissions. So when you upgrade clients' lighting from incandescent to CFL-I, you are doing much more than simply reducing their lighting costs. You are playing your part in sustaining precious resources, safeguarding the world for all our grandchildren to enjoy. All the benefits of CFL-I are obtained simply by changing the lamp! Like incandescent lamps, they run direct from the mains using a standard lamp cap. They produce the same amount of high-quality light as the lamp they replace. But there the resemblance with incandescent lamps ends

- Compact fluorescent lamps can cut energy consumption by as much as 80%, saving a fortune on energy bills and drastically reducing CO_2 greenhouse gas emissions.
- Compact fluorescent lamps last between six and fifteen times longer than incandescent lamps, saving you expensive relamping maintenance and the inconvenience of failed lamps.
- Compact fluorescents produce less heat than incandescent lamps, reducing discomfort as well as airconditioning bills.
- Unlike incandescent lamps, many compact fluorescents are available in a choice of light colour temperatures.

Note: Not all Compact fluorescent lamps with integral control gear are suitable for use with external electronic devices.



PL E-R 15W E27

Product Description

- Non-covered energy-saving MASTER lamps for professional use

Product Features

- Lightweight, superior long-life alternative to incandescent lamps
- The perfect choice for end users that demand the best performance and reliability
- Average lifetime fifteen times longer than an incandescent lamp
- European energy efficiency labelling class A for the complete range
- Very good lumen maintenance throughout the lifetime of the lamp
- Complete range equipped with the unique Philips bridged burner technology (Mercury)
- Very low mercury content (≤2 mg)

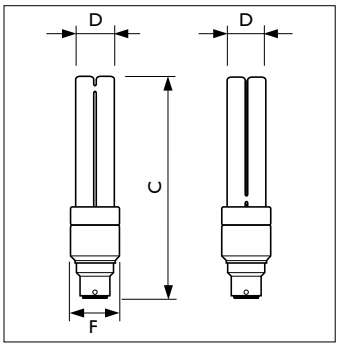
Product Benefits

- Highest energy efficiency resulting in one-fifth the energy consumption of an incandescent lamp for the same light output
- Smallest dimensions ensuring optimal physical fit
- Highest reliability throughout life which is especially beneficial where lighting is required for longer periods of time and / or where lamp replacement is difficult
- The unique bridged burner results in an excellent run-up time with very high initial light output and better thermal performance
- Green product as best environmental choice in the CFL portfolio
- Lifetime independent of switching on-off
- Lowest total cost of ownership

Application

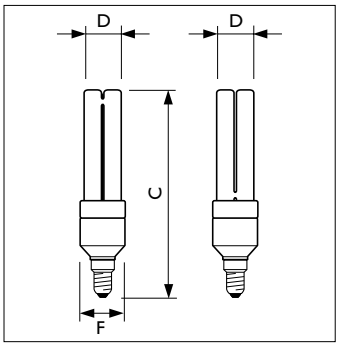
- Designed to replace incandescent lamps in most professional and semi-professional applications
- Mainly indoor (e.g. hotels, restaurants, offices)
- For outdoor applications 3 types (15, 20, 23 W) will remain available also in Amalgam with the benefit of virtually constant light output (>90%) over the recommended temperature
- Enclosed fixtures are required for outdoor applications
- Suitable for emergency lighting with DC supply
- Not suitable for dimming and electronic devices

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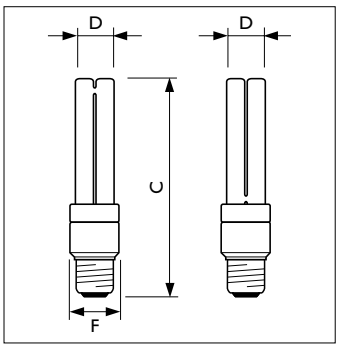
PL E-C B22

Type	CMax	DMax	FMax
MASTER PL-Electronic 8W/827 B22 230-240V 1CT	117.4	28.0	40.3
MASTER PL-Electronic 11W/827 B22 230-240V 1CT	139.4	28.0	40.3
MASTER PL-Electronic 14W/827 B22 230-240V 1CT	161.4	28.0	40.3



PL E-C E14

Type	CMax	DMax	FMax
MASTER PL-Electronic 5W/827 E14 230-240V 1CT	117.2	28.0	40.3
MASTER PL-Electronic 8W/827 E14 230-240V 1CT	122.2	28.0	40.3
MASTER PL-Electronic 11W/827 E14 230-240V 1CT	144.2	28.0	40.3



PL E-C E27

Type	CMax	DMax	FMax
MASTER PL-Electronic 5W/827 E27 230-240V 1CT	114.2	28.0	40.3
MASTER PL-Electronic 8W/827/865 E27 230-240V 1CT	119.2	28.0	40.3
MASTER PL-Electronic 11W/827/865 E27 230-240V 1CT	141.2	28.0	40.3
MASTER PL-Electronic 14W/827865 E27 230-240V 1CT	163.2	28.0	40.3

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
MASTER PL-Electronic 5W/827 E14/E27 230-240V 1CT	230-240	5	A	No	15000
MASTER PL-Electronic 8W/827 E14/E27/B22 230-240V 1CT	230-240	8	A	No	15000
MASTER PL-Electronic 8W/865 E27 230-240V 1CT	230-240	8	A	No	12000
MASTER PL-Electronic 11W/827 E14/E27/B22 230-240V 1CT	230-240	11	A	No	15000
MASTER PL-Electronic 11W/865 E27 230-240V 1CT	230-240	11	A	No	12000
MASTER PL-Electronic 14W/827 E27/B22 230-240V 1CT	230-240	14	A	No	15000
MASTER PL-Electronic 14W/865 E27 230-240V 1CT	230-240	14	A	No	12000
MASTER PL-Electronic 15W/827 E27/B22 230-240V 1CT	230-240	15	A	No	15000
MASTER PL-Electronic 15W/865 E27 230-240V 1CT	230-240	15	A	No	12000
MASTER PL-Electronic 20W/827 E27/B22 230-240V 1CT	230-240	20	A	No	15000
MASTER PL-Electronic 20W/840/865 E27 230-240V 1CT	230-240	20	A	No	12000
MASTER PL-Electronic 23W/827 E27/B22 230-240V 1CT	230-240	23	A	No	15000
MASTER PL-Electronic 23W/840/865 E27 230-240V 1CT	230-240	23	A	No	12000
MASTER PL-Electronic 27W/827 E27 230-240V 1CT	230-240	27	A	No	15000
MASTER PL-Electronic 27W/865 E27 230-240V 1CT	230-240	27	A	No	12000
MASTER PL-Electronic 33W/827 E27 230-240V 1CT	230-240	33	A	No	15000
MASTER PL-Electronic 33W/865 E27 230-240V 1CT	230-240	33	A	No	12000

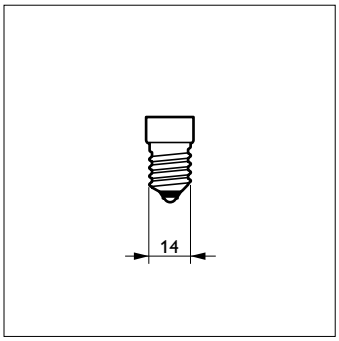
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-Electronic 5W/827 E14/E27 230-240V 1CT	230	46	Warm White	2700	82	470	428
MASTER PL-Electronic 8W/827 E14/E27/B22 230-240V 1CT	400	50	Warm White	2700	82	467	424
MASTER PL-Electronic 8W/865 E27 230-240V 1CT	380	48	Cool Daylight	6500	77	315	340
MASTER PL-Electronic 11W/827 E14/E27/B22 230-240V 1CT	600	55	Warm White	2700	82	466	422
MASTER PL-Electronic 11W/865 E27 230-240V 1CT	575	52	Cool Daylight	6500	77	315	340
MASTER PL-Electronic 14W/827 E27/B22 230-240V 1CT	900	64	Warm White	2700	82	466	422
MASTER PL-Electronic 14W/865 E27 230-240V 1CT	855	61	Cool Daylight	6500	77	315	340
MASTER PL-Electronic 15W/827 E27/B22 230-240V 1CT	875	56	Warm White	2700	82	457	416
MASTER PL-Electronic 15W/865 E27 230-240V 1CT	825	52.8	Cool Daylight	6500	76	315	340
MASTER PL-Electronic 20W/827 E27/B22 230-240V 1CT	1200	60	Warm White	2700	82	457	416
MASTER PL-Electronic 20W/840 E27 230-240V 1CT	1175	58.8	Cool White	4000	80	382	389
MASTER PL-Electronic 20W/865 E27 230-240V 1CT	1175	57.5	Cool Daylight	6500	76	315	340
MASTER PL-Electronic 23W/827 E27/B22 230-240V 1CT	1500	63	Warm White	2700	82	457	416
MASTER PL-Electronic 23W/840 E27 230-240V 1CT	1400	59.4	Cool White	4000	80	382	389
MASTER PL-Electronic 23W/865 E27 230-240V 1CT	1400	59.4	Cool Daylight	6500	76	315	340
MASTER PL-Electronic 27W/827 E27 230-240V 1CT	1800	62	Warm White	2700	82	457	416
MASTER PL-Electronic 27W/865 E27 230-240V 1CT	1700	58.6	Cool Daylight	6500	76	315	340
MASTER PL-Electronic 33W/827 E27 230-240V 1CT	2250	65.2	Warm White	2700	82	457	416
MASTER PL-Electronic 33W/865 E27 230-240V 1CT	2150	64.5	Cool Daylight	6500	76	315	340

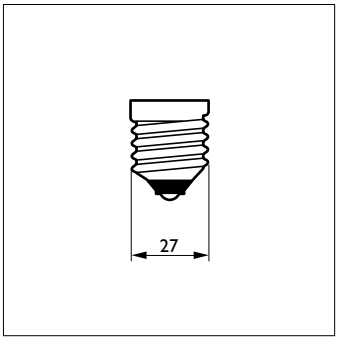
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871150
MASTER PL-Electronic 5W/827 E14 230-240V 1CT	FBT-5/27/1b-230/240-E14	8711500263568	60 gr	10	18.5 cm x 7.8 cm x 14.3 cm	8711500263575	263568 25
MASTER PL-Electronic 5W/827 E27 230-240V 1CT	FBT-5/27/1b-230/240-E27	8711500263537	60 gr	10	18.5 cm x 7.8 cm x 14.3 cm	8711500263551	263537 25
MASTER PL-Electronic 8W/827 B22 230-240V 1CT	FBT-8/27/1b-230/240-B22	8711500263636	60 gr	10	18.5 cm x 7.8 cm x 14.3 cm	8711500263643	263636 25
MASTER PL-Electronic 8W/827 E14 230-240V 1CT	FBT-8/27/1b-230/240-E14	8711500263667	60 gr	10	18.5 cm x 7.8 cm x 14.3 cm	8711500263674	263667 25
MASTER PL-Electronic 8W/827 E27 230-240V 1CT	FBT-8/27/1b-230/240-E27	8711500263582	60 gr	10	18.5 cm x 7.8 cm x 14.3 cm	8711500263599	263582 25
MASTER PL-Electronic 8W/865 E27 230-240V 1CT	FBT-8/65/2a-230/240-E27	8711500263605	60 gr	10	18.5 cm x 7.8 cm x 14.3 cm	8711500263612	263605 25
MASTER PL-Electronic 11W/827 B22 230-240V 1CT	FBT-11/27/1b-230/240-B22	8711500263759	71 gr	10	18.5 cm x 7.8 cm x 16.4 cm	8711500263766	263759 25
MASTER PL-Electronic 11W/827 E14 230-240V 1CT	FBT-11/27/1b-230/240-E14	8711500263773	63 gr	10	18.5 cm x 7.8 cm x 16.4 cm	8727900213737	263773 25
MASTER PL-Electronic 11W/827 E27 230-240V 1CT	FBT-11/27/1b-230/240-E27	8711500263681	71 gr	10	18.5 cm x 7.8 cm x 16.4 cm	8711500263698	263681 25
MASTER PL-Electronic 11W/865 E27 230-240V 1CT	FBT-11/65/2a-230/240-E27	8711500263735	71 gr	10	18.5 cm x 7.8 cm x 16.4 cm	8711500263742	263735 25
MASTER PL-Electronic 14W/827 B22 230-240V 1CT	FBT-14/27/1b-230/240-B22	8711500263841	76 gr	10	18.5 cm x 7.8 cm x 18.5 cm	8711500263858	263841 25
MASTER PL-Electronic 14W/827 E27 230-240V 1CT	FBT-14/27/1b-230/240-E27	8711500263797	76 gr	10	18.5 cm x 7.8 cm x 18.5 cm	8711500263803	263797 25
MASTER PL-Electronic 14W/865 E27 230-240V 1CT	FBT-14/65/2a-230/240-E27	8711500263810	76 gr	10	18.5 cm x 7.8 cm x 18.5 cm	8711500263827	263810 25
MASTER PL-Electronic 15W/827 B22 230-240V 1CT	FBT 15/27/1b-230/240-b22	8711500752055	84 gr	6	16 cm x 11 cm x 14.7 cm	8711500714817	752055 10
MASTER PL-Electronic 15W/827 E27 230-240V 1CT	FBT 15/27/1b-230/240-E27	8711500751423	84 gr	6	16 cm x 11 cm x 14.7 cm	8711500761392	751423 10
MASTER PL-Electronic 15W/865 E27 230-240V 1CT	FBT 15/65/2a-230/240-E27	8711500869203	84 gr	6	16 cm x 11 cm x 14.7 cm	8711500869210	869203 10
MASTER PL-Electronic 20W/827 B22 230-240V 1CT	FBT 15/27/1b-230/240-B22	8711500752062	91 gr	6	16 cm x 11 cm x 15.8 cm	8711500714824	752062 10
MASTER PL-Electronic 20W/827 E27 230-240V 1CT	FBT 20/27/1b-230/240-E27	8711500751430	91 gr	6	16 cm x 11 cm x 15.8 cm	8711500761408	751430 10
MASTER PL-Electronic 20W/840 E27 230-240V 1CT	FBT 20/40/1b-230/240-E27	8711500873590	91 gr	6	16 cm x 11 cm x 15.8 cm	8711500873606	873590 10
MASTER PL-Electronic 20W/865 E27 230-240V 1CT	FBT 20/65/2a-230/240-E27	8711500712226	91 gr	6	16 cm x 11 cm x 15.8 cm	8711500764836	712226 10
MASTER PL-Electronic 23W/827 B22 230-240V 1CT	FBT 23/27/1b-230/240-B22	8711500752079	98 gr	6	16 cm x 11 cm x 17.3 cm	8711500714862	752079 10
MASTER PL-Electronic 23W/827 E27 230-240V 1CT	FBT 23/27/1b-230/240-E27	8711500751447	98 gr	6	16 cm x 11 cm x 17.3 cm	8711500761415	751447 10
MASTER PL-Electronic 23W/840 E27 230-240V 1CT	FBT 23/40/1b-230/240-E27	8711500873613	98 gr	6	16 cm x 11 cm x 17.3 cm	8711500873682	873613 10
MASTER PL-Electronic 23W/865 E27 230-240V 1CT	FBT 23/65/2a-230/240-E27	8711500712233	98 gr	6	16 cm x 11 cm x 17.3 cm	8711500764850	712233 10
MASTER PL-Electronic 27W/827 E27 230-240V 1CT	FBT 27/27/1b-230/240-E27	8711500543851	121 gr	6	16 cm x 11 cm x 19.5 cm	8711500543608	543851 10
MASTER PL-Electronic 27W/865 E27 230-240V 1CT	FBT 27/65/2a-230/240-E27	8711500543899	121 gr	6	16 cm x 11 cm x 19.5 cm	8711500543615	543899 10
MASTER PL-Electronic 33W/827 E27 230-240V 1CT	FBT 35/27/1b-230/240-E27	8711500659996	125 gr	6	16 cm x 11 cm x 21.5 cm	8727900210378	659996 10
MASTER PL-Electronic 33W/865 E27 230-240V 1CT	FBT 35/65/2a-230/240-E27	8727900210354	125 gr	6	16 cm x 11 cm x 21.5 cm	8727900210361	210354 10

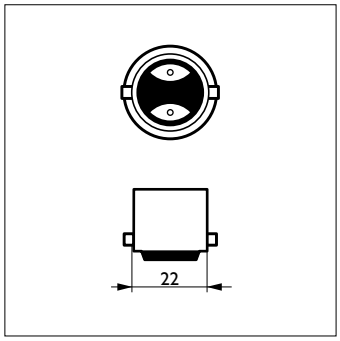
Cap Base



E14



E27



B22



PL E-R 20W E27

Product Description

- Non-covered energy-saving MASTER lamp of adjustable light output, applicable for use with standard wall dimmers in professional applications

Product Features

- Long-life alternative to incandescent lamps
- Dimmable down to 10-15% of nominal light output
- The perfect choice for end users that demand the best performance and reliability
- Average lifetime fifteen times longer than an incandescent lamp
- Equipped with the unique Philips bridged burner technology
- Very good lumen maintenance throughout lamp life
- Very low mercury content (≤2 mg)
- European energy efficiency label A

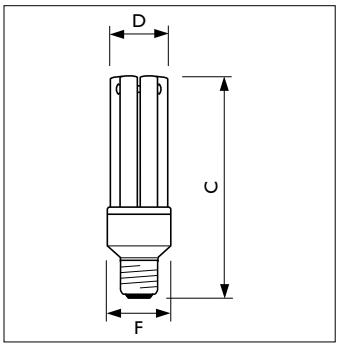
Product Benefits

- Extra ambience creation when using MASTER PL-Electronic Dimmable lamp in dimmable mode
- Highest energy efficiency resulting in one-fifth the energy consumption of an incandescent lamp for the same rated light output
- Additional energy saving effect in dimming mode
- Highest reliability throughout life which is especially beneficial where lighting is required for longer periods of time and / or where lamp replacement is difficult
- The unique bridged burner results in an excellent run-up time with very high initial light output and better thermal performance
- Lifetime independent of switching on-off
- Green product as best environmental choice in the CFL portfolio
- Lowest total cost of ownership

Applications

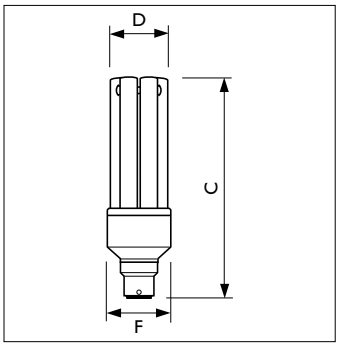
- Designed to replace incandescent lamps in most professional and semi-professional applications, especially those equipped with triac dimmers
- Mainly indoor (e.g. hotels, restaurants, offices)
- Enclosed fixtures are required for outdoor application

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PL E-R E27

Type	CMax	DMax	FMax
MASTER PL-Electronic Dimmable 20W/827 E27 1CT	147.2	39.8	48.0



PL E-R B22

Type	CMax	DMax	FMax
MASTER PL-Electronic Dimmable 20W/827 B22 1CT	145.7	39.8	48.0

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
MASTER PL-Electronic Dimmable 20W/827 E27/B22 1CT	230-240	20	A	Yes	15000

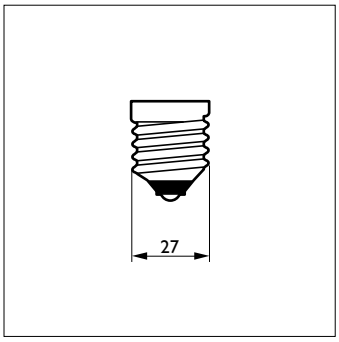
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-Electronic Dimmable 20W/827 E27/B22 1CT	1200	60	Warm White	2700	82	460	425

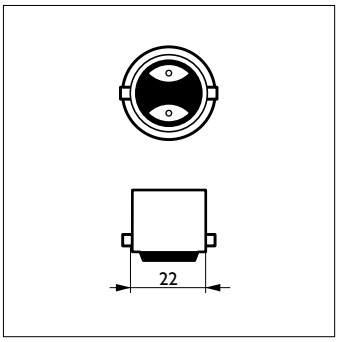
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-Electronic Dimmable 20W/827 B22 1CT	FBT-20/27/1b-230/240-B22	8711500660596	91 gr	6	16 cm x 11 cm x 15.8 cm	8711500660534	660596 10
MASTER PL-Electronic Dimmable 20W/827 E27 1CT	FBT-20/27/1b-230/240-E27	8711500660213	91 gr	6	16 cm x 11 cm x 15.8 cm	8711500660220	660213 10

Cap Base



E27



B22



TORNADO - 20W E26/E27

Product Description

- Energy-saving lamp in a decorative, spiral shape

Product Features

- Spiral-shaped alternative to incandescent lamps
- More light from the same wattage and length compared to other CFL-I lamps
- Better light distribution compared with common 'stick' CFL-I lamps
- Average lifetime up to eight times longer than an incandescent lamp
- European energy efficiency label A

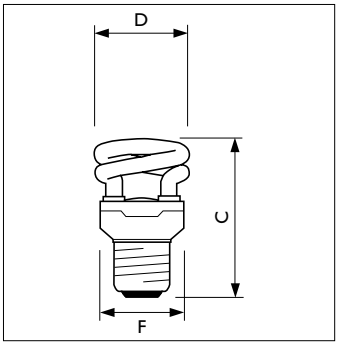
Product Benefits

- Decorative look; lamps can be used in places where they are directly visible, adding some decorative effect
- Very compact size and wide range allowing easy replacement of most GLS lamps from 25 W up to 150 W
- More than 80% energy saving effect compared with incandescent lamps of similar light output
- Fewer replacements and high energy efficiency ensure lower energy bills and lower total cost of ownership

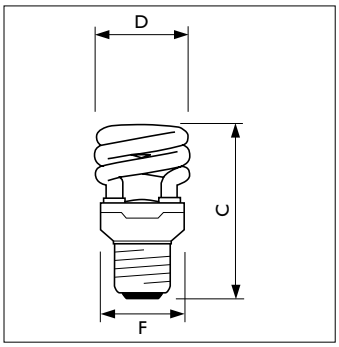
Application

- Replacement of incandescent lamps both in professional and home applications (hotels, restaurants, shops, individual)

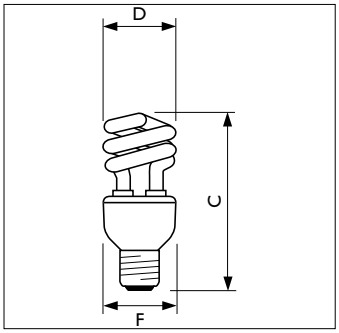
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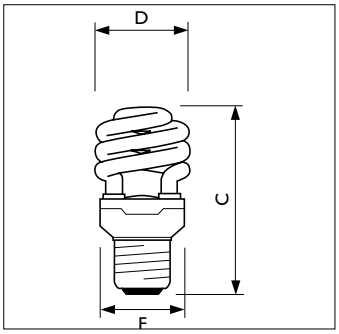
Type	CMax	DMax	FMax
TORNADO ESaver 5W E27	80.0	47.0	40.5
TORNADO ESaver 5W E14	92.0	47.0	40.5
TORNADO ESaver 5W B22	78.5	47.0	40.5



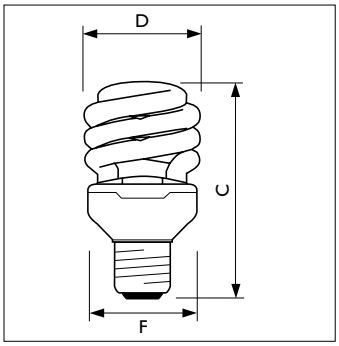
Type	CMax	DMax	FMax
TORNADO ESaver 8W E27	87.0	47.0	40.5
TORNADO ESaver 8W E14	99.0	47.0	40.5
TORNADO ESaver 8W B22	85.5	47.0	40.5



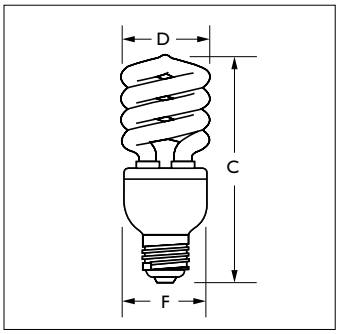
Type	CMax	DMax	FMax
TORNADO ESaver 11W E27	116.0	47.0	44.4
TORNADO ESaver 15W E27	128.0	47.0	44.4



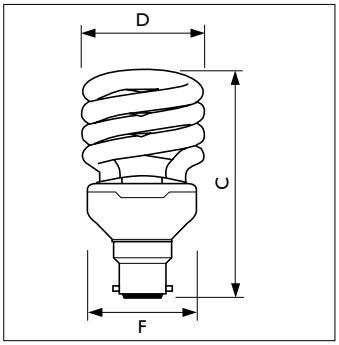
Type	CMax	DMax	FMax
TORNADO ESaver 12W E27	94.0	47.0	40.5
TORNADO ESaver 12W E14	106.0	47.0	40.5
TORNADO ESaver 12W B22	92.5	47.0	40.5



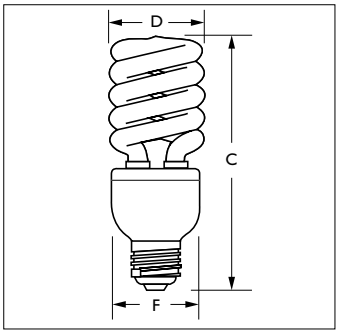
Type	CMax	DMax	FMax
TORNADO ESaver 15W E27	109.0	58.0	52.4
TORNADO ESaver 15W B22	107.5	58.0	52.4



Type	CMax	DMax	FMax
TORNADO ESaver 15W B22	126.5	47.0	44.4
TORNADO ESaver 20W E27	135.0	54.0	48.4
TORNADO ESaver 20W B22	133.5	54.0	48.4



Type	CMax	DMax	FMax
TORNADO ESaver 20W B22	112.5	63.0	52.4



Type	CMax	DMax	FMax
TORNADO ESaver 23W E27	141.0	54.0	48.4

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
TORNADO ESaver 5W/827 B22 220-240V	220-240	5	A	No	8000
TORNADO ESaver 8W/827/865 B22 220-240V	220-240	8	A	No	8000
TORNADO ESaver 11W/865 E27 220-240V	220-240	11	A	No	6000
TORNADO ESaver 12W/827/865 B22 220-240V	220-240	12	A	No	8000
TORNADO ESaver 15W/827 B22 220-240V	220-240	15	A	No	8000
TORNADO ESaver 20W/827/865 B22 220-240V	220-240	20	A	No	8000
TORNADO ESaver 23W/827/865 B22 220-240V	220-240	23	A	No	8000

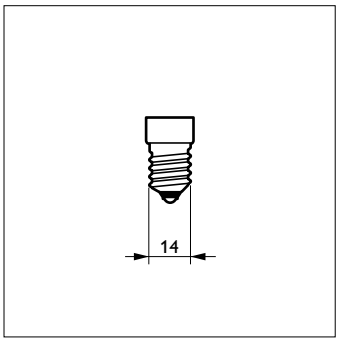
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
TORNADO ESaver 5W/827 B22 220-240V	300	60	Warm White	2700	82	463	420
TORNADO ESaver 8W/827 B22 220-240V	500	62	Warm White	2700	82	463	420
TORNADO ESaver 8W/865 E27 220-240V	475	59	Cool Daylight	6500	80	313	337
TORNADO ESaver 11W/865 E27 220-240V	660	60	Cool Daylight	6500	80	313	337
TORNADO ESaver 12W/827 B22 220-240V	725	65	Warm White	2700	82	463	420
TORNADO ESaver 12W/865 E14 220-240V	685	62	Cool Daylight	6500	80	313	337
TORNADO ESaver 15W/827 B22 220-240V	1000	63	Warm White	2700	82	463	420
TORNADO ESaver 15W/865 E27 220-240V	900	60	Cool Daylight	6500	80	313	337
TORNADO ESaver 20W/827 B22 220-240V	1350	67	Warm White	2700	82	463	420
TORNADO ESaver 20W/865 E27 220-240V	1250	63	Cool Daylight	6500	80	313	337
TORNADO ESaver 23W/827 B22 220-240V	1550	67	Warm White	2700	82	463	420
TORNADO ESaver 23W/865 E27 220-240V	1450	63	Cool Daylight	6500	82	313	337

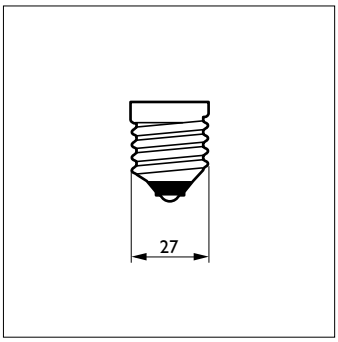
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC
TORNADO ESaver 5W/827 B22 220-240V 1PH	-	8710163212579	40 gr	6	17.7 cm x 11.7 cm x 12.4 cm	8710163212586	212579 10
TORNADO ESaver 5W/827 E14 220-240V 1PH	FBT-5/27/1B-230/240-E14	8710163214276	40 gr	6	17.7 cm x 11.7 cm x 12.4 cm	8710163214320	214276 10
TORNADO ESaver 5W/827 E14 220-240V 1PH	FBT-5/27/1B-230/240-E14	8710163214474	40 gr	6	17.7 cm x 11.7 cm x 12.4 cm	8710163214528	214474 10
TORNADO ESaver 5W/827 E27 220-240V 1PH	FBT-5/27/1B-230/240-E27	8710163212739	40 gr	6	17.7 cm x 11.7 cm x 12.4 cm	8710163212807	212739 10
TORNADO ESaver 5W/827 E27 220-240V 1PH	FBT-5/27/1B-230/240-E27	8710163211510	40 gr	6	17.7 cm x 11.7 cm x 12.4 cm	8710163211589	211510 10
TORNADO ESaver 8W/827 B22 220-240V 1PH	FBT-8/27/1B-230/240-B22	8710163211534	45 gr	6	17.7 cm x 11.7 cm x 13.2 cm	8710163211602	211534 10
TORNADO ESaver 8W/827 E14 220-240V 1PH	FBT-8/27/1B-230/240-E14	8710163214481	45 gr	6	17.7 cm x 11.7 cm x 13.2 cm	8710163214535	214481 10
TORNADO ESaver 8W/827 E27 220-240V 1PH	FBT-8/27/1B-230/240-E27	8710163211527	45 gr	6	17.7 cm x 11.7 cm x 13.2 cm	8710163211596	211527 10
TORNADO ESaver 8W/827 E27 220-240V 1PH	FBT-8/27/1B-230/240-E27	8710163212746	45 gr	6	17.7 cm x 11.7 cm x 13.2 cm	8710163212814	212746 10
TORNADO ESaver 8W/865 E27 220-240V 1PH	FBT-8/65/2A-230/240-E27	8710163212760	45 gr	6	17.7 cm x 11.7 cm x 14 cm	8710163212838	212760 10
TORNADO ESaver 8W/865 E27 220-240V 1PH	FBT-8/65/2A-230/240-E27	8710163211541	45 gr	6	17.7 cm x 11.7 cm x 14 cm	8710163211619	211541 10
TORNADO ESaver 11W/865 E27 220-240V 1PP	FBT-11/27/2a-220/240-E27	8711500316974	65 gr	6	17 cm x 11.8 cm x 17.5 cm	8711500317018	316974 10
TORNADO ESaver 12W/827 B22 220-240V 1PH	FBT-11/27/1B-230/240-B22	8710163211565	50 gr	6	17.7 cm x 11.7 cm x 14 cm	8710163211633	211565 10
TORNADO ESaver 12W/827 E27 220-240V 1PH	FBT-11/27/1B-230/240-E27	8710163212777	50 gr	6	17.7 cm x 11.7 cm x 14 cm	8710163212845	212777 10
TORNADO ESaver 12W/827 E27 220-240V 1PH	FBT-11/27/1B-230/240-E27	8710163211558	50 gr	6	17.7 cm x 11.7 cm x 14 cm	8710163211626	211558 10
TORNADO ESaver 12W/865 E14 220-240V 1PH	FBT-11/65/2A-230/240-E14	8710163214313	50 gr	6	17.7 cm x 11.7 cm x 14 cm	8710163214368	214313 10
TORNADO ESaver 12W/865 E14 220-240V 1PH	FBT-11/65/2A-230/240-E14	8710163214511	50 gr	6	17.7 cm x 11.7 cm x 14 cm	8710163214566	214511 10
TORNADO ESaver 12W/865 E27 220-240V 1PH	FBT-11/65/2A-230/240-E27	8710163211572	50 gr	6	17.7 cm x 11.7 cm x 14 cm	8710163211640	211572 10
TORNADO ESaver 12W/865 E27 220-240V 1PH	FBT-11/65/2A-230/240-E27	8710163212791	50 gr	6	17.7 cm x 11.7 cm x 14 cm	8710163212869	212791 10
TORNADO ESaver 15W/827 B22 220-240V 1PH	FBT-15/27/1B-230/240-B22	8710163211862	55 gr	6	22.1 cm x 15.4 cm x 14.7 cm	8710163211985	211862 10
TORNADO ESaver 15W/827 E27 220-240V 1PH	FBT-15/27/1B-230/240-E27	8710163211855	55 gr	6	22.1 cm x 15.4 cm x 14.7 cm	8710163211978	211855 10
TORNADO ESaver 15W/827 E27 220-240V 1PP	FBT-15/27/1b-220/240-E27	8711500315311	70 gr	6	17 cm x 11.8 cm x 18.5 cm	8711500662477	315311 99
TORNADO ESaver 15W/827 E27 220-240V 1PP	FBT-15/27/1b-220/240-E27	8711500315311	70 gr	6	17 cm x 11.8 cm x 18.5 cm	8711500660718	315311 98
TORNADO ESaver 15W/827 E27 220-240V 1PP	FBT-15/27/1b-220/240-E27	8711500315311	83 gr	6	17 cm x 11.8 cm x 17.5 cm	8711500315359	315311 10
TORNADO ESaver 15W/827 E27 220-240V 1PP	FBT-15/27/1b-220/240-E27	8711500802163	83 gr	6	16.8 cm x 11.6 cm x 18.1 cm	8711500802217	802163 10
TORNADO ESaver 15W/865 E27 220-240V 1PP	FBT-15/27/2a-220/240-E27	8711500316981	70 gr	6	17 cm x 11.8 cm x 18.5 cm	8711500660749	316981 98
TORNADO ESaver 15W/865 E27 220-240V 1PP	FBT-15/27/2a-220/240-E27	8711500316981	70 gr	6	17 cm x 11.8 cm x 18.5 cm	8711500317025	316981 10
TORNADO ESaver 15W/865 E27 220-240V 1PP	FBT-15/27/2a-220/240-E27	8711500802057	83 gr	6	17 cm x 11.8 cm x 16.5 cm	8711500802088	802057 10
TORNADO ESaver 15W/865 E27 230-240V 1PH	FBT-15/65/2A-230/240-E27	8710163211879	55 gr	6	22.1 cm x 15.4 cm x 14.7 cm	8710163211992	211879 10
TORNADO ESaver 20W/827 B22 220-240V 1PH	FBT-20/27/1B-230/240-B22	8710163211909	60 gr	6	23.9 cm x 16.6 cm x 15.3 cm	8710163212029	211909 10
TORNADO ESaver 20W/827 E27 220-240V 1PP	FBT-20/27/1b-220/240-E27	8711500315328	83 gr	6	18.8 cm x 13 cm x 19 cm	8711500662484	315328 99
TORNADO ESaver 20W/827 E27 220-240V 1PP	FBT-20/27/1b-220/240-E27	8711500315328	83 gr	6	18.8 cm x 13 cm x 19 cm	8711500660725	315328 98
TORNADO ESaver 20W/827 E27 220-240V 1PP	FBT-20/27/1b-220/240-E27	8711500315328	83 gr	6	18.8 cm x 13 cm x 19 cm	8711500315366	315328 10
TORNADO ESaver 20W/827 E27 220-240V 1PP	FBT-20/27/1b-220/240-E27	8711500802170	83 gr	6	18.6 cm x 12.8 cm x 18.6 cm	8711500802224	802170 10
TORNADO ESaver 20W/865 E27 220-240V 1PP	FBT-20/27/2a-220/240-E27	8711500316998	83 gr	6	18.8 cm x 13 cm x 19 cm	8711500660756	316998 98
TORNADO ESaver 20W/865 E27 220-240V 1PP	FBT-20/27/2a-220/240-E27	8711500316998	83 gr	6	18.8 cm x 13 cm x 19 cm	8711500317032	316998 10
TORNADO ESaver 20W/865 E27 220-240V 1PP	FBT-20/27/2a-220/240-E27	8711500802064	83 gr	6	18.8 cm x 13 cm x 17.3 cm	8711500802095	802064 10
TORNADO ESaver 23W/827 E27 220-240V 1PP	FBT-23/27/1b-220/240-E27	8711500315335	93 gr	6	18.8 cm x 13 cm x 20 cm	8711500662491	315335 99
TORNADO ESaver 23W/827 E27 220-240V 1PP	FBT-23/27/1b-220/240-E27	8711500315335	93 gr	6	18.8 cm x 13 cm x 20 cm	8711500660732	315335 98
TORNADO ESaver 23W/827 E27 220-240V 1PP	FBT-23/27/1b-220/240-E27	8711500315335	93 gr	6	18.8 cm x 13 cm x 20 cm	8711500315373	315335 10
TORNADO ESaver 23W/827 E27 220-240V 1PP	FBT-23/27/1b-220/240-E27	8711500802187	93 gr	6	18.8 cm x 13 cm x 20 cm	8711500802231	802187 10
TORNADO ESaver 23W/865 E27 220-240V 1PP	FBT-23/27/2a-220/240-E27	8711500317001	93 gr	6	18.8 cm x 13 cm x 20 cm	8711500660763	317001 98
TORNADO ESaver 23W/865 E27 220-240V 1PP	FBT-23/27/2a-220/240-E27	8711500317001	93 gr	6	18.8 cm x 13 cm x 20 cm	8711500317049	317001 10
TORNADO ESaver 23W/865 E27 220-240V 1PP	FBT-23/27/2a-220/240-E27	8711500802071	93 gr	6	18.8 cm x 13 cm x 17.5 cm	8711500802101	802071 10
TORNADO ESaver T2 8W CDL E14 220-240V 1PH	FBT-8/65/2A-230/240-E14	8710163214498	45 gr	6	17.7 cm x 11.7 cm x 14 cm	8710163214542	214498 10
TORNADO ESaver T2 8W CDL E14 220-240V 1PH	FBT-8/65/2A-230/240-E14	8710163214290	45 gr	6	17.6 cm x 12.7 cm x 14.4 cm	8710163214344	214290 10
TORNADO ESaver T2 8W WW E14 220-240V 1PH	FBT-8/27/1B-230/240-E14	8710163214283	45 gr	6	17.6 cm x 12.7 cm x 14.4 cm	8710163214337	214283 10
TORNADO ESaver T2 12W WW E14 220-240V 1PH	FBT-11/27/1B-230/240-E14	8710163214504	50 gr	6	17.7 cm x 11.7 cm x 13.2 cm	8710163214559	214504 10
TORNADO ESaver T2 12W WW E14 220-240V 1PH	FBT-11/27/1B-230/240-E14	8710163214306	50 gr	6	17.7 cm x 11.7 cm x 13.2 cm	8710163214351	214306 10

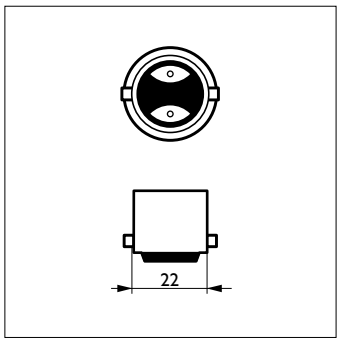
Cap Base



E14



E27



B22





Econ Genie 5W E27

Product Description

- Standard non-covered energy saving lamp

Product Features

- Long-life alternative to incandescent lamps
- Almost instant, flicker-free start (<1 s)
- Light output after one minute 85%
- Recommended ambient temperature range to ensure almost constant light output (>90%): between +10 and +45°C
- Flawless ignition at -20°C and up

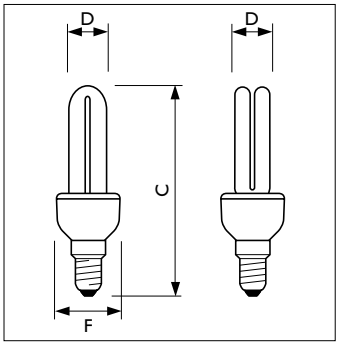
Product Benefits

- High energy efficiency (European energy efficiency labelling class A)

Application

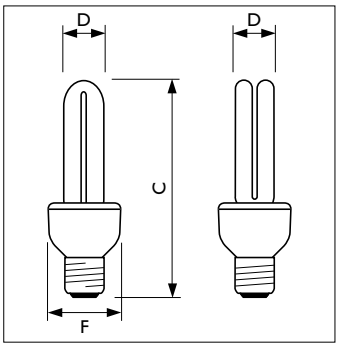
- Designed for incandescent lamp replacement in consumer applications where the lamp is not directly visible
- Especially suitable for (indoor) applications in functional areas
- Enclosed fixtures are required for outdoor applications
- Not suitable for dimming and electronic devices

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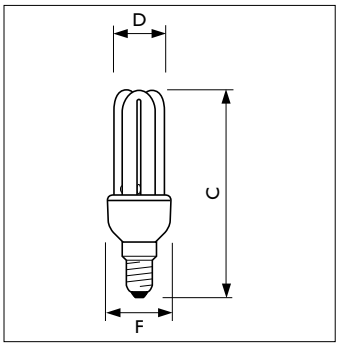
Econ Genie 5W E14

Type	CMax	DMax	FMax
Genie ESaver 5W/827/865 E14 220-240V 1CT	109.0	23.0	37.4



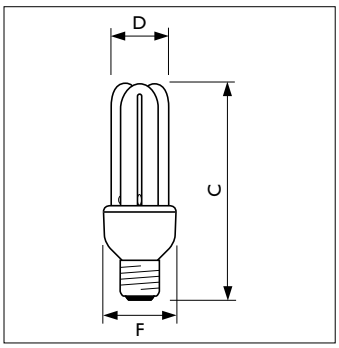
Econ Genie 5W E27

Type	CMax	DMax	FMax
Genie ESaver 5W/827 E27 220-240V 1CT	107.0	23.0	37.4



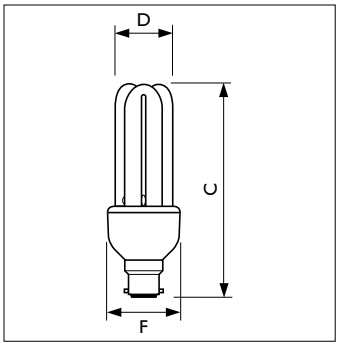
Econ Genie 8W/11W E14

Type	CMax	DMax	FMax
Genie ESaver 8W/827/865 E14 220-240V 1CT	112.0	35.0	44.4
Genie ESaver 11W/827/840/865 E14 220-240V 1CT	122.0	35.0	44.4



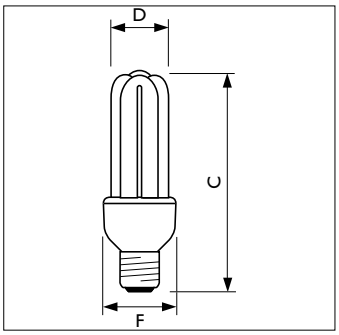
Econ Genie 8W/11W/14W E27

Type	CMax	DMax	FMax
Genie ESaver 8W/827/865 E27 220-240V 1CT	117.0	35.0	44.4
Genie ESaver 11W/827/840/865 E27 220-240V 1CT	132.0	35.0	44.4
Genie ESaver 14W/827 E27 220-240V 1CT	107.0	35.0	44.4



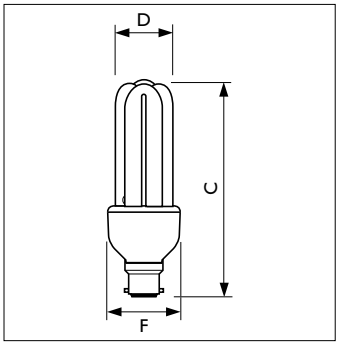
Econ Genie 8W/11W/14W B22

Type	CMax	DMax	FMax
Genie ESaver 8W/827 B22 220-240V 1CT	105.5	35.0	44.4
Genie ESaver 11W/827 B22 220-240V 1CT	115.5	35.0	44.4
Genie ESaver 14W/827 B22 220-240V 1CT	130.5	35.0	44.4



Econ Genie 18W E27

Type	CMax	DMax	FMax
Genie ESaver 18W/827/840/865 E27 220-240V 1CT	135.0	41.0	48.4



Econ Genie 18W B22

Type	CMax	DMax	FMax
Genie ESaver 18W/827 B22 220-240V 1CT	133.5	41.0	48.4

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
Genie ESaver 5W	220-240	5	A	No	8000
Genie ESaver 8W	220-240	8	A	No	8000
Genie ESaver 11W	220-240	11	A	No	8000
Genie ESaver 14W	220-240	14	A	No	8000
Genie ESaver 18W	220-240	18	A	No	8000

Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
Genie ESaver 5W/827 E14/E27 220-240V 1CT/1PH/3FO	250	50	Warm White	2700	82	463	420
Genie ESaver 5W/865 E14 220-240V 1PH/1PP	235	47	Cool Daylight	6500	80	313	337
Genie ESaver 8W/827 E14/E27/B22 220-240V 1CT/1PH/3FO	420	53	Warm White	2700	82	463	420
Genie ESaver 8W/865 E14/E27 220-240V 1CT/1PH/1PP	400	50	Cool Daylight	6500	80	313	337
Genie ESaver 11W/827 E14/E27/B22 220-240V 1CT/1PH/1PP/5FO	600	55	Warm White	2700	82	463	420
Genie ESaver 11W/840 E14/E27 220-240V 1PH	570	52	Cool White	4100	80	380	380
Genie ESaver 11W/865 E14 220-240V 1CT/1PH/1PP	570	52	Cool Daylight	6500	80	313	337
Genie ESaver 14W/827 E27/B22 220-240V 1CT/1PH	810	58	Warm White	2700	82	463	420
Genie ESaver 14W/840 E27 220-240V 1PH	760	54	Cool White	4000	80	380	380
Genie ESaver 14W/865 E27 220-240V 1CT/1PH/1PP	760	54	Cool Daylight	6500	80	313	337
Genie ESaver 18W/827 E27/B22 220-240V 1CT/1PH/1PP	1100	61	Warm White	2700	82	463	420
Genie ESaver 18W/840 E27 220-240V 1PH	1040	58	Cool White	4100	80	380	380
Genie ESaver 18W/865 E27 220-240V 1CT/1PH/1PP	1040	58	Cool Daylight	6500	80	313	337

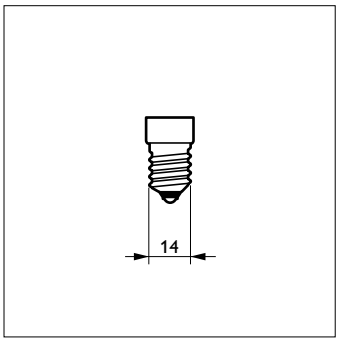
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Genie ESaver 5W/827 E14 220-240V 1CT	FBT-5/27/1b-230/240-E14	8711500265364	55 gr	12	17.2 cm x 12.9 cm x 13.1 cm	8711500265388	265364 15
Genie ESaver 5W/827 E14 220-240V 1CT	FBT-5/27/1b-230/240-E14	8711500314529	50 gr	6	13 cm x 9.1 cm x 15.6 cm	8711500660602	314529 98
Genie ESaver 5W/827 E14 220-240V 1CT	FBT-5/27/1b-230/240-E14	8711500314529	50 gr	6	13 cm x 9.1 cm x 15.6 cm	8711500314611	314529 10
Genie ESaver 5W/827 E14 220-240V 1PH	FBT-5/27/1b-230/240-E14	8711500801142	50 gr	6	14.8 cm x 10.1 cm x 12.6 cm	8711500801647	801142 10
Genie ESaver 5W/827 E14 220-240V 3FO	FBT-5/27/1b-230/240-E14	8711500661616	90 gr	2	13 cm x 9.1 cm x 15.6 cm	8711500661623	661616 47
Genie ESaver 5W/827 E27 220-240V 1CT	FBT-5/27/1b-230/240-E27	8711500658357	55 gr	12	17.2 cm x 12.9 cm x 13.1 cm	8711500658364	658357 15
Genie ESaver 5W/827 E27 220-240V 1CT	FBT-5/27/1b-230/240-E27	8711500314550	50 gr	6	13 cm x 9.1 cm x 15.6 cm	8711500314642	314550 10
Genie ESaver 5W/827 E27 220-240V 1PH	FBT-5/27/1b-230/240-E27	8711500801173	50 gr	6	14.8 cm x 10.1 cm x 12.6 cm	8711500801678	801173 10
Genie ESaver 5W/865 E14 220-240V 1PH	FBT-5/65/2a-230/240-E14	8711500801043	50 gr	6	14.8 cm x 10.1 cm x 12.6 cm	8711500801548	801043 10
Genie ESaver 5W/865 E14 220-240V 1PP	FBT-5/65/2a-230/240-E14	8711500316875	50 gr	6	13 cm x 9.1 cm x 15.6 cm	8711500660664	316875 98
Genie ESaver 5W/865 E14 220-240V 1PP	FBT-5/65/2a-230/240-E14	8711500316875	71 gr	6	13 cm x 9.1 cm x 15.6 cm	8711500316929	316875 10
Genie ESaver 8W/827 B22 220-240V 1CT	FBT-8/27/1b-230/240-B22	8711500797247	70 gr	40	26.5 cm x 21.5 cm x 25.7 cm	8711500797322	797247 55
Genie ESaver 8W/827 B22 220-240V 1CT	FBT-8/27/1b-230/240-B22	8711500801401	70 gr	40	26.5 cm x 21.5 cm x 25.7 cm	8711500801906	801401 55
Genie ESaver 8W/827 B22 220-240V 1CT	FBT-8/27/1b-230/240-B22	8711500314703	56 gr	6	15.2 cm x 10.5 cm x 15.6 cm	8711500314734	314703 10
Genie ESaver 8W/827 B22 220-240V 1PH	FBT-8/27/1b-230/240-B22	8711500801227	70 gr	6	14.3 cm x 9.8 cm x 12.2 cm	8727900210293	801227 11
Genie ESaver 8W/827 B22 220-240V 1PH	FBT-8/27/1b-230/240-B22	8711500801227	70 gr	6	14.8 cm x 10.1 cm x 13.2 cm	8711500801722	801227 10
Genie ESaver 8W/827 E14 220-240V 1CT	FBT-8/27/1b-230/240-E14	8711500658371	70 gr	12	20 cm x 15.5 cm x 13.6 cm	8711500658388	658371 15
Genie ESaver 8W/827 E14 220-240V 1CT	FBT-8/27/1b-230/240-E14	8711500314536	65 gr	6	15.2 cm x 10.5 cm x 16.2 cm	8711500314628	314536 10
Genie ESaver 8W/827 E14 220-240V 1PH	FBT-8/27/1b-230/240-E14	8711500801159	65 gr	6	14.8 cm x 10.1 cm x 13.2 cm	8711500801654	801159 10
Genie ESaver 8W/827 E14 220-240V 3FO	FBT-8/27/1b-230/240-E14	8711500661630	65 gr	2	15.2 cm x 10.5 cm x 16.2 cm	8711500661647	661630 47
Genie ESaver 8W/827 E27 220-240V 1CT	FBT-8/27/1b-230/240-E27	8711500265166	70 gr	12	20 cm x 15.5 cm x 13.6 cm	8711500265173	265166 15
Genie ESaver 8W/827 E27 220-240V 1CT	FBT-8/27/1b-230/240-E27	8711500314567	65 gr	6	15.2 cm x 10.5 cm x 15.6 cm	8711500314659	314567 10
Genie ESaver 8W/827 E27 220-240V 1PH	FBT-8/27/1b-230/240-E27	8711500801180	70 gr	6	14.3 cm x 9.8 cm x 12.2 cm	8727900210323	801180 11
Genie ESaver 8W/827 E27 220-240V 1PH	FBT-8/27/1b-230/240-E27	8711500801180	70 gr	6	14.8 cm x 10.1 cm x 13.2 cm	8711500801685	801180 10
Genie ESaver 8W/827 E27 220-240V 3FO	FBT-8/27/1b-230/240-E27	8711500661654	65 gr	2	15.2 cm x 10.5 cm x 15.6 cm	8711500661661	661654 47
Genie ESaver 8W/865 E14 220-240V 1CT	FBT-8/65/2a-230/240-E14	8711500797131	70 gr	12	19.1 cm x 14.6 cm x 16.9 cm	8711500797155	797131 15
Genie ESaver 8W/865 E14 220-240V 1PH	FBT-8/65/2a-230/240-E14	8711500801050	65 gr	6	14.8 cm x 10.1 cm x 13.2 cm	8711500801555	801050 10
Genie ESaver 8W/865 E14 220-240V 1PP	FBT-8/65/2a-230/240-E14	8711500316882	83 gr	6	15.2 cm x 10.5 cm x 16.2 cm	8711500316936	316882 10
Genie ESaver 8W/865 E27 220-240V 1CT	FBT-8/27/2a-230/240-E27	8711500317414	70 gr	12	20 cm x 15.5 cm x 13.6 cm	8711500317452	317414 15
Genie ESaver 8W/865 E27 220-240V 1PH	FBT-8/27/2a-230/240-E27	8711500802286	65 gr	6	14.8 cm x 10.1 cm x 13.2 cm	8711500802309	802286 10
Genie ESaver 11W/827 B22 220-240V 1CT	FBT-11/27/1b-230/240-B22	8711500797254	100 gr	15	25 cm x 14.8 cm x 13.1 cm	8711500832238	797254 20
Genie ESaver 11W/827 B22 220-240V 1CT	FBT-11/27/1b-230/240-B22	8711500797254	100 gr	40	26.5 cm x 21.5 cm x 28.1 cm	8711500797339	797254 55
Genie ESaver 11W/827 B22 220-240V 1CT	FBT-11/27/1b-230/240-B22	8711500801418	80 gr	40	26.5 cm x 21.5 cm x 28.1 cm	8711500801913	801418 55
Genie ESaver 11W/827 B22 220-240V 1CT	FBT-11/27/1b-230/240-B22	8711500314710	66 gr	6	15.2 cm x 10.5 cm x 16.8 cm	8711500314741	314710 10
Genie ESaver 11W/827 B22 220-240V 1CT	FBT-11/27/1b-230/240-B22	8711500801005	80 gr	6	15.2 cm x 10.5 cm x 16.8 cm	8711500801029	801005 10
Genie ESaver 11W/827 B22 220-240V 1PH	FBT-11/27/1b-230/240-B22	8711500801234	80 gr	6	14.3 cm x 9.8 cm x 13.3 cm	8727900210309	801234 11
Genie ESaver 11W/827 B22 220-240V 1PH	FBT-11/27/1b-230/240-B22	8711500801234	80 gr	6	14.8 cm x 10.1 cm x 14.3 cm	8711500801739	801234 10
Genie ESaver 11W/827 B22 220-240V 1PH	FBT-11/27/1b-230/240-B22	8710163210698	80 gr	6	14.8 cm x 10.1 cm x 14.3 cm	8710163210735	210698 10
Genie ESaver 11W/827 B22 220-240V 1PP	FBT-11/27/1b-230/240-B22	8711500802538	80 gr	6	14.8 cm x 10.1 cm x 14.3 cm	8711500802552	802538 10
Genie ESaver 11W/827 B22 220-240V 5FO	FBT-11/27/1b-230/240-B22	8727900215427	80 gr	10	47.1 cm x 24 cm x 13.7 cm	8727900215434	215427 25
Genie ESaver 11W/827 E14 220-240V 1CT	FBT-11/27/1b-230/240-E14	8711500317292	66 gr	12	19.1 cm x 14.6 cm x 14.4 cm	8711500317308	317292 15
Genie ESaver 11W/827 E14 220-240V 1CT	FBT-11/27/1b-230/240-E14	8711500314543	66 gr	6	15.2 cm x 10.5 cm x 17.3 cm	8711500314635	314543 10
Genie ESaver 11W/827 E14 220-240V 1PH	FBT-11/27/1b-230/240-E14	8711500801166	66 gr	6	14.8 cm x 10.1 cm x 14.3 cm	8711500801661	801166 10
Genie ESaver 11W/827 E27 220-240V 1CT	FBT-11/27/1b-230/240-E27	8711500314574	98 gr	10	23.5 cm x 9.6 cm x 13.5 cm	8711500661227	314574 25
Genie ESaver 11W/827 E27 220-240V 1CT	FBT-11/27/1b-230/240-E27	8711500266422	80 gr	12	20 cm x 15.5 cm x 14.8 cm	8711500266507	266422 15
Genie ESaver 11W/827 E27 220-240V 1CT	FBT-11/27/1b-230/240-E27	8711500797216	80 gr	40	26.5 cm x 21.5 cm x 28.1 cm	8711500797292	797216 55
Genie ESaver 11W/827 E27 220-240V 1CT	FBT-11/27/1b-230/240-E27	8711500801371	80 gr	40	26.5 cm x 21.5 cm x 28.1 cm	8711500801876	801371 55
Genie ESaver 11W/827 E27 220-240V 1CT	FBT-11/27/1b-230/240-E27	8711500314574	66 gr	6	15.2 cm x 10.5 cm x 16.8 cm	8711500314666	314574 10
Genie ESaver 11W/827 E27 220-240V 1PH	FBT-11/27/1b-230/240-E27	8711500801197	66 gr	6	14.3 cm x 9.8 cm x 13.3 cm	8727900210330	801197 11

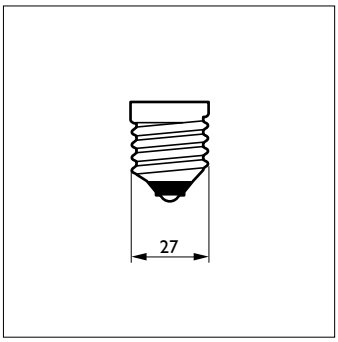
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Genie ESaver 11W/827 E27 220-240V 1PH	FBT-11/27/1b-230/240-E27	8711500801197	66 gr	6	14.8 cm x 10.1 cm x 14.3 cm	8711500801692	801197 10
Genie ESaver 11W/827 E27 220-240V 1PH	FBT-11/27/1b-230/240-E27	8710163210674	80 gr	6	14.8 cm x 10.1 cm x 14.3 cm	8710163210711	210674 10
Genie ESaver 11W/827 E27 220-240V 3FO	FBT-11/27/1b-230/240-E27	8711500661678	66.67 gr	2	15.2 cm x 10.5 cm x 16.8 cm	8711500661685	661678 47
Genie ESaver 11W/840 E14 220-240V 1PH	FBT-11/40/1b-230/240-E14	8710163213958	75 gr	6	14.8 cm x 10.1 cm x 14.3 cm	8710163213996	213958 10
Genie ESaver 11W/840 E27 220-240V 1PH	FBT-11/40/1b-230/240-E27	8710163213965	83 gr	6	14.8 cm x 10.1 cm x 14.3 cm	8710163214009	213965 10
Genie ESaver 11W/865 E14 220-240V 1CT	FBT-11/65/2a-230/240-E14	8711500797148	80 gr	12	19.1 cm x 14.6 cm x 14.4 cm	8711500798145	797148 15
Genie ESaver 11W/865 E14 220-240V 1PH	FBT-11/65/2a-230/240-E14	8711500802576	75 gr	6	14.8 cm x 10.1 cm x 14.3 cm	8711500802583	802576 10
Genie ESaver 11W/865 E27 220-240V 1PH	FBT-11/65/2a-230/240-E27	8711500801067	55 gr	6	14.8 cm x 10.1 cm x 14.3 cm	8711500801562	801067 10
Genie ESaver 11W/865 E27 220-240V 1PP	FBT-11/65/2a-230/240-E27	8711500316899	83 gr	6	15.2 cm x 10.5 cm x 16.8 cm	8711500660688	316899 98
Genie ESaver 11W/865 E27 220-240V 1PP	FBT-11/65/2a-230/240-E27	8711500316899	83 gr	6	15.2 cm x 10.5 cm x 16.8 cm	8711500316943	316899 10
Genie ESaver 14W/827 B22 220-240V 1CT	FBT-14/27/1b-230/240-B22	8711500801425	90 gr	40	26.5 cm x 21.5 cm x 31.3 cm	8711500801920	801425 55
Genie ESaver 14W/827 B22 220-240V 1CT	FBT-14/27/1b-230/240-B22	8711500797261	90 gr	40	26.5 cm x 21.5 cm x 31.3 cm	8711500797346	797261 55
Genie ESaver 14W/827 B22 220-240V 1CT	FBT-14/27/1b-230/240-B22	8711500314604	66 gr	6	15.2 cm x 10.5 cm x 16.8 cm	8711500314697	314604 10
Genie ESaver 14W/827 B22 220-240V 1PH	FBT-14/27/1b-230/240-B22	8711500801241	66 gr	6	14.8 cm x 10.1 cm x 15.5 cm	8711500801746	801241 10
Genie ESaver 14W/827 E27 220-240V 1CT	FBT-14/27/1b-230/240-E27	8711500658678	70 gr	12	20 cm x 15.5 cm x 13.6 cm	8711500658685	658678 15
Genie ESaver 14W/827 E27 220-240V 1CT	FBT-14/27/1b-230/240-E27	8711500797223	90 gr	40	26.5 cm x 21.5 cm x 31.3 cm	8711500797308	797223 55
Genie ESaver 14W/827 E27 220-240V 1CT	FBT-14/27/1b-230/240-E27	8711500801388	90 gr	40	26.5 cm x 21.5 cm x 31.3 cm	8711500801883	801388 55
Genie ESaver 14W/827 E27 220-240V 1CT	FBT-14/27/1b-230/240-E27	8711500314581	66 gr	6	15.2 cm x 10.5 cm x 16.8 cm	8711500314673	314581 10
Genie ESaver 14W/827 E27 220-240V 1PH	FBT-14/27/1b-230/240-E27	8711500801203	66 gr	6	14.8 cm x 10.1 cm x 15.5 cm	8711500801708	801203 10
Genie ESaver 14W/840 E27 220-240V 1PH	FBT-14/40/1b-230/240-E27	8710163213972	83 gr	6	14.8 cm x 10.1 cm x 15.5 cm	8710163214016	213972 10
Genie ESaver 14W/865 E27 220-240V 1CT	FBT-14/65/2a-230/240-E27	8711500317438	83 gr	12	20 cm x 15.5 cm x 14.8 cm	8711500317476	317438 15
Genie ESaver 14W/865 E27 220-240V 1PH	FBT-14/65/2a-230/240-E27	8711500801074	66 gr	6	14.8 cm x 10.1 cm x 15.5 cm	8711500801579	801074 10
Genie ESaver 14W/865 E27 220-240V 1PP	FBT-14/65/2a-230/240-E27	8711500316905	83 gr	6	15.2 cm x 10.5 cm x 18.4 cm	8711500660695	316905 98
Genie ESaver 14W/865 E27 220-240V 1PP	FBT-14/65/2a-230/240-E27	8711500316905	83 gr	6	15.2 cm x 10.5 cm x 18.4 cm	8711500316950	316905 10
Genie ESaver 18W/827 B22 220-240V 1CT	FBT-18/27/1b-230/240-B22	8711500797278	100 gr	15	27.7 cm x 17.1 cm x 15 cm	8711500661999	797278 20
Genie ESaver 18W/827 B22 220-240V 1CT	FBT-18/27/1b-230/240-B22	8711500797278	100 gr	40	29.6 cm x 23.9 cm x 31.7 cm	8711500797353	797278 55
Genie ESaver 18W/827 B22 220-240V 1CT	FBT-18/27/1b-230/240-B22	8711500801432	100 gr	40	29.6 cm x 23.9 cm x 31.7 cm	8711500801937	801432 55
Genie ESaver 18W/827 B22 220-240V 1CT	FBT-18/27/1b-230/240-B22	8711500801012	110 gr	6	16.7 cm x 11.5 cm x 18.6 cm	8711500801036	801012 10
Genie ESaver 18W/827 B22 220-240V 1CT	FBT-18/27/1b-230/240-B22	8711500314727	85 gr	6	16.7 cm x 11.5 cm x 18.6 cm	8711500314758	314727 10
Genie ESaver 18W/827 B22 220-240V 1PH	FBT-18/27/1b-230/240-B22	8711500801258	80 gr	6	16.3 cm x 11.2 cm x 14.7 cm	8727900210316	801258 11
Genie ESaver 18W/827 B22 220-240V 1PH	FBT-18/27/1b-230/240-B22	8710163210704	80 gr	6	16.3 cm x 11.1 cm x 15.7 cm	8710163210742	210704 10
Genie ESaver 18W/827 B22 220-240V 1PH	FBT-18/27/1b-230/240-B22	8711500801258	80 gr	6	16.6 cm x 11.1 cm x 15.7 cm	8711500802811	801258 10
Genie ESaver 18W/827 B22 220-240V 1PP	FBT-18/27/1b-230/240-B22	8711500802545	98 gr	6	16.6 cm x 11.1 cm x 15.7 cm	8711500802569	802545 10
Genie ESaver 18W/827 E27 220-240V 1CT	FBT-18/27/1b-230/240-E27	8711500317179	121 gr	12	22.1 cm x 16.8 cm x 15.8 cm	8711500317216	317179 15
Genie ESaver 18W/827 E27 220-240V 1CT	FBT-18/27/1b-230/240-E27	8711500797230	100 gr	40	29.6 cm x 23.9 cm x 31.7 cm	8711500797315	797230 55
Genie ESaver 18W/827 E27 220-240V 1CT	FBT-18/27/1b-230/240-E27	8711500801395	100 gr	40	29.6 cm x 23.9 cm x 31.7 cm	8711500801890	801395 55
Genie ESaver 18W/827 E27 220-240V 1CT	FBT-18/27/1b-230/240-E27	8711500314598	98 gr	6	16.7 cm x 11.5 cm x 18.6 cm	8711500314680	314598 10
Genie ESaver 18W/827 E27 220-240V 1PH	FBT-18/27/1b-230/240-E27	8711500801210	80 gr	6	16.3 cm x 11.2 cm x 14.7 cm	8727900210347	801210 11
Genie ESaver 18W/827 E27 220-240V 1PH	FBT-18/27/1b-230/240-E27	8711500801210	80 gr	6	16.3 cm x 11.1 cm x 15.7 cm	8711500801715	801210 10
Genie ESaver 18W/827 E27 220-240V 1PH	FBT-18/27/1b-230/240-E27	8710163210681	80 gr	6	16.3 cm x 11.1 cm x 15.7 cm	8710163210728	210681 10
Genie ESaver 18W/840 E27 220-240V 1PH	FBT-18/40/1b-230/240-E27	8710163213989	83 gr	6	16.3 cm x 11.1 cm x 15.7 cm	8710163214023	213989 10
Genie ESaver 18W/865 E27 220-240V 1CT	FBT-18/65/2a-230/240-E27	8711500317445	121 gr	12	22.6 cm x 17.2 cm x 17.9 cm	8711500317483	317445 15
Genie ESaver 18W/865 E27 220-240V 1PH	FBT-18/65/2a-230/240-E27	8711500801081	83 gr	6	16.6 cm x 11.1 cm x 15.7 cm	8711500801586	801081 10
Genie ESaver 18W/865 E27 220-240V 1PP	FBT-18/65/2a-230/240-E27	8711500316912	83 gr	6	16.7 cm x 11.5 cm x 18.6 cm	8711500660701	316912 98
Genie ESaver 18W/865 E27 220-240V 1PP	FBT-18/65/2a-230/240-E27	8711500316912	83 gr	6	16.5 cm x 11.3 cm x 18.2 cm	8711500316967	316912 10

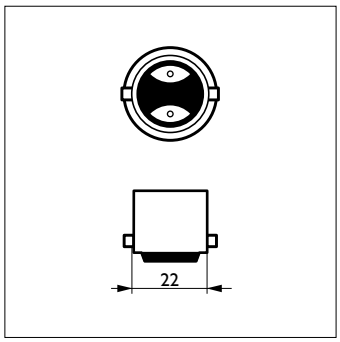
Cap Base



E14



E27



B22





PL E-R 15W E27

Product Description

- Covered energy-saving MASTER lamps for professional use in outdoor applications

Product Features

- Long-life alternative to incandescent lamps
- Amalgam technology enabling excellent, virtually constant lumen performance in a wide range of ambient temperatures
- The perfect choice for end users that demand the best performance and reliability
- Average lifetime fifteen times longer than an incandescent lamp
- Very good lumen maintenance throughout the lifetime of the lamp
- Complete range equipped with the unique Philips bridged burner technology
- Very low mercury content (≤2 mg)
- European energy efficiency label A for the complete range

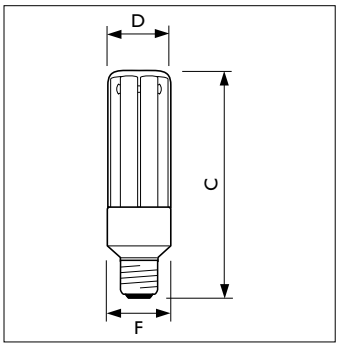
Product Benefits

- Very good performance in the lower ambient temperature range (the lamp gives no less than 90% of nominal lumen in temperatures between –20 and +40 °C), rendering the lamp especially suitable for outdoor applications
- Highest energy efficiency resulting in one-fifth the energy consumption of an incandescent lamp for the same light output
- Highest reliability throughout life which is especially beneficial where lighting is required for longer periods of time and / or where lamp replacement is difficult
- Lifetime independent of switching on-off
- Green product as best environmental choice in the CFL portfolio
- Lowest total cost of ownership

Applications

- Designed to replace incandescent lamps in most professional and semi- professional applications
- Outdoor (e.g. outdoor hotel lighting, parking lots, restaurant/café gardens, patios, garden / lawn lighting)
- Enclosed fixtures are required for outdoor applications
- Not suitable for dimming and electronic devices

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PL E-R E27

Type	CMax	DMax	FMax
MASTER PL-Electronic Polar 15W/827 E27 1CT	132.0	50.8	48.0
MASTER PL-Electronic Polar 20W/827 E27 1CT	143.0	50.8	48.0
MASTER PL-Electronic Polar 23W/827 E27 1CT	158.0	50.8	48.0

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
MASTER PL-Electronic Polar 15W/827 E27 1CT	230-240	15	A	No	15000
MASTER PL-Electronic Polar 20W/827 E27 1CT	230-240	20	A	No	15000
MASTER PL-Electronic Polar 23W/827 E27 1CT	230-240	23	A	No	15000

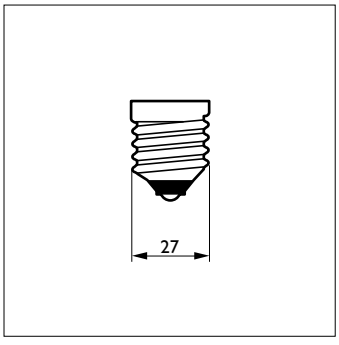
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-Electronic Polar 15W/827 E27 1CT	875	56	Warm White	2700	82	457	416
MASTER PL-Electronic Polar 20W/827 E27 1CT	1200	64	Warm White	2700	82	457	416
MASTER PL-Electronic Polar 23W/827 E27 1CT	1485	63	Warm White	2700	82	457	416

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-Electronic Polar 15W/827 E27 1CT	FBT-15/27/1b-230/240-E27	8711500660459	117 gr	6	18.1 cm x 12.3 cm x 15.8 cm	8711500660527	660459 10
MASTER PL-Electronic Polar 20W/827 E27 1CT	FBT-20/27/1b-230/240-E27	8711500660039	130 gr	6	18.1 cm x 12.3 cm x 16 cm	8711500831583	660039 10
MASTER PL-Electronic Polar 23W/827 E27 1CT	FBT-23/27/1b-230/270-E27	8711500660053	143 gr	6	18.1 cm x 12.3 cm x 18.4 cm	8711500831606	660053 10

Cap Base



E27



PL E-R 11W/15W E27 Pri

Product Description

- Covered energy-saving MASTER lamp for (semi-) professional use with built-in light sensor, switches on when it is dark, switches off in daylight

Product Features

- Long-life alternative to incandescent lamps, once connected to mains electricity it automatically switches on when it is dark and switches off in daylight
- The perfect choice for end users that demand the best performance and reliability
- Average lifetime fifteen times longer than an incandescent lamp
- European energy efficiency labelling class A
- Very good lumen maintenance throughout the lifetime of the lamp
- Virtually constant light output (>90%) over recommended temperature range
- Very low mercury content (≤2 mg)

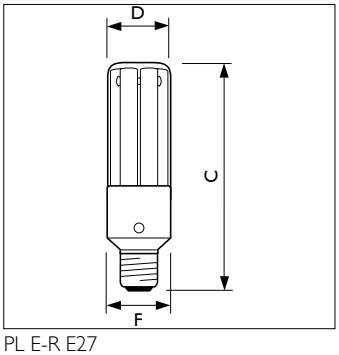
Product Benefits

- Simplicity of use; once installed it switches on-off automatically at certain daylight level
- Highest energy efficiency resulting in one-fifth the energy consumption of an incandescent lamp for the same light output
- Highest reliability throughout life which is especially beneficial where lighting is required for longer periods of time and / or where lamp replacement is difficult
- Lifetime independent of switching on-off
- Green product as best environmental choice in the CFL portfolio
- Lowest total cost of ownership

Application

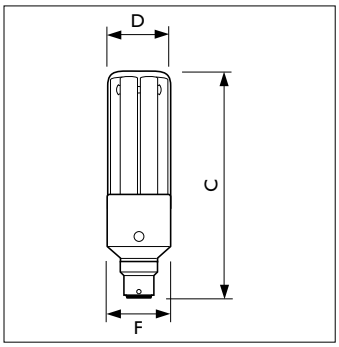
- Designed to replace incandescent lamps in most professional and semi-professional applications
- Mainly outdoor (e.g. outdoor hotel lighting, parking lots, restaurant / café gardens, patios, garden / lawn lighting)
- Enclosed fixtures are required for outdoor applications
- Not suitable for dimming and electronic devices

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PL E-R E27

Type	CMax	DMax	FMax
MASTER PL-Electronic Automatic 11W/827 E27 1CT	141.0	50.8	48.0



PL E-R B22

Type	CMax	DMax	FMax
MASTER PL-Electronic Automatic 11W/827 B22 1CT	139.5	50.8	48.0

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
MASTER PL-Electronic Automatic 11W/827 E27/B22 1CT	230-240	11	A	No	15000
MASTER PL-Electronic Automatic 15W/827 E27/B22 1CT	230-240	15	A	No	15000

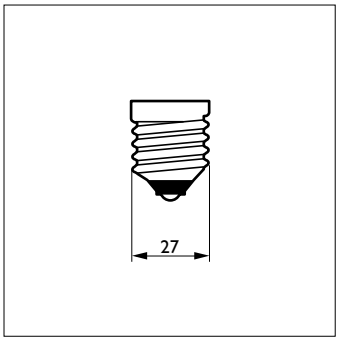
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-Electronic Automatic 11W/827 E27/B22 1CT	600	54	Warm White	2700	82	457	416
MASTER PL-Electronic Automatic 15W/827 E27/B22 1CT	900	60	Warm White	2700	82	457	416

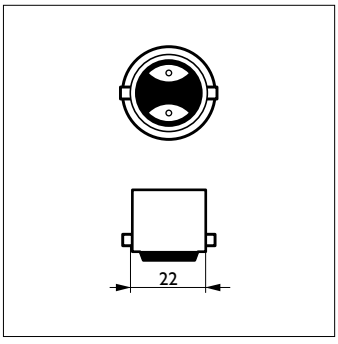
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EOC 8711500
MASTER PL-Electronic Automatic 11W/827 B22 1CT	FBT-11/27/1b-230/240-B22	8711500260595	117 gr	6	16.4 cm x 11.3 cm x 16.9 cm	260595 10
MASTER PL-Electronic Automatic 11W/827 E27 1CT	FBT-11/27/1b-230/240-E27	8711500260588	117 gr	6	16.4 cm x 11.3 cm x 16.9 cm	260588 10
MASTER PL-Electronic Automatic 15W/827 B22 1CT	FBT-15/27/1b-230/240-B22	8711500260618	130 gr	6	16.4 cm x 11.3 cm x 16.9 cm	260618 10
MASTER PL-Electronic Automatic 15W/827 E27 1CT	FBT-15/27/1b-230/240-E27	8711500260601	130 gr	6	16.4 cm x 11.3 cm x 16.9 cm	260601 10

Cap Base



E27



B22



PL-Electronic Ambiance 12W E27 A65/A65B

Product Description

- Energy-saving lamp approximating the shape of a normal incandescent lamp

Product Features

- Professional long-life energy saving alternative to incandescent lamps
- Almost instant, flicker-free start (<1 s)
- 80% of nominal light output reached two minutes after switching on
- Almost constant light output (>90%) over recommended temperature range -20 to +40°C

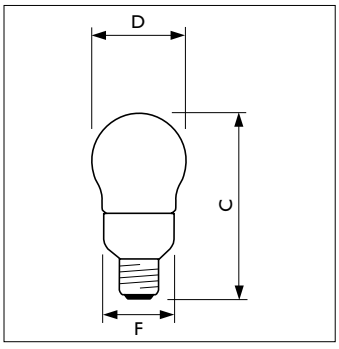
Product Benefits

- Light quality and distribution similar to the opalised incandescent lamps
- Gives a soft, diffused light with a high comfort level

Application

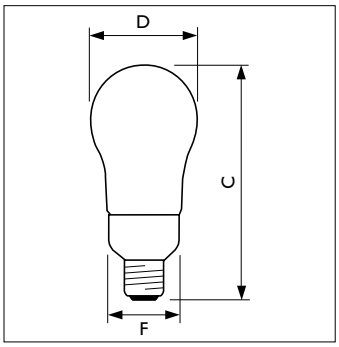
- Designed for incandescent lamp replacement in professional applications (hotels, restaurants, where you want to create an intimate and cosy atmosphere)
- Suitable for applications where lamp is visible
- Enclosed fixtures are required for outdoor applications
- Not suitable for dimming and electronic devices

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AMB E27 A55/A60C/A65/A65B

Type	CMax	DMax	FMax
PL-Electronic Ambiance 9W/827 E27 230-240V 1CH	121.1	60.8	48.1
PL-Electronic Ambiance 12W/827 E27 230-240V 1CH	128.1	65.8	48.1
PL-Electronic Ambiance 16W/827 E27 230-240V 1CH	137.1	65.8	48.1
PL-Electronic Ambiance 9W/827 B22 230-240V 1CH	119.4	60.8	48.1
PL-Electronic Ambiance 12W/827 B22 230-240V 1CH	126.4	65.8	48.1
PL-Electronic Ambiance 16W/827 B22 230-240V 1CH	135.4	65.8	48.1



AMB-Pro E27 A70/A75/A75A

Type	CMax	DMax	FMax
PL-Electronic Ambiance 20W/827 E27 230-240V 1CH	151.6	70.8	48.1
PL-Electronic Ambiance 23W/827 E27 230-240V 1CH	162.6	75.8	48.1

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
PL-Electronic Ambiance 9W/827 E27/B22 230-240V 1CH	230-240	9	A	No	12000
PL-Electronic Ambiance 12W/827 E27/B22 230-240V 1CH	230-240	12	A	No	12000
PL-Electronic Ambiance 16W/827 E27/B22 230-240V 1CH	230-240	16	A	No	12000
PL-Electronic Ambiance 20W/827 E27 230-240V 1CH	230-240	20	A	No	12000
PL-Electronic Ambiance 23W/827 E27 230-240V 1CH	230-240	23	A	No	12000

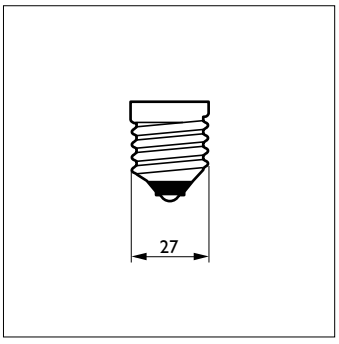
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
PL-Electronic Ambiance 9W/827 E27/B22 230-240V 1CH	420	48.5	Warm White	2700	82	460	424
PL-Electronic Ambiance 12W/827 E27/B22 230-240V 1CH	630	54	Warm White	2700	82	465	417
PL-Electronic Ambiance 16W/827 E27/B22 230-240V 1CH	900	55.5	Warm White	2700	82	460	418
PL-Electronic Ambiance 20W/827 E27 230-240V 1CH	1200	59.1	Warm White	2700	82	462	418
PL-Electronic Ambiance 23W/827 E27 230-240V 1CH	1380	63.0	Warm White	2700	82	462	418

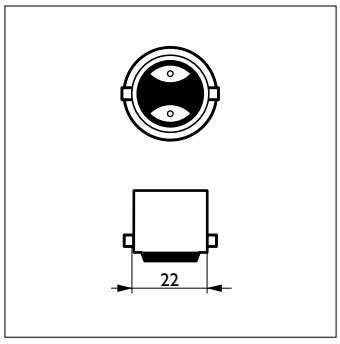
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
PL-Electronic Ambiance 9W/827 B22 230-240V 1CH	FBG-9/27/1b-230/240-B22	8711500871947	83 gr	6	14 cm x 20.6 cm x 14.2 cm	8711500871954	871947 10
PL-Electronic Ambiance 9W/827 E27 230-240V 1CH	FBG-9/27/1b-230/240-E27	8711500871923	90 gr	6	14 cm x 20.6 cm x 14.2 cm	8711500871930	871923 10
PL-Electronic Ambiance 12W/827 B22 230-240V 1CH	FBG-12/27/1b-230/240-B22	8711500468086	83 gr	6	15 cm x 22.1 cm x 15 cm	8711500468093	468086 10
PL-Electronic Ambiance 12W/827 E27 230-240V 1CH	FBG-12/27/1b-230/240-E27	8711500468062	101 gr	6	15 cm x 22.1 cm x 15 cm	8711500468079	468062 10
PL-Electronic Ambiance 16W/827 B22 230-240V 1CH	FBG-16/27/1b-230/240-B22	8711500468123	83 gr	6	21.9 cm x 14.8 cm x 16.8 cm	8711500468130	468123 10
PL-Electronic Ambiance 16W/827 E27 230-240V 1CH	FBG-16/27/1b-230/240-E27	8711500468109	83 gr	6	21.9 cm x 14.8 cm x 15.5 cm	8711500468116	468109 10
PL-Electronic Ambiance 20W/827 E27 230-240V 1CH	FBG-20/27/1b-230/240-E27	8711500468185	83 gr	6	23.4 cm x 15.9 cm x 17 cm	8711500468192	468185 10
PL-Electronic Ambiance 23W/827 E27 230-240V 1CH	FBG-23/27/1b-230/240-E27	8711500468024	83 gr	6	25.1 cm x 17 cm x 18.5 cm	8711500468031	468024 10

Cap Base



E27



B22



Soft 8y E27 T60

Product Description

- Extremely compact covered energy-saving lamp that produces soft white light

Product Features

- Long-life energy saving alternative to incandescent lamps
- Fast run-up: light output after one minute 80%
- Recommended ambient temperature range to ensure almost constant light output (>90%): between +10 and +45°C
- Flawless ignition at -20°C and up.

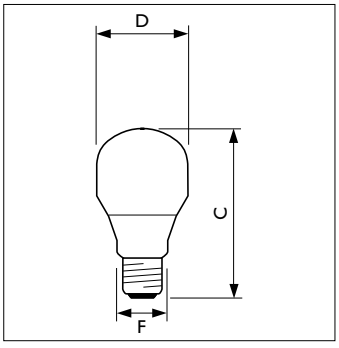
Product Benefits

- Pleasant "Softone" light effect
- Shape and size similar to Softone incandescent bulb
- Up to 80% energy saving compared to standard incandescent lamps

Application

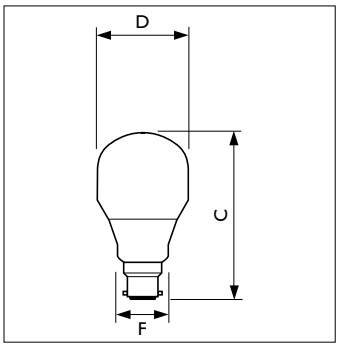
- Ideal for use in most consumer and semi-professional applications where you want to create an intimate and cosy atmosphere
- Ideal replacement for incandescent lamps in places where lights burn for longer periods and where good light effect is important
- Especially suitable for applications where lamp replacement is difficult
- Closed fixtures are required for outdoor applications
- Not suitable for dimming and electronic devices

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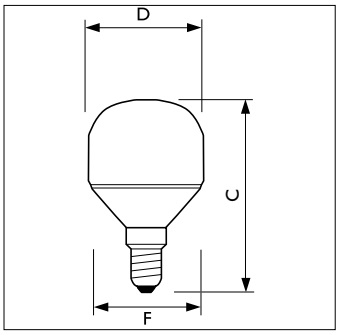
Soft 8y E27 P54/T60/T65

Type	CMax	DMax	FMax
Softone ESaver 5W WW E27 230-240V T60 1PF	114.0	60.8	46.5
Softone ESaver 20W WW E27 230-240V T65 1PH	129.0	65.8	46.5



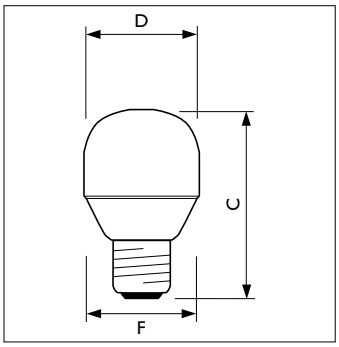
Soft 8y B22

Type	CMax	DMax	FMax
Softone ESaver 8W/12W/16W WW B22 230-240V T60 1PH	112.5	60.8	46.5
Softone ESaver 20W WW B22 230-240V T65 1PH	127.5	65.8	46.5



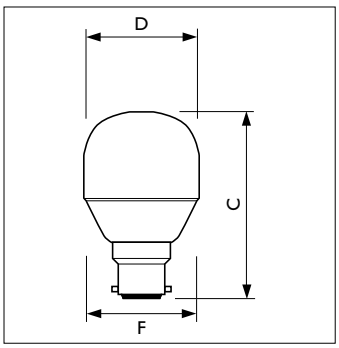
Soft 8y E14 T45

Type	CMax	DMax	FMax
Softone ESaver 8W WW E14 230-240V T45 1PP	85.0	45.0	44.1



Soft 8y E27 T45

Type	CMax	DMax	FMax
Softone ESaver 8W WW E27 230-240V T45 1PP	80.0	45.0	44.1



Soft 8y B22 T45

Type	CMax	DMax	FMax
Softone ESaver 8W WW B22 230-240V T45 1PP	78.5	45.0	44.1

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
Softone ESaver 5W WW E27 230-240V T60 1PF	230-240	5	A	No	8000
Softone ESaver 8W WW B22 230-240V T45 1PP	230-240	8	B	No	8000
Softone ESaver 8W WW E14/E27B22 230-240V T45/T60 1PH/1PP	230-240	8	A	No	8000
Softone ESaver 12W WW E27/B22 230-240V T60 1CT/1PH	230-240	12	A	No	8000
Softone ESaver 16W WW E27/B22 230-240V T60 1PH	230-240	16	B	No	8000
Softone ESaver 20W WW E27/B22 230-240V T65 1PH	230-240	20	A	No	8000

Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
Softone ESaver 5W WW E27 230-240V T60 1PF	200	40	Warm White	2700	82	470	429
Softone ESaver 8W WW E14/E27/B22 230-240V T45 1PP	290	41.2	Warm White	2700	82	465	420
Softone ESaver 8W WW E27/B22 230-240V T60 1PH	380	48	Warm White	2700	82	460	423
Softone ESaver 12W WW E27/B22 230-240V T60 1CT	610	53	Warm White	2700	82	467	418
Softone ESaver 16W WW E27/B22 230-240V T60 1PH	815	51	Warm White	2700	82	462	414
Softone ESaver 20W WW E27/B22 230-240V T65 1PH	1160	52	Warm White	2700	82	462	414

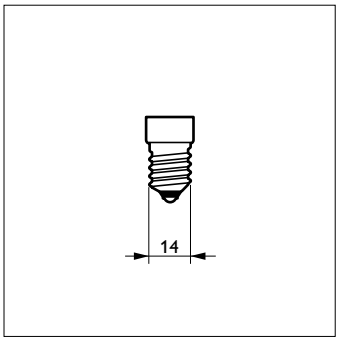
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Softone ESaver 5W WW E27 230-240V T60 1PF	FBG-5/27/1b-230/240-E27	8711500662552	75 gr	2	12.4 cm x 6.2 cm x 11.6 cm	8711500832122	662552 47
Softone ESaver 5W WW E27 230-240V T60 1PH	FBG-5/27/1b-230/240-E27	8711500658739	75 gr	2	12.4 cm x 6.2 cm x 11.6 cm	8711500658807	658739 47
Softone ESaver 5W WW E27 230-240V T60 1PH	FBG-5/27/1b-230/240-E27	8711500658739	75 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658814	658739 11
Softone ESaver 5W WW E27 230-240V T60 1PH	FBG-5/27/1b-230/240-E27	8711500662552	75 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500832191	662552 11
Softone ESaver 5W WW E27 230-240V T60 1PF	FBG-5/27/1b-230/240-E27	8711500662552	75 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500830371	662552 10
Softone ESaver 5W WW E27 230-240V T60 1PH	FBG-5/27/1b-230/240-E27	8711500662644	75 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500830463	662644 10
Softone ESaver 5W WW E27 230-240V T60 1PH	FBG-5/27/1b-230/240-E27	8711500658739	75 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658746	658739 10
Softone ESaver 5W WW E27 230-240V T60 1PH	FBG-5/27/1b-230/240-E27	8711500658630	70 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658647	658630 10
Softone ESaver 8W WW B22 230-240V T45 1PP	FBG-7/27/1b-230/240-B22	8727900213034	63 gr	10	24.2 cm x 10.2 cm x 10.3 cm	8727900213072	213034 25
Softone ESaver 8W WW B22 230-240V T45 1PP	FBG-7/27/1b-230/240-B22	8727900211856	59 gr	10	24.2 cm x 10.2 cm x 10.3 cm	8727900211931	211856 25
Softone ESaver 8W WW B22 230-240V T60 1PH	FBG-8/27/1b-230/240-B22	8711500662606	70 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500830425	662606 10
Softone ESaver 8W WW B22 230-240V T60 1PH	FBG-8/27/1b-230/240-B22	8711500658029	70 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658036	658029 10
Softone ESaver 8W WW E14 230-240V T45 1PP	FBG-7/27/1b-230/240-E14	8727900213041	59 gr	10	24.2 cm x 10.2 cm x 10.3 cm	8727900213089	213041 25
Softone ESaver 8W WW E14 230-240V T45 1PP	FBG-7/27/1b-230/240-E14	8727900211863	59 gr	10	24.2 cm x 10.2 cm x 10.3 cm	8727900211948	211863 25
Softone ESaver 8W WW E27 230-240V T45 1PP	FBG-7/27/1b-230/240-E27	8727900211849	63 gr	10	24.2 cm x 10.2 cm x 10.3 cm	8727900211924	211849 25
Softone ESaver 8W WW E27 230-240V T45 1PP	FBG-7/27/1b-230/240-E27	8727900213027	63 gr	10	24.2 cm x 10.2 cm x 10.3 cm	8727900213065	213027 25
Softone ESaver 8W WW E27 230-240V T60 1PH	FBG-8/27/1b-230/240-E27	8711500658654	70 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500661852	658654 99
Softone ESaver 8W WW E27 230-240V T60 1PH	FBG-8/27/1b-230/240-E27	8711500658005	70 gr	6	19.3 cm x 12.8 cm x 12.3 cm	8711500832054	658005 99
Softone ESaver 8W WW E27 230-240V T60 1PH	FBG-8/27/1b-230/240-E27	8711500662569	75 gr	2	12.2 cm x 6.1 cm x 11.5 cm	8727900213232	662569 47
Softone ESaver 8W WW E27 230-240V T60 1PH	FBG-8/27/1b-230/240-E27	8711500662569	75 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500832146	662569 11
Softone ESaver 8W WW E27 230-240V T60 1PH	FBG-8/27/1b-230/240-E27	8711500658005	75 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658821	658005 11
Softone ESaver 8W WW E27 230-240V T60 1PH	FBG-8/27/1b-230/240-E27	8711500658654	70 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658661	658654 10
Softone ESaver 8W WW E27 230-240V T60 1PH	FBG-8/27/1b-230/240-E27	8711500662569	75 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500830388	662569 10
Softone ESaver 8W WW E27 230-240V T60 1PH	FBG-8/27/1b-230/240-E27	8711500662651	75 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500830470	662651 10
Softone ESaver 8W WW E27 230-240V T60 1PH	FBG-8/27/1b-230/240-E27	8711500658005	75 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658012	658005 10
Softone ESaver 12W WW B22 230-240V T60 1CT	FBG-12/27/1b-230/240-B22	8711500660275	82 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500660299	660275 10

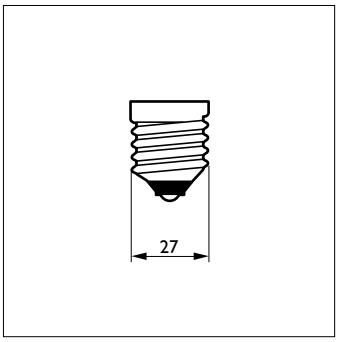
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Softone ESaver 12W WW B22 230-240V T60 1PH	FBG-12/27/1b-230/240-B22	8711500658920	70 gr	12	24.8 cm x 18.7 cm x 12.1 cm	8711500661289	658920 14
Softone ESaver 12W WW B22 230-240V T60 1PH	FBG-12/27/1b-230/240-B22	8711500830319	82 gr	40	32.7 cm x 26.6 cm x 25.4 cm	8711500831132	830319 55
Softone ESaver 12W WW B22 230-240V T60 1PH	FBG-12/27/1b-230/240-B22	8711500662613	82 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500830432	662613 10
Softone ESaver 12W WW B22 230-240V T60 1PH	FBG-12/27/1b-230/240-B22	8711500658920	82 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658937	658920 10
Softone ESaver 12W WW E27 230-240V T60 1PH	FBG-12/27/1b-230/240-E27	8711500658982	82 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500661869	658982 99
Softone ESaver 12W WW E27 230-240V T60 1PH	FBG-12/27/1b-230/240-E27	8711500658869	82 gr	2	12.4 cm x 6.2 cm x 11.6 cm	8711500659224	658869 47
Softone ESaver 12W WW E27 230-240V T60 1PH	FBG-12/27/1b-230/240-E27	8711500662576	82 gr	2	12.4 cm x 6.2 cm x 11.6 cm	8727900210132	662576 47
Softone ESaver 12W WW E27 230-240V T60 1PH	FBG-12/27/1b-230/240-E27	8711500662576	82 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500832207	662576 11
Softone ESaver 12W WW E27 230-240V T60 1PH	FBG-12/27/1b-230/240-E27	8711500658869	82 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500659408	658869 11
Softone ESaver 12W WW E27 230-240V T60 1CC	FBG-12/27/1b-230/240-E27	8711500830302	82 gr	40	32.7 cm x 26.6 cm x 25.4 cm	8711500831125	830302 55
Softone ESaver 12W WW E27 230-240V T60 1PH	FBG-12/27/1b-230/240-E27	8711500662576	82 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500830395	662576 10
Softone ESaver 12W WW E27 230-240V T60 1PH	FBG-12/27/1b-230/240-E27	8711500662668	82 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500830487	662668 10
Softone ESaver 12W WW E27 230-240V T60 1PH	FBG-12/27/1b-230/240-E27	8711500658869	82 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658876	658869 10
Softone ESaver 12W WW E27 230-240V T60 1PH	FBG-12/27/1b-230/240-E27	8711500658982	82 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658999	658982 10
Softone ESaver 16W WW B22 230-240V T60 1PH	FBG-16/27/1b-230/240-B22	8711500830333	82 gr	40	32.7 cm x 26.6 cm x 25.4 cm	8711500831156	830333 55
Softone ESaver 16W WW B22 230-240V T60 1PH	FBG-16/27/1b-230/240-B22	8711500662620	88 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500830449	662620 10
Softone ESaver 16W WW B22 230-240V T60 1PH	FBG-16/27/1b-230/240-B22	8711500658944	88 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658951	658944 10
Softone ESaver 16W WW E27 230-240V T60 1PH	FBG-16/27/1b-230/240-E27	8711500659002	88 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500661876	659002 99
Softone ESaver 16W WW E27 230-240V T60 1PH	FBG-16/27/1b-230/240-E27	8711500658883	88 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500659415	658883 11
Softone ESaver 16W WW E27 230-240V T60 1PH	FBG-16/27/1b-230/240-E27	8711500662583	88 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500832214	662583 11
Softone ESaver 16W WW E27 230-240V T60 1PH	FBG-16/27/1b-230/240-E27	8711500830326	82 gr	40	32.7 cm x 26.6 cm x 25.4 cm	8711500831149	830326 55
Softone ESaver 16W WW E27 230-240V T60 1PH	FBG-16/27/1b-230/240-E27	8711500662675	88 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500830494	662675 10
Softone ESaver 16W WW E27 230-240V T60 1PH	FBG-16/27/1b-230/240-E27	8711500662583	88 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500830401	662583 10
Softone ESaver 16W WW E27 230-240V T60 1PH	FBG-16/27/1b-230/240-E27	8711500659002	88 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500659019	659002 10
Softone ESaver 16W WW E27 230-240V T60 1PH	FBG-16/27/1b-230/240-E27	8711500658883	88 gr	6	19.5 cm x 13.3 cm x 13.3 cm	8711500658890	658883 10
Softone ESaver 20W WW B22 230-240V T65 1PH	FBG-20/27/1b-230/240-B22	8711500830357	99 gr	40	35.3 cm x 28.5 cm x 29.1 cm	8711500831170	830357 55
Softone ESaver 20W WW B22 230-240V T65 1PH	FBG-20/27/1b-230/240-B22	8711500662637	102 gr	6	21 cm x 14.3 cm x 15.1 cm	8711500830456	662637 10
Softone ESaver 20W WW B22 230-240V T65 1PH	FBG-20/27/1b-230/240-B22	8711500658968	99 gr	6	21 cm x 14.3 cm x 15.1 cm	8711500658975	658968 10
Softone ESaver 20W WW E27 230-240V T65 1PH	FBG-20/27/1b-230/240-E27	8711500659026	99 gr	6	21 cm x 14.3 cm x 15.4 cm	8711500661883	659026 99
Softone ESaver 20W WW E27 230-240V T65 1PH	FBG-20/27/1b-230/240-E27	8711500658906	99 gr	6	21 cm x 14.3 cm x 15.1 cm	8711500659422	658906 11
Softone ESaver 20W WW E27 230-240V T65 1PH	FBG-20/27/1b-230/240-E27	8711500662590	99 gr	6	21 cm x 14.3 cm x 15.1 cm	8711500832221	662590 11
Softone ESaver 20W WW E27 230-240V T65 1PH	FBG-20/27/1b-230/240-E27	8711500830340	99 gr	40	35.3 cm x 28.5 cm x 29.1 cm	8711500831163	830340 55
Softone ESaver 20W WW E27 230-240V T65 1PH	FBG-20/27/1b-230/240-E27	8711500662682	99 gr	6	21 cm x 14.3 cm x 15.4 cm	8711500830500	662682 10
Softone ESaver 20W WW E27 230-240V T65 1PH	FBG-20/27/1b-230/240-E27	8711500662590	99 gr	6	21 cm x 14.3 cm x 15.1 cm	8711500830418	662590 10
Softone ESaver 20W WW E27 230-240V T65 1PH	FBG-20/27/1b-230/240-E27	8711500658906	99 gr	6	21 cm x 14.3 cm x 15.1 cm	8711500658913	658906 10
Softone ESaver 20W WW E27 230-240V T65 1PH	FBG-20/27/1b-230/240-E27	8711500659026	99 gr	6	21 cm x 14.3 cm x 15.4 cm	8711500659033	659026 10

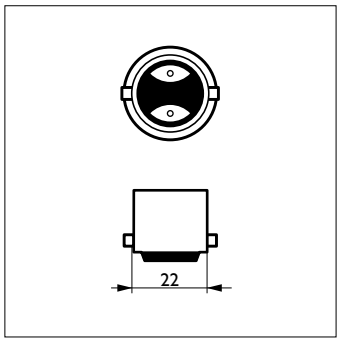
Cap Base



E14



E27



B22



SoftCandle 5W E14 B35

Product Description

- Standard energy-saving lamps in the shape of an incandescent candle lamp

Product Features

- Long average lifetime compared to a standard incandescent lamp
- Almost instant, flicker-free start (<1 s)
- Light output after one minute 95%
- Recommended ambient temperature range to ensure almost constant light output (>90%): between +10 and +45°C
- Flawless ignition at -20°C and up

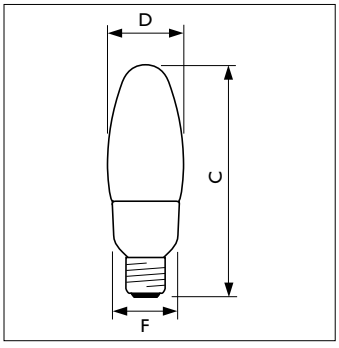
Product Benefits

- Light quality and distribution similar to the opalised incandescent lamps
- Gives a soft, diffuse light with a high comfort level

Application

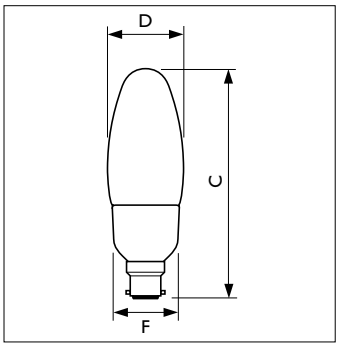
- Designed for replacement of incandescent candle lamps in consumer applications
- Especially for applications where lamps are visible
- Enclosed fixtures are required for outdoor applications
- Not suitable for dimming and electronic devices

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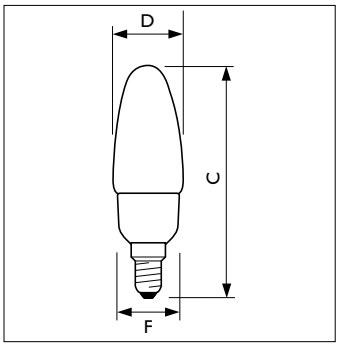
SoftCandle E27

Type	CMax	DMax	FMax
Softone ESaver 5W/8W WW E27 230-240V K 1PP	126.7	45.8	44.1



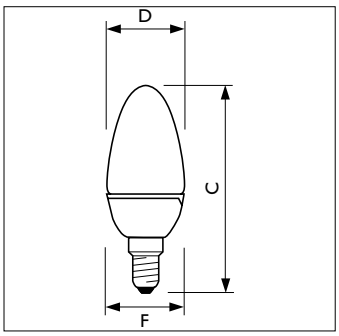
SoftCandle B22

Type	CMax	DMax	FMax
Softone ESaver 5W/8W WW B22 230-240V K 1CT/1PP	125.2	45.8	44.1
Softone ESaver 12W WW B22 230-240V K 1CT	132.2	46.8	44.1



SoftCandle E14 K

Type	CMax	DMax	FMax
Softone ESaver 5W/8W WW E14 230-240V K 1CT/1PP	128.2	45.8	44.1
Softone ESaver 12W WW E14 230-240V K 1CT	135.2	46.8	44.1



SoftCandle E14 B35

Type	CMax	DMax	FMax
Softone ESaver 5W WW E14 230-240V B35 1CT/1PH	99.0	38.0	38.4

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
Softone ESaver 5W WW E14/E27/B22 230-240V K 1CT/1PH/1PP	230-240	5	A	No	8000
Softone ESaver 8W WW E14/E27/B22 230-240V K 1CT/1PH/1PP	230-240	8	A	No	8000
Softone ESaver 12W WW E14/B22 230-240V K 1CT/1PP	230-240	12	B	No	8000

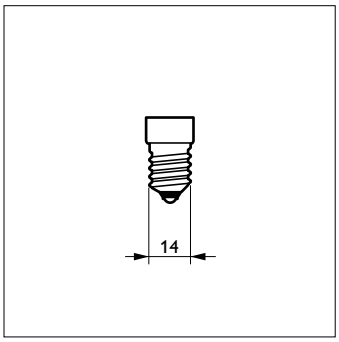
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
Softone ESaver 5W WW E27/B22 230-240V K 1CT/1PP	180	40	Warm White	2700	82	470	429
Softone ESaver 5W WW E14 230-240V B35 1CT/1PH	190	41	Warm White	2700	82	465	420
Softone ESaver 8W WW E14/E27/B22 230-240V K 1CT/1PH/1PP	345	47.5	Warm White	2700	82	460	423
Softone ESaver 12W WW E14/B22 230-240V K 1CT/1PP	510	45	Warm White	2700	82	467	418

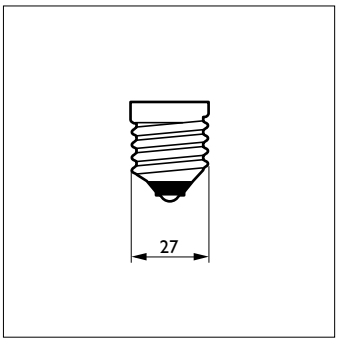
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Softone ESaver 5W WW B22 230-240V K 1CT	FBB-5/27/1b-230/240-B22	8711500662965	56 gr	6	14.3 cm x 9.8 cm x 14 cm	8727900212709	662965 11
Softone ESaver 5W WW B22 230-240V K 1CT	FBB-5/27/1b-230/240-B22	8711500660398	56 gr	6	14.3 cm x 9.8 cm x 14 cm	8711500832092	660398 11
Softone ESaver 5W WW B22 230-240V K 1CT	FBB-5/27/1b-230/240-B22	8711500830029	82 gr	6	15.7 cm x 10.7 cm x 17.8 cm	8711500830845	830029 10
Softone ESaver 5W WW B22 230-240V K 1CT	FBB-5/27/1b-230/240-B22	8711500662965	82 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500830784	662965 10
Softone ESaver 5W WW B22 230-240V K 1CT	FBB-5/27/1b-230/240-B22	8711500661098	82 gr	6	15.7 cm x 10.7 cm x 17.8 cm	8711500661104	661098 10
Softone ESaver 5W WW B22 230-240V K 1CT	FBB-5/27/1b-230/240-B22	8711500660398	82 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500660404	660398 10
Softone ESaver 5W WW E14 230-240V B35 1CT	FBB-5/27/1b-230/240-E14	8727900213058	45 gr	10	26.6 cm x 11.3 cm x 11.5 cm	8727900213096	213058 25
Softone ESaver 5W WW E14 230-240V B35 1PH	FBB-5/27/1b-230/240-E14	8727900211900	45 gr	10	26.6 cm x 11.3 cm x 11.5 cm	8727900211986	211900 25
Softone ESaver 5W WW E14 230-240V K 1CT	FBB-5/27/1b-230/240-E14	8711500662996	82 gr	6	15.7 cm x 10.7 cm x 17.8 cm	8711500830814	662996 10
Softone ESaver 5W WW E14 230-240V K 1CT	FBB-5/27/1b-230/240-E14	8711500661036	82 gr	6	15.7 cm x 10.7 cm x 17.8 cm	8711500661043	661036 10
Softone ESaver 5W WW E14 230-240V K 1PP	FBB-5/27/1b-230/240-E14	8711500542342	60 gr	2	9.2 cm x 4.6 cm x 13 cm	8711500659439	542342 47
Softone ESaver 5W WW E14 230-240V K 1PP	FBB-5/27/1b-230/240-E14	8711500662859	82 gr	2	9.2 cm x 4.6 cm x 13 cm	8711500832139	662859 47
Softone ESaver 5W WW E14 230-240V K 1PP	FBB-5/27/1b-230/240-E14	8711500662859	82 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500830678	662859 10
Softone ESaver 5W WW E14 230-240V K 1PP	FBB-5/27/1b-230/240-E14	8711500830050	82 gr	6	14.9 cm x 10.2 cm x 14.3 cm	8711500830876	830050 10
Softone ESaver 5W WW E14 230-240V K 1PP	FBB-5/27/1b-230/240-E14	8711500542366	82 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500542373	542366 10
Softone ESaver 5W WW E14 230-240V K 1PP	FBB-5/27/1b-230/240-E14	8711500542342	82 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500542359	542342 10
Softone ESaver 5W WW E27 230-240V K 1PP	FBB-5/27/1b-230/240-E27	8711500662958	80 gr	2	9.2 cm x 4.6 cm x 12.9 cm	8727900213003	662958 47
Softone ESaver 5W WW E27 230-240V K 1PP	FBB-5/27/1b-230/240-E27	8711500662958	82 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500830777	662958 10
Softone ESaver 5W WW E27 230-240V K 1PP	FBB-5/27/1b-230/240-E27	8711500542328	82 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500542335	542328 10
Softone ESaver 8W WW B22 230-240V K 1CT	FBB-8/27/1b-230/240-B22	8711500660411	82 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500660428	660411 10
Softone ESaver 8W WW B22 230-240V K 1CT	FBB-8/27/1b-230/240-B22	8711500830036	82 gr	6	15.7 cm x 10.7 cm x 17.8 cm	8711500830852	830036 10
Softone ESaver 8W WW B22 230-240V K 1CT	FBB-8/27/1b-230/240-B22	8711500661111	82 gr	6	15.7 cm x 10.7 cm x 17.8 cm	8711500661128	661111 10
Softone ESaver 8W WW B22 230-240V K 1PP	FBB-8/27/1b-230/240-B22	8711500662972	56 gr	6	14.3 cm x 9.8 cm x 14 cm	8727900212716	662972 11
Softone ESaver 8W WW B22 230-240V K 1PP	FBB-8/27/1b-230/240-B22	8711500662972	75 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500830791	662972 10
Softone ESaver 8W WW E14 230-240V K 1CT	FBB-8/27/1b-230/240-E14	8711500830005	82 gr	6	15.7 cm x 10.7 cm x 17.8 cm	8711500830821	830005 10
Softone ESaver 8W WW E14 230-240V K 1CT	FBB-8/27/1b-230/240-E14	8711500661050	82 gr	6	15.7 cm x 10.7 cm x 17.8 cm	8711500661067	661050 10
Softone ESaver 8W WW E14 230-240V K 1PH	FBB-8/27/1b-230/240-E14	8727900210156	70 gr	6	15.7 cm x 10.7 cm x 17.8 cm	8727900210163	210156 10
Softone ESaver 8W WW E14 230-240V K 1PP	FBB-8/27/1b-230/240-E14	8711500662866	80 gr	2	9.2 cm x 4.6 cm x 12.9 cm	8727900213010	662866 47
Softone ESaver 8W WW E14 230-240V K 1PP	FBB-8/27/1b-230/240-E14	8711500662866	56 gr	6	14.3 cm x 9.8 cm x 14 cm	8727900212723	662866 11
Softone ESaver 8W WW E14 230-240V K 1PP	FBB-8/27/1b-230/240-E14	8711500662866	75 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500830685	662866 10
Softone ESaver 8W WW E14 230-240V K 1PP	FBB-8/27/1b-230/240-E14	8711500830067	75 gr	6	14.9 cm x 10.2 cm x 14.3 cm	8711500830883	830067 10
Softone ESaver 8W WW E14 230-240V K 1PP	FBB-8/27/1b-230/240-E14	8711500542441	82 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500542458	542441 10
Softone ESaver 8W WW E14 230-240V K 1PP	FBB-8/27/1b-230/240-E14	8711500542465	82 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500542472	542465 10
Softone ESaver 8W WW E27 230-240V K 1PP	FBB-8/27/1b-230/240-E27	8711500542427	60 gr	2	9.2 cm x 4.6 cm x 13 cm	8711500659446	542427 47
Softone ESaver 8W WW E27 230-240V K 1PP	FBB-8/27/1b-230/240-E27	8711500662941	60 gr	2	9.2 cm x 4.6 cm x 13 cm	8711500832153	662941 47
Softone ESaver 8W WW E27 230-240V K 1PP	FBB-8/27/1b-230/240-E27	8711500662941	75 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500830760	662941 10
Softone ESaver 8W WW E27 230-240V K 1PP	FBB-8/27/1b-230/240-E27	8711500662514	82 gr	6	15.7 cm x 10.7 cm x 17.8 cm	8711500662521	662514 10
Softone ESaver 8W WW E27 230-240V K 1PP	FBB-8/27/1b-230/240-E27	8711500542427	82 gr	6	14.6 cm x 10 cm x 14.5 cm	8711500542434	542427 10
Softone ESaver 12W WW B22 230-240V K 1CT	FBB-12/27/1b-230/240-B22	8711500660435	83 gr	6	16.3 cm x 11.1 cm x 15.2 cm	8711500660442	660435 10
Softone ESaver 12W WW B22 230-240V K 1PP	FBB-12/27/1b-230/240-B22	8711500661135	83 gr	6	17.2 cm x 11.7 cm x 18.4 cm	8711500661142	661135 10
Softone ESaver 12W WW B22 230-240V K 1PP	FBB-12/27/1b-230/240-B22	8711500830043	83 gr	6	17.2 cm x 11.7 cm x 18.4 cm	8711500830869	830043 10
Softone ESaver 12W WW B22 230-240V K 1PP	FBB-12/27/1b-230/240-B22	8711500662989	82 gr	6	16.3 cm x 11.1 cm x 15.2 cm	8711500830807	662989 10
Softone ESaver 12W WW E14 230-240V K 1CT	FBB-12/27/1b-230/240-E14	8711500830012	78 gr	6	17.2 cm x 11.7 cm x 18.4 cm	8711500830838	830012 10
Softone ESaver 12W WW E14 230-240V K 1CT	FBB-12/27/1b-230/240-E14	8711500661074	78 gr	6	17.2 cm x 11.7 cm x 18.4 cm	8711500661081	661074 10
Softone ESaver 12W WW E14 230-240V K 1PP	FBB-12/27/1b-230/240-E14	8711500542588	82 gr	6	16.3 cm x 11.1 cm x 15.2 cm	8711500542595	542588 10
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Softone ESaver 12W WW E14 230-240V K 1PP	FBB-12/27/1b-230/240-E14	8711500830074	82 gr	6	16.3 cm x 11.1 cm x 15.2 cm	8711500830890	830074 10
Softone ESaver 12W WW E14 230-240V K 1PP	FBB-12/27/1b-230/240-E14	8711500662873	82 gr	6	16.3 cm x 11.1 cm x 15.2 cm	8711500830692	662873 10

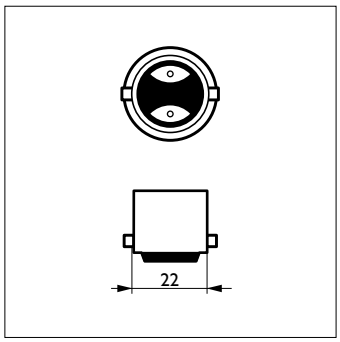
Cap Base



E14



E27



B22



PL-Electronic Globe E27

Product Description

- Professional long life decorative globe shaped energy saving lamp

Product Features

- Professional long-life alternative to decorative incandescent lamps
- Starting time <1s
- 80% of nominal light output reached two minutes after switching on
- Almost constant light output (>80%) over recommended temperature range

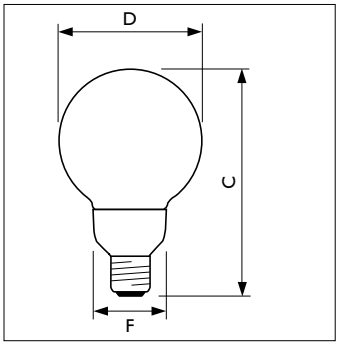
Product Benefits

- High energy efficiency (European energy efficiency labelling class A)

Application

- Designed for incandescent lamp replacement in (open) luminaires with a decorative function or as replacement of globe incandescent lamps
- Especially suitable for use in restaurants, hotels and offices where lighting is required for longer periods of time and / or where lamp replacement is difficult
- Ambient temperature range -15 to +55°C (base-up), +5 to +55°C (base-down)
- Suitable for use in emergency lighting with DC supply (300-340 V DC for optimum performance)
- Enclosed fixtures are required for outdoor applications
- Not suitable for dimming and electronic devices

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PL E-D E27

Type	CMax	DMax	FMax
PL-Electronic Globe 16W/20W/23W/827 E27 230-240V 1CH	182.1	121	48.2

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
PL-Electronic Globe 16W/827 E27 230-240V 1CH	230-240	16	A	No	12000
PL-Electronic Globe 20W/827 E27 230-240V 1CH	230-240	20	A	No	12000
PL-Electronic Globe 23W/827 E27 230-240V 1CH	230-240	23	A	No	12000
PL-Electronic Globe 23W/865 E27 230-240V 1CH	230-240	23	A	No	10000

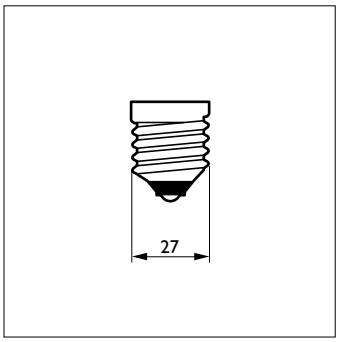
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
PL-Electronic Globe 16W/827 E27 230-240V 1CH	900	56	Warm White	2700	82	465	420
PL-Electronic Globe 20W/827 E27 230-240V 1CH	1160	58	Warm White	2700	82	463	425
PL-Electronic Globe 23W/827 E27 230-240V 1CH	1380	60	Warm White	2700	82	465	423
PL-Electronic Globe 23W/865 E27 230-240V 1CH	1380	60	Cool Daylight	6500	76	320	345

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
PL-Electronic Globe 16W/827 E27 230-240V 1CH	FBG-16/27/1b-230/240-E27	8711500468949	0.16 kg	6	38.2 cm x 25.8 cm x 17.8 cm	8711500542205	468949 10
PL-Electronic Globe 20W/827 E27 230-240V 1CH	FBG-20/27/1b-230/240-E27	8711500468987	0.17 kg	6	38.2 cm x 25.8 cm x 17.8 cm	8711500542212	468987 10
PL-Electronic Globe 23W/827 E27 230-240V 1CH	FBG-23/27/1b-230/240-E27	8711500469021	0.17 kg	6	38.2 cm x 25.8 cm x 17.8 cm	8711500542229	469021 10
PL-Electronic Globe 23W/865 E27 230-240V 1CH	FBG-23/65/2a-230/240-E27	8711500469069	170 gr	6	38.2 cm x 25.8 cm x 17.8 cm	8711500542236	469069 10

Cap Base



E27



AMB-GL E26/E27 G120

Product Description

- Decorative covered energy-saving lamps for consumer applications

Product Features

- Long-life alternative to incandescent lamps
- Light output after one minute 80%
- Recommended ambient temperature range to ensure almost constant light output (>90%): between +10 and +45°C
- Flawless ignition at -20°C and up

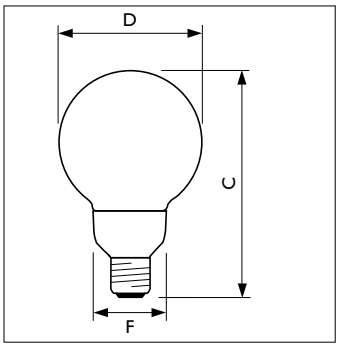
Product Benefits

- High energy efficiency (European energy efficiency labelling class B)
- Reduced glare and aesthetic form due to globe shaped outer bulb

Application

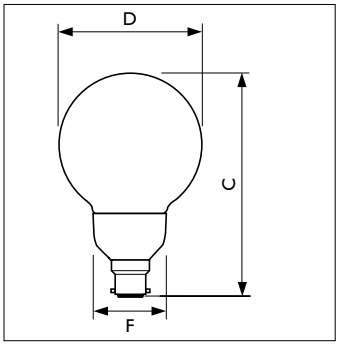
- Designed for incandescent lamp replacement in (open) luminaires with a decorative function or as replacement of globe incandescent lamps
- Especially suitable for applications with a decorative function in areas where lighting is required for longer periods of time, or where lamp replacement is difficult
- Enclosed fixtures are required for outdoor applications
- Not suitable for dimming and electronic devices

www.philips.com/OEM



AMB-GL E26/E27

Type	CMax	FMax
Softone ESaver 9W/12W WW E27 230-240V G93 1CH	153.1	48.2
Softone ESaver 16W/20W WW E27 230-240V G120 1CH	182.1	48.2



AMB-GL B22

Type	CMax	FMax
Softone ESaver 20W WW B22 230-240V G120 1CH	180.4	48.2

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
Softone ESaver 9W WW E27 230-240V G93 1CH	230-240	9	B	No	8000
Softone ESaver 12W WW E27 230-240V G93 1CH	230-240	12	A	No	8000
Softone ESaver 16W WW E27 230-240V G120 1CH	230-240	16	A	No	8000
Softone ESaver 20W WW E27/B22 230-240V G120 1CH	230-240	20	A	No	8000

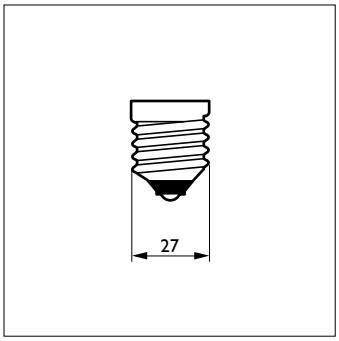
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
Softone ESaver 9W WW E27 230-240V G93 1CH	410	46	Warm White	2700	82	470	425
Softone ESaver 12W WW E27 230-240V G93 1CH	600	50	Warm White	2700	82	465	427
Softone ESaver 16W WW E27 230-240V G120 1CH	900	56	Warm White	2700	82	463	424
Softone ESaver 20W WW E27/B22 230-240V G120 1CH	1160	58	Warm White	2700	82	460	420

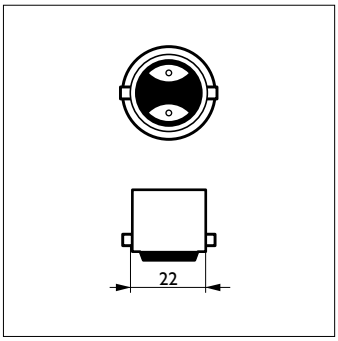
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Softone ESaver 9W WW E27 230-240V G93 1CH	FBG-9/27/1b-230/240-E27	8711500830128	110 gr	4	20 cm x 20 cm x 15.8 cm	8711500830944	830128 45
Softone ESaver 9W WW E27 230-240V G93 1CH	FBG-9/27/1b-230/240-E27	8711500872289	110 gr	4	20 cm x 20 cm x 15.8 cm	8711500872296	872289 45
Softone ESaver 12W WW E27 230-240V G93 1CH	FBG-12/27/1b/230/240-E27	8711500872302	115 gr	4	20 cm x 20 cm x 15.8 cm	8711500872319	872302 45
Softone ESaver 12W WW E27 230-240V G93 1CH	FBG-12/27/1b/230/240-E27	8711500830135	115 gr	4	20 cm x 20 cm x 15.8 cm	8711500830951	830135 45
Softone ESaver 16W WW E27 230-240V G120 1CH	FBG-16/27/1b/230/240-E27	8711500872326	160 gr	4	25.8 cm x 25.8 cm x 17.8 cm	8711500872333	872326 45
Softone ESaver 16W WW E27 230-240V G120 1CH	FBG-16/27/1b/230/240-E27	8711500830142	160 gr	4	25.8 cm x 25.8 cm x 17.8 cm	8711500830968	830142 45
Softone ESaver 20W WW B22 230-240V G120 1CH	FBG-20/27/1b/230/240-B22	8711500872364	135 gr	4	30 cm x 30 cm x 22.1 cm	8711500872371	872364 45
Softone ESaver 20W WW E27 230-240V G120 1CH	FBG-20/27/1b/230/240-E27	8711500872340	135 gr	4	30 cm x 30 cm x 22.1 cm	8711500872357	872340 45
Softone ESaver 20W WW E27 230-240V G120 1CH	FBG-20/27/1b/230/240-E27	8711500830159	170 gr	4	25.8 cm x 25.8 cm x 17.5 cm	8711500830975	830159 45

Cap Base



E27



B22



SL E E27

Product Description

- Covered energy-saving lamps for professional use

Product Features

- Professional long-life alternative to incandescent lamps
- Time to reach 80% of nominal light output is two minutes
- Almost constant light output (>90%) over recommended temperature range

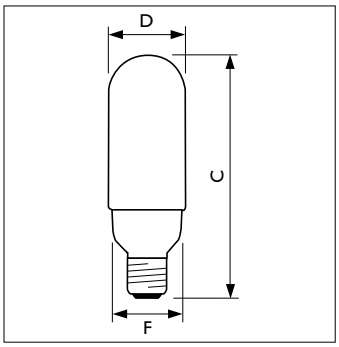
Product Benefits

- Maximum energy savings due to highest energy efficiency class (European energy efficiency labelling class A)
- Prismatic cover designed to give sparkle and reduce glare

Application

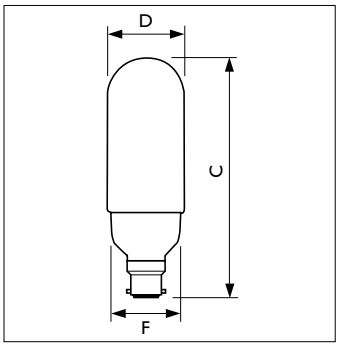
- Designed for incandescent lamp replacement in most professional luminaires
- Especially suitable for applications in functional areas where lighting is required for longer periods of time or where lamp replacement is difficult
- Ambient temperature range -20 to +55°C
- Enclosed fixtures are required for outdoor applications
- Not suitable for dimming and electronic devices

www.philips.com/OEM



SL E E27

Type	CMax	DMax	FMax
SL-Electronic 12W/827/865 E27 230-240V 1CH	134.5	50.8	48.2
SL-Electronic 16W/20W/827/865 E27 230-240V 1CH	153.6	50.8	48.2
SL-Electronic 23W/827/865 E27 230-240V 1CH	173.6	50.8	48.2



SL E B22

Type	CMax	DMax	FMax
SL-Electronic 12W/827 B22 230-240V 1CH	133.0	50.8	48.2
SL-Electronic 16W/20W/827 B22 230-240V 1CH	151.9	50.8	48.2

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
SL-Electronic 12W/827 E27/B22 230-240V 1CH	230-240	12	A	No	10000
SL-Electronic 12W/865 E27 230-240V 1CH	230-240	12	A	No	8000
SL-Electronic 16W/827 E27/B22 230-240V 1CH	230-240	16	A	No	10000
SL-Electronic 16W/865 E27 230-240V 1CH	230-240	16	A	No	8000
SL-Electronic 20W/827 E27/B22 230-240V 1CH	230-240	20	A	No	10000
SL-Electronic 20W/865 E27 230-240V 1CH	230-240	20	A	No	8000
SL-Electronic 23W/827 E27 230-240V 1CH	230-240	23	A	No	10000
SL-Electronic 23W/865 E27 230-240V 1CH	230-240	23	A	No	10000

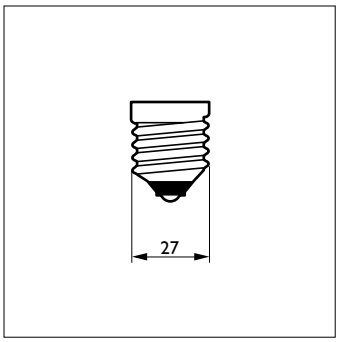
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
SL-Electronic 12W/827 E27/B22 230-240V 1CH	630	53	Warm White	2700	82	465	425
SL-Electronic 12W/865 E27 230-240V 1CH	600	50	Cool Daylight	6500	78	320	350
SL-Electronic 16W/827 E27/B22 230-240V 1CH	950	59	Warm White	2700	82	465	425
SL-Electronic 16W/865 E27 230-240V 1CH	875	55	Cool Daylight	6500	78	320	350
SL-Electronic 20W/827 E27/B22 230-240V 1CH	1200	60	Warm White	2700	82	460	420
SL-Electronic 20W/865 E27 230-240V 1CH	1155	58	Cool Daylight	6500	78	320	350
SL-Electronic 23W/827 E27 230-240V 1CH	1500	67	Warm White	2700	82	460	423
SL-Electronic 23W/865 E27 230-240V 1CH	1425	64	Cool Daylight	6500	78	320	345

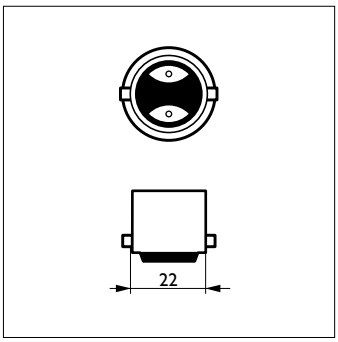
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SL-Electronic 12W/827 B22 230-240V 1CH	FBT-12/27/1B-230/240-B22	8711500542946	97 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500542953	542946 10
SL-Electronic 12W/827 E27 230-240V 1CH	FBT-12/27/1B-230/240-E27	8711500542922	97 gr	6	16.2 cm x 11 cm x 14.7 cm	8711500542939	542922 10
SL-Electronic 12W/865 E27 230-240V 1CH	FBT-12/65/2A-230/240-E27	8711500543042	97 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500543059	543042 10
SL-Electronic 16W/827 B22 230-240V 1CH	FBT-16/27/1B-230/240-B22	8711500542984	104 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500542991	542984 10
SL-Electronic 16W/827 E27 230-240V 1CH	FBT-16/27/1B-230/240-E27	8711500542960	104 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500542977	542960 10
SL-Electronic 16W/865 E27 230-240V 1CH	FBT-16/65/2A-230/240-E27	8711500543066	104 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500543073	543066 10
SL-Electronic 20W/827 B22 230-240V 1CH	FBT-20/27/1B-230/240-B22	8711500543028	104 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500543035	543028 10
SL-Electronic 20W/827 E27 230-240V 1CH	FBT-20/27/1B-230/240-E27	8711500543004	104 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500543011	543004 10
SL-Electronic 20W/865 E27 230-240V 1CH	FBT-20/65/2A-230/240-E27	8711500543080	104 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500543097	543080 10
SL-Electronic 23W/827 E27 230-240V 1CH	FBT-23/27/1B-230/240-E27	8711500543714	126 gr	6	16.3 cm x 11.1 cm x 18.8 cm	8711500543721	543714 10
SL-Electronic 23W/865 E27 230-240V 1CH	FBT-23/65/2A-230/240-E27	8711500543738	126 gr	6	16.3 cm x 11.1 cm x 19 cm	8711500543745	543738 10

Cap Base



E27



B22



OUTD 12W E27

Product Description

- Covered energy-saving lamps

Product Features

- Professional long-life alternative to incandescent lamps
- Light output after one minute 80%
- Recommended ambient temperature range to ensure almost constant light output (>90%): between +10 and +45°C
- Flawless ignition at -20°C and up

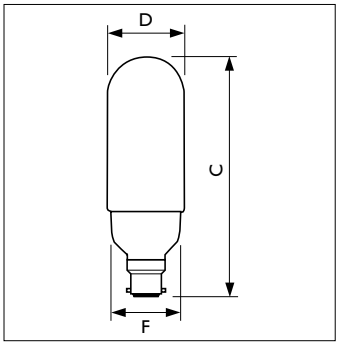
Product Benefits

- High energy savings due to high energy efficiency (European energy efficiency labelling class B)
- Opal cover to reduce glare

Application

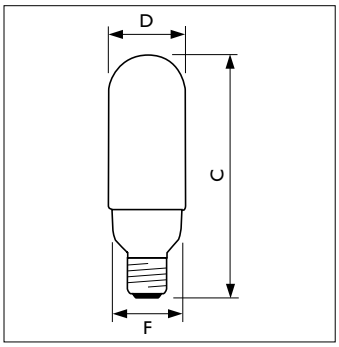
- Designed for incandescent lamp replacement in most consumer and semi-professional applications
- Especially suitable for outdoor applications (garden luminaires)
- Enclosed fixtures are required for outdoor applications
- Not suitable for dimming and electronic devices

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OUTD B22

Type	CMax	DMax	FMax
Exterieur ESaver 9W WW B22 230-240V 1CH	135.4	50.8	48.2
Exterieur ESaver 16W WW B22 230-240V 1CH	151.9	50.8	48.2



OUTD E27

Type	CMax	DMax	FMax
Exterieur ESaver 9W WW E27 230-240V 1CH	137.1	50.8	48.2
Exterieur ESaver 12W/16W WW E27 230-240V 1CH	153.6	50.8	48.2

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
Exterieur ESaver 9W WW E27/B22 230-240V 1CH	230-240	9	A	No	10000
Exterieur ESaver 12W WW E27 230-240V 1CH	230-240	12	A	No	10000
Exterieur ESaver 16W WW E27/B22 230-240V 1CH	230-240	16	A	No	10000

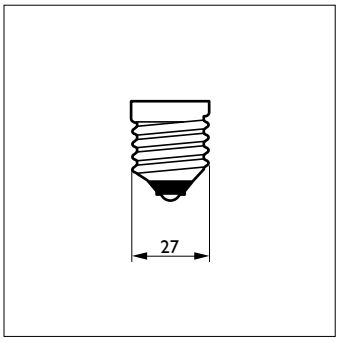
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
Exterieur ESaver 9W WW E27/B22 230-240V 1CH	400	42	Warm White	2700	82	465	425
Exterieur ESaver 12W WW E27 230-240V 1CH	600	50	Warm White	2700	82	465	425
Exterieur ESaver 16W WW E27/B22 230-240V 1CH	900	56	Warm White	2700	82	465	425

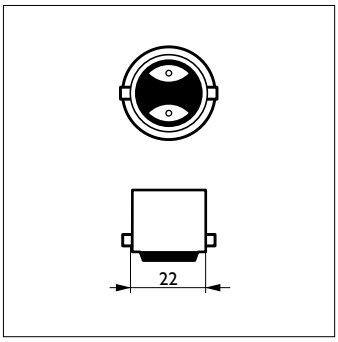
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Exterieur ESaver 9W WW B22 230-240V 1CH	FBT-9/27/1b-230/240-B22	8711500468246	85 gr	6	16.3 cm x 11.1 cm x 15 cm	8711500468253	468246 10
Exterieur ESaver 9W WW B22 230-240V 1CH	FBT-9/27/1b-230/240-B22	8711500830197	85 gr	6	16.3 cm x 11.1 cm x 15.2 cm	8711500831019	830197 10
Exterieur ESaver 9W WW E27 230-240V 1CH	FBT-9/27/1b-230/240-E27	8711500468222	88 gr	6	16.3 cm x 11.1 cm x 15.2 cm	8711500468239	468222 10
Exterieur ESaver 9W WW E27 230-240V 1CH	FBT-9/27/1b-230/240-E27	8711500830180	88 gr	6	16.3 cm x 11.1 cm x 15.2 cm	8711500831002	830180 10
Exterieur ESaver 12W WW E27 230-240V 1CH	FBT-12/27/1b-230/240-E27	8711500830203	95 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500831026	830203 10
Exterieur ESaver 12W WW E27 230-240V 1CH	FBT-12/27/1b-230/240-E27	8711500468260	95 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500468277	468260 10
Exterieur ESaver 16W WW B22 230-240V 1CH	FBT-16/27/1b-230/240-B22	8711500830234	95 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500831057	830234 10
Exterieur ESaver 16W WW E27 230-240V 1CH	FBT-16/27/1b-230/240-E27	8711500468307	102 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500468314	468307 10
Exterieur ESaver 16W WW E27 230-240V 1CH	FBT-16/27/1b-230/240-E27	8711500830227	102 gr	6	16.3 cm x 11.1 cm x 16.8 cm	8711500831040	830227 10

Cap Base



E27



B22



AMB-Duo E27 A65

Product Description

- Energy-saving lamp combining general lighting mode and night light security / safety mode in a shape similar to normal incandescent lamps

Product Features

- 2-in-1 night light for energy-saving general lighting comparable to 40 W incandescent lamp plus long-lasting LED orientation light
- Switch to main light source by toggling the light switch
- Not suitable for dimming and use with electronic devices

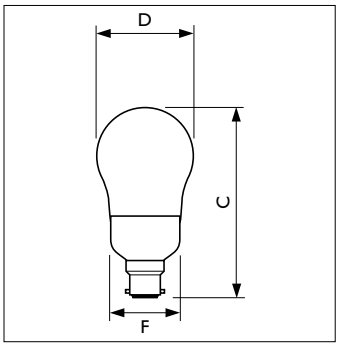
Product Benefits

- Energy-saving general lighting comparable to 40 W incandescent lamp
- Night light for safety, comfort and security at very low energy consumption (1 W)

Application

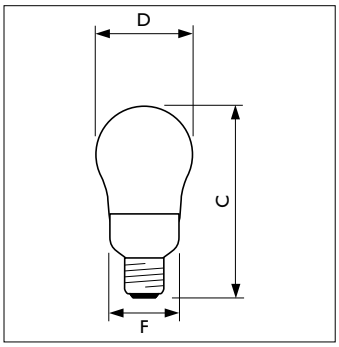
- 2-in-1 lighting: energy-saving general lighting plus night light for orientation in hallways, children's bedrooms etc.

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AMB-Duo B22 A65

Type	CMax	DMax	FMax
Nightlight ESaver 9W WW B22 230-240V A65 1PH	135.4	65.8	48.2



AMB-Duo E27 A65

Type	CMax	DMax	FMax
Nightlight ESaver 9W WW E27 230-240V A65 1PH	137.1	65.8	48.2

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
Nightlight ESaver 9W WW E27/B22 230-240V A65 1PH	230-240	9	A	No	6000

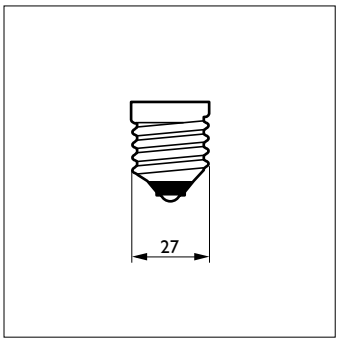
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
Nightlight ESaver 9W WW E27/B22 230-240V A65 1PH	400	44	Warm White	2700	82	465	425

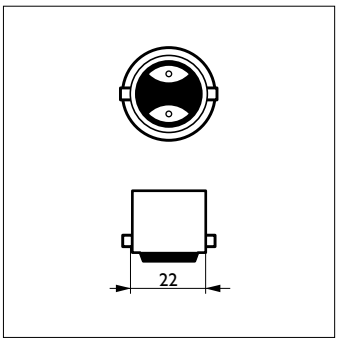
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Nightlight ESaver 9W WW B22 230-240V A65 1PH	FBG-9/27/1b-230/240-B22	8711500543325	109 gr	6	20.4 cm x 13.8 cm x 14.6 cm	8711500543332	543325 10
Nightlight ESaver 9W WW E27 230-240V A65 1PH	FBG-9/27/1b-230/240-E27	8711500543202	109 gr	6	20.4 cm x 13.8 cm x 14.6 cm	8711500543219	543202 10
Nightlight ESaver 9W WW E27 230-240V A65 1PH	FBG-9/27/1b-230/240-E27	8711500658333	109 gr	6	20.4 cm x 13.8 cm x 14.6 cm	8711500658340	658333 10

Cap Base



E27



B22



PL E Refl GU10 R50

Product Description

- Energy-saving lamp approximating the shape of a R50 incandescent reflector or a GU10-based halogen lamp

Product Features

- Fluorescent, directional light source
- Longer-life alternative to halogen or incandescent lamps
- Average lifetime up to five times longer than a halogen lamp, up to ten times longer than an incandescent reflector
- Unlimited on-off switches in most common applications

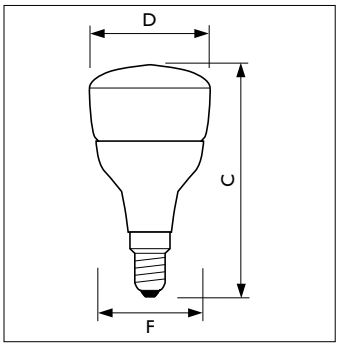
Product Benefits

- Saving on energy bills due to lower energy consumption and lower heat emission compared to incandescent / halogen lamps
- Replacements less frequent, meaning less maintenance costs
- Cost of ownership lower than for incandescent / halogen reflectors

Application

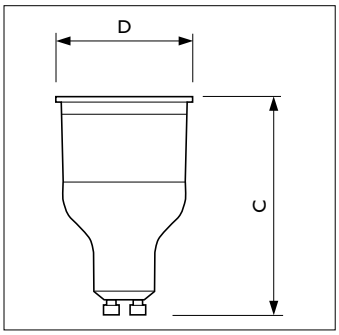
- Designed for incandescent reflector (R50) or GU10-based halogen replacement in professional (hotels, restaurants, shops) or home applications
- Most suitable for places where R50 GU10 is used as general light source (less suitable for accent lighting applications)
- Not suitable for dimming and electronic devices

www.philips.com/OEM



PL E Refl E14 R50

Type	CMax	DMax	FMax
PL-Electronic Reflector R50 7W WW E14 230-240V 1CT	97.0	50.8	48.1



PL E Refl GU10 R50

Type	CMax	DMax	FMax
PL-Electronic Reflector R50 7W WW GU10 230-240V 1CT	82.0	50.0	21.9

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
PL-Electronic Reflector R50 7W WW E14/GU10 230-240V 1CT	230-240	7	-	No	10000

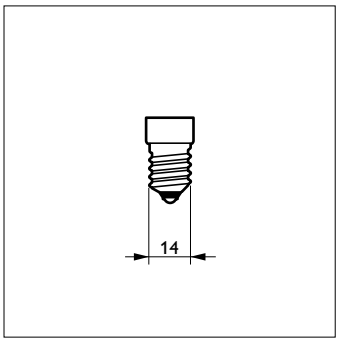
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
PL-Electronic Reflector R50 7W WW E14/GU10 230-240V 1CT	160	22	Warm White	2700	82	465	420

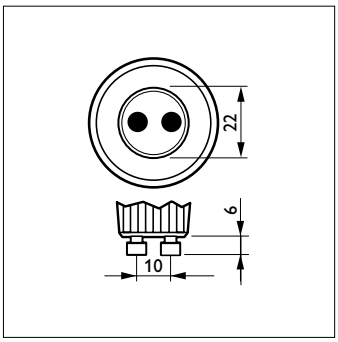
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8727900
PL-Electronic Reflector R50 7W WW E14 230-240V 1CT	FBT-20/27/1b-230/240-E14	8727900213157	54 gr	10	26.7 cm x 11.2 cm x 10.7 cm	8727900213164	213157 25
PL-Electronic Reflector R50 7W WW GU10 230-240V 1CT	FBT-20/27/1b-230/240-GU10	8727900213133	54 gr	10	26.7 cm x 11.2 cm x 10.7 cm	8727900213140	213133 25

Cap Base



E14



GU10



PL E Refl E27

Product Description

- Energy-saving lamp approximating the shape of an R80 incandescent reflector lamp
- Professional long-life and energy-saving alternative to incandescent lamps

Product Features

- High light intensity in a specific direction
- 80% of nominal light output reached within two minutes of switch-on
- Almost constant light output (>80%) over recommended temperature range (-20 to +55°C), both base-up and base-down

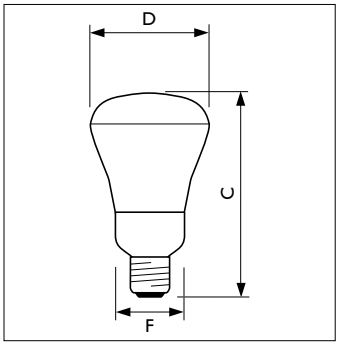
Product Benefits

- 50% energy saving compared with standard incandescent lamps
- Direct replacement for R80 reflector lamps in numerous professional applications
- Light quality and distribution similar to opalised incandescent R80 reflector lamps
- High reliability, especially important where lighting is used for longer periods and / or where lamp replacement is difficult
- Lifetime independent of number of on-off switching cycles

Application

- Direct replacement for R80 reflector lamps in numerous professional applications, e.g. hotels and restaurants as well as horticulture
- Dimming or electronic control devices cannot be used

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PL E Refl E27

Type	CMax	DMax	FMax
PL-Electronic Reflector R80 20W/827/840 E27 230-240V 1CT	143.0	81	48.1

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
PL-Electronic Reflector R80 20W/827/840 E27 230-240V 1CT	230-240	20	-	No	10000

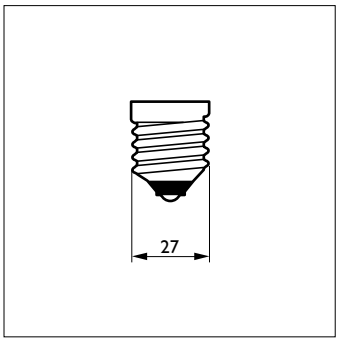
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
PL-Electronic Reflector R80 20W/827 E27 230-240V 1CT	750	36.0	Warm White	2700	82	470	415
PL-Electronic Reflector R80 20W/840 E27 230-240V 1CT	750	35.0	Cool White	4000	84	380	680

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
PL-Electronic Reflector R80 20W/827 E27 230-240V 1CT	FBT-20/27/1b-230/240-E27	8711500659897	83 gr	6	18 cm x 26.6 cm x 16.5 cm	8711500659910	659897 10
PL-Electronic Reflector R80 20W/840 E27 230-240V 1CT	FBT-20/27/1b-230/240-E27	8711500831897	117 gr	6	18 cm x 26.6 cm x 16.5 cm	8711500831903	831897 10

Cap Base



E27



Reflector 8W E26/E27

Product Description

- Energy-saving lamps in shapes approximating R50, R60 and R63 incandescent / halogen reflectors

Product Features

- Gives directional light
- Longer-life alternative to incandescent lamps (average lifetime up to six times longer)
- Not suitable for dimming and electronic devices

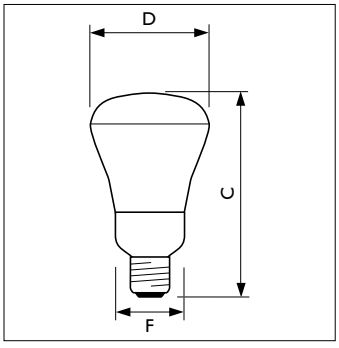
Product Benefits

- Saving on energy bills
- Replacements less frequent
- Lower cost of ownership than incandescent / halogen reflectors

Application

- Primarily indoor, as replacement for incandescent reflectors in downlighters or E14 / GU10-based luminaires
- Professional applications – shops, restaurants, cafes
- Consumer applications – desk spotlight lamps, some GU10-based luminaires

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Reflector E26/E27

Type	CMax	DMax	FMax
Downlighter ESaver 8W WW E27 1CT	116	62	44.4
Downlighter ESaver 11W WW E27 1CT	126	65	44.4

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Life to 50% failures (hrs)
Downlighter ESaver 8W WW E27 1CT	220-240	8	6000
Downlighter ESaver 11W WW E27 1CT	220-240	11	6000

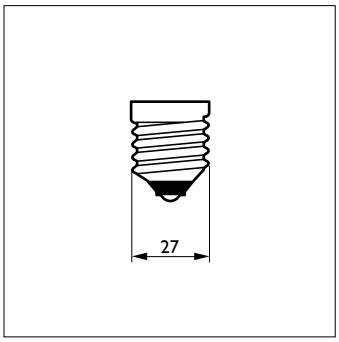
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
Downlighter ESaver 8W WW E27 1CT	280	42	Warm White	2700	82	463	420
Downlighter ESaver 11W WW E27 1CT	385	42	Warm White	2700	82	463	420

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Downlighter ESaver 8W WW E27 1CT	8711500797988	80 gr	6	23 cm x 15.6 cm x 15.4 cm	8711500798022	797988 10
Downlighter ESaver 11W WW E27 1CT	8711500798008	80 gr	6	24 cm x 16.3 cm x 16.6 cm	8711500798046	798008 10

Cap Base



E27



PAR38 Refl E27

Product Description

- Energy-saving lamp for directional lighting in the shape of a PAR38 incandescent / halogen reflector lamp

Product Features

- Fluorescent, directional light source
- Longer-life alternative to conventional incandescent or halogen lamps
- Average lifetime up to four times longer than a halogen lamp

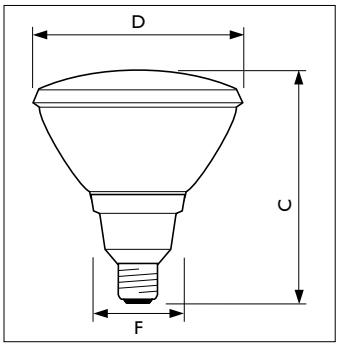
Product Benefits

- Lower energy costs due to lower energy consumption
- Increased comfort due to lower heat emission than incandescent or halogen lamps
- Less frequent replacement means lower maintenance costs
- Lower total cost of ownership than PAR38 incandescent / halogen reflector lamps

Application

- Replacement of incandescent or halogen PAR38 reflector lamps in professional applications (hotels, restaurants, shops, museums, exhibitions)
- Interior: accent lighting (corridors, lobbies), window displays, downlighting
- Exterior: decorative outdoor lighting (e.g. gardens, statues), floodlighting, facade lighting
- Not suitable for use under water unless a waterproof luminaire is used
- Not suitable for dimming and for use with electronic devices (photocells, timer switches)

www.philips.com/OEM



PAR38 Refl E27

Type	CMax	DMax	FMax
PAR38 Downlighter ESaver 20W/23W WW 220-240V 1CT	137	122	43.5

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
PAR38 Downlighter ESaver 20W WW 220-240V 1CT	220-240	20	No	8000
PAR38 Downlighter ESaver 23W WW 220-240V 1CT	220-240	23	No	8000

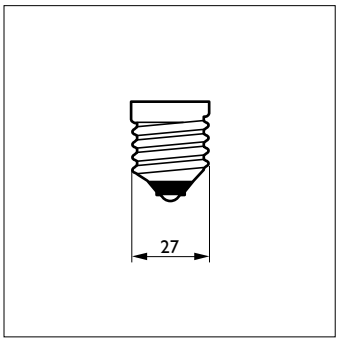
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
PAR38 Downlighter ESaver 20W WW 220-240V 1CT	850	50	Warm White	2700	82	463	420
PAR38 Downlighter ESaver 23W WW 220-240V 1CT	1250	54	Warm White	2700	82	463	420

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871016
PAR38 Downlighter ESaver 20W WW 220-240V 1CT	FBT-20/27/1b-220/240-E27	8710163216713	370 gr	6	37 cm x 25.3 cm x 16.9 cm	8710163216737	216713 10
PAR38 Downlighter ESaver 23W WW 220-240V 1CT	FBT-23/27/1b-220/240-E27	8710163216720	380 gr	6	37 cm x 25.3 cm x 16.9 cm	8710163216744	216720 10

Cap Base



E27



Circular E26/E27

Product Description

- Circular-shaped energy-saving lamp

Product Features

- Flat, low-weight long-life energy saving alternative to incandescent lamps
- Available in two colour temperatures
- High intensity value of light
- Almost constant light output (>80%) over recommended temperature range

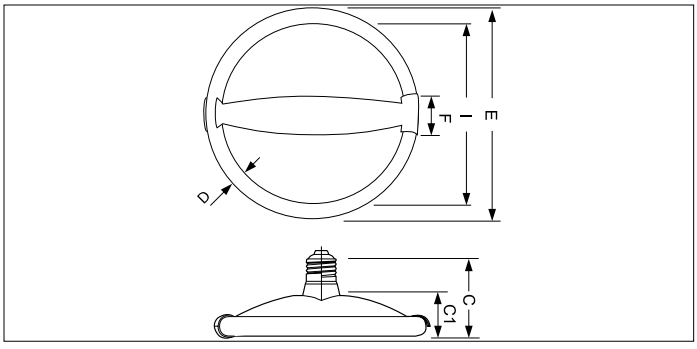
Product Benefits

- Excellent light dispersion characteristics with high luminous flux
- 80% energy saving compared to standard incandescent lamp
- Reliability over life

Application

- Designed for incandescent lamp replacement for general lighting in consumer and (semi-)professional applications – round, slim shape well suited to all shallow lampshades and pendant lamp fittings
- Not suitable for dimming and electronic devices

www.philips.com/OEM



Circular E27

Type	CMax	C1Nom	DMax	EMax	FMax	INom
Circular ESaver 25W/827 E27 220-240V 1CT	76.0	46.5	17.0	227.2	40.5	193.2

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Life to 50% failures (hrs)
Circular ESaver 25W/827/865 E27 220-240V 1CT	220-240	25	A	6000

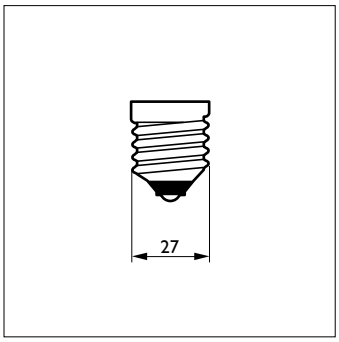
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
Circular ESaver 25W/827 E27 220-240V 1CT	1800	72	Warm White	2700	82	463	420
Circular ESaver 25W/865 E27 220-240V 1CT	1700	68	Cool Daylight	6500	80	313	337

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Circular ESaver 25W/827 E27 220-240V 1CT	FBT-25/27/1b-230/240-E27	8711500315274	190 gr	6	49.8 cm x 26.8 cm x 23.9 cm	8711500315298	315274 10
Circular ESaver 25W/865 E27 220-240V 1CT	FBT-25/65/2a-230/240-E27	8711500317056	190 gr	6	49.8 cm x 26.8 cm x 23.9 cm	8711500317063	317056 10

Cap Base



E27



Compact Fluorescent Lamps Non Integrated and Gear



Compact Fluorescent Lamps Non-Integrated (CFL-NI)

Our continuous development in Philips Compact Fluorescent Non-Integrated lamps means you benefit from better light quality, longer, more reliable life, lower mercury content and an increasingly compact design. These long lasting energy saving lamps, operated on separate gear, offer a wide range of types, wattages, colour temperatures and lengths to provide a superb choice for different types of lighting.

- Philips MASTER PL-C, MASTER PL-T, MASTER PL-T TOP and MASTER PL-L lamps - Best for general lighting
- Philips MASTER PL-C Xtra, MASTER PL-T Xtra and MASTER PL-L Xtra lamps - Longest and most reliable life
- Philips MASTER PL-L 90 De Luxe lamps - Best for showing true colours
- Philips MASTER PL-L Polar lamps - Best for low temperature applications
- Philips MASTER PL-H lamps - Best for high bay applications
- Philips MASTER PL-S and PL-Q lamps - Best for decorative lighting

Philips Compact Fluorescent Non-Integrated lamps are available in 2- or 4-pin versions. The 4-pin lamps are for use with HF electronic control gear and can be dimmed. Electronic operation allows for greater comfort, no flickering, longer lamp life and optimised energy savings.

The 2-pin lamps contain an integral radioactive free starter and capacitor for simpler luminaire wiring and more reliability when changing lamps, as a fresh starter is fitted every time. These lamps can be used with non-electronic gear only and are not suitable for dimming.



PL-S 9W

Product Description

- Energy-saving compact fluorescent lamps
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of two parallel narrow fluorescent tubes

Product Features

- 2-pin base with a housing incorporating the special instant starter and capacitor
- Lamp characteristics are influenced by operating conditions and control gear used
- Dimming is not possible

Product Benefits

- Optimal light performance for short or long operation per switch-on
- Long life and sustainable light output

Application

- Designed for use in hotels, restaurants, theatres and homes
- Suitable for use in signs, corridors, security and orientation lighting

System

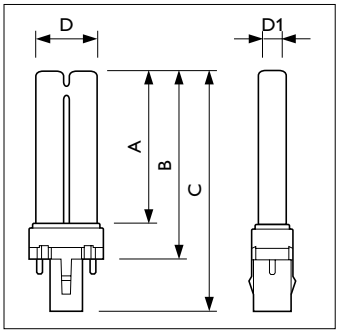
- For use on conventional copper iron gears
- Radio interference suppression capacitor is installed

Environment

- Good environmental choice because of high energy efficiency, long life and low light output depreciation, lowest mercury content
- Compliant with all RoHS and WEEE requirements: the lamps have a very low content of mercury, are lead free and make no use of hazardous flame retardants

Recommended gear page 7.114

www.philips.com/OEM



PL-S

Type	AMax	BMax	CMax	DMax	D1Max
MASTER PL-S 5W	67	83	105	28	13
MASTER PL-S 7W	97	113	135	28	13
MASTER PL-S 9W	129	145	167	28	13
MASTER PL-S 11W	198	214	235.8	28	13

Technical data

Type	Lamp Wattage EM (W)	Lamp Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable
MASTER PL-S 5W	5.4	35	0.180	5	B	No
MASTER PL-S 7W	7.1	47	0.175	7	B	No
MASTER PL-S 9W	8.7	60	0.170	9	A	No
MASTER PL-S 11W	11.8	91	0.155	11	A	No

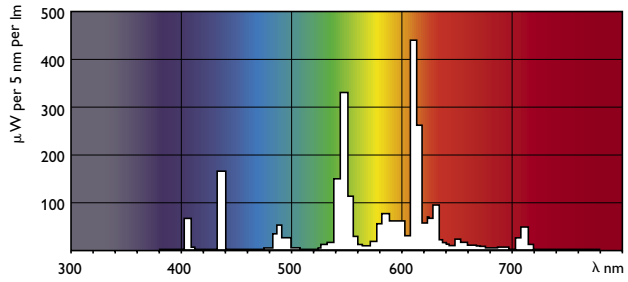
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-S 5W/827	250	46	Incandescent White	2700	82	455	417
MASTER PL-S 5W/840	250	46	Cool White	4000	82	381	379
MASTER PL-S 7W/827	400	56	Incandescent White	2700	82	455	417
MASTER PL-S 7W/830	400	56	Warm White	3000	82	435	401
MASTER PL-S 7W/840	400	56	Cool White	4000	82	381	379
MASTER PL-S 9W/827	600	69	Incandescent White	2700	82	455	417
MASTER PL-S 9W/830	600	69	Warm White	3000	82	435	401
MASTER PL-S 9W/840	600	69	Cool White	4000	82	381	379
MASTER PL-S 11W/827	900	76	Incandescent White	2700	82	455	417
MASTER PL-S 11W/830	900	76	Warm White	3000	82	435	401
MASTER PL-S 11W/840	900	76	Cool White	4000	82	381	379

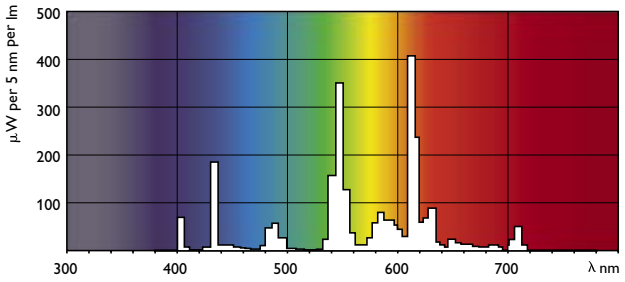
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-S 5W/827/2P 1CT	FSD-5/27/1B-I-G23	8711500260451	22 gr	50	43.5 cm x 11.6 cm x 12.6 cm	8711500260475	260451 70
MASTER PL-S 5W/840/2P 1CT	FSD-5/40/1B-I-G23	8711500260482	22 gr	50	43.5 cm x 11.6 cm x 12.6 cm	8711500260505	260482 70
MASTER PL-S 7W/827/2P 1CT	FSD-7/27/1B-I-G23	8711500260574	26 gr	50	43.5 cm x 14.6 cm x 12.6 cm	8711500260598	260574 70
MASTER PL-S 7W/830/2P 1CT	FSD-7/30/1B-I-G23	8711500260628	26 gr	50	43.5 cm x 14.6 cm x 12.6 cm	8711500260642	260628 70
MASTER PL-S 7W/840/2P 1CT	FSD-7/40/1B-I-G23	8711500260659	26 gr	50	43.5 cm x 14.6 cm x 12.6 cm	8711500260673	260659 70
MASTER PL-S 9W/827/2P 1CT	FSD-9/27/1B-I-G23	8711500260796	32 gr	50	43.5 cm x 17.8 cm x 12.6 cm	8711500260819	260796 70
MASTER PL-S 9W/827/2P UNP	FSD-9/27/1B-I-G23	8711500260826	32 gr	50	39.1 cm x 18.6 cm x 12.7 cm	8711500260833	260826 65
MASTER PL-S 9W/830/2P 1CT	FSD-9/30/1B-I-G23	8711500260840	32 gr	50	43.5 cm x 17.8 cm x 12.6 cm	8711500260864	260840 70
MASTER PL-S 9W/830/2P UNP	FSD-9/30/1B-I-G23	8711500888259	32 gr	50	39.1 cm x 18.6 cm x 12.7 cm	8711500888266	888259 65
MASTER PL-S 9W/840/2P 1CT	FSD-9/40/1B-I-G23	8711500260871	32 gr	50	43.5 cm x 17.8 cm x 12.6 cm	8711500260895	260871 70
MASTER PL-S 11W/827/2P 1CT	FSD-11/27/1B-I-G23	8711500261014	43 gr	50	43.5 cm x 24.6 cm x 12.6 cm	8711500261038	261014 70
MASTER PL-S 11W/827/2P UNP	FSD-11/27/1B-I-G23	8711500261045	43 gr	50	39.1 cm x 25.6 cm x 12.7 cm	8711500261052	261045 65
MASTER PL-S 11W/830/2P 1CT	FSD-11/30/1B-I-G23	8711500261069	43 gr	50	43.5 cm x 24.6 cm x 12.6 cm	8711500261083	261069 70
MASTER PL-S 11W/840/2P 1CT	FSD-11/40/1B-I-G23	8711500261090	43 gr	50	43.5 cm x 24.6 cm x 12.6 cm	8711500261113	261090 70
MASTER PL-S 11W/840/2P UNP	FSD-11/40/1B-I-G23	8711500261120	43 gr	50	39.1 cm x 25.6 cm x 12.7 cm	8711500261137	261120 65

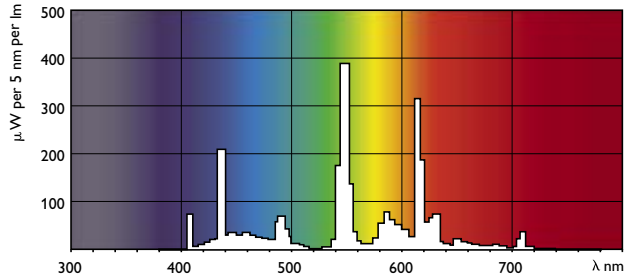
Spectral power distribution



PL-S /827

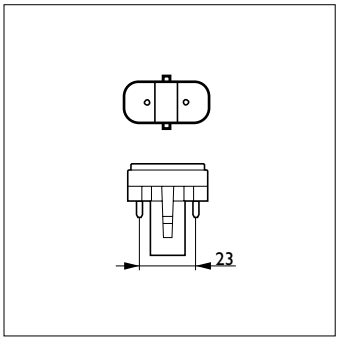


PL-S /830



PL-S /840

Cap Base



G23





PL-S 9W

Product Description

- Energy-saving compact fluorescent lamps
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of two parallel narrow fluorescent tubes

Product Features

- 4-pin base without starter and capacitor
- Lamp characteristics are influenced by operating conditions and control gear used

Product Benefits

- Optimal light performance for short or long operation per switch-on
- Long life and sustainable light output

Application

- Designed for use in hotels, restaurants, theatres and homes
- Suitable for use in signs, corridors, security and orientation lighting

System

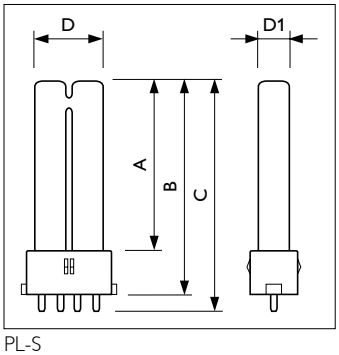
- Suitable for use with electronic gear, enabling dimmable light output, HF operation

Environment

- Good environmental choice because of high energy efficiency, long life and low light output depreciation, lowest mercury content
- Compliant with all RoHS and WEEE requirements: the lamps have a very low content of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

Recommended gear page 7.114

www.philips.com/OEM



PL-S

Type	AMax	BMax	CMax	DMax	D1Max
MASTER PL-S 5W	66	83	89.1	28	13
MASTER PL-S 7W	96	113	119.1	28	13
MASTER PL-S 9W	128	145	151.1	28	13
MASTER PL-S 11W	196	214	219.9	28	13

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-S 5W	27	0.190	5.0	35	0.180	5.4	5	B	Yes	8000	13000
MASTER PL-S 7W	37	0.175	6.5	47	0.175	7.1	7	B	Yes	8000	13000
MASTER PL-S 9W	48	0.170	8.0	60	0.170	8.7	9	A	Yes	8000	13000
MASTER PL-S 11W	75	0.150	11.0	91	0.155	11.8	11	A	Yes	8000	13000

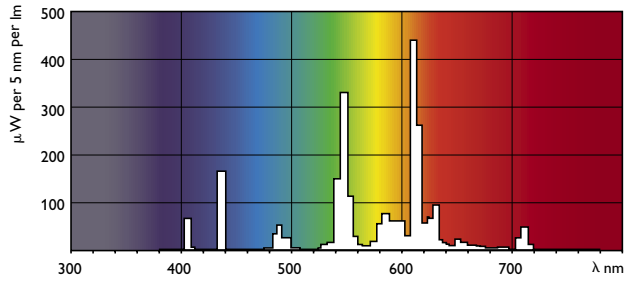
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EL (lm/W)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-S 5W/827	250	250	50	46	Incandescent White	2700	82	455	417
MASTER PL-S 5W/840	250	250	50	46	Cool White	4000	82	381	379
MASTER PL-S 7W/827	400	400	61	56	Incandescent White	2700	82	455	417
MASTER PL-S 7W/830	400	400	61	56	Warm White	3000	82	435	401
MASTER PL-S 7W/840	400	400	61	56	Cool White	4000	82	381	379
MASTER PL-S 9W/827	600	600	75	69	Incandescent White	2700	82	455	417
MASTER PL-S 9W/830	600	600	75	69	Warm White	3000	82	435	401
MASTER PL-S 9W/840	600	600	75	69	Cool White	4000	82	381	379
MASTER PL-S 11W/827	900	900	82	76	Incandescent White	2700	82	455	417
MASTER PL-S 11W/830	900	900	82	76	Warm White	3000	82	435	401
MASTER PL-S 11W/840	900	900	82	76	Cool White	4000	82	381	379

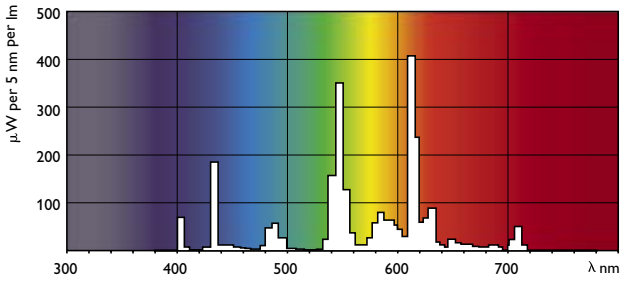
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-S 5W/827/4P 1CT	FSD-5/27/1B-E-2G7	8711500260512	20 gr	50	45 cm x 10.3 cm x 12.1 cm	8711500260536	260512 70
MASTER PL-S 5W/840/4P 1CT	FSD-5/40/1B-E-2G7	8711500260543	20 gr	50	45 cm x 10.3 cm x 12.1 cm	8711500260567	260543 70
MASTER PL-S 7W/827/4P 1CT	FSD-7/27/1B-E-2G7	8711500260703	24 gr	50	45 cm x 13.3 cm x 12.1 cm	8711500260727	260703 70
MASTER PL-S 7W/830/4P 1CT	FSD-7/30/1B-E-2G7	8711500260734	24 gr	50	45 cm x 13.3 cm x 12.1 cm	8711500260758	260734 70
MASTER PL-S 7W/840/4P 1CT	FSD-7/40/1B-E-2G7	8711500260765	24 gr	50	45 cm x 13.3 cm x 12.1 cm	8711500260789	260765 70
MASTER PL-S 9W/827/4P 1CT	FSD-9/27/1B-E-2G7	8711500260901	30 gr	50	45 cm x 16.3 cm x 12.1 cm	8711500260925	260901 70
MASTER PL-S 9W/830/4P 1CT	FSD-9/30/1B-E-2G7	8711500260932	30 gr	50	45 cm x 16.3 cm x 12.1 cm	8711500260956	260932 70
MASTER PL-S 9W/840/4P 1CT	FSD-9/40/1B-E-2G7	8711500260963	30 gr	50	45 cm x 16.3 cm x 12.1 cm	8711500260987	260963 70
MASTER PL-S 9W/840/4P UNP	FSD-9/40/1B-E-2G7	8711500260994	30 gr	50	39.1 cm x 18.6 cm x 12.7 cm	8711500261007	260994 65
MASTER PL-S 11W/827/4P 1CT	FSD-11/27/1B-E-2G7	8711500261144	41 gr	50	45 cm x 23.3 cm x 12.1 cm	8711500261168	261144 70
MASTER PL-S 11W/827/4P UNP	FSD-11/27/1B-E-2G7	8711500261175	41 gr	50	39.1 cm x 25.6 cm x 12.7 cm	8711500261182	261175 65
MASTER PL-S 11W/830/4P 1CT	FSD-11/30/1B-E-2G7	8711500261199	41 gr	50	45 cm x 23.3 cm x 12.1 cm	8711500261212	261199 70
MASTER PL-S 11W/840/4P 1CT	FSD-11/40/1B-E-2G7	8711500261229	41 gr	50	45 cm x 23.3 cm x 12.1 cm	8711500261243	261229 70
MASTER PL-S 11W/840/4P UNP	FSD-11/40/1B-E-2G7	8711500261250	41 gr	50	39.1 cm x 25.6 cm x 12.7 cm	8711500261267	261250 65

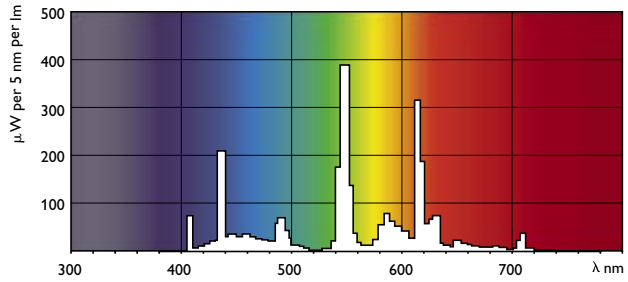
Spectral power distribution



PL-S /827

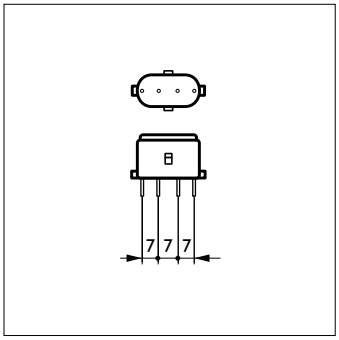


PL-S /830



PL-S /840

Cap Base



2G7





PL-C 10W

Product Description

- Energy-saving compact fluorescent lamps
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of four parallel narrow fluorescent tubes

Product Features

- 2-pin base with a housing incorporating the special instant starter and capacitor
- Lamp characteristics are influenced by operating conditions and control gear used
- Dimming is not possible

Product Benefits

- Optimal light performance for short or long operation per switch-on
- Long life and sustainable light output

Application

- Designed for general or supplementary lighting in professional or home environments
- Recessed or surface-mounted downlighters, wall units, table lamps and pendant lamps

System

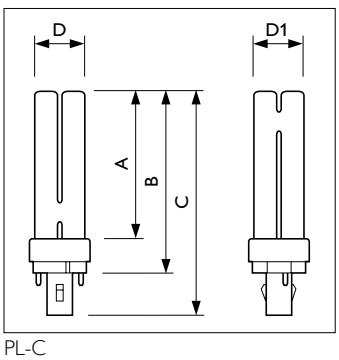
- For use on conventional copper iron gears
- Radio interference suppression capacitor is installed

Environment

- Good environmental choice because of high energy efficiency, long life and low light output depreciation, lowest mercury content
- Compliant with all RoHS and WEEE requirements: the lamps have a very low content of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

Recommended gear page 7.116

www.philips.com/OEM



PL-C

Type	AMax	BMax	CMax	DMax	D1Max
MASTER PL-C 10W	75.7	94.0	116.4	27.1	27.1
MASTER PL-C 13W	97.7	116.0	138.4	27.1	27.1
MASTER PL-C 18W	109.7	128.0	150.4	27.1	27.1
MASTER PL-C 26W	130.7	149.0	171.4	27.1	27.1

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable
MASTER PL-C 10W	0.19	10.0	64	10	B	No
MASTER PL-C 13W	0.175	13.0	91	13	A	No
MASTER PL-C 18W	0.22	18.0	100	18	B	No
MASTER PL-C 26W	0.325	26.0	105	26	B	No

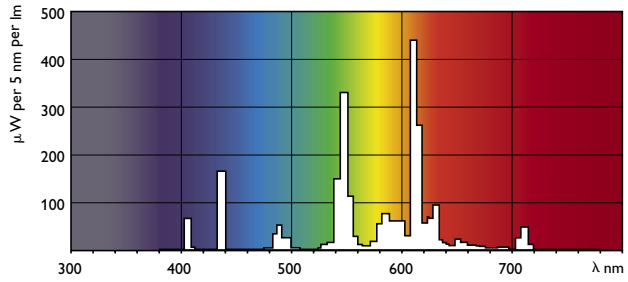
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-C 10W/827	600	60	Incandescent White	2700	82	455	415
MASTER PL-C 10W/830	600	60	Warm White	3000	82	435	400
MASTER PL-C 10W/840	600	60	Cool White	4000	82	380	380
MASTER PL-C 13W/827	900	69	Incandescent White	2700	82	455	415
MASTER PL-C 13W/830	900	69	Warm White	3000	82	435	400
MASTER PL-C 13W/840	900	69	Cool White	4000	82	380	380
MASTER PL-C 13W/865	900	69	Cool Daylight	6500	80	305	325
MASTER PL-C 18W/827	1200	67	Incandescent White	2700	82	462	415
MASTER PL-C 18W/830	1200	67	Warm White	3000	82	435	400
MASTER PL-C 18W/835	1200	67	White	3500	82	410	400
MASTER PL-C 18W/840	1200	67	Cool White	4000	82	381	380
MASTER PL-C 18W/865	1200	67	Cool Daylight	6500	80	305	325
MASTER PL-C 26W/827	1800	69	Incandescent White	2700	82	455	415
MASTER PL-C 26W/830	1800	69	Warm White	3000	82	435	400
MASTER PL-C 26W/835	1800	69	White	3500	82	410	400
MASTER PL-C 26W/840	1800	69	Cool White	4000	82	379	380
MASTER PL-C 26W/865	1800	69	Cool Daylight	6500	80	305	325

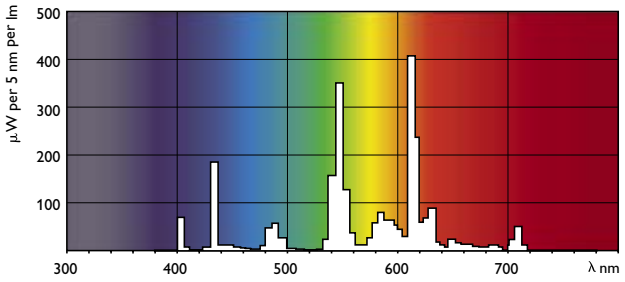
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-C 10W/827/2P 1CT	FSQ-10/27/1B-I-G24d=1	8711500706812	45 gr	50	36.5 cm x 18.1 cm x 12.7 cm	8711500710970	706812 70
MASTER PL-C 10W/830/2P 1CT	FSQ-10/30/1B-I-G24d=1	8711500707246	45 gr	50	36.5 cm x 18.1 cm x 12.7 cm	8711500710987	707246 70
MASTER PL-C 10W/840/2P 1CT	FSQ-10/40/1B-I-G24d=1	8711500704986	45 gr	50	36.5 cm x 18.1 cm x 12.7 cm	8711500710994	704986 70
MASTER PL-C 13W/827/2P 1CT	FSQ-13/27/1B-I-G24d=1	8711500620811	53.6 gr	50	36.5 cm x 18.1 cm x 14.8 cm	8711500715647	620811 70
MASTER PL-C 13W/830/2P 1CT	FSQ-13/30/1B-I-G24d=1	8711500620842	53.6 gr	50	36.5 cm x 18.1 cm x 14.8 cm	8711500715685	620842 70
MASTER PL-C 13W/840/2P 1CT	FSQ-13/40/1B-I-G24d=1	8711500620866	53.6 gr	50	36.5 cm x 18.1 cm x 14.8 cm	8711500715692	620866 70
MASTER PL-C 13W/865/2P 1CT	FSQ-13/65/1B-I-G24d=1	8711500635235	53.6 gr	50	36.5 cm x 18.1 cm x 14.8 cm	8711500715708	635235 70
MASTER PL-C 18W/827/2P 1CT	FSQ-18/27/1B-I-G24d=2	8711500620880	57.8 gr	50	36.5 cm x 18.1 cm x 16 cm	8711500715760	620880 70
MASTER PL-C 18W/830 /2P 1CT	FSQ-18/30/1B-I-G24d=2	8711500620910	57.8 gr	50	36.5 cm x 18.1 cm x 16 cm	8711500715777	620910 70
MASTER PL-C 18W/830/2P UNP	FSQ-18/30/1B-I-G24d=2	8711500642714	55.5 gr	150	59.4 cm x 39.1 cm x 19 cm	8711500888358	642714 97
MASTER PL-C 18W/835/2P 1CT	FSQ-18/35/1B-I-G24d=2	8711500866462	57.8 gr	50	36.5 cm x 18.1 cm x 16 cm	8711500866486	866462 70
MASTER PL-C 18W/840 /2P 1CT	FSQ-18/40/1B-I-G24d=2	8711500620934	57.8 gr	50	36.5 cm x 18.1 cm x 16 cm	8711500715784	620934 70
MASTER PL-C 18W/840/2P UNP	FSQ-18/40/1B-I-G24d=2	8711500642721	55.5 gr	150	59.4 cm x 39.1 cm x 19 cm	8711500888419	642721 97
MASTER PL-C 18W/865/2P 1CT	FSQ-18/65/1B-I-G24d=2	8711500635273	57.8 gr	50	38 cm x 18.5 cm x 16 cm	8711500715821	635273 70
MASTER PL-C 26W/827/2P 1CT	FSQ-26/27/1B-I-G24d=3	8711500620958	64.3 gr	50	36.5 cm x 18.1 cm x 18.1 cm	8711500715913	620958 70
MASTER PL-C 26W/830 /2P 1CT	FSQ-26/30/1B-I-G24d=3	8711500620989	64.3 gr	50	36.5 cm x 18.1 cm x 18.1 cm	8711500715920	620989 70
MASTER PL-C 26W/830/2P UNP	FSQ-26/30/1B-I-G24d=3	8711500643384	63.4 gr	150	59.4 cm x 39.1 cm x 20.7 cm	8711500888426	643384 97
MASTER PL-C 26W/835/2P 1CT	FSQ-26/35/1B-I-G24d=3	8711500866509	64.3 gr	50	36.5 cm x 18.1 cm x 18.1 cm	8711500866523	866509 70
MASTER PL-C 26W/840/2P 1CT	FSQ-26/40/1B-I-G24d=3	8711500621009	64.3 gr	50	36.5 cm x 18.1 cm x 18.1 cm	8711500715968	621009 70
MASTER PL-C 26W/840/2P UNP	FSQ-26/40/1B-I-G24d=3	8711500643407	63.4 gr	150	59.4 cm x 39.1 cm x 20.7 cm	8711500888457	643407 97
MASTER PL-C 26W/865/2P 1CT	FSQ-26/65/1B-I-G24d=3	8711500635310	64.3 gr	50	36.5 cm x 18.1 cm x 18.1 cm	8711500716002	635310 70

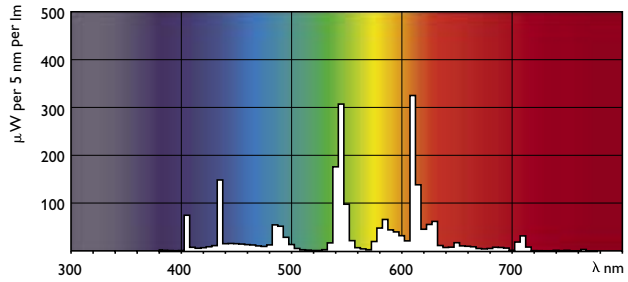
Spectral power distribution



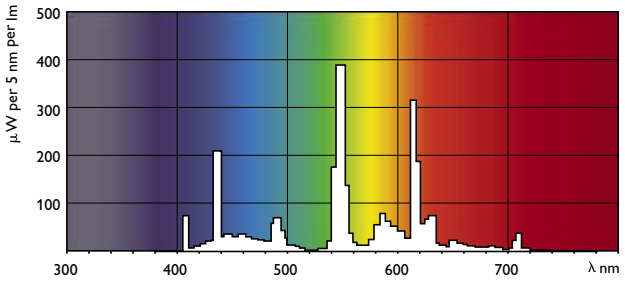
PL-C /827



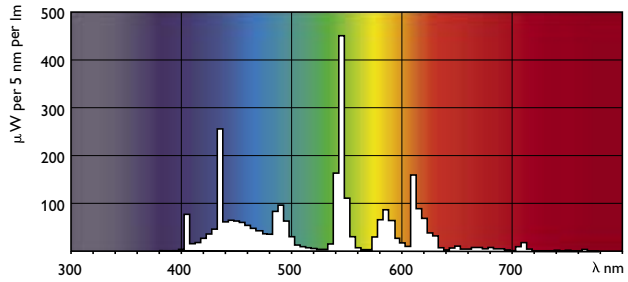
PL-C /830



PL-C /835

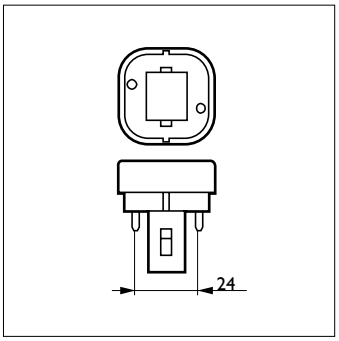


PL-C /840

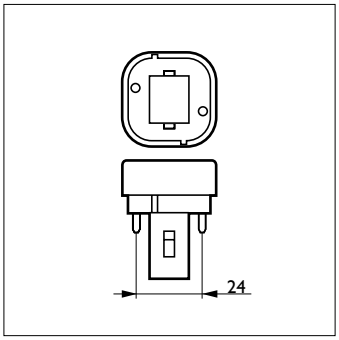


PL-C /865

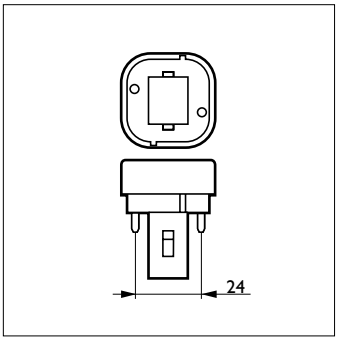
Cap Base



G24d-1



G24d-2



G24d-3





PL-C 10W

Product Description

- Energy-saving compact fluorescent lamps
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of four parallel narrow fluorescent tubes

Product Features

- 4-pin base without starter and capacitor
- Lamp characteristics are influenced by operating conditions and control gear used
- Dimming is possible

Product Benefits

- Optimal light performance for short or long operation per switch-on
- Long life and sustainable light output

Application

- Designed for general or supplementary lighting in professional or home environments
- Recessed or surface-mounted downlighters, wall units, table lamps and pendant lamps

System

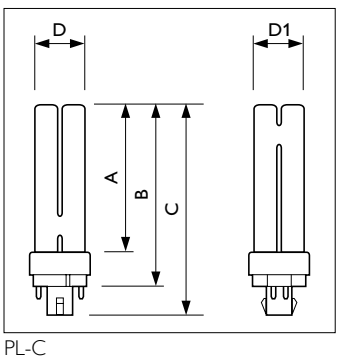
- Suitable for use with electronic gear, enabling controllable light output, HF operation and independence from the supply system

Enviroment

- Good environmental choice because of high energy efficiency, long life and low light output depreciation, lowest mercury content
- Compliant with all RoHS and WEEE requirements: the lamps have a very low content of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

Recommended gear page 7.116

www.philips.com/OEM



PL-C

Type	AMax	BMax	CMax	DMax	D1Max
MASTER PL-C 10W	75.7	94.0	108.9	27.1	27.1
MASTER PL-C 13W	97.7	116.0	130.9	27.1	27.1
MASTER PL-C 18W	109.7	128.0	142.9	27.1	27.1
MASTER PL-C 26W	130.7	149.0	163.9	27.1	27.1

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-C 10W	51	0.190	9.5	64	0.190	10.0	10	B	Yes	8000	13000
MASTER PL-C 13W	77	0.165	12.5	91	0.175	13.0	13	A	Yes	8000	13000
MASTER PL-C 18W	80	0.210	16.5	100	0.220	18.0	18	B	Yes	8000	13000
MASTER PL-C 26W	80	0.300	24.0	105	0.325	26.0	26	B	Yes	8000	13000

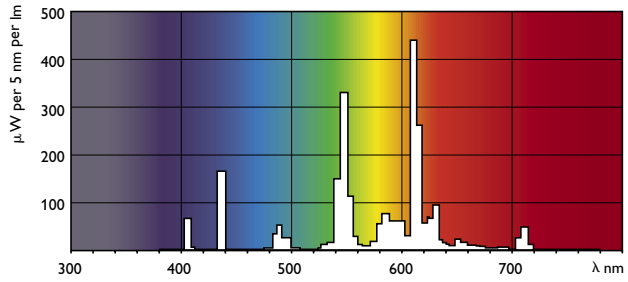
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EL (lm/W)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-C 10W/827	600	600	60	60	Incandescent White	2700	82	455	415
MASTER PL-C 10W/830	600	600	60	60	Warm White	3000	82	435	400
MASTER PL-C 10W/840	600	600	60	60	Cool White	4000	82	380	380
MASTER PL-C 13W/827	900	900	69	69	Incandescent White	2700	82	455	415
MASTER PL-C 13W/830	900	900	69	69	Warm White	3000	82	435	400
MASTER PL-C 13W/840	900	900	69	69	Cool White	4000	82	380	380
MASTER PL-C 18W/827	1200	1200	67	67	Incandescent White	2700	82	455	415
MASTER PL-C 18W/830	1200	1200	67	67	Warm White	3000	82	435	400
MASTER PL-C 18W/840	1200	1200	67	67	Cool White	4000	82	380	380
MASTER PL-C 26W/827	1800	1800	69	69	Incandescent White	2700	82	455	415
MASTER PL-C 26W/830	1800	1800	69	69	Warm White	3000	82	435	400
MASTER PL-C 26W/835	1800	1800	69	69	White	3500	82	410	400
MASTER PL-C 26W/840	1800	1800	69	69	Cool White	4000	82	380	380

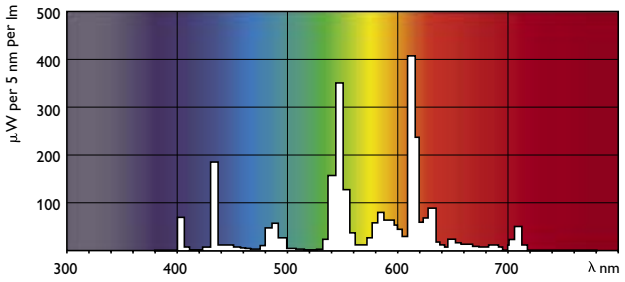
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-C 10W/827/4P 1CT	FSQ-10/27/1B-E-G24q=1	8711500623256	41.4 gr	50	36.5 cm x 18.1 cm x 11.8 cm	8711500711007	623256 70
MASTER PL-C 10W/830/4P 1CT	FSQ-10/30/1B-E-G24q=1	8711500623294	41.4 gr	50	36.5 cm x 18.1 cm x 11.8 cm	8711500711021	623294 70
MASTER PL-C 10W/840/4P 1CT	FSQ-10/40/1B-E-G24q=1	8711500623300	41.4 gr	50	36.5 cm x 18.1 cm x 11.8 cm	8711500711038	623300 70
MASTER PL-C 13W/827/4P 1CT	FSQ-13/27/1B-E-G24q=1	8711500623263	49.9 gr	50	36.5 cm x 18.1 cm x 14 cm	8711500715715	623263 70
MASTER PL-C 13W/830/4P 1CT	FSQ-13/30/1B-E-G24q=1	8711500623317	49.9 gr	50	36.5 cm x 18.1 cm x 14 cm	8711500715722	623317 70
MASTER PL-C 13W/840/4P 1CT	FSQ-13/40/1B-E-G24q=1	8711500623324	49.9 gr	50	36.5 cm x 18.1 cm x 14 cm	8711500715739	623324 70
MASTER PL-C 18W/827/4P 1CT	FSQ-18/27/1B-E-G24q=2	8711500623270	55.3 gr	50	36.5 cm x 18.1 cm x 15.3 cm	8711500715869	623270 70
MASTER PL-C 18W/830/4P 1CT	FSQ-18/30/1B-E-G24q=2	8711500623331	55.3 gr	50	36.5 cm x 18.1 cm x 15.3 cm	8711500715890	623331 70
MASTER PL-C 18W/830/4P UNP	FSQ-18/30/1B-E-G24q=2	8711500891822	53.5 gr	150	59.4 cm x 39.1 cm x 19 cm	8711500891839	891822 97
MASTER PL-C 18W/840/4P 1CT	FSQ-18/40/1B-E-G24q=2	8711500623348	55.3 gr	50	36.5 cm x 18.1 cm x 15.3 cm	8711500715906	623348 70
MASTER PL-C 18W/840/4P UNP	FSQ-18/40/1B-E-G24q=2	8711500891907	53.5 gr	150	59.4 cm x 39.1 cm x 19 cm	8711500891914	891907 97
MASTER PL-C 26W/827/4P 1CT	FSQ-26/27/1B-E-G24q=3	8711500623287	60.4 gr	50	36.5 cm x 18.1 cm x 17.5 cm	8711500716033	623287 70
MASTER PL-C 26W/830/4P 1CT	FSQ-26/30/1B-E-G24q=3	8711500623355	60.4 gr	50	36.5 cm x 18.1 cm x 17.5 cm	8711500716040	623355 70
MASTER PL-C 26W/830/4P UNP	FSQ-26/30/1B-E-G24q=3	8711500891921	60.4 gr	150	59.4 cm x 39.1 cm x 20.7 cm	8711500891938	891921 97
MASTER PL-C 26W/835/4P 1CT	FSQ-26/35/1B-E-G24q=3	8711500866530	60.4 gr	50	36.5 cm x 18.1 cm x 17.5 cm	8711500866554	866530 70
MASTER PL-C 26W/840/4P 1CT	FSQ-26/40/1B-E-G24q=3	8711500623362	60.4 gr	40	30.5 cm x 19 cm x 18.4 cm	8711500624369	623362 90
MASTER PL-C 26W/840/4P 1CT	FSQ-26/40/1B-E-G24q=3	8711500623362	60.4 gr	50	36.5 cm x 18.1 cm x 17.5 cm	8711500716057	623362 70
MASTER PL-C 26W/840/4P UNP	FSQ-26/40/1B-E-G24q=3	8711500891945	60.4 gr	150	59.4 cm x 39.1 cm x 20.7 cm	8711500891952	891945 97

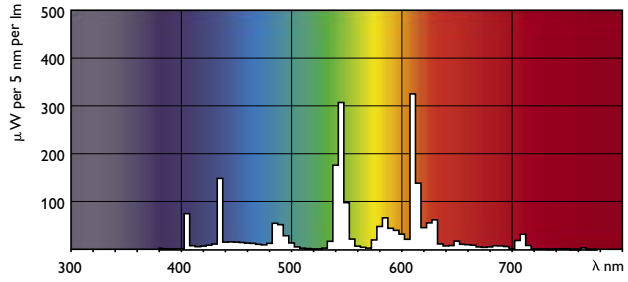
Spectral power distribution



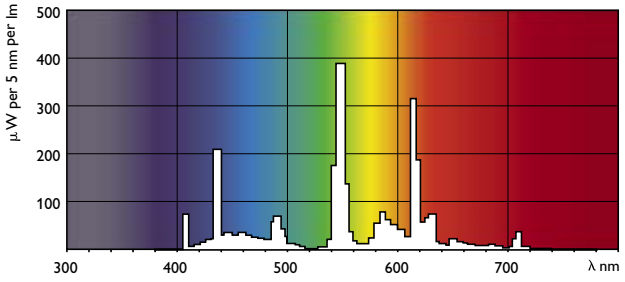
PL-C /827



PL-C /830

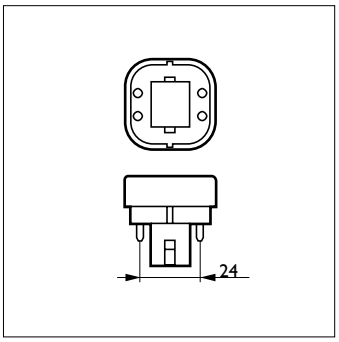


PL-C /835

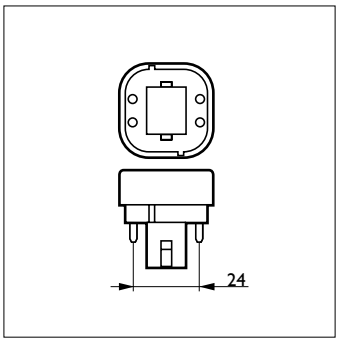


PL-C /840

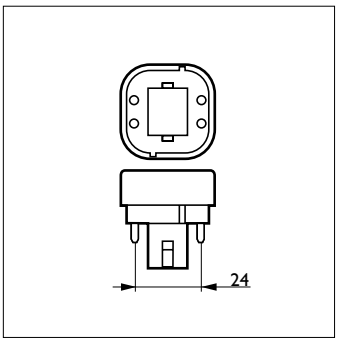
Cap Base



G24q-1



G24q-2



G24q-3





PL-C 18W

Product Description

- Energy-saving compact fluorescent lamps
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of four parallel narrow fluorescent tubes

Product Features

- 2-pin base with a housing incorporating the special instant starter and capacitor
- Significant reduction of early failures
- Extra long and reliable lifetime

Product Benefits

- Extra long life
- Longer lifetime and less early failures lead to less hassle and lower maintenance costs and facilitate the change from spot to group replacement
- Optimal light performance for long operation per switch-on

Application

- Designed for general or supplementary lighting in professional environments
- Recessed or surface-mounted downlighters, wall units, table lamps and pendant lamps
- Suitable for use in applications where maintenance costs are high (high ceilings, difficult to reach): department stores, supermarkets, warehouses, production halls and public areas

System

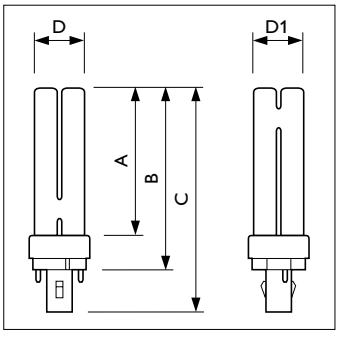
- For use on conventional copper iron gears
- Radio interference suppression capacitor is installed
- Dimming is not possible

Environment

- Good environmental choice because of long reliable life, high-energy efficiency and lowest mercury content
- Compliant with all RoHS and WEEE requirements: lamps contain very low level of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

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PL-C

Type	AMax	BMax	CMax	DMax	D1Max
MASTER PL-C Xtra 18W	109.7	128.0	150.4	27.1	27.1
MASTER PL-C Xtra 26W	130.7	149.0	171.4	27.1	27.1

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable
MASTER PL-C Xtra 18W	100	0.220	18	18	B	No
MASTER PL-C Xtra 26W	105	0.325	26	26	B	No

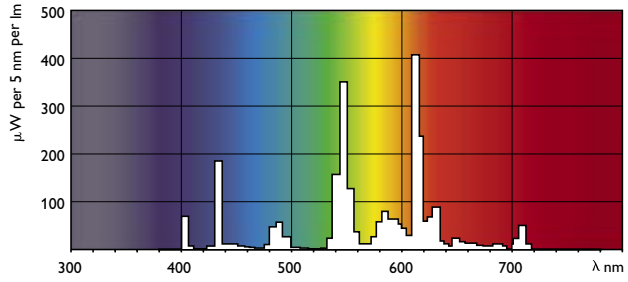
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-C Xtra 18W/830	1200	67	Warm White	3000	82	435	400
MASTER PL-C Xtra 18W/840	1200	67	Cool White	4000	82	380	380
MASTER PL-C Xtra 26W/830	1800	69	Warm White	3000	82	435	400
MASTER PL-C Xtra 26W/840	1800	69	Cool White	4000	82	380	380

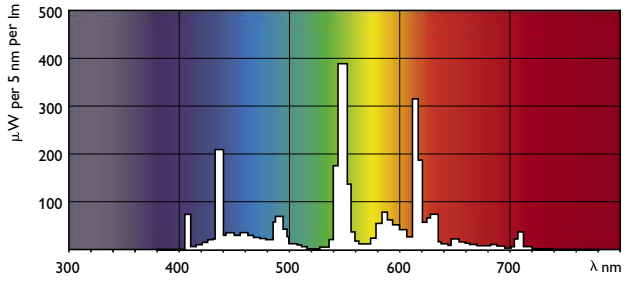
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-C Xtra 18W/830/2P 1CT	FSQ-18/30/1B-I-G24d=2	8711500898951	57.8 gr	50	36.5 cm x 18.1 cm x 16 cm	8711500898975	898951 70
MASTER PL-C Xtra 18W/840/2P 1CT	FSQ-18/40/1B-I-G24d=2	8711500950307	57.8 gr	50	36.5 cm x 18.1 cm x 16 cm	8711500950321	950307 70
MASTER PL-C Xtra 26W/830/2P 1CT	FSQ-26/30/1B-I-G24d=3	8711500898838	64.3 gr	50	36.5 cm x 18.1 cm x 18.1 cm	8711500898852	898838 70
MASTER PL-C Xtra 26W/840/2P 1CT	FSQ-26/40/1B-I-G24d=3	8711500898869	64.3 gr	50	36.5 cm x 18.1 cm x 18.1 cm	8711500898883	898869 70

Spectral power distribution

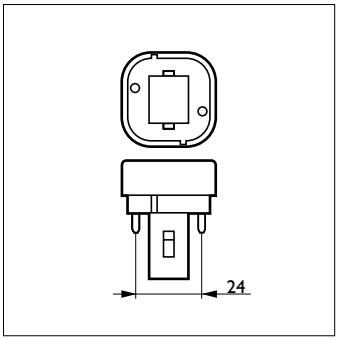


PL-C /830

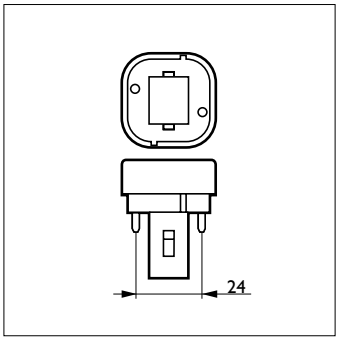


PL-C /840

Cap Base



G24d-2



G24d-3

Switching cycle	Circuit mortality	Lifetime on HF gear with preheat start	
		MASTER PL-C / PL-T	MASTER PL-C / PL-T Xtra
11 1/2 hrs on 1/2 hr off	90% survivors	10.000 hours	25.000 hours
	95% survivors		20.000 hours
	97% survivors		17.000 hours



PL-C 18W

Product Description

- Energy-saving compact fluorescent lamps
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of four parallel narrow fluorescent tubes

Product Features

- 4-pin base without starter and capacitor
- Significant reduction of early failures
- Extra long and reliable lifetime

Product Benefits

- Extra long life
- Longer lifetime and less early failures lead to less hassle and lower maintenance costs and facilitate the change from spot to group replacement
- Optimal light performance for long operation per switch-on

Application

- Designed for general or supplementary lighting in professional environments
- Recessed or surface-mounted downlighters, wall units, table lamps and pendant lamps
- Suitable for use in applications where maintenance costs are high (high ceilings, difficult to reach): department stores, supermarkets, warehouses, production halls and public areas

System

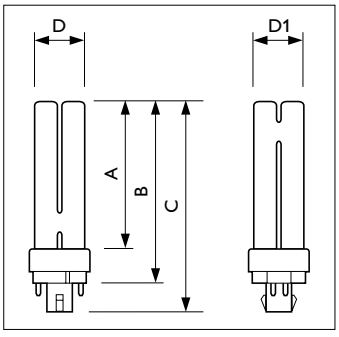
- Lamp characteristics are influenced by operating conditions and control gear used
- Suitable for use with HF electronic gear enabling independence of mains supply variations
- Optimised performance for electronic gear with preheat function

Environment

- Good environmental choice because of long reliable life, high-energy efficiency and lowest mercury content
- Compliant with all RoHS and WEEE requirements: lamps contain very low level of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

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www.philips.com/OEM



PL-C

Type	AMax	BMax	CMax	DMax	D1Max
MASTER PL-C Xtra 18W	109.7	128.0	142.9	27.1	27.1
MASTER PL-C Xtra 26W	130.7	149.0	163.9	27.1	27.1

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-C Xtra 18W	80	0.210	16.5	100	0.220	18.0	18	B	Yes	20000	33000
MASTER PL-C Xtra 26W	80	0.300	24.0	105	0.325	26.0	26	B	Yes	20000	33000

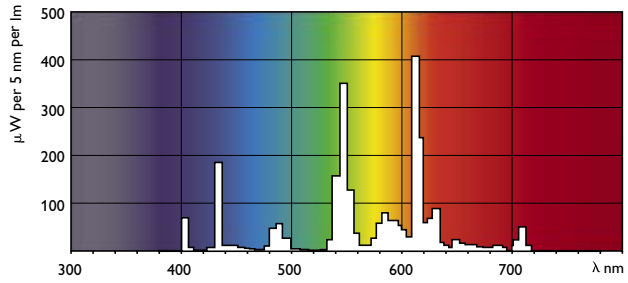
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EL (lm/W)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-C Xtra 18W/830/4P 1CT	1200	1200	67	67	Warm White	3000	82	435	400
MASTER PL-C Xtra 18W/840/4P 1CT	1200	1200	67	67	Cool White	4000	82	380	380
MASTER PL-C Xtra 26W/830/4P 1CT	1800	1800	69	69	Warm White	3000	82	435	400
MASTER PL-C Xtra 26W/840/4P 1CT	1800	1800	69	69	Cool White	4000	82	380	380

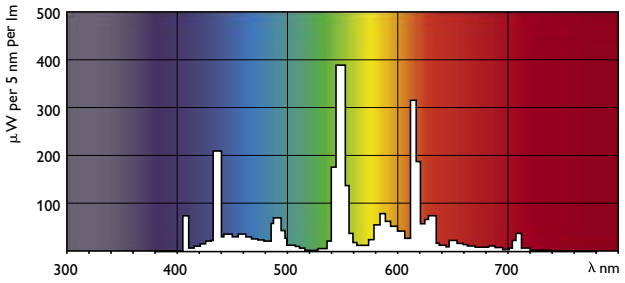
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-C Xtra 18W/830/4P 1CT	FSQ-18/30/1B-E-G24q=2	8711500950338	55.3 gr	50	36.5 cm x 18.1 cm x 15.3 cm	8711500950352	950338 70
MASTER PL-C Xtra 18W/840/4P 1CT	FSQ-18/40/1B-E-G24q=2	8711500950369	55.3 gr	50	36.5 cm x 18.1 cm x 15.3 cm	8711500950383	950369 70
MASTER PL-C Xtra 26W/830/4P 1CT	FSQ-26/30/1B-E-G24q=3	8711500898890	60.4 gr	50	36.5 cm x 18.1 cm x 17.5 cm	8711500898913	898890 70
MASTER PL-C Xtra 26W/840/4P 1CT	FSQ-26/40/1B-E-G24q=3	8711500898920	60.4 gr	50	36.5 cm x 18.1 cm x 17.5 cm	8711500898944	898920 70

Spectral power distribution

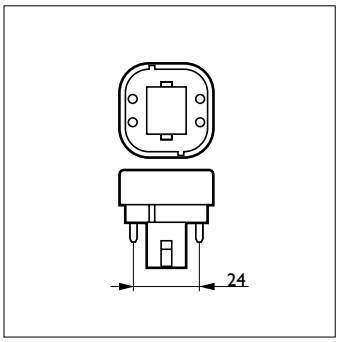


PL-C /830

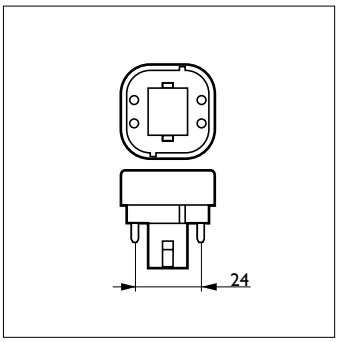


PL-C /840

Cap Base



G24q-2



G24q-3

Switching cycle	Circuit mortality	Lifetime on HF gear with preheat start	
		MASTER PL-C / PL-T	MASTER PL-C / PL-T Xtra
11 1/2 hrs on 1/2 hr off	90% survivors	10.000 hours	25.000 hours
	95% survivors		20.000 hours
	97% survivors		17.000 hours



PL-T 26W

Product Description

- Energy saving compact fluorescent lamp
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of six parallel narrow fluorescent tubes

Product Features

- 2-pin base with a housing incorporating the lamp glow switch starter
- Fast light run-up
- Philips invented bridge technology applied
- Dimming is not possible

Product Benefits

- Optimal light performance for short or long operation per switch-on
- Substantially more light (about 15% more) per light point than with other similar shapes
- Long life and sustainable light output

Application

- Designed for general or supplementary lighting in professional and semi-professional environments
- Ideal for use in recessed or surface mounted downlighters, wall units

System

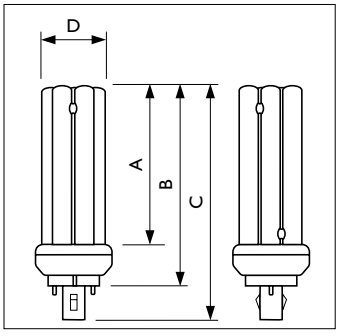
- For use with conventional electromagnetic gear
- Radio interference suppression capacitor installed

Environment

- Good environmental choice because of high energy efficiency, long life and low light output depreciation, lowest mercury content
- Compliant with all RoHS and WEEE requirements: the lamps have a very low content of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

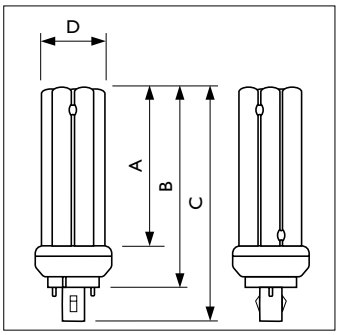
Recommended gear page 7.118

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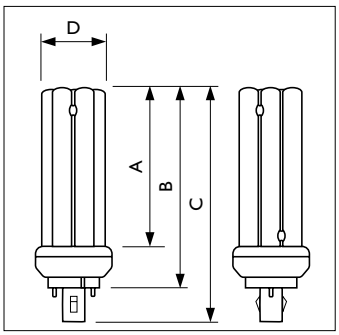
PL-T GX24d-1

Type	AMax	BMax	CMax	DMax
MASTER PL-T 13W	66.7	91.0	114.2	41



PL-T GX24d-2

Type	AMax	BMax	CMax	DMax
MASTER PL-T 18W	71.8	96.0	119.2	41



PL-T GX24d-3

Type	AMax	BMax	CMax	DMax
MASTER PL-T 26W	86.7	111.0	134.2	41

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable
MASTER PL-T 13W	91	0.175	13.0	13	A	No
MASTER PL-T 18W	100	0.220	18.0	18	B	No
MASTER PL-T 26W	105	0.325	26.0	26	B	No

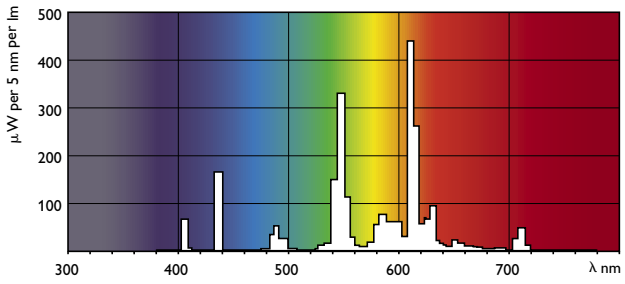
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-T 13W/827	900	69	Incandescent White	2700	82	455	417
MASTER PL-T 13W/830	900	69	Warm White	3000	82	434	397
MASTER PL-T 13W/840	900	69	Cool White	4000	82	380	379
MASTER PL-T 18W/827	1200	67	Incandescent White	2700	82	455	417
MASTER PL-T 18W/830	1200	67	Warm White	3000	82	434	397
MASTER PL-T 18W/840	1200	67	Cool White	4000	82	380	379
MASTER PL-T 26W/827	1800	69	Incandescent White	2700	82	455	417
MASTER PL-T 26W/830	1800	69	Warm White	3000	82	436	401
MASTER PL-T 26W/840	1800	69	Cool White	4000	82	380	379

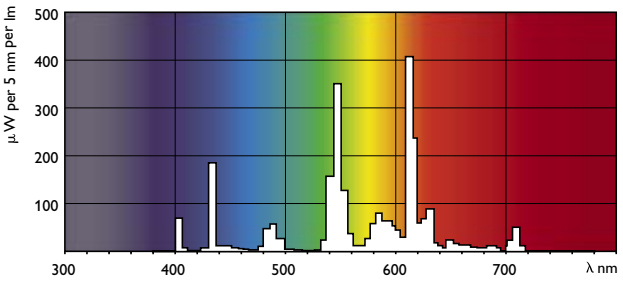
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-T 13W/827/2P 1CT	FSM-13/27/1B-I-GX24d=1	8711500559265	58 gr	50	57.1 cm x 27.3 cm x 14.1 cm	8711500559609	559265 70
MASTER PL-T 13W/830/2P 1CT	FSM-13/30/1B-I-GX24d=1	87115002721 19	58 gr	50	57.1 cm x 27.3 cm x 14.1 cm	87115002721 26	272119 70
MASTER PL-T 13W/840/2P 1CT	FSM-13/40/1B-I-GX24d=1	8711500559739	58 gr	50	57.1 cm x 27.3 cm x 14.1 cm	87115002721 33	559739 70
MASTER PL-T 18W/827/2P 1CT	FSM-18/27/1B-I-GX24d=2	8711500559791	59 gr	50	57.1 cm x 27.3 cm x 15.4 cm	8711500559814	559791 70
MASTER PL-T 18W/830/2P 1CT	FSM-18/30/1B-I-GX24d=2	8711500610508	59 gr	50	57.1 cm x 27.3 cm x 15.4 cm	8711500610591	610508 70
MASTER PL-T 18W/840/2P 1CT	FSM-18/40/1B-I-GX24d=2	8711500610614	59 gr	50	57.1 cm x 27.3 cm x 15.4 cm	8711500610751	610614 70
MASTER PL-T 26W/827/2P 1CT	FSM-26/27/1B-I-GX24d=3	8711500559883	66 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500559906	559883 70
MASTER PL-T 26W/830/2P 1CT	FSM-26/30/1B-I-GX24d=3	8711500611024	66 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500611109	611024 70
MASTER PL-T 26W/840/2P 1CT	FSM-26/40/1B-I-GX24d=3	8711500611130	66 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500611161	611130 70

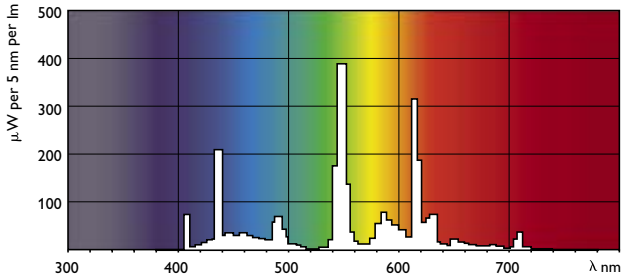
Spectral power distribution



PL-T /827

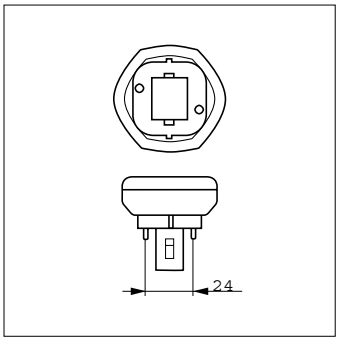


PL-T /830

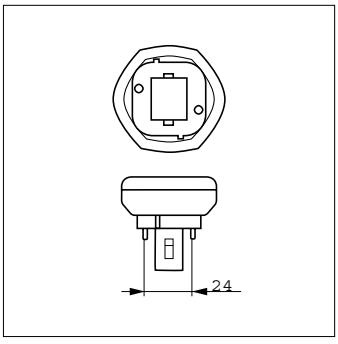


PL-T /840

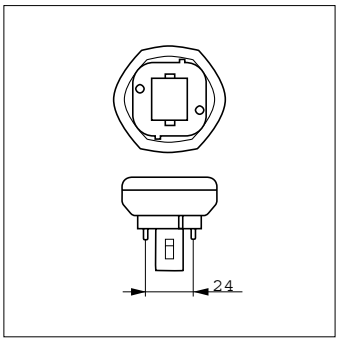
Cap Base



GX24d-1



GX24d-2



GX24d-3


WÖLLHAF



PL-T 42W

Product Description

- Energy saving compact fluorescent lamp
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of six parallel narrow fluorescent tubes

Product Features

- 4-pin base without glow switch starter and capacitor
- Fast light run-up under all circumstances
- Philips invented bridge technology applied
- Dimming is possible

Product Benefits

- Optimal light performance for short or long operation per switch-on
- Substantially more light (about 15% more) per light point than with other similar shapes
- Long life and sustainable light output

Application

- Designed for general or supplementary lighting in professional and semi-professional environments
- Ideal for use in recessed or surface mounted downlighters, wall units, outdoor lighting
- First choice for short switching cycles, emergency lighting and deep dimming

System

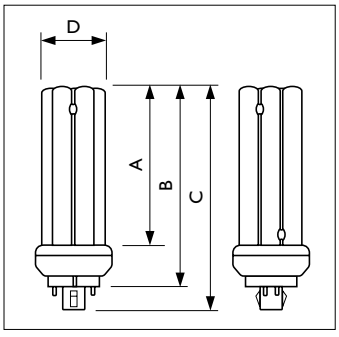
- For use with HF electronic gear enabling controllable light output and high independence of mains supply variations

Environment

- Good environmental choice because of high energy efficiency, long life and low light output depreciation, lowest mercury content
- Compliant with all RoHS and WEEE requirements: the lamps have a very low content of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

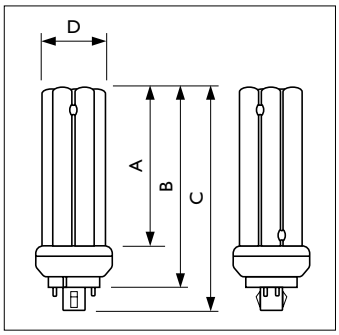
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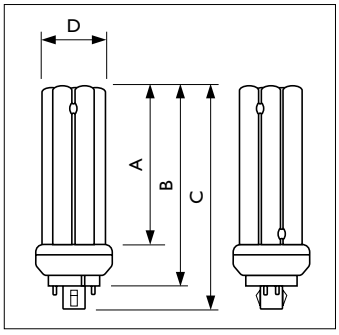
PL-T GX24q-1

Type	AMax	BMax	CMax	DMax
MASTER PL-T 13W	66.7	91.0	106.7	41.0



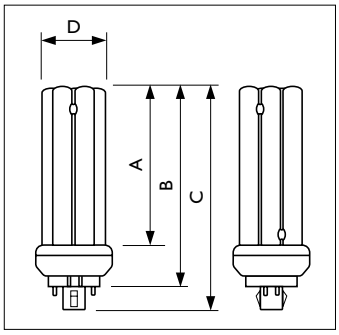
PL-T GX24q-2

Type	AMax	BMax	CMax	DMax
MASTER PL-T 18W	71.7	96.0	111.7	41.0



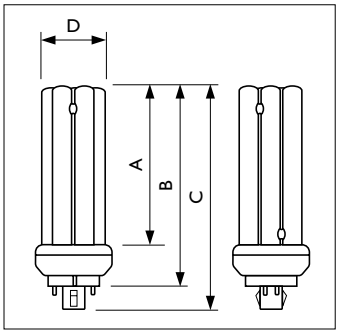
PL-T GX24q-3

Type	AMax	BMax	CMax	DMax
MASTER PL-T 26W	86.7	111.0	126.7	41.0
MASTER PL-T 32W	98.7	123.0	138.7	41.0



PL-T GX24q-4

Type	AMax	BMax	CMax	DMax
MASTER PL-T 42W	120.7	145.0	160.7	41.0



PL-T GX24q-5

Type	AMax	BMax	CMax	DMax
MASTER PL-T 57W	157.7	182.0	197.7	41.0

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-T 13W	77	0.165	12.5	13	A	Yes	8000	13000
MASTER PL-T 18W	80	0.210	16.5	18	B	Yes	8000	13000
MASTER PL-T 26W	80	0.300	24.0	26	B	Yes	8000	13000
MASTER PL-T 32W	101	0.320	32.0	32	B	Yes	8000	13000
MASTER PL-T 42W	135	0.320	43.0	42	B	Yes	8000	13000
MASTER PL-T 57W	175	0.320	56.0	57	B	Yes	8000	13000

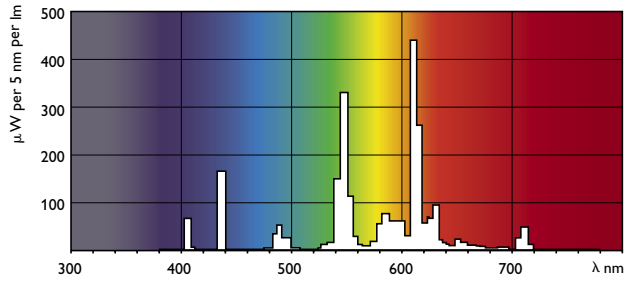
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-T 13W/827	900	72	Incandescent White	2700	82	457	418
MASTER PL-T 13W/830	900	72	Warm White	3000	82	434	397
MASTER PL-T 13W/840	900	72	Cool White	4000	82	380	379
MASTER PL-T 18W/827	1200	73	Incandescent White	2700	82	455	417
MASTER PL-T 18W/830	1200	73	Warm White	3000	82	434	397
MASTER PL-T 18W/840	1200	73	Cool White	4000	82	380	379
MASTER PL-T 26W/827	1800	75	Incandescent White	2700	82	455	417
MASTER PL-T 26W/830	1800	75	Warm White	3000	82	434	397
MASTER PL-T 26W/840	1800	75	Cool White	4000	82	380	379
MASTER PL-T 32W/827	2400	75	Incandescent White	2700	82	455	417
MASTER PL-T 32W/830	2400	75	Warm White	3000	82	434	397
MASTER PL-T 32W/840	2400	75	Cool White	4000	82	380	379
MASTER PL-T 42W/827	3200	74	Incandescent White	2700	82	455	417
MASTER PL-T 42W/830	3200	74	Warm White	3000	82	434	397
MASTER PL-T 42W/840	3200	74	Cool White	4000	82	380	379
MASTER PL-T 57W/827	4300	75	Incandescent White	2700	82	455	417
MASTER PL-T 57W/830	4300	75	Warm White	3000	82	434	397
MASTER PL-T 57W/840	4300	75	Cool White	4000	82	380	379

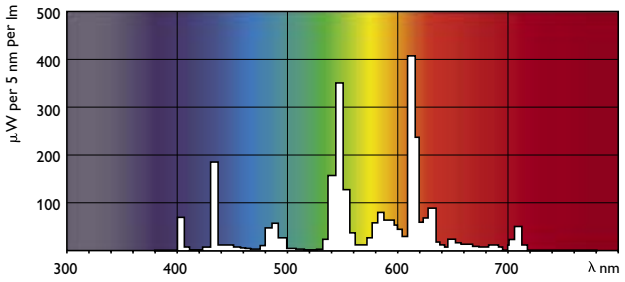
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-T 13W/827/4P 1CT	FSM-13/27/1B-E-GX24q=1	8711500559760	56 gr	50	57.1 cm x 27.3 cm x 14.1 cm	8711500559784	559760 70
MASTER PL-T 13W/830/4P 1CT	FSM-13/30/1B-E-GX24q=1	8711500610447	56 gr	50	57.1 cm x 27.3 cm x 14.1 cm	8711500610461	610447 70
MASTER PL-T 13W/840/4P 1CT	FSM-13/40/1B-E-GX24q=1	8711500610478	56 gr	50	57.1 cm x 27.3 cm x 14.1 cm	8711500610492	610478 70
MASTER PL-T 18W/827/4P 1CT	FSM-18/27/1B-E-GX24q=2	8711500559821	58 gr	50	57.1 cm x 27.3 cm x 14.1 cm	8711500559845	559821 70
MASTER PL-T 18W/830/4P 1CT	FSM-18/30/1B-E-GX24q=2	8711500610768	58 gr	50	57.1 cm x 27.3 cm x 14.1 cm	8711500610966	610768 70
MASTER PL-T 18W/840/4P 1CT	FSM-18/40/1B-E-GX24q=2	8711500610997	58 gr	50	57.1 cm x 27.3 cm x 14.1 cm	8711500611017	610997 70
MASTER PL-T 26W/827/4P 1CT	FSM-26/27/1B-E-GX24q=3	8711500559937	64 gr	50	57.1 cm x 27.3 cm x 15.4 cm	8711500272171	559937 70
MASTER PL-T 26W/830/4P 1CT	FSM-26/30/1B-E-GX24q=3	8711500611208	64 gr	50	57.1 cm x 27.3 cm x 15.4 cm	8711500611246	611208 70
MASTER PL-T 26W/840/4P 1CT	FSM-26/40/1B-E-GX24q=3	8711500611253	64 gr	50	57.1 cm x 27.3 cm x 15.4 cm	8711500611277	611253 70
MASTER PL-T 32W/827/4P 1CT	FSM-32/27/1B-E-GX24q=3	8711500559968	70 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500560018	559968 70
MASTER PL-T 32W/830/4P 1CT	FSM-32/30/1B-E-GX24q=3	8711500611284	70 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500611307	611284 70
MASTER PL-T 32W/840/4P 1CT	FSM-32/40/1B-E-GX24q=3	8711500611314	70 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500611338	611314 70
MASTER PL-T 42W/827/4P 1CT	FSM-42/27/1B-E-GX24q=4	8711500560025	83 gr	50	57.1 cm x 27.3 cm x 19.5 cm	8711500272195	560025 70
MASTER PL-T 42W/830/4P 1CT	FSM-42/30/1B-E-GX24q=4	8711500611345	83 gr	50	57.1 cm x 27.3 cm x 19.5 cm	8711500611369	611345 70
MASTER PL-T 42W/840/4P 1CT	FSM-42/40/1B-E-GX24q=4	8711500611376	83 gr	50	57.1 cm x 27.3 cm x 19.5 cm	8711500611390	611376 70
MASTER PL-T 57W/827/4P 1CT	FSM-57/27/1B-E-GX24q=5	8711500560056	101 gr	50	57.1 cm x 27.3 cm x 23.1 cm	8711500560087	560056 70
MASTER PL-T 57W/830/4P 1CT	FSM-57/30/1B-E-GX24q=5	8711500611406	101 gr	50	57.1 cm x 27.3 cm x 23.1 cm	8711500611420	611406 70
MASTER PL-T 57W/840/4P 1CT	FSM-57/40/1B-E-GX24q=5	8711500611451	101 gr	50	57.1 cm x 27.3 cm x 23.1 cm	8711500611499	611451 70

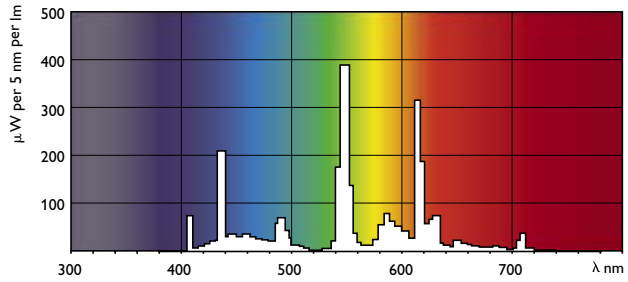
Spectral power distribution



PL-T /827

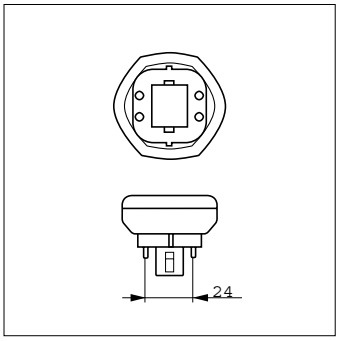


PL-T /830

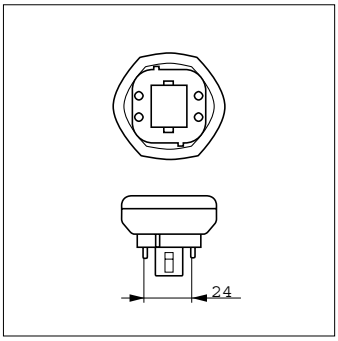


PL-T /840

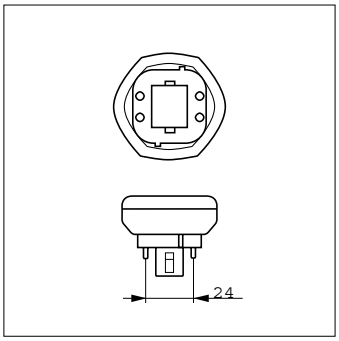
Cap Base



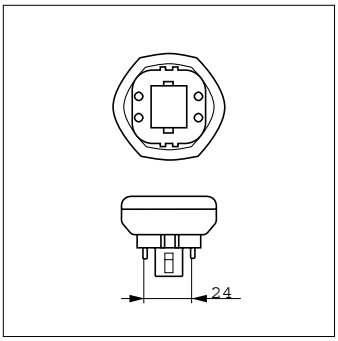
GX24q-1



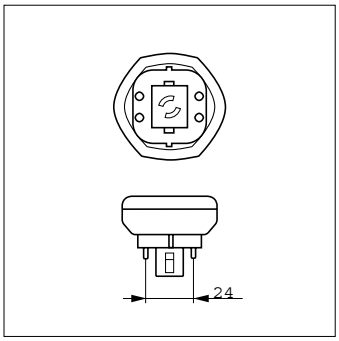
GX24q-2



GX24q-3



GX24q-4



GX24q-5



PL-T 26W

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Product Description

- Energy-saving compact fluorescent lamp
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of six parallel narrow fluorescent lamps
- Amalgam-controlled operation

Product Features

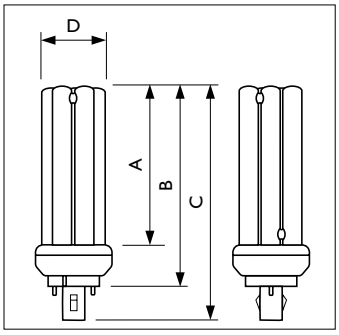
- 2-pin base with a housing incorporating the lamp glow switch starter
- For use with conventional electromagnetic gear
- Radio interference suppression capacitor installed
- Hot restrike; moderate light run-up after cooling-down at low temperatures
- Optimised lighting performance over a broad temperature range due to Philips amalgam technology
- Dimming is not possible

Product Benefits

- Optimal lighting performance for long periods of continuous operation
- Substantially higher light output (+30%) per light point than conventional solutions
- High temperature independence at higher operating temperatures
- Long lifetime with good lumen maintenance

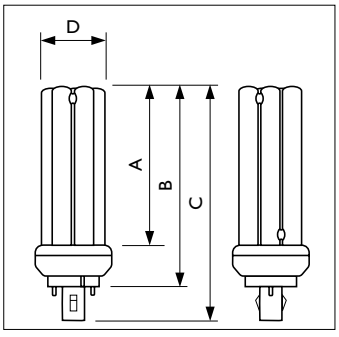
Application

- General or supplementary lighting in professional and semi-professional environments
- Ideal for use in recessed or surface-mounted downlighters and wall units
- First choice for operation with long switching cycles and highest light output



PL-T GX24d-2

Type	AMax	BMax	CMax	DMax
MASTER PL-T TOP 18W	71.7	96.0	119.2	41.0



PL-T GX24d-3

Type	AMax	BMax	CMax	DMax
MASTER PL-T TOP 26W	86.7	111.0	134.2	41.0

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable
MASTER PL-T TOP 18W	100	0.220	19.0	18	B	No
MASTER PL-T TOP 26W	105	0.325	26.0	26	B	No

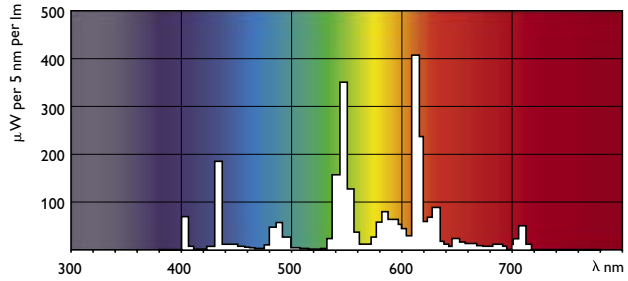
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-T TOP 18W/830	1200	67	Warm White	3000	82	434	397
MASTER PL-T TOP 18W/840	1200	66	Cool White	4000	82	380	379
MASTER PL-T TOP 26W/830	1800	69	Warm White	3000	82	434	397
MASTER PL-T TOP 26W/840	1800	69	Cool White	4000	82	380	379

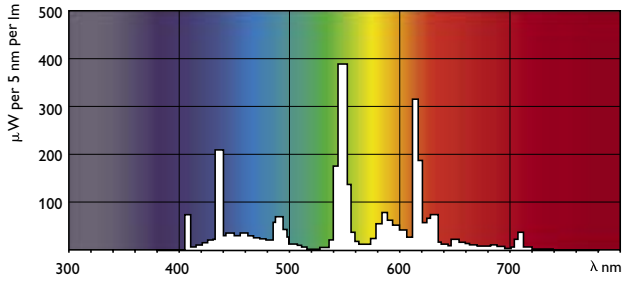
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-T TOP 18W/830/2P 1CT	FSM-18/30/1B-I-GX24d=2	8711500890115	59 gr	50	57.1 cm x 27.3 cm x 15.4 cm	8711500890139	890115 70
MASTER PL-T TOP 18W/840/2P 1CT	FSM-18/40/1B-I-GX24d=2	8711500890146	59 gr	50	57.1 cm x 27.3 cm x 15.4 cm	8711500890160	890146 70
MASTER PL-T TOP 26W/830/2P 1CT	FSM-26/30/1B-I-GX24d=3	8711500890177	66 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500890191	890177 70

Spectral power distribution

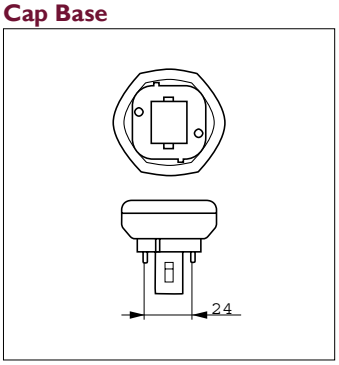


PL-T /830

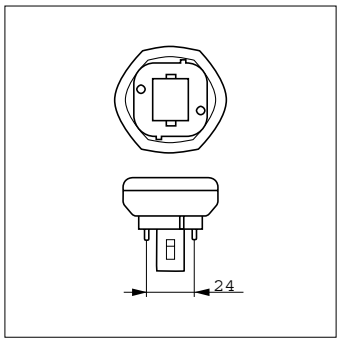


PL-T /840

Cap Base



GX24d-2



GX24d-3



PL-T 32W

Product Description

- Energy saving compact fluorescent lamp
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of six parallel narrow fluorescent tubes
- Amalgam controlled operation

Product Features

- 4-pin base without glow switch starter and capacitor
- Hot restrike; moderate light run-up after cooling-down at low temperatures
- Optimised lighting performance over a broad temperature range due to Philips amalgam technology
- Dimming is possible

Product Benefits

- Optimal lighting performance for long periods of continuous operation
- Substantially higher light output (+30%) per light point than conventional solutions
- High temperature independency at higher application temperatures
- Long lifetime with good lumen maintenance

Application

- Designed for general or supplementary lighting in professional and semi-professional environments
- Ideal for use in recessed or surface mounted downlighters, wall units
- First choice for long switching cycles and highest light output

System

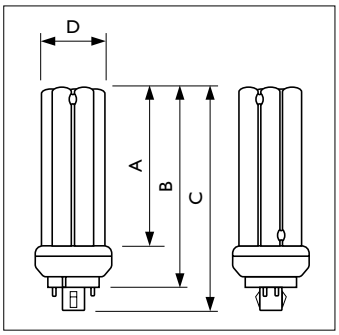
- For use with HF electronic gear enabling controlled light output and high independence from mains supply voltage variations

Environment

- Good environmental choice because of high energy efficiency, long life and low light output depreciation, low mercury content.
- Compliant with all RoHS and WEEE requirements: the lamps have a low content of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants.

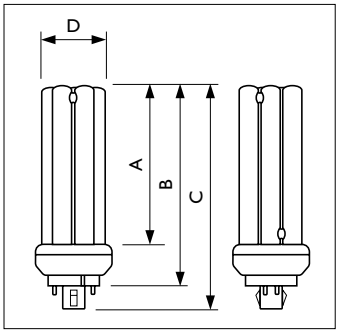
Recommended gear page 7.118

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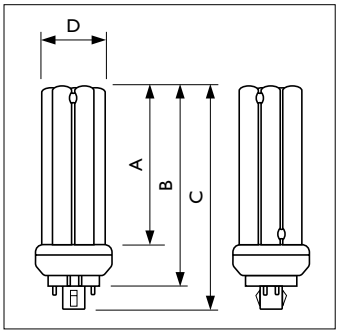
PL-T GX24q-2

Type	AMax	BMax	CMax	DMax
MASTER PL-T TOP 18W	71.7	96.0	111.7	41



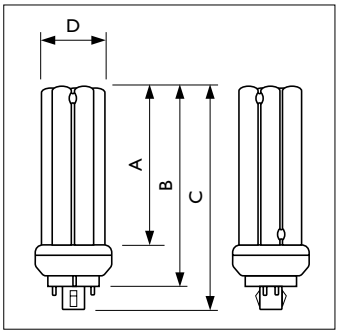
PL-T GX24q-3

Type	AMax	BMax	CMax	DMax
MASTER PL-T TOP 26W	86.7	111.0	126.7	41
MASTER PL-T TOP 32W	98.7	123.0	138.7	41



PL-T GX24q-4

Type	AMax	BMax	CMax	DMax
MASTER PL-T TOP 42W	120.7	145.0	160.7	41



PL-T GX24q-5

Type	AMax	BMax	CMax	DMax
MASTER PL-T TOP 57W	157.7	182.0	197.7	41

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-T TOP 18W	80	0.210	16.5	18	B	Yes	8000	13000
MASTER PL-T TOP 26W	80	0.300	24	26	B	Yes	8000	13000
MASTER PL-T TOP 32W	100	0.320	32.0	32	B	Yes	8000	13000
MASTER PL-T TOP 42W	124	0.320	38.0	42	B	Yes	8000	13000
MASTER PL-T TOP 57W	175	0.320	56.0	57	B	Yes	8000	13000

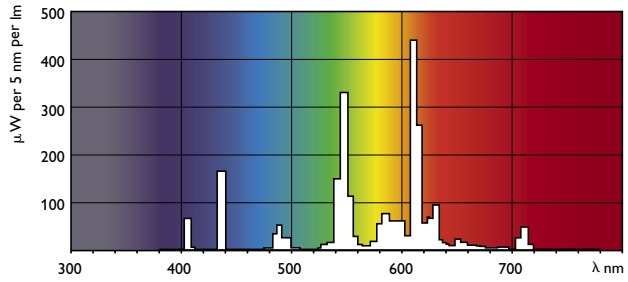
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-T TOP 18W/830	1200	73	Warm White	3000	82	436	397
MASTER PL-T TOP 18W/840	1200	73	Cool White	4000	82	380	379
MASTER PL-T TOP 26W/830	1800	75	Warm White	3000	82	434	397
MASTER PL-T TOP 26W/840	1800	75	Cool White	4000	82	380	379
MASTER PL-T TOP 32W/827	2400	75	Incandescent White	2700	82	455	417
MASTER PL-T TOP 32W/830	2400	75	Warm White	3000	82	434	397
MASTER PL-T TOP 32W/840	2400	75	Cool White	4000	82	380	379
MASTER PL-T TOP 42W/827	3200	74	Incandescent White	2700	82	455	417
MASTER PL-T TOP 42W/830	3200	74	Warm White	3000	82	434	397
MASTER PL-T TOP 42W/840	3200	74	Cool White	4000	82	380	379
MASTER PL-T TOP 57W/827	4300	77	Incandescent White	2700	82	455	417
MASTER PL-T TOP 57W/830	4300	77	Warm White	3000	82	434	397
MASTER PL-T TOP 57W/840	4300	77	Cool White	4000	82	380	379

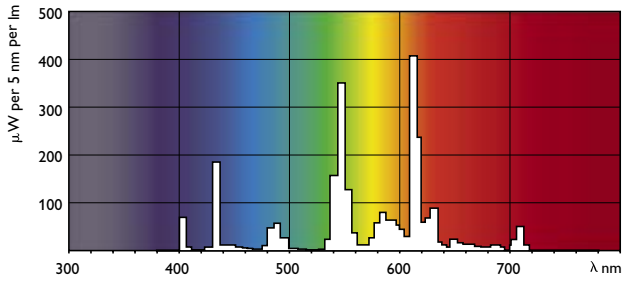
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-T TOP 18W/830/4P 1CT	FSM-18/30/1B-E-GX24q=2	8711500889089	58 gr	50	57.1 cm x 27.3 cm x 14.1 cm	8711500889409	889089 70
MASTER PL-T TOP 18W/840/4P 1CT	FSM-18/40/1B-E-GX24q=2	8711500889416	58 gr	50	57.1 cm x 27.3 cm x 14.1 cm	8711500889430	889416 70
MASTER PL-T TOP 26W/830/4P 1CT	FSM-26/30/1B-E-GX24q=3	8711500889447	64 gr	50	57.1 cm x 27.3 cm x 15.4 cm	8711500889461	889447 70
MASTER PL-T TOP 26W/840/4P 1CT	FSM-26/40/1B-E-GX24q=3	8711500889478	64 gr	50	57.1 cm x 27.3 cm x 15.4 cm	8711500889492	889478 70
MASTER PL-T TOP 32W/827/4P 1CT	FSM-32/27/1B-E-GX24q=3	8711500611581	70 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500272072	611581 70
MASTER PL-T TOP 32W/830/4P 1CT	FSM-32/30/1B-E-GX24q=3	8711500560230	70 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500560254	560230 70
MASTER PL-T TOP 32W/840/4P 1CT	FSM-32/40/1B-E-GX24q=3	8711500560261	70 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500610034	560261 70
MASTER PL-T TOP 42W/827/4P 1CT	FSM-42/27/1B-E-GX24q=4	8711500272089	83 gr	50	57.1 cm x 27.3 cm x 19.5 cm	8711500560155	272089 70
MASTER PL-T TOP 42W/830/4P 1CT	FSM-42/30/1B-E-GX24q=4	8711500610041	83 gr	50	57.1 cm x 27.3 cm x 19.5 cm	8711500610072	610041 70
MASTER PL-T TOP 42W/840/4P 1CT	FSM-42/40/1B-E-GX24q=4	8711500610089	83 gr	50	57.1 cm x 27.3 cm x 19.5 cm	8711500610164	610089 70
MASTER PL-T TOP 57W/827/4P 1CT	FSM-57/27/1B-E-GX24q=5	8711500560186	101 gr	50	57.1 cm x 27.3 cm x 23.1 cm	8711500272102	560186 70
MASTER PL-T TOP 57W/830/4P 1CT	FSM-57/30/1B-E-GX24q=5	8711500610225	101 gr	50	57.1 cm x 27.3 cm x 23.1 cm	8711500610287	610225 70
MASTER PL-T TOP 57W/840/4P 1CT	FSM-57/40/1B-E-GX24q=5	8711500610348	101 gr	50	57.1 cm x 27.3 cm x 23.1 cm	8711500610409	610348 70

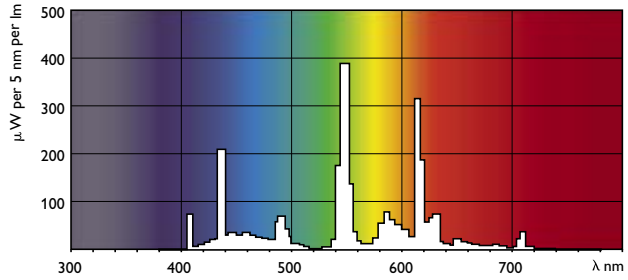
Spectral power distribution



PL-T /827

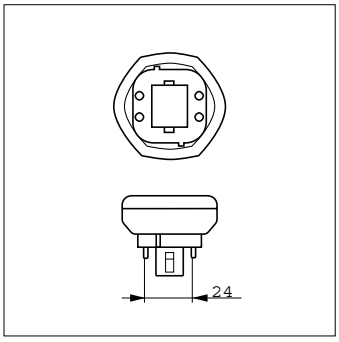


PL-T /830

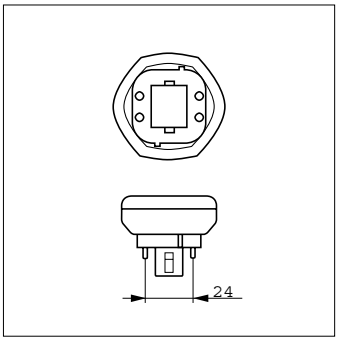


PL-T /840

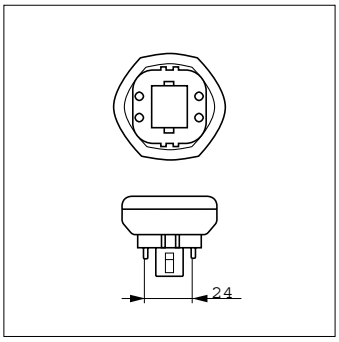
Cap Base



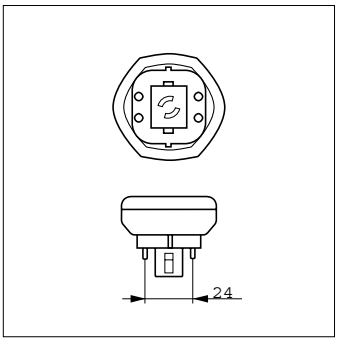
GX24q-2



GX24q-3



GX24q-4



GX24q-5



PL-T 42W

Product Description

- Energy saving compact fluorescent lamp
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of 6 parallel narrow fluorescent tubes

Product Features

- 4-pin base without glow switch starter and capacitor
- Fast light run-up under all circumstances
- Philips invented bridge technology applied
- Significant reduction of early failures
- Extra long and reliable lifetime

Product Benefits

- Extra long life
- Longer lifetime and less early failures lead to less hassle and lower maintenance costs and facilitate the change from spot to group replacement
- Optimal light performance for long operation per switch-on
- More light (about 15% more) per light point than common

Application

- Designed for general or supplementary lighting in professional and semi-professional environments
- Ideal for use in recessed or surface mounted downlighters, wall units, outdoor lighting
- Suitable for use in applications where maintenance costs are high (high ceilings, difficult to reach): department stores, supermarkets, warehouses, production halls and public areas

System

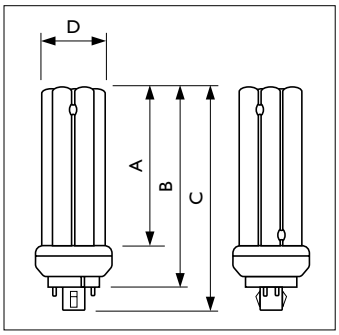
- For use with HF electronic gear enabling high independence of mains supply variations
- Optimised performance for electronic gear with preheat function

Environment

- Good environmental choice because of long reliable life, high-energy efficiency and lowest mercury content
- Compliant with all RoHS and WEEE requirements: lamps contain very low level of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

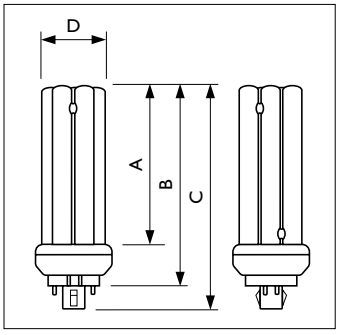
Recommended gear page 7.118

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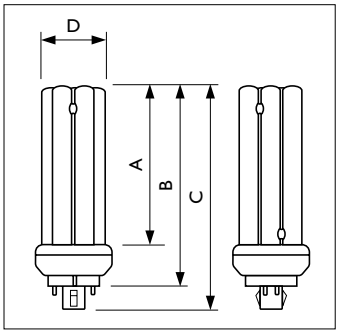
PL-T GX24q-3

Type	AMax	BMax	CMax	DMax
MASTER PL-T Xtra 32W	98.7	123.0	138.7	41.0



PL-T GX24q-4

Type	AMax	BMax	CMax	DMax
MASTER PL-T Xtra 42W	120.7	145.0	160.7	41.0



PL-T GX24q-5

Type	AMax	BMax	CMax	DMax
MASTER PL-T Xtra 57W	157.7	182.0	197.7	41.0

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-T Xtra 32W	101	0.320	32.0	32	B	Yes	20000	33000
MASTER PL-T Xtra 42W	135	0.320	43.0	42	B	Yes	20000	33000
MASTER PL-T Xtra 57W	175	0.320	56.0	57	B	Yes	20000	33000

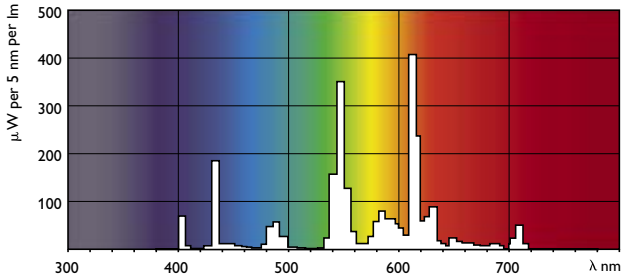
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-T Xtra 32W/830	2400	75	Warm White	3000	82	434	397
MASTER PL-T Xtra 32W/840	2400	75	Cool White	4000	82	380	379
MASTER PL-T Xtra 42W/830	3200	76	Warm White	3000	82	434	397
MASTER PL-T Xtra 42W/840	3200	76	Cool White	4000	82	380	379
MASTER PL-T Xtra 57W/830	4300	75	Warm White	3000	82	434	397
MASTER PL-T Xtra 57W/840	4300	75	Cool White	4000	82	380	379

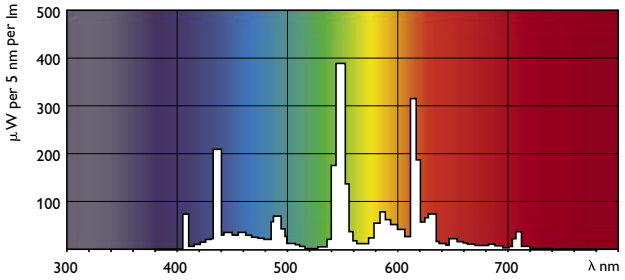
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-T Xtra 32W/830/4P 1CT	FSM-32/30/1B-E-GX24q=3	8711500897404	70 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500897428	897404 70
MASTER PL-T Xtra 32W/840/4P 1CT	FSM-32/40/1B-E-GX24q=3	8711500897435	70 gr	50	57.1 cm x 27.3 cm x 17.7 cm	8711500897459	897435 70
MASTER PL-T Xtra 42W/830/4P 1CT	FSM-42/30/1B-E-GX24q=4	8711500897466	83 gr	50	57.1 cm x 27.3 cm x 19.5 cm	8711500897480	897466 70
MASTER PL-T Xtra 42W/840/4P 1CT	FSM-42/40/1B-E-GX24q=4	8711500897497	83 gr	50	57.1 cm x 27.3 cm x 19.5 cm	8711500897510	897497 70
MASTER PL-T Xtra 57W/830/4P 1CT	FSM-57/30/1B-E-GX24q=5	8711500897527	101 gr	50	57.1 cm x 27.3 cm x 23.1 cm	8711500897541	897527 70
MASTER PL-T Xtra 57W/840/4P 1CT	FSM-57/40/1B-E-GX24q=5	8711500897558	101 gr	50	57.1 cm x 27.3 cm x 23.1 cm	8711500897572	897558 70

Spectral power distribution

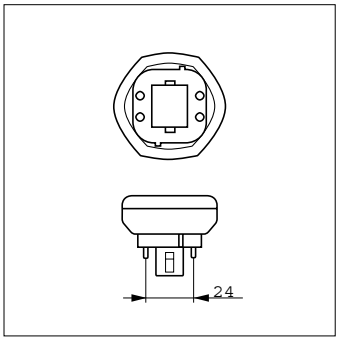


PL-T /830

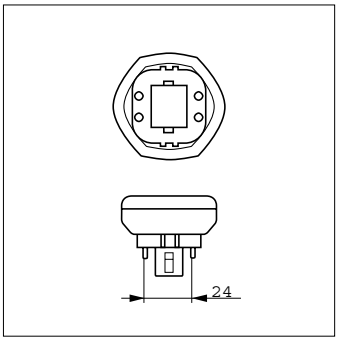


PL-T /840

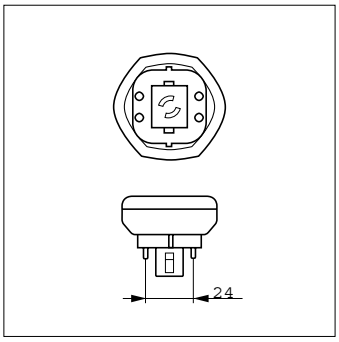
Cap Base



GX24q-3



GX24q-4



GX24q-5

Switching cycle	Circuit mortality	Lifetime on HF gear with preheat start	
		MASTER PL-C / PL-T	MASTER PL-C / PL-T Xtra
11 1/2 hrs on 1/2 hr off	90% survivors	10.000 hours	25.000 hours
	95% survivors		20.000 hours
	97% survivors		17.000 hours


ZARA
CRO VIVO



PL-L 18W

Product Description

- Energy-saving compact fluorescent lamps
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of two parallel fluorescent tubes

Product Features

- 4-pin base without starter and capacitor
- Lamp characteristics are influenced by operating conditions and control gear used
- Lamp performance is governed by temperature of the coolest spot
- Dimming is possible

Product Benefits

- Optimal light performance for short or long operation per switch-on
- Long life and sustainable light output

Application

- Designed for general lighting in shops, offices, hotels and specific task lighting, as well as outdoors in residential areas and parks

System

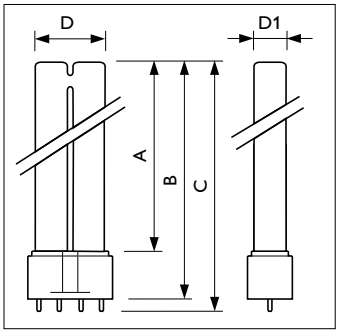
- Separate radio-suppression capacitor required with conventional control gear circuits (18 / 24 / 36 W)
- Universal application 18 / 24 / 36 W in conventional high-voltage switch-start circuits, low-voltage sequence-start circuits and 18-80 W in advanced electronic circuits

Environment

- Good environmental choice because of high energy efficiency, long life and low light output depreciation, lowest mercury content
- Compliant with all RoHS and WEEE requirements: the lamps have a very low content of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

Recommended gear page 7.120

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PL-L

Type	AMax	BMax	CMax	DMax	D1Max
MASTER PL-L 18W	194.2	220	226.6	37.7	18
MASTER PL-L 24W	289.2	315	321.6	37.7	18
MASTER PL-L 36W	384.2	410	416.6	37.7	18
MASTER PL-L 40W/55W	509.2	535	541.6	37.7	18
MASTER PL-L 80W	539.2	565	571.6	37.7	18

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-L 18W	50	0.320	16.0	58	0.375	18.0	18	B	Yes	14000	20000
MASTER PL-L 24W	75	0.300	22.0	87	0.345	24.0	24	B	Yes	14000	20000
MASTER PL-L 36W	90	0.360	32.0	106	0.435	36.0	36	A	Yes	14000	20000
MASTER PL-L 40W	126	0.320	40.0	N.A.	N.A.	N.A.	40	A	Yes	14000	20000
MASTER PL-L 55W	101	0.550	55.0	N.A.	N.A.	N.A.	55	A	Yes	14000	20000
MASTER PL-L 80W	145	0.555	80.0	N.A.	N.A.	N.A.	80	B	Yes	14000	20000

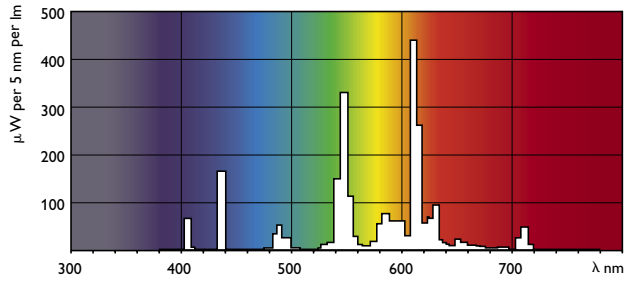
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EL (lm/W)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-L 18W/827	1200	1200	75	67	Incandescent White	2700	82	465	420
MASTER PL-L 18W/830	1200	1200	75	67	Warm White	3000	82	440	405
MASTER PL-L 18W/835	1200	1200	75	67	White	3500	82	410	395
MASTER PL-L 18W/840	1200	1200	75	67	Cool White	4000	82	380	380
MASTER PL-L 18W/865	1200	1170	75	65	Cool Daylight	6500	80	305	325
MASTER PL-L 24W/827	1800	1800	82	75	Incandescent White	2700	82	465	420
MASTER PL-L 24W/830	1800	1800	82	75	Warm White	3000	82	440	405
MASTER PL-L 24W/835	1800	1800	82	75	White	3500	82	410	395
MASTER PL-L 24W/840	1800	1800	82	75	Cool White	4000	82	380	380
MASTER PL-L 24W/865	1800	1750	82	75	Cool Daylight	6500	80	305	325
MASTER PL-L 36W/827	2900	2900	90	80	Incandescent White	2700	82	465	420
MASTER PL-L 36W/830	2900	2900	90	80	Warm White	3000	82	440	405
MASTER PL-L 36W/840	2900	2900	90	80	Cool White	4000	82	380	380
MASTER PL-L 36W/850	2900	2800	90	80	Daylight	5000	82	346	359
MASTER PL-L 36W/865	2900	2880	90	80	Cool Daylight	6500	80	305	325
MASTER PL-L 40W/830	3500	N.A.	87	N.A.	Warm White	3000	82	440	405
MASTER PL-L 40W/835	3500	N.A.	87	N.A.	White	3500	82	410	395
MASTER PL-L 40W/840	3500	N.A.	87	N.A.	Cool White	4000	82	380	380
MASTER PL-L 55W/830	4800	N.A.	87	N.A.	Warm White	3000	82	440	405
MASTER PL-L 55W/835	4800	N.A.	87	N.A.	Warm White	3500	82	410	395
MASTER PL-L 55W/840	4800	N.A.	87	N.A.	Cool White	4000	82	385	380
MASTER PL-L 55W/865	4500	N.A.	82	N.A.	Cool Daylight	6500	80	309	332
MASTER PL-L 80W/830	6000	N.A.	75	N.A.	Warm White	3000	82	440	405
MASTER PL-L 80W/835/4P ICT	6000	N.A.	75	N.A.	White	3500	82	410	395
MASTER PL-L 80W/840/4P ICT	6000	N.A.	75	N.A.	Cool White	4000	82	380	380

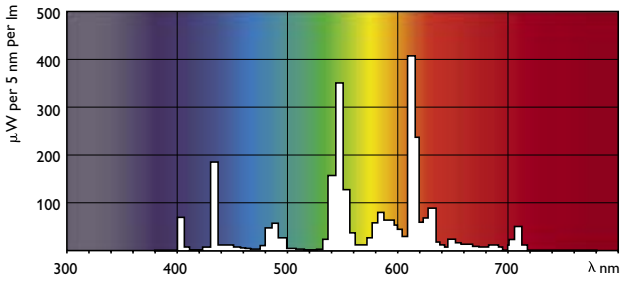
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-L 18W/827/4P 1CT	FSD-18/27/1B-E-2G11	8711500706676	60.9 gr	25	25.4 cm x 23.8 cm x 14.6 cm	8711500710703	706676 40
MASTER PL-L 18W/830/4P 1CT	FSD-18/30/1B-E-2G11	8711500706683	60.9 gr	25	25.4 cm x 23.8 cm x 14.6 cm	8711500710734	706683 40
MASTER PL-L 18W/835/4P 1CT	FSD-18/65/1B-E-2G11	8711500643285	60.9 gr	25	26.6 cm x 23.8 cm x 14.6 cm	8711500643292	643285 40
MASTER PL-L 18W/840/4P 1CT	FSD-18/40/1B-E-2G11	8711500706690	60.9 gr	25	25.4 cm x 23.8 cm x 14.6 cm	8711500610652	706690 40
MASTER PL-L 18W/840/4P UNP	FSD-18/40/1B-E-2G11	8711500559401	60.9 gr	50	33.3 cm x 25.8 cm x 31.3 cm	8711500619969	559401 65
MASTER PL-L 18W/865/4P 1CT	FSD-18/65/1B-E-2G11	8711500635143	60.9 gr	25	25.4 cm x 23.8 cm x 14.6 cm	8711500635150	635143 40
MASTER PL-L 24W/827/4P 1CT	FSD-24/27/1B-E-2G11	8711500706706	82 gr	25	36.1 cm x 23.8 cm x 14.6 cm	8711500710765	706706 40
MASTER PL-L 24W/830/4P 1CT	FSD-24/30/1B-E-2G11	8711500706713	82 gr	25	36.1 cm x 23.8 cm x 14.6 cm	8711500710796	706713 40
MASTER PL-L 24W/830/4P UNP	FSD-24/30/1B-E-2G11	8711500560100	82 gr	50	33.8 cm x 26.3 cm x 43.3 cm	8711500628022	560100 65
MASTER PL-L 24W/835/4P 1CT	FSD-18/65/1B-E-2G11	8711500643308	82 gr	25	36.1 cm x 23.8 cm x 14.6 cm	8711500643315	643308 40
MASTER PL-L 24W/840/4P 1CT	FSD-24/40/1B-E-2G11	8711500706720	82 gr	25	34.9 cm x 23.8 cm x 14.6 cm	8711500710826	706720 40
MASTER PL-L 24W/840/4P UNP	FSD-24/40/1B-E-2G11	8711500559418	82 gr	50	33.8 cm x 26.3 cm x 43.3 cm	8711500623607	559418 65
MASTER PL-L 24W/865/4P 1CT	FSD-24/65/1B-E-2G11	8711500635174	82 gr	25	36.1 cm x 23.8 cm x 14.6 cm	8711500635181	635174 40
MASTER PL-L 36W/827/4P 1CT	FSD-36/27/1B-E-2G11	8711500706737	104 gr	25	44.4 cm x 23.8 cm x 14.6 cm	8711500710857	706737 40
MASTER PL-L 36W/830/4P 1CT	FSD-36/30/1B-E-2G11	8711500706744	104 gr	25	44.4 cm x 23.8 cm x 14.6 cm	8711500710888	706744 40
MASTER PL-L 36W/830/4P UNP	FSD-36/30/1B-E-2G11	8711500560209	104 gr	50	40.3 cm x 28.3 cm x 51.1 cm	8711500628817	560209 65
MASTER PL-L 36W/840/4P 1CT	FSD-36/40/1B-E-2G11	8711500706751	104 gr	25	44.4 cm x 23.8 cm x 14.6 cm	8711500711014	706751 40
MASTER PL-L 36W/840/4P UNP	FSD-36/40/1B-E-2G11	8711500559449	104 gr	50	40.3 cm x 28.3 cm x 51.1 cm	8711500623621	559449 65
MASTER PL-L 36W/850/4P 1CT	FSD-36/65/1B-E-2G11	8711500640932	104 gr	25	45.6 cm x 23.8 cm x 14.6 cm	8711500640949	640932 40
MASTER PL-L 36W/865/4P 1CT	FSD-36/65/1B-E-2G11	8711500635204	104 gr	25	44.4 cm x 23.8 cm x 14.6 cm	8711500635211	635204 40
MASTER PL-L 36W/865/4P UNP	FSD-36/65/1B-E-2G11	8711500636324	104 gr	50	40.3 cm x 28.3 cm x 51.1 cm	8711500636331	636324 65
MASTER PL-L 40W/830/4P 1CT	FSDH-40/30/1B-L/P-2G11	8711500610942	134 gr	25	58.1 cm x 13.8 cm x 24.6 cm	8711500610959	610942 40
MASTER PL-L 40W/835/4P 1CT	FSDH-40/35/1B-L/P-2G11	8711500638656	134 gr	25	58.1 cm x 13.8 cm x 24.6 cm	8711500638663	638656 40
MASTER PL-L 40W/840/4P 1CT	FSDH-40/40/1B-L/P-2G11	8711500610973	134 gr	25	58.1 cm x 13.8 cm x 24.6 cm	8711500610980	610973 40
MASTER PL-L 55W/830/4P 1CT	FSDH-55/30/1B-L/P-2G11	8711500615411	134 gr	25	56.9 cm x 13.8 cm x 24.6 cm	8711500615541	615411 40
MASTER PL-L 55W/835/4P 1CT	FSDH-55/35/1B-L/P-2G11	8711500636652	134 gr	25	58.1 cm x 13.8 cm x 24.6 cm	8711500636669	636652 40
MASTER PL-L 55W/840/4P 1CT	FSDH-55/40/1B-L/P-2G11	8711500615428	134 gr	25	56.9 cm x 13.8 cm x 24.6 cm	8711500615527	615428 40
MASTER PL-L 55W/865/4P 1CT	FSDH-55/65/1B-L/P-2G11	8711500261700	134 gr	25	58.1 cm x 13.8 cm x 24.6 cm	8711500261717	261700 40
MASTER PL-L 80W/830/4P 1CT	FSDH-80/30/1B-L/P-2G11	8711500867087	140 gr	25	61.1 cm x 13.8 cm x 24.6 cm	8711500867094	867087 40
MASTER PL-L 80W/835/4P 1CT	FSDH-80/35/1B-L/P-2G11	8711500867100	140 gr	25	61.1 cm x 13.8 cm x 24.6 cm	8711500867117	867100 40
MASTER PL-L 80W/840/4P 1CT	FSDH-80/40/1B-L/P-2G11	8711500867124	140 gr	25	61.1 cm x 13.8 cm x 24.6 cm	8711500867131	867124 40

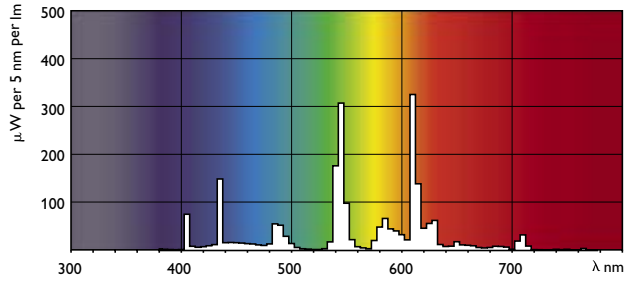
Spectral power distribution



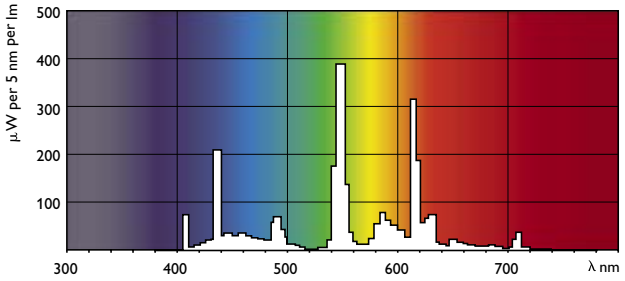
PL-L /827



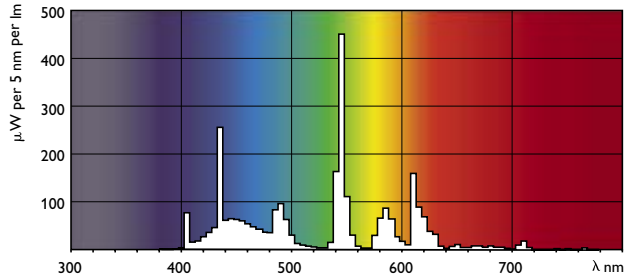
PL-L /830



PL-L /835

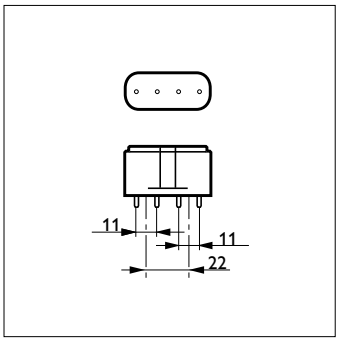


PL-L /840



PL-L /865

Cap Base



2G11



PL-L 24W

Product Description

- Energy-saving compact fluorescent lamps
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of two parallel fluorescent tubes linked by a bridge
- 4-pin base without gear

Product Features

- Bridge between tubes adapted to maximize light output at low ambient temperatures
- Optimum light output achieved in outdoor and cold storage applications
- Lumen maintenance of 90% and long service lifetime
- Lamp characteristics are influenced by operating conditions and control gear used

Product Benefits

- Road and social safety are safeguarded even at freezing outdoor temperatures
- Lowest cost of ownership thanks to a long service lifetime
- Environmental impact minimised by long lifetime and low hazardous materials content
- Dimming is possible

Application

- Residential areas
- Parks and squares
- Under canopies in storage and transport areas
- Cold indoor areas (e.g. warehouses, food cold stores)

Luminaires

- Light output at low temperatures can be increased even further by applying a transparent heat cap around the top of the lamp

System

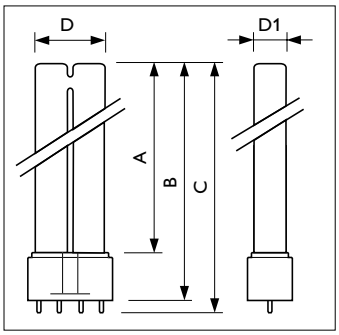
- Separate radio-suppression capacitor required with conventional control gear circuits (24 / 36 W)
- Universal application 24 / 36 W in conventional high-voltage switch-start circuits, low-voltage sequence-start circuits and 24-55 W in advanced electronic circuits

Environment

- Good environmental choice because of high energy efficiency, long life and low light output depreciation, lowest mercury content
- Compliant with all RoHS and WEEE requirements: the lamps have a very low content of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

Recommended gear page 7.120

www.philips.com/OEM



PL-L

Type	AMax	BMax	CMax	DMax	D1Max
MASTER PL-L Polar 24W	290	315	321.6	37.7	18
MASTER PL-L Polar 36W	385	410	416.6	37.7	18
MASTER PL-L Polar 55W	510	535	541.6	37.7	18

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Wattage EM (W)	Lamp Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-L Polar 24W	75	0.300	22.0	24	87	0.345	24	B	Yes	14000	20000
MASTER PL-L Polar 36W	90	0.360	32.0	36	106	0.435	36	A	Yes	14000	20000
MASTER PL-L Polar 55W	101	0.550	55.0	N.A.	N.A.	N.A.	55	A	Yes	14000	20000

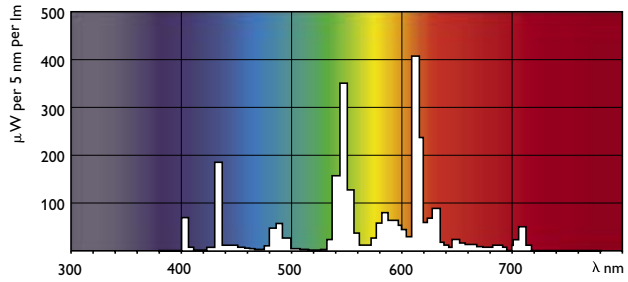
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EL (lm/W)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-L Polar 24W/830	1800	1800	82	75	Warm White	3000	82	440	405
MASTER PL-L Polar 24W/840	1800	1800	82	75	Cool White	4000	82	380	380
MASTER PL-L Polar 36W/830	2900	2900	80	80	Warm White	3000	82	440	405
MASTER PL-L Polar 36W/840	2900	2900	80	80	Cool White	4000	82	380	380
MASTER PL-L Polar 55W/830	4800	N.A.	87	N.A.	Warm White	3000	82	440	405
MASTER PL-L Polar 55W/840	4800	N.A.	87	N.A.	Cool White	4000	82	385	380

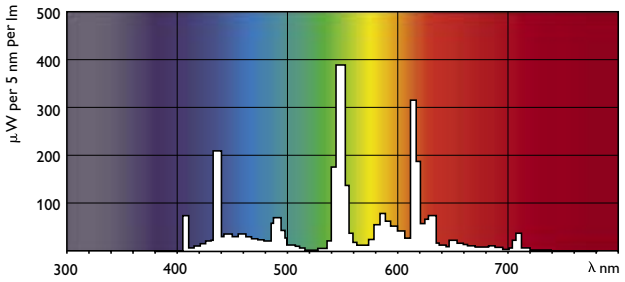
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-L Polar 24W/830/4P 1CT	FSD-24/30/1B-E-2G11	8711500261540	82 gr	25	36.1 cm x 23.8 cm x 14.6 cm	87115002615 57	261540 40
MASTER PL-L Polar 24W/840/4P 1CT	FSD-24/40/1B-E-2G11	8711500261564	82 gr	25	36.1 cm x 23.8 cm x 14.6 cm	87115002615 71	261564 40
MASTER PL-L Polar 36W/830/4P 1CT	FSD-36/30/1B-E-2G11	8711500261588	104 gr	25	45.6 cm x 23.8 cm x 14.6 cm	87115002615 95	261588 40
MASTER PL-L Polar 36W/840/4P 1CT	FSD-36/40/1B-E-2G11	8711500261601	104 gr	25	45.6 cm x 23.8 cm x 14.6 cm	87115002616 18	261601 40
MASTER PL-L Polar 55W/830/4P 1CT	FSDH-55/30/1B-L/P-2G11	8711500261625	134 gr	25	58.1 cm x 13.8 cm x 24.6 cm	87115002616 32	261625 40
MASTER PL-L Polar 55W/840/4P 1CT	FSDH-55/40/1B-L/P-2G11	8711500261649	134 gr	25	58.1 cm x 13.8 cm x 24.6 cm	87115002616 56	261649 40

Spectral power distribution

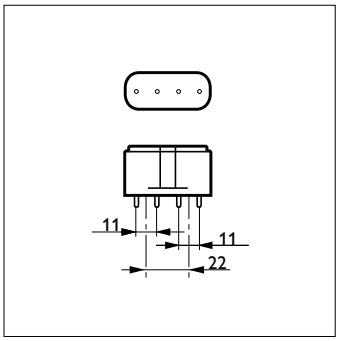


PL-L /830



PL-L /840

Cap Base



2G11





PL-L 36W

Product Description

- Energy-saving compact fluorescent lamps
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of two parallel fluorescent tubes

Product Features

- 4-pin base without starter and capacitor
- Lamp characteristics are influenced by operating conditions and control gear used
- Lamp performance is governed by temperature of the coolest spot
- Significant reduction of early failures
- Extra long and reliable lifetime

Product Benefits

- Extra long life
- Longer lifetime and less early failures lead to less hassle and lower maintenance costs and facilitate the change from spot to group replacement
- Optimal light performance for long operation per switch-on

Application

- Designed for general lighting in shops, offices, hotels and specific task lighting, as well as outdoors in residential areas and parks
- Suitable for use in applications where maintenance costs are high (high ceilings, difficult to reach): department stores, supermarkets, warehouses, production halls, tunnels and public areas

System

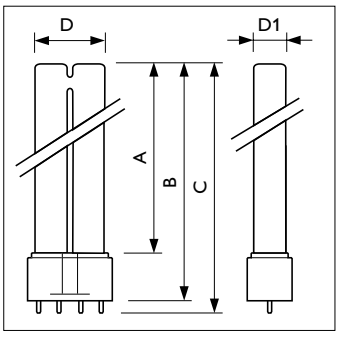
- Separate radio-suppression capacitor required with conventional control gear circuits (36 W)
- Universal application 36 W in conventional high-voltage switch-start circuits, low-voltage sequence-start circuits and 36-55 W in advanced electronic circuits
- Lamp characteristics are influenced by operating conditions and control gear used
- Optimised performance for electronic gear with preheat function

Environment

- Good environmental choice because of long reliable life, high-energy efficiency and lowest mercury content
- Compliant with all RoHS and WEEE requirements: lamps contain very low level of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

Recommended gear page 7.120

www.philips.com/OEM



PL-L

Type	AMax	BMax	CMax	DMax	D1Max
MASTER PL-L Xtra 24W	290	315	321.6	37.7	18
MASTER PL-L Xtra 36W	384.2	410	416.6	37.7	18
MASTER PL-L Xtra 40W/55W	509.2	535	541.6	37.7	18

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-L Xtra 24W	75	0.300	22.0	87	0.345	24.0	24	B	Yes	25000	36000
MASTER PL-L Xtra 36W	90	0.360	32.0	106	0.435	36.0	36	A	Yes	25000	36000
MASTER PL-L Xtra 40W	126	0.320	40.0	N.A.	N.A.	N.A.	40	A	Yes	25000	36000
MASTER PL-L Xtra 55W	101	0.550	55.0	N.A.	N.A.	N.A.	55	A	Yes	25000	36000

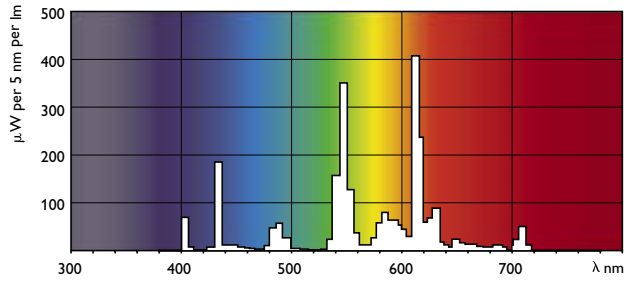
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EL (lm/W)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-L Xtra 24W/830	1800	1800	75	75	Warm White	3000	82	440	405
MASTER PL-L Xtra 24W/840	1800	1800	75	75	Cool White	4000	82	381	379
MASTER PL-L Xtra 36W/830	2900	2900	80	80	Warm White	3000	82	440	405
MASTER PL-L Xtra 36W/840	2900	2900	80	80	Cool White	4000	82	380	380
MASTER PL-L Xtra 40W/830	3500	N.A.	87	N.A.	Warm White	3000	82	440	405
MASTER PL-L Xtra 40W/840	3500	N.A.	87	N.A.	Warm White	4000	82	380	380
MASTER PL-L Xtra 55W/830	4800	N.A.	87	N.A.	Warm White	3000	82	440	405
MASTER PL-L Xtra 55W/840	4800	N.A.	87	N.A.	Cool White	4000	82	380	380

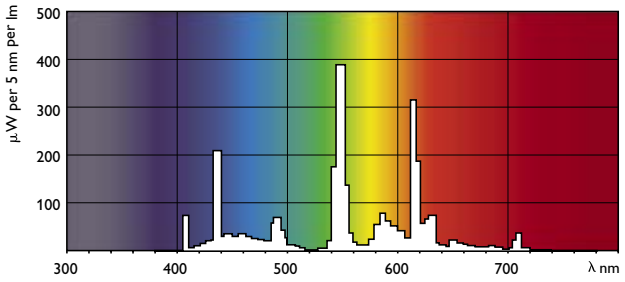
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-L Xtra 24W/830/4P 1CT	FSD-24/30/1B-E-2G11	8711500267672	82 gr	25	36.1 cm x 23.8 cm x 14.6 cm	8711500267689	267672 40
MASTER PL-L Xtra 24W/840/4P 1CT	FSD-24/30/1B-E-2G11	8711500267702	82 gr	25	36.1 cm x 23.8 cm x 14.6 cm	8711500267719	267702 40
MASTER PL-L Xtra 36W/830/4P 1CT	FSD-36/30/1B-E-2G11	8711500897589	104 gr	25	44.4 cm x 23.8 cm x 14.6 cm	8711500897596	897589 40
MASTER PL-L Xtra 36W/840/4P 1CT	FSD-36/40/1B-E-2G11	8711500897602	104 gr	25	44.4 cm x 23.8 cm x 14.6 cm	8711500897619	897602 40
MASTER PL-L Xtra 40W/830/4P 1CT	FSDH-40/30/1B-E-2G11	8711500267801	134 gr	25	58.1 cm x 13.8 cm x 24.6 cm	8711500267818	267801 40
MASTER PL-L Xtra 40W/840/4P 1CT	FSDH-40/40/1B-E-2G11	8711500267825	134 gr	25	58.1 cm x 13.8 cm x 24.6 cm	8711500267832	267825 40
MASTER PL-L Xtra 55W/830/4P 1CT	FSDH-55/30/1B-L/P-2G11	8711500897626	134 gr	25	56.9 cm x 13.8 cm x 24.6 cm	8711500897633	897626 40
MASTER PL-L Xtra 55W/840/4P 1CT	FSDH-55/40/1B-L/P-2G11	8711500897640	134 gr	25	56.9 cm x 13.8 cm x 24.6 cm	8711500897657	897640 40

Spectral power distribution

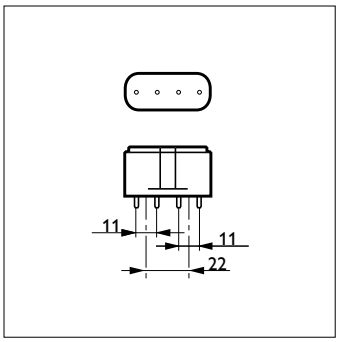


PL-L /830



PL-L /840

Cap Base



2G11

Switching cycle	Circuit mortality	Lifetime on HF gear with preheat start	
		MASTER PL-L	MASTER PL-L Xtra
11 1/2 hrs on 1/2 hr off	90% survivors	16.000 hours	32.000 hours
	95% survivors		24.000 hours
	97% survivors		20.500 hours


CUS 0 BCH 0 L/S 0
OP2 0 AVL 0 TIM 10:52



PL-L 24W LTG LT

Product Description

- Energy saving compact fluorescent lamps
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of two parallel fluorescent tubes linked by a bridge

Product Features

- Bridge between tubes adapted to maximize light output at low ambient temperatures
- Optimum light output achieved in outdoor and cold storage applications
- Significant reduction of early failures
- Extra long and reliable lifetime

Product Benefits

- Road and social safety are safeguarded even at freezing outdoor temperatures
- Longer lifetime and less early failures lead to less hassle and lower maintenance costs and facilitate the change from spot to group replacement
- Optimal light performance for long operation per switch-on
- Environmental impact minimised by long lifetime and low hazardous materials content
- Dimming is possible

Application

- Residential areas
- Parks and squares
- Under canopies in storage and transport areas
- Cold indoor areas (e.g. warehouses, food cold stores)

Luminaires

- Light output at low temperatures can be increased even further by applying a transparent heat cap around the top of the lamp

System

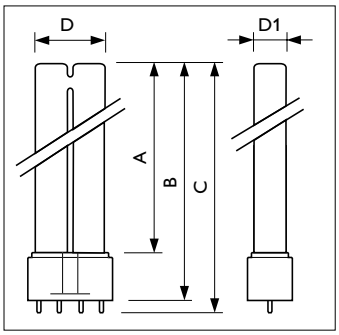
- Separate radio-suppression capacitor required with conventional control gear circuits (24 / 36 W)
- Universal application 24 / 36 W in conventional high-voltage switch-start circuits, low-voltage sequence-start circuits and 24-55 W in advanced electronic circuits
- Lamp characteristics are influenced by operating conditions and control gear used

Environment

- Good environmental choice because of high energy efficiency, long life and low light output depreciation, lowest mercury content
- Compliant with all RoHS and WEEE requirements: the lamps have a very low content of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

Recommended gear page 7.120

www.philips.com/OEM



PL-L

Type	AMax	BMax	CMax	DMax	D1Max
MASTER PL-L Xtra Polar 24W	290	315	321.6	37.7	18
MASTER PL-L Xtra Polar 36W	384.2	410	416.6	37.7	18
MASTER PL-L Xtra Polar 55W	509.2	535	541.6	37.7	18

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-L Xtra Polar 24W	75	0.300	22.0	87	0.345	24.0	24	B	Yes	25000	36000
MASTER PL-L Xtra Polar 36W	90	0.360	32.0	106	0.435	36.0	36	A	Yes	25000	36000
MASTER PL-L Xtra Polar 55W	101	0.550	55.0	N.A.	N.A.	N.A.	55	A	Yes	25000	36000

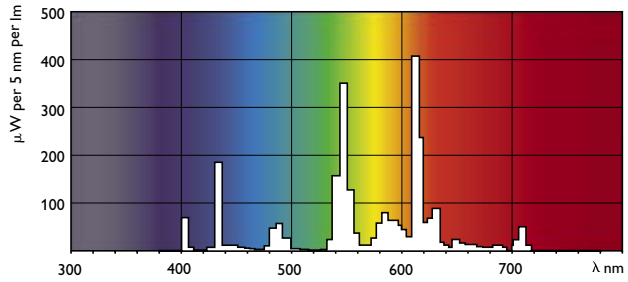
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EL (lm/W)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-L Xtra Polar 24W/830	1800	1800	75	75	Warm White	3000	82	440	405
MASTER PL-L Xtra Polar 24W/840	1800	1800	75	75	Cool White	4000	82	380	380
MASTER PL-L Xtra Polar 36W/830	2900	2900	80	80	Warm White	3000	82	440	405
MASTER PL-L Xtra Polar 36W/840	2900	2900	80	80	Cool White	4000	82	380	380
MASTER PL-L Xtra Polar 55W/830	4800	N.A.	87	N.A.	Warm White	3000	82	440	405
MASTER PL-L Xtra Polar 55W/840	4800	N.A.	87	N.A.	Cool White	4000	82	380	380

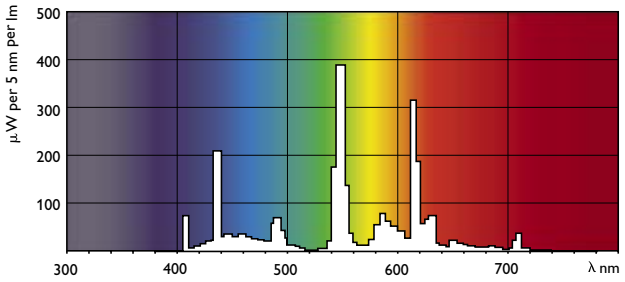
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-L Xtra Polar 24W/830/4P 1CT	FSD-24/30/1B-E-2G11	8711500267726	82 gr	25	36.1 cm x 23.8 cm x 14.6 cm	8711500267733	267726 40
MASTER PL-L Xtra Polar 24W/840/4P 1CT	FSD-36/30/1B-E-2G11	8711500267740	82 gr	25	36.1 cm x 23.8 cm x 14.6 cm	8711500267757	267740 40
MASTER PL-L Xtra Polar 36W/830/4P 1CT	FSD-36/30/1B-E-2G11	8711500267764	104 gr	25	44.4 cm x 23.8 cm x 14.6 cm	8711500267771	267764 40
MASTER PL-L Xtra Polar 36W/840/4P 1CT	FSD-36/40/1B-E-2G11	8711500267788	104 gr	25	44.4 cm x 23.8 cm x 14.6 cm	8711500267795	267788 40
MASTER PL-L Xtra Polar 55W/830/4P 1CT	FSDH-55/30/1B-L/P-2G11	8711500267849	134 gr	25	56.9 cm x 13.8 cm x 24.6 cm	8711500267856	267849 40
MASTER PL-L Xtra Polar 55W/840/4P 1CT	FSDH-55/40/1B-L/P-2G11	8711500267863	134 gr	25	56.9 cm x 13.8 cm x 24.6 cm	8711500267870	267863 40

Spectral power distribution

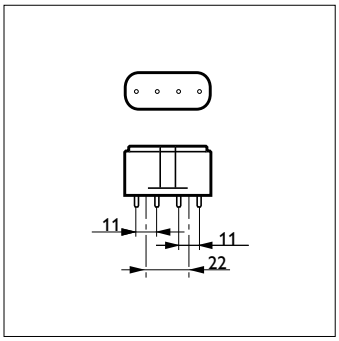


PL-L /830



PL-L /840

Cap Base



2G11

Switching cycle	Circuit mortality	Lifetime on HF gear with preheat start	
		MASTER PL-L	MASTER PL-L Xtra
11 1/2 hrs on 1/2 hr off	90% survivors	16.000 hours	32.000 hours
	95% survivors		24.000 hours
	97% survivors		20.500 hours

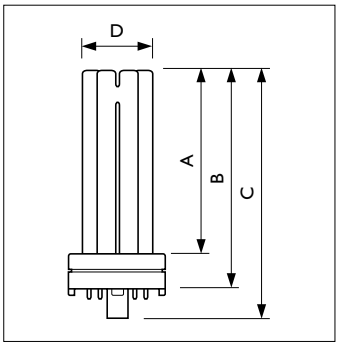




PL-H 120W

Recommended gear page 7.114

www.philips.com/OEM



PL-H

Product Description

- A single ended MASTER compact fluorescent lamp, which requires a gear to operate
- The lamp consists of six parallel narrow fluorescent tubes fitted together with a unique bridging construction

Product Features

- A MASTER product which offers a very high light output and high efficiency
- Single ended 4-pin base for operation with high-frequency electronic gear
- Philips amalgam technology for higher sustained light output over a wide temperature range
- Universal lamp base with integrated retention system for all wattages (also one gear for all wattages)
- Dimming is possible with appropriate gear

Product Benefits

- Very high light output
- PL-L technology for reliable long life and low lumen depreciation
- High energy efficiency
- Good colour rendering and choice of light colours
- Fast, secure installation thanks to push-and-turn 2G8-1 lamp base / holder
- Instant white light and hot restrike

Application

- Indoor and outdoor general and decorative lighting in professional medium- and high-bay environments such as:
  - public buildings
  - shops and shopping centres
  - airport departure and arrival areas
  - railway and bus stations
  - residential areas and city centres

Environment

- Good environmental choice because of high energy efficiency, long life and low light output depreciation, low mercury content
- Compliant with all RoHS and WEEE requirements: the lamps have a low content of mercury, are lead free and make no use of radioactive materials and hazardous flame retardants

Type	AMax	BMax	CMax	DMax
MASTER PL-H 60W	259	285	300	59
MASTER PL-H 85W	141	167	182	59
MASTER PL-H 120W	182	208	223	59

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-H 60W	79	0.800	60	60	B	Yes	14000	20000
MASTER PL-H 85W	110	0.800	85	85	B	Yes	14000	20000
MASTER PL-H 120W	153	0.800	120	120	B	Yes	14000	20000

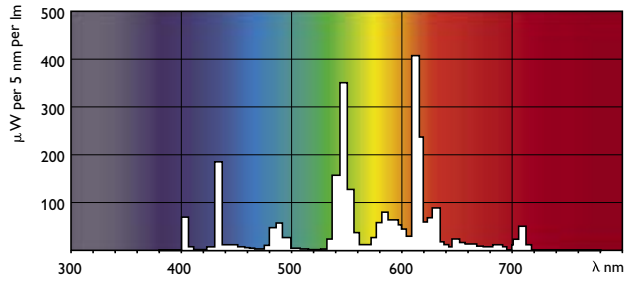
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-H 60W/830	4000	67	Warm White	3000	82	440	406
MASTER PL-H 60W/840	4000	67	Cool White	4000	82	384	391
MASTER PL-H 85W/830	6000	70	Warm White	3000	82	440	406
MASTER PL-H 85W/840	6000	70	Cool White	4000	82	384	391
MASTER PL-H 120W/830	9000	75	Warm White	3000	82	440	406
MASTER PL-H 120W/840	9000	75	Cool White	4000	82	384	391

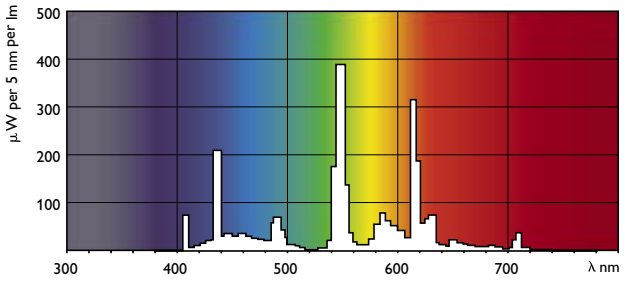
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-H 60W/830/4P 1CT	FSM6H-60/30/1B-L/P-2G8=1	8711500264077	149 gr	10	35.5 cm x 15 cm x 20.8 cm	8711500264084	264077 25
MASTER PL-H 60W/840/4P 1CT	FSM6H-60/40/1B-L/P-2G8=1	8711500264091	149 gr	10	35.5 cm x 15 cm x 20.8 cm	8711500264107	264091 25
MASTER PL-H 85W/830/4P 1CT	FSM6H-85/30/1B-L/P-2G8=1	8711500264114	178 gr	10	35.5 cm x 15 cm x 25 cm	8711500264121	264114 25
MASTER PL-H 85W/840/4P 1CT	FSM6H-85/40/1B-L/P-2G8=1	8711500264237	178 gr	10	35.5 cm x 15 cm x 25 cm	8711500264244	264237 25
MASTER PL-H 120W/830/4P 1CT	FSM6H-120/30/1B-L/P-2G8=1	8711500264039	235 gr	10	35.5 cm x 15 cm x 32.6 cm	8711500264046	264039 25
MASTER PL-H 120W/840/4P 1CT	FSM6H-120/40/1B-L/P-2G8=1	8711500264053	235 gr	10	35.5 cm x 15 cm x 32.6 cm	8711500264060	264053 25

Spectral power distribution

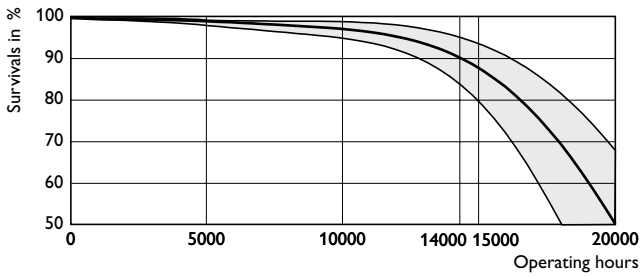


PL-H /830



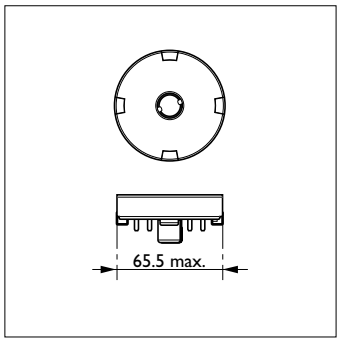
PL-H /840

Life expectancy diagram



PL-H

Cap Base



2G8-1



PL-Q

Product Description

- Compact fluorescent lamps with a quadrant-like shape

Product Features

- Retrofit in already installed 2D luminaires
- Assembled with the same high-quality components as all other Philips CFL-NI lamps

Product Benefits

- High light quality and optimum lumen output provide increased value for money
- Energy-saving light with good colour rendering
- Long service lifetime
- The Philips Lighting stamp of quality

Application

- Ideal for applications such as:
  - corridors
  - toilets
  - stairwells
  - reception areas

Luminaires

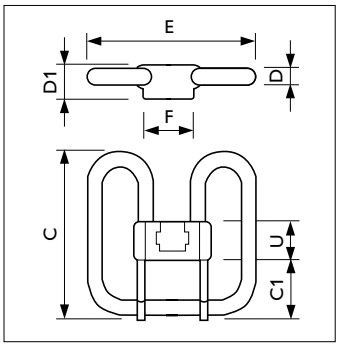
- Fit both square and round bulkhead luminaires

System

- Operate on separate control gear

Recommended gear page 7.115

www.philips.com/OEM



PL-Q

Type	CMax	C1Max	DMax	D1Max	EMax	FMax	UMax
PL-Q 16W	141	51	15	27.5	138	41	40
PL-Q 28W	207	77	24	33.0	205	41	49

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable
PL-Q 16W	0.195	16	103	16	B	No
PL-Q 28W	0.320	28	108	28	B	No

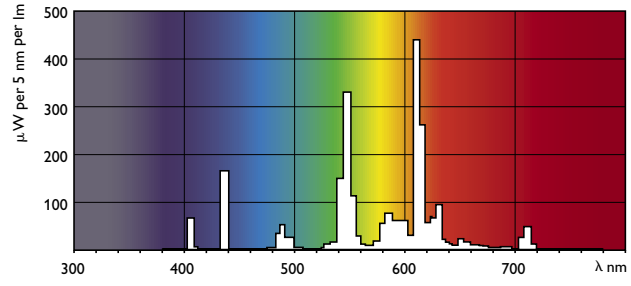
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
PL-Q 16W/827	1050	65	Incandescent White	2700	82	463	420
PL-Q 16W/830	1050	65	Warm White	3000	82	440	403
PL-Q 16W/835	1050	65	White	3500	82	409	394
PL-Q 28W/827	2050	73	Incandescent White	2700	82	463	420
PL-Q 28W/830	2050	73	Warm White	3000	82	440	403
PL-Q 28W/840	2050	73	Cool White	4000	82	380	380

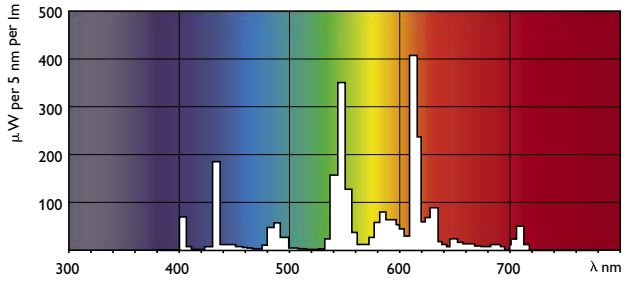
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
PL-Q 16W/827/2P 1CT	FSS-16/27/1B-I-GR8	8711500269652	68 gr	10	39 cm x 21.6 cm x 19.2 cm	8711500269003	269652 25
PL-Q 16W/827/2P SLV	FSS-16/27/1B-I-GR8	8711500269683	68 gr	20	74.5 cm x 22.5 cm x 22 cm	8711500269034	269683 05
PL-Q 16W/830/2P 1CT	FSS-16/30/1B-I-GR8	8711500269874	68 gr	10	39 cm x 21.6 cm x 19.2 cm	8711500270016	269874 25
PL-Q 16W/830/2P SLV	FSS-16/30/1B-I-GR8	8711500269942	68 gr	20	74.5 cm x 22.5 cm x 22 cm	8711500270085	269942 05
PL-Q 16W/835/2P 1CT	FSS-16/35/1B-I-GR8	8711500269669	68 gr	10	39 cm x 21.6 cm x 19.2 cm	8711500269010	269669 25
PL-Q 16W/835/2P SLV	FSS-16/35/1B-I-GR8	8711500269690	68 gr	20	74.5 cm x 22.5 cm x 22 cm	8711500269041	269690 05
PL-Q 28W/827/2P 1CT	FSS-28/27/1B-I-GR8	8711500274540	127 gr	10	47.5 cm x 28 cm x 26 cm	8711500274588	274540 25
PL-Q 28W/830/2P 1CT	FSS-28/30/1B-I-GR8	8711500274557	127 gr	10	47.5 cm x 28 cm x 26 cm	8711500274595	274557 25
PL-Q 28W/840/2P SLV	FSS-28/40/1B-I-GR8	8711500276414	127 gr	20	80 cm x 29.2 cm x 32 cm	8711500276407	276414 05

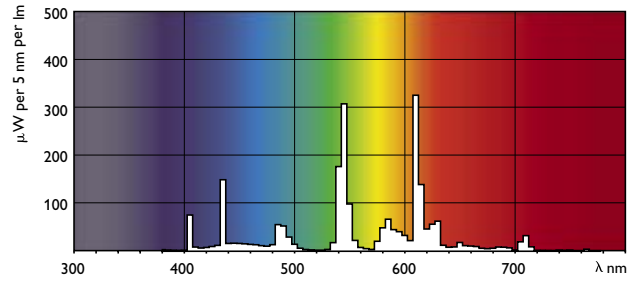
Spectral power distribution



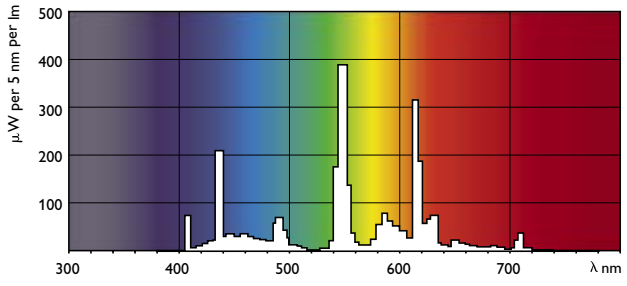
PL-Q /827



PL-Q /830

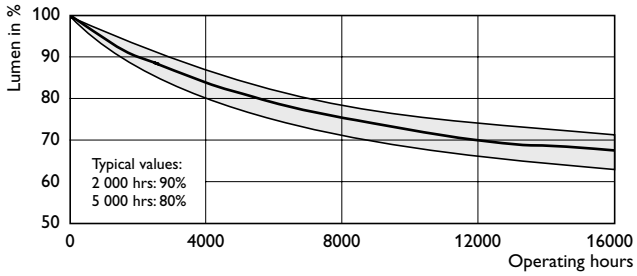


PL-Q /835



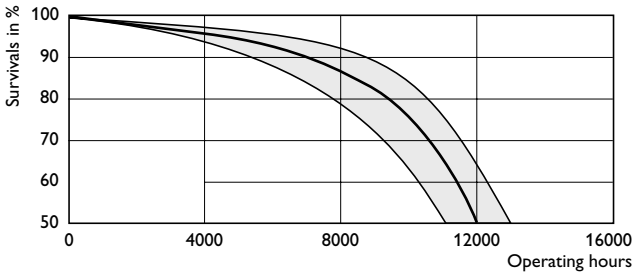
PL-Q /840

Lumen maintenance diagram



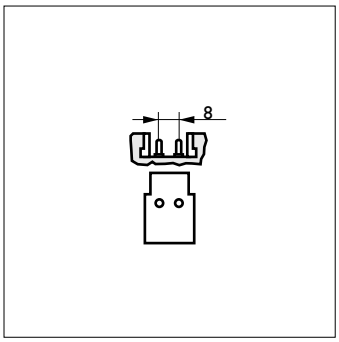
PL-Q

Life expectancy diagram



PL-Q

Cap Base



GR8



PL-Q

Product Description

- Compact fluorescent lamps with a quadrant-like shape

Product Features

- Retrofit in already installed 2D luminaires
- Assembled with the same high-quality components as all other Philips CFL-NI lamps
- Dimming is possible

Product Benefits

- High light quality and optimum lumen output provide increased value for money
- Energy-saving light with good colour rendering
- Long service lifetime
- The Philips Lighting stamp of quality

Application

- Ideal for applications such as:
  - corridors
  - toilets
  - stairwells
  - reception areas

Luminaires

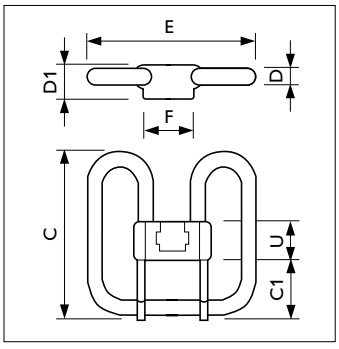
- Fit both square and round bulkhead luminaires

System

- Operate on separate control gear

Recommended gear page 7.115

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PL-Q

Type	CMax	C1Max	DMax	D1Max	EMax	FMax	UMax
PL-Q 16W	141	51	15	27.5	138	41	40
PL-Q 28W/38W	207	77	24	33	205	41	49

Technical data

Type	Lamp Voltage EL (V)	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
PL-Q 16W	93	0.180	16.6	103	0.195	16.0	16	B	Yes	7000	12000
PL-Q 28W	98	0.255	24.8	108	0.320	28.0	28	B	Yes	7000	12000
PL-Q 38W	94.5	0.380	35.5	110	0.430	38.0	38	B	Yes	7000	12000

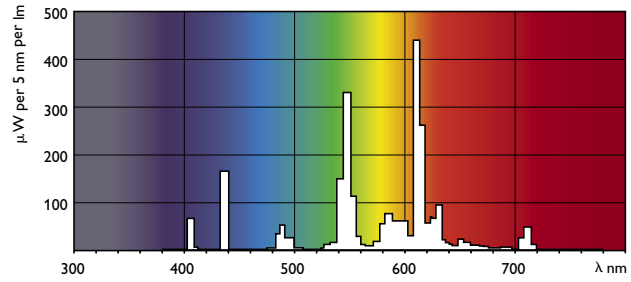
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
PL-Q 16W/827	1050	1050	63	Incandescent White	2700	82	463	420
PL-Q 16W/830	1050	1050	63	Warm White	3000	82	440	403
PL-Q 16W/835	1050	1050	63	White	3500	82	409	394
PL-Q 16W/840	1050	1050	63	Cool White	4000	82	380	380
PL-Q 28W/827	1800	2050	73	Incandescent White	2700	82	463	420
PL-Q 28W/830	1800	2050	73	Warm White	3000	82	440	403
PL-Q 28W/835	1800	2050	73	White	3500	82	409	394
PL-Q 28W/840	1800	2050	73	Cool White	4000	82	380	380
PL-Q 38W/827	2800	2850	78	Incandescent White	2700	82	463	420
PL-Q 38W/830	2800	2850	78	Warm White	3000	82	440	403
PL-Q 38W/835	2800	2850	78	White	3500	82	409	394
PL-Q 38W/840	2800	2850	78	Cool White	4000	82	380	380

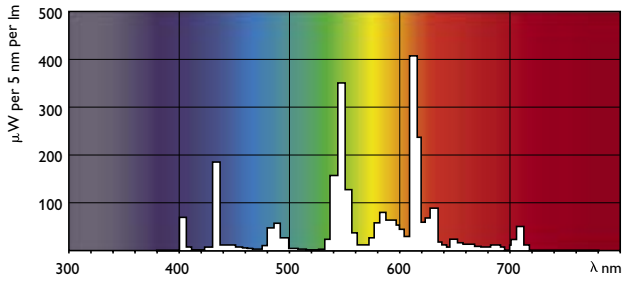
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
PL-Q 16W/827/4P 1CT	FSS-16/27/1B-E-GR10q	8711500269881	68 gr	10	39 cm x 21.6 cm x 19.2 cm	8711500270023	269881 25
PL-Q 16W/827/4P SLV	FSS-16/27/1B-E-GR10q	8711500269959	68 gr	20	74.5 cm x 22.5 cm x 22 cm	8711500270092	269959 05
PL-Q 16W/830/4P 1CT	FSS-16/30/1B-E-GR10q	8711500269898	68 gr	10	39 cm x 21.6 cm x 19.2 cm	8711500270030	269898 25
PL-Q 16W/830/4P SLV	FSS-16/30/1B-E-GR10q	8711500269966	68 gr	20	74.5 cm x 22.5 cm x 22 cm	8711500270108	269966 05
PL-Q 16W/835/4P 1CT	FSS-16/35/1B-E-GR10q	8711500272065	68 gr	10	39 cm x 21.6 cm x 19.2 cm	8711500270047	272065 25
PL-Q 16W/835/4P SLV	FSS-16/35/1B-E-GR10q	8711500269973	68 gr	132	52.8 cm x 39 cm x 49.5 cm	8711500274649	269973 36
PL-Q 16W/835/4P SLV	FSS-16/35/1B-E-GR10q	8711500269973	68 gr	20	74.5 cm x 22.5 cm x 22 cm	8711500270115	269973 05
PL-Q 16W/840/4P SLV	FSS-16/40/1B-E-GR10q	8711500276384	68 gr	20	74.5 cm x 22.5 cm x 22 cm	8711500276391	276384 05
PL-Q 28W/827/4P 1CT	FSS-28/27/1B-E-GR10q	8711500269911	127 gr	10	47.5 cm x 28 cm x 26 cm	8711500270054	269911 25
PL-Q 28W/827/4P SLV	FSS-28/27/1B-E-GR10q	8711500269980	127 gr	20	80 cm x 29.2 cm x 32 cm	8711500270122	269980 05
PL-Q 28W/830/4P 1CT	FSS-28/30/1B-E-GR10q	8711500269928	127 gr	10	47.5 cm x 28 cm x 26 cm	8711500270061	269928 25
PL-Q 28W/830/4P SLV	FSS-28/30/1B-E-GR10q	8711500269997	127 gr	20	80 cm x 29.2 cm x 32 cm	8711500270139	269997 05
PL-Q 28W/835/4P 1CT	FSS-28/35/1B-E-GR10q	8711500269676	127 gr	10	47.5 cm x 28 cm x 26 cm	8711500269027	269676 25
PL-Q 28W/835/4P SLV	FSS-28/35/1B-E-GR10q	8711500269706	127 gr	20	80 cm x 29.2 cm x 32 cm	8711500269058	269706 05
PL-Q 28W/835/4P SLV	FSS-28/35/1B-E-GR10q	8711500269706	127 gr	48	54 cm x 38 cm x 49 cm	8711500274526	269706 96
PL-Q 28W/840/4P 1CT	FSS-28/40/1B-E-GR10q	8711500269935	127 gr	10	47.5 cm x 28 cm x 26 cm	8711500270078	269935 25
PL-Q 28W/840/4P SLV	FSS-28/40/1B-E-GR10q	8711500270009	127 gr	20	80 cm x 29.2 cm x 32 cm	8711500270146	270009 05
PL-Q 28W/840/4P SLV	FSS-28/40/1B-E-GR10q	8711500270009	127 gr	48	54 cm x 38 cm x 49 cm	8711500274533	270009 96
PL-Q 38W/827/4P 1CT	FSS-38/27/1B-E-GR10q	8711500271716	129 gr	10	47.5 cm x 28 cm x 26 cm	8711500271631	271716 25
PL-Q 38W/827/4P SLV	FSS-38/27/1B-E-GR10q	8711500271754	129 gr	20	80 cm x 29.2 cm x 32 cm	8711500271679	271754 05
PL-Q 38W/830/4P 1CT	FSS-38/30/1B-E-GR10q	8711500271723	129 gr	10	47.5 cm x 28 cm x 26 cm	8711500271648	271723 25
PL-Q 38W/830/4P SLV	FSS-38/30/1B-E-GR10q	8711500271761	129 gr	20	80 cm x 29.2 cm x 32 cm	8711500271686	271761 05
PL-Q 38W/835/4P 1CT	FSS-38/35/1B-E-GR10q	8711500271730	129 gr	10	47.5 cm x 28 cm x 26 cm	8711500271655	271730 25
PL-Q 38W/835/4P SLV	FSS-38/35/1B-E-GR10q	8711500271778	129 gr	20	80 cm x 29.2 cm x 32 cm	8711500271693	271778 05
PL-Q 38W/840/4P 1CT	FSS-38/40/1B-E-GR10q	8711500271747	129 gr	10	47.5 cm x 28 cm x 26 cm	8711500271662	271747 25
PL-Q 38W/840/4P SLV	FSS-38/40/1B-E-GR10q	8711500271785	129 gr	20	80 cm x 29.2 cm x 32 cm	8711500271709	271785 05

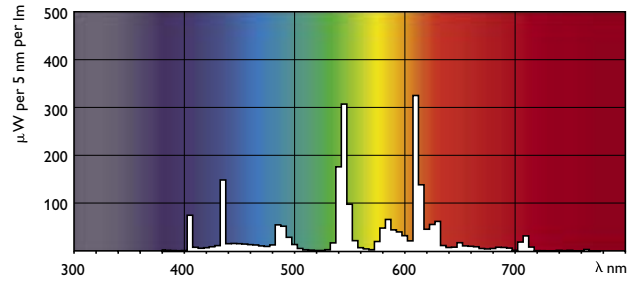
Spectral power distribution



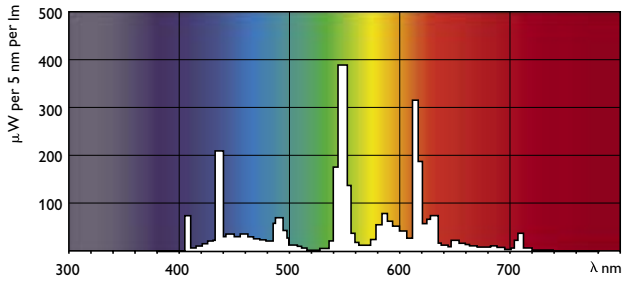
PL-Q /827



PL-Q /830

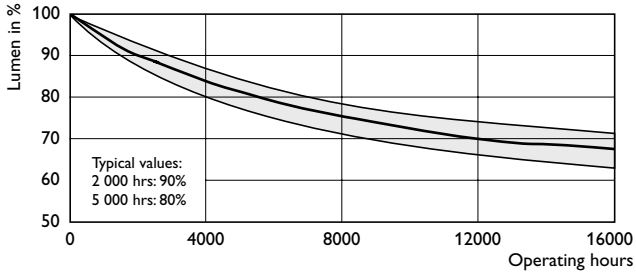


PL-Q /835



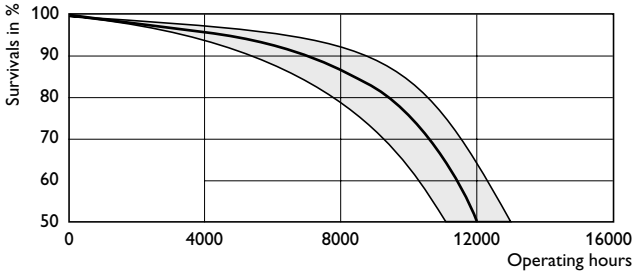
PL-Q /840

Lumen maintenance diagram



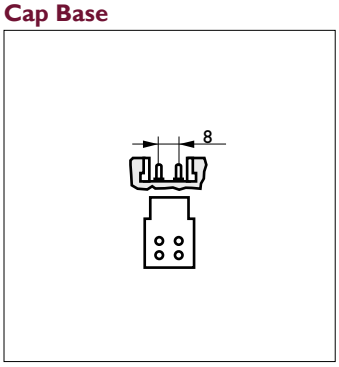
PL-Q

Life expectancy diagram



PL-Q

Cap Base



GR10q





PL-R 17W

Product Description

- Energy-saving compact fluorescent lamp
- Compact long-arc low-pressure mercury discharge lamp
- Envelope consists of six parallel narrow fluorescent tubes

Product Features

- New innovative compact twist and lock 4-pin lamp base GR14q-1 without starter and capacitor
- Lamp characteristics are influenced by operating conditions and control gear used
- Maximum light output reached at approximately 35-40 °C in free-burning base-up position
- Dimming is possible

Product Benefits

- Optimal light and efficiency performance for short or long operation per switch in indoor downlighters
- Up to 50% less energy consumption in application versus 18 and 26 W PL-C/T on EM gears for comparable lighting levels
- Up to 25% less energy consumption in application versus 18 and 26 W PL-C/T on HF drivers for comparable lighting levels
- Long life and sustainable light output
- Easy lamp (re-)placement and stable fixation due to new twist and lock lampbase / holder

Application

- Designed for general down-lighting in (semi-)professional indoor applications: offices, retail, hospitals, governmental and public buildings
- Ideal for use in recessed or surface mounted downlighters, wall units

System

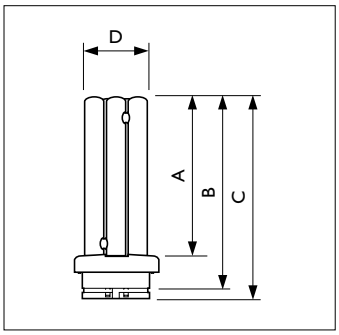
- Only suitable for use with MASTER PL-R Eco electronic gear, enabling controllable light output, flicker free and instant (re-)start and independence from the supply system

Environment

- Most sustainable compact fluorescent solution for comparable lighting solutions
- Up to 50% reduction of CO_2 emissions in application and lower light output depreciation
- Longer service life and lowest mercury content leads to less environmental waste
- Compliant with all RoHS and WEEE requirements: very low content of mercury, lead free and no use of radioactive materials and hazardous flame retardants

Recommended gear page 7.115

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PL-R

Type	AMax	BMax	CMax	DMax
MASTER PL-R Eco 14W	99.7	120.0	126.6	41.0
MASTER PL-R Eco 17W	121.7	142.0	148.6	41.0

Technical data

Type	Rated Lamp Wattage 35°C EL base up position (W)	Lamp Voltage EL 25°C base up position (V)	Lamp Current EL 25°C base up position (A)	Rated Lamp Wattage 25°C EL base up position (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER PL-R Eco 14W	15	100	0.150	14.5	14	A	Yes	8000	13000
MASTER PL-R Eco 17W	18	120	0.150	17.8	17	A	Yes	8000	13000

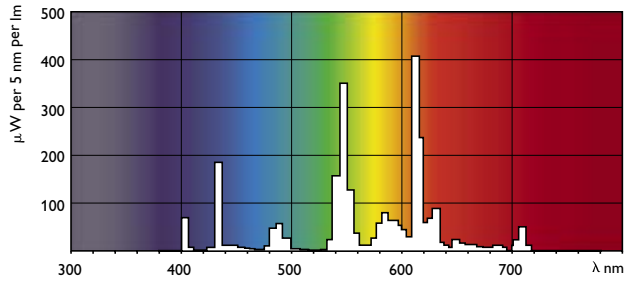
Light data

Type	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER PL-R Eco 14W/17W/830	Warm White	3000	82	441	401
MASTER PL-R Eco 14W/17W/840	Cool White	4000	82	387	389

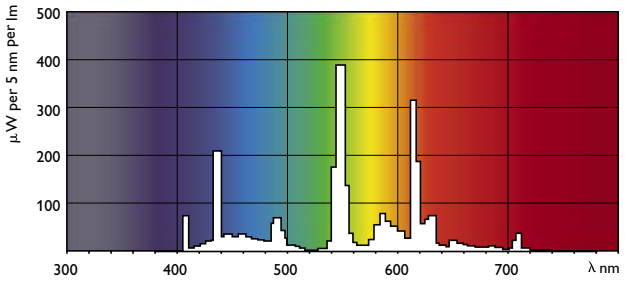
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PL-R Eco 14W/830/4P 1CT	FSM-14/30/1B-E-GR14q-1	8711500265951	70 gr	50	57 cm x 27 cm x 14.4 cm	8711500265975	265951 70
MASTER PL-R Eco 14W/840/4P 1CT	FSM-14/40/1B-E-GR14q-1	8711500265982	70 gr	50	58 cm x 27.2 cm x 14.4 cm	8711500266002	265982 70
MASTER PL-R Eco 17W/830/4P 1CT	FSM-17/30/1B-E-GR14q-1	8711500266019	83 gr	50	57.5 cm x 27.3 cm x 16.7 cm	8711500266033	266019 70
MASTER PL-R Eco 17W/840/4P 1CT	FSM-17/40/1B-E-GR14q-1	8711500266040	83 gr	50	57.5 cm x 27.3 cm x 16.7 cm	8711500266064	266040 70

Spectral power distribution

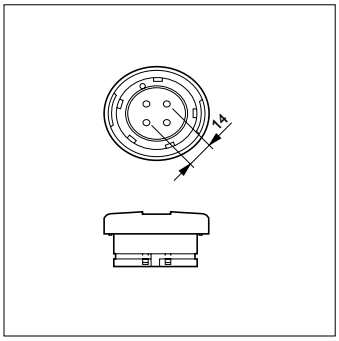


PL-R /830



PL-R /840

Cap Base



GR14q-1



Electronic Fluorescent Gear

Electronic gear offers numerous important benefits in comparison to traditional Electromagnetic gear:

- Energy savings up to 25% compared with Electromagnetic gear and even up to 75% in combination with lighting controls (presence detection and daylight sensing)
- Up to 50% longer lamp life (depending on frequency of switches) reducing maintenance costs
- Improved lighting quality: no flickering, smooth and rapid lamp starting
- Extra safety: protection against overvoltage, mains spikes and controlled end of life (no stroboscopic effects)
- Electronic ballasts are lighter in weight, smaller and relatively simple to install compared with electromagnetic ballasts, requiring less wiring and fewer circuit components (no starters)

Electronic or High Frequency electronic gear comes in different versions to suit the application involved:

- HF-RegulatorII: for maximizing on energy savings or creating scene settings in lighting. Energy savings up to 75% are reached by harvesting daylight and by presence detection.
  There are 2 versions available:
  Touch and DALI (TD): The TD types combine the functionality of "Touch and Dim" – an easy way of controlling personal lighting level with a the touch of a any retractive push-to-make button available in the market - with DALI, (Digital Addressable Lighting Interface) the industry communication standard for dimmable ballasts in europe 1-10V: with 1-10V control input (European standard).

- HF-PerformerII: (warm start) is suited for situations with frequent switching (e.g. infrared remote control systems). HF-Performer II is the most energy efficient gear available on the market.

- The HF-PerformerII Intelligent gear is an intelligent electronic gear for MASTER TL5 lamps that automatically recognizes which lamp is being used and adjusts itself to the right settings.

- The HF-RegulatorII and PerformerII VHO gear is an electronic gear that in combination with MASTER TL5 VHO lamps offers a unique solution for high ceilings.

- The HF-PerformerII Xtreme gear is an electronic gear with extreme long-life for reduced maintenance costs and hassle. Moreover, it is a robust solution thanks to its protection against voltage peaks and overvoltage protection.

- HF-MatchboxRed: (warm start) is suited for systems up to 25W, where space for the control gear is at a premium and where switching can be frequent.

- HF-MatchboxBlue: (cold start) is suited for systems up to 25W, where space for the control gear is at a premium and where lighting is continuously burning for at least 3 hrs (3-8 switches per day) or in residential applications where intensity of use is limited.



HF-REGULATOR II Touch and DALI for PL-T, PL-C and PL-R lamps

Product Description

- Flat, lightweight high-frequency electronic regulating control gear, using DALI (Digital Addressable Lighting Interface) or Touch and Dim push button protocol, for PL-T/C/R fluorescent lamps. The HF-REGULATORII gears incorporates the new Philips EII technology offering full digital input (mains) and output (lamp) management.

Features and Benefits

- The lamp power can be regulated from 100 to 1%. *
- Up to 75% reduction in energy consumption can be achieved by using automatic lighting control systems (e.g. Philips ActiLume).
- Quick programmed start: 0.5 sec, flicker-free warm start, preheating the lamp electrodes. This enables the lamps to be switched on and off without reducing useful life. Ideal for high switching frequency.
- Digital control input according to the industry standard DALI (Digital Addressable Lighting Interface) combined with the Touch and Dim push button protocol.
- Low energy consumption in standby 0.35W
- Smart power: constant light, independent of mains fluctuations.
- Unit is protected against excessive mains voltages, incorrect connections and incorrect lamp use.
- Striation-free operation, no stroboscopic effects.
- Lamp starts at 10% (DALI 1..100% in 100 ms)
- Automatic stop circuit is activated within five seconds in case of lamp failure (safety stop). Once the lamp has been replaced, the gear resets automatically.
- Philips HF-REGULATOR II gear is equipped with Extended Cable Flexibility (ECF) Technology. ECF Technology is based on a dedicated integrated circuit that ensures independent control of lamps, and in doing so takes care that:
  - In case of long or asymmetrical wiring (e.g. with emergency units or bundled wiring) deep and stable dimming is guaranteed (possible consequences for electromagnetic interference and compatibility EMI/EMC to be checked
  - Systems always remain operational in extreme conditions (e.g. low temperatures, lamp impurities at burning-in) in combination with the integrated anti extinguish control
  - Lamp life is unaffected by dimming position whilst energy savings are maximized* HFR TD for PL-R dims to 3%

Applications

Typical areas of application include:

- DALI installations with daylight linking and/or movement detection
- DALI installations with remote control systems
- Installations with emergency back-up, according to IEC 60598-2-22

Quality

Philips Quality applies optimum quality with respect to:

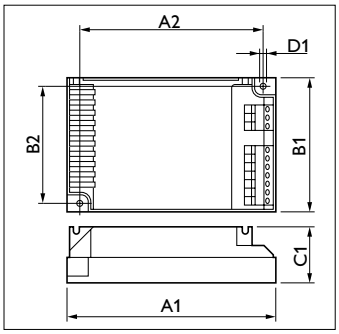
- System supplier: As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards: Philips HF electronic regulating control gear comply with all relevant international rules and regulations.

Compliances and approvals

RFI < 30 MHz	EN 55015
RFI > 30 MHz	EN 55022 limit B
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3
Performance	EN 60929
Vibration & bump tests	EN 60068-2-6-FC
	EN 60068-2-29-Eb
Quality standard	ISO 9001
Environmental standard	ISO 14001
Approval marks	ENEC
	EMV-VDE
Temperature declared thermally protected	EN 61347-1
CE marking	

Recommended lamp page 7.119

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HF-R PL-R/PL-T/C

Type	A1Nom	A2Nom	C1Nom	D1Nom
HF-Regulator TD 1 14-17 / 118 / 1 26-42 / 2 14-17 / 218 / 2 26-42	123	111	33	4.5

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Regulator TD 1 14-17 / 118 / 2 14-17 / 218	28	27	0.25
HF-Regulator TD 1 26-42	28	27	0.35
HF-Regulator TD 2 26-42	12	45	0.35

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator TD 1 14-17 PL-R EII 220-240V	1	14-17	3.2-3.5	A1	30	75
HF-Regulator TD 118 PL-T/C EII 220-240V 50/60Hz	1	18	3.5	A1	30	75
HF-Regulator TD 1 26-42 PL-T/C EII 220-240V	1	26-42	3.8-4.5	A1	30	75
HF-Regulator TD 2 14-17 PL-R EII 220-240V	2	14-17	4.0-4.5	A1	30	75
HF-Regulator TD 218 PL-T/C EII 220-240V 50/60Hz	2	18	5.5	A1	30	75
HF-Regulator TD 2 26-42 PL-T/C EII 220-240V	2	26-42	6.0-7.5	A1	30	75

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Regulator TD 1 14-17 PL-R EII 220-240V	0.195 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500913500	913494 30
HF-Regulator TD 118 PL-T/C EII 220-240V 50/60Hz	0.195 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500913456	913449 30
HF-Regulator TD 1 26-42 PL-T/C EII 220-240V	0.22 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500913418	913401 30
HF-Regulator TD 2 14-17 PL-R EII 220-240V	0.2 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500913470	913463 30
HF-Regulator TD 218 PL-T/C EII 220-240V 50/60Hz	0.205 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500913432	913425 30
HF-Regulator TD 2 26-42 PL-T/C EII 220-240V	0.22 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500913388	913371 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for safety +/- 10%	198 - 264 V
Performance tolerance +6%-8%	202 - 254 V
Mains frequency	50/60 Hz
Smart power	with AC mains voltage fluctuations, within 202-254 V, luminous flux varies by ± 2% max
Earth leakage current	< 0.5 mA per gear
Maximum number of units which can be connected to one Residual Current Detector of 30 mA	30
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Automatic restart after lamp replacement or voltage dip	Yes
Insulation resistance test	500 V DC from Line/Neutral to Earth (not between Line and Neutral) Note: Ensure that the Neutral is reconnected again after the above mentioned test is carried out and before the installation is put in operation.
Ignition time	Typical 0.5 sec. quick warm start.
Protected against accidental mains voltage connection	Yes

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output obtained at	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the control gear.

Control characteristics

Control input	
Regulating level (lamp power)	1 to 100%* The control input complies with EN 60929 (Annex E) and is compatible with Philips lighting control equipment.
Standby power consumption	< 350 mW
Control input insulation, basic insulation	≥ 1500 V

* HFR TD for PL-R regulates from 3 to 100%

Option 1) DALI

Digital coded input signal according to "Digital Addressable Lighting Interface" protocol, including 16 presets and 64 addresses possibility.

Option 2) Touch and Dim

A short push on the button represents the On/Off command.

Personal light levels can be stored in the internal memory by a firm longer push on the push button.

Failure proof (non volatile) memory ensures that the control gear always remembers your setting when next time switched on or in case of power failure.

Maximum number of units connected in one circuit (switched on by one or multiple switches)	32 Pcs
Mains input signal	Retractive push-to-make switch
Short push, < 0.5 sec.	Switch On/Off
Long push, > 0.5 sec.	Dim Up/Down
Reset push, > 10 sec.	Set light to mid value (35% output)

The dim direction will toggle between up and down after each individual push. Except when the value is lower than 10% it will always dim up, and when the light output is higher than 70% it will always dim down to perform according human perception.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can increase by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting in fixtures

Temperatures

Temperature range to ignite the lamp

With ignition aid 1..100%	0 °C to +50 °C
at a 70..100% dim input	-20 °C to +50 °C
Storage temperature range	-25 °C to +80 °C
Stable lamp operation assured	> 15 °C
Striation possible	< 10 °C
Max Tcase	75 °C

The lifetime of control gear depends on its temperature when operating. This means there is a relation between the Tc point on the control gear and its lifetime. HF-REGULATOR II control gear for PL-T/C and R applications has a specified lifetime of 50,000 hrs with a maximum of 10% failures guaranteed at a measured Tcase of 65 °C. For more information regarding this subject consult the Philips Application guide for fluorescent lamp control gear.

Class II luminaires	This application is not advisable; only with extensive tests on luminaires can the correct operation be verified EMI precautions have to be taken
Outdoor Application	IP=20 In outdoor applications the luminaire has to be sufficiently IP rated and maximum permitted humidity is 95% non condensing. No moisture or condensation may enter the control gear.
Earthing	Earthing of the lamp control gear in a luminaire is necessary for EMC (electromagnetic compatibility)
Hum and noise level	Inaudible

Connector type:

Connection wiring is greatly simplified through use of WAGO 250 universal connector. Suitable for both automatic wiring (ADS) and manual wiring.

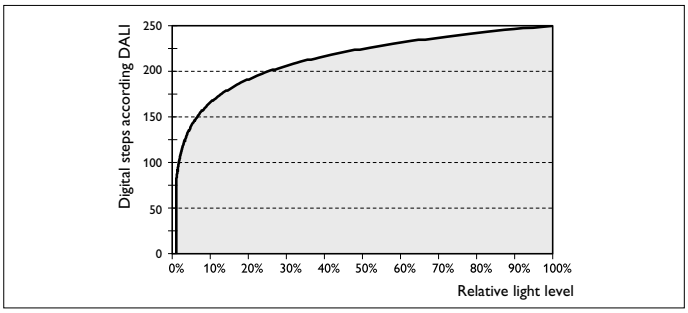
Wire cross-section:

Mains connectors (orange)	0.5...1.5 mm^2
Touch & Dim/DALI connectors (blue)	0.5...1.5 mm^2
Lamps connectors (grey)	0.5...1.5 mm^2
Strip length	7.5 - 8.5 mm

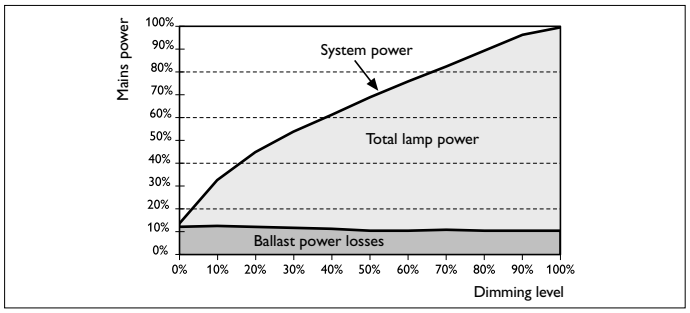
Wiring prescription:

Earth connection to be made via the mains connector. Wiring inside fixture should be straight and as short as possible. Lamp wires should not run parallel to mains or control wires to avoid EMC problems. For optimal performance, note that:

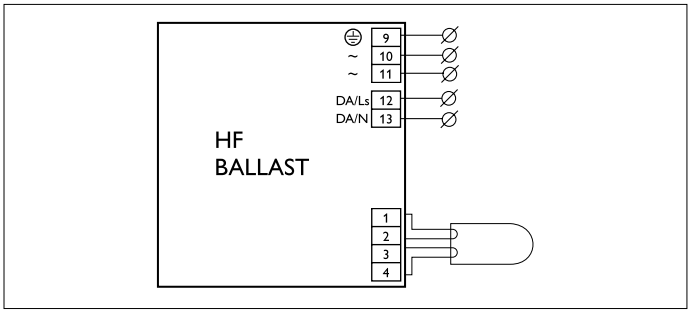
1. For one lamp control gear keep wires 1 and 2 as short as possible, equal in length and a minimum of 50 mm from mains or dim wires. Keep lamp wires 3 and 4, equal in length.
2. For two lamps control gear keep wires 1,2,5 and 6 as short as possible, equal in length and a minimum of 50 mm from mains or dim wires. Keep lamp wires 3 and 4 and 7 and 8 equal in length.
3. Do not bundle wires.



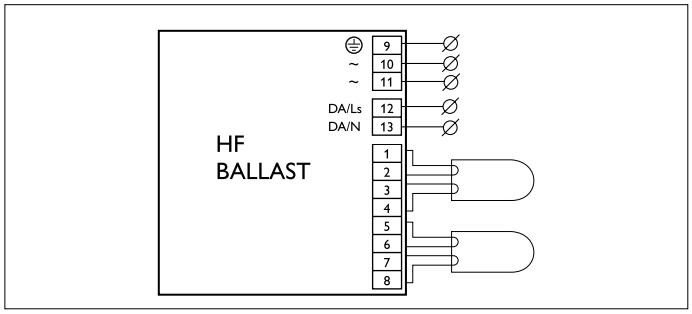
Relationship between lamp power and digital regulation



Input power vs dimlevel HF-REGULATOR II (Touch and DALI)



HF-R 1 PL-R/PL-T/C



HF-R 2 PL-R/PL-T/C





HF-REGULATOR II Touch and DALI for PL-L lamps

Product Description

- Flat, lightweight high-frequency electronic regulating gear, using DALI (Digital Addressable Lighting Interface) or Touch and Dim pushbutton protocol for PL-L fluorescent lamps

Features and Benefits

- Lamp power can be regulated from 1 to 100%
- Flat gear design, 22 mm high
- Digital control input according to the industry-standard DALI (Digital Addressable Lighting Interface) combined with the Touch and Dim pushbutton protocol
- Protected against excessive mains voltages, incorrect connections and incorrect lamp use
- Striation-free operation, no stroboscopic effects
- Lamp starts at 10% (DALI 1...100% in 250 ms, from 100...1% in 100ms)
- Stop circuit is activated within 5 s in case of lamp failure (safety stop)
- Gear resets automatically after lamp replacement
- Equipped with WAGO 251 connectors suitable for automatic wiring
- Up to 75% reduction in energy consumption by using automatic lighting control systems (e.g. Philips ActiLume)
- Quick warm start: 0.5 s, flicker-free warm start by preheating the lamp electrodes enables lamps to be switched on/off without reducing useful life. Ideal for areas with a high switching frequency
- Low energy consumption in standby 0.35 W
- Smart power ensures constant light, independent of mains fluctuations
- Philips HF-REGULATOR II gear is equipped with Extended Cable Flexibility (ECF) Technology. ECF Technology is based on a dedicated integrated circuit that ensures independent control of lamps, and in doing so takes care that:
  - In case of long or asymmetrical wiring (e.g. with emergency units or bundled wiring) deep and stable dimming is guaranteed (possible consequences for electromagnetic interference and compatibility EMI/EMC to be checked)
  - Systems always remain operational in extreme conditions (e.g. low temperatures, lamp impurities at burning-in) in combination with the integrated anti extinguish control
  - Lamp life is unaffected by dimming position whilst energy savings are maximized

Applications

- Offices requiring simple, easy-to-install dimming or personal light level adjustment, e.g. with ActiLume
- DALI installations with daylight linking and/or movement detection
- DALI installations with remote control systems
- Installations with emergency back-up, according to IEC 60598-2-22

Quality

Philips Quality applies optimum quality with respect to:

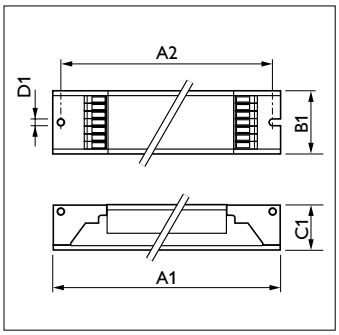
- System supplier: As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards: Philips HF electronic regulating gears comply with all relevant international rules and regulations.

Compliances and approvals

RFI 9kHz..30MHz	EN 55015
RFI 30MHz..1000MHz	EN 55022 limit B
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3
Performance	EN 60929
Vibration & bump tests	EN 60068-2-6-FC EN 60068-2-29-Eb
Quality standard	ISO 9001
Environmental standard	ISO 14001
Approval marks	ENEC VDE-EMV
Temperature declared thermally protected	EN 61347-1
CE marking	

Recommended lamp page 7.120

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HF-R PL-L/PL-T/TL5/TL5/PL-L/TL-D

Type	A1Nom	A2Nom	C1Nom	D1Nom
HF-Regulator TD 124/140/224/240/324/424	359	350	22	4.2
HF-Regulator TD 136/155/180/236/255	360	350	22	4.2
HF-Regulator TD 280	425	415	22	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Regulator TD 124/140/180/224	28	27	0.25
HF-Regulator TD 136/155	28	27	0.30
HF-Regulator TD 236/255/324/424	12	45	0.40
HF-Regulator TD 240	28	45	0.40
HF-Regulator TD 280	9	40	0.15

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator TD 124 TL5/PL-L EII 220-240V	1	24	4.5	A1	75	100
HF-Regulator TD 136 PL-L EII 220-240V 50/60Hz	1	36	5.2	A1	75	100
HF-Regulator TD 140 PL-L EII 220-240V 50/60Hz	1	40	5.6	A1	75	100
HF-Regulator TD 155 PL-L EII 220-240V 50/60Hz	1	55	7	A1	75	100
HF-Regulator TD 180 TL5/PL-L EII 220-240V	1	80	7	A1	150	100
HF-Regulator TD 224 TL5/PL-L EII 220-240V	2	24	7.3	A1	75	100
HF-Regulator TD 236 PL-L EII 220-240V 50/60Hz	2	36	8.7	A1	75	100
HF-Regulator TD 240 PL-L EII 220-240V 50/60Hz	2	40	6.9	A1	75	100
HF-Regulator TD 255 PL-L EII 220-240V 50/60Hz	2	55	11.7	A1	75	100
HF-Regulator TD 280 TL5/PL-L EII 220-240V	2	80	13.2	A1	150	100
HF-Regulator TD 324 TL5/PL-L EII 220-240V	3	24	11.2	A1	75	100
HF-Regulator TD 424 TL5/PL-L EII 220-240V	4	24	16.4	A1	75	100

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Regulator TD 124 TL5/PL-L EII 220-240V	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914477	914460 30
HF-Regulator TD 136 PL-L EII 220-240V 50/60Hz	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911650	911643 30
HF-Regulator TD 140 PL-L EII 220-240V 50/60Hz	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914514	914507 30
HF-Regulator TD 155 PL-L EII 220-240V 50/60Hz	0.265 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911698	911681 30
HF-Regulator TD 180 TL5/PL-L EII 220-240V	0.285 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500909664	909657 30
HF-Regulator TD 224 TL5/PL-L EII 220-240V	0.295 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914538	914521 30
HF-Regulator TD 236 PL-L EII 220-240V 50/60Hz	0.305 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911674	911667 30
HF-Regulator TD 240 PL-L EII 220-240V 50/60Hz	0.295 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914590	914583 30
HF-Regulator TD 255 PL-L EII 220-240V 50/60Hz	0.32 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911711	911704 30
HF-Regulator TD 280 TL5/PL-L EII 220-240V	0.417 kg	12	47.6 cm x 20.6 cm x 7.6 cm	8711500910691	910677 30
HF-Regulator TD 324 TL5/PL-L EII 220-240V	0.37 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913616	913609 30
HF-Regulator TD 424 TL5/PL-L EII 220-240V	0.385 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913630	913623 30

Electrical installation notes

Mains operation			Note: Ensure that the Neutral is reconnected again after the above mentioned test is carried out and before the installation is put in operation.
Rated mains voltage	220 - 240 V		
With tolerances for safety +/- 10%	198 - 264 V		
Performance tolerance +6%-8%	202 - 254 V		
Mains frequency	50/60 Hz	Ignition time	Typical 0.5 sec. quick warm start.
Smart power: with AC mains voltage fluctuations, luminous flux varies by ± 2% max.	202 - 254 V	Ignition aid	For optimum ignition the PL-L lamps should be mounted at a maximum distance of 12 mm from a metal plate
Earth leakage current	< 0.5 mA per gear		
Maximum number of gears which can be connected to one Residual Current Detector of 30 mA	30		The metal plate should be electrically connected to the gear housing
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC	Earthing	Earthing of the HF gear in a luminaire is necessary for EMC (electromagnetic compatibility)
Automatic restart after lamp replacement or voltage dip	Yes		
Insulation resistance test	500 V DC from Line/Neutral to Earth (not between Line and Neutral)	Protected against accidental mains voltage connection	Yes

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.
3. For the HF-R TD 280 PL-L EII lamp power will be limited to 50% of the nominal lamp power when operating on DC.

Control characteristics

Control input

Regulating level (lamp power)	1 to 100% The control input complies with EN 60929 (Annex E) and is compatible with Philips lighting control equipment
Standby power consumption	< 350 mW
Control input insulation, basic insulation	≥ 1500 V

Option 1) DALI

Digital coded input signal according to "Digital Addressable Lighting Interface" protocol, including 16 presets and 64 addresses possibility.

Option 2) Touch and Dim

A short push on the button represents the On/Off command.

Personal light levels can be stored in the internal memory by a firm longer push on the push button.

Failure proof (non volatile) memory ensures that the gear always remembers your setting when next time switched on or in case of power failure.

Maximum number of gears connected in one circuit (switched on by one or multiple switches)	32 Pcs
Mains input signal	Retractive push-to-make switch
Ignore status, < 0.04 sec.	To avoid reaction on mains spikes!
Short push, between 0.04 sec. and 0.5 sec.	Switch On/Off
Long push, between 0.5 sec. and 10 sec.	Dim Up/Down
Reset push, >10 sec.	Set light to mid value (35% output)

Notes:

1. The dim function will toggle after each individual push. Except when the value is lower than 10% it will always dim up, and when the light output is higher than 70% it will always dim down to perform according human perception.
2. First digital regulating steps (DALI) are fixed at 1% light output (dimming specification).
3. For optimum performance care has to be taken for symmetrical wiring.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm^2 and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting in fixtures

Temperatures

Temperature range to ignite lamp

With ignition aid 1..100%	0 °C to +50 °C
at a 70..100% dim input	-20 °C to +50 °C
Storage temperature range	-25 °C to +80 °C
Stable lamp operation assured	> 15 °C*
Striation possible	< 10 °C
Max Tcase	75 °C

* >20 °C for HF-R TD 280 TL5/PL-L EII

The lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. The HF-REGULATOR II gear for PL-L applications has a specified lifetime of 50,000 hrs with a maximum of 10% failures guaranteed at a measured Tcase of 75 °C.

For more information regarding this subject consult the Philips Application guide for fluorescent lamp control gear.

Class II luminaires	This application is not advisable; only with extensive tests on luminaires can the correct operation be verified EMI precautions have to be taken
Outdoor application	IP=20 In outdoor the luminaire has to be sufficiently IP rated Permitted humidity is tested according to EN 61347-1 par 11 Note that no moisture or condensation may enter the gear.
Hum and noise level	Inaudible

Connector type:

Connection wiring is greatly simplified through use of WAGO 251 universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring.

Wire cross-section:

ADS manual connection	0.5...1.0 mm^2
IDC connection	0.5...0.75 mm^2(*)

(*) Stranded wire

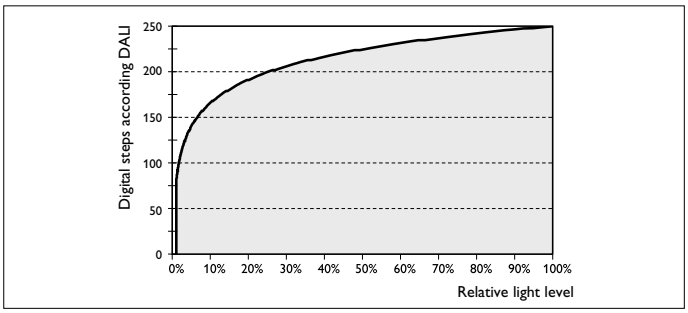
Strip length	8.0 - 9.0 mm

Wiring tips:

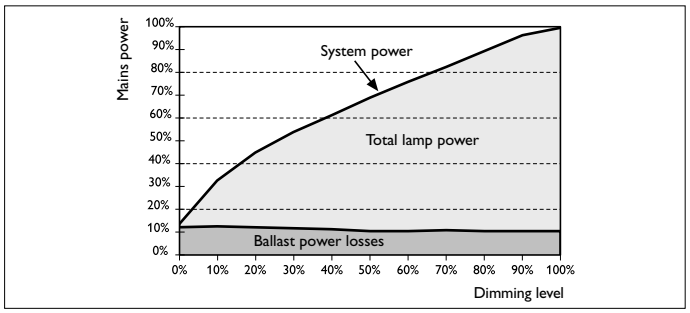
Earth connection to be made via housing or mains connector. Wiring inside fixture should be straight and as short as possible. Lamp wires should not run parallel to mains or control wires to avoid EMC problems. For optimal performance, note that:

1. For one lamp gears wires 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7, equal in length.

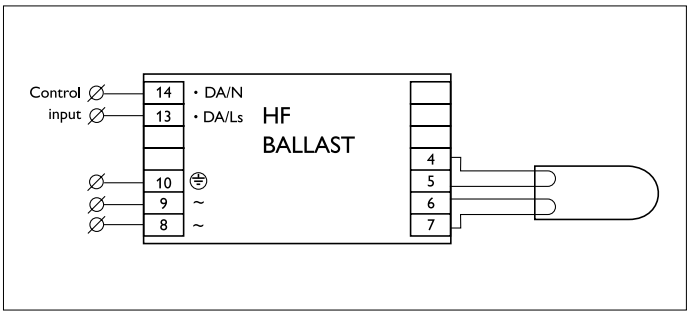
2. For two lamp gears wires 3, 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7 and 1 and 2 equal in length.



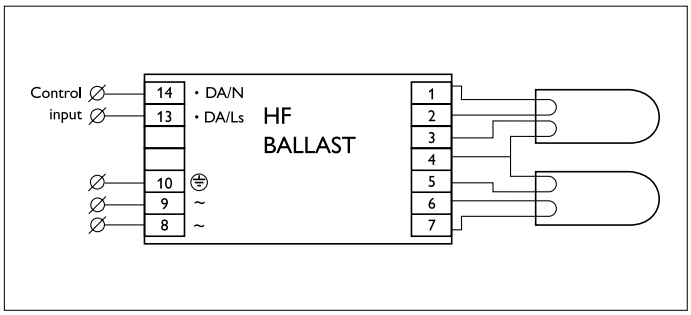
Relationship between lamp power and digital regulation



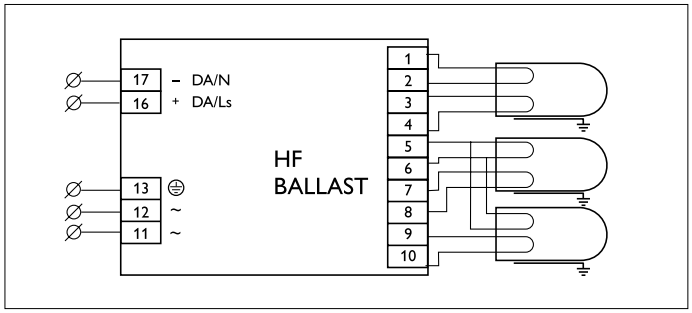
Input power vs dimlevel HF-REGULATOR II (Touch and DALI)



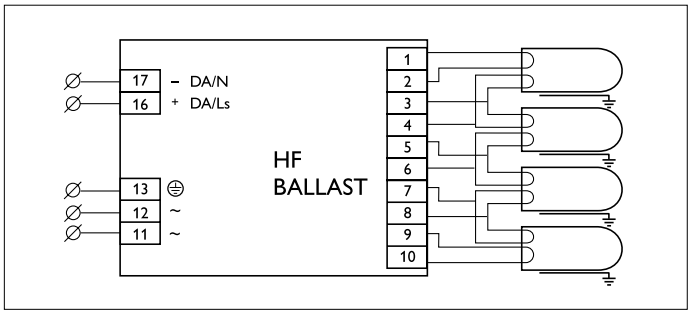
HF-R 1 PL-L/TL5/PL-L



HF-R 2 PL-L/TL5/PL-L



HF-R 324



HF-R 424



HF-REGULATOR PL-T/C

Product Description

- Compact, lightweight High-Frequency electronic regulating gear for PL-T and PL-C compact fluorescent lamps

Features and Benefits

- Lamp power can be regulated down to 3%
- Stable lamp operation
- 1-10V control input (European standard)
- Programmed, flicker-free warm start; ideal for areas with high switching frequency
- Up to 60% reduction in energy consumption can be achieved by using automatic lighting control systems
- Dedicated α-control circuit for independent control of each electrode, ensuring that:
  - lamp life is unaffected by dimming setting
  - lamp burning is stable at all dimming settings
  - energy savings are maximized when using dimming

Applications

- 1 - 10V installations with daylight linking and/or movement detection
- 1 - 10V installations with remote control systems (comfort)
- Installations with emergency back-up according to EN 60598-2-22
- Installations with daylight-linked and remote control systems
- Installations with infrared remote control systems

Quality

Philips Quality applies optimum quality with respect to:

- System supplier: As manufacturers of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards: Philips HF electronic regulating gears comply with all relevant international rules and regulations.

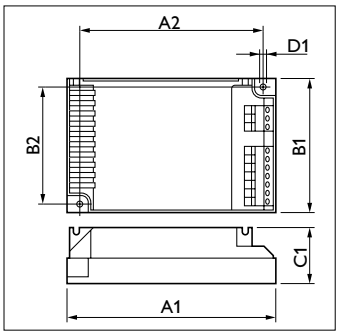
Compliances and approvals

RFI 9kHz..30MHz	EN 55015*
RFI 30MHz..1000MHz	EN 55022 Limit B
Harmonics	IEC 61000-3-2
Immunity	IEC 61547
Safety	IEC 61347-2-3
Performance	IEC 60929
Vibration & bump tests	IEC 60068-2-6-FC
	IEC 60068-2-29-Eb
Quality standard	ISO 9001
Environmental standard	ISO 14001
Approval marks	ENEC
	VDE-EMV
Temperature declared thermally protected	IEC 61347-1
CE marking	

* Tested with gear functional ground connected to earth.

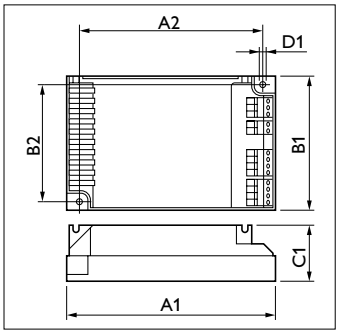
Recommended lamp page 7.118

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HF-R 1

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
HF-Regulator 118 / 1 26-42	123.0	111.0	79.0	67.0	33.0	4.5



HF-R 2

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
HF-Regulator 218	158.0	146.0	102.0	90.0	37.8	4.5
HF-Regulator 2 26-42	123.0	111.0	79.0	67.0	33.0	4.5

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Regulator 118 / 218 / 1 26-42	28	27	0.25
HF-Regulator 2 26-42	12	45	0.25

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator 118 PL-T/C 220-240V 50/60Hz	1	18	3.5	A1	75	30
HF-Regulator 1 26-42 PL-T/C 220-240V 50/60Hz	1	26-42	7.0	A1	75	30
HF-Regulator 218 PL-T/C 220-240V 50/60Hz	2	18	6.0	A1	75	30
HF-Regulator 2 26-42 PL-T/C 220-240V 50/60Hz	2	26-42	10.0	A1	75	30

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Regulator 118 PL-T/C 220-240V 50/60Hz	0.195 kg	12	25.5 cm x 24.5 cm x 8.2 cm	8711500908681	908674 30
HF-Regulator 1 26-42 PL-T/C 220-240V 50/60Hz	0.195 kg	12	25.5 cm x 24.5 cm x 8.2 cm	8711500908773	908766 30
HF-Regulator 218 PL-T/C 220-240V 50/60Hz	0.205 kg	12	25.5 cm x 24.5 cm x 8.2 cm	8711500908759	908698 30
HF-Regulator 2 26-42 PL-T/C 220-240V 50/60Hz	0.225 kg	12	25.5 cm x 24.5 cm x 8.2 cm	8711500908797	908780 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for safety +/- 10%	198 - 264 V
Performance tolerance +6%-8%	202 - 254 V
Mains frequency	50/60 Hz
Operating frequency	> 42 kHz
Power factor	0.95 at 100% power
Power factor HF-R 118 PL-T/C	0.90 at 100% power
Smart power	with AC mains voltage fluctuations, within 202-254 V, luminous flux varies by + 2% max
Earth leakage current	< 0.5 mA per gear
Maximum number of gears which can be connected to one Residual Current Detector of 30 mA	30
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Automatic restart after lamp replacement or voltage dip	Yes
Insulation resistance test	500 V DC from Line/Neutral to Earth (not between Line and Neutral) Note: Ensure that the neutral is reconnected again after the above mentioned test is carried out and before the installation is put into operation.
Lamp wiring	The use of 500V rated components and wiring is advised for PL-T 32W and 42W types.
Ignition time	Typical 0.5 sec.
Advised maximum cable capacity for optimum performance and EMI Suppression	Max. 30 pF: between two sets of lamp wires (each set of lamp wires is connected to one electrode of the lamp) Max. 75 pF: between one set of lamp wires (connected to one electrode of the lamp) and earth Care has to be taken for symmetrical wiring

DC/Emergency operation

DC voltage operation (during emergency back-up)	
Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Control characteristics

Control input	
Control voltage	1 - 10V DC
Protected against accidental mains voltage connection	Yes
Regulating level (lamp power)	3 to 100%
	The control input complies with IEC 60929 (Annex E) and is compatible with Philips lighting control equipment.

Notes:

1. For optimum performance, note that wires from connection 1 and 2 should be kept short and equal in length.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can increase by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting in fixtures

Temperatures	
Temperature range to ignite lamp with ignition aid 3..100%	+10 °C to +50 °C
Stable lamp operation assured	> 15 °C
Striation possible	< 15 °C
Max Tcase	75 °C
Earthing	Earthing of the HF gear in a luminaire is necessary for EMC (electromagnetic compatibility)
Class II luminaires	This application is not advisable; only with extensive tests on luminaires can the correct operation be verified
Hum and noise level	Inaudible

Permitted humidity is tested according to IEC 61347 par.11. Note that no moisture or condensation may enter the gear.

Notes:

1. Keep lamp wiring as short as possible; do not bunch wires from terminals 1 & 2 with those from terminals 3 & 4 (1-lamp gears), or wires from terminals 3, 4, 5 & 6 with those from terminals 1, 2, 7 & 8 (2-lamp gears).
2. lp-lp between lamp wires

Typical capacitance 1m wires close together (spacing 0.5 mm) 46 pF

Typical capacitance 0.5m wires close together (spacing 0.5 mm) 23 pF

3. lp-lg between lamp wires and ground

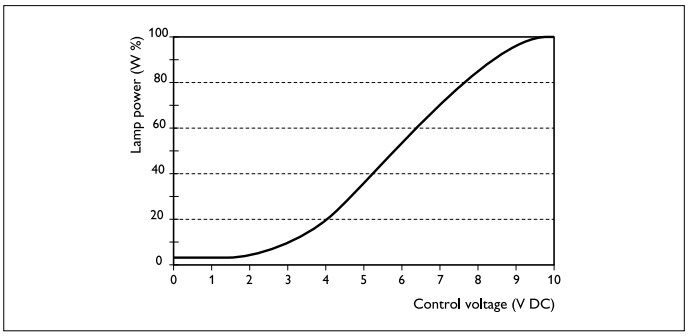
Typical capacitance 1 m wires close to ground (spacing 0.5 mm) 72 pF

Typical capacitance 0.5 m wires close to ground (spacing 0.5 mm) 38 pF

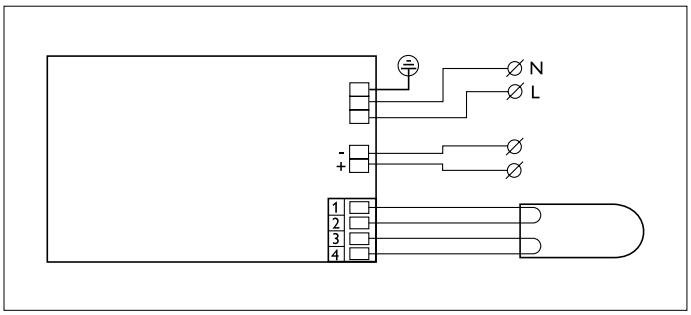
Connecting wiring is greatly simplified through use of insert contacts.

Wire cross-section:

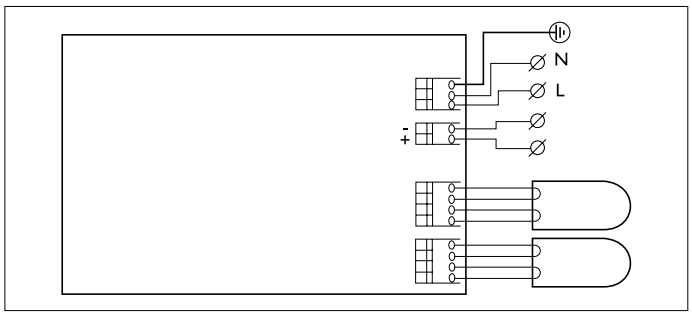
Mains connector [Orange]	0.5...1.5 mm^2
Control connector [Blue]	0.5...1.5 mm^2
Lamp(s) connector [Gray]	0.5...1.5 mm^2



HF-R



HF-R



HF-R



HF-REGULATOR II for PL-L lamps

Product Description

- Flat, lightweight high-frequency electronic regulating gear, using 1-10V protocol for PL-L fluorescent lamps

Features and Benefits

- Lamp power can be regulated from 1 to 100%
- Flat gear design, 22 mm high
- Analog control input according to the 1-10V industry standard
- Protected against excessive mains voltages, incorrect connections and incorrect lamp use
- Striation-free operation, no stroboscopic effects
- Stop circuit is activated within 5 s in case of lamp failure (safety stop)
- Gear resets automatically after lamp replacement
- Equipped with WAGO 251 connectors suitable for automatic wiring
- Up to 60% reduction in energy consumption by using automatic lighting control systems
- Quick programmed start: 0.5 s, flicker-free warm start by preheating the lamp electrodes enables the lamps to be switched on and off without reducing useful life. Ideal for areas with a high switching frequency
- Smart power ensures constant light, independent of mains fluctuations
- Philips HF-REGULATOR II gear is equipped with Extended Cable Flexibility (ECF) Technology. ECF Technology is based on a dedicated integrated circuit that ensures independent control of lamps, and in doing so takes care that:
  - In case of long or asymmetrical wiring (e.g. with emergency units or bundled wiring) deep and stable dimming is guaranteed (possible consequences for electromagnetic interference and compatibility EMI/EMC to be checked)
  - Systems always remain operational in extreme conditions (e.g. low temperatures, lamp impurities at burning-in) in combination with the integrated anti extinguish control
  - Lamp life is unaffected by dimming position whilst energy savings are maximized

Applications

- 1-10V installations with daylight linking and/or movement detection
- 1-10V installations with remote control systems
- Installations with emergency back-up, according to IEC 60598-2-22

Quality

Philips Quality implies optimum quality with respect to:

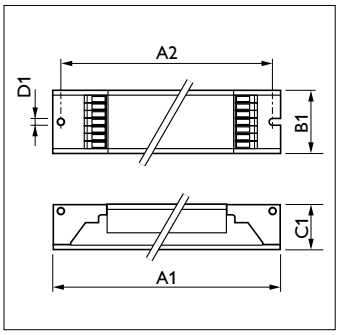
- System supplier: As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards: Philips HF electronic regulating gears comply with all relevant international rules and regulations.

Compliances and approvals

RFI 9kHz..30MHz	EN 55015
RFI 30MHz..1000MHz	EN 55022 Limit B
Harmonics	IEC 61000-3-2
Immunity	IEC 61547
Safety	IEC 61347-2-3
Performance	IEC 60929
Vibration & bump tests	IEC 60068-2-6-FC IEC 60068-2-29-Eb
Quality standard	ISO 9001
Environmental standard	ISO 14001
Approval marks	ENEC VDE-EMV
Temperature declared thermally protected	IEC 61347-1
CE marking	

Recommended lamp page 7.120

www.philips.com/OEM



HF-R

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Regulator 124/140/224/240	359	350	30	22	4.2
HF-Regulator 136/155/180/236/255	360	350	30	22	4.2
HF-Regulator 280	425	415	30	22	4.2
HF-Regulator 324/424	359	350	39	22	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Regulator 124/140/224	28	27	0.25
HF-Regulator 136/155	28	27	0.30
HF-Regulator 180/236/240/255/324/424	12	45	0.40
HF-Regulator 280	9	40	0.15

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator 124 TL5/PL-L EII 220-240V 50/60Hz	1	24	4.5	A1	75	100
HF-Regulator 136 PL-L EII 220-240V 50/60Hz	1	36	5.2	A1	75	100
HF-Regulator 140 PL-L EII 220-240V 50/60Hz	1	40	5.6	A1	75	100
HF-Regulator 155 PL-L EII 220-240V 50/60Hz	1	55	7	A1	75	100
HF-Regulator 180 TL5/PL-L EII 220-240V 50/60Hz	1	80	7	A1	75	100
HF-Regulator 224 TL5/PL-L EII 220-240V 50/60Hz	2	24	7.3	A1	75	100
HF-Regulator 236 PL-L EII 220-240V 50/60Hz	2	36	8.7	A1	75	100
HF-Regulator 240 PL-L EII 220-240V 50/60Hz	2	40	6.9	A1	75	100
HF-Regulator 255 PL-L EII 220-240V 50/60Hz	2	55	11.7	A1	75	100
HF-Regulator 280 TL5/PL-L EII 220-240V 50/60Hz	2	80	13.2	A1	150	100
HF-Regulator 324 TL5/PL-L EII 220-240V 50/60Hz	3	24	11.2	A1	75	100
HF-Regulator 424 TL5/PL-L EII 220-240V 50/60Hz	4	24	16.4	A1	75	100

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Regulator 124 TL5/PL-L EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914675	914668 30
HF-Regulator 136 PL-L EII 220-240V 50/60Hz	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911834	911827 30
HF-Regulator 140 PL-L EII 220-240V 50/60Hz	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914712	914705 30
HF-Regulator 155 PL-L EII 220-240V 50/60Hz	0.265 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911872	911865 30
HF-Regulator 180 TL5/PL-L EII 220-240V 50/60Hz	0.285 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910127	910110 30
HF-Regulator 224 TL5/PL-L EII 220-240V 50/60Hz	0.325 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914736	914729 30
HF-Regulator 236 PL-L EII 220-240V 50/60Hz	0.31 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911858	911841 30
HF-Regulator 240 PL-L EII 220-240V 50/60Hz	0.325 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914613	914606 30
HF-Regulator 255 PL-L EII 220-240V 50/60Hz	0.32 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911896	911889 30
HF-Regulator 280 TL5/PL-L EII 220-240V 50/60Hz	0.417 kg	12	47.6 cm x 20.6 cm x 7.6 cm	8711500910660	910653 30
HF-Regulator 324 TL5/PL-L EII 220-240V 50/60Hz	0.385 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913715	913708 30
HF-Regulator 424 TL5/PL-L EII 220-240V 50/60Hz	0.385 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913753	913746 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for safety +/- 10%	198 - 264 V
Performance tolerance +6%-8%	202 - 254 V
Mains frequency	50/60 Hz
Smart power	with AC mains voltage fluctuations, within 202-254 V, luminous flux varies by ± 2% max
Earth leakage current	< 0.5 mA per gear
Maximum number of gears which can be connected to one Residual Current Detector of 30 mA	30
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Automatic restart after lamp replacement or voltage dip	Yes
Insulation resistance test	500 V DC from Line/Neutral to Earth (not between Line and Neutral) Note: Ensure that the Neutral is reconnected again after the above mentioned test is carried out and before the installation is put into operation.
Ignition time	Typical 0.5 sec. quick warm start.
Ignition aid	For optimum ignition the PL-L lamps should be mounted at a maximum distance of 12 mm from a metal plate The metal plate should be electrically connected to the gear housing
Earthing	Earthing of the HF gear in a luminaire is necessary for EMC (electromagnetic compatibility)

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.
3. For the HF-R 280 TL5/PL-L lamp power will be limited to 50% of nominal power when operating on DC.

Control characteristics

Control input

Regulating level (lamp power)	1 to 100% The control input complies with IEC 60929 (Annex E) and is compatible with Philips lighting control equipment.
Control input insulation, basic insulation	≥ 1500 V
Protected against accidental mains voltage connection	Yes

Notes:

1. For optimum performance care has to be taken for symmetrical wiring. Minimal 6 mm distance from lamp to earth plane.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting in fixtures

Temperatures

Temperature range to ignite lamp

With ignition aid 1..100%	0 °C to +50 °C
at a 70..100% dim input	-20 °C to +50 °C
Storage temperature range	-25 °C to +80 °C
Stable lamp operation assured	> 15 °C*
Striation possible	< 10 °C
Max. Tcase	75 °C

* >20°C for HF-R 280 TL5/PL-L

The lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. This gear range has a specified lifetime of 50,000 hrs, with a maximum of 10% failures, at a measured Tcase of 75 °C.

For more information regarding this subject consult the Philips Application guide to fluorescent lamp control gear.

Class II luminaires	This application is not advisable; only with extensive tests on luminaires can the correct operation be verified
	EMI precautions have to be taken
Outdoor applications	IP=20
	In outdoor the luminaire has to be sufficiently IP rated
	Permitted humidity is tested according to IEC 61347-1 par 11
	Note that no moisture or condensation may enter the gear.
Hum and noise level	Inaudible

Connector type:

Connection wiring is greatly simplified through use of WAGO 251 universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring.

Wire cross-section:

IDC connection	0.5...1.0 mm^2
ADS manual connection	0.5...0.75 mm^2*

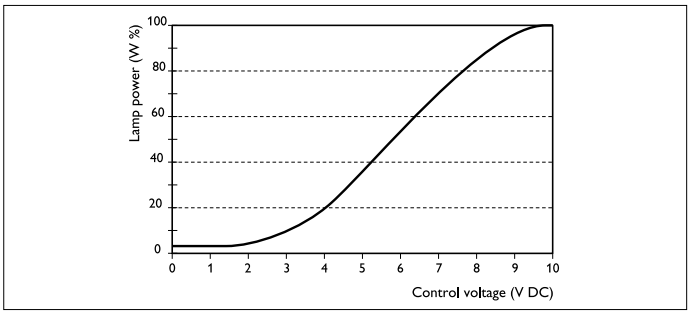
* Stranded wire

Strip length	8.0 - 9.0 mm

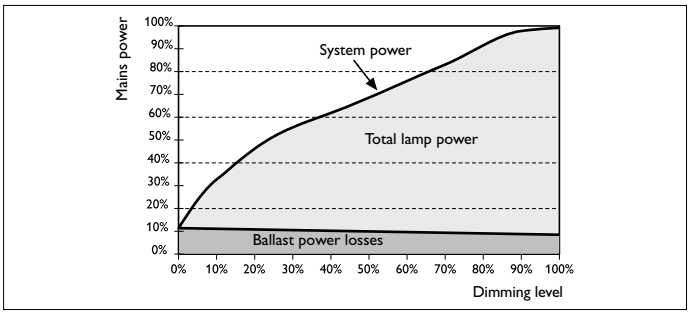
Wiring tips:

Earth connection to be made via housing or mains connector. Wiring inside fixture should be straight and as short as possible. Lamp wires should not run parallel to mains or control wires to avoid EMC problems. For optimal performance, note that:

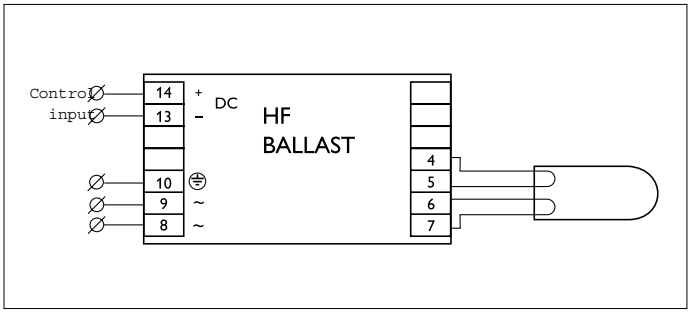
1. For one lamp gears wires 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7 equal in length.
2. For two lamp gears wires 3, 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7, and 1 and 2 equal in length.



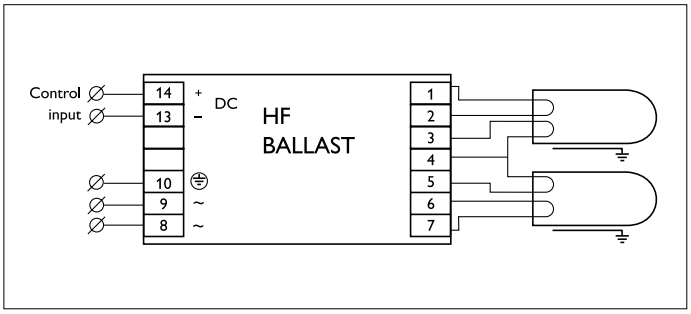
Relation between lamp power and 1-10V regulation (with 1% dimming)



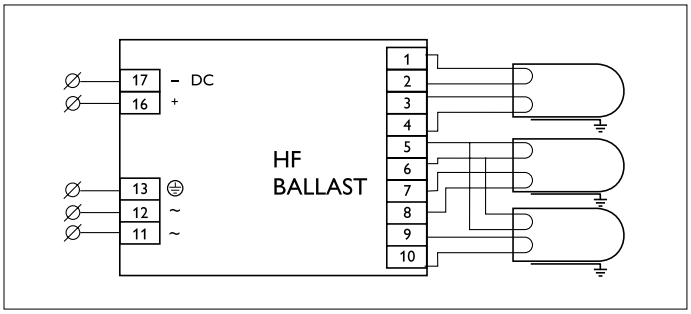
Input power vs dimlevel HR-REGULATOR II (1-10V)



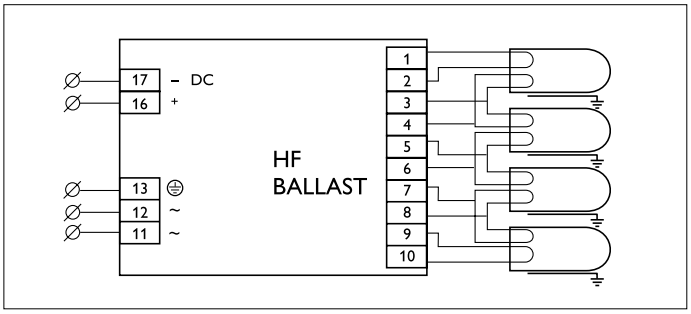
HF-R 1 PL-L/TL5/PL-L



HF-R 2 PL-L/TL5/PL-L



HF-R 324



HF-R 424





HF-P

Product Description

- Slim, lightweight High Frequency electronic gears for PL-L fluorescent lamps, using Philips EII technology

Features and Benefits

- Unique benefits of the new Philips EII technology:
  - Optimised system efficiency, minimised gear power losses
  - Miniaturised 280 mm length for total linear HF-Performer PLL range
  - Simplified portfolio allowing flexible, modular luminaire design
  - Cooler product allows more compact luminaire design
  - Fast preheat for short ignition time (0.5 s)
- Programmed start: flicker-free, warm start circuit preheats (0.5 s) the lamp electrodes; lamps can be switched on and off without reducing useful life
- 50% longer lamp life than with conventional gears
- Up to 25% reduction in energy consumption at constant luminous flux compared with conventional gear
- Smart power: constant light independent of mains voltage fluctuations
- Unit is protected against excessive mains voltages and incorrect connections
- Automatic stop circuit is activated within 5 seconds in case of lamp failure (safety stop); gear resets automatically after lamp replacement
- Universal connector for both manual and automatic wiring

Applications

- Ideal for applications with high switching frequency, for example:
  - Use with infrared remote control systems (e.g. movement detection)
  - Department stores, shops, supermarkets, hotels, hospitals, office buildings, industrial premises
  - Airports, railway stations
  - Outdoor lighting; in general suitable for Class I applications
  - Installations with emergency back-up according to EN 60598-2-22 with re-ignition <0.5 s

Quality

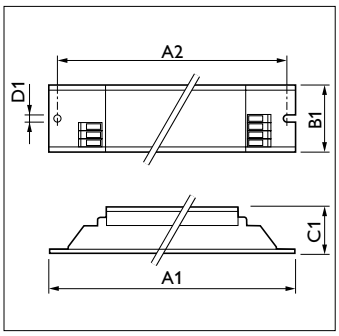
Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HF electronic gear complies with all relevant international rules and regulations.

Compliances and approvals

RFI < 30 MHz	EN 55015
RFI > 30 MHz	EN 55022 B
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3

Performance	EN 60929	Temperature declared thermally protected	IEC61347-1
Vibration & bump tests	IEC 68-2-6 Fc IEC 68-2-29 Eb		
Quality standard	ISO 9000-2000	**Recommended lamp page 7.120**	
Environmental standard	ISO 14001		
Approval marks	ENEC VDE-EMV	**www.philips.com/OEM**	
CE marking			



HF-P 1/2

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Performer 1	280.0	265.0	30.0	28.0	4.2
HF-Performer 2	280.0	265.0	30.0	28.0	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Performer 136/140/155/236 PL-L EII 220-240V 50/60Hz	28	18	0.25
HF-Performer 240/255 PL-L EII 220-240V 50/60Hz	12	31	0.35

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Performer 136 PL-L EII	1	36	4.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 140 PL-L EII	1	40	3.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 155 PL-L EII	1	55	4.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 236 PL-L EII	2	36	5.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 240 PL-L EII	2	40	4.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 255 PL-L EII	2	55	6.0	A2	50/60	220-240	75	75	50	200	200

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Performer 136 PL-L EII 220-240V 50/60Hz	0.222 kg	12	32.8 cm x 20.6 cm x 8.7 cm	8711500063717	063700 30
HF-Performer 140 PL-L EII 220-240V 50/60Hz	0.223 kg	12	32.8 cm x 20.6 cm x 8.7 cm	8711500063731	063724 30
HF-Performer 155 PL-L EII 220-240V 50/60Hz	0.223 kg	12	32.8 cm x 20.6 cm x 8.7 cm	8711500063755	063748 30
HF-Performer 236 PL-L EII 220-240V 50/60Hz	0.232 kg	12	32.8 cm x 20.6 cm x 8.7 cm	8711500060570	060518 30
HF-Performer 240 PL-L EII 220-240V 50/60Hz	0.251 kg	12	32.8 cm x 20.6 cm x 8.7 cm	8711500060617	060594 30
HF-Performer 255 PL-L EII 220-240V 50/60Hz	0.239 kg	12	32.8 cm x 20.6 cm x 8.7 cm	8711500060648	060624 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for performance +6%-8%	202 - 254 V
With tolerances for safety +/- 10%	198 - 264 V
Mains frequency	50/60Hz
Operation frequency (typical)	> 42 kHz (45 kHz)
Power factor	> 0.96
Earth leakage current	< 0.5 mA per gear
Ignition time	< 0.5 s
Constant light operation	In case of mains voltage fluctuations within 202 - 254 V, the luminous flux changes by a maximum of ± 2%
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350V AC
Dual fixture; master-slave operation	Possible, in general a maximum of 3m of lamp wires between gear and lamp is allowed
Cable capacity	Max. 200 pF between lamp wires Max. 200 pF between lamp wires and earth EMI precautions have to be taken
Automatic restart after lamp replacement or voltage dip	Yes; tested with a dip down to 30% with a duration of 10 mains cycles
Insulation resistance test:	500 V DC from both mains inputs to Earth (not between Line and Neutral) Note: Ensure that the neutral is reconnected again after abovementioned test is carried out and before the installation is put into operation.

DC/Emergency operation

DC voltage operation during emergency back-up	
For limited time (48 hrs) only	
Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at the DC voltage of	220 - 240 V

Notes:

1. For a continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting HF gears in fixtures

Temperatures

Temperature range to ignite lamp with ignition aid	-25°C to +50°C
Max. Tcase	75°C

Lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. The HF-Performer II gear for PLL applications has a specified lifetime of 50.000 hrs, with a maximum of 10% failures guaranteed, at a measured Tcase of 75°C.

Hum and noise level	inaudible

Permitted humidity is tested according to EN61347-1 par. 11. Note that no moisture or condensation may enter the gear.

The gears that are thermally protected use a protective method of another type providing equivalent thermal protection.

Connector types:

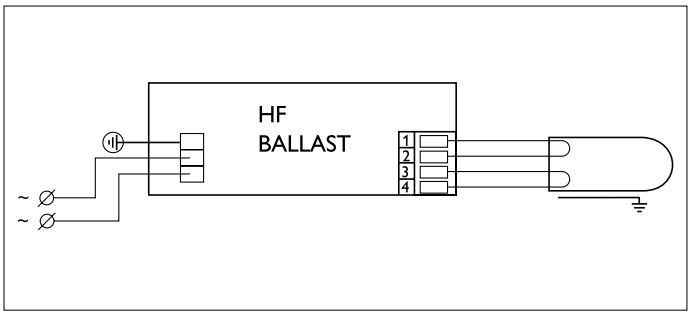
Wago universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring.

Wiring diagram 2 lamps:

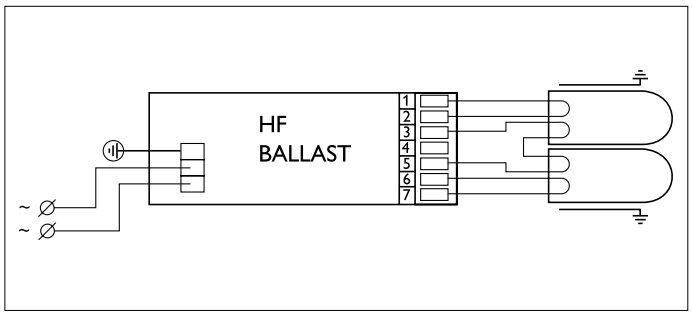
Connector 4 can be connected, but this is not necessary.

Wire cross-section:

Lower connector	
On the mains side	0.5...1.0 mm^2
On the lamp side	0.5...1.0 mm^2
Upper connector	
On the mains side	0.5 mm^2 solid wire
	0.75 mm^2 stranded wire
On the lamp side	0.5 mm^2 solid wire
	0.75 mm^2 stranded wire
Strip length	8 - 9 mm



HF-P 1 PL-L



HF-P 2 PL-L



HF-P

Product Description

- Compact, lightweight high-frequency electronic gear for PL-T/C/TL5C/R/L fluorescent lamps, based on EII technology

Features and Benefits

- Unique benefits of the new Philips EII technology:
  - Optimised system efficiency, minimised gear power losses
  - Miniaturised dimensions for HF-Performer compact gear range
  - Simplified standardized portfolio allowing flexible, modular luminaire design
  - Cooler product allows more compact luminaire design
  - Fast preheat for short ignition time (0.5 s)
- Programmed start: flicker-free, warm start circuit preheating (0.5 s) the lamp electrodes; this enables the lamps to be switched on and off without reducing useful life
- Smart power: constant light independent of mains voltage fluctuations
- Unit is protected against excessive mains voltages and incorrect connections
- Automatic stop circuit is activated within 5 seconds in case of lamp failure (safety stop); once the lamp has been replaced, the gear resets automatically
- Equipped with universal connector for both manual and automatic wiring

Applications

- Ideal for applications with high switching frequency, typical application areas include:
  - Use with infrared remote control systems (e.g. movement detection)
  - Department stores, shops, supermarkets, hotels, hospitals, office buildings, industrial premises
  - Airports, railway stations
  - Suitable for emergency lighting luminaires acc. to IEC 60598-2-22, excluding high-risk task areas

Quality

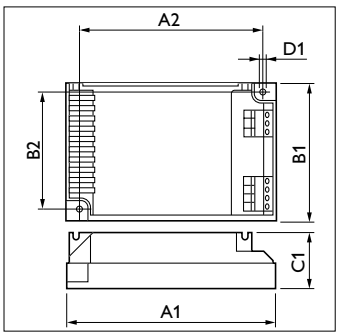
Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HF electronic gear complies with all relevant international rules and regulations.

Compliances and approvals

RFI < 30 MHz	EN 55015
RFI > 30 MHz	EN 55022 B
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3
Performance	EN 60929

Vibration & bump tests	IEC 68-2-6 Fc	**Recommended lamp page 7.118**
	IEC 68-2-29 Eb	
Quality standard	ISO 9000-2000	
Environmental standard	ISO 14001	**www.philips.com/OEM**
Approval marks	ENEC	
	VDE-EMV	
CE marking		
Temperature declared thermally protected	IEC61347-1	



HF-P

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
HF-Performer 1/2 lamps	103.0	93.5	67.0	57.5	30.0	4.5
HF-Performer 257	123.0	111.0	79.0	67.0	33.0	4.5

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Performer 1/2	28	18	0.25
HF-Performer 155/160	28	20	0.17
HF-Performer 222-42	12	31	0.35
HF-Performer 257	10	40	0.40

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power (W)	Power losses gear (W)	Energy Efficiency Index	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)
HF-Performer 1 13-17 PL-T/C/R EII	1	13-17	1.1-1.8	A2	50/60	220-240	75	75
HF-Performer 118 PLT/C EII	1	18	2	A2	50/60	220-240	75	75
HF-Performer 1 22-42 PL-T/C/L/TL5C/L EII	1	22-42	2.3-3.0	A2	50/60	220-240	75	75
HF-Performer 155 TL5C	1	55	5	A2	50/60	220-240	65	75
HF-Performer 160 TL5C	1	60	5	A2	50/60	220-240	65	75
HF-Performer 157 PL-T	1	57	5	A2	50/60	220-240	60	70
HF-Performer 2 13-17 PL-T/C/R EII	2	13-17	1.4-3.7	A2	50/60	220-240	75	75
HF-Performer 218 PL-T/C EII	2	18	3	A2	50/60	220-240	75	75
HF-Performer 2 22-42 PL-T/C/TL5C/L EII	2	22-42	4	A2	50/60	220-240	75	75
HF-Performer 257 PL-T	2	57	9	A2	50/60	220-240	65	75

Electrical data

Type	T-ambient	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Performer 1 13-17 PL-T/C/R EII	50	200	200
HF-Performer 118 PLT/C EII	50	200	200
HF-Performer 1 22-42 PL-T/C/L/TL5C/L EII	50	200	200
HF-Performer 155 TL5C	50	120	60
HF-Performer 160 TL5C	50	120	60
HF-Performer 157 PL-T	50	120	60
HF-Performer 2 13-17 PL-T/C/R EII	50	50	50
HF-Performer 218 PL-T/C EII	50	200	200
HF-Performer 2 22-42 PL-T/C/TL5C/L EII	50	200	200
HF-Performer 257 PL-T	50	50	50

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Performer 1 13-17 PL-T/C/R EII	0.14 kg	12	22.1 cm x 21.7 cm x 8.8 cm	8711500914088	914071 30
HF-Performer 118 PLT/C EII	0.14 kg	12	22.1 cm x 21.7 cm x 8.8 cm	8711500914040	914033 30
HF-Performer 1 22-42 PL-T/C/L/TL5C/L EII	0.14 kg	12	22.1 cm x 21.7 cm x 8.8 cm	8711500913982	913975 30
HF-Performer 155 TL5C	0.15 kg	36	21.5 cm x 21.0 cm x 21.5 cm	8711500927714	927767 30
HF-Performer 160 TL5C	0.15 kg	36	21.5 cm x 21.0 cm x 21.5 cm	8711500927798	927781 30
HF-Performer 157 PL-T	0.15 kg	36	21.5 cm x 21.0 cm x 21.5 cm	8711500927811	927804 30
HF-Performer 2 13-17 PL-T/C/R EII	0.15 kg	12	22.1 cm x 21.7 cm x 8.8 cm	8711500914101	914095 30
HF-Performer 218 PL-T/C EII	0.15 kg	12	22.1 cm x 21.7 cm x 8.8 cm	8711500914064	914057 30
HF-Performer 2 22-42 PL-T/C/TL5C/L EII	0.15 kg	12	22.1 cm x 21.7 cm x 8.8 cm	8711500914019	913999 30
HF-Performer 257 PL-T	0.23 kg	12	25.5 cm x 24.5 cm x 8.2 cm	8711500934024	934017 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
Tolerances for performance +6%-8%	202 - 254 V
With tolerances for safety +/- 10%	198 - 264 V
Mains frequency	50/60 Hz
Power factor	> 0.95
Earth leakage current	< 0.5 mA per gear
Ignition time	0.5 seconds (1 sec for HF-P 157 PLT/C)
Constant light operation	In case of AC mains voltage fluctuations, within 202-254 V, the luminous flux changes by a maximum of ± 2%
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Dual fixture: master-slave operation	Not advised
Automatic restart after lamp replacement or voltage dip	Yes: tested with a dip down to 30% with a duration of 10 mains cycles
Insulation resistance test	500 V DC from both mains inputs to earth (not between Line and Neutral) Note: Ensure that the neutral is reconnected again after above mentioned test is carried out and before the installation is put in operation

DC/Emergency operation

DC voltage operation during emergency back-up
For limited time (48Hrs) only

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm^2 and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting in fixtures

Temperatures

Temperature range to ignite lamp with ignition aid	-25° to +50°C
Stable lamp operation assured	> 15°C
Striation possible	< 15°C
Max Tcase	75°C (HF-P 157 PLT/C has 70°C)

Lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. This gear range has a specified lifetime of 50.000 hrs, with a maximum of 10% failures guaranteed, at a measured Tcase of 75°C.

For more information regarding this subject consult the Philips Application guide to fluorescent lamp control gear.

Hum and noise level	inaudible

Permitted humidity is tested according to EN 61347-1 par.11. Note that no moisture or condensation may enter the gear.

Connector type:

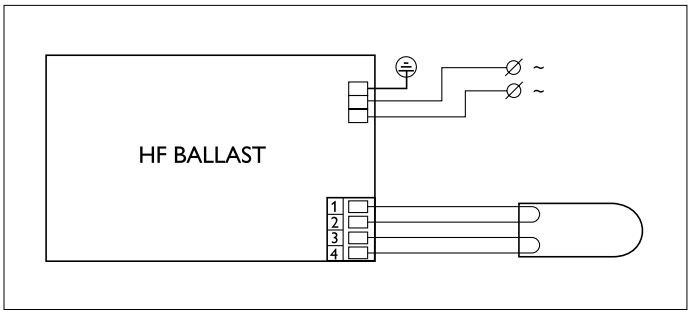
Connection wiring is greatly simplified through use of WAGO universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring; earth connection can be made via housing.

Wire cross-section:

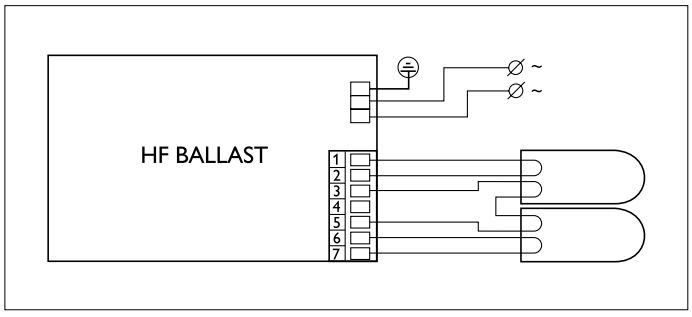
Mains	Double insert "lower connector"	0.5...1.0mm^2
Lamp(s) connector	Double insert "lower connector"	0.5...1.0mm^2
Mains & Control connector	Double insert "upper connector"	0.5...0.75mm^2(*)
Lamp(s) connector	Double insert "lower connector"	0.5...0.75mm^2(*)

(*) Stranded wire

Strip length	8.0 - 9.0 mm



HF-P 1



HF-P 2



HF-P

Product Description

- Compact, high power, lightweight, High Frequency electronic gear for PL-H lamps

Features and Benefits

- High light output compact fluorescent system
- One multi-wattage gear for 60W, 85W and 120W Master PL-H lamps
- Programmed start: flicker-free, warm start circuit preheats (0.5 s) the lamp electrodes; lamps can be switched on and off without reducing useful life
- Smart power: constant light independent of mains voltage fluctuations
- Unit is protected against excessive mains voltages and incorrect connections
- Automatic stop circuit is activated within 5 seconds in case of lamp failure (safety stop); gear resets automatically after lamp replacement

Applications

- Ideal for semi-high bay applications, for example as can be found in the following application areas:
  - Shopping centres
  - Public buildings
  - Industrial environments
  - Transport buildings
  - Use with infrared remote control systems (e.g. movement detection)
  - Installations with emergency back-up according to EN 60598-2-22 with re-ignition < 0.5 s

Quality

Philips Quality implies optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- International standards: Philips HF electronic gears comply with all relevant international rules and regulations.

Compliances and approvals

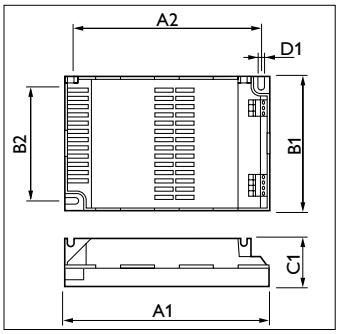
RFI < 30 MHz	EN 55015*
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3
Performance	EN 60929-1E
Vibration & bump tests	IEC 68-2-6 FC
	IEC 68-2-29 Eb
Quality standard	ISO 9000-2000
Environmental standard	ISO 14001
Approval marks	ENEC
	VDE-EMV
CE marking	

Temperature declared thermally protected — IEC 61347-1

*Tested with gear functional ground connected to earth

Recommended lamp page 7.114

www.philips.com/OEM



HF-P

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
HF-Performer 1 60-120 PL-H 220-240V 50/60Hz	158.0	146.0	102.0	90.0	38.0	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Performer 1 60-120 PL-H 220-240V 50/60Hz	10	30	0.45

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Performer 1	1	60-120	7.0-9.0	A2	50/60	220-240	75	75	60	220	220

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Performer 1 60-120 PL-H 220-240V 50/60Hz	0.296 kg	10	52.5 cm x 17.3 cm x 9.6 cm	8711500932549	928757 31

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for safety +/- 10%	198 - 264 V
With tolerances for performance +6% -8%	202 - 254 V
Mains frequency	50/60 Hz
Smart power:	
Constant light operation	In case of mains voltage fluctuations, within 202-254 V, the luminous flux changes by a maximum of ± 2%
Earth leakage current	< 0.5 mA per gear
Ignition time	< 0.5 s
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Dual fixture; master-slave operation	No
Automatic restart after lamp replacement or voltage dip	Yes: tested with a dip down to 30% with a duration of 10 mains cycles
Insulation resistance test	500 V DC from Line/Neutral to Earth (not between Line and Neutral) Note: Ensure that the Neutral is reconnected again after abovementioned test is carried out and before the installation is put into operation.

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:

1. For a continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting HF gears in fixtures

Temperatures

Temperature range to ignite lamp without ignition aid	-25°C ...allowed maximum gear temperature
Max. Tcase	75°C

Life time of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. The HF-Performer gear for PL-H applications has a specified life time of 50.000 hrs, with a maximum of 10% failures guaranteed, at am measured Tcase of 75°C. This to enable acceptable lifetimes when the 120W lamp is used in all kind of fixtures.

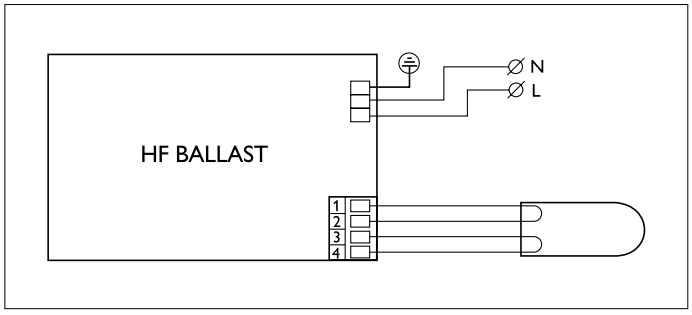
For more information on this issue please consult the PL-H OEM guide.

Class II luminaires	EMI precautions have to be taken
Outdoor gear	IP=23 In outdoor the luminaire has to be sufficiently IP rated. Permitted humidity is tested according to EN 60928 par. 12 Note that no moisture or condensation may enter the gear.

The gears that are thermally protected use a protective method of another type providing equivalent thermal protection.

Wire cross-section:

On the mains side	0.5...1.5 mm^2
On the lamp side	0.5...1.5 mm^2
Strip length	7.5 - 8.5 mm



HF-P





HF-Matchbox square Red

Product Description

- Compact, lightweight, High Frequency electronic gear for TL (8-18W), TL5 (14-24W) and compact fluorescent PL (7-24W) lamps

Features and Benefits

- New generation of electronic energy-saving gears for systems up to 25 W. As well as saving energy, they enhance OEM design freedom
  - Programmed start: flicker-free, warm-start circuit preheats (0.8 s) the lamp electrodes; lamps can be switched frequently without reducing useful life
  - Up to 50% longer lamp life than with electromagnetic gears
  - Energy savings of more than 25% at constant luminous flux compared with electromagnetic gear
  - One gear type can be used to drive single lamps of different types and wattages, e.g. a PL-C 10 or 13 W or a PL-S 11 W lamp can be connected to the HF-MatchboxRED 113 PL-S/PL-C gear
  - Compact power IC for compact dimensions and low weight compared with equivalent electromagnetic gears
  - Same fixing centres for mounting as equivalent electromagnetic gears
- Can be supplied as encased gear or open printed circuit board ready for building into a luminaire, ensuring optimum safety and lowest cost

Applications

- Designed for applications with high switching frequency, for example:
  - Indoor and outdoor use with infrared remote control systems (e.g. movement detection)
  - Indoor residential use including living rooms, kitchens (under cupboards), studies (desktop), bedrooms, halls, staircases and garages
  - Outdoor residential use including driveways, porches, front doors and galleries
  - Installations with emergency back-up according to EN 60598-2-22
  - For luminaires with protection Class I and II; Class I metal luminaires with earth connection require special measures for EMC compliance

Quality

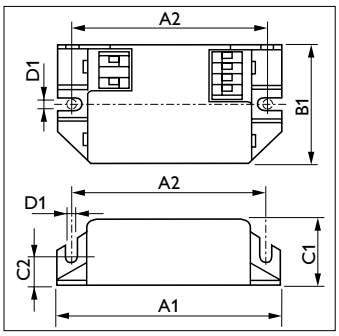
Philips Quality implies optimum quality with regard to:

- System supplier: As manufacturer of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- International standards: Philips electronic gears comply with relevant international rules and regulations.

Compliances and approvals

RFI < 30 MHz	EN 55015
Harmonics	EN 61000-3-2
Immunity	EN 61547

Safety	EN 60928	CE marking	
	EN 61347-2-3	Temperature declared thermally protected	IEC 61347-1
Performance	EN 60929		
Vibration & bump tests	IEC 68-2-6-Fc		
	IEC 68-2-29-Eb	**Recommended lamp page 7.118**	
Quality standard	ISO 9000-2000		
Environmental standard	ISO 14001		
Approval marks	ENEC	**www.philips.com/OEM**	
	KEMA		



HF-M

Type	A1Nom	A2Nom	B1Nom	C1Nom	C2Nom	D1Nom
HF-Matchbox RED SH	80.0	70.0	40.0	22.0	10.0	4.4
HF-Matchbox RED SP	56.0	-	36.0	20.0	-	-


HF-Matchbox Red square PCB (SP)

Inrush current

Type	Maximum gear number on MCB (x)
HF-Matchbox RED 109	159
HF-Matchbox RED 113/114	101
HF-Matchbox RED 118	73
HF-Matchbox RED 124	48

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case maximum (°C)	T-ambient
HF-Matchbox RED 109	1	9	50/60	230-240	75	40
HF-Matchbox RED 113	1	13	50/60	230-240	75	40
HF-Matchbox RED 114	1	14	50/60	230-240	75	40
HF-Matchbox RED 118	1	18	50/60	230-240	75	40
HF-Matchbox RED 124	1	24	50/60	230-240	75	40

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Matchbox RED 109 SH TL/PL-S 230-240V	8711500931429	0.034 kg	50	21.5 cm x 17.5 cm x 13 cm	8711500931436	931429 30
HF-Matchbox RED 113 SH PL-S/PL-C 230-240V	8711500927989	0.035 kg	50	20.5 cm x 17.5 cm x 13 cm	8711500927996	927989 30
HF-Matchbox RED 114 SH TL/PL-S 230-240V	8711500931405	0.035 kg	50	21.5 cm x 17.5 cm x 13 cm	8711500931412	931405 30
HF-Matchbox RED 118 SH PL-C/PL-T 230-240V	8711500928023	0.034 kg	50	21.5 cm x 17.5 cm x 13 cm	8711500928030	928023 30
HF-Matchbox RED 124 SH TL/TL5/PL-L 230-240V	8711500910400	0.041 kg	50	23 cm x 20 cm x 13 cm	8711500910417	910400 30
HF-Matchbox RED 109 SP TL/PL-S 230-240V	8711500931368	0.02 kg	540	59.5 cm x 34.5 cm x 22 cm	8711500931375	931368 30
HF-Matchbox RED 113 SP PL-S/PL-C 230-240V	8711500928009	0.02 kg	540	59.5 cm x 34.5 cm x 22 cm	8711500928016	928009 30
HF-Matchbox RED 114 SP TL/PL-S 230-240V	8711500931382	0.02 kg	540	59.5 cm x 34.5 cm x 22 cm	8711500931399	931382 30
HF-Matchbox RED 118 SP PL-C/PL-T 230-240V	8711500928047	0.02 kg	540	59.5 cm x 34.5 cm x 22 cm	8711500928054	928047 30

Electrical installation notes

Mains operation	
Rated mains voltage	230 - 240 V
With tolerances for safety +/- 10%	207 - 264 V
With tolerances for performance +6% -8%	212 - 254 V
Mains frequency	50/60 Hz
Operating frequency	< 30 kHz
Lifetime	
At tc 65°C with 10% failures	50.000 hrs
Ignition time	0.8 s
Overvoltage protection	not applicable
Lamp end-of-life detection/shut-off	Yes
Automatic restart after lamp replacement or voltage dip	Yes However, stop circuit will be activated (to protect gear) in case of rectifying lamp or broken glass, and manual restart is required
Cable capacity	to be advised
Insulation resistance test	not relevant

DC/Emergency operation

DC voltage operation during emergency back-up (external fuse is required)

Required battery voltage for guaranteed ignition and burning	194 - 254 V

Mechanical installation notes

Supply Options

HF-MatchboxRED gears can be ordered either encased or as printed circuit board.

Encased gears are supplied fitted with plastic housings, and are either linear or square in shape. Encased gears are delivered in cardboard cartons.

Printed circuit boards (pcb's) have the same shape as the housings, and are supplied in multiple boards. Multiple boards will be supplied in cardboard cartons.

A detailed 'Instructions for use' is included in the packing of the printed circuit boards.

The gears that are thermally protected use a protective method of another type providing equivalent thermal protection.

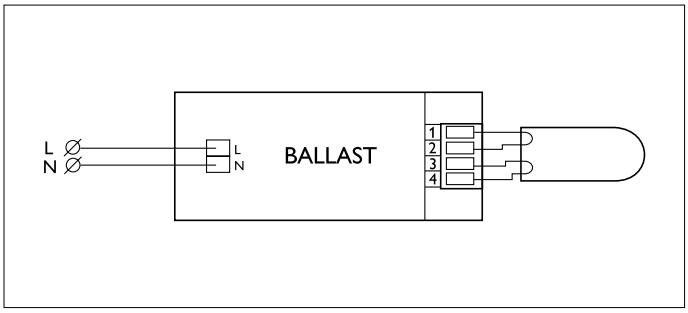
Colour coding

Type	Mains terminal
HF-MatchboxRED 109	Orange/black/orange
HF-MatchboxRED 113	Orange/grey/orange
HF-MatchboxRED 114	Orange/ blue/orange
HF-MatchboxRED 118	Orange/orange/orange
HF-MatchboxRED 124	to be determined

To facilitate physical identification of pcb's, mains connector terminals are colourcoded.
The central connector terminal is coloured according to type.
Technical data for design and mounting HF gears in fixtures

Temperature range to ignite lamp (ignition aid is not required)	-10 to +40°C
Max. Tcase	75°C
Hum and noise level	inaudible

Lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. For more information regarding this subject consult the Philips Application guide to fluorescent lamp control gear.



HF-M

Wire cross-section:

On the mains side	0.5...1.5 mm^2
On the lamp side	0.5...1.5 mm^2
Strip length	8 - 9 mm

Wire lengths:

1. Distance between mains wires and lamp wires: > 5 cm
2. Keep wires to terminals 1 and 2 as short as possible (< 30 cm)
3. Keep wires to terminals 3 and 4 shorter than 150 cm



HF-Matchbox Blue linear housing

Product Description

- Compact, lightweight, High Frequency electronic gear for TL (4-18W), TL5 (14-28W) and compact fluorescent PL (5-24W) lamps

Features and Benefits

- New generation of electronic energy-saving gears for systems up to 25 W. As well as saving energy, they enhance OEM design freedom
  - Instant, flicker-free starting, ideal for lighting applications with long burning hours and infrequent switching
  - For optimum lamp life, HF-MatchboxBLUE gears are recommended where lighting burns continuously for at least 3 hours (switching frequency 3-8 times a day), or in residential applications where the intensity of use is limited
  - Energy savings of more than 25% at constant luminous flux compared with electromagnetic gear
  - One gear type can be used to drive single lamps of different types and wattages, e.g. a TL 6 or 8 W or a PL-S 7, 9 or 11W lamp can be connected to the HF-MatchboxBLUE 109 TL/PL-S gear
  - Compact power IC for compact dimensions and low weight compared with equivalent electromagnetic gears
  - Same fixing centres for mounting as equivalent electromagnetic gears
- Can be supplied either as encased gear or open printed circuit board ready for building into a luminaire, ensuring optimum safety and lowest cost

Applications

- Designed for areas where the lighting is switched on and off infrequently
- Not suitable for use in combination with movement / presence detection
  - Indoor residential use including living rooms, kitchens (under cupboards), studies (desktop), bedrooms, halls, staircases and garages
  - Outdoor residential use including driveways, porches, front doors and galleries
  - Installations with emergency back-up according to EN 60598-2-22
  - For luminaires with protection Class I and II; Class I metal luminaires with earth connection require special measures for EMC compliance

Quality

Philips Quality implies optimum quality with regard to:

- System supplier: As manufacturer of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- International standards: Philips electronic gears comply with relevant international rules and regulations

Compliances and approvals

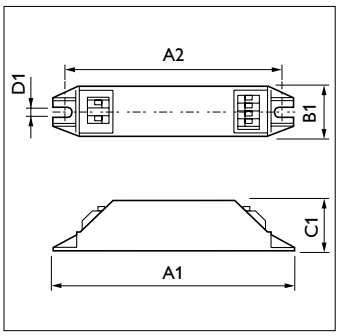
RFI < 30 MHz	EN 55015
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 60928
	EN 61347-2-3
Quality standard	ISO 9000-2000
Environmental standard	ISO 14001
Approval marks	KEMA
	VDE-EMV

CE marking

Temperature declared thermally protected — IEC 61347-1

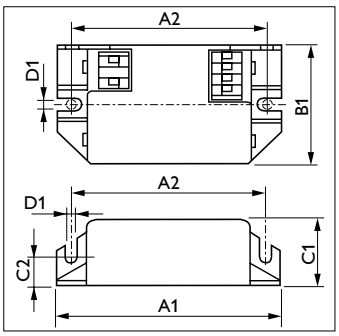
Recommended gear page 7.118

www.philips.com/OEM



HF-MATCHBOX BLUE LINEAR
LONG HOUSING

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Matchbox BLUE 105/109/114 LH	144.0	132.0	22.0	22.0	4.4
HF-Matchbox BLUE 121/124/128 LH	187.0	176.0	22.0	22.0	4.4
HF-Matchbox BLUE 105/109/114 LP	120.0	-	18.0	20.0	-
HF-Matchbox BLUE 121/124/128 LP	160.0	-	18.0	20.0	-



HF-M BLUE SQUARE HOUSING

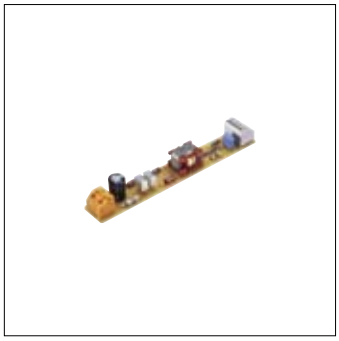
Type	A1Nom	A2Nom	B1Nom	C1Nom	C2Nom	D1Nom
HF-Matchbox BLUE 105/109/114/118 SH	80.0	70.0	40.0	22.0	10.0	4.4
HF-Matchbox BLUE 124 SH	94.0	84.0	40.0	22.0	10.0	4.4
HF-Matchbox BLUE 105/109/114/118 SP	56.0	-	36.0	20.0	-	-
HF-Matchbox BLUE 124 SP	70.0	-	36.0	20.0	-	-



HF-Matchbox blue linear



HF-Matchbox blue square



HF-Matchbox linear PCB



HF-Matchbox square PCB

Inrush current

Type	Maximum gear number on MCB (x)
HF-Matchbox BLUE 105 LH/LP/SH/SP	240
HF-Matchbox BLUE 109 LH/LP/SH/SP	159
HF-Matchbox BLUE 114 LH/LP/SH/SP	101
HF-Matchbox BLUE 118 SH/SP	73
HF-Matchbox BLUE 121 LH/LP	59
HF-Matchbox BLUE 124 LH/LP/SH/SP	60
HF-Matchbox BLUE 128 LH/LP	-

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case maximum (°C)	T-ambient
HF-Matchbox BLUE 105 LH/LP/SH/SP	1	5	50/60	230-240	75	40
HF-Matchbox BLUE 109 LH/LP/SH/SP	1	9	50/60	230-240	75	40
HF-Matchbox BLUE 114 LH/LP/SH/SP	1	14	50/60	230-240	75	40
HF-Matchbox BLUE 118 SH/SP	1	18	50/60	230-240	75	40
HF-Matchbox BLUE 121 LH/LP	1	21	50/60	230-240	75	40
HF-Matchbox BLUE 124 LH/LP/SH/SP	1	24	50/60	230-240	75	40
HF-Matchbox BLUE 128 LH/LP	1	28	50/60	230-240	75	40

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Matchbox BLUE 105 LH TL/PL-S 230-240V	8711500536785	0.037 kg	50	23 cm x 16 cm x 13 cm	8711500536792	536785 30
HF-Matchbox BLUE 105 LP TL/PL-S 230-240V	8711500536907	0.02 kg	432	59.5 cm x 34.5 cm x 22 cm	8711500536914	536907 30
HF-Matchbox BLUE 105 SH TL/PL-S 230-240V	8711500536723	0.033 kg	50	21.5 cm x 17.5 cm x 13 cm	8711500536730	536723 30
HF-Matchbox BLUE 105 SP TL/PL-S 230-240V	8711500536846	0.02 kg	540	59.5 cm x 34.5 cm x 22 cm	8711500536853	536846 30
HF-Matchbox BLUE 109 LH TL/PL-S 230-240V	8711500536808	0.037 kg	50	23 cm x 16 cm x 13 cm	8711500536815	536808 30
HF-Matchbox BLUE 109 LP TL/PL-S 230-240V	8711500536921	0.02 kg	432	59.5 cm x 34.5 cm x 22 cm	8711500536938	536921 30
HF-Matchbox BLUE 109 SH TL/PL-S 230-240V	8711500536747	0.034 kg	50	21.5 cm x 17.5 cm x 13 cm	8711500536754	536747 30
HF-Matchbox BLUE 109 SP TL/PL-S 230-240V	8711500536860	0.02 kg	540	59.5 cm x 34.5 cm x 22 cm	8711500536877	536860 30
HF-Matchbox BLUE 114 LH TL/PL-S/PL-C 230-240V	8711500536822	0.036 kg	50	23 cm x 16 cm x 13 cm	8711500536839	536822 30
HF-Matchbox BLUE 114 LP TL/PL-S/PL-C 230-240V	8711500536945	0.02 kg	432	59.5 cm x 34.5 cm x 22 cm	8711500536952	536945 30
HF-Matchbox BLUE 114 SH TL/PL-S/PL-C 230-240V	8711500536761	0.034 kg	50	21.5 cm x 17.5 cm x 13 cm	8711500536778	536761 30
HF-Matchbox BLUE 114 SP TL/PL-S/PL-C 230-240V	8711500536884	0.02 kg	540	58 cm x 34.5 cm x 21.5 cm	8711500536891	536884 30
HF-Matchbox BLUE 118 SH PL-C/PL-T 230-240V	8711500746160	0.035 kg	50	21.5 cm x 17.5 cm x 13 cm	8711500746177	746160 30
HF-Matchbox BLUE 118 SP PL-C/PL-T 230-240V	8711500746184	0.02 kg	540	59.5 cm x 34.5 cm x 22 cm	8711500746191	746184 30
HF-Matchbox BLUE 121 LH TL5 230-240V	8711500536464	0.043 kg	50	23 cm x 20 cm x 13 cm	8711500536471	536464 30
HF-Matchbox BLUE 121 LP TL5 230-240V	8711500536488	0.024 kg	216	59.5 cm x 34.5 cm x 22 cm	8711500536495	536488 30
HF-Matchbox BLUE 124 LH TL/TL5/PL-L 230-240V	8711500536402	0.045 kg	50	23 cm x 20 cm x 13 cm	8711500536419	536402 30
HF-Matchbox BLUE 124 LP TL/TL5/PL-L 230-240V	8711500536440	0.024 kg	216	59.5 cm x 34.5 cm x 22 cm	8711500536457	536440 30
HF-Matchbox BLUE 124 SH TL/TL5/PL-L 230-240V	8711500536389	0.04 kg	50	23 cm x 20 cm x 13 cm	8711500536396	536389 30
HF-Matchbox BLUE 124 SP TL/TL5/PL-L 230-240V	8711500536426	0.024 kg	432	59.5 cm x 34.5 cm x 22 cm	8711500536433	536426 30
HF-Matchbox BLUE 128 LH TL5 230-240V	8711500932433	0.046 kg	50	23 cm x 20 cm x 13 cm	8711500932457	932433 30
HF-Matchbox BLUE 128 LP TL5 230-240V	8711500932419	0.023 kg	216	59.5 cm x 34.5 cm x 22 cm	8711500932426	932419 30

Electrical installation notes

Mains operation	
Rated mains voltage	230 - 240 V
With tolerances for safety +/- 10%	207 - 264 V
With tolerances for performance +6% -8%	212 - 254 V
Mains frequency	50/60 Hz
Operating frequency	< 30 kHz
Lifetime	
At tc 65°C with 10% failures	40 000 hr
Ignition time	< 0.5 s
Overvoltage protection	not applicable
Max Tcase	75°C
Lamp end-of-life detection/shut-off	Yes
Automatic restart after lamp replacement or voltage dip	Yes However, stop circuit will be activated (to protect gear) in case of rectifying lamp or broken glass, and manual restart is required
Cable capacity	to be advised
Insulation resistance test	not relevant

DC/Emergency operation

DC voltage operation during emergency back-up (external fuse is required)

Required battery voltage for guaranteed ignition and burning	194 - 254 V

Mechanical installation notes

Supply options

HF-MatchboxBLUE gears can be ordered either encased or as printed circuit board.

Encased gears are supplied fitted with plastic housings, and are either linear or square in shape. Encased gears are delivered in cardboard cartons.

Printed circuit boards (pcb's) have the same shape as the housings, and are supplied in multiple boards. Multiple boards will be supplied in cardboard cartons.

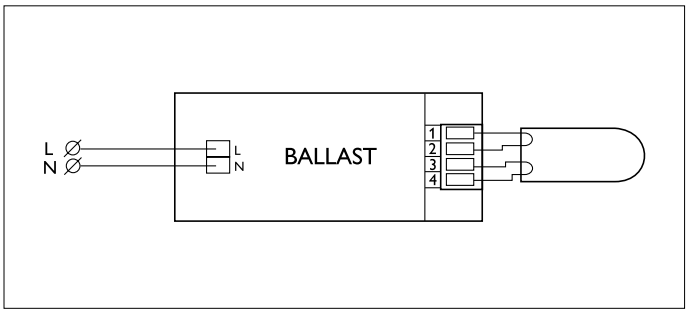
A detailed 'Instructions for use' is included in the packing of the printed circuit boards.

The gears that are thermally protected use a protective method of another type providing equivalent thermal protection.

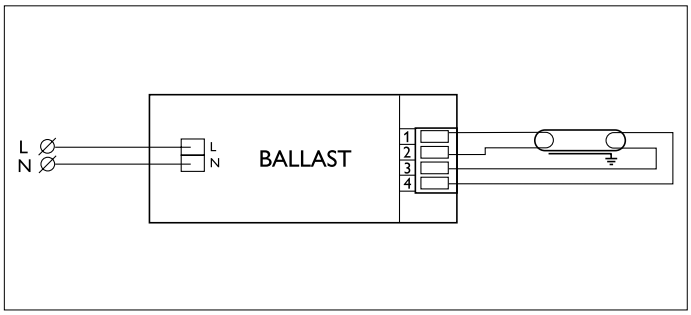
Colour coding

Type Mains terminal	colour code
HF-MatchboxBLUE 105	Orange/black/orange
HF-MatchboxBLUE 109	Orange/blue/orange
HF-MatchboxBLUE 114	Orange/grey/orange
HF-MatchboxBLUE 118	Orange/orange/orange
HF-MatchboxBLUE 121	Orange/grey/orange
HF-MatchboxBLUE 124	Orange/orange/orange
HF-MatchboxBLUE 128	Orange/blue/orange

To facilitate physical identification of pcb's, mains connector terminals are colourcoded. The central connector terminal is coloured according to type.



HF-M blue



HF-M blue

Lamps								Gear	
PL-S systems	**W**	**Page**	**colours**			**technology**		**HF-M**	
			/st	/80	/90	cold spot	amalgam	BLUE	RED
									
PL-S 2 pin									
	5W/2P	7.4		•		•		IL	
	7W/2P	7.4		•		•		IL	
	9W/2P	7.4		•		•		IL	
	11W/2P	7.4		•		•		IL	
PL-S 4 pin									
	5W/4P	7.8		•		•		IL	
	7W/4P	7.8		•		•		IL	IL
	9W/4P	7.8		•		•		IL	IL
	11W/4P	7.8		•		•		IL	IL

Housing	linear/sq	sq
Regulating power level	-	-
Lamp start	instant	programmed
Constant light output		
Automatic switch off at lamp failure	•	•
Temperature range	-10..+40	-10..+40
Tcase max	75	75
Tcase 50k hr	65 (40k hr)	65
Nominal mains voltage	230-240	230-240
Operating frequency	<30kHz	<30kHz

Lamps								Gear
PL-H systems	**W**	**Page**	**colours**			**technology**		**HF-P**
			/st	/80	/90	cold spot	amalgam	
								
PL-H								
	60W/4P	7.58		•			•	IL MW 60-120
	85W/4P	7.58		•			•	IL MW 60-120
	120W/4P	7.58		•			•	IL MW 60-120

Housing	sq
Regulating power level	-
Lamp start	programmed
Constant light output	•
Automatic switch off at lamp failure	•
Temperature range	-25..+50
Tcase 50k hr	75
Nominal mains voltage	220-240
Operating frequency	>62kHz

Lamps								Gear			
PL-R systems	**W**	**Page**	**colours**			**technology**		**HF-R**			**HF-P**
			s	80	90	cold spot	amalgam	DALI	1-10V	T&D	
	14	7.68		•				1L/2L		1L/2L	1L/2L
	17	7.68		•				1L/2L		1L/2L	1L/2L
Housing											
Regulating power level								1..100%		1..100%	
Lamp start								programmed		programmed	programmed
Constant light output								*		*	*
Automatic switch off at lamp failure											
Temperature range								+10..50C		+10..50C	-20..+50C
Tcase 50k hr								65	65	65	75
Nominal mains voltage											
Operating frequency											

Lamps								Gear
PL-Q systems	**W**	**Page**	**colours**			**technology**		**HF-M**
			/st	/80	/90	cold spot	amalgam	blue
PL-Q 2 pin								
	16W/2P	7.60		•		•		
	28W/2P	7.60		•		•		
PL-Q 4 pin								
	16W/4P	7.64		•		•		
	28W/4P	7.64		•		•		1L
	38W/4P	7.64		•		•		
Housing								sq
Regulating power level								-
Lamp start								programmed
Constant light output								-
Automatic switch off at lamp failure								•
Temperature range								-15..+50
Tcase 50k hr								75
Nominal mains voltage								220-240
Operating frequency								>42kHz

Lamps							
PL-C systems	**W**	**Page**	**colours**			**technology**	
			/st	/80	/90	cold spot	amalgam
PL-C 2 pin							
	10W/2P	7.12		•		•	
	13W/2P	7.12		•		•	
	18W/2P	7.12		•		•	
	26W/2P	7.12		•		•	
PL-C 4 pin							
	10W/4P	7.16		•		•	
	13W/4P	7.16		•		•	
	18W/4P	7.16		•		•	
	26W/4P	7.16		•		•	

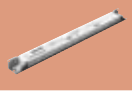
Housing	
Regulating power level	
Lamp start	
Constant light output	
Automatic switch off at lamp failure	
Temperature range	
Tcase 50k hr	
Nominal mains voltage	
Operating frequency	

Gear					
HF-R			HF-P	HF-M	
DALI	1-10V	T&D		BLUE	RED
					
				1L	
				1L	
				1L	
			1L/2L	1L	
1L/2L*		1L/2L*	1L/2L	1L	1L
1L/2L	1L/2L	1L/2L	1L/2L	1L	1L
1L/2L	1L/2L	1L/2L	1L/2L		1L
sq	sq	sq	sq	linear/sq	sq
1..100%	1..100%	1..100%	-	-	-
programmed	programmed	programmed	programmed	instant	programmed
•	•	•	•		
•	•	•	•	•	•
+10..+50	+10..+50	+10..+50	-15..+50	-10..+40	-10..+40
65	65	65	75	65 (40k hr)	65
220-240	220-240	220-240	220-240	230-240	230-240
>42kHz	>42kHz	>42kHz	>45kHz	<30kHz	<30kHz

* In odd combination with HFR TD PL-R 1 14-17 and 2 14-17 EII gear.

Lamps							
PL-T systems	**W**	**Page**	**colours**			**technology**	
			/st	/80	/90	cold spot	amalgam
PL-T 2 pin							
	13W/2P	7.24		•		•	
	18W/2P	7.24		•		•	•
	26W/2P	7.24		•		•	•
PL-T 4 pin							
	13W/4P	7.28		•		•	
	18W/4P	7.28		•		•	•
	26W/4P	7.28		•		•	•
	32W/4P	7.28		•		•	•
	42W/4P	7.28		•		•	•
	57W/4P	7.28		•		•	•

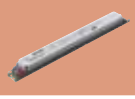
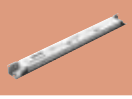
Housing
Regulating power level
Lamp start
Constant light output
Automatic switch off at lamp failure
Temperature range
Tcase 50k hr
Nominal mains voltage
Operating frequency

Gear					
HF-R			HF-P	HF-M	
DALI	1-10V	T&D		BLUE	RED
					
				1L	
1L/2L*		1L/2L*	1L/2L		
1L/2L	1L/2L	1L/2L	1L/2L	1L	1L
1L/2L	1L/2L	1L/2L	1L/2L MV 26-42		
1L/2L	1L/2L	1L/2L	1L/2L MV 26-42		
1L/2L	1L/2L	1L/2L	1L/2L MV 26-42		
			1L/2L		
sq	sq	sq	sq	linear/sq	sq
1..100%	1..100%	1..100%	-	-	-
programmed	programmed	programmed	programmed	instant	programmed
•	•	•	•		
•	•	•	•	•	•
+10..+50	+10..+50	+10..+50	-15..+50	-10..+40	-10..+40
65	65	65	75	65 (40k hr)	65
220-240	220-240	220-240	220-240	230-240	230-240
>42kHz	>42kHz	>42kHz	>45kHz	<30kHz	<30kHz

* In odd combination with HFR TD PL-R 1 14-17 and 2 14-17 EII gear.

Lamps							
PL-L systems	**W**	**Page**	**colours**			**technology**	
			/st	/80	/90	cold spot	amalgam
PL-L							
	18W/4P	7.42		•	•	•	
	24W/4P	7.42			•	•	•
	36W/4P	7.42			•		•
	40W/4P	7.42			•	•	•
	55W/4P	7.42			•	•	•
	80W/4P	7.42			•		•

Housing	
Regulating power level	
Lamp start	
Constant light output	
Automatic switch off at lamp failure	
Temperature range	
Tcase max	
Tcase 50k hr	
Nominal mains voltage	
Operating frequency	

Gear					
HF-R			HF-P	HF-M	
DALI	1-10V	T&D		BLUE	RED
					
			1L/2L MV 18-24		
1L/2L/3L/4L	1L/2L/3L/4L	1L/2L/3L/4L	1L/2L MV 18-24+3/4	1L	1L
1L/2L	1L/2L	1L/2L	1L/2L		
1L/2L	1L/2L	1L/2L	1L/2L		
1L/2L	1L/2L	1L/2L	1L/2L		
1L/2L	1L/2L	1L/2L	1L/2L		
linear	linear	linear	linear/sq	linear/sq	sq
1..100%	1..100%	1..100%	-	-	-
programmed	programmed	programmed	programmed	instant	programmed
•	•	•	•		
•	•	•	•	•	•
+10..+50	+10..+50	+10..+50	-15..+50	-10..+40	-10..+40
75	75	75	75	75	75
75	75	75	75	65 (40k hr)	65
220-240	220-240	220-240	220-240	230-240	230-240
>42kHz	>42kHz	>42kHz	>42kHz	<30kHz	<30kHz

* In odd combination with HFR TD PL-R 1 14-17 and 2 14-17 EII gear.



Fluorescent Lamps and Gear



Fluorescent Lamps

Fluorescent lighting is still the preferred lighting option across many applications, because it is inherently economical, delivering light output up to 104 lm/W. It's versatile technology, available across a wide range of different colours of light, in a variety of wattages and shapes, means that you can choose the best possible light for any visual requirement.

We continue to invest in fluorescent lighting solutions that are better for the environment by improving the energy efficiency of our lamps to help to reduce CO_2 emissions. Low product weights mean reduced transport and packaging costs. The minimised amount of hazardous substances means a general improvement of the recyclability.

Our range of fluorescent lamps provides a superb choice to help with the challenges of general illumination. But advances in our technology means fluorescent lamps go beyond simply lighting in the traditional sense. No better example of fluorescent innovation exists than that of our MASTER TL5 lamps. With their 16 mm diameter they allow for slimmer, more efficient and more stylish installations.

Philips MASTER TL5 lamps come in many different types:

- Philips MASTER TL5 High Efficiency lamps - Optimal energy savings
- Philips MASTER TL5 High Output lamps - Optimal light output
- Philips MASTER TL5 HO 90 De Luxe lamps - Best for showing true colours
- Philips MASTER TL5 ActiViva lamps - Best for energising people
- Philips MASTER TL5 HO Optiview lamps- Best for medical diagnosis
- Philips MASTER TL5 Secura lamps - Best protection against breakage
- Philips MASTER TL5 Circular lamps - Best for circular forms
- Philips MASTER TL5 Coloured lamps - Best for coloured applications
- Philips MASTER Xtra lamps - Longest and most reliable life
- Philips MASTER TL5 VHO TOP lamps - Best for high ceilings
- Philips MASTER TL5 HO TOP lamps - Best for compact luminaires with high or low ambient temperatures



LightLine

Product Description

- Slender, miniaturized light line solution to create a continuous light effect, which accentuates shapes and structures.
- Easy to install profiles, with an ultra long lifetime of 50.000 hrs.

Product Features

- Uniform light output over total length of profile
- Warm and cool light colours
- Flood version (frosted) and spot version (clear)
- Ultra long lifetime
- Low heat emission
- Low voltage supply

Product Benefits

- Creates continuous lines of light without dark spots providing striking light effects
- Always the same white: consistent white impression over profile length, between profiles and over lifetime
- Can be used in narrow spaces due to the small dimensions and low heat emission
- Stable and good colour rendering over lifetime
- Easy click & go installation
- Low voltage power supply allows operation on emergency batteries

Application

- Architectural lighting of historical buildings, shops, museums making sharp, visible lines to underline shapes in e.g. coves, cabinets, stairs,walls, furniture
- Shelf lighting
- Escape route indication in emergency lighting

System

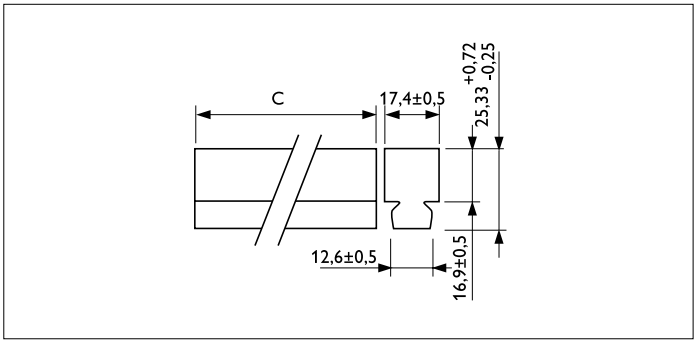
LightLine system consists of the LightLine profiles, cables, connectors to click the profiles together, mounting brackets and a low voltage direct current power supply

There is a choice of a 35W slim size and a 90W normal size power supply

Environment

- This product is RoHS compliant
- This product is covered by WEEE
- The product has energy label B

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Type	C
LightLine 300	300
LightLine 500	500
LightLine 700	700

Technical data

Type	Luminous Flux lamp (lm)	Average luminance cd/cm²	System power (W)	Supply Voltage	Life to 1% failures (h)	Dimmable	Lumen maintenance 50000h (%)	Colour Rendering Index (Ra)	Beam Angle (°)
LightLine 300/827 spot	160	2,5	5	24VDC	50000	no	70	85	50
LightLine 500/827 spot	280	2,5	7,5	24VDC	50000	no	70	85	50
LightLine 700/827 spot	410	2,5	10	24VDC	50000	no	70	85	50
LightLine 300/840 spot	160	2,5	5	24VDC	50000	no	70	85	50
LightLine 500/840 spot	280	2,5	7,5	24VDC	50000	no	70	85	50
LightLine 700/840 spot	410	2,5	10	24VDC	50000	no	70	85	50
LightLine 300/827 flood	160	2,0	5	24VDC	50000	no	70	85	100
LightLine 500/827 flood	280	2,0	7,5	24VDC	50000	no	70	85	100
LightLine 700/827 flood	410	2,0	10	24VDC	50000	no	70	85	100
LightLine 300/840 flood	160	2,0	5	24VDC	50000	no	70	85	100
LightLine 500/840 flood	280	2,0	7,5	24VDC	50000	no	70	85	100
LightLine 700/840 flood	410	2,0	10	24VDC	50000	no	70	85	100

Ordering and packing data

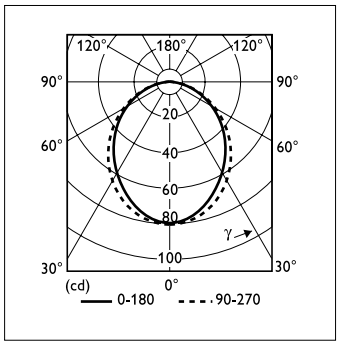
Type	EAN Code 1 piece	Weight	Packs per Out. Box	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
LightLine 300/827 Spot SLV	8711500268198	126.1 gr	5	37.0 cm x 19.0 cm x 6.5 cm	8711500268204	268198 01
LightLine 500/827 Spot SLV	8711500268235	204.7 gr	5	57.0 cm x 19.0 cm x 6.5 cm	8711500268242	268235 01
LightLine 700/827 Spot SLV	8711500268259	277.5 gr	5	77.0 cm x 19.0 cm x 6.5 cm	8711500268266	268259 01
LightLine 300/840 Spot SLV	8711500268297	126.1 gr	5	37.0 cm x 19.0 cm x 6.5 cm	8711500268303	268297 01
LightLine 500/840 Spot SLV	8711500268310	204.7 gr	5	57.0 cm x 19.0 cm x 6.5 cm	8711500268327	268310 01
LightLine 700/840 Spot SLV	8711500268334	277.5 gr	5	77.0 cm x 19.0 cm x 6.5 cm	8711500268341	268334 01
LightLine 300/827 Flood SLV	8711500268358	126.1 gr	5	37.0 cm x 19.0 cm x 6.5 cm	8711500268365	268358 01
LightLine 500/827 Flood SLV	8711500268433	204.7 gr	5	57.0 cm x 19.0 cm x 6.5 cm	8711500268440	268433 01
LightLine 700/827 Flood SLV	8711500268471	277.5 gr	5	77.0 cm x 19.0 cm x 6.5 cm	8711500268488	268471 01
LightLine 300/840 Flood SLV	8711500268419	126.1 gr	5	37.0 cm x 19.0 cm x 6.5 cm	8711500268426	268419 01
LightLine 500/840 Flood SLV	8711500268457	204.7 gr	5	57.0 cm x 19.0 cm x 6.5 cm	8711500268464	268457 01
LightLine 700/840 Flood SLV	8711500268495	277.5 gr	5	77.0 cm x 19.0 cm x 6.5 cm	8711500268501	268495 01

Photometric diagram

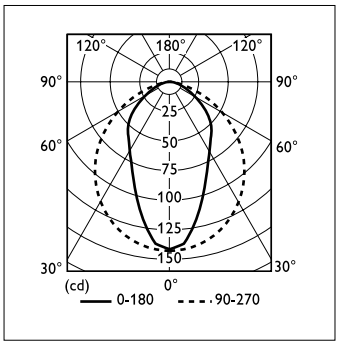


LightLine connection





Beam Flood version



Beam Spot version



MASTER TL5 High Efficiency

Product Description

- Low-pressure mercury discharge lamps with a tubular 16 mm envelope

Product Features

- 40% thinner than TL-D lamps
- High lamp efficacies up to 104 lm/W
- Highly efficient 3-band fluorescent coating in combination with precoating
- Specifically designed for operation with electronic gear and well-suited for dimming
- Maximum light output reached at approximately 35 °C in free-burning position if an electronic gear without additional electrode heating is used
- Can be ignited from -15 to +50 °C

Product Benefits

- Allows system miniaturisation and maximum luminaire design freedom
- Lamp lengths enable easy fitting into ceiling module systems
- Offers higher efficiencies and energy savings compared with TL-D lamps
- Virtually constant lumen level with excellent lumen maintenance
- Good colour rendering

Application

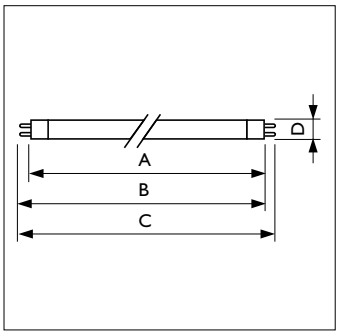
- Ideally suited for recessed, surface-mounted and suspended luminaires in applications like offices, shops, schools, public buildings and industry (low ceiling), wherever high-quality, energy-effective lighting is required

Environment

- Best environmental choice because of highest energy efficiency available for fluorescent lighting. Lowest CO_2 emission compared to any other comparable lightsource (40% less than a TL-D standard lamp, 26% less than TL-D 800). Products having the "Green product" logo contain the lowest mercury content in the industry and are 100% lead free. Less material, packaging, weight, transport and recycling volume due to smallest product dimensions (only 16 mm diameter, 40% less compared with TL-D lamps)
- This product range is RoHS compliant
- This product range is covered by WEEE

Recommended gear page 8.202

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MASTER TL5 High Efficiency

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL5 HE 14W	549.0	553.7	556.1	563.2	17
MASTER TL5 HE 21W	849.0	853.7	856.1	863.2	17
MASTER TL5 HE 28W	1149.0	1153.7	1156.1	1163.2	17
MASTER TL5 HE 35W	1449.0	1453.7	1456.1	1463.2	17

Technical data

Type	Lamp Wattage EL (W)	Lamp Voltage EL 25°C (V)	Lamp Current EL 25°C (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 HE 14W	14	83	0.170	14	A	Yes	19000	24000
MASTER TL5 HE 21W	21	125	0.170	21	A	Yes	19000	24000
MASTER TL5 HE 28W	28	166	0.170	28	A	Yes	19000	24000
MASTER TL5 HE 35W	35	208	0.170	35	A	Yes	19000	24000

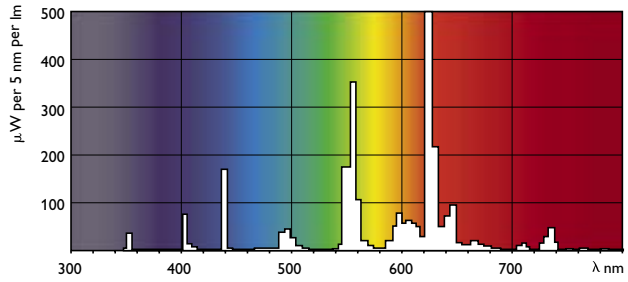
Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Luminous Efficacy Lamp EL at Top, 35°C (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 HE 14W/827	1200	96	Incandescent White	2700	85	469	419
MASTER TL5 HE 14W/830	1200	96	Warm White	3000	85	438	403
MASTER TL5 HE 14W/835	1200	96	White	3500	85	409	397
MASTER TL5 HE 14W/840	1200	96	Cool White	4000	85	381	379
MASTER TL5 HE 14W/850	1100	96	Daylight	5000	85	343	353
MASTER TL5 HE 14W/865	1100	89	Cool Daylight	6500	85	316	336
MASTER TL5 HE 21W/827	1900	100	Incandescent White	2700	85	469	419
MASTER TL5 HE 21W/830	1900	100	Warm White	3000	85	438	403
MASTER TL5 HE 21W/835	1900	100	White	3500	85	409	397
MASTER TL5 HE 21W/840	1900	100	Cool White	4000	85	381	379
MASTER TL5 HE 21W/865	1750	93	Cool Daylight	6500	85	316	336
MASTER TL5 HE 28W/827	2600	104	Incandescent White	2700	85	469	419
MASTER TL5 HE 28W/830	2600	104	Warm White	3000	85	438	403
MASTER TL5 HE 28W/835	2600	104	White	3500	85	409	397
MASTER TL5 HE 28W/840	2600	104	Cool White	4000	85	381	379
MASTER TL5 HE 28W/850	2400	96	Daylight	5000	85	343	353
MASTER TL5 HE 28W/865	2400	96	Cool Daylight	6500	85	316	336
MASTER TL5 HE 35W/827	3300	104	Incandescent White	2700	85	469	419
MASTER TL5 HE 35W/830	3300	104	Warm White	3000	85	438	403
MASTER TL5 HE 35W/835	3300	104	White	3500	85	409	397
MASTER TL5 HE 35W/840	3300	104	Cool White	4000	85	381	379
MASTER TL5 HE 35W/865	3100	97	Cool Daylight	6500	85	316	336

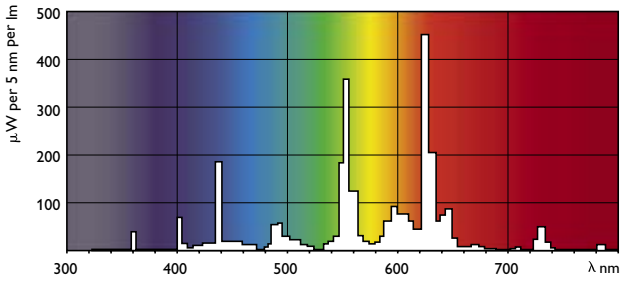
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL5 HE 14W/827 SLV	FDH-14/27/1B-L/P-G5-16/550	8711500641021	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500867421	641021 55
MASTER TL5 HE 14W/827 UNP	FDH-14/27/1B-L/P-G5-16/550	8711500610621	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500634269	610621 55
MASTER TL5 HE 14W/830 SLV	FDH-14/30/1B-L/P-G5-16/550	8711500639387	54 gr	20	58 cm x 10.6 cm x 8.3 cm	8711500264763	639387 05
MASTER TL5 HE 14W/830 SLV	FDH-14/30/1B-L/P-G5-16/550	8711500639387	54 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500867469	639387 55
MASTER TL5 HE 14W/830 UNP	FDH-14/30/1B-L/P-G5-16/550	8711500610638	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500634283	610638 55
MASTER TL5 HE 14W/835 SLV	FDH-14/35/1B-L/P-G5-16/550	8711500707659	53 gr	40	58 cm x 16 cm x 10.2 cm	8711500867476	707659 55
MASTER TL5 HE 14W/835 UNP	FDH-14/35/1B-L/P-G5-16/550	8711500610645	54 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500634306	610645 55
MASTER TL5 HE 14W/840 SLV	FDH-14/40/1B-L/P-G5-16/550	8711500639400	54 gr	20	58 cm x 10.6 cm x 8.3 cm	8711500264787	639400 05
MASTER TL5 HE 14W/840 SLV	FDH-14/40/1B-L/P-G5-16/550	8711500639400	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500867483	639400 55
MASTER TL5 HE 14W/840 UNP	FDH-14/40/1B-L/P-G5-16/550	8711500610669	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500634320	610669 55
MASTER TL5 HE 14W/850 SLV	FDH-14/50/1B-L/P-G5-16/550	8711500261274	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500261281	261274 55
MASTER TL5 HE 14W/865 SLV	FDH-14/65/1B-L/P-G5-16/550	8711500710093	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500867490	710093 55
MASTER TL5 HE 14W/865 UNP	FDH-14/65/1B-L/P-G5-16/550	8711500610683	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500634368	610683 55
MASTER TL5 HE 21W/827 SLV	FDH-21/27/1B-L/P-G5-16/850	8711500643209	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500867537	643209 55
MASTER TL5 HE 21W/827 UNP	FDH-21/27/1B-L/P-G5-16/850	8711500610690	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500634382	610690 55
MASTER TL5 HE 21W/830 SLV	FDH-21/30/1B-L/P-G5-16/850	8711500639424	80.5 gr	20	88.3 cm x 10.6 cm x 8.3 cm	8711500264541	639424 05
MASTER TL5 HE 21W/830 SLV	FDH-21/30/1B-L/P-G5-16/850	8711500639424	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500867544	639424 55
MASTER TL5 HE 21W/830 UNP	FDH-21/30/1B-L/P-G5-16/850	8711500610706	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500634405	610706 55
MASTER TL5 HE 21W/835 UNP	FDH-21/35/1B-L/P-G5-16/850	8711500610713	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500634429	610713 55
MASTER TL5 HE 21W/840 SLV	FDH-21/40/1B-L/P-G5-16/850	8711500639448	80.5 gr	20	88.3 cm x 10.6 cm x 8.3 cm	8711500264558	639448 05
MASTER TL5 HE 21W/840 SLV	FDH-21/40/1B-L/P-G5-16/850	8711500639448	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500867551	639448 55
MASTER TL5 HE 21W/840 UNP	FDH-21/40/1B-L/P-G5-16/850	8711500610720	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500634443	610720 55
MASTER TL5 HE 21W/865 SLV	FDH-21/65/1B-L/P-G5-16/850	8711500710116	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500867568	710116 55
MASTER TL5 HE 21W/865 UNP	FDH-21/65/1B-L/P-G5-16/850	8711500610775	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500634481	610775 55
MASTER TL5 HE 28W/827 SLV	FDH-28/27/1B-L/P-G5-16/1150	8711500643223	96.6 gr	40	119 cm x 16.4 cm x 10.2 cm	8711500867575	643223 55
MASTER TL5 HE 28W/827 UNP	FDH-28/27/1B-L/P-G5-16/1150	8711500610782	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500634504	610782 55
MASTER TL5 HE 28W/830 SLV	FDH-28/30/1B-L/P-G5-16/1150	8711500639462	104.5 gr	20	118.3 cm x 10.6 cm x 8.3 cm	8711500264190	639462 05
MASTER TL5 HE 28W/830 SLV	FDH-28/30/1B-L/P-G5-16/1150	8711500639462	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500867582	639462 55
MASTER TL5 HE 28W/830 UNP	FDH-28/30/1B-L/P-G5-16/1150	8711500610812	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500634528	610812 55
MASTER TL5 HE 28W/835 SLV	FDH-28/35/1B-L/P-G5-16/1150	8711500710048	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500867599	710048 55
MASTER TL5 HE 28W/835 UNP	FDH-28/35/1B-L/P-G5-16/1150	8711500610874	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500634542	610874 55
MASTER TL5 HE 28W/840 SLV	FDH-28/40/1B-L/P-G5-16/1150	8711500639486	104.5 gr	20	118.3 cm x 10.6 cm x 8.3 cm	8711500264206	639486 05
MASTER TL5 HE 28W/840 SLV	FDH-28/40/1B-L/P-G5-16/1150	8711500639486	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500867605	639486 55
MASTER TL5 HE 28W/840 UNP	FDH-28/40/1B-L/P-G5-16/1150	8711500610904	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500634566	610904 55
MASTER TL5 HE 28W/850 SLV	FDH-28/50/1B-L/P-G5-16/1150	8711500260208	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500260215	260208 55
MASTER TL5 HE 28W/865 SLV	FDH-28/65/1B-L/P-G5-16/1150	8711500710154	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500867612	710154 55
MASTER TL5 HE 28W/865 UNP	FDH-28/65/1B-L/P-G5-16/1150	8711500610928	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500634603	610928 55
MASTER TL5 HE 35W/827 SLV	FDH-35/27/1B-L/P-G5-16/1450	8711500643247	128.7 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500867629	643247 55
MASTER TL5 HE 35W/827 UNP	FDH-35/27/1B-L/P-G5-16/1450	8711500610935	128.7 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500634627	610935 55
MASTER TL5 HE 35W/830 SLV	FDH-35/30/1B-L/P-G5-16/1450	8711500639509	128.7 gr	20	148.5 cm x 10.6 cm x 8.3 cm	8711500264527	639509 05
MASTER TL5 HE 35W/830 SLV	FDH-35/30/1B-L/P-G5-16/1450	8711500639509	128.7 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500867667	639509 55
MASTER TL5 HE 35W/830 UNP	FDH-35/30/1B-L/P-G5-16/1450	8711500611031	128.7 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500634641	611031 55
MASTER TL5 HE 35W/835 SLV	FDH-35/35/1B-L/P-G5-16/1450	8711500710062	128.7 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500867674	710062 55
MASTER TL5 HE 35W/835 UNP	FDH-35/35/1B-L/P-G5-16/1450	8711500611048	128.7 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500634665	611048 55
MASTER TL5 HE 35W/840 SLV	FDH-35/40/1B-L/P-G5-16/1450	8711500639523	128.7 gr	20	148.5 cm x 10.6 cm x 8.3 cm	8711500264534	639523 05
MASTER TL5 HE 35W/840 SLV	FDH-35/40/1B-L/P-G5-16/1450	8711500639523	128.7 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500867681	639523 55
MASTER TL5 HE 35W/840 UNP	FDH-35/40/1B-L/P-G5-16/1450	8711500611055	128.7 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500634689	611055 55
MASTER TL5 HE 35W/865 SLV	FDH-35/65/1B-L/P-G5-16/1450	8711500710185	128.7 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500867698	710185 55
MASTER TL5 HE 35W/865 UNP	FDH-35/65/1B-L/P-G5-16/1450	8711500611079	128.7 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500634726	611079 55

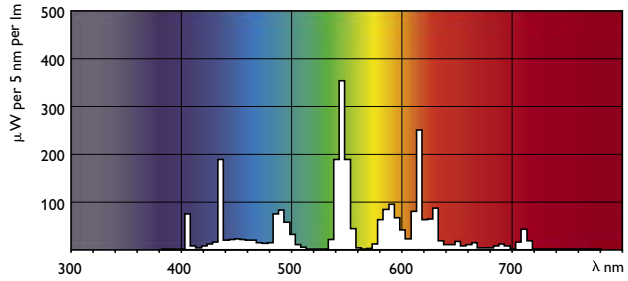
Spectral power distribution



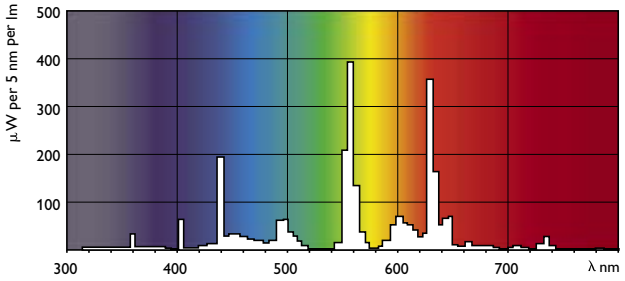
TL5 /827



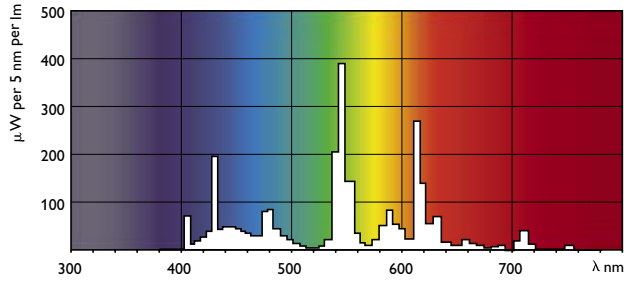
TL5 /830



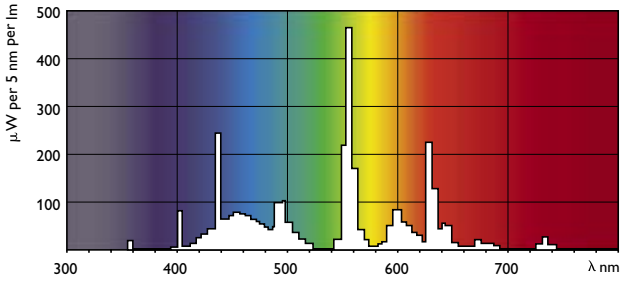
TL5 /835



TL5 /840

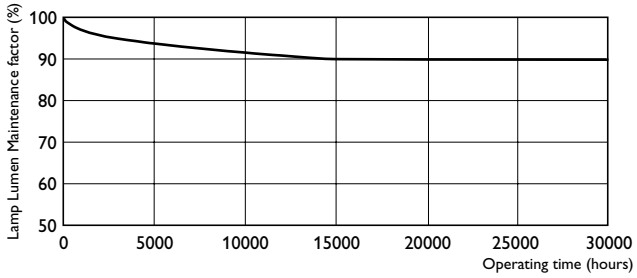


TL5 /850

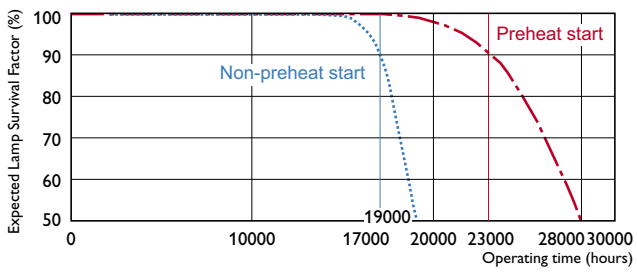


TL5 /865

Lumen maintenance diagram

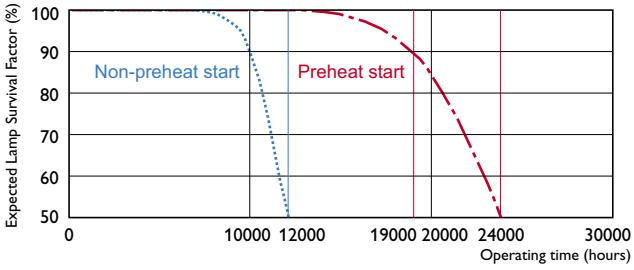


TL5



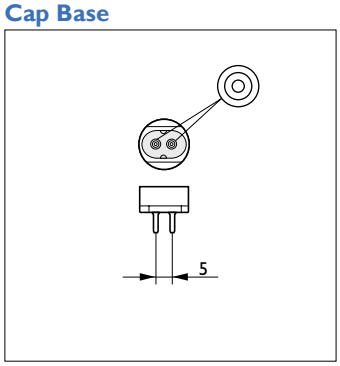
Life Expectancy 12h cycle

Life expectancy diagram



Life Expectancy 3h cycle

Cap Base



G5



MASTER TL5 High Efficiency Secura

Product Description

- Low-pressure mercury discharge lamps with a tubular 16 mm envelope and protective coating around the lamp to prevent contamination resulting from breakage

Product Features

- All the advantages of TL5 HE lamps
- Protective coating around the lamp (may extend by maximally 0.5 mm at lamp ends)
- Single blue ring around one end for identification
- Direct retrofit for all TL5 HE lamps

Product Benefits

- All the benefits of TL5 HE lamps
- Safety: special protective coating around the lamp prevents products from contamination in case of accidental lamp breakage
- Superior coating material: high temperature-resistance (up to 200 °C) and no degradation under influence of temperature or UV
- Easy identification in audit situations by the blue ring at one end
- Compliant with relevant standards in the food industry, such as HACCP and ISO22000

Application

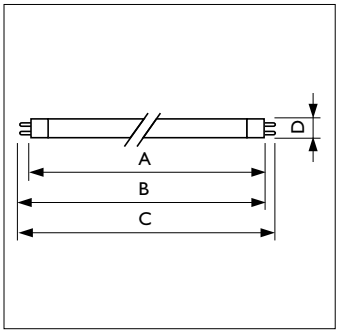
- For use where contamination resulting from lamp breakage must be prevented, e.g. in food industry, suppliers to the food industry, health care, pharmaceuticals, cleanrooms etc.
- Suitable for use in environments with increased risk of breakage, e.g. sports halls

Environment

- Best environmental choice because of highest energy efficiency, lowest mercury content and lead-free
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.202

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MASTER TL5 High Efficiency Secura

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL5 HE Secura 14W	549.0	553.7	556.1	563.2	17
MASTER TL5 HE Secura 21W	849.0	853.7	856.1	863.2	17
MASTER TL5 HE Secura 28W	1149.0	1153.7	1156.1	1163.2	17
MASTER TL5 HE Secura 35W	1449.0	1453.7	1456.1	1463.2	17

Technical data

Type	Lamp Wattage EL (W)	Lamp Voltage EL 25°C (V)	Lamp Current EL 25°C (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 HE Secura 14W	14.0	83	0.170	14	A	Yes	19000	24000
MASTER TL5 HE Secura 21W	20.8	125	0.170	21	A	Yes	19000	24000
MASTER TL5 HE Secura 28W	28.0	166	0.170	28	A	Yes	19000	24000
MASTER TL5 HE Secura 35W	35.0	208	0.170	35	A	Yes	19000	24000

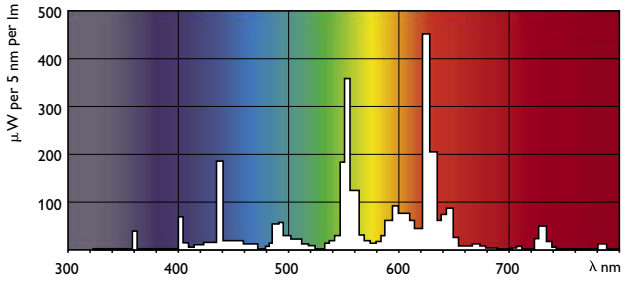
Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Luminous Efficacy Lamp EL at Top, 35°C (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 HE Secura 14W/830	1200	95	Warm White	3000	85	438	403
MASTER TL5 HE Secura 14W/840	1200	95	Cool White	4000	85	381	379
MASTER TL5 HE Secura 21W/830	1850	100	Warm White	3000	85	438	403
MASTER TL5 HE Secura 21W/840	1850	100	Cool White	4000	85	381	379
MASTER TL5 HE Secura 28W/830	2550	103	Warm White	3000	85	438	403
MASTER TL5 HE Secura 28W/840	2550	103	Cool White	4000	85	381	379
MASTER TL5 HE Secura 35W/830	3250	103	Warm White	3000	85	438	403
MASTER TL5 HE Secura 35W/840	3250	103	Cool White	4000	85	381	379

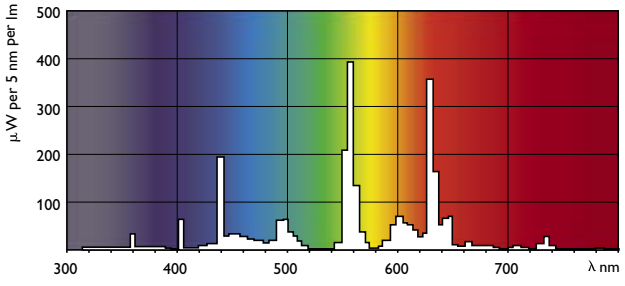
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL5 HE Secura 14W/830 UNP	FDH-14/30/1B-L/P-G5-16/550	8711500954749	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500954756	954749 55
MASTER TL5 HE Secura 14W/840 UNP	FDH-14/40/1B-L/P-G5-16/550	8711500954763	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500954770	954763 55
MASTER TL5 HE Secura 21W/830 UNP	FDH-21/30/1B-L/P-G5-16/850	8711500952080	78 gr	40	88.3 cm x 16 cm x 10.2 cm	8711500952097	952080 55
MASTER TL5 HE Secura 21W/840 UNP	FDH-21/40/1B-L/P-G5-16/850	8711500952103	78 gr	40	88.3 cm x 16 cm x 10.2 cm	8711500952110	952103 55
MASTER TL5 HE Secura 28W/830 UNP	FDH-28/30/1B-L/P-G5-16/1150	8711500952134	105 gr	40	119.8 cm x 16 cm x 10.2 cm	8711500952141	952134 55
MASTER TL5 HE Secura 28W/840 UNP	FDH-28/40/1B-L/P-G5-16/1150	8711500952158	105 gr	40	119.8 cm x 16 cm x 10.2 cm	8711500952165	952158 55
MASTER TL5 HE Secura 35W/830 UNP	FDH-35/30/1B-L/P-G5-16/1450	8711500952172	132 gr	40	149.8 cm x 16 cm x 10.2 cm	8711500952189	952172 55
MASTER TL5 HE Secura 35W/840 UNP	FDH-35/40/1B-L/P-G5-16/1450	8711500952196	132 gr	40	149.8 cm x 16 cm x 10.2 cm	8711500952202	952196 55

Spectral power distribution

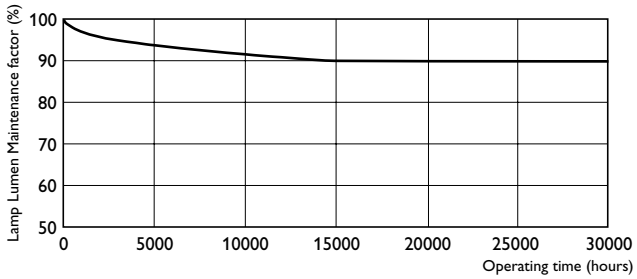


TL5 /830



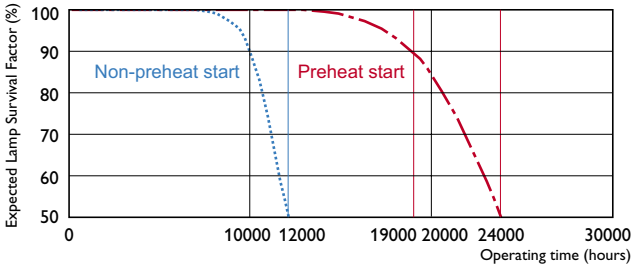
TL5 /840

Lumen maintenance diagram

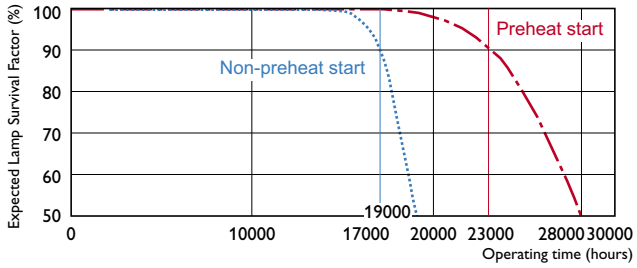


TL5

Life expectancy diagram

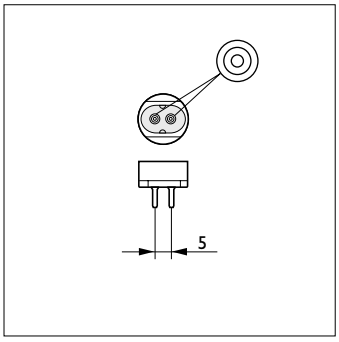


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G5



MASTER TL5 High Output

Product Description

- Low-pressure mercury discharge lamps with a tubular 16 mm envelope

Product Features

- 40% thinner than TL-D lamps
- Designed for high llight output and system miniaturisation
- Highly efficient 3-band fluorescent coating in combination with precoating
- Specifically designed for operation with electronic gear and well-suited for dimming
- Maximum light output reached at approximately 35 °C in free-burning position if an electronic gear without additional electrode heating is used
- Can be ignited from -15 to +50 °C

Product Benefits

- Allows system miniaturisation and maximum luminaire design freedom
- Lamp lengths enable easy fitting into ceiling module systems
- Optimised for installations which need high luminous flux
- Virtually constant lumen level with excellent lumen maintenance
- Good colour rendering

Application

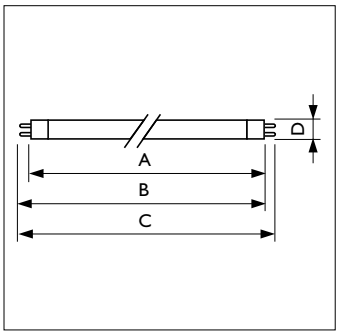
- The combination of a compact lamp and high lumen package of the MASTER TL5 HO offers exciting opportunities for architectural lighting and customized solutions
- Offers economic solutions with high-ceiling lighting in shops, industry and department stores
- The high luminous flux gives optimal results in aesthetic pendents and furniture-mounted luminaires in offices, workshops, restaurants and reception areas

Environment

- Best environmental choice because of highest energy efficiency available for fluorescent lighting. Lowest CO_2 emission compared to any other comparable lightsource (40% less than a TL-D standard lamp, 26% less than TL-D 800). Products having the "Green product" logo contain the lowest mercury content in the industry and are 100% lead free. Less material, packaging, weight, transport and recycling volume due to smallest product dimensions (only 16 mm diameter, 40% less compared with TL-D lamps)
- This product range is RoHS compliant
- This product range is covered by WEEE

Recommended gear page 8.202

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MASTER TL5 High Output

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL5 HO 24W	549.0	553.7	556.1	563.2	17
MASTER TL5 HO 39W	849.0	853.7	856.1	863.2	17
MASTER TL5 HO 49W/80W	1449.0	1453.7	1456.1	1463.2	17
MASTER TL5 HO 54W	1149.0	1153.7	1156.1	1163.2	17

Technical data

Type	Lamp Wattage EL (W)	Lamp Voltage EL 25°C (V)	Lamp Current EL 25°C (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 HO 24W	24	80	0.300	24	B	Yes	19000	24000
MASTER TL5 HO 39W	39	119	0.330	39	B	Yes	19000	24000
MASTER TL5 HO 49W	49	195	0.255	49	B	Yes	19000	24000
MASTER TL5 HO 54W	54	118	0.460	54	B	Yes	19000	24000
MASTER TL5 HO 80W	80	151	0.540	80	B	Yes	19000	24000

Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Luminous Efficacy Lamp EL at Top, 35°C (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 HO 24W/827	1750	89	Incandescent White	2700	85	469	419
MASTER TL5 HO 24W/830	1750	89	Warm White	3000	85	438	403
MASTER TL5 HO 24W/840	1750	89	Cool White	4000	85	381	379
MASTER TL5 HO 24W/850	1650	84	Daylight	5000	85	343	353
MASTER TL5 HO 24W/865	1650	84	Cool Daylight	6500	85	316	336
MASTER TL5 HO 39W/827	3100	92	Incandescent White	2700	85	469	419
MASTER TL5 HO 39W/830	3100	92	Warm White	3000	85	438	403
MASTER TL5 HO 39W/835	3100	92	White	3500	85	409	397
MASTER TL5 HO 39W/840	3100	92	Cool White	4000	85	381	379
MASTER TL5 HO 39W/865	2900	87	Cool Daylight	6500	85	316	336
MASTER TL5 HO 49W/827	4300	99	Incandescent White	2700	85	469	419
MASTER TL5 HO 49W/830	4300	99	Warm White	3000	85	438	403
MASTER TL5 HO 49W/835	4300	99	White	3500	85	438	403
MASTER TL5 HO 49W/840	4300	99	Cool White	4000	85	381	379
MASTER TL5 HO 49W/865	4100	94	Cool Daylight	6500	85	316	336
MASTER TL5 HO 54W/827	4450	93	Incandescent White	2700	85	469	419
MASTER TL5 HO 54W/830	4450	93	Warm White	3000	85	438	403
MASTER TL5 HO 54W/840	4450	93	Cool White	4000	85	381	379
MASTER TL5 HO 54W/850	4250	89	Daylight	5000	85	343	353
MASTER TL5 HO 54W/865	4250	89	Cool Daylight	6500	85	316	336
MASTER TL5 HO 80W/827	6150	88	Incandescent White	3000	85	438	403
MASTER TL5 HO 80W/830	6150	88	Warm White	3000	85	438	403

Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Luminous Efficacy Lamp EL at Top, 35°C (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 HO 80W/835	6150	88	White	3500	85	409	379
MASTER TL5 HO 80W/840	6150	88	Cool White	4000	85	381	379
MASTER TL5 HO 80W/865	5850	83	Cool Daylight	6500	85	316	336

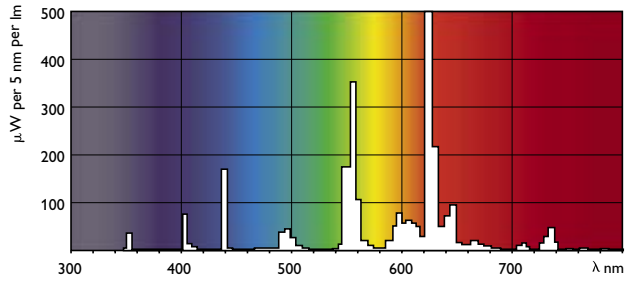
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL5 HO 24W/827 SLV	FDH-24/27/1B-L/P-G5-16/550	8711500643087	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500867742	643087 55
MASTER TL5 HO 24W/827 UNP	FDH-24/27/1B-L/P-G5-16/550	8711500636959	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500636966	636959 55
MASTER TL5 HO 24W/830 SLV	FDH-24/30/1B-L/P-G5-16/550	8711500639585	54 gr	20	58 cm x 10.6 cm x 8.3 cm	8711500264794	639585 05
MASTER TL5 HO 24W/830 SLV	FDH-24/30/1B-L/P-G5-16/550	8711500639585	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500867759	639585 55
MASTER TL5 HO 24W/830 UNP	FDH-24/30/1B-L/P-G5-16/550	8711500636980	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500636997	636980 55
MASTER TL5 HO 24W/840 SLV	FDH-24/40/1B-L/P-G5-16/550	8711500639608	54 gr	20	58 cm x 10.6 cm x 8.3 cm	8711500264800	639608 05
MASTER TL5 HO 24W/840 SLV	FDH-24/40/1B-L/P-G5-16/550	8711500639608	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500867841	639608 55
MASTER TL5 HO 24W/840 UNP	FDH-24/40/1B-L/P-G5-16/550	8711500637048	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500637055	637048 55
MASTER TL5 HO 24W/850 SLV	FDH-24/50/1B-L/P-G5-16/550	8711500266750	54 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500266767	266750 55
MASTER TL5 HO 24W/865 SLV	FDH-24/65/1B-L/P-G5-16/550	8711500643933	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500867858	643933 55
MASTER TL5 HO 24W/865 UNP	FDH-24/65/1B-L/P-G5-16/550	8711500637109	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500637116	637109 55
MASTER TL5 HO 39W/827 SLV	FDH-39/27/1B-L/P-G5-16/850	8711500643100	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500260000	643100 55
MASTER TL5 HO 39W/827 UNP	FDH-39/27/1B-L/P-G5-16/850	8711500637130	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500637147	637130 55
MASTER TL5 HO 39W/830 SLV	FDH-39/30/1B-L/P-G5-16/850	8711500639622	80.5 gr	20	88.3 cm x 10.6 cm x 8.3 cm	8711500264565	639622 05
MASTER TL5 HO 39W/830 SLV	FDH-39/30/1B-L/P-G5-16/850	8711500639622	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500260031	639622 55
MASTER TL5 HO 39W/830 UNP	FDH-39/30/1B-L/P-G5-16/850	8711500637161	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500637178	637161 55
MASTER TL5 HO 39W/835 SLV	FDH-39/35/1B-L/P-G5-16/850	8711500710512	78 gr	40	88.3 cm x 16 cm x 10.2 cm	8711500868381	710512 55
MASTER TL5 HO 39W/835 UNP	FDH-39/35/1B-L/P-G5-16/850	8711500637192	78 gr	40	88.3 cm x 16 cm x 10.2 cm	8711500637208	637192 55
MASTER TL5 HO 39W/840 SLV	FDH-39/40/1B-L/P-G5-16/850	8711500639646	80.5 gr	20	88.3 cm x 10.6 cm x 8.3 cm	8711500264572	639646 05
MASTER TL5 HO 39W/840 SLV	FDH-39/40/1B-L/P-G5-16/850	8711500639646	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500868398	639646 55
MASTER TL5 HO 39W/840 UNP	FDH-39/40/1B-L/P-G5-16/850	8711500637222	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500637239	637222 55
MASTER TL5 HO 39W/865 SLV	FDH-39/65/1B-L/P-G5-16/850	8711500643872	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500868503	643872 55
MASTER TL5 HO 39W/865 UNP	FDH-39/65/1B-L/P-G5-16/850	8711500637284	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500637291	637284 55
MASTER TL5 HO 49W/827 SLV	FDH-49/27/1B-L/P-G5-16/1450	8711500643124	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500867704	643124 55
MASTER TL5 HO 49W/827 UNP	FDH-49/27/1B-L/P-G5-16/1450	8711500637499	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500637505	637499 55
MASTER TL5 HO 49W/830 SLV	FDH-49/30/1B-L/P-G5-16/1450	8711500639547	128.7 gr	20	148.5 cm x 10.6 cm x 8.3 cm	8711500264503	639547 05
MASTER TL5 HO 49W/830 SLV	FDH-49/30/1B-L/P-G5-16/1450	8711500639547	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500867711	639547 55
MASTER TL5 HO 49W/830 UNP	FDH-49/30/1B-L/P-G5-16/1450	8711500637529	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500637536	637529 55
MASTER TL5 HO 49W/835 UNP	FDH-49/35/1B-L/P-G5-16/1450	8711500891105	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500891112	891105 55
MASTER TL5 HO 49W/840 SLV	FDH-49/40/1B-L/P-G5-16/1450	8711500639561	128.7 gr	20	148.5 cm x 10.6 cm x 8.3 cm	8711500264510	639561 05
MASTER TL5 HO 49W/840 SLV	FDH-49/40/1B-L/P-G5-16/1450	8711500639561	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500867728	639561 55
MASTER TL5 HO 49W/840 UNP	FDH-49/40/1B-L/P-G5-16/1450	8711500637581	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500637598	637581 55
MASTER TL5 HO 49W/865 SLV	FDH-49/65/1B-L/P-G5-16/1450	8711500643896	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500867735	643896 55
MASTER TL5 HO 49W/865 UNP	FDH-49/65/1B-L/P-G5-16/1450	8711500637642	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500637659	637642 55
MASTER TL5 HO 54W/827 SLV	FDH-54/27/1B-L/P-G5-16/1150	8711500643148	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500868510	643148 55
MASTER TL5 HO 54W/827 UNP	FDH-54/27/1B-L/P-G5-16/1150	8711500637314	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500637321	637314 55
MASTER TL5 HO 54W/830 SLV	FDH-54/30/1B-L/P-G5-16/1150	8711500643162	104.5 gr	20	118.3 cm x 10.6 cm x 8.3 cm	8711500264213	643162 05
MASTER TL5 HO 54W/830 SLV	FDH-54/30/1B-L/P-G5-16/1150	8711500643162	104.5 gr	40	119 cm x 16.4 cm x 10.2 cm	8711500868824	643162 55
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MASTER TL5 HO 54W/840 SLV	FDH-54/40/1B-L/P-G5-16/1150	8711500643186	104.5 gr	20	118.3 cm x 10.6 cm x 8.3 cm	8711500264220	643186 05
MASTER TL5 HO 54W/840 SLV	FDH-54/40/1B-L/P-G5-16/1150	8711500643186	104.5 gr	40	119 cm x 16.4 cm x 10.2 cm	8711500868831	643186 55

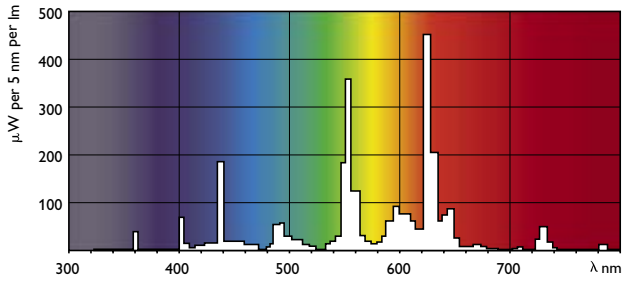
Ordering and packing data

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MASTER TL5 HO 54W/840 UNP	FDH-54/40/1B-L/P-G5-16/1150	8711500637406	104.5 gr	40	119 cm x 16.4 cm x 10.2 cm	8711500637413	637406 55
MASTER TL5 HO 54W/850 UNP	FDH-54/50/1B-L/P-G5-16/1150	8711500637437	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500637444	637437 55
MASTER TL5 HO 54W/865 SLV	FDH-54/65/1B-L/P-G5-16/1150	8711500643919	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500868848	643919 55
MASTER TL5 HO 54W/865 UNP	FDH-54/65/1B-L/P-G5-16/1150	8711500637468	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500637475	637468 55
MASTER TL5 HO 80W/827 UNP	FDH-80/27/1B-L/P-G5-16/1450	8711500263292	132 gr	40	148.5 cm x 16 cm x 10.2 cm	8711500263308	263292 55
MASTER TL5 HO 80W/830 SLV	FDH-80/30/1B-L/P-G5-16/1450	8711500710406	128.7 gr	20	148.5 cm x 10.6 cm x 8.3 cm	8711500894038	710406 05
MASTER TL5 HO 80W/830 SLV	FDH-80/30/1B-L/P-G5-16/1450	8711500710406	132 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500868855	710406 55
MASTER TL5 HO 80W/830 UNP	FDH-80/30/1B-L/P-G5-16/1450	8711500644367	132 gr	40	148.5 cm x 16 cm x 10.2 cm	8711500644374	644367 55
MASTER TL5 HO 80W/835 UNP	FDH-80/30/1B-L/P-G5-16/1450	8711500892737	132 gr	40	148.5 cm x 16 cm x 10.2 cm	8711500892744	892737 55
MASTER TL5 HO 80W/840 SLV	FDH-80/40/1B-L/P-G5-16/1450	8711500710451	128.7 gr	20	148.5 cm x 10.6 cm x 8.3 cm	8711500894045	710451 05
MASTER TL5 HO 80W/840 SLV	FDH-80/40/1B-L/P-G5-16/1450	8711500710451	132 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500868862	710451 55
MASTER TL5 HO 80W/840 UNP	FDH-80/40/1B-L/P-G5-16/1450	8711500644381	132 gr	40	148.5 cm x 16 cm x 10.2 cm	8711500644398	644381 55
MASTER TL5 HO 80W/865 SLV	FDH-80/65/1B-L/P-G5-16/1450	8711500710475	132 gr	40	147.4 cm x 16.4 cm x 10.2 cm	8711500868879	710475 55
MASTER TL5 HO 80W/865 UNP	FDH-80/65/1B-L/P-G5-16/1450	8711500644404	132 gr	40	148.5 cm x 16 cm x 10.2 cm	8711500644411	644404 55

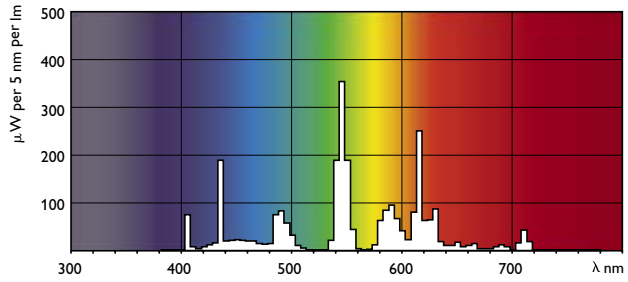
Spectral power distribution



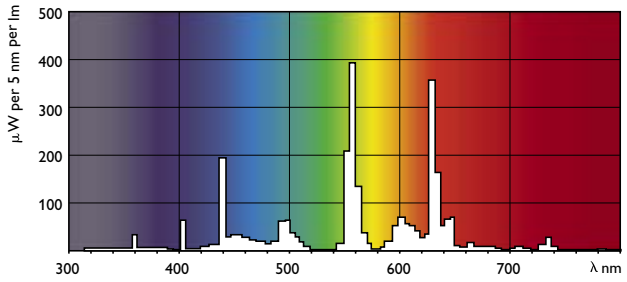
TL5 /827



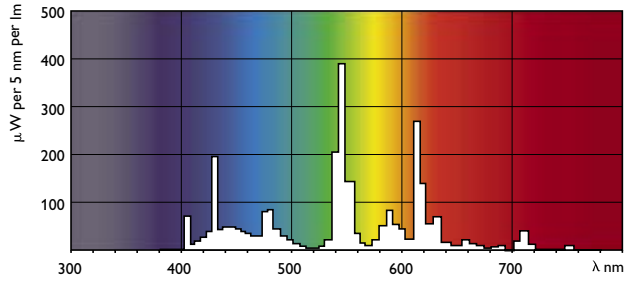
TL5 /830



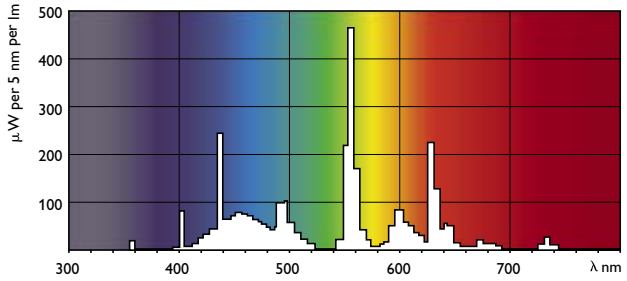
TL5 /835



TL5 /840

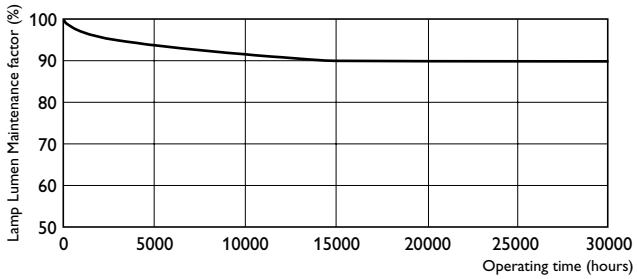


TL5 /850



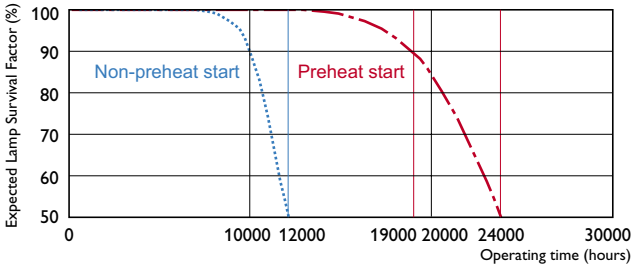
TL5 /865

Lumen maintenance diagram

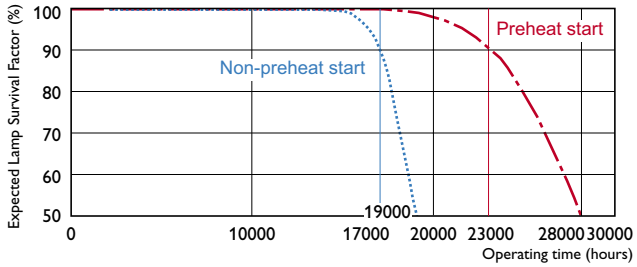


TL5

Life expectancy diagram

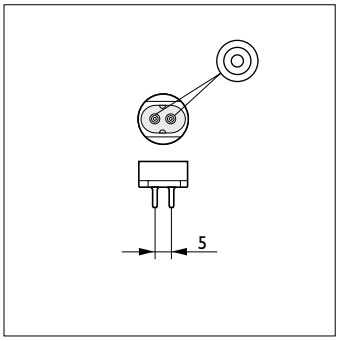


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G5


Expaniumzaal
Green powerzaal
Modenazaal
Integriszaal
Jack Rabbitzaal
Pixelpluszaal
Matchlinezaal
Philishavezaal



MASTER TL5 High Output Secura

Product Description

- Low-pressure mercury discharge lamps with a tubular 16 mm envelope and protective coating around the lamp to prevent contamination resulting from breakage

Product Features

- All the advantages of TL5 HO lamps
- Protective coating around the lamp (may extend by maximally 0.5 mm at lamp ends)
- Single blue ring around one end for identification
- Direct retrofit for all TL5 HO lamps

Product Benefits

- All the benefits of TL5 HO lamps
- Safety: special protective coating around the lamp prevents products from contamination in case of accidental lamp breakage.
- Superior coating material: high temperature-resistance (up to 200°C) and no degradation under influence of temperature or UV
- Easy identification in audit situations by the blue ring at one end
- Compliant with relevant standards in the food industry, such as HACCP and ISO22000.

Application

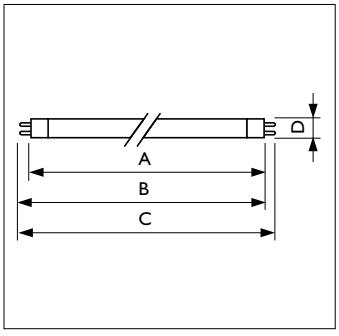
- For use where contamination resulting from lamp breakage must be prevented, e.g. in food industry, suppliers to the food industry, health care, pharmaceuticals, cleanrooms etc.
- Suitable for use in environments with increased risk of breakage, e.g. sports halls

Environment

- Best environmental choice because of highest energy efficiency, lowest mercury content and lead-free
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.202

www.philips.com/OEM



MASTER TL5 High Output Secura

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL5 HO Secura 24W	549.0	553.7	556.1	563.2	17
MASTER TL5 HO Secura 39W	849.0	853.7	856.1	863.2	17
MASTER TL5 HO Secura 49W/80W	1449.0	1453.7	1456.1	1463.2	17
MASTER TL5 HO Secura 54W	1149.0	1153.7	1156.1	1163.2	17

Technical data

Type	Lamp Wattage EL (W)	Lamp Voltage EL 25°C (V)	Lamp Current EL 25°C (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 HO Secura 24W	22.5	80	0.300	24	B	Yes	19000	24000
MASTER TL5 HO Secura 39W	39	119	0.330	39	B	Yes	19000	24000
MASTER TL5 HO Secura 49W	49.3	195	0.255	49	B	Yes	19000	24000
MASTER TL5 HO Secura 54W	54	118	0.460	54	B	Yes	19000	24000
MASTER TL5 HO Secura 80W	80	151	0.540	80	B	Yes	19000	24000

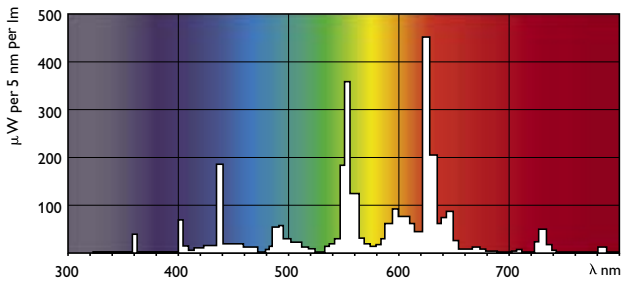
Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Luminous Efficacy Lamp EL at Top, 35°C (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 HO Secura 24W/830	1750	80	Warm White	3000	85	438	403
MASTER TL5 HO Secura 24W/840	1750	80	Cool White	4000	85	381	379
MASTER TL5 HO Secura 39W/830	3050	90	Warm White	3000	85	438	403
MASTER TL5 HO Secura 39W/840	3050	90	Cool White	4000	85	381	379
MASTER TL5 HO Secura 49W/830	4250	99	Warm White	3000	85	438	403
MASTER TL5 HO Secura 49W/840	4250	99	Cool White	4000	85	381	379
MASTER TL5 HO Secura 54W/830	4400	92	Warm White	3000	85	438	403
MASTER TL5 HO Secura 54W/840	4400	92	Cool White	4000	85	381	379
MASTER TL5 HO Secura 80W/830	6100	87	Warm White	3000	85	438	403
MASTER TL5 HO Secura 80W/840	6100	87	Cool White	4000	85	381	379

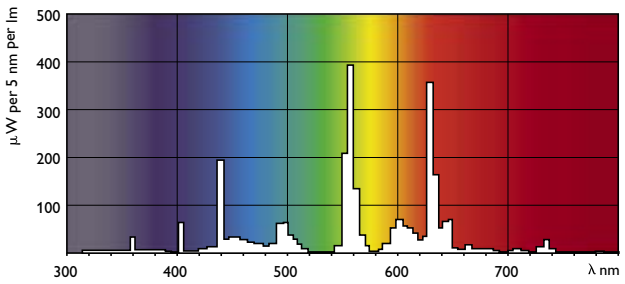
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL5 HO Secura 24W/830 UNP	FDH-24/30/1B-L/P-G5-16/550	8711500954787	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500954794	954787 55
MASTER TL5 HO Secura 24W/840 UNP	FDH-24/40/1B-L/P-G5-16/550	8711500954800	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500954817	954800 55
MASTER TL5 HO Secura 39W/830 UNP	FDH-39/30/1B-L/P-G5-16/850	8711500952219	78 gr	40	88.3 cm x 16 cm x 10.2 cm	8711500952226	952219 55
MASTER TL5 HO Secura 39W/840 UNP	FDH-39/40/1B-L/P-G5-16/850	8711500952233	78 gr	40	88.3 cm x 16 cm x 10.2 cm	8711500952240	952233 55
MASTER TL5 HO Secura 49W/830 UNP	FDH-49/30/1B-L/P-G5-16/1450	8711500952257	132 gr	40	149.8 cm x 16 cm x 10.2 cm	8711500952264	952257 55
MASTER TL5 HO Secura 49W/840 UNP	FDH-49/40/1B-L/P-G5-16/1450	8711500952271	132 gr	40	149.8 cm x 16 cm x 10.2 cm	8711500952288	952271 55
MASTER TL5 HO Secura 54W/830 UNP	FDH-54/30/1B-L/P-G5-16/1150	8711500952295	105 gr	40	119.8 cm x 16 cm x 10.2 cm	8711500952301	952295 55
MASTER TL5 HO Secura 54W/840 UNP	FDH-54/40/1B-L/P-G5-16/1150	8711500952318	105 gr	40	119.8 cm x 16 cm x 10.2 cm	8711500952325	952318 55
MASTER TL5 HO Secura 80W/830 UNP	FDH-80/30/1B-L/P-G5-16/1450	8711500952332	132 gr	40	149.8 cm x 16 cm x 10.2 cm	8711500952349	952332 55
MASTER TL5 HO Secura 80W/840 UNP	FDH-80/40/1B-L/P-G5-16/1450	8711500952356	132 gr	40	149.8 cm x 16 cm x 10.2 cm	8711500952363	952356 55

Spectral power distribution

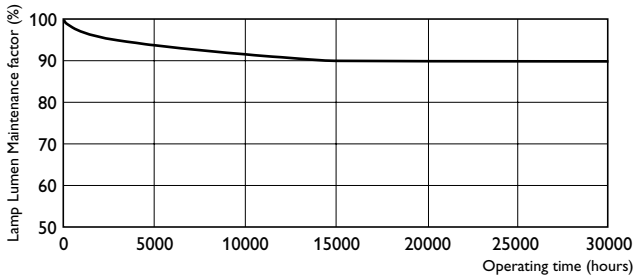


TL5 /830



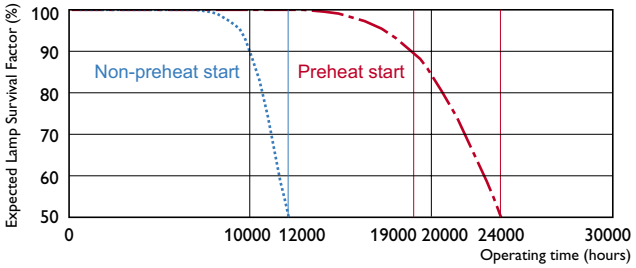
TL5 /840

Lumen maintenance diagram

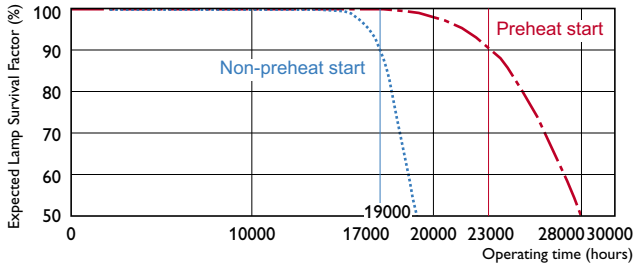


TL5

Life expectancy diagram

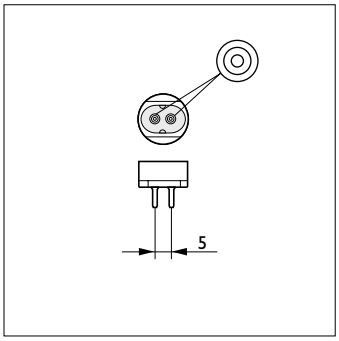


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G5



MASTER TL5 High Output Xtra

Product Description

- Low-pressure high-output mercury discharge lamps with a tubular 16 mm envelope

Product Features

- Significant reduction of early failures through advanced long life technology
- Extra long lifetime
- Designed for high light output and system miniaturisation (40% thinner than TL-D lamps)
- Maximum light output reached at approximately 35 °C in free-burning position
- Low mercury dose

Product Benefits

- Longer lifetime and fewer early failures mean lower maintenance costs and facilitate change from spot to group replacement
- Less waste and disposal cost at end-of-life
- Allows system miniaturisation with maximum luminaire design freedom

Applications

- Where maintenance costs are high, e.g. high ceilings or other hard-to-reach locations
- Department stores, supermarkets, warehouses, production halls and public areas like car parks and railway stations

System

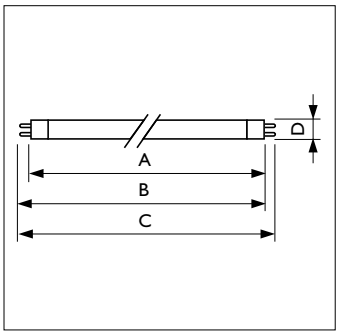
- Longest lifetime is achieved with Philips HF Xtreme gear

Environment

- Best environmental choice because of highest energy efficiency for fluorescent lighting and long reliable life. This leads to lower CO_2 emissions than any other comparable light source (40% less than TL-D standard lamp, 26% less than TL-D 800) and less waste. Products with the 'Green product' logo have the industry's lowest mercury content and are 100% lead-free
- This product range is RoHS compliant
- This product range is covered by WEEE

Recommended gear page 8.202

www.philips.com/OEM



MASTER TL5 High Output Xtra

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL5 HO Xtra 49W/80W	1449.0	1453.7	1456.1	1463.2	17
MASTER TL5 HO Xtra 54W	1149.0	1153.7	1156.1	1163.2	17

Technical data

Type	Lamp Wattage EL (W)	Lamp Voltage EL 25°C (V)	Lamp Current EL 25°C (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 HO Xtra 49W	49.0	195	0.255	49	B	Yes	30000	45000
MASTER TL5 HO Xtra 54W	54.0	118	0.460	54	B	Yes	30000	45000
MASTER TL5 HO Xtra 80W	80.0	151	0.540	80	B	Yes	30000	45000

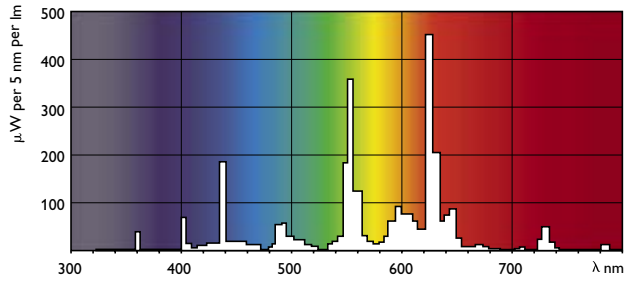
Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Luminous Efficacy Lamp EL at Top, 35°C (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 HO Xtra 49W/830	4300	99	Warm White	3000	85	438	403
MASTER TL5 HO Xtra 49W/840	4300	99	Cool White	4000	85	381	379
MASTER TL5 HO Xtra 54W/830	4450	93	Warm White	3000	85	438	403
MASTER TL5 HO Xtra 54W/840	4450	93	Cool White	4000	85	381	379
MASTER TL5 HO Xtra 80W/830	6150	88	Warm White	3000	85	438	403
MASTER TL5 HO Xtra 80W/840	6150	88	Cool White	4000	85	381	379

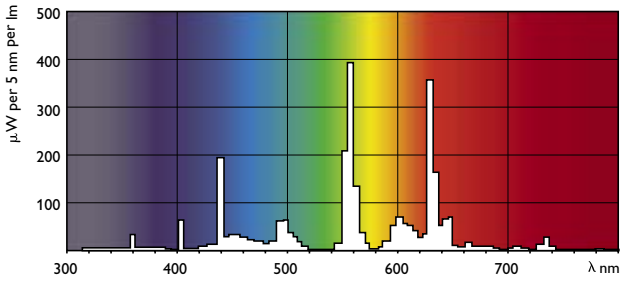
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL5 HO Xtra 49W/830 SLV	FDH-49/30/1B-L/P-G5-16/1450	8711500262516	128.7 gr	20	148.5 cm x 10.6 cm x 83 cm	8711500262523	262516 05
MASTER TL5 HO Xtra 49W/840 SLV	FDH-49/40/1B-L/P-G5-16/1450	8711500262530	128.7 gr	20	148.5 cm x 10.6 cm x 83 cm	8711500262608	262530 05
MASTER TL5 HO Xtra 49W/840 UNP	FDH-49/40/1B-L/P-G5-16/1450	8711500268068	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500268075	268068 55
MASTER TL5 HO Xtra 54W/830 SLV	FDH-54/30/1B-L/P-G5-16/1150	8711500263230	104.5 gr	20	118.3 cm x 10.6 cm x 83 cm	8711500263247	263230 05
MASTER TL5 HO Xtra 54W/830 UNP	FDH-54/30/1B-L/P-G5-16/1150	8711500268082	104.5 gr	40	119 cm x 16.4 cm x 10.2 cm	8711500268099	268082 55
MASTER TL5 HO Xtra 54W/840 SLV	FDH-54/40/1B-L/P-G5-16/1150	8711500263520	104.5 gr	20	118.3 cm x 10.6 cm x 83 cm	8711500263544	263520 05
MASTER TL5 HO Xtra 80W/830 SLV	FDH-80/30/1B-L/P-G5-16/1450	8711500262615	128.7 gr	20	148.5 cm x 10.6 cm x 83 cm	8711500262882	262615 05
MASTER TL5 HO Xtra 80W/830 UNP	FDH-80/30/1B-L/P-G5-16/1450	8711500268129	104.5 gr	40	119 cm x 16.4 cm x 10.2 cm	8711500268136	268129 55
MASTER TL5 HO Xtra 80W/840 SLV	FDH-80/40/1B-L/P-G5-16/1450	8711500263032	128.7 gr	20	148.5 cm x 10.6 cm x 83 cm	8711500263049	263032 05

Spectral power distribution

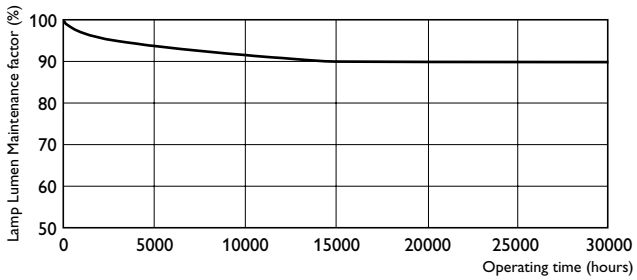


TL5 /830



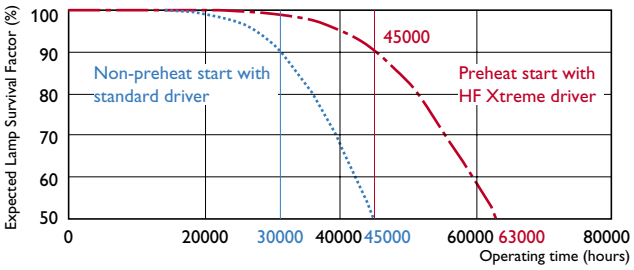
TL5 /840

Lumen maintenance diagram

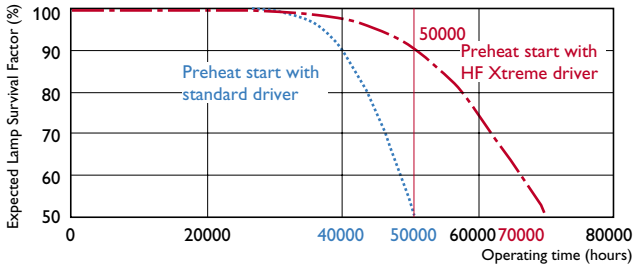


TL5

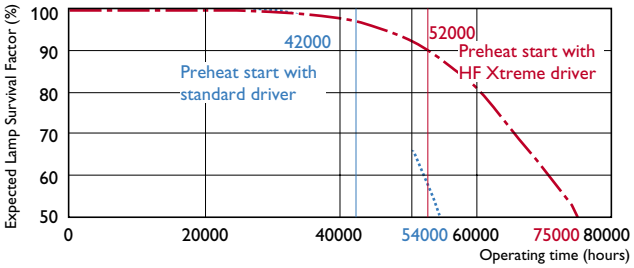
Life expectancy diagram



Life Expectancy 3 h switching cycle

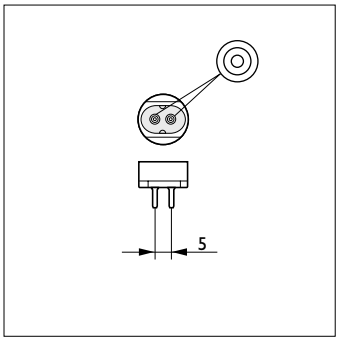


Life Expectancy 12 h switching cycle



Life Expectancy 24 h switching cycle

Cap Base



G5





MASTER TL5 High Output TOP

Product Description

- Low-pressure mercury discharge lamps with a tubular 16 mm envelope with amalgam controlled operation

Product Features

- 40% thinner than TL-D lamps
- Designed for high lumen output and system miniaturisation
- Lumen output higher than 90% of maximum value at ambient lamp temperatures from 20 to 75°C due to amalgam-controlled operation
- Highly efficient 3-band fluorescent coating in combination with precoating
- Specifically designed for operation with electronic gear
- Allows dimming-down to 30% light output
- Hot restrike and good run-up behaviour compared to high intensity discharge lamps due to auxiliary amalgams at both lamp ends
- Can be ignited at temperatures from -15 to +75°C
- Not recommended for emergency lighting due to slower run-up behaviour than non-amalgam TL5 lamps

Product Benefits

- Allows system miniaturisation with maximum luminaire design freedom
- Lamp lengths enable easy fitting into ceiling module systems
- Retrofit to current TL5 HO non-amalgam lamps
- Optimised for installations which need high luminous flux, especially in cold (0-15 °C) and hot (above 40 °C) conditions
- Constant lumen level over a wide temperature range with excellent lumen maintenance
- Good colour rendering

Application

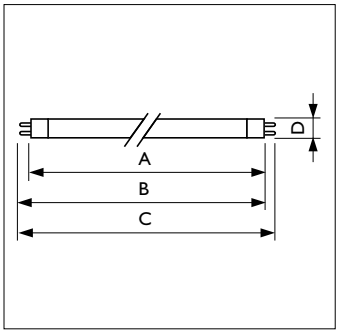
- Architectural lighting and customised solutions thanks to compact lamp size and high lumen package, especially in cold (0 to 15 °C) and hot (above 40 °C) conditions
- Economic solutions with high-ceiling lighting in retail and industrial application areas
- Especially uplighting applications in offices where higher lumen packages are needed
- Aesthetic pendents, closed and furniture-mounted luminaires in offices, workshops, restaurants and reception areas

Environment

- Highest energy efficiency in fluorescent lighting
- Product with the industry's lowest mercury content and 100% lead-free
- Less material, packaging, weight, transport and recycling volume due to smallest product dimensions (only 16 mm diameter, 40% less than TL-D)
- RoHS compliant
- Covered by WEEE

Recommended gear page 8.202

www.philips.com/OEM



MASTER TL5 High Output TOP

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL5 HO TOP 49W/80W	1449.0	1453.7	1456.1	1463.2	17
MASTER TL5 HO TOP 54W	1149.0	1153.7	1156.1	1163.2	17

Technical data

Type	Lamp Wattage EL (W)	Lamp Voltage EL 25°C (V)	Lamp Current EL 25°C (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 HO TOP 49W	49.3	195	0.255	49	A	Yes	19000	24000
MASTER TL5 HO TOP 54W	54	118	0.460	54	A	Yes	19000	24000
MASTER TL5 HO TOP 80W	80	151	0.540	80	B	Yes	19000	24000

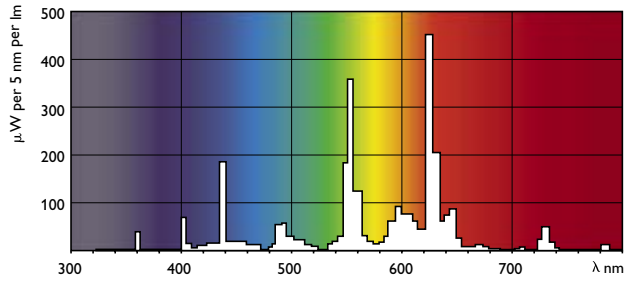
Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Luminous Efficacy Lamp EL at Top, 35°C (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 HO TOP 49W/830	4650	99	Warm White	3000	85	438	403
MASTER TL5 HO TOP 49W/840	4650	99	Cool White	4000	85	381	379
MASTER TL5 HO TOP 54W/830	4750	93	Warm White	3000	85	438	403
MASTER TL5 HO TOP 54W/840	4750	93	Cool White	4000	85	381	379
MASTER TL5 HO TOP 80W/830	6650	88	Warm White	3000	85	438	403
MASTER TL5 HO TOP 80W/840	6650	88	Cool White	4000	85	381	379

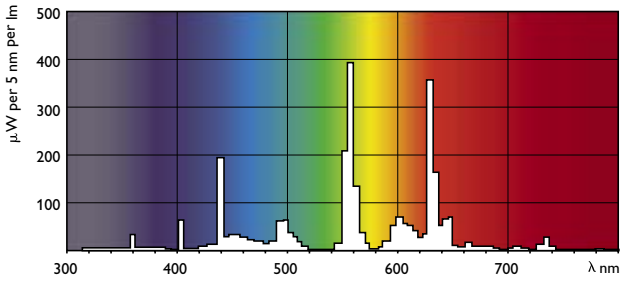
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL5 HO TOP 49W/830 SLV	FDH-49/30/1B-L/P-G5-16/1450	8711500266835	128.7 gr	20	148.5 cm x 10.6 cm x 8.3 cm	8711500266866	266835 05
MASTER TL5 HO TOP 49W/830 UNP	FDH-49/30/1B-L/P-G5-16/1450	8711500268167	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500267054	268167 55
MASTER TL5 HO TOP 49W/840 SLV	FDH-49/40/1B-L/P-G5-16/1450	8711500266873	128.7 gr	20	148.5 cm x 10.6 cm x 8.3 cm	8711500266880	266873 05
MASTER TL5 HO TOP 49W/840 UNP	FDH-49/40/1B-L/P-G5-16/1450	8711500267078	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500267085	267078 55
MASTER TL5 HO TOP 54W/830 SLV	FDH-54/30/1B-L/P-G5-16/1150	8711500266934	104.5 gr	20	118.3 cm x 10.6 cm x 8.3 cm	8711500266941	266934 05
MASTER TL5 HO TOP 54W/830 UNP	FDH-54/30/1B-L/P-G5-16/1150	8711500267092	162.9 gr	40	118.5 cm x 16.5 cm x 10.2 cm	8711500267108	267092 55
MASTER TL5 HO TOP 54W/840 SLV	FDH-54/40/1B-L/P-G5-16/1150	8711500266958	104.5 gr	20	118.3 cm x 10.6 cm x 8.3 cm	8711500266965	266958 05
MASTER TL5 HO TOP 54W/840 UNP	FDH-54/40/1B-L/P-G5-16/1150	8711500267115	162.9 gr	40	118.5 cm x 16.5 cm x 10.2 cm	8711500267122	267115 55
MASTER TL5 HO TOP 80W/830 SLV	FDH-80/30/1B-L/P-G5-16/1450	8711500266897	128.7 gr	20	148.5 cm x 10.6 cm x 8.3 cm	8711500266903	266897 05
MASTER TL5 HO TOP 80W/830 UNP	FDH-80/30/1B-L/P-G5-16/1450	8711500267139	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500267146	267139 55
MASTER TL5 HO TOP 80W/840 SLV	FDH-80/40/1B-L/P-G5-16/1450	8711500266910	128.7 gr	20	148.5 cm x 10.6 cm x 8.3 cm	8711500266927	266910 05
MASTER TL5 HO TOP 80W/840 UNP	FDH-80/40/1B-L/P-G5-16/1450	8711500267153	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500267160	267153 55

Spectral power distribution

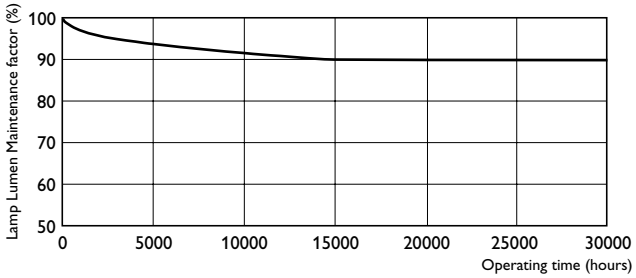


TL5 /830



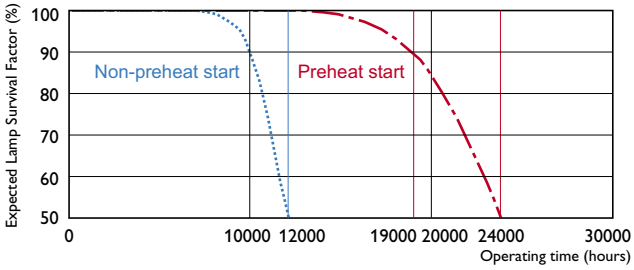
TL5 /840

Lumen maintenance diagram

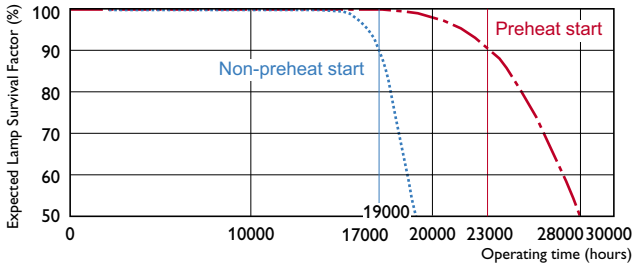


TL5

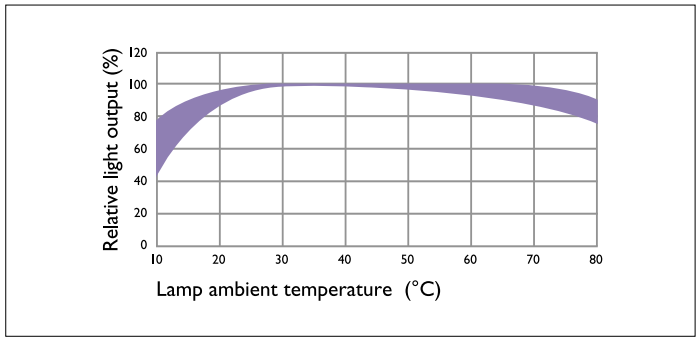
Life expectancy diagram



Life Expectancy 3h cycle

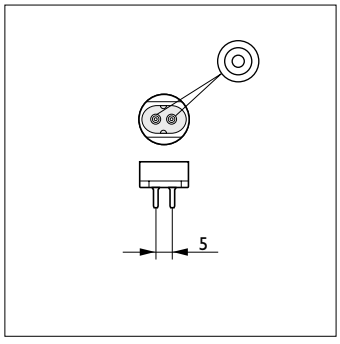


Life Expectancy 12h cycle



TL5 HO TOP Lumen Output

Cap Base



G5





MASTER TL5 Very High Output TOP

Product Description

- Low-pressure mercury discharge lamps with a tubular 16 mm envelope with amalgam controlled operation

Product Features

- The first fluorescent solution which is really suited for high-bay applications such as industry halls, (unconditioned) warehouses and 'big box' retail outlets
- 40% thinner than TL-D lamps
- Designed for very high lumen output and system miniaturisation
- Lumen output higher than 90% of maximum value at ambient lamp temperatures from 20 to 75°C due to amalgam-controlled operation
- Highly efficient 3-band fluorescent coating in combination with precoating
- Specifically designed for operation with electronic gear
- Allows dimming down to 30% light output
- Hot restrike and good run-up behaviour compared to high intensity discharge lamps due to auxiliary amalgams at both lamp ends
- Can be ignited at temperatures from -15 to +75°C
- Not recommended for emergency lighting due to slower run-up behaviour than non-amalgam TL5 lamps

Product Benefits

- Allow system miniaturisation with maximum luminaire design freedom
- Lower initial investments than any other fluorescent lighting solution, because fewer luminaires are needed
- Optimised for installations which need very high luminous flux
- Good light distribution, beam control, long lifetime and low maintenance costs
- Constant lumen level over a wide temperature range with excellent lumen maintenance
- Good colour rendering

Application

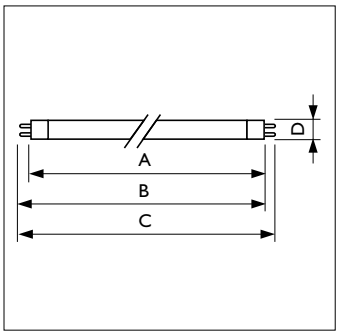
- Best solution for high ceilings in industrial and retail environments
- Customized solutions in high-bay applications thanks to compact lamp size and very high lumen package

Environment

- Product with the industry's lowest mercury content and 100% lead-free
- Less material, packaging, weight, transport and recycling volume due to smallest product dimensions (only 16 mm diameter, 40% less than TL-D)
- RoHS compliant
- Covered by WEEE

Recommended gear page 8.202

www.philips.com/OEM



MASTER TL5 Very High Output TOP

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL5 VHO TOP 95W	1149.0	1153.7	1156.1	1163.2	17
MASTER TL5 VHO TOP 120W	1449.0	1453.7	1456.1	1463.2	17

Technical data

Type	Lamp Wattage EL (W)	Lamp Voltage EL 25°C (V)	Lamp Current EL 25°C (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 VHO TOP 95W	95	120	0.800	95	B	Yes	19000	24000
MASTER TL5 VHO TOP 120W	120	150	0.800	120	B	Yes	19000	24000

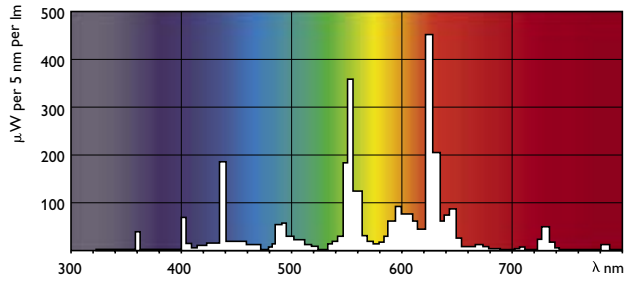
Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Luminous Efficacy Lamp EL at Top, 35°C (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 VHO TOP 95W/830	6850	76	Warm White	3000	85	438	403
MASTER TL5 VHO TOP 95W/840	6850	76	Cool White	4000	85	381	379
MASTER TL5 VHO TOP 120W/830	8850	78	Warm White	3000	85	438	403
MASTER TL5 VHO TOP 120W/840	8850	78	Cool White	4000	85	381	379

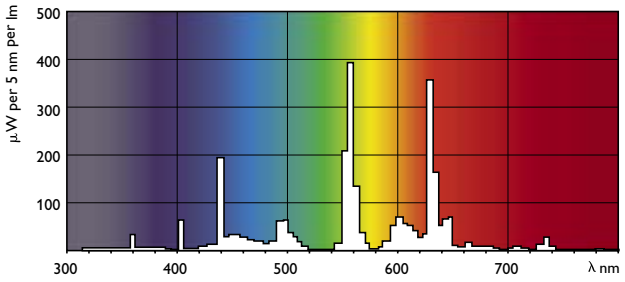
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL5 VHO TOP 95W/830 SLV	FDH-95/30/1B-L/P-G5-16/1150	8711500266972	104.5 gr	20	118.3 cm x 10.6 cm x 8.3 cm	8711500266989	266972 05
MASTER TL5 VHO TOP 95W/830 UNP	FDH-95/30/1B-L/P-G5-16/1150	8711500267177	162.9 gr	40	118.5 cm x 16.5 cm x 10.2 cm	8711500267191	267177 55
MASTER TL5 VHO TOP 95W/840 SLV	FDH-95/40/1B-L/P-G5-16/1150	8711500266966	104.5 gr	20	118.3 cm x 10.6 cm x 8.3 cm	8711500267009	266996 05
MASTER TL5 VHO TOP 95W/840 UNP	FDH-95/40/1B-L/P-G5-16/1150	8711500267221	162.9 gr	40	118.5 cm x 16.5 cm x 10.2 cm	8711500267238	267221 55
MASTER TL5 VHO TOP 120W/830 SLV	FDH-120/30/1B-L/P-G5-16/1450	8711500267016	104.5 gr	20	118.3 cm x 10.6 cm x 8.3 cm	8711500267023	267016 05
MASTER TL5 VHO TOP 120W/830 UNP	FDH-120/30/1B-L/P-G5-16/1450	8711500267245	162.9 gr	40	118.5 cm x 16.5 cm x 10.2 cm	8711500267252	267245 55
MASTER TL5 VHO TOP 120W/840 SLV	FDH-120/40/1B-L/P-G5-16/1450	8711500267030	104.5 gr	20	118.3 cm x 10.6 cm x 8.3 cm	8711500267047	267030 05
MASTER TL5 VHO TOP 120W/840 UNP	FDH-120/40/1B-L/P-G5-16/1450	8711500267269	162.9 gr	40	118.5 cm x 16.5 cm x 10.2 cm	8711500267276	267269 55

Spectral power distribution

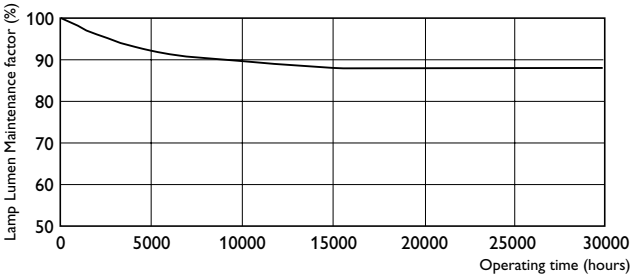


TL5 /830



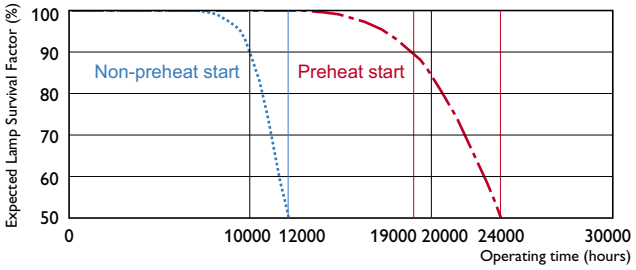
TL5 /840

Lumen maintenance diagram

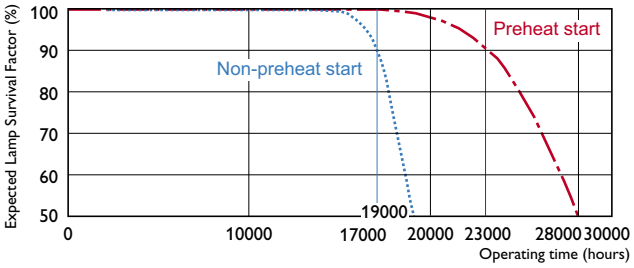


TL5

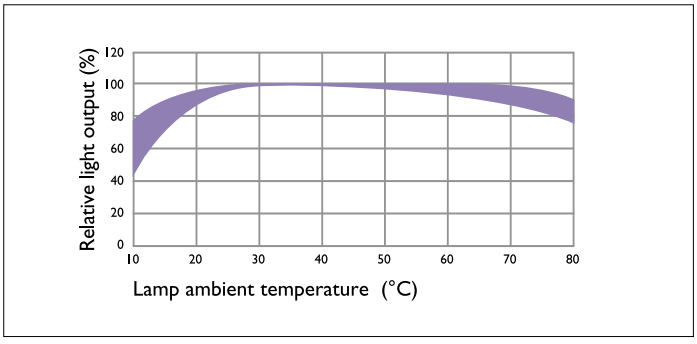
Life expectancy diagram



Life Expectancy 3h cycle

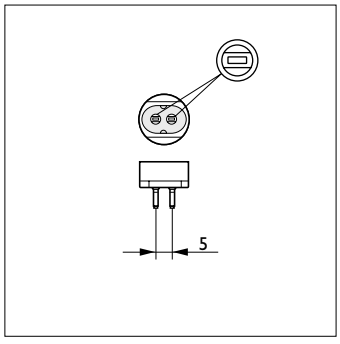


Life Expectancy 12h cycle



TL5 HO TOP Lumen Output

Cap Base



GX5





MASTER TL5 High Output 90 De Luxe

Product Description

- Low-pressure mercury discharge lamps with a tubular 16 mm envelope

Product Features

- 40% thinner than TL-D lamps
- Highly efficient multi-band fluorescent coating in combination with precoating
- Specifically designed for operation with electronic gear and well-suited for dimming
- Maximum light output reached at approximately 35 °C in free-burning position if an electronic gear without additional electrode heating is used
- Can be ignited from -15 to +50 °C

Product Benefits

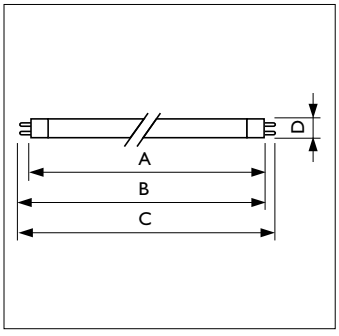
- Allows system miniaturisation and maximum luminaire design freedom, with lamp lengths defined for easy fitting into ceiling module systems
- Virtually constant lumen level with good lumen maintenance
- Excellent colour rendering

Application

- Where a high colour recognition is needed: first aid and treatment rooms in hospitals, printing rooms, jewellery manufacturing, dentists, hairdressing, museums and shops

Recommended gear page 8.202

www.philips.com/OEM



MASTER TL5 High Output 90 De Luxe

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL5 HO 90 De Luxe 24W	549.0	553.7	556.1	563.2	17
MASTER TL5 HO 90 De Luxe 49W	1449.0	1453.7	1456.1	1463.2	17
MASTER TL5 HO 90 De Luxe 54W	1149.0	1153.7	1156.1	1163.2	17

Technical data

Type	Lamp Wattage EL (W)	Lamp Voltage EL 25°C (V)	Lamp Current EL 25°C (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 HO 90 De Luxe 24W	24	80	0.300	24	B	Yes	19000	24000
MASTER TL5 HO 90 De Luxe 24W	22	80	0.300	24	B	Yes	19000	24000
MASTER TL5 HO 90 De Luxe 49W	49	195	0.255	49	B	Yes	19000	24000
MASTER TL5 HO 90 De Luxe 54W	54	118	0.460	54	B	Yes	19000	24000

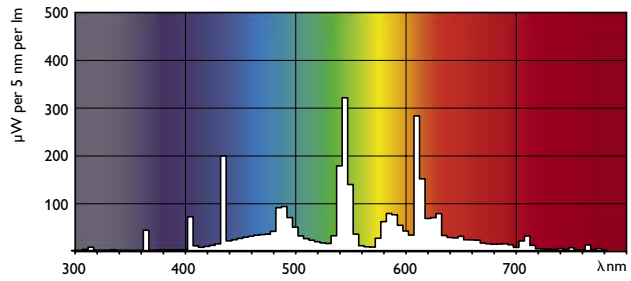
Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Luminous Efficacy Lamp EL at Top, 35°C (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 HO 90 De Luxe 24W/940	1400	71	Cool White	4000	91	381	379
MASTER TL5 HO 90 De Luxe 24W/950	1400	67	Daylight	5200	93	340	352
MASTER TL5 HO 90 De Luxe 24W/965	1400	67	Cool Daylight	6800	93	311	324
MASTER TL5 HO 90 De Luxe 49W/940	3700	79	Cool White	4000	91	381	379
MASTER TL5 HO 90 De Luxe 49W/950	3700	75	Daylight	5200	93	340	352
MASTER TL5 HO 90 De Luxe 49W/965	3700	75	Cool Daylight	6800	93	309	323
MASTER TL5 HO 90 De Luxe 54W/940	3800	75	Cool White	4000	91	381	379
MASTER TL5 HO 90 De Luxe 54W/950	3800	71	Daylight	5200	93	340	352
MASTER TL5 HO 90 De Luxe 54W/965	3800	71	Cool Daylight	6800	93	309	323

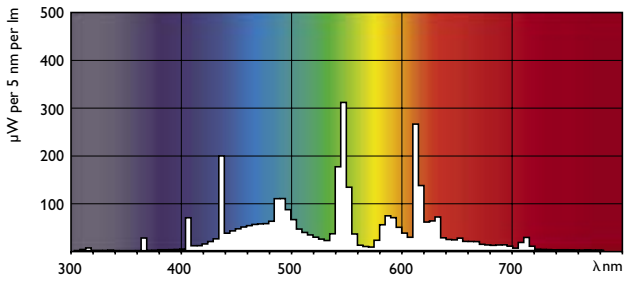
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL5 HO 90 De Luxe 24W/940 SLV	FDH-24/40/1A-L/P-G5-16/550	8711500868954	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500868961	868954 20
MASTER TL5 HO 90 De Luxe 24W/950 SLV	FDH-24/50/1A-L/P-G5-16/550	8711500890641	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500890658	890641 20
MASTER TL5 HO 90 De Luxe 24W/965 SLV	FDH-24/65/1A-L/P-G5-16/550	8711500261304	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500261298	261304 20
MASTER TL5 HO 90 De Luxe 49W/940 SLV	FDH-49/40/1A-L/P-G5-16/1450	8711500868978	128.7 gr	15	147.4 cm x 10.6 cm x 6.6 cm	8711500869029	868978 20
MASTER TL5 HO 90 De Luxe 49W/950 SLV	FDH-49/50/1A-L/P-G5-16/1450	8711500890627	128.7 gr	15	147.4 cm x 10.6 cm x 6.6 cm	8711500890634	890627 20
MASTER TL5 HO 90 De Luxe 49W/965 SLV	FDH-49/65/1A-L/P-G5-16/1450	8711500869722	128.7 gr	15	147.4 cm x 10.6 cm x 6.6 cm	8711500869739	869722 20
MASTER TL5 HO 90 De Luxe 54W/940 SLV	FDH-54/40/1A-L/P-G5-16/1150	8711500869050	104.5 gr	15	117.4 cm x 10.6 cm x 6.6 cm	8711500869067	869050 20
MASTER TL5 HO 90 De Luxe 54W/950 SLV	FDH-54/50/1A-L/P-G5-16/1150	8711500890665	104.5 gr	15	117.4 cm x 10.6 cm x 6.6 cm	8711500890672	890665 20
MASTER TL5 HO 90 De Luxe 54W/965 SLV	FDH-54/65/1A-L/P-G5-16/1150	8711500869838	104.5 gr	15	117.4 cm x 10.6 cm x 6.6 cm	8711500869845	869838 20

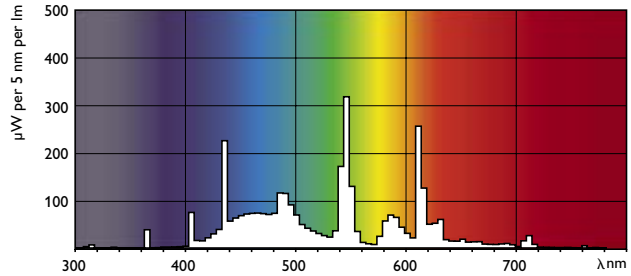
Spectral power distribution



TL5 /940

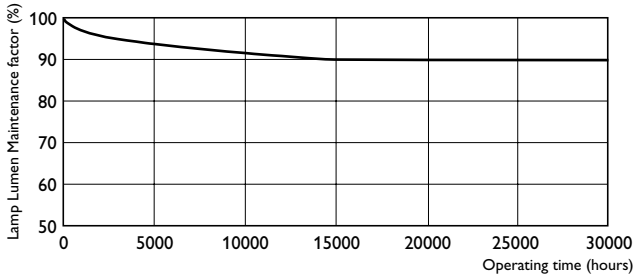


TL5 /950



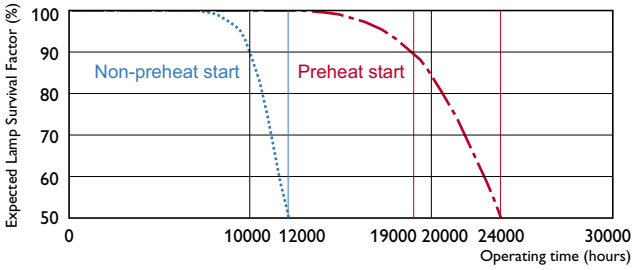
TL5 /965

Lumen maintenance diagram

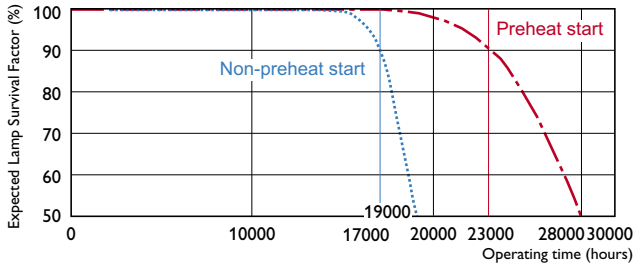


TL5

Life expectancy diagram

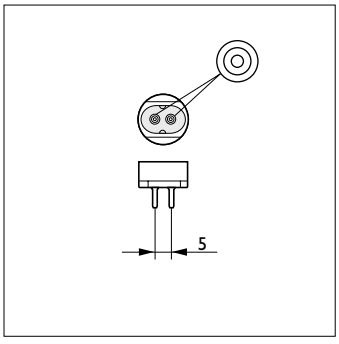


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G5





MASTER TL5 High Output Optiview

Product Description

- Linear fluorescent lamps with a tubular 16 mm envelope

Product Features

- High-quality fluorescent coating tuned to simplify colour discrimination, supporting quick and optimal diagnosis
- Designed to comply with the critical diagnosis parameter Cyanosis Observation Index (COI), with COI <3 (normal fluorescent lamps: COI >6)
- Cool white colour
- Direct retrofit for existing TL5 HO lamps in HF systems

Product Benefits

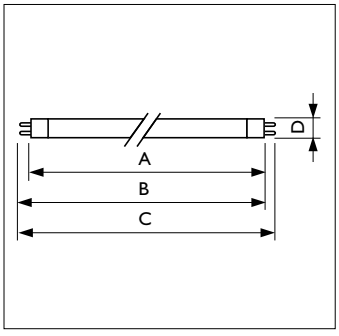
- Optimally tuned to support medical staff in visual clinical patient observation; helps to reduce the risk of wrong diagnoses
- Improves early diagnosis of pathophysiological conditions that can be detected by changes in skin colour
- Simplifies medical tasks that require good colour discrimination (e.g. visibility of veins when taking blood samples)
- Meets all relevant hospital lighting standards (e.g. EN12464, DIN 5035-3, AS/NZS 1680.2.5), making it a safe and simple choice
- Clearly demonstrates the commitment of healthcare providers to avoiding unnecessary risks to patients, government and insurance companies
- Attractive 15 pcs./box packaging

Application

- General lighting purposes in all areas of hospitals and (paramedical) clinics where there is interaction between patients and medical staff

Recommended gear page 8.202

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MASTER TL5 High Output Optiview

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL5 HO Optiview 24W	549.0	553.7	556.1	563.2	17
MASTER TL5 HO Optiview 49W	1449.0	1453.7	1456.1	1463.2	17
MASTER TL5 HO Optiview 54W	1149.0	1153.7	1156.1	1163.2	17

Technical data

Type	Lamp Wattage EL (W)	Lamp Voltage EL 25°C (V)	Lamp Current EL 25°C (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 HO Optiview 24W	22	80	0.300	24	B	Yes	19000	24000
MASTER TL5 HO Optiview 49W	49	195	0.255	49	B	Yes	19000	24000
MASTER TL5 HO Optiview 54W	54	118	0.460	54	B	Yes	19000	24000

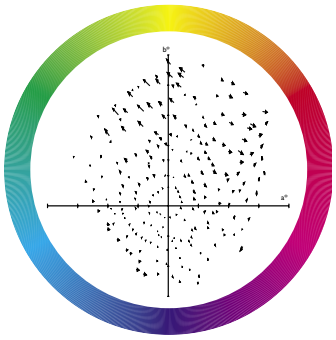
Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Luminous Efficacy Lamp EL at Top, 35°C (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 HO Optiview 24W	1400	67	Daylight	5200	93	340	352
MASTER TL5 HO Optiview 49W	3700	75	Daylight	5200	93	340	352
MASTER TL5 HO Optiview 54W	3800	71	Daylight	5200	93	340	352

Ordering and packing data

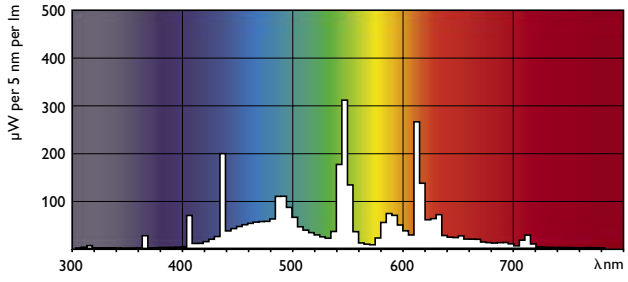
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL5 HO Optiview 24W SLV	FDH-24/50/1A-L/P-G5-16/550	8711500895110	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500895127	895110 20
MASTER TL5 HO Optiview 49W SLV	FDH-49/50/1A-L/P-G5-16/1450	8711500895158	128.7 gr	15	147.4 cm x 10.6 cm x 6.6 cm	8711500895165	895158 20
MASTER TL5 HO Optiview 54W SLV	FDH-54/50/1A-L/P-G5-16/1150	8711500895196	104.5 gr	15	117.4 cm x 10.6 cm x 6.6 cm	8711500895202	895196 20

CRV diagram



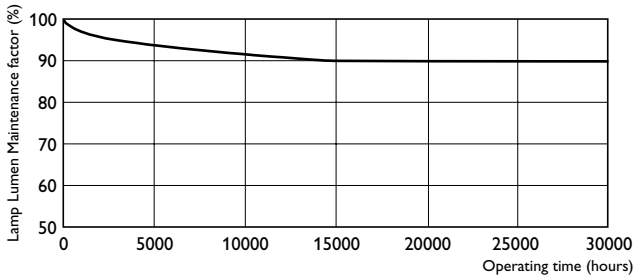
TL5 Optiview

Spectral power distribution



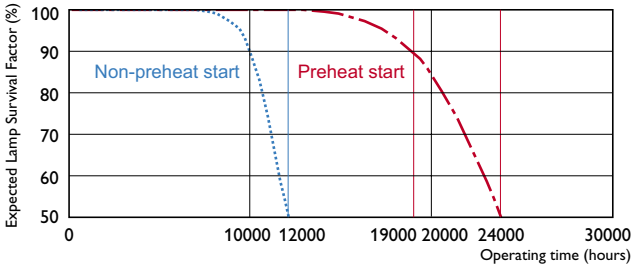
TL5 /Optiview

Lumen maintenance diagram

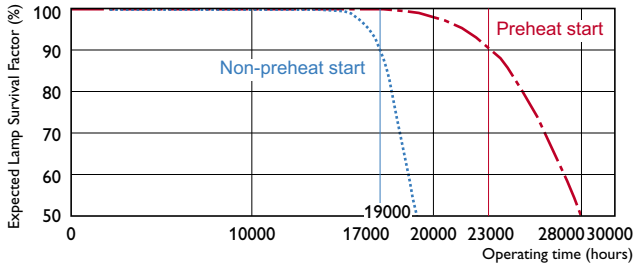


TL5

Life expectancy diagram

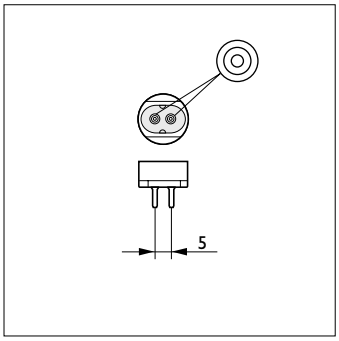


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G5





MASTER TL5 ActiViva

Product Description

- TL5 linear fluorescent lamps with a 16 mm tubular envelope and enhanced blue light content to promote well-being

Product Features

- Unique phosphor coating generates a light spectrum with an optimal balance between light for vision and blue light to promote well-being.
- Direct retrofit for existing fluorescent lamps operating on HF gear
- ActiViva Active contains 85% more blue light than daylight for real 'blue sky' effect
- ActiViva Natural contains 25% more blue light than daylight
- High-quality lighting (CRI>80) with efficiency comparable to other /800 colours
- Dimmable

Product Benefits

- Enhanced blue light content positively influences well-being
- ActiViva lighting makes people feel more alert, awake and energized
- ActiViva lamps can be used to expand the colour range of Dynamic Lighting luminaires

Application

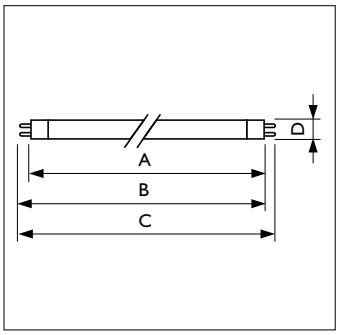
- Indoor working areas (offices, call centres, industry, schools, healthcare etc.), especially where an energizing environment needs to be created
- ActiViva can be used to enhance the circadian rhythm of people who work in night shifts
- ActiViva Active is recommended for use in indirect lighting when total areas are equipped
- ActiViva Natural can be combined well with other light sources in existing installations
- For best results and optimal convenience total areas should be equipped on retrofitting

Environment

- Philips Green product environmental label due to extremely low mercury levels
- Compliant with all RoHS and WEEE requirements

Recommended gear page 8.202

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MASTER TL5 ActiViva

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL5 HE ActiViva Active/Natural 14W	549.0	553.7	556.1	563.2	17
MASTER TL5 HE ActiViva Active/Natural 21W	849.0	853.7	856.1	863.2	17
MASTER TL5 HE ActiViva Active/Natural 28W	1149.0	1153.7	1156.1	1163.2	17
MASTER TL5 HE ActiViva Active/Natural 35W	1449.0	1453.7	1456.1	1463.2	17
MASTER TL5 HO ActiViva Active/Natural 24W	549.0	553.7	556.1	563.2	17
MASTER TL5 HO ActiViva Active/Natural 49W	1449.0	1453.7	1456.1	1463.2	17
MASTER TL5 HO ActiViva Active/Natural 54W	1149.0	1153.7	1156.1	1163.2	17

Technical data

Type	Lamp Wattage EL (W)	Lamp Voltage EL 25°C (V)	Lamp Current EL 25°C (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 HE ActiViva Active/Natural 14W	14.0	83	0.170	14	B	Yes	19000	24000
MASTER TL5 HE ActiViva Active/Natural 21W	20.8	125	0.170	21	B	Yes	19000	24000
MASTER TL5 HE ActiViva Active/Natural 28W	28.0	166	0.170	28	B	Yes	19000	24000
MASTER TL5 HE ActiViva Active/Natural 35W	35.0	208	0.170	35	B	Yes	19000	24000
MASTER TL5 HO ActiViva Active/Natural 24W	22.5	80	0.300	24	B	Yes	19000	24000
MASTER TL5 HO ActiViva Active/Natural 49W	49.3	195	0.255	49	B	Yes	19000	24000
MASTER TL5 HO ActiViva Active/Natural 54W	54	118	0.460	54	B	Yes	19000	24000

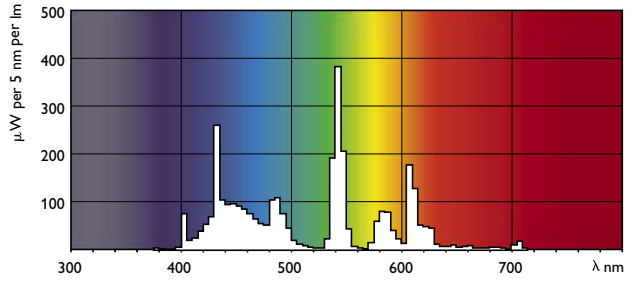
Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Luminous Efficacy Lamp EL at Top, 35°C (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 HE ActiViva Active 14W	850	71	ActiViva Active	17000	82	262	265
MASTER TL5 HE ActiViva Active 21W	1400	76	ActiViva Active	17000	82	262	265
MASTER TL5 HE ActiViva Active 28W	2000	82	ActiViva Active	17000	82	262	265
MASTER TL5 HE ActiViva Active 35W	2450	80	ActiViva Active	17000	82	262	295
MASTER TL5 HE ActiViva Natural 14W	950	78	ActiViva Natural	8000	82	299	314
MASTER TL5 HE ActiViva Natural 21W	1500	83	ActiViva Natural	8000	82	299	314
MASTER TL5 HE ActiViva Natural 28W	2200	89	ActiViva Natural	8000	82	299	314
MASTER TL5 HE ActiViva Natural 35W	2600	85	ActiViva Natural	8000	82	299	314
MASTER TL5 HO ActiViva Active 24W	1550	84	ActiViva Active	17000	82	260	262
MASTER TL5 HO ActiViva Active 49W	3700	94	ActiViva Active	17000	82	260	262
MASTER TL5 HO ActiViva Active 54W	3800	89	ActiViva Active	17000	82	260	262
MASTER TL5 HO ActiViva Natural 24W	1650	84	ActiViva Natural	8000	82	295	309
MASTER TL5 HO ActiViva Natural 49W	4100	94	ActiViva Natural	8000	82	295	309
MASTER TL5 HO ActiViva Natural 54W	4250	89	ActiViva Natural	8000	82	295	309

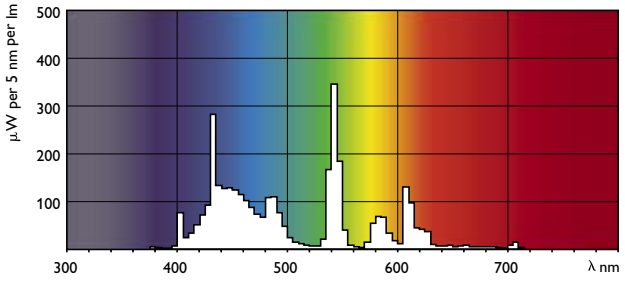
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL5 HE ActiViva Active 14W SLV	FDH-14/170/1B-L/P-G5-16/550	8711500267429	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500267436	267429 55
MASTER TL5 HE ActiViva Active 21W SLV	FDH-21/170/1B-L/P-G5-16/850	8711500267467	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500267474	267467 55
MASTER TL5 HE ActiViva Active 28W SLV	FDH-28/170/1B-L/P-G5-16/1150	8711500267597	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500267603	267597 55
MASTER TL5 HE ActiViva Active 35W SLV	FDH-35/170/1B-L/P-G5-16/1450	8711500267658	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500267665	267658 55
MASTER TL5 HE ActiViva Natural 14W SLV	FDH-14/80/1B-L/P-G5-16/550	8711500267405	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500267412	267405 55
MASTER TL5 HE ActiViva Natural 21W SLV	FDH-21/80/1B-L/P-G5-16/850	8711500267443	80.5 gr	40	87.4 cm x 16.4 cm x 10.2 cm	8711500267450	267443 55
MASTER TL5 HE ActiViva Natural 28W SLV	FDH-28/80/1B-L/P-G5-16/1150	8711500267566	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500267559	267566 55
MASTER TL5 HE ActiViva Natural 35W SLV	FDH-35/80/1B-L/P-G5-16/1450	8711500267610	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500267641	267610 55
MASTER TL5 HO ActiViva Active 24W SLV	FDH-24/170/1B-L/P-G5-16/550	8711500951755	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500952769	951755 20
MASTER TL5 HO ActiViva Active 24W SLV	FDH-24/170/1B-L/P-G5-16/550	8711500951755	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500951762	951755 55
MASTER TL5 HO ActiViva Active 49W SLV	FDH-49/170/1B-L/P-G5-16/1450	8711500951816	128.7 gr	15	147.4 cm x 10.6 cm x 6.6 cm	8711500952783	951816 20
MASTER TL5 HO ActiViva Active 49W SLV	FDH-49/170/1B-L/P-G5-16/1450	8711500951816	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500951823	951816 55
MASTER TL5 HO ActiViva Active 54W SLV	FDH-54/170/1B-L/P-G5-16/1150	8711500951779	104.5 gr	15	117.4 cm x 10.6 cm x 6.6 cm	8711500952776	951779 20
MASTER TL5 HO ActiViva Active 54W SLV	FDH-54/170/1B-L/P-G5-16/1150	8711500951779	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500951786	951779 55
MASTER TL5 HO ActiViva Natural 24W SLV	FDH-24/80/1B-L/P-G5-16/550	8711500951694	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500952707	951694 20
MASTER TL5 HO ActiViva Natural 24W SLV	FDH-24/80/1B-L/P-G5-16/550	8711500951694	53 gr	40	57.4 cm x 16.4 cm x 10.2 cm	8711500951700	951694 55
MASTER TL5 HO ActiViva Natural 49W SLV	FDH-49/80/1B-L/P-G5-16/1450	8711500951793	128.7 gr	15	147.4 cm x 10.6 cm x 6.6 cm	8711500952752	951793 20
MASTER TL5 HO ActiViva Natural 49W SLV	FDH-49/80/1B-L/P-G5-16/1450	8711500951793	128.7 gr	40	146.6 cm x 16.4 cm x 10.2 cm	8711500951809	951793 55
MASTER TL5 HO ActiViva Natural 54W SLV	FDH-54/80/1B-L/P-G5-16/1150	8711500951717	104.5 gr	15	117.4 cm x 10.6 cm x 6.6 cm	8711500952745	951717 20
MASTER TL5 HO ActiViva Natural 54W SLV	FDH-54/80/1B-L/P-G5-16/1150	8711500951717	104.5 gr	40	117.4 cm x 16.4 cm x 10.2 cm	8711500951724	951717 55

Spectral power distribution

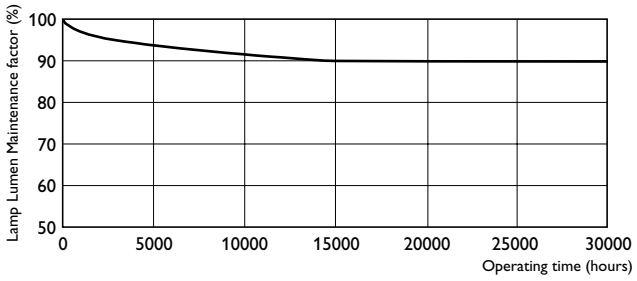


ActiViva Natural (8000 K)



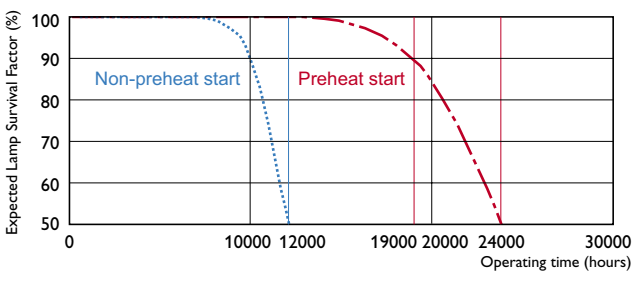
ActiViva Active (17000 K)

Lumen maintenance diagram

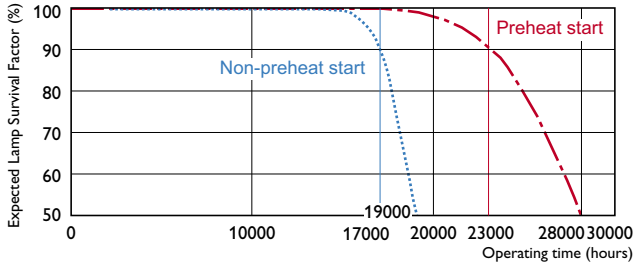


TL5

Life expectancy diagram

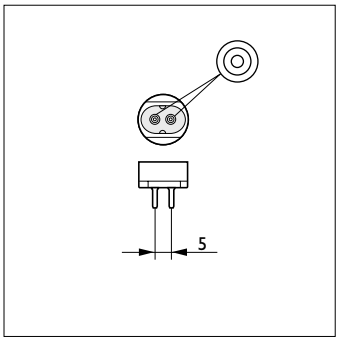


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G5



MASTER TL5 Coloured

Product Description

- Low-pressure mercury discharge lamps with a tubular 16 mm envelope

Product Features

- Highly efficient one-band fluorescent coating in combination with pre-coating
- 40% thinner than existing TL-D lamps
- Low mercury dose
- Specifically designed for operation with electronic gear and well-suited for dimming
- Maximum light output reached at approximately 35 °C in free-burning position if an electronic gear without additional electrode heating is used
- Can be ignited from -15 to +50 °C

Product Benefits

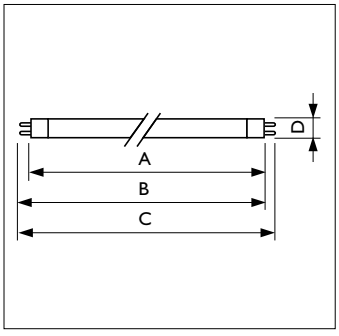
- Allows creation of special red, green and blue colour effects
- Allows colour mixing to white light ranging from 2700 K to 6500 K
- Allows system miniaturisation with maximum luminaire design freedom

Application

- Creation of special colour effects and / or ambiance, e.g. in theatres, shops, disco's, theme parks, shop windows, displays and signs
- Creation of different ambiances with white light by changing the colour temperature, e.g. in shops, treatment rooms, theatres, high-end offices, conference rooms and colour matching purposes

Recommended gear page 8.202

www.philips.com/OEM



MASTER TL5 Coloured

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL5 HE Coloured 14W	549.0	553.7	556.1	563.2	17
MASTER TL5 HO Coloured 24W	549.0	553.7	556.1	563.2	17
MASTER TL5 HE Coloured 28W	1149.0	1153.7	1156.1	1163.2	17
MASTER TL5 HO Coloured 54W	1149.0	1153.7	1156.1	1163.2	17

Technical data

Type	Lamp Wattage EL (W)	Lamp Voltage EL 25°C (V)	Lamp Current EL 25°C (A)	Rated Lamp Wattage	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 HE Coloured 14W	14.0	83	0.170	14	Yes	19000	24000
MASTER TL5 HE Coloured 28W	28.0	166	0.170	28	Yes	19000	24000
MASTER TL5 HO Coloured 24W	22.5	77	0.295	24	Yes	19000	24000
MASTER TL5 HO Coloured 54W	54.0	121	0.450	54	Yes	19000	24000

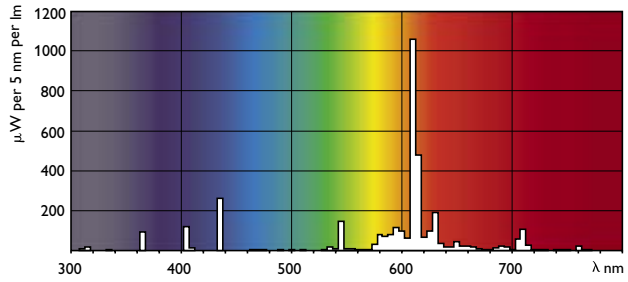
Light data

Type	Luminous Flux EL Lamp at 25°C (lm)	Colour Designation	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 HE Coloured 14W Red	900	Red	565	328
MASTER TL5 HE Coloured 28W Red	1800	Red	565	328
MASTER TL5 HO Coloured 24W Red	1400	Red	565	328
MASTER TL5 HO Coloured 54W Red	3450	Red	565	328
MASTER TL5 HE Coloured 14W Green	1675	Green	319	530
MASTER TL5 HE Coloured 28W Green	3350	Green	319	530
MASTER TL5 HO Coloured 24W Green	2750	Green	319	530
MASTER TL5 HO Coloured 54W Green	6900	Green	319	530
MASTER TL5 HE Coloured 14W Blue	310	Blue	156	76
MASTER TL5 HE Coloured 28W Blue	625	Blue	156	76
MASTER TL5 HO Coloured 24W Blue	550	Blue	156	76
MASTER TL5 HO Coloured 54W Blue	1500	Blue	156	76

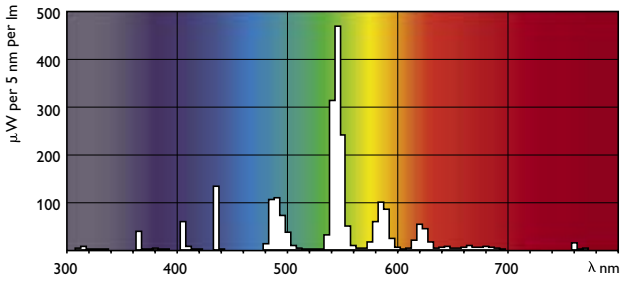
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871150
MASTER TL5 HE Coloured 14W Red SLV	FDH-14/RED/L/P-G5-16/550	8711500263728	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500263834	263728 20
MASTER TL5 HE Coloured 28W Red SLV	FDH-28/RED/L/P-G5-16/1150	8711500954848	105 gr	15	118 cm x 10.4 cm x 6.2 cm	8711500954855	954848 20
MASTER TL5 HO Coloured 24W Red SLV	FDH-24/RED/L/P-G5-16/550	8711500611826	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500611833	611826 20
MASTER TL5 HO Coloured 54W Red SLV	FDH-54/RED/L/P-G5-16/550	8711500611901	105 gr	15	118 cm x 10.4 cm x 6.2 cm	8711500611918	611901 20
MASTER TL5 HE Coloured 14W Green SLV	FDH-14/GREEN/L/P-G5-16/550	8711500263995	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500264008	263995 20
MASTER TL5 HE Coloured 28W Green SLV	FDH-28/GREEN/L/P-G5-16/1150	8711500954862	105 gr	15	118 cm x 10.4 cm x 6.2 cm	8711500954879	954862 20
MASTER TL5 HO Coloured 24W Green SLV	FDH-24/GREEN/1B-L/P-G5-16/550	8711500611840	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500611857	611840 20
MASTER TL5 HO Coloured 54W Green SLV	FDH-54/GREEN/L/P-G5-16/550	8711500611925	105 gr	15	118 cm x 10.4 cm x 6.2 cm	8711500611932	611925 20
MASTER TL5 HE Coloured 14W Blue SLV	FDH-14/BLUE/L/P-G5-16/550	8711500264015	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500264022	264015 20
MASTER TL5 HE Coloured 28W Blue SLV	FDH-28/BLUE/L/P-G5-16/1150	8711500954886	105 gr	15	118 cm x 10.4 cm x 6.2 cm	8711500954893	954886 20
MASTER TL5 HO Coloured 24W Blue SLV	FDH-24/BLUE/L/P-G5-16/550	8711500611864	53 gr	15	57.4 cm x 10.6 cm x 6.6 cm	8711500611871	611864 20
MASTER TL5 HO Coloured 54W Blue SLV	FDH-54/BLUE/L/P-G5-16/550	8711500611949	105 gr	15	118 cm x 10.4 cm x 6.2 cm	8711500611956	611949 20

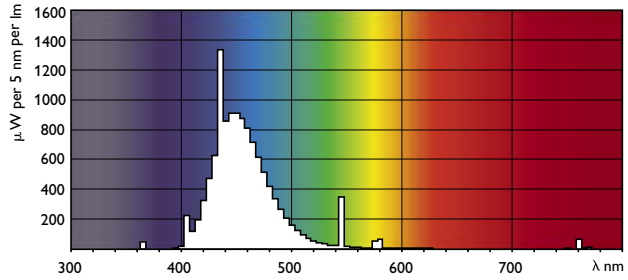
Spectral power distribution



TL5 /Red

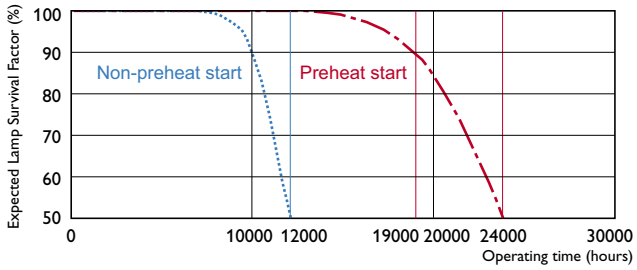


TL5 /Green

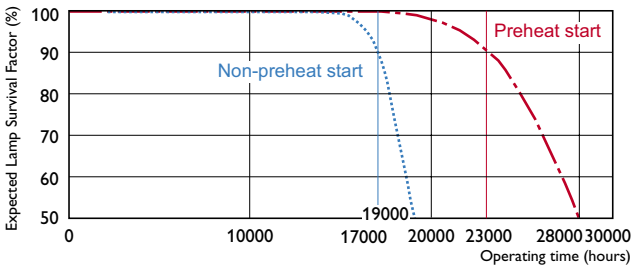


TL5 /Blue

Life expectancy diagram

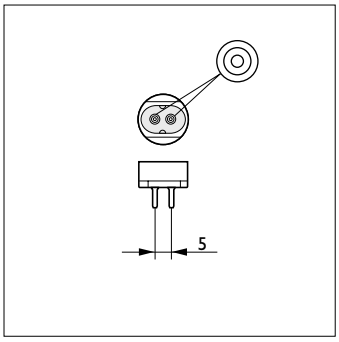


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G5





MASTER TL5 Circular

Product Description

- 16 mm tube diameter circular fluorescent lamps with a choice of various diameters

Product Features

- Perfect circular shape
- Highly efficient 3-band fluorescent coating
- Specifically designed for operation with electronic gear
- Can be ignited from -15 to +50 °C
- Amalgam technology

Product Benefits

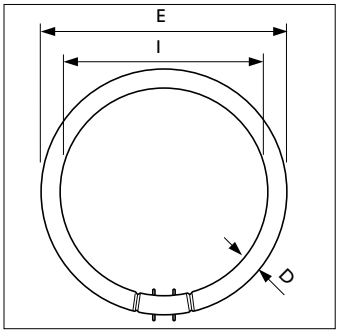
- Slim 16 mm tube allows creation of extremely flat luminaires
- Allows appealing circular desgins
- High lamp efficacy
- Good colour rendering
- Temperature independent light output
- Higher average system efficiency

Application

- Brings the benefits of TL5 lighting to an even wider range of attractive applications
- Suitable for a wide range of professional and semi-professional applications
- Ideal for use in shops, offices and public areas with non-traditional lay-outs
- Amalgam lamps are limited suitable for dimming applications

Recommended gear page 8.202

www.philips.com/OEM



MASTER TL5 Circular

Type	DMin	DMax	EMin	EMax	IMin	IMax
MASTER TL5 Circular 22W	14	18	220	230	187	197
MASTER TL5 Circular 40W/55W	14	18	293	305	260	272
MASTER TL5 Circular 60W	14	18	367	379	334	346

Technical data

Type	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL5 Circular 22W	0.300	22.3	75	22	A	Yes	8000	12000
MASTER TL5 Circular 40W	0.320	39.9	126	40	A	Yes	8000	12000
MASTER TL5 Circular 55W	0.550	55.0	101	55	B	Yes	8000	12000
MASTER TL5 Circular 60W	0.470	60	129	60	B	Yes	8000	12000

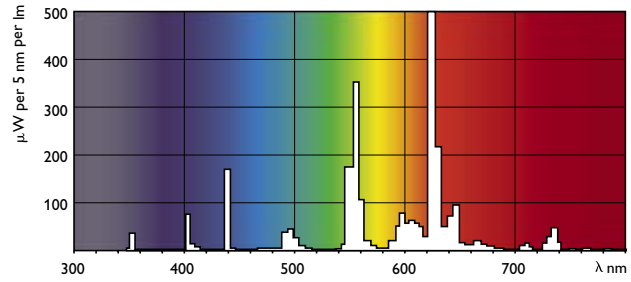
Light data

Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL5 Circular 22W/827	1800	82	Incandescent White	2700	85	463	420
MASTER TL5 Circular 22W/830	1800	82	Warm White	3000	85	440	403
MASTER TL5 Circular 22W/840	1800	82	Cool White	4000	85	380	380
MASTER TL5 Circular 40W/827	3300	83	Incandescent White	2700	85	463	420
MASTER TL5 Circular 40W/830	3300	83	Warm White	3000	85	440	403
MASTER TL5 Circular 40W/840	3300	83	Cool White	4000	85	380	380
MASTER TL5 Circular 55W/827	4200	76	Incandescent White	2700	85	463	420
MASTER TL5 Circular 55W/830	4200	76	Warm White	3000	85	440	403
MASTER TL5 Circular 55W/840	4200	76	Cool White	4000	85	380	380
MASTER TL5 Circular 60W/827	5000	83	Incandescent White	2700	85	463	420
MASTER TL5 Circular 60W/830	5000	83	Warm White	3000	85	440	403
MASTER TL5 Circular 60W/840	5000	83	Cool White	4000	85	380	380
MASTER TL5 Circular 60W/865	4800	80	Daylight	6500	79	313	337

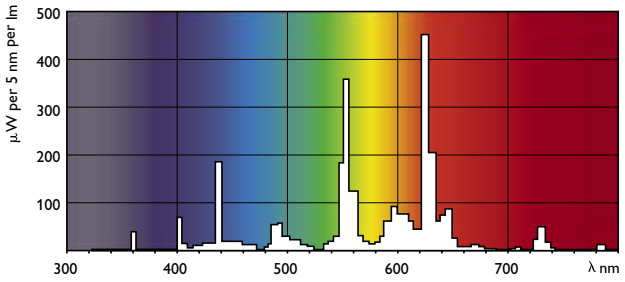
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL5 Circular 22W/827 1CT	FSCH-22/27/1B-L/P-2GX13-16	8711500642196	74 gr	10	24.7 cm x 23.5 cm x 25.7 cm	8711500642202	642196 25
MASTER TL5 Circular 22W/830 1CT	FSCH-22/30/1B-L/P-2GX13-16	8711500640956	74 gr	10	25.5 cm x 24.5 cm x 25.5 cm	8711500640963	640956 25
MASTER TL5 Circular 22W/840 1CT	FSCH-22/40/1B-L/P-2GX13-16	8711500642219	74 gr	10	25.5 cm x 25.5 cm x 24.5 cm	8711500642226	642219 25
MASTER TL5 Circular 40W/827 1CT	FSCH-40/27/1B-L/P-2GX13-16	8711500642752	110 gr	10	23.5 cm x 32.2 cm x 33.2 cm	8711500642769	642752 25
MASTER TL5 Circular 40W/830 1CT	FSCH-40/30/1B-L/P-2GX13-16	8711500640970	110 gr	10	23.5 cm x 32.2 cm x 33.2 cm	8711500640987	640970 25
MASTER TL5 Circular 40W/840 1CT	FSCH-40/40/1B-L/P-2GX13-16	8711500642233	110 gr	10	23.5 cm x 32.2 cm x 33.2 cm	8711500642240	642233 25
MASTER TL5 Circular 55W/827 1CT	FSCH-55/27/1B-L/P-2GX13-16	8711500642776	110 gr	10	34 cm x 25.5 cm x 32 cm	8711500642783	642776 25
MASTER TL5 Circular 55W/830 1CT	FSCH-55/30/1B-L/P-2GX13-16	8711500642790	110 gr	10	34 cm x 25.5 cm x 32 cm	8711500642806	642790 25
MASTER TL5 Circular 55W/840 1CT	FSCH-55/40/1B-L/P-2GX13-16	8711500642516	110 gr	10	34 cm x 25.5 cm x 32 cm	8711500642523	642516 25
MASTER TL5 Circular 60W/827 1CT	FSCH-60/27/1B-L/P-2GX13-16	8711500642578	145 gr	10	39.5 cm x 25.5 cm x 41.5 cm	8711500642585	642578 25
MASTER TL5 Circular 60W/830 1CT	FSCH-60/30/1B-L/P-2GX13-16	8711500642592	145 gr	10	39.5 cm x 25.5 cm x 41.5 cm	8711500642608	642592 25
MASTER TL5 Circular 60W/840 1CT	FSCH-60/40/1B-L/P-2GX13-16	8711500642615	145 gr	10	39.5 cm x 25.5 cm x 41.5 cm	8711500642622	642615 25
MASTER TL5 Circular 60W/865 1CT	FSCH-60/65/1B-L/P-2GX13-16	8711500276520	145 gr	10	39.5 cm x 25.5 cm x 41.5 cm	8711500276483	276520 25

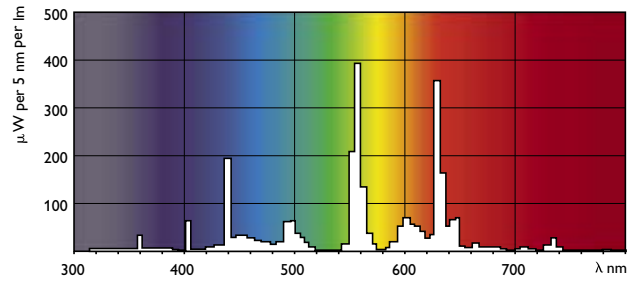
Spectral power distribution



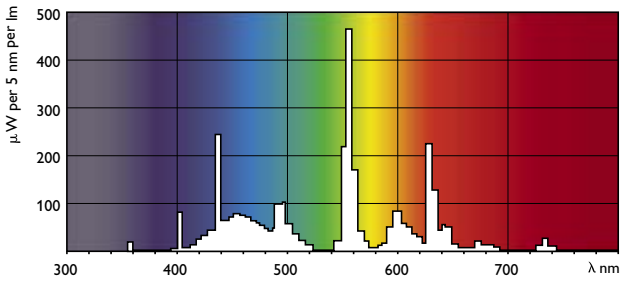
TL5-C /827



TL5-C /830

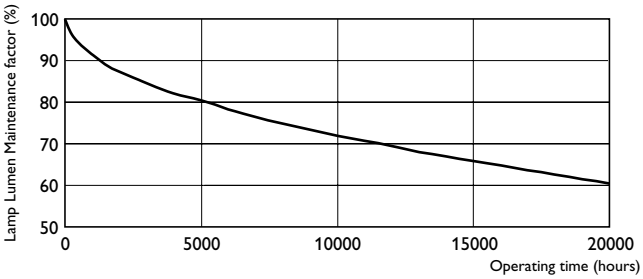


TL5-C /840



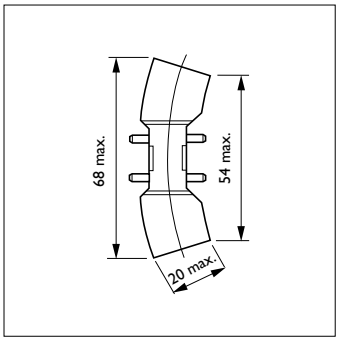
TL5-C /865

Lumen maintenance diagram



TL5-C

Cap Base



2GX13


la polo



MASTER TL-D Super 80

Product Description

- Low-pressure mercury discharge lamps with a tubular 26 mm envelope

Product Features

- Highly efficient 3-band fluorescent coating in combination with New Generation precoating technology
- High initial light output
- Available in varying colour designations
- Low mercury dose

Product Benefits

- Special fluorescent coating gives good colour rendering
- Relatively high efficacy, both initially and during lamp lifetime, with high lumen maintenance
- Create atmospheres from warm white to cool daylight

Application

- Suitable for use in a wide range of luminaires for TL-D fluorescent lamps for 'human' applications such as schools, offices, shops, factory halls etc.

System

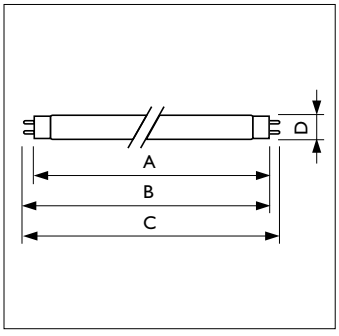
- Can be used with conventional or electronic gear
- Higher efficacy is achieved with electronic gear

Environment

- Best environmental T8 choice because of TL-D /800 superior energy efficiency compared to TL-D Standard lamps. Lowest mercury content in the industry and 100% lead free
- Lowest amount of mercury in the market for colour 800 fluorescent tubes
- RoHS compliant
- This product range is covered by WEEE

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D Super 80

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Super 80 15W	437.4	442.1	444.5	451.6	28
MASTER TL-D Super 80 18W	589.8	594.5	596.9	604	28
MASTER TL-D Super 80 23W/1m 36W	970.0	974.7	977.1	984.2	28
MASTER TL-D Super 80 30W	894.6	899.3	901.7	908.8	28
MASTER TL-D Super 80 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D Super 80 38W	1047.0	1051.7	1054.1	1061.2	28
MASTER TL-D Super 80 58W	1500.0	1504.7	1507.1	1514.2	28
MASTER TL-D Super 80 70W	1763.8	1768.5	1770.9	1778	28

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Super 80 14W	45	0.380	14.0	14	B	Yes	17000	20000
MASTER TL-D Super 80 15W	51	0.340	15.0	15	B	Yes	17000	20000
MASTER TL-D Super 80 18W	59	0.360	18.0	18	A	Yes	17000	20000
MASTER TL-D Super 80 23W	95	0.30	23.0	23	A	Yes	17000	20000
MASTER TL-D Super 80 30W	98	0.360	30.0	30	A	Yes	17000	20000
MASTER TL-D Super 80 36W	103	0.440	36.0	36	A	Yes	17000	20000
MASTER TL-D Super 80 1m 36W	80	0.560	36.0	36	A	Yes	17000	20000
MASTER TL-D Super 80 38W	104	0.430	38.0	38	A	Yes	17000	20000
MASTER TL-D Super 80 58W	111	0.670	58.5	58	A	Yes	17000	20000
MASTER TL-D Super 80 70W	132	0.690	70.0	70	A	Yes	17000	20000

Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Super 80 14W/840	860	61	Cool Daylight	4000	85	381	379
MASTER TL-D Super 80 15W/827	1000	67	Incandescent White	2700	85	470	418
MASTER TL-D Super 80 15W/830	1000	67	Warm White	3000	85	438	403
MASTER TL-D Super 80 15W/840	1000	67	Cool White	4000	85	384	382
MASTER TL-D Super 80 18W/827	1350	75	Incandescent White	2700	85	468	417
MASTER TL-D Super 80 18W/830	1350	75	Warm White	3000	85	439	404
MASTER TL-D Super 80 18W/835	1350	75	White	3500	85	410	398
MASTER TL-D Super 80 18W/840	1350	75	Cool White	4000	85	382	380
MASTER TL-D Super 80 18W/865	1300	72	Cool Daylight	6500	85	318	337
MASTER TL-D Super 80 23W/830	2050	89	Warm White	3000	85	437	403
MASTER TL-D Super 80 23W/840	2050	89	Cool White	4000	85	380	378
MASTER TL-D Super 80 30W/827	2400	80	Incandescent White	2700	85	469	420
MASTER TL-D Super 80 30W/830	2400	80	Warm White	3000	85	441	407
MASTER TL-D Super 80 30W/840	2400	80	Cool White	4000	85	384	383
MASTER TL-D Super 80 30W/865	2300	77	Cool Daylight	6500	85	319	338
MASTER TL-D Super 80 36W/827	3350	93	Incandescent White	2700	85	466	417
MASTER TL-D Super 80 36W/830	3350	93	Warm White	3000	85	438	403
MASTER TL-D Super 80 36W/835	3350	93	White	3500	85	409	397
MASTER TL-D Super 80 36W/840	3350	93	Cool White	4000	85	381	379
MASTER TL-D Super 80 36W/865	3250	90	Cool Daylight	6500	85	316	336
MASTER TL-D Super 80 1m 36W/830	3100	86	Warm White	3000	85	435	403
MASTER TL-D Super 80 1m 36W/840	3100	86	Cool White	4000	85	380	381
MASTER TL-D Super 80 38W/830	3350	88	Warm White	3000	85	440	405
MASTER TL-D Super 80 38W/840	3350	88	Cool White	4000	85	380	378
MASTER TL-D Super 80 58W/827	5200	90	Incandescent White	2700	85	462	418
MASTER TL-D Super 80 58W/830	5200	90	Warm White	3000	85	435	404
MASTER TL-D Super 80 58W/835	5200	90	White	3500	85	407	399
MASTER TL-D Super 80 58W/840	5200	90	Cool White	4000	85	380	381
MASTER TL-D Super 80 58W/865	5000	86	Cool Daylight	6500	85	317	339
MASTER TL-D Super 80 70W/830 SLV	6200	89	Warm White	3000	85	431	404
MASTER TL-D Super 80 70W/835 SLV	6200	89	White	3500	85	404	394
MASTER TL-D Super 80 70W/840 SLV	6200	89	Cool White	4000	85	376	380

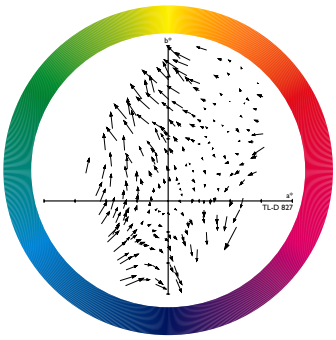
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Super 80 14W/840 SLV	FD-14/40/1B-E-G13	8711500953810	42.8 gr	25	42 cm x 17.5 cm x 16.5 cm	8711500953827	953810 40
MASTER TL-D Super 80 15W/827 SLV	FD-15/27/1B-E-G13	8711500702784	58 gr	10	49.5 cm x 15.5 cm x 6.3 cm	8711500898739	702784 25
MASTER TL-D Super 80 15W/827 SLV	FD-15/27/1B-E-G13	8711500702784	76 gr	25	50.5 cm x 17.5 cm x 15.7 cm	8711500722287	702784 40
MASTER TL-D Super 80 15W/830 SLV	FD-15/30/1B-E-G13	8711500702791	58 gr	10	49.5 cm x 15.5 cm x 6.3 cm	8711500898746	702791 25
MASTER TL-D Super 80 15W/830 SLV	FD-15/30/1B-E-G13	8711500702791	76 gr	25	50.5 cm x 17.5 cm x 15.7 cm	8711500722270	702791 40
MASTER TL-D Super 80 15W/840 SLV	FD-15/40/1B-E-G13	8711500702807	58 gr	10	49.5 cm x 15.5 cm x 6.3 cm	8711500898760	702807 25
MASTER TL-D Super 80 15W/840 SLV	FD-15/40/1B-E-G13	8711500702807	76 gr	25	49.5 cm x 15 cm x 14.5 cm	8711500722317	702807 40
MASTER TL-D Super 80 18W/827 SLV	FD-18/27/1B-E-G13	8711500894427	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500894434	894427 40
MASTER TL-D Super 80 18W/827 SLV	FD-18/27/1B-E-G13	8711500631626	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500631633	631626 40
MASTER TL-D Super 80 18W/830 OEM SLV	FD-18/30/1B-E-G13	8711500644749	71 gr	25	62.4 cm x 14.9 cm x 14.6 cm	8711500644756	644749 40
MASTER TL-D Super 80 18W/830 SLV	FD-18/30/1B-E-G13	8711500631657	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500631664	631657 40
MASTER TL-D Super 80 18W/830 SLV	FD-18/30/1B-E-G13	8711500894465	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500894472	894465 40
MASTER TL-D Super 80 18W/830 UNP	FD-18/30/1B-E-G13	8711500610546	68.9 gr	25	62.3 cm x 15.2 cm x 15.7 cm	8711500632432	610546 40
MASTER TL-D Super 80 18W/835 SLV	FD-18/35/1B-E-G13	8711500631688	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500643506	631688 40
MASTER TL-D Super 80 18W/840 OEM SLV	FD-18/40/1B-E-G13	8711500644763	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500644770	644763 40
MASTER TL-D Super 80 18W/840 SLV	FD-18/40/1B-E-G13	8711500892126	71 gr	25	64.5 cm x 15 cm x 15 cm	8711500892133	892126 40
MASTER TL-D Super 80 18W/840 SLV	FD-18/40/1B-E-G13	8711500631718	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500631725	631718 40
MASTER TL-D Super 80 18W/840 UNP	FD-18/40/1B-E-G13	8711500264442	78 gr	1441	120 cm x 105 cm x 134 cm	8711500264459	264442 04
MASTER TL-D Super 80 18W/840 UNP	FD-18/40/1B-E-G13	8711500610126	68.9 gr	25	62.3 cm x 15.2 cm x 15.7 cm	8711500632456	610126 40
MASTER TL-D Super 80 18W/865 SLV	FD-18/65/1B-E-G13	8711500631770	71 gr	25	62.4 cm x 14.9 cm x 14.6 cm	8711500631787	631770 40
MASTER TL-D Super 80 23W/830 SLV	FD-23/30/1B-E-G13	8711500558633	120 gr	10	100.5 cm x 15.5 cm x 6.3 cm	8711500898692	558633 25
MASTER TL-D Super 80 23W/830 SLV	FD-23/30/1B-E-G13	8711500558633	120 gr	25	102 cm x 14.9 cm x 14.6 cm	8711500558640	558633 40
MASTER TL-D Super 80 23W/840 SLV	FD-23/40/1B-E-G13	8711500558701	120 gr	10	100.5 cm x 15.5 cm x 6.3 cm	8711500898708	558701 25
MASTER TL-D Super 80 23W/840 SLV	FD-23/40/1B-E-G13	8711500558701	120 gr	25	102 cm x 14.9 cm x 14.6 cm	8711500558725	558701 40
MASTER TL-D Super 80 30W/827 SLV	FD-30/27/1B-E-G13	8711500631800	103.6 gr	10	92.9 cm x 15.3 cm x 6.5 cm	8711500898623	631800 25
MASTER TL-D Super 80 30W/827 SLV	FD-30/27/1B-E-G13	8711500631800	103.6 gr	25	95.2 cm x 14.1 cm x 14.1 cm	8711500631817	631800 40
MASTER TL-D Super 80 30W/830 SLV	FD-30/30/1B-E-G13	8711500631831	103.6 gr	10	92.9 cm x 15.3 cm x 6.5 cm	8711500898630	631831 25
MASTER TL-D Super 80 30W/830 SLV	FD-30/30/1B-E-G13	8711500631831	103.6 gr	25	95.2 cm x 14.1 cm x 14.1 cm	8711500631848	631831 40
MASTER TL-D Super 80 30W/840 SLV	FD-30/40/1B-E-G13	8711500631862	103.6 gr	10	92.9 cm x 15.3 cm x 6.5 cm	8711500898647	631862 25
MASTER TL-D Super 80 30W/840 SLV	FD-30/40/1B-E-G13	8711500631862	103.6 gr	25	95.2 cm x 14.1 cm x 14.1 cm	8711500631879	631862 40
MASTER TL-D Super 80 30W/865 SLV	FD-30/65/1B-E-G13	8711500631893	103.6 gr	10	92.9 cm x 15.3 cm x 6.5 cm	8711500898654	631893 25
MASTER TL-D Super 80 30W/865 SLV	FD-30/65/1B-E-G13	8711500631893	103.6 gr	25	95.2 cm x 14.1 cm x 14.1 cm	8711500631909	631893 40
MASTER TL-D Super 80 36W/827 SLV	FD-36/27/1B-E-G13	8711500631923	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500631930	631923 40
MASTER TL-D Super 80 36W/827 SLV	FD-36/27/1B-E-G13	8711500894441	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500894458	894441 40
MASTER TL-D Super 80 36W/827 SLV	FD-36/27/1B-E-G13	8711500631923	138.4 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500867636	631923 42
MASTER TL-D Super 80 36W/830 OEM SLV	FD-36/30/1B-E-G13	8711500644787	137.5 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500644794	644787 40
MASTER TL-D Super 80 36W/830 SLV	FD-36/30/1B-E-G13	8711500631954	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500631961	631954 40
MASTER TL-D Super 80 36W/830 SLV	FD-36/30/1B-E-G13	8711500894489	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500894496	894489 40
MASTER TL-D Super 80 36W/830 SLV	FD-36/30/1B-E-G13	8711500631954	138.4 gr	30	123 cm x 14.9 cm x 18.5 cm	8711500890245	631954 28
MASTER TL-D Super 80 36W/830 UNP	FD-36/30/1B-E-G13	8711500610171	138.4 gr	25	123.1 cm x 15.4 cm x 15.7 cm	8711500632470	610171 40
MASTER TL-D Super 80 36W/835 SLV	FD-36/35/1B-E-G13	8711500631985	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500631992	631985 40
MASTER TL-D Super 80 36W/840 OEM SLV	FD-36/40/1B-E-G13	8711500644800	137.5 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500644817	644800 40
MASTER TL-D Super 80 36W/840 SLV	FD-36/40/1B-E-G13	8711500892140	151 gr	25	126.7 cm x 15 cm x 15 cm	8711500892157	892140 40
MASTER TL-D Super 80 36W/840 SLV	FD-36/40/1B-E-G13	8711500632012	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500632029	632012 40
MASTER TL-D Super 80 36W/840 UNP	FD-36/40/1B-E-G13	8711500610188	138.4 gr	25	123.1 cm x 15.4 cm x 15.7 cm	8711500632494	610188 40
MASTER TL-D Super 80 36W/840 UNP	FD-36/40/1B-E-G13	8711500610188	138.4 gr	621	125 cm x 80 cm x 65 cm	8711500611819	610188 32
MASTER TL-D Super 80 36W/865 SLV	FD-36/65/1B-E-G13	8711500632074	151 gr	25	126.7 cm x 15 cm x 15 cm	8711500632081	632074 40
MASTER TL-D Super 80 36W/865 UNP	FD-36/65/1B-E-G13	8711500610560	138.4 gr	25	123.1 cm x 15.4 cm x 15.7 cm	8711500633125	610560 40
MASTER TL-D Super 80 1m 36W/830 SLV	FD-36/30/1B-E-G13	8711500558749	120 gr	10	100.5 cm x 15.5 cm x 6.3 cm	8711500898678	558749 25

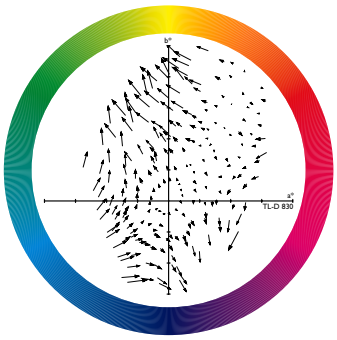
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Super 80 1m 36W/830 SLV	FD-36/30/1B-E-G13	8711500558749	120 gr	25	102.6 cm x 14.9 cm x 14.9 cm	8711500558756	558749 40
MASTER TL-D Super 80 1m 36W/840 SLV	FD-36/40/1B-E-G13	8711500558770	120 gr	10	100.5 cm x 15.5 cm x 6.3 cm	8711500898685	558770 25
MASTER TL-D Super 80 1m 36W/840 SLV	FD-36/40/1B-E-G13	8711500558770	120 gr	25	102.6 cm x 14.9 cm x 14.9 cm	8711500558787	558770 40
MASTER TL-D Super 80 38W/830 SLV	FD-38/30/1B-E-G13	8711500558800	133 gr	10	101.1 cm x 15.5 cm x 6.3 cm	8711500898715	558800 25
MASTER TL-D Super 80 38W/830 SLV	FD-38/30/1B-E-G13	8711500558800	133 gr	25	111 cm x 14.9 cm x 14.6 cm	8711500558817	558800 40
MASTER TL-D Super 80 38W/840 SLV	FD-38/40/1B-E-G13	8711500558831	133 gr	10	101.1 cm x 15.5 cm x 6.3 cm	8711500898722	558831 25
MASTER TL-D Super 80 38W/840 SLV	FD-38/40/1B-E-G13	8711500558831	133 gr	25	111 cm x 14.9 cm x 14.6 cm	8711500558848	558831 40
MASTER TL-D Super 80 58W/827 SLV	FD-58/27/1B-E-G13	8711500632104	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500632111	632104 40
MASTER TL-D Super 80 58W/827 SLV	FD-58/27/1B-E-G13	8711500954664	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500954671	954664 40
MASTER TL-D Super 80 58W/830 OEM SLV	FD-58/30/1B-E-G13	8711500644824	186 gr	25	153 cm x 14.9 cm x 14.6 cm	8711500644831	644824 40
MASTER TL-D Super 80 58W/830 SLV	FD-58/30/1B-E-G13	8711500632135	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500632142	632135 40
MASTER TL-D Super 80 58W/830 SLV	FD-58/30/1B-E-G13	8711500894502	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500894519	894502 40
MASTER TL-D Super 80 58W/830 UNP	FD-58/30/1B-E-G13	8711500610195	186 gr	25	153 cm x 15.2 cm x 15.7 cm	8711500632517	610195 40
MASTER TL-D Super 80 58W/835 SLV	FD-58/35/1B-E-G13	8711500632166	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500643490	632166 40
MASTER TL-D Super 80 58W/840 OEM SLV	FD-58/40/1B-E-G13	8711500644848	186 gr	25	153 cm x 14.9 cm x 14.6 cm	8711500644855	644848 40
MASTER TL-D Super 80 58W/840 SLV	FD-58/40/1B-E-G13	8711500892164	187 gr	25	153.3 cm x 15 cm x 15 cm	8711500892171	892164 40
MASTER TL-D Super 80 58W/840 SLV	FD-58/40/1B-E-G13	8711500632197	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500632203	632197 40
MASTER TL-D Super 80 58W/840 UNP	FD-58/40/1B-E-G13	8711500610294	186 gr	25	153 cm x 15.2 cm x 15.7 cm	8711500632531	610294 40
MASTER TL-D Super 80 58W/840 UNP	FD-58/40/1B-E-G13	8711500610294	186 gr	621	155 cm x 80 cm x 65 cm	8711500541215	610294 32
MASTER TL-D Super 80 58W/865 SLV	FD-58/65/1B-E-G13	8711500632258	233 gr	25	157 cm x 15 cm x 15 cm	8711500632265	632258 40
MASTER TL-D Super 80 70W/830 SLV	FD-70/30/1B-E-G13	8711500615985	202.7 gr	25	183.6 cm x 14.9 cm x 14.9 cm	8711500615992	615985 40
MASTER TL-D Super 80 70W/835 SLV	FD-70/35/1B-E-G13	8711500642738	202.7 gr	25	183.6 cm x 14.9 cm x 14.9 cm	8711500642745	642738 40
MASTER TL-D Super 80 70W/840 SLV	FD-70/40/1B-E-G13	8711500615923	202.7 gr	25	183.6 cm x 14.9 cm x 14.9 cm	8711500615930	615923 40

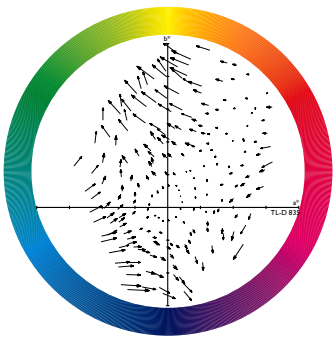
CRV diagram



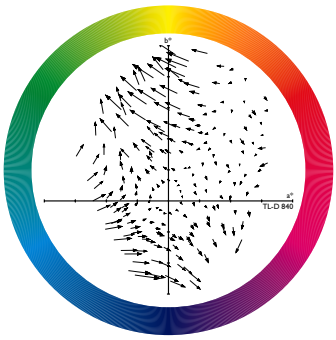
TL-D /827



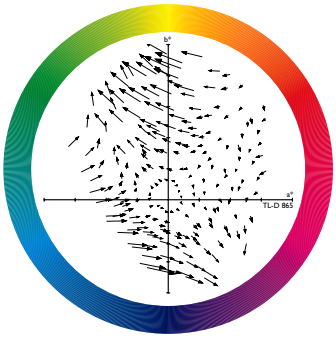
TL-D /830



TL-D /835

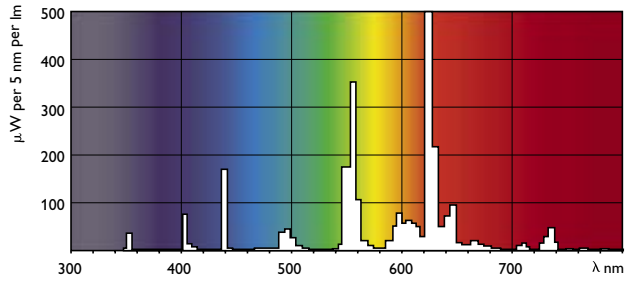


TL-D /840

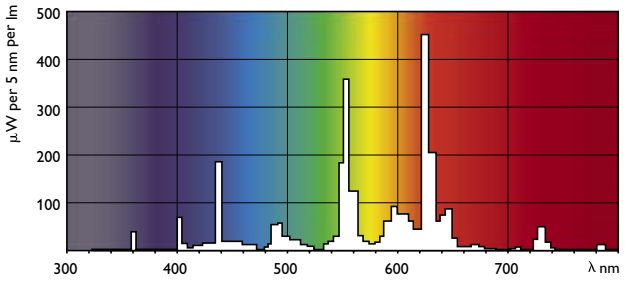


TL-D /865

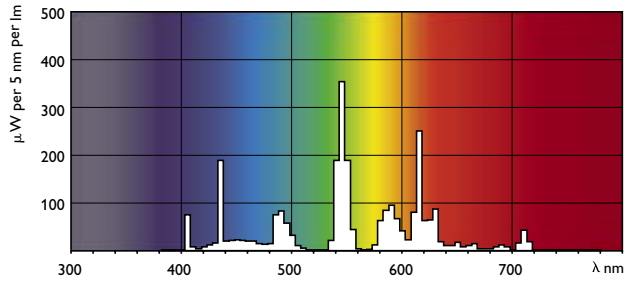
Spectral power distribution



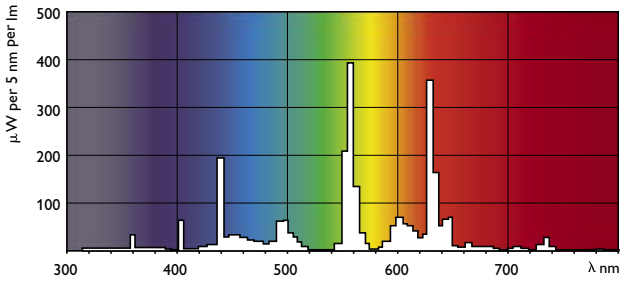
TL-D /827



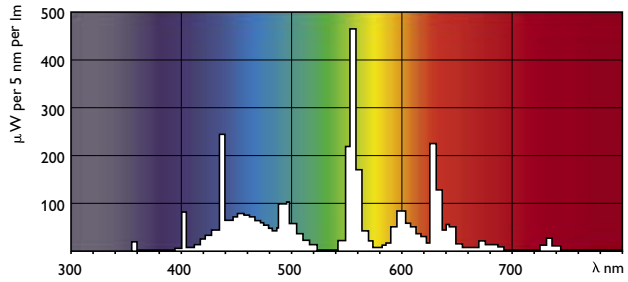
TL-D /830



TL-D /835

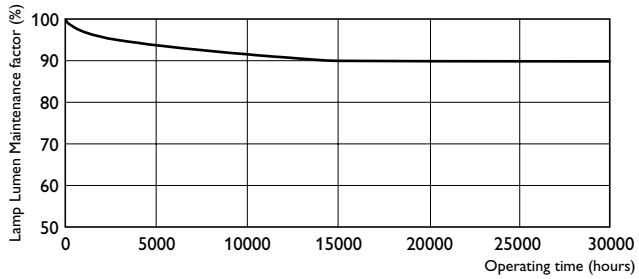


TL-D /840



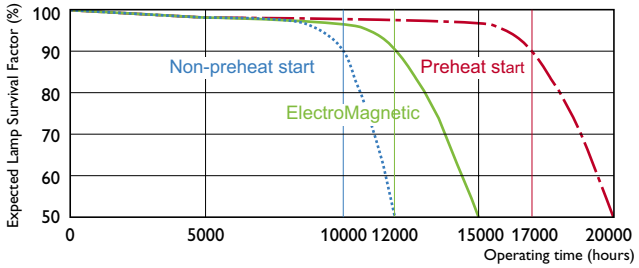
TL-D /865

Lumen maintenance diagram

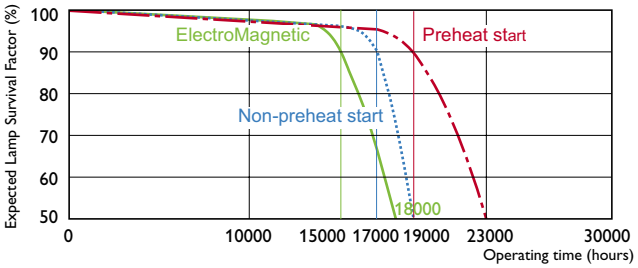


TL-D

Life expectancy diagram

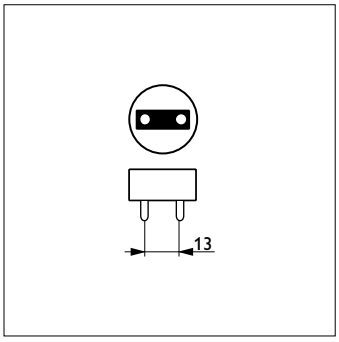


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G13



MASTER TL-D Secura

Product Description

- Low-pressure mercury discharge lamps with a tubular 26 mm envelope

Product Features

- Protective coating around the entire lamp
- Two blue rings around one end
- Direct retrofit for all Standard and Super 80 TL-D lamps operating on conventional or electronic gear
- Highly efficient 3-band fluorescent coating in combination with New Generation pre-coating technology
- Available in various colour designations
- Low mercury dose
- Recyclable at end-of-life, including the protective lamp coating

Product Benefits

- Special protective coating in the lamp, prevents products from contamination in case of accidental lamp breakage
- Easy identification in audit situations by two blue rings at one end
- Special fluorescent coating gives good colour rendering
- Relatively high efficacy, both initially and during lamp lifetime, with high lumen maintenance
- Protects products from discolouring and loss of taste by 90% lower UV-emission
- Compliant with HACCP regulations and supports HACCP certification

Application

- For use where contamination resulting from lamp breakage must be prevented, e.g. in food preparation, health care, pharmaceuticals, cleanrooms etc.
- Suitable for use in environments with increased risk of breakage, e.g. sports halls
- Suitable for use in environments where UV emission should be reduced (museums, libraries, archives, food industry, fashion shops, etc.)

Luminaires

- Suitable for open luminaires only (as indicated by the two blue rings)

System

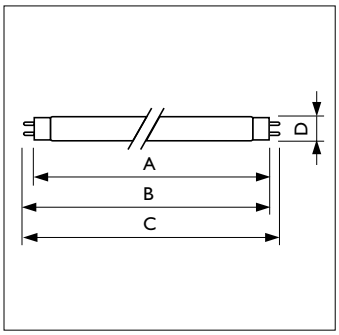
- Use of self-stopping lamp control systems is strongly recommended

Environment

- Good environmental choice because of lowest mercury content and lead-free
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D Secura

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Secura 18W	589.8	594.5	596.9	604	28
MASTER TL-D Secura 30W	894.6	899.3	901.7	908.8	28
MASTER TL-D Secura 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D Secura 58W	1500.0	1504.7	1507.1	1514.2	28

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Secura 18W	0.360	18.0	59	18	A	Yes	17000	20000
MASTER TL-D Secura 30W	0.360	30.0	98	30	A	Yes	17000	20000
MASTER TL-D Secura 36W	0.440	36.0	103	36	A	Yes	17000	20000
MASTER TL-D Secura 58W	0.670	58.5	111	58	A	Yes	17000	20000

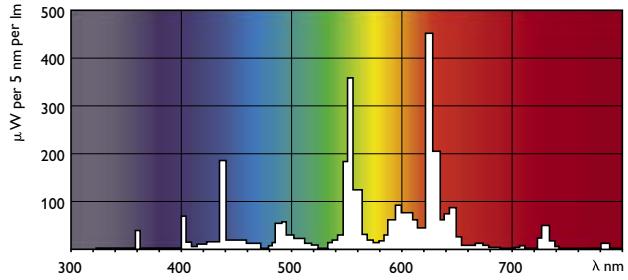
Light data

Type	Luminous Flux Lamp EM (lm)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Secura 18W/830	1300	Warm White	3000	85	438	403
MASTER TL-D Secura 18W/840	1300	Cool White	4000	85	382	380
MASTER TL-D Secura 30W/830	2350	Warm White	3000	85	441	407
MASTER TL-D Secura 30W/840	2350	Cool White	4000	85	384	383
MASTER TL-D Secura 36W/830	3200	Warm White	3000	85	438	403
MASTER TL-D Secura 36W/840	3200	Cool White	4000	85	381	379
MASTER TL-D Secura 58W/830	5000	Warm White	3000	85	438	403
MASTER TL-D Secura 58W/840	5000	Cool White	4000	85	381	379

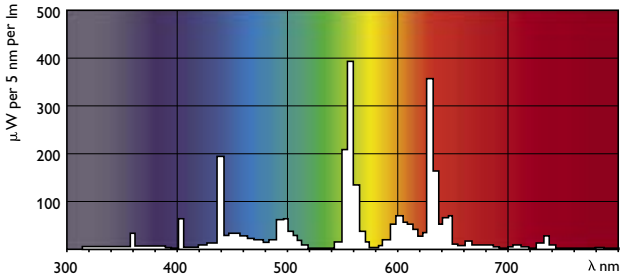
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Secura 18W/830 SLV	FD-18/30/1B-E-G13	8711500640062	71 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500898272	640062 25
MASTER TL-D Secura 18W/830 SLV	FD-18/30/1B-E-G13	8711500640062	100.3 gr	25	62.4 cm x 14.9 cm x 14.6 cm	8711500640079	640062 40
MASTER TL-D Secura 18W/840 SLV	FD-18/40/1B-E-G13	8711500640109	71 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500898289	640109 25
MASTER TL-D Secura 18W/840 SLV	FD-18/40/1B-E-G13	8711500640109	100.3 gr	25	62.4 cm x 14.9 cm x 14.6 cm	8711500640116	640109 40
MASTER TL-D Secura 30W/830 SLV	FD-30/30/1B-E-G13	8711500893352	113 gr	10	92.9 cm x 15.3 cm x 6.5 cm	8711500898296	893352 25
MASTER TL-D Secura 30W/830 SLV	FD-30/30/1B-E-G13	8711500893352	147.9 gr	25	95.8 cm x 14.9 cm x 14.6 cm	8711500893369	893352 40
MASTER TL-D Secura 30W/840 SLV	FD-30/40/1B-E-G13	8711500893673	113 gr	10	92.9 cm x 15.3 cm x 6.5 cm	8711500898302	893673 25
MASTER TL-D Secura 30W/840 SLV	FD-30/40/1B-E-G13	8711500893673	147.9 gr	25	95.8 cm x 14.9 cm x 14.6 cm	8711500893680	893673 40
MASTER TL-D Secura 36W/830 SLV	FD-36/30/1B-E-G13	8711500640123	137.5 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500898319	640123 25
MASTER TL-D Secura 36W/830 SLV	FD-36/30/1B-E-G13	8711500640123	195.5 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500640130	640123 40
MASTER TL-D Secura 36W/840 SLV	FD-36/40/1B-E-G13	8711500640147	137.5 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500898326	640147 25
MASTER TL-D Secura 36W/840 SLV	FD-36/40/1B-E-G13	8711500640147	195.5 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500640154	640147 40
MASTER TL-D Secura 58W/830 SLV	FD-58/30/1B-E-G13	8711500640161	186 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500898333	640161 25
MASTER TL-D Secura 58W/830 SLV	FD-58/30/1B-E-G13	8711500640161	243.1 gr	25	153 cm x 14.9 cm x 14.6 cm	8711500640178	640161 40
MASTER TL-D Secura 58W/840 SLV	FD-58/40/1B-E-G13	8711500640185	186 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500898340	640185 25
MASTER TL-D Secura 58W/840 SLV	FD-58/40/1B-E-G13	8711500640185	243.1 gr	25	153 cm x 14.9 cm x 14.6 cm	8711500640192	640185 40

Spectral power distribution

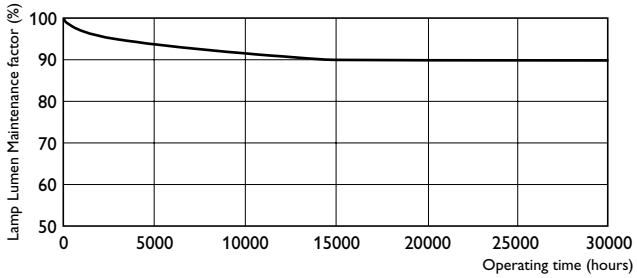


TL-D Secura /830



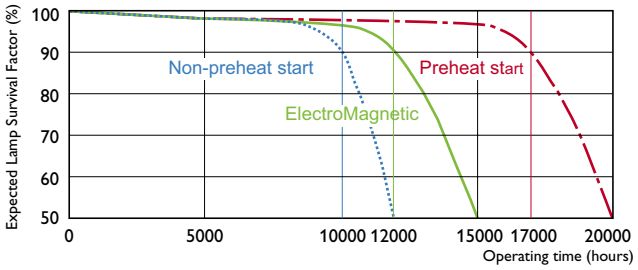
TL-D Secura /840

Lumen maintenance diagram

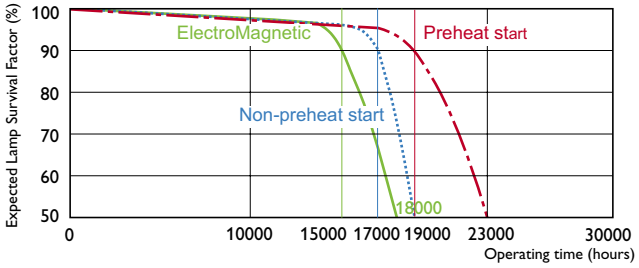


TL-D

Life expectancy diagram

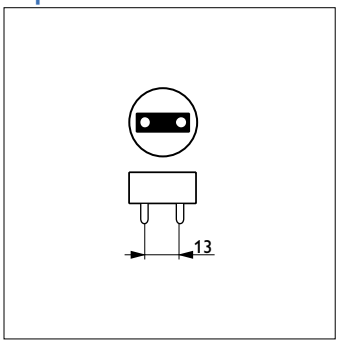


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G13





MASTER TL-D Reflex Eco

Product Description

- Low-pressure mercury discharge lamps with a tubular 26 mm envelope

Product Features

- Internal reflector directs the light via a 160° 'window'
- Reflector directs 85% of the light downwards avoiding wasted light
- Direct retrofit for existing fluorescent fittings operating on conventional or HF gear
- High-quality lighting with good colour rendering (CRI >80)
- Light output comparable to other TL-D Super 80 colours
- Lumen maintenance and lifetime the same as other TL-D Super 80 colours
- Dimmable

Product Benefits

- Internal reflector directs the light where it is needed
- Energy savings of 30-50% in non-reflector luminaires without loss of light
- Internal reflector is not affected by dust accumulation (in contrast to normal TL-D lamps)
- Relatively high efficacy, both initially and during lifetime, with high lumen maintenance

Application

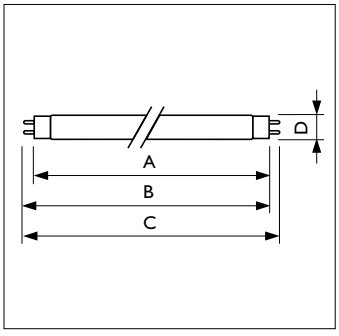
- Luminaires without reflectors or with only simple reflectors, mainly found in industry and shops / supermarkets

Environment

- 30–50% energy savings make TL-D Reflex Eco an excellent environmental choice
- RoHS compliant
- Covered by WEEE

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D Reflex Eco

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Reflex Eco 18W	589.8	594.5	596.9	604	28
MASTER TL-D Reflex Eco 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D Reflex Eco 58W	1500.0	1504.7	1507.1	1514.2	28

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Reflex Eco 18W	0.360	18.0	59	18	A	Yes	17000	20000
MASTER TL-D Reflex Eco 36W	0.440	36.0	103	36	A	Yes	17000	20000
MASTER TL-D Reflex Eco 58W	0.670	58.5	111	58	A	Yes	17000	20000
MASTER TL-D Reflex Eco Secura 58W	0.665	58.5	113	58	A	Yes	17000	20000

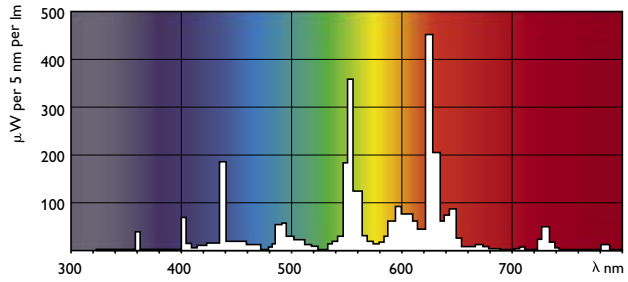
Light data

Type	Luminous Flux Lamp EM (lm)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Beam Description
MASTER TL-D Reflex Eco 18W/830	1350	Warm White	3000	85	436	401	FA160
MASTER TL-D Reflex Eco 18W/840	1350	Cool White	4000	85	378	373	FA160
MASTER TL-D Reflex Eco 18W/865	1300	Cool Daylight	6500	85	310	325	FA160
MASTER TL-D Reflex Eco 36W/830	3350	Warm White	3000	85	435	400	FA160
MASTER TL-D Reflex Eco 36W/840	3350	Cool White	4000	85	377	372	FA160
MASTER TL-D Reflex Eco 36W/865	3250	Cool Daylight	6500	85	308	324	FA160
MASTER TL-D Reflex Eco 58W/830	5200	Warm White	3000	85	432	401	FA160
MASTER TL-D Reflex Eco 58W/840	5200	Cool White	4000	85	376	374	FA160
MASTER TL-D Reflex Eco 58W/865	5000	Cool Daylight	6500	85	312	330	FA160
MASTER TL-D Reflex Eco Secura 58W/840	5100	Cool White	4000	85	376	374	FA160

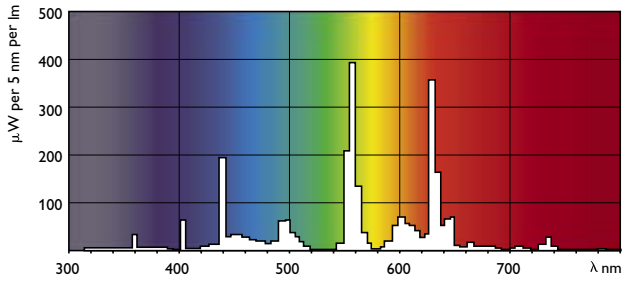
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Reflex Eco 18W/830 SLV	FDR-18/30/1B-E-G13	8711500636447	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500898104	636447 25
MASTER TL-D Reflex Eco 18W/830 SLV	FDR-18/30/1B-E-G13	8711500636447	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500636454	636447 40
MASTER TL-D Reflex Eco 18W/840 SLV	FDR-18/40/1B-E-G13	8711500636478	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500898128	636478 25
MASTER TL-D Reflex Eco 18W/840 SLV	FDR-18/40/1B-E-G13	8711500636478	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500636485	636478 40
MASTER TL-D Reflex Eco 18W/865 SLV	FDR-18/65/1B-E-G13	8711500260291	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500898173	260291 25
MASTER TL-D Reflex Eco 18W/865 SLV	FDR-18/65/1B-E-G13	8711500260291	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500260307	260291 40
MASTER TL-D Reflex Eco 36W/830 SLV	FDR-36/30/1B-E-G13	8711500559494	138.4 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500898135	559494 25
MASTER TL-D Reflex Eco 36W/830 SLV	FDR-36/30/1B-E-G13	8711500559494	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500559517	559494 40
MASTER TL-D Reflex Eco 36W/840 SLV	FDR-36/40/1B-E-G13	8711500559531	138.4 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500898142	559531 25
MASTER TL-D Reflex Eco 36W/840 SLV	FDR-36/40/1B-E-G13	8711500559531	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500559548	559531 40
MASTER TL-D Reflex Eco 36W/865 SLV	FDR-36/65/1B-E-G13	8711500260314	138.4 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500898180	260314 25
MASTER TL-D Reflex Eco 36W/865 SLV	FDR-36/65/1B-E-G13	8711500260314	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500260321	260314 40
MASTER TL-D Reflex Eco 58W/830 SLV	FDR-58/30/1B-E-G13	8711500559579	172.6 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500898159	559579 25
MASTER TL-D Reflex Eco 58W/830 SLV	FDR-58/30/1B-E-G13	8711500559579	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500559586	559579 40
MASTER TL-D Reflex Eco 58W/840 SLV	FDR-58/40/1B-E-G13	8711500559623	172.6 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500898166	559623 25
MASTER TL-D Reflex Eco 58W/840 SLV	FDR-58/40/1B-E-G13	8711500559623	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500559630	559623 40
MASTER TL-D Reflex Eco 58W/865 SLV	FDR-58/65/1B-E-G13	8711500260338	172.6 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500898197	260338 25
MASTER TL-D Reflex Eco 58W/865 SLV	FDR-58/65/1B-E-G13	8711500260338	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500260345	260338 40
MASTER TL-D Reflex Eco Secura 58W/840 SLV	FD-58/40/1B-E-G13	8711500953896	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500953902	953896 40

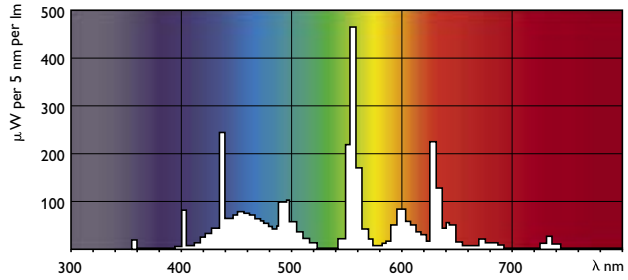
Spectral power distribution



TL-D /830

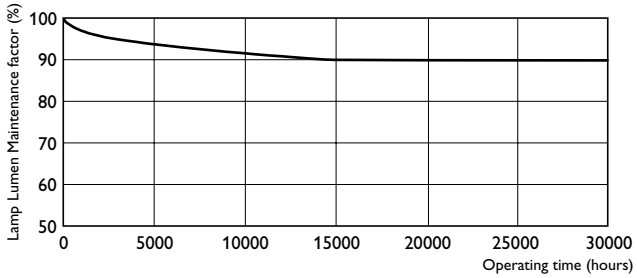


TL-D /840



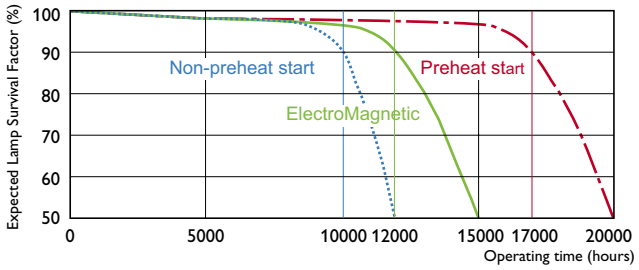
TL-D /865

Lumen maintenance diagram

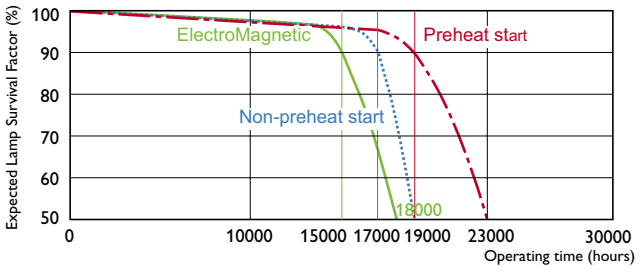


TL-D

Life expectancy diagram

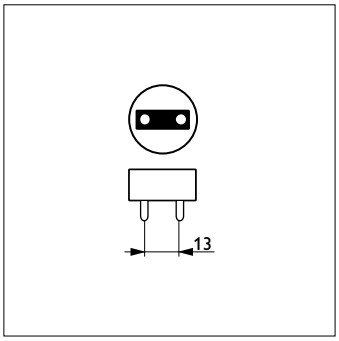


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G13





MASTER TL-D Eco

Product Description

- Low-pressure mercury discharge lamps with a tubular 26 mm envelope

Product Features

- The only T8 fluorescent lamp that saves more than 10% of energy in existing indoor luminaires
- Can be directly retrofitted into existing fluorescent fittings operating on electromagnetic or electronic gear in indoor applications
- Uses the latest highly efficient phosphors and special filling gas
- High-quality lighting with good colour rendering (CRI>80)
- Light output comparable to other TL-D Super 80 colours
- Lumen maintenance and lifetime the same as other TL-D Super 80 colours
- Dimmable

Product Benefits

- Simple lamp-for-lamp replacement for more than 10% energy savings
- Makes lighting installations compliant with latest indoor lighting standards
- Relatively high efficacy, both initially and during lifetime, with high lumen maintenance

Application

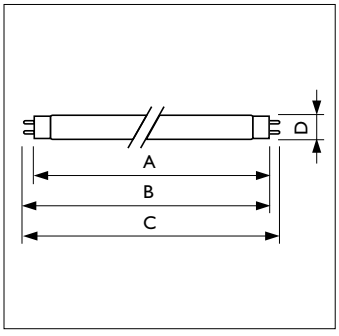
- Indoor working areas (office, public / government buildings, schools, hospitals, etc.) with ambient temperatures above 20°C

Environment

- Allows easy switching to more energy-conscious solutions
- Helps reduce CO_2 emissions and meet climate change targets
- Philips Green product label due to extremely low mercury levels
- RoHS compliant
- Covered by WEEE

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D Eco

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Eco 32W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D Eco 51W	1500.0	1504.7	1507.1	1514.2	28

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Eco 32W	92	0.448	32.2	32	A	Yes	17000	20000
MASTER TL-D Eco 51W	95	0.700	51.4	51	A	Yes	17000	20000

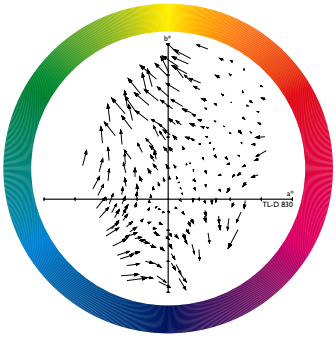
Light data

Type	Luminous Flux EM lamp at 30°C (lm)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Eco 32W/830	3000	Warm White	3000	85	440	410
MASTER TL-D Eco 32W/840	3000	Cool White	4000	85	381	379
MASTER TL-D Eco 32W/865	2850	Cool Daylight	6500	85	316	340
MASTER TL-D Eco 51W/830	4800	Warm White	3000	85	434	407
MASTER TL-D Eco 51W/840	4800	Cool White	4000	85	379	382
MASTER TL-D Eco 51W/865	4650	Cool Daylight	6500	85	311	340

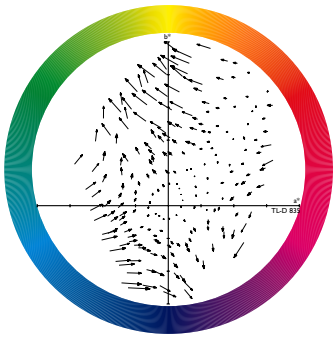
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Eco 32W/830 SLV	FD-32/30/1B-E-G13-26/1200	8711500264589	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500264596	264589 40
MASTER TL-D Eco 32W/840 SLV	FD-32/40/1B-E-G13-26/1200	8711500264626	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500264633	264626 40
MASTER TL-D Eco 32W/865 SLV	FD-32/65/1B-E-G13-26/1200	8711500264640	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500264657	264640 40
MASTER TL-D Eco 51W/830 SLV	FD-51/30/1B-E-G13-26/1500	8711500264664	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500264671	264664 40
MASTER TL-D Eco 51W/840 SLV	FD-51/40/1B-E-G13-26/1200	8711500264701	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500264718	264701 40
MASTER TL-D Eco 51W/865 SLV	FD-51/65/1B-E-G13-26/1500	8711500264725	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500264732	264725 40

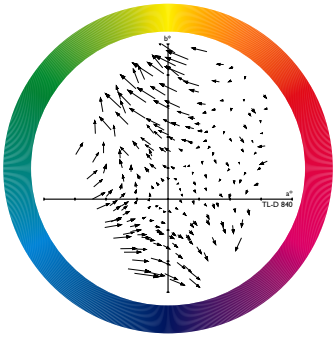
CRV diagram



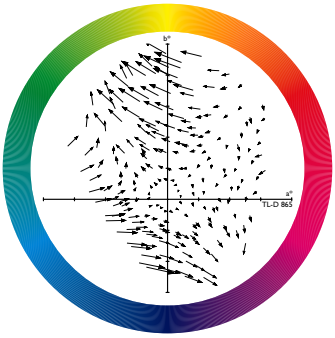
TL-D /830



TL-D /835

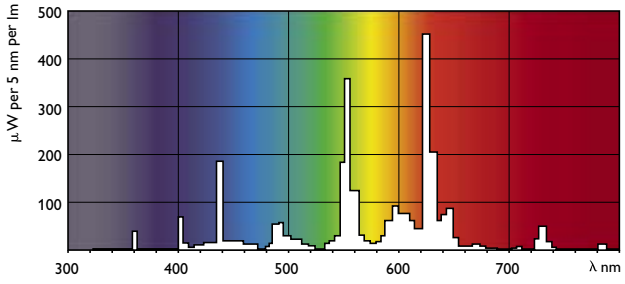


TL-D /840

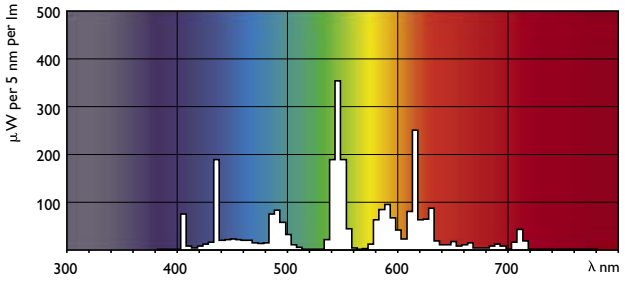


TL-D /865

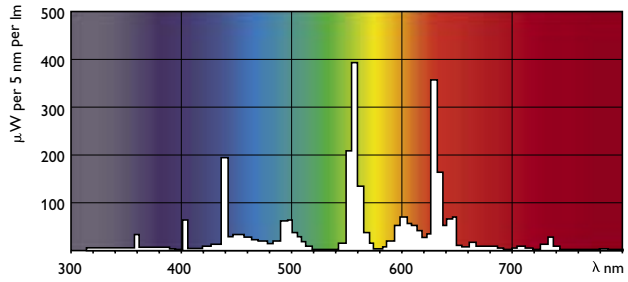
Spectral power distribution



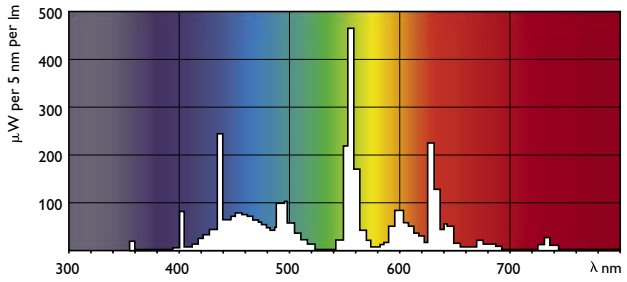
TL-D /830



TL-D /835

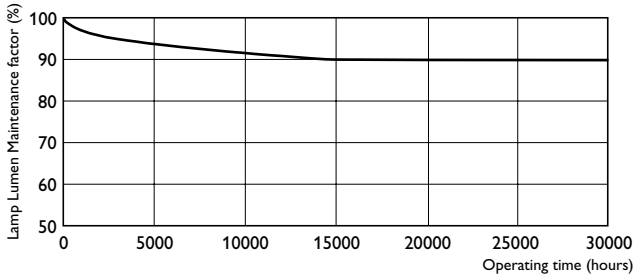


TL-D /840



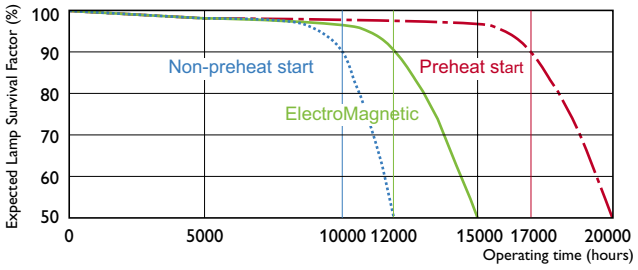
TL-D /865

Lumen maintenance diagram

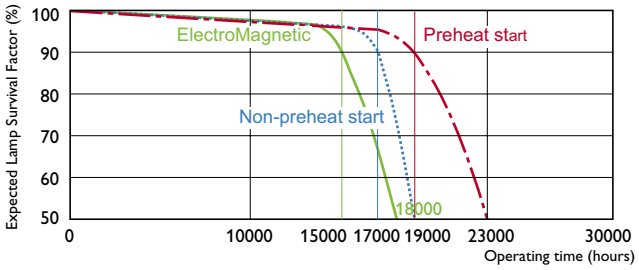


TL-D

Life expectancy diagram

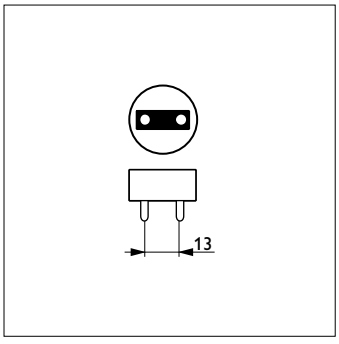


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G13





MASTER TL-D Xtra

Product Description

- Low-pressure mercury discharge lamp with a tubular 26 mm envelope

Product Features

- Significant reduction of early failures based upon a new technology (patented)
- Extra long and reliable lifetime
- Highly efficient 3-band fluorescent coating in combination with New Generation precoating technology
- Low mercury dose for a long-life lamp
- Advanced recyclable lamp technology
- End-cap has an x-shaped green bottom plate to distinguish the lamp from other fluorescent lamps

Product Benefits

- Longer lifetime and less early failures lead to less hassle and lower maintenance costs and facilitate the change from spot to group replacement
- Less waste and disposal cost at end-of-life
- Special fluorescent coating gives good colour rendering

Application

- Suitable for use in applications where maintenance costs are high (high ceilings, difficult to reach): department stores, supermarkets, warehouses, production halls and public areas like car parks and railway stations

System

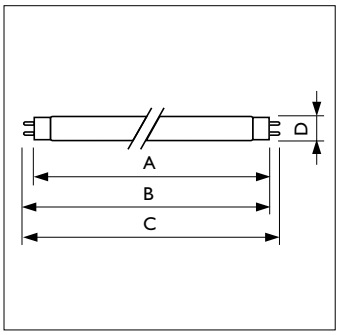
- Can be used with either conventional or electronic gear
- Higher efficacy and longer life is achieved with electronic gear

Environment

- Good environmental choice because of long reliable life (190% better than T8 standard), low waste (only one lamp compared to three T8 standard), lowest mercury content and lead-free
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.204

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MASTER TL-D Xtra

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Xtra 18W	589.8	594.5	596.9	604.0	28
MASTER TL-D Xtra 30W	894.6	899.3	901.7	908.8	28
MASTER TL-D Xtra 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D Xtra 1m 36W	970.0	974.7	977.1	984.2	28
MASTER TL-D Xtra 58W	1500.0	1504.7	1507.1	1514.2	28
MASTER TL-D Xtra 70W	1763.8	1768.5	1770.9	1778.0	28

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Xtra 18W	56	0.370	17.7	18	A	Yes	47000	55000
MASTER TL-D Xtra 30W	100	0.350	30.0	30	A	Yes	47000	55000
MASTER TL-D Xtra 36W	104	0.435	37.0	36	A	Yes	47000	55000
MASTER TL-D Xtra 1m 36W	80	0.550	36.0	36	A	Yes	47000	55000
MASTER TL-D Xtra 58W	108	0.665	58.5	58	A	Yes	47000	55000
MASTER TL-D Xtra 70W	126	0.700	70.0	70	A	Yes	47000	55000

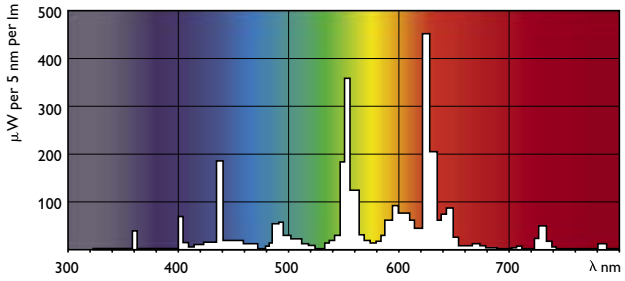
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Xtra 18W/830	1350	76	Warm White	3000	85	439	405
MASTER TL-D Xtra 18W/840	1350	76	Cool White	4000	85	382	381
MASTER TL-D Xtra 18W/865	1250	70	Cool Daylight	6500	85	314	336
MASTER TL-D Xtra 30W/830	2400	80	Warm White	3000	85	447	408
MASTER TL-D Xtra 30W/840	2400	80	Cool White	4000	85	387	382
MASTER TL-D Xtra 36W/830	3350	93	Warm White	3000	85	438	402
MASTER TL-D Xtra 36W/840	3350	93	Cool White	4000	85	381	377
MASTER TL-D Xtra 36W/865	3200	89	Cool Daylight	6500	85	316	336
MASTER TL-D Xtra 1m 36W/830	3050	85	Warm White	3000	85	436	404
MASTER TL-D Xtra 1m 36W/840	3050	85	Cool White	4000	85	382	377
MASTER TL-D Xtra 58W/830	5200	88	Warm White	3000	85	435	403
MASTER TL-D Xtra 58W/840	5200	88	Cool White	4000	85	381	380
MASTER TL-D Xtra 58W/865	5000	86	Cool Daylight	6500	85	316	336
MASTER TL-D Xtra 70W/830	6150	88	Warm White	3000	85	437	402
MASTER TL-D Xtra 70W/840	6150	88	Cool White	4000	85	379	379

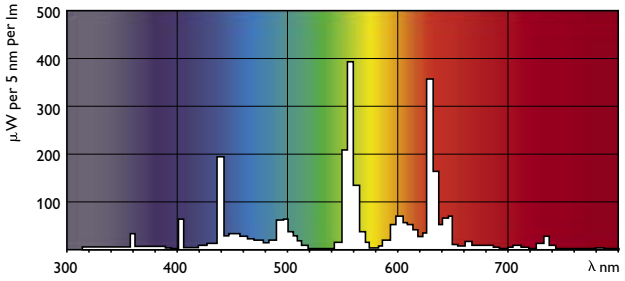
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Xtra 18W/830 SLV	FD-18/30/1B-E-G13	8711500544988	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500544995	544988 40
MASTER TL-D Xtra 18W/830 UNP	FD-18/30/1B-E-G13	8711500892300	68.9 gr	25	62.3 cm x 15.2 cm x 15.7 cm	8711500892317	892300 40
MASTER TL-D Xtra 18W/840 SLV	FD-18/40/1B-E-G13	8711500558626	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500558657	558626 40
MASTER TL-D Xtra 18W/840 UNP	FD-18/40/1B-E-G13	8711500892324	68.9 gr	25	62.3 cm x 15.2 cm x 15.7 cm	8711500892331	892324 40
MASTER TL-D Xtra 18W/865 SLV	FD-18/40/1B-E-G13	8711500892812	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500892829	892812 40
MASTER TL-D Xtra 30W/830 SLV	FD-30/30/1B-E-G13	8711500895325	103.6 gr	25	95.2 cm x 14.1 cm x 14.1 cm	8711500895332	895325 40
MASTER TL-D Xtra 30W/840 SLV	FD-30/40/1B-E-G13	8711500895363	103.6 gr	25	95.2 cm x 14.1 cm x 14.1 cm	8711500895370	895363 40
MASTER TL-D Xtra 36W/830 SLV	FD-36/30/1B-E-G13	8711500558718	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500558732	558718 40
MASTER TL-D Xtra 36W/830 UNP	FD-36/30/1B-E-G13	8711500892386	138.4 gr	25	123.1 cm x 15.4 cm x 15.7 cm	8711500892393	892386 40
MASTER TL-D Xtra 36W/840 SLV	FD-36/40/1B-E-G13	8711500558763	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500558794	558763 40
MASTER TL-D Xtra 36W/840 UNP	FD-36/40/1B-E-G13	8711500892409	138.4 gr	25	123.1 cm x 15.4 cm x 15.7 cm	8711500892416	892409 40
MASTER TL-D Xtra 36W/865 SLV	FD-36/65/1B-E-G13	8711500892836	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500892843	892836 40
MASTER TL-D Xtra 1m 36W/830 SLV	FD-36/30/1B-E-G13	8711500895400	120 gr	25	102.6 cm x 14.9 cm x 14.9 cm	8711500895417	895400 40
MASTER TL-D Xtra 1m 36W/840 SLV	FD-36/40/1B-E-G13	8711500895448	120 gr	25	102.6 cm x 14.9 cm x 14.9 cm	8711500895455	895448 40
MASTER TL-D Xtra 58W/830 SLV	FD-58/30/1B-E-G13	8711500558886	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500558893	558886 40
MASTER TL-D Xtra 58W/830 UNP	FD-58/30/1B-E-G13	8711500892461	172.6 gr	25	153 cm x 15.2 cm x 15.7 cm	8711500892478	892461 40
MASTER TL-D Xtra 58W/840 SLV	FD-58/40/1B-E-G13	8711500558909	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500558916	558909 40
MASTER TL-D Xtra 58W/840 UNP	FD-58/40/1B-E-G13	8711500892485	172.6 gr	25	153 cm x 15.2 cm x 15.7 cm	8711500892492	892485 40
MASTER TL-D Xtra 58W/865 SLV	FD-58/65/1B-E-G13	8711500892850	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500892867	892850 40
MASTER TL-D Xtra 70W/830 SLV	FD-70/30/1B-E-G13	8711500895486	202.7 gr	25	183.6 cm x 14.9 cm x 14.9 cm	8711500895493	895486 40
MASTER TL-D Xtra 70W/840 SLV	FD-70/40/1B-E-G13	8711500895523	202.7 gr	25	183.6 cm x 14.9 cm x 14.9 cm	8711500895530	895523 40

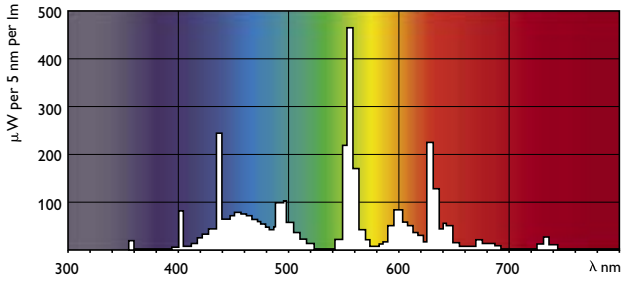
Spectral power distribution



TL-D /830

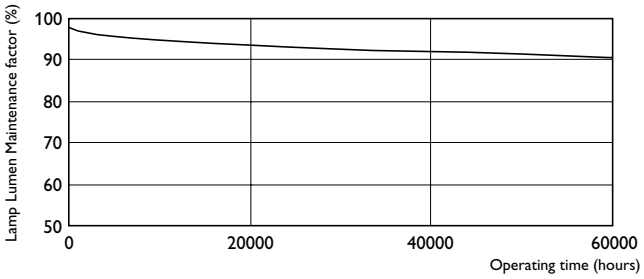


TL-D /840



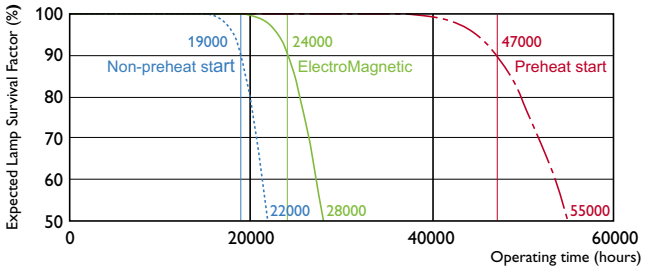
TL-D /865

Lumen maintenance diagram

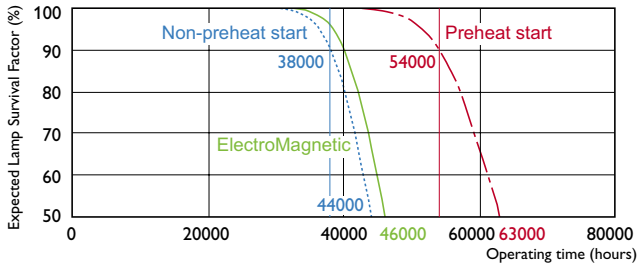


TL-D

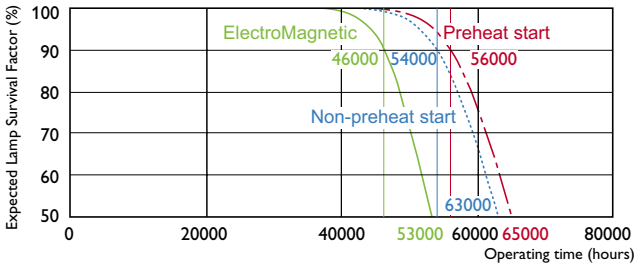
Life expectancy diagram



Life Expectancy 3h cycle

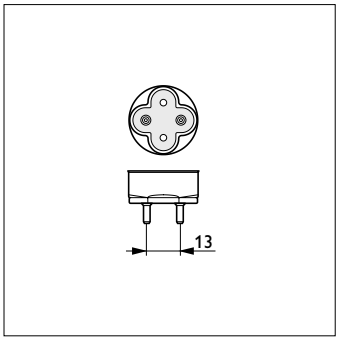


Life Expectancy 12h cycle



Life Expectancy 24h cycle

Cap Base



G13



MASTER TL-D Xtra Polar

Product Description

- Polar versions are regular MASTER TL-D Xtra lamps inside a clear T10 or T12 tube (T10=32 mm diameter, T12=38 mm diameter)

Product Features

- Improved light output at low ambient temperatures
- The same reliable, long-lifetime performance as regular MASTER TL-D Xtra
- Robust lamp construction due to strong, temperature-resistant assembly kit
- 10 pcs. packaging

Product Benefits

- Substantial energy saving (up to 70%) due to higher efficacy at lower temperatures
- Strong reduction in maintenance costs due to high reliability and long lifetime
- Fully temperature-resistant in all conditions; no temperature-related relamping problems
- Supports end-user sustainability programs (low mercury level and low waste due to long lifetime)
- Miniaturisation: Polar T10 version (32 mm) is suited for situations where the diameter of the Polar T12 lamp (38 mm) is too large

Application

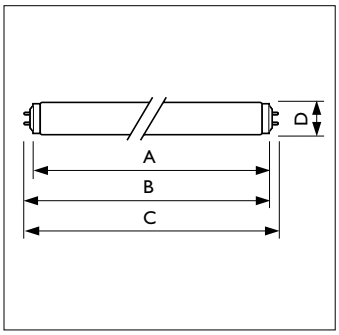
- All applications at lower ambient temperatures (below 10 °C)
- Indoor: cold stores and other refrigerated areas
- Outdoor: petrol stations, car parks, shipping docks, petrochemical plants, sign lighting, tunnels

Environment

- Good environmental choice because of highest energy efficiency in colder conditions (below 10 °C), long reliable life (190% better than T8 standard), low waste (only one lamp compared to three T8 standard), lowest mercury content and lead-free
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.204

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MASTER TL-D Xtra Polar

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Xtra Polar 18W/T10	589.8	594.5	596.9	604.0	32.6
MASTER TL-D Xtra Polar 36W/T10	1199.4	1204.1	1206.5	1213.6	32.6
MASTER TL-D Xtra Polar 58W/T10	1500.0	1504.7	1507.1	1514.2	32.6
MASTER TL-D Xtra Polar 18W/T12	589.8	594.5	596.9	604.0	40.5
MASTER TL-D Xtra Polar 36W/T12	1199.4	1204.1	1206.5	1213.6	40.5
MASTER TL-D Xtra Polar 58W/T12	1500.0	1504.7	1507.1	1514.2	40.5

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Xtra Polar 18W/T10/T12	56	0.370	17.7	18	A	Yes	47000	55000
MASTER TL-D Xtra Polar 36W/T10/T12	104	0.435	37.0	36	A	Yes	47000	55000
MASTER TL-D Xtra Polar 58W/T10/T12	108	0.665	58.5	58	A	Yes	47000	55000

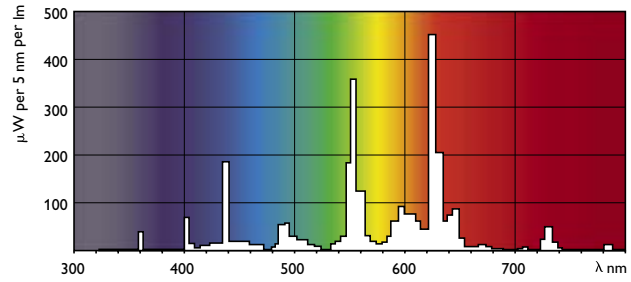
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Xtra Polar 18W/830 T10	1350	76	Warm White	3000	85	439	405
MASTER TL-D Xtra Polar 18W/840 T10	1350	76	Cool White	4000	85	382	381
MASTER TL-D Xtra Polar 36W/830 T10	3350	93	Warm White	3000	85	438	402
MASTER TL-D Xtra Polar 36W/840 T10	3350	93	Cool White	4000	85	381	377
MASTER TL-D Xtra Polar 58W/830 T10	5200	88	Warm White	3000	85	435	403
MASTER TL-D Xtra Polar 58W/840 T10	5200	88	Cool White	4000	85	381	380
MASTER TL-D Xtra Polar 18W/865 T12	1250	70	Cool Daylight	6500	85	314	329
MASTER TL-D Xtra Polar 36W/865 T12	3200	89	Cool Daylight	6500	85	316	333
MASTER TL-D Xtra Polar 58W/865 T12	5000	86	Cool Daylight	6500	85	314	336

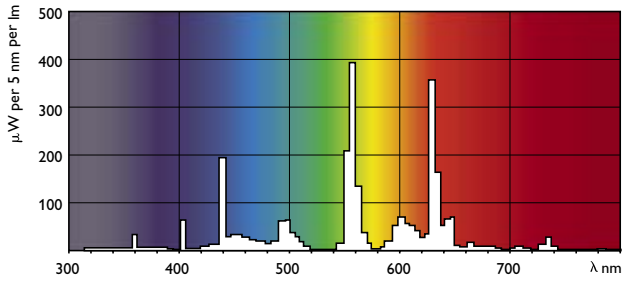
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Xtra Polar 18W/830 T10 SLV	FD-18/30/1B-E-G13	8711500952509	178 gr	10	63.5 cm x 21.7 cm x 8.5 cm	8711500952516	952509 25
MASTER TL-D Xtra Polar 18W/840 T10 SLV	FD-18/40/1B-E-G13	8711500952523	178 gr	10	63.5 cm x 21.7 cm x 8.5 cm	8711500952530	952523 25
MASTER TL-D Xtra Polar 36W/830 T10 SLV	FD-36/30/1B-E-G13	8711500952561	347 gr	10	124.5 cm x 21.7 cm x 8.5 cm	8711500952578	952561 25
MASTER TL-D Xtra Polar 36W/840 T10 SLV	FD-36/40/1B-E-G13	8711500952585	347 gr	10	124.5 cm x 21.7 cm x 8.5 cm	8711500952592	952585 25
MASTER TL-D Xtra Polar 58W/830 T10 SLV	FD-58/30/1B-E-G13	8711500952622	445 gr	10	154.5 cm x 21.7 cm x 8.5 cm	8711500952639	952622 25
MASTER TL-D Xtra Polar 58W/840 T10 SLV	FD-58/40/1B-E-G13	8711500952646	445 gr	10	154.5 cm x 21.7 cm x 8.5 cm	8711500952653	952646 25
MASTER TL-D Xtra Polar 18W/830 T12 SLV	FD-18/30/1B-E-G13	8711500893031	178 gr	10	63.5 cm x 21.7 cm x 8.5 cm	8711500893048	893031 25
MASTER TL-D Xtra Polar 18W/840 T12 SLV	FD-18/40/1B-E-G13	8711500893055	178 gr	10	63.5 cm x 21.7 cm x 8.5 cm	8711500893062	893055 25
MASTER TL-D Xtra Polar 18W/865 T12 SLV	FD-18/40/1B-E-G13	8711500893079	178 gr	10	63.5 cm x 21.7 cm x 8.5 cm	8711500893086	893079 25
MASTER TL-D Xtra Polar 36W/830 T12 SLV	FD-36/30/1B-E-G13	8711500893154	347 gr	10	124.5 cm x 21.7 cm x 8.5 cm	8711500893161	893154 25
MASTER TL-D Xtra Polar 36W/840 T12 SLV	FD-36/40/1B-E-G13	8711500893178	347 gr	10	124.5 cm x 21.7 cm x 8.5 cm	8711500893185	893178 25
MASTER TL-D Xtra Polar 36W/865 T12 SLV	FD-36/65/1B-E-G13	8711500893192	347 gr	10	124.5 cm x 21.7 cm x 8.5 cm	8711500893208	893192 25
MASTER TL-D Xtra Polar 58W/830 T12 SLV	FD-58/30/1B-E-G13	8711500893277	445 gr	10	154.5 cm x 21.7 cm x 8.5 cm	8711500893284	893277 25
MASTER TL-D Xtra Polar 58W/840 T12 SLV	FD-58/40/1B-E-G13	8711500893291	445 gr	10	154.5 cm x 21.7 cm x 8.5 cm	8711500893307	893291 25
MASTER TL-D Xtra Polar 58W/865 T12 SLV	FD-58/65/1B-E-G13	8711500893314	445 gr	10	154.5 cm x 21.7 cm x 8.5 cm	8711500893321	893314 25
MASTER TL-D Xtra Polar 58W/865 T12 SLV	FD-58/65/1B-E-G13	8711500954640	445 gr	10	154.5 cm x 21.7 cm x 8.5 cm	8711500954657	954640 25

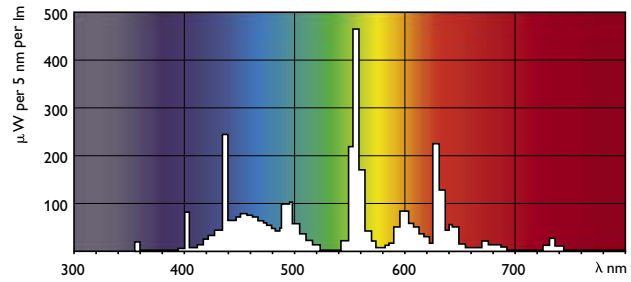
Spectral power distribution



TL-D /830

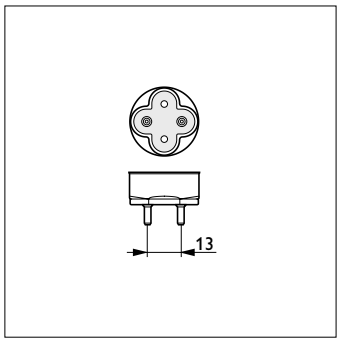


TL-D /840



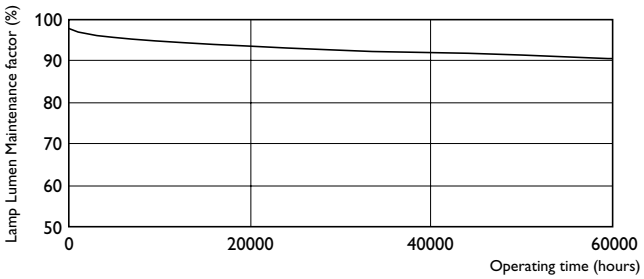
TL-D /865

Cap Base



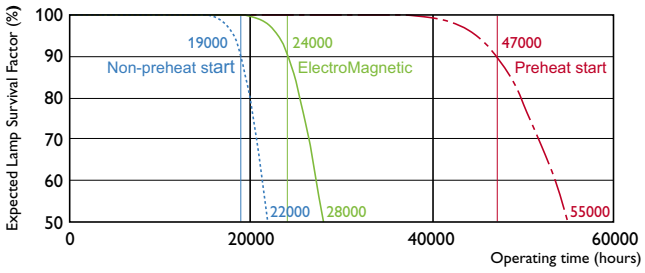
G13

Lumen maintenance diagram

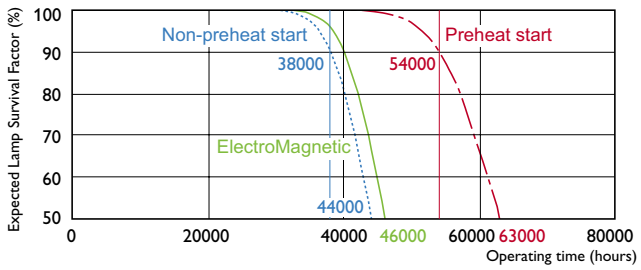


TL-D

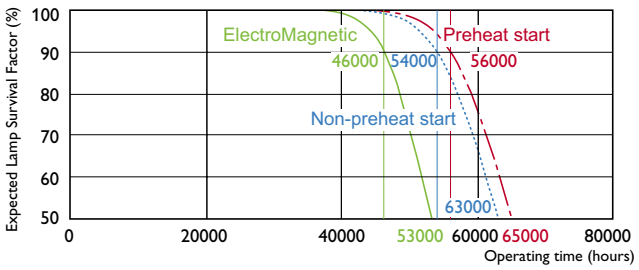
Life expectancy diagram



Life Expectancy 3h cycle



Life Expectancy 12h cycle



Life Expectancy 24h cycle





MASTER TL-D Xtra Secura

Product Description

- Low-pressure mercury discharge lamp with a tubular 26 mm envelope and a clear protective coating

Product Features

- Significant reduction of early failures based on new X-technology
- Extra-long life and high reliability
- Highly efficient 3-band fluorescent coating in combination with New Generation pre-coating technology
- Low mercury dose for a long-life lamp
- End-cap has an x-shaped green bottom plate to distinguish the lamp from other fluorescent lamps
- Strong, temperature-resistant protective Secura coating based on FEP (Teflon)
- Coating lifetime is identical to the lifetime of the lamp

Product Benefits

- Protective Teflon coating keeps glass and lamp components together in case of accidental breakage; allows use in open and closed luminaires in food & beverages industry
- Easy identification in audit situations by blue ring at one end
- Special fluorescent coating gives good colour rendering
- Extra-long lifetime and reduced early failures mean lower maintenance workload and costs, and facilitate change from spot to group replacement
- Reduced waste and disposal costs at end-of-life
- Compliant with HACCP regulations and supports HACCP certification

Application

- Food & beverages and pharmaceuticals industry: factories, distribution centres, retail outlets; locations where maintenance costs are high (high ceilings, difficult access)

Luminaires

- Suitable for open and closed luminaires (as indicated by the blue ring), due to the temperature-resistant coating

System

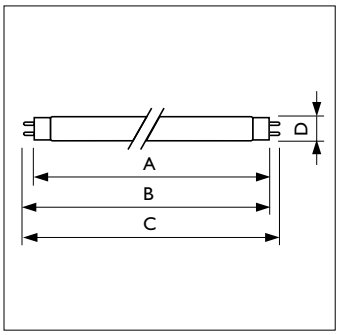
- Can be used with either conventional or electronic gear
- Higher efficacy and longer life with electronic gear

Environment

- Good environmental choice because of long reliable life (190% better than T8 standard), low waste (only one lamp compared to three T8 standard), lowest mercury content and lead-free
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D Xtra Secura

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Xtra Secura 18W	589.8	594.5	596.9	604.0	28
MASTER TL-D Xtra Secura 30W	894.6	899.3	901.7	908.8	28
MASTER TL-D Xtra Secura 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D Xtra Secura 58W	1500.0	1504.7	1507.1	1514.2	28

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Xtra Secura 18W	56	0.370	17.7	18	A	Yes	47000	55000
MASTER TL-D Xtra Secura 30W	98	0.360	30.0	30	A	Yes	47000	55000
MASTER TL-D Xtra Secura 36W	104	0.435	37.0	36	A	Yes	47000	55000
MASTER TL-D Xtra Secura 58W	108	0.665	58.5	58	A	Yes	47000	55000

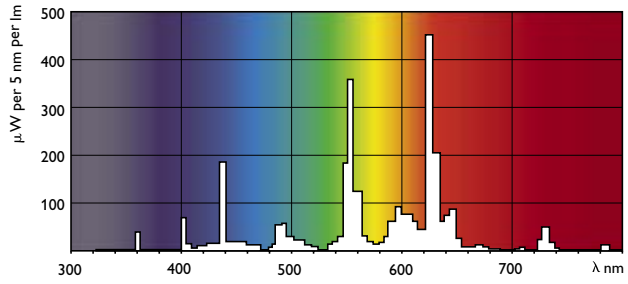
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Xtra Secura 18W/830	1300	72	Warm White	3000	85	439	405
MASTER TL-D Xtra Secura 18W/840	1300	72	Cool White	4000	85	382	381
MASTER TL-D Xtra Secura 30W/830	2350	78	Warm White	3000	85	444	406
MASTER TL-D Xtra Secura 30W/840	2350	78	Cool White	4000	85	387	381
MASTER TL-D Xtra Secura 36W/830	3200	88	Warm White	3000	85	438	402
MASTER TL-D Xtra Secura 36W/840	3200	88	Cool White	4000	85	381	377
MASTER TL-D Xtra Secura 58W/830	5100	86	Warm White	3000	85	435	403
MASTER TL-D Xtra Secura 58W/840	5100	86	Cool White	4000	85	381	380

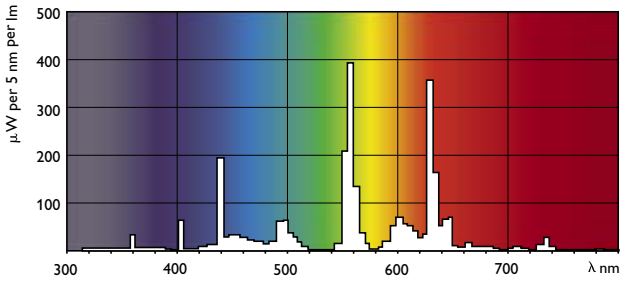
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Xtra Secura 18W/830 SLV	FD-18/30/1B-E-G13	8711500889737	71 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500950000	889737 25
MASTER TL-D Xtra Secura 18W/830 SLV	FD-18/30/1B-E-G13	8711500889737	71 gr	25	62.4 cm x 14.9 cm x 14.6 cm	8711500889744	889737 40
MASTER TL-D Xtra Secura 18W/840 SLV	FD-18/40/1B-E-G13	8711500889751	71 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500950017	889751 25
MASTER TL-D Xtra Secura 18W/840 SLV	FD-18/40/1B-E-G13	8711500889751	127.5 gr	25	62.4 cm x 14.9 cm x 14.6 cm	8711500889768	889751 40
MASTER TL-D Xtra Secura 30W/830 SLV	FD-30/30/1B-E-G13	8711500951199	113 gr	25	95.8 cm x 14.9 cm x 14.6 cm	8711500951205	951199 40
MASTER TL-D Xtra Secura 30W/840 SLV	FD-30/40/1B-E-G13	8711500951212	113 gr	25	95.8 cm x 14.9 cm x 14.6 cm	8711500951229	951212 40
MASTER TL-D Xtra Secura 36W/830 SLV	FD-36/30/1B-E-G13	8711500889812	137.5 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500950048	889812 25
MASTER TL-D Xtra Secura 36W/830 SLV	FD-36/30/1B-E-G13	8711500889812	249.9 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500889829	889812 40
MASTER TL-D Xtra Secura 36W/840 SLV	FD-36/40/1B-E-G13	8711500889836	137.5 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500950055	889836 25
MASTER TL-D Xtra Secura 36W/840 SLV	FD-36/40/1B-E-G13	8711500889836	249.9 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500889843	889836 40
MASTER TL-D Xtra Secura 58W/830 SLV	FD-58/30/1B-E-G13	8711500889898	186 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500950086	889898 25
MASTER TL-D Xtra Secura 58W/830 SLV	FD-58/30/1B-E-G13	8711500889898	311.2 gr	25	153 cm x 14.9 cm x 14.6 cm	8711500889904	889898 40
MASTER TL-D Xtra Secura 58W/840 SLV	FD-58/40/1B-E-G13	8711500889911	186 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500950093	889911 25
MASTER TL-D Xtra Secura 58W/840 SLV	FD-58/40/1B-E-G13	8711500889911	311.2 gr	25	153 cm x 14.9 cm x 14.6 cm	8711500889928	889911 40

Spectral power distribution

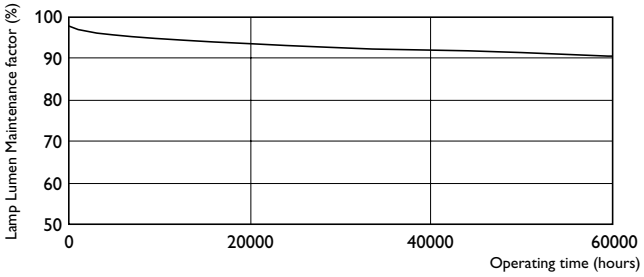


TL-D /830



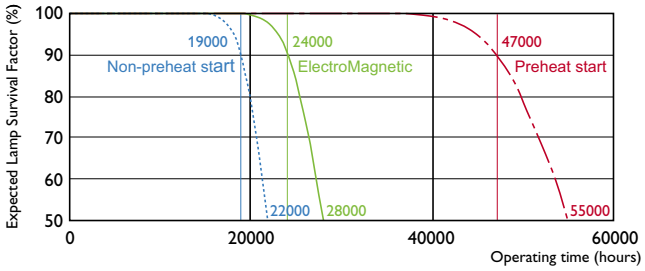
TL-D /840

Lumen maintenance diagram

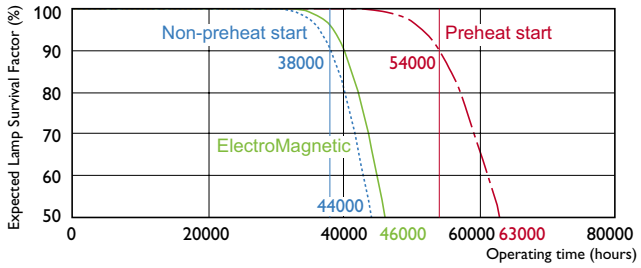


TL-D

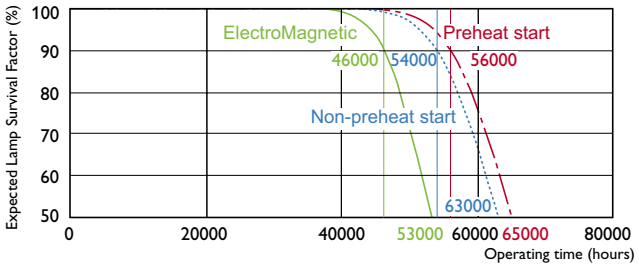
Life expectancy diagram



Life Expectancy 3h cycle

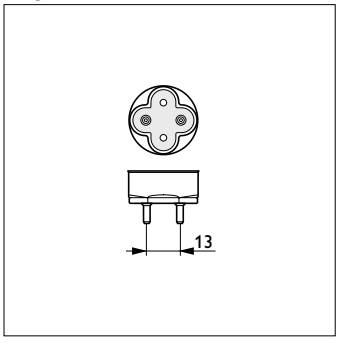


Life Expectancy 12h cycle



Life Expectancy 24h cycle

Cap Base



G13





MASTER TL-D Xtreme

Product Description

- Low-pressure mercury discharge lamp with a tubular 26mm envelope

Product Features

- Significant reduction of early failures based upon a new technology (patented)
- Extreme long and reliable lifetime
- Highly efficient 3-band fluorescent coating in combination with New Generation precoating technology
- Low mercury dose for a long-life lamp
- Advanced recyclable lamp technology
- End-cap has an x-shaped green bottom plate to distinguish lamp from other fluorescent lamps

Product Benefits

- Longer lifetime and less early failures lead to less hassle and lower maintenance costs and facilitate the change from spot to group replacement
- Less waste and disposal cost at end-of-life
- Special fluorescent coating gives good colour rendering

Application

- Suitable for use in applications where maintenance costs (high ceilings, difficult to reach) and disruptive costs are high (stopping of production process, closure of tunnels), or where lamp failure is not acceptable for e.g. safety reasons: tunnels, process, food and petrochemical industries

System

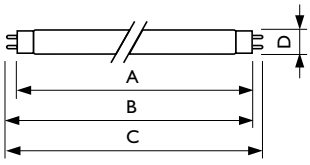
- Can be used with either conventional or electronic gear
- Higher efficacy and longer life is achieved with electronic gear

Environment

- Good environmental choice because of long reliable life (300% better than T8 standard), low waste (only one lamp compared to four T8 standard), lowest mercury content and lead-free
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.204

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MASTER TL-D Xtreme

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Xtreme 18W	589.8	594.5	596.9	604.0	28
MASTER TL-D Xtreme 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D Xtreme 1m 36W	970.0	974.7	977.1	984.2	28
MASTER TL-D Xtreme 58W	1500.0	1504.7	1507.1	1514.2	28
MASTER TL-D Xtreme 70W	1763.8	1768.5	1770.9	1778.0	28

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Xtreme 18W	56	0.370	17.7	18	A	Yes	66000	79000
MASTER TL-D Xtreme 36W	102	0.430	36.0	36	A	Yes	66000	79000
MASTER TL-D Xtreme 1m 36W	80	0.550	36.0	36	A	Yes	66000	79000
MASTER TL-D Xtreme 58W	108	0.665	58.5	58	A	Yes	66000	79000
MASTER TL-D Xtreme 70W	126	0.700	70.0	70	A	Yes	66000	79000

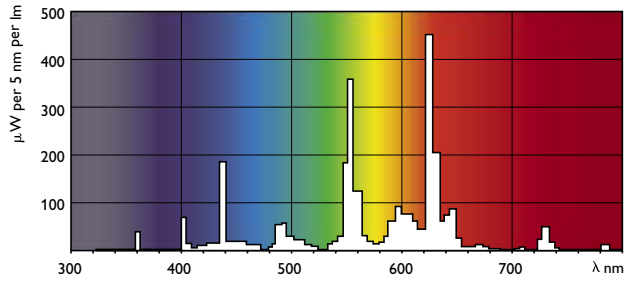
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Xtreme 18W/830	1350	76	Warm White	3000	85	440	405
MASTER TL-D Xtreme 18W/840	1350	76	Cool White	4000	85	383	381
MASTER TL-D Xtreme 18W/865	1250	70	Cool Daylight	6500	85	316	336
MASTER TL-D Xtreme 36W/830	3250	90	Warm White	3000	85	440	403
MASTER TL-D Xtreme 36W/840	3250	90	Cool White	4000	85	383	379
MASTER TL-D Xtreme 36W/865	3150	88	Cool Daylight	6500	85	316	336
MASTER TL-D Xtreme 1m 36W/830	3000	83	Warm White	3000	85	438	407
MASTER TL-D Xtreme 1m 36W/840	3000	83	Cool White	4000	85	384	380
MASTER TL-D Xtreme 58W/830	5150	89	Warm White	3000	85	436	404
MASTER TL-D Xtreme 58W/840	5150	89	Cool White	4000	85	381	381
MASTER TL-D Xtreme 58W/865	5000	86	Cool Daylight	6500	85	316	336
MASTER TL-D Xtreme 70W/830	6100	87	Warm White	3000	85	434	404
MASTER TL-D Xtreme 70W/840	6100	87	Cool White	4000	85	380	380

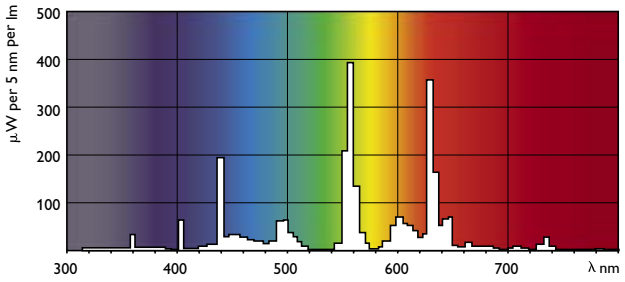
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Xtreme 18W/830 SLV	FD-18/30/1B-E-G13	8711500544926	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500544933	544926 40
MASTER TL-D Xtreme 18W/830 UNP	FD-18/30/1B-E-G13	8711500892263	68.9 gr	25	62.3 cm x 15.2 cm x 15.7 cm	8711500892270	892263 40
MASTER TL-D Xtreme 18W/840 SLV	FD-18/40/1B-E-G13	8711500544964	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500544971	544964 40
MASTER TL-D Xtreme 18W/840 UNP	FD-18/40/1B-E-G13	8711500892287	68.9 gr	25	62.3 cm x 15.2 cm x 15.7 cm	8711500892294	892287 40
MASTER TL-D Xtreme 18W/865 SLV	FD-18/65/1B-E-G13	8711500892751	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500892768	892751 40
MASTER TL-D Xtreme 36W/830 SLV	FD-36/30/1B-E-G13	8711500558664	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500558671	558664 40
MASTER TL-D Xtreme 36W/830 UNP	FD-36/30/1B-E-G13	8711500892348	138.4 gr	25	123.1 cm x 15.4 cm x 15.7 cm	8711500892355	892348 40
MASTER TL-D Xtreme 36W/840 SLV	FD-36/40/1B-E-G13	8711500558688	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500558695	558688 40
MASTER TL-D Xtreme 36W/840 UNP	FD-36/40/1B-E-G13	8711500892362	138.4 gr	25	123.1 cm x 15.4 cm x 15.7 cm	8711500892379	892362 40
MASTER TL-D Xtreme 36W/865 SLV	FD-36/65/1B-E-G13	8711500892775	138.4 gr	25	124 cm x 14.9 cm x 14.9 cm	8711500892782	892775 40
MASTER TL-D Xtreme 1m 36W/830 SLV	FD-36/30/1B-E-G13	8711500895424	120 gr	25	102.6 cm x 14.9 cm x 14.9 cm	8711500895431	895424 40
MASTER TL-D Xtreme 1m 36W/840 SLV	FD-36/40/1B-E-G13	8711500895462	120 gr	25	102.6 cm x 14.9 cm x 14.9 cm	8711500895479	895462 40
MASTER TL-D Xtreme 58W/830 SLV	FD-58/30/1B-E-G13	8711500558824	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500558855	558824 40
MASTER TL-D Xtreme 58W/830 UNP	FD-58/30/1B-E-G13	8711500892423	172.6 gr	25	153 cm x 15.2 cm x 15.7 cm	8711500892430	892423 40
MASTER TL-D Xtreme 58W/840 SLV	FD-58/40/1B-E-G13	8711500558862	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500558879	558862 40
MASTER TL-D Xtreme 58W/840 UNP	FD-58/40/1B-E-G13	8711500892447	172.6 gr	25	153 cm x 15.2 cm x 15.7 cm	8711500892454	892447 40
MASTER TL-D Xtreme 58W/865 SLV	FD-58/65/1B-E-G13	8711500892799	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500892805	892799 40
MASTER TL-D Xtreme 70W/830 SLV	FD-70/30/1B-E-G13	8711500895509	202.7 gr	25	183.6 cm x 14.9 cm x 14.9 cm	8711500895516	895509 40
MASTER TL-D Xtreme 70W/840 SLV	FD-70/40/1B-E-G13	8711500895547	202.7 gr	25	183.6 cm x 14.9 cm x 14.9 cm	8711500895554	895547 40

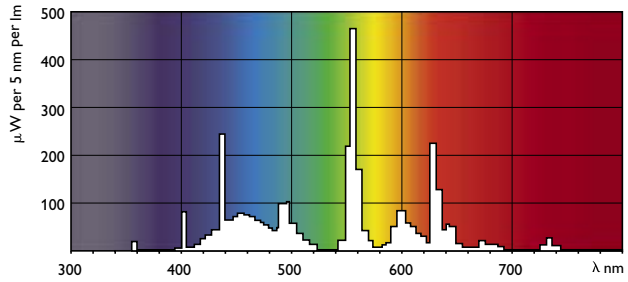
Spectral power distribution



TL-D /830

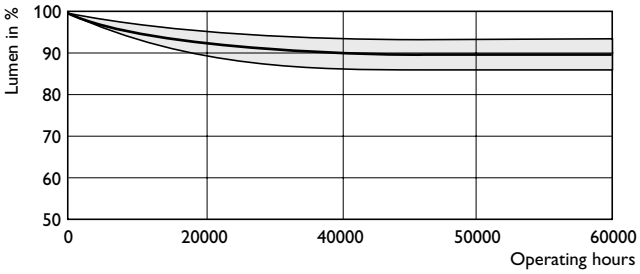


TL-D /840



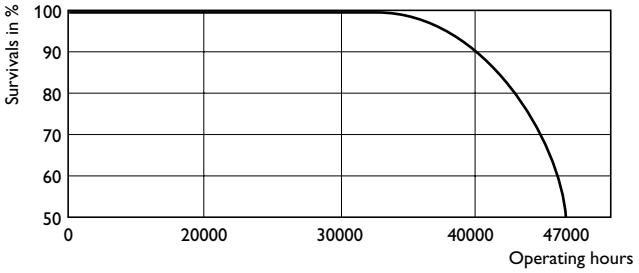
TL-D /865

Lumen maintenance diagram



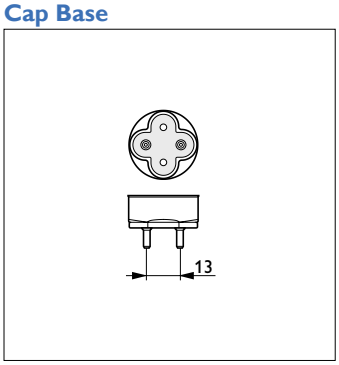
TL-D

Life expectancy diagram



TL-D

Cap Base



G13





MASTER TL-D Xtreme Polar

Product Description

- Polar versions are regular MASTER TL-D Xtra and Xtreme lamps inside a clear T12 tube

Product Features

- Improved light output in low ambient temperatures
- The same reliable, long-lifetime performance as regular MASTER TL-D Xtra and Xtreme
- Robust lamp construction due to strong, temperature-resistant assembly kit
- 10 pcs. packaging

Product Benefits

- High lighting level in low ambient temperature applications compared with other fluorescent tubes
- Strong reduction in maintenance costs due to high reliability and long lifetime
- Fully temperature-resistant in all conditions; no temperature-related relamping problems
- Supports end-user sustainability programs (low mercury level and low waste due to long lifetime)

Application

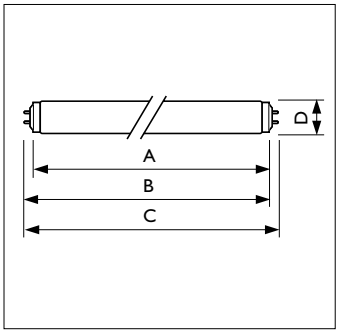
- Indoor: cold stores and other refrigerated areas
- Outdoor: petrol stations, car parks, shipping docks, petrochemical plants, sign lighting, tunnels

Environment

- Good environmental choice because of highest energy efficiency in colder conditions (below 10 °C), long reliable life (300% better than T8 standard), low waste (only one lamp compared to four T8 standard), lowest mercury content and lead-free
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D Xtreme Polar

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Xtreme Polar 18W	589.8	594.5	596.9	604.0	40.5
MASTER TL-D Xtreme Polar 36W	1199.4	1204.1	1206.5	1213.6	40.5
MASTER TL-D Xtreme Polar 58W	1500.0	1504.7	1507.1	1514.2	40.5

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Xtreme Polar 18W	56	0.370	17.7	18	A	Yes	66000	79000
MASTER TL-D Xtreme Polar 36W	102	0.430	36.0	36	A	Yes	66000	79000
MASTER TL-D Xtreme Polar 58W	108	0.665	58.5	58	A	Yes	66000	79000

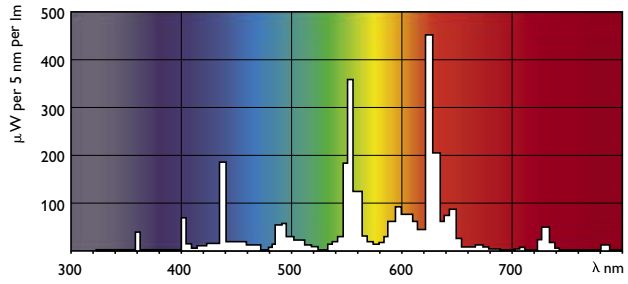
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Xtreme Polar 18W/830	1350	76	Warm White	3000	85	440	405
MASTER TL-D Xtreme Polar 18W/840	1350	76	Cool White	4000	85	383	381
MASTER TL-D Xtreme Polar 18W/865	1250	70	Cool Daylight	6500	85	314	330
MASTER TL-D Xtreme Polar 36W/830	3250	90	Warm White	3000	85	317	336
MASTER TL-D Xtreme Polar 36W/840	3250	90	Cool White	4000	85	383	379
MASTER TL-D Xtreme Polar 36W/865	3150	88	Cool Daylight	6500	85	319	344
MASTER TL-D Xtreme Polar 58W/830	5150	89	Warm White	3000	85	436	404
MASTER TL-D Xtreme Polar 58W/840	5150	89	Cool White	4000	85	381	381
MASTER TL-D Xtreme Polar 58W/865	5000	86	Cool Daylight	6500	85	317	339

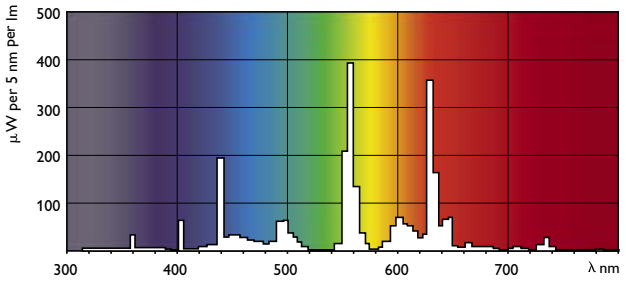
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Xtreme Polar 18W/830 SLV	FD-18/30/1B-E-G13	8711500892973	178 gr	10	63.5 cm x 21.7 cm x 8.5 cm	8711500892980	892973 25
MASTER TL-D Xtreme Polar 18W/840 SLV	FD-18/40/1B-E-G13	8711500892997	178 gr	10	63.5 cm x 21.7 cm x 8.5 cm	8711500893000	892997 25
MASTER TL-D Xtreme Polar 18W/865 SLV	FD-18/65/1B-E-G13	8711500893017	178 gr	10	63.5 cm x 21.7 cm x 8.5 cm	8711500893024	893017 25
MASTER TL-D Xtreme Polar 36W/830 SLV	FD-36/30/1B-E-G13	8711500893093	347 gr	10	124.5 cm x 21.7 cm x 8.5 cm	8711500893109	893093 25
MASTER TL-D Xtreme Polar 36W/840 SLV	FD-36/40/1B-E-G13	8711500893116	347 gr	10	124.5 cm x 21.7 cm x 8.5 cm	8711500893123	893116 25
MASTER TL-D Xtreme Polar 36W/865 SLV	FD-36/65/1B-E-G13	8711500893130	347 gr	10	124.5 cm x 21.7 cm x 8.5 cm	8711500893147	893130 25
MASTER TL-D Xtreme Polar 58W/830 SLV	FD-58/30/1B-E-G13	8711500893215	445 gr	10	154.5 cm x 21.7 cm x 8.5 cm	8711500893222	893215 25
MASTER TL-D Xtreme Polar 58W/840 SLV	FD-58/40/1B-E-G13	8711500893239	445 gr	10	154.5 cm x 21.7 cm x 8.5 cm	8711500893246	893239 25
MASTER TL-D Xtreme Polar 58W/865 SLV	FD-58/65/1B-E-G13	8711500893253	445 gr	10	154.5 cm x 21.7 cm x 8.5 cm	8711500893260	893253 25

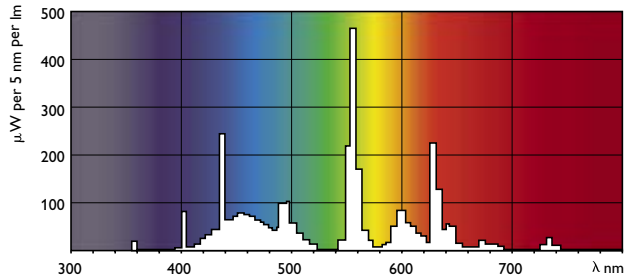
Spectral power distribution



TL-D /830

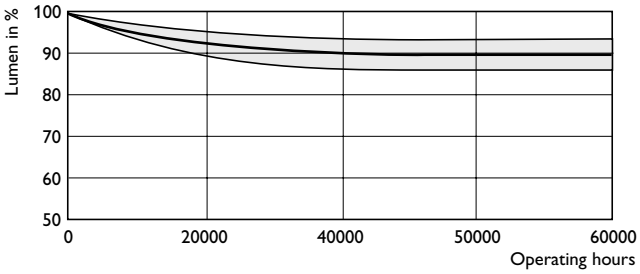


TL-D /840



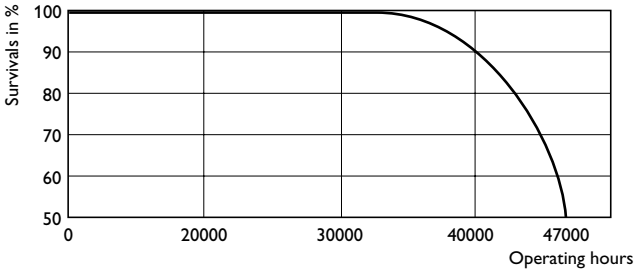
TL-D /865

Lumen maintenance diagram



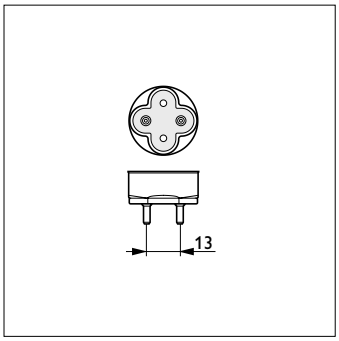
TL-D

Life expectancy diagram



TL-D

Cap Base



G13



MASTER TL-D Xtreme Secura

Product Description

- Low-pressure mercury discharge lamp with a tubular 26 mm envelope and a clear protective coating

Product Features

- Significant reduction of early failures based on new X-technology
- Extremely long life and high reliability
- Highly efficient 3-band fluorescent coating in combination with New Generation pre-coating technology
- Low mercury dose for a long-life lamp
- End-cap has an x-shaped green bottom plate to distinguish the lamp from other fluorescent lamps
- Strong, temperature-resistant protective Secura coating based on FEP (Teflon)
- Coating lifetime is identical to the lifetime of the lamp

Product Benefits

- Protective Teflon coating keeps glass and lamp components together in case of accidental breakage; allows use in open and closed luminaires in food & beverages industry
- Easy identification in audit situations by blue ring at one end
- Special fluorescent coating gives good colour rendering
- Extremely long lifetime and reduced early failures mean lower maintenance workload and costs, and facilitate change from spot to group replacement
- Reduced waste and disposal costs at end-of-life
- Compliant with HACCP regulations and supports HACCP certification

Application

- Food & beverages and pharmaceuticals industry: factories, distribution centres, retail outlets; locations where maintenance and/or process disruption costs are high (high ceilings, difficult access)

Luminaires

- Suitable for open and closed luminaires (as indicated by the blue ring), due to the temperature-resistant coating

System

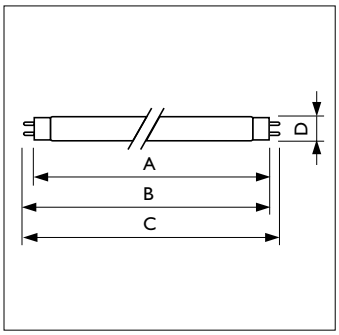
- Can be used with either conventional or electronic gear
- Higher efficacy and longer life with electronic gear

Environment

- Good environmental choice because of long reliable life (300% better than T8 standard), low waste (only one lamp compared to four T8 standard), lowest mercury content and lead-free
- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D Xtreme Secura

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Xtreme Secura 18W	589.8	594.5	596.9	604.0	28
MASTER TL-D Xtreme Secura 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D Xtreme Secura 58W	1500.0	1504.7	1507.1	1514.2	28

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Xtreme Secura 18W	56	0.370	17.7	18	A	Yes	66000	79000
MASTER TL-D Xtreme Secura 36W	102	0.430	36.0	36	A	Yes	66000	79000
MASTER TL-D Xtreme Secura 58W	108	0.665	58.5	58	A	Yes	66000	79000

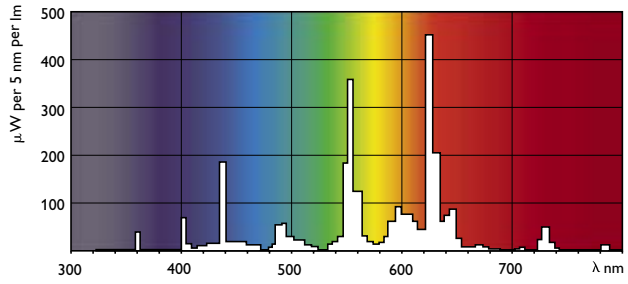
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Xtreme Secura 18W/830	1300	73	Warm White	3000	85	439	406
MASTER TL-D Xtreme Secura 18W/840	1300	73	Cool White	4000	85	383	381
MASTER TL-D Xtreme Secura 36W/830	3250	88	Warm White	3000	85	440	403
MASTER TL-D Xtreme Secura 36W/840	3250	88	Cool White	4000	85	383	379
MASTER TL-D Xtreme Secura 58W/830	5000	86	Warm White	3000	85	436	404
MASTER TL-D Xtreme Secura 58W/840	5000	86	Cool White	4000	85	381	381

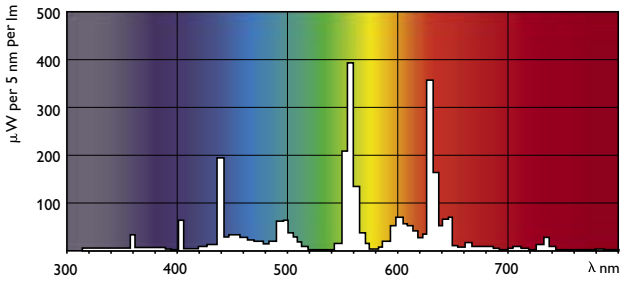
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Xtreme Secura 18W/830 SLV	FD-18/30/1B-E-G13	8711500889690	71 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500950024	889690 25
MASTER TL-D Xtreme Secura 18W/830 SLV	FD-18/30/1B-E-G13	8711500889690	127.5 gr	25	62.4 cm x 14.9 cm x 14.6 cm	8711500889706	889690 40
MASTER TL-D Xtreme Secura 18W/840 SLV	FD-18/40/1B-E-G13	8711500889713	71 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500950031	889713 25
MASTER TL-D Xtreme Secura 18W/840 SLV	FD-18/40/1B-E-G13	8711500889713	127.5 gr	25	62.4 cm x 14.9 cm x 14.6 cm	8711500889720	889713 40
MASTER TL-D Xtreme Secura 36W/830 SLV	FD-36/30/1B-E-G13	8711500889775	137.5 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500950062	889775 25
MASTER TL-D Xtreme Secura 36W/830 SLV	FD-36/30/1B-E-G13	8711500889775	249.9 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500889782	889775 40
MASTER TL-D Xtreme Secura 36W/840 SLV	FD-36/40/1B-E-G13	8711500889799	137.5 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500950079	889799 25
MASTER TL-D Xtreme Secura 36W/840 SLV	FD-36/40/1B-E-G13	8711500889799	249.9 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500889805	889799 40
MASTER TL-D Xtreme Secura 58W/830 SLV	FD-58/30/1B-E-G13	8711500889850	186 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500950109	889850 25
MASTER TL-D Xtreme Secura 58W/830 SLV	FD-58/30/1B-E-G13	8711500889850	311.2 gr	25	153 cm x 14.9 cm x 14.6 cm	8711500889867	889850 40
MASTER TL-D Xtreme Secura 58W/840 SLV	FD-58/40/1B-E-G13	8711500889874	186 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500950116	889874 25
MASTER TL-D Xtreme Secura 58W/840 SLV	FD-58/40/1B-E-G13	8711500889874	311.2 gr	25	153 cm x 14.9 cm x 14.6 cm	8711500889881	889874 40

Spectral power distribution

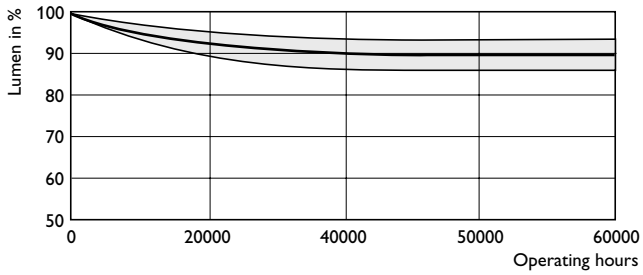


TL-D /830



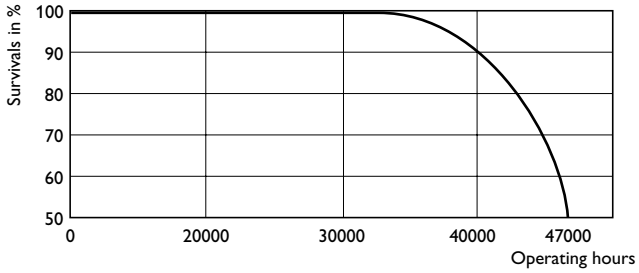
TL-D /840

Lumen maintenance diagram



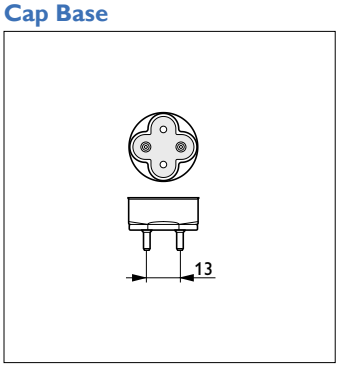
TL-D

Life expectancy diagram



TL-D

Cap Base



G13





MASTER TL-D ActiViva

Product Description

- TL-D linear fluorescent lamps with a tubular 26 mm envelope and enhanced blue light content to promote well-being

Product Features

- Enhanced blue light content positively influences well-being
- Unique phosphor coating generates a light spectrum with an optimal balance between light for vision and blue light to promote well-being
- Direct retrofit for existing fluorescent lamps operating on conventional or electronic gear
- High-quality lighting (CRI>80) with efficiency comparable to other /800 colours
- ActiViva Active contains 85% more blue light than daylight for real 'blue sky' effect
- Dimmable

Product Benefits

- Tests show that ActiViva lighting makes people feel more alert, awake and energized, indicating an increase in their performance of 10% or more
- Contains 25% more blue light than daylight (can be combined well with other light sources in existing installations)
- ActiViva lamps can be used to expand the colour range of Dynamic Lighting luminaires

Application

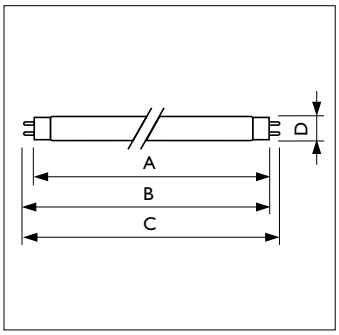
- Indoor working areas (call centres, industry, schools, healthcare etc.), especially where an energizing environment needs to be created
- Can be combined well with other light sources in existing installations
- ActiViva Active is recommended for use in indirect lighting when total areas are equipped
- ActiViva can be used to enhance the circadian rhythm of people who work in night shifts

Environment

- Compliant with all RoHS and WEEE requirements

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D ActiViva

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D ActiViva 18W	589.8	594.5	596.9	604	28
MASTER TL-D ActiViva 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D ActiViva 58W	1500.0	1504.7	1507.1	1514.2	28

Technical data

Type	Lamp Voltage EM (V)	Lamp Current EM (A)	Lamp Wattage EM (W)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D ActiViva Active 18W	59	0.360	18.0	18	B	Yes	17000	20000
MASTER TL-D ActiViva Active 36W	103	0.440	36.0	36	B	Yes	17000	20000
MASTER TL-D ActiViva Active 58W	111	0.670	58.5	58	B	Yes	17000	20000
MASTER TL-D ActiViva Natural 18W	59	0.360	18.0	18	A	Yes	17000	20000
MASTER TL-D ActiViva Natural 36W	103	0.440	36.0	36	A	Yes	17000	20000
MASTER TL-D ActiViva Natural 58W	111	0.670	58.5	58	A	Yes	17000	20000

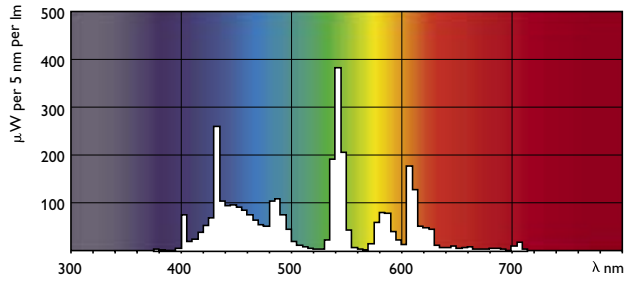
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D ActiViva Active 18W	1150	63	ActiViva Active	17000	82	262	265
MASTER TL-D ActiViva Active 36W	2750	76	ActiViva Active	17000	82	262	265
MASTER TL-D ActiViva Active 58W	4500	77	ActiViva Active	17000	82	263	271
MASTER TL-D ActiViva Natural 18W	1300	72	ActiViva Natural	8000	82	295	307
MASTER TL-D ActiViva Natural 36W	3100	86	ActiViva Natural	8000	82	295	309
MASTER TL-D ActiViva Natural 58W	5000	86	ActiViva Natural	8000	82	295	309

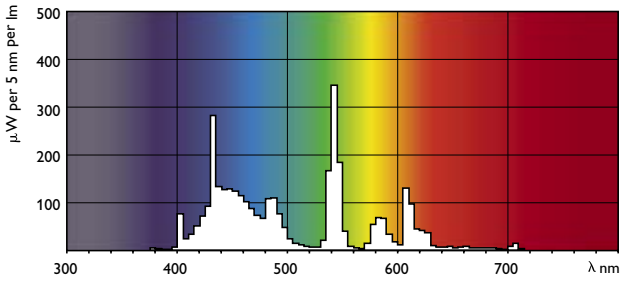
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D ActiViva Active 18W SLV	FD-18/170/1B-E-G13	8711500267306	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500267313	267306 25
MASTER TL-D ActiViva Active 18W SLV	FD-18/170/1B-E-G13	8711500267306	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500267375	267306 40
MASTER TL-D ActiViva Active 36W SLV	FD-36/170/1B-E-G13	8711500267337	138.4 gr	10	130.4 cm x 18.9 cm x 6.8 cm	8711500267344	267337 25
MASTER TL-D ActiViva Active 36W SLV	FD-36/170/1B-E-G13	8711500267337	138.4 gr	25	126.7 cm x 14.9 cm x 14.9 cm	8711500267382	267337 40
MASTER TL-D ActiViva Active 58W SLV	FD-58/170/1B-E-G13	8711500267351	172.6 gr	10	153.5 cm x 15.2 cm x 6.3 cm	8711500267368	267351 25
MASTER TL-D ActiViva Active 58W SLV	FD-58/170/1B-E-G13	8711500267351	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500267399	267351 40
MASTER TL-D ActiViva Natural 18W SLV	FD-18/80/1B-E-G13	8711500951830	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500952912	951830 25
MASTER TL-D ActiViva Natural 18W SLV	FD-18/80/1B-E-G13	8711500951830	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500951847	951830 40
MASTER TL-D ActiViva Natural 36W SLV	FD-36/80/1B-E-G13	8711500951854	138.4 gr	10	130.4 cm x 18.9 cm x 6.8 cm	8711500952929	951854 25
MASTER TL-D ActiViva Natural 36W SLV	FD-36/80/1B-E-G13	8711500951854	138.4 gr	25	126.7 cm x 14.9 cm x 14.9 cm	8711500951861	951854 40
MASTER TL-D ActiViva Natural 58W SLV	FD-58/80/1B-E-G13	8711500951878	172.6 gr	10	153.5 cm x 15.2 cm x 6.3 cm	8711500952936	951878 25
MASTER TL-D ActiViva Natural 58W SLV	FD-58/80/1B-E-G13	8711500951878	172.6 gr	25	154.1 cm x 14.9 cm x 14.9 cm	8711500951885	951878 40

Spectral power distribution

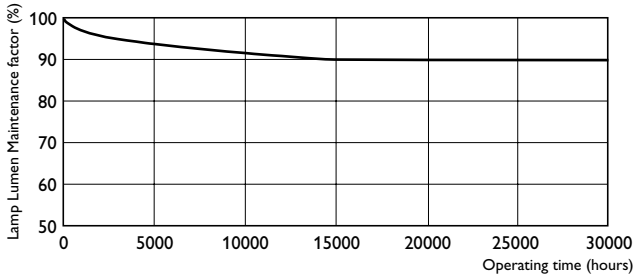


ActiViva Natural (8000 K)



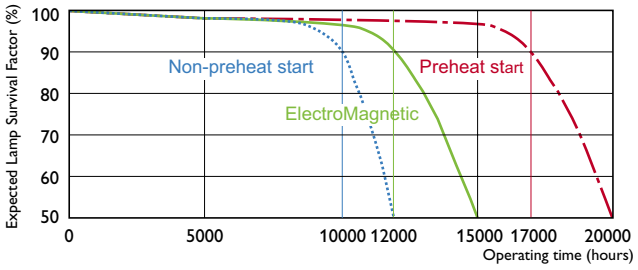
ActiViva Active (17000 K)

Lumen maintenance diagram

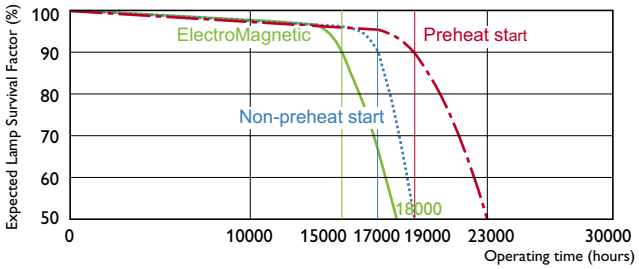


TL-D

Life expectancy diagram

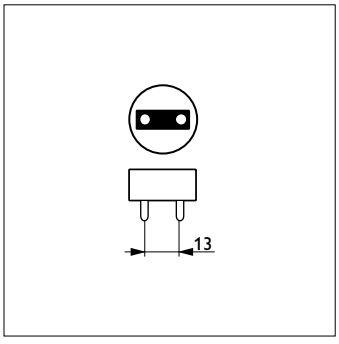


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G13





MASTER TL-D 90 De Luxe

Product Description

- Low-pressure mercury discharge lamps with a tubular 26 mm envelope

Product Features

- High-quality fluorescent coating
- Available in various colour designations

Product Benefits

- Very good colour rendering. Making colours appear rich, deep and enhanced as they do in daylight, making products appear more attractive
- 25% more light than competition
- Enabling customer to switch to 900-colours with (almost) no decrease of light level
- Enabling customers (in certain segments) to respect the new European standard for lighting of indoor workplaces (CEN 12464-1), without investing in new luminaires
- Attractive 10 pcs./box packaging configuration
- Direct retrofit for all Standard and Super 80 TL-D lamps operating on conventional or electronic gear
- Possible to create atmospheres from warm white to cool daylight

Application

- Used in applications where good colour rendering is crucial, such as shops (flower, fashion, department, etc.), hairdresser, museums, hospitals, etc.

System

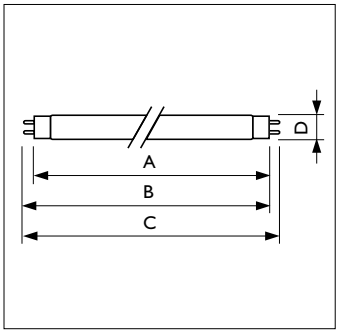
- Can be used with conventional or electronic gear

Environment

- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D 90 De Luxe

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D 90 De Luxe 18W	589.8	594.5	596.9	604	28
MASTER TL-D 90 De Luxe 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D 90 De Luxe 58W	1500.0	1504.7	1507.1	1514.2	28

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D 90 De Luxe 18W	0.360	18.0	59	18	B	Yes	17000	20000
MASTER TL-D 90 De Luxe 36W	0.440	36.0	103	36	B	Yes	17000	20000
MASTER TL-D 90 De Luxe 58W	0.670	58.5	111	58	B	Yes	17000	20000

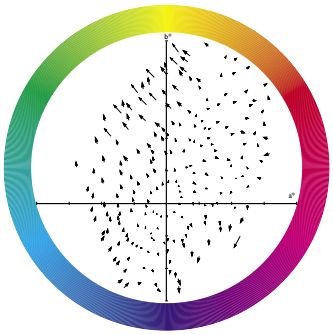
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D 90 De Luxe 18W/930	1100	61	Warm White	3000	92	434	399
MASTER TL-D 90 De Luxe 18W/940	1200	67	Cool White	4000	91	381	379
MASTER TL-D 90 De Luxe 18W/950	1150	64	Daylight	5300	93	340	352
MASTER TL-D 90 De Luxe 18W/965	1150	64	Cool Daylight	6500	93	309	323
MASTER TL-D 90 De Luxe 36W/930	2800	75	Warm White	3000	92	434	399
MASTER TL-D 90 De Luxe 36W/940	2800	78	Cool White	4000	91	381	379
MASTER TL-D 90 De Luxe 36W/950	2800	78	Daylight	5300	93	340	352
MASTER TL-D 90 De Luxe 36W/965	2800	78	Cool Daylight	6500	93	309	323
MASTER TL-D 90 De Luxe 58W/930	4350	75	Warm White	3000	92	434	399
MASTER TL-D 90 De Luxe 58W/940	4600	79	Cool White	4000	91	381	379
MASTER TL-D 90 De Luxe 58W/950	4550	78	Daylight	5300	93	340	352
MASTER TL-D 90 De Luxe 58W/965	4550	78	Cool Daylight	6500	93	309	323

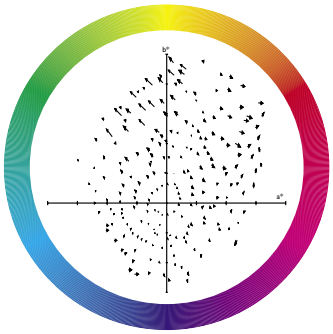
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D 90 De Luxe 18W/930 SLV	FD-18/30/1A-E-G13	8711500888372	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500888389	888372 25
MASTER TL-D 90 De Luxe 18W/940 SLV	FD-18/38/1A-E-G13	8711500888396	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500888402	888396 25
MASTER TL-D 90 De Luxe 18W/950 SLV	FD-18/53/1A-E-G13	8711500888433	71 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500888440	888433 25
MASTER TL-D 90 De Luxe 18W/965 SLV	FD-18/65/1A-E-G13	8711500888464	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500888471	888464 25
MASTER TL-D 90 De Luxe 36W/930 SLV	FD-36/30/1A-E-G13	8711500888563	137.5 gr	10	122.3 cm x 15.4 cm x 6.8 cm	8711500888570	888563 25
MASTER TL-D 90 De Luxe 36W/940 SLV	FD-36/38/1A-E-G13	8711500888587	137.5 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500888594	888587 25
MASTER TL-D 90 De Luxe 36W/950 SLV	FD-36/53/1A-E-G13	8711500888600	137.5 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500888617	888600 25
MASTER TL-D 90 De Luxe 36W/965 SLV	FD-36/65/1A-E-G13	8711500888624	137.5 gr	10	122.3 cm x 15.4 cm x 6.8 cm	8711500888631	888624 25
MASTER TL-D 90 De Luxe 58W/930 SLV	FD-58/30/1A-E-G13	8711500888679	172.6 gr	10	152.5 cm x 15.4 cm x 6.8 cm	8711500888686	888679 25
MASTER TL-D 90 De Luxe 58W/940 SLV	FD-58/38/1A-E-G13	8711500888693	186 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500888709	888693 25
MASTER TL-D 90 De Luxe 58W/950 SLV	FD-58/53/1A-E-G13	8711500888716	186 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500888723	888716 25
MASTER TL-D 90 De Luxe 58W/965 SLV	FD-58/65/1A-E-G13	8711500888730	172.6 gr	10	152 cm x 14.6 cm x 6.8 cm	8711500888747	888730 25

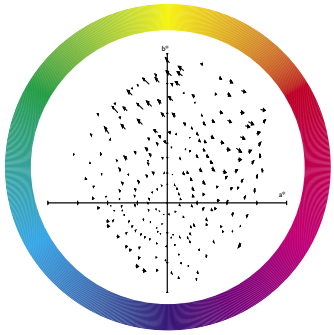
CRV diagram



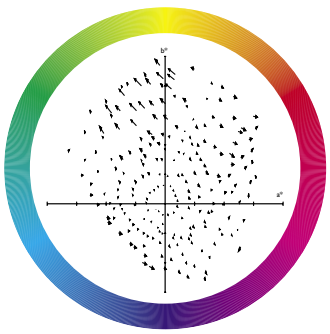
TL-D /930



TL-D /940

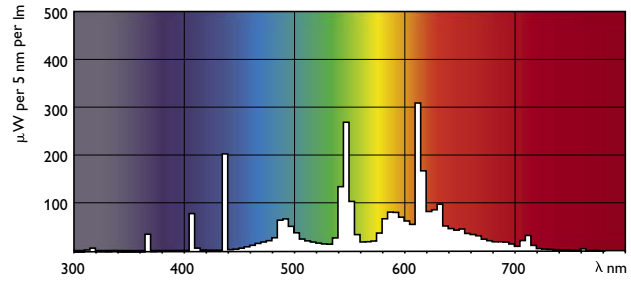


TL-D /950

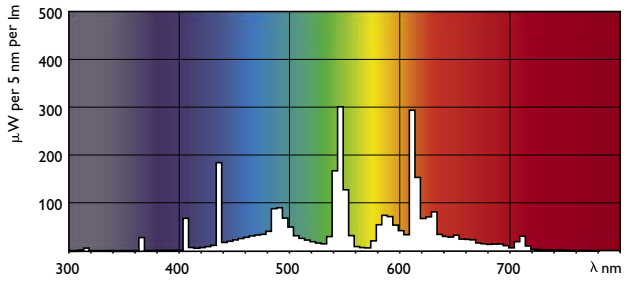


TL-D /965

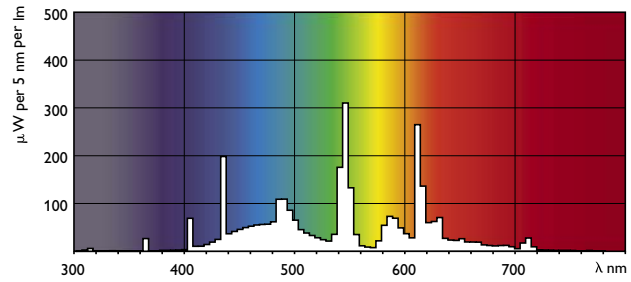
Spectral power distribution



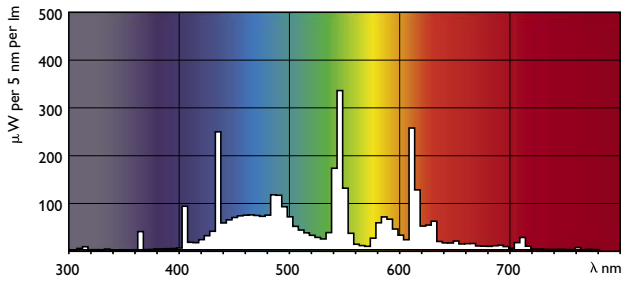
TL-D /930



TL-D /940

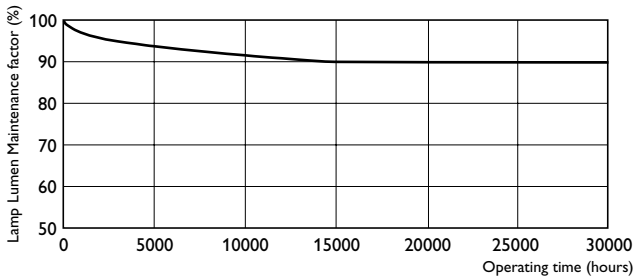


TL-D /950



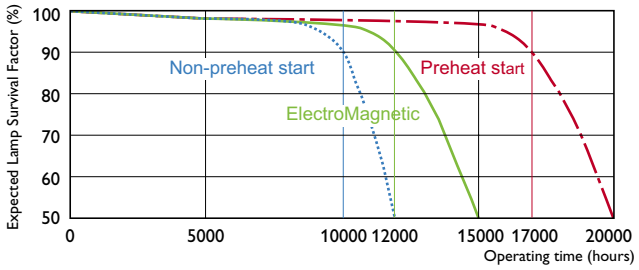
TL-D /965

Lumen maintenance diagram

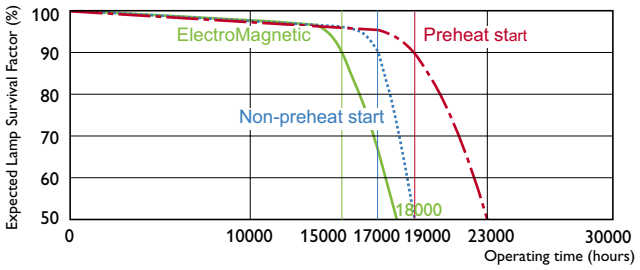


TL-D

Life expectancy diagram

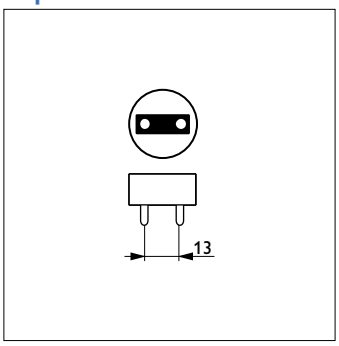


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G13



MASTER TL-D 90 Graphica

Product Description

- Low-pressure mercury discharge lamps with a tubular 26 mm envelope

Product Features

- High-quality fluorescent coating
- Available in two colour designations

Product Benefits

- Excellent colour rendering. Making representation of colours extremely realistic
- Lamp developed to answer the needs of the demanding graphical industry (consistent with the strict standards for the graphical industry defined in EN-12464)
- Very accurate colour point
- Attractive packaging configuration
- Direct retrofit for all Standard and Super 80 TL-D lamps operating on conventional or electronic gear
- Choice of daylight and cool daylight colours

Application

- Used in applications where excellent colour rendering is crucial, such as the graphical industry, printing industry, photo shops, hospitals, etc.

System

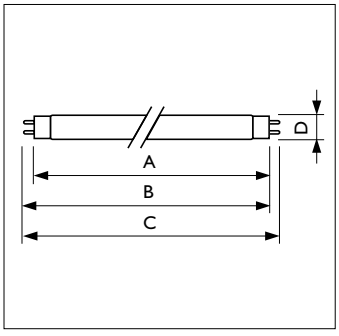
- Can be used with conventional or electronic gear

Environment

- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D 90 Graphica

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D 90 Graphica 18W	589.8	594.5	596.9	604	28
MASTER TL-D 90 Graphica 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D 90 Graphica 58W	1500.0	1504.7	1507.1	1514.2	28

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D 90 Graphica 18W	0.360	18.0	59	18	B	Yes	17000	20000
MASTER TL-D 90 Graphica 36W	0.440	36.0	103	36	B	Yes	17000	20000
MASTER TL-D 90 Graphica 58W	0.670	58.5	111	58	B	Yes	17000	20000

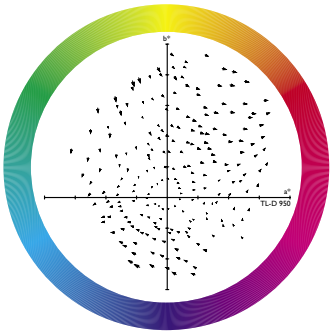
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D 90 Graphica 18W/950	950	53	Daylight	5300	98	342	352
MASTER TL-D 90 Graphica 18W/965	930	48	Cool Daylight	6500	98	309	323
MASTER TL-D 90 Graphica 36W/950	2300	64	Daylight	5300	98	340	351
MASTER TL-D 90 Graphica 36W/965	2100	58	Cool Daylight	6500	98	310	323
MASTER TL-D 90 Graphica 58W/950	3650	63	Daylight	5300	98	340	351
MASTER TL-D 90 Graphica 58W/965	3350	58	Cool Daylight	6500	98	311	324

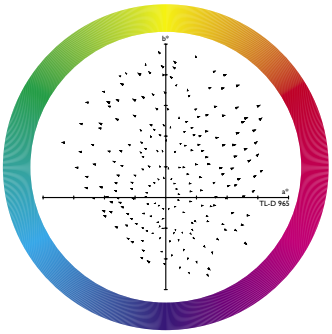
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D 90 Graphica 18W/950 SLV	FD-18/53/1A-E-G13	8711500888501	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500888518	888501 25
MASTER TL-D 90 Graphica 18W/965 SLV	FD-18/65/1A-E-G13	8711500888525	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500888532	888525 25
MASTER TL-D 90 Graphica 36W/950 SLV	FD-36/53/1A-E-G13	8711500888648	138.4 gr	10	121.5 cm x 15.4 cm x 6.8 cm	8711500888655	888648 25
MASTER TL-D 90 Graphica 36W/965 SLV	FD-36/65/1A-E-G13	8711500888365	138.4 gr	10	123.3 cm x 15.2 cm x 6.8 cm	8711500888662	888365 25
MASTER TL-D 90 Graphica 58W/950 SLV	FD-58/53/1A-E-G13	8711500888754	172.6 gr	10	160.5 cm x 15.4 cm x 6.8 cm	8711500888761	888754 25
MASTER TL-D 90 Graphica 58W/965 SLV	FD-58/65/1A-E-G13	8711500888778	172.6 gr	10	152 cm x 14.6 cm x 6.8 cm	8711500888785	888778 25

CRV diagram

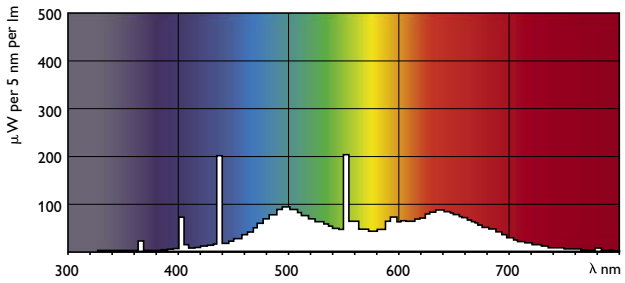


TL-D /950

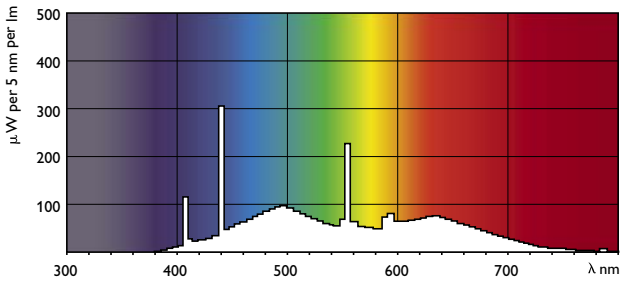


TL-D /965

Spectral power distribution

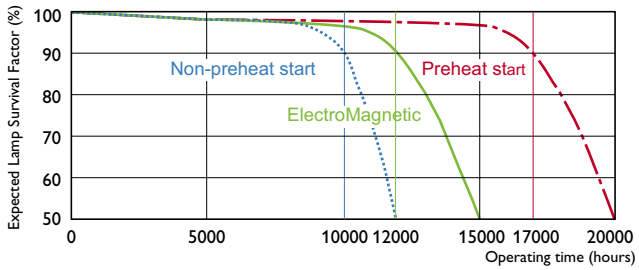


TL-D /950

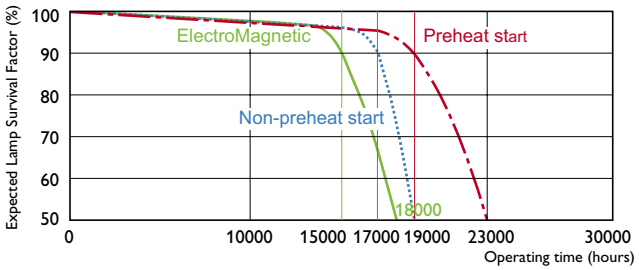


TL-D /965

Life expectancy diagram

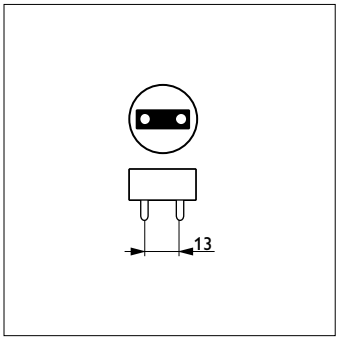


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G13





MASTER TL-D Optiview

Product Description

- Linear fluorescent lamps with a tubular 26 mm envelope

Product Features

- High-quality fluorescent coating tuned to simplify colour discrimination, supporting quick and optimal diagnosis
- Designed to comply with the critical diagnosis parameter Cyanosis Observation Index (COI), with COI <3 (normal fluorescent lamps: COI >6)
- Cool white colour
- Direct retrofit for existing fluorescent fittings operating on conventional or electronic gear

Product Benefits

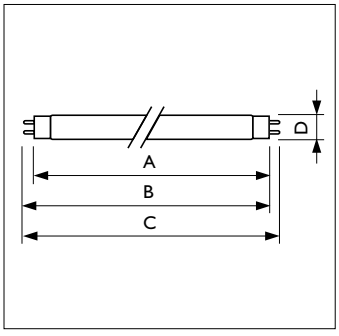
- Optimally tuned to support medical staff in visual clinical patient observation; helps to reduce the risk of wrong diagnoses
- Improves early diagnosis of pathophysiological conditions that can be detected by changes in skin colour
- Simplifies medical tasks that require good colour discrimination (e.g. visibility of veins when taking blood samples)
- Meets all relevant hospital lighting standards (e.g. EN12464, DIN 5035-3, AS/NZS 1680.2.5), making it a safe and simple choice
- Clearly demonstrates the commitment of healthcare providers to avoiding unnecessary risks to patients, government and insurance companies
- Attractive 10 pcs./box packaging

Application

- General lighting purposes in all areas of hospitals and (paramedical) clinics where there is interaction between patients and medical staff

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D Optiview

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Optiview 18W	589.8	594.5	596.9	604	28
MASTER TL-D Optiview 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D Optiview 58W	1500.0	1504.7	1507.1	1514.2	28

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Optiview 18W	0.360	18.0	59	18	B	Yes	17000	20000
MASTER TL-D Optiview 36W	0.440	36.0	103	36	B	Yes	17000	20000
MASTER TL-D Optiview 58W	0.670	58.5	111	58	B	Yes	17000	20000

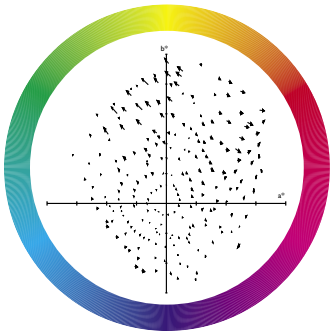
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Optiview 18W	1150	64	Daylight	5300	93	340	352
MASTER TL-D Optiview 36W	2800	78	Daylight	5300	93	340	352
MASTER TL-D Optiview 58W	4550	78	Daylight	5300	93	340	352

Ordering and packing data

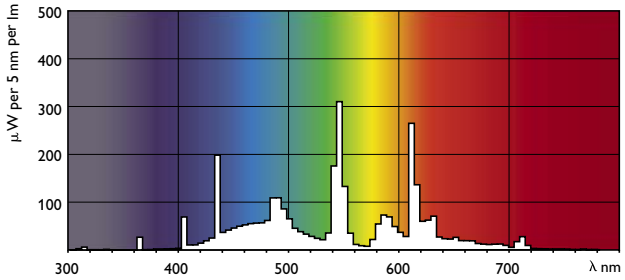
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Optiview 18W SLV	FD-18/53/1A-E-G13	8711500893710	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500893727	893710 25
MASTER TL-D Optiview 36W SLV	FD-36/53/1A-E-G13	8711500893765	138.4 gr	10	121.5 cm x 14.6 cm x 6.8 cm	8711500893772	893765 25
MASTER TL-D Optiview 58W SLV	FD-58/53/1A-E-G13	8711500893802	172.6 gr	10	153.5 cm x 15.2 cm x 6.3 cm	8711500893819	893802 25

CRV diagram



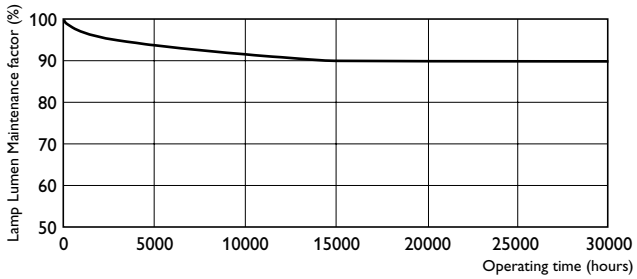
TL-D /Optiview

Spectral power distribution



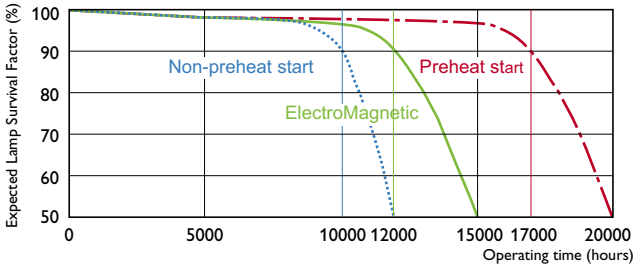
TL-D /Optiview

Lumen maintenance diagram

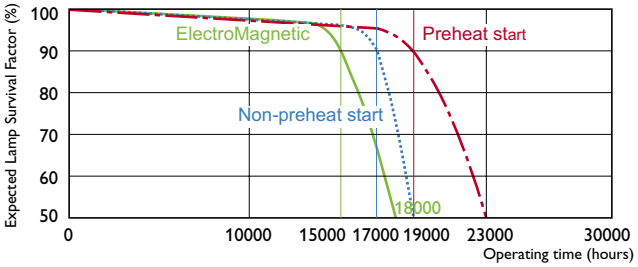


TL-D Optiview

Life expectancy diagram

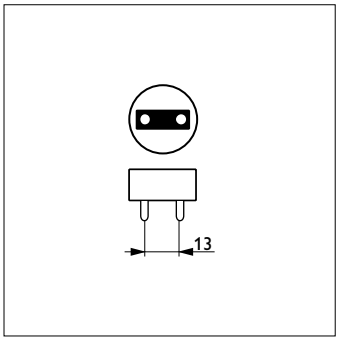


Life Expectancy 3h cycle



Life Expectancy 12h cycle

Cap Base



G13



MASTER TL-D Food

Product Description

- Low-pressure mercury discharge lamps with a tubular 26 mm envelope

Product Features

- Spectral distribution optimal tuned to provide a good appearance of food:
  - Colour /79: without having a red appearance themselves, the /79 lamps emphasize deep red colours such as those of meat and poultry
- Direct retrofit for all Standard and Super 80 TL-D lamps operating on conventional or electronic gear

Product Benefits

- Makes the appearance of food more tasty.
  - Colour /79: makes meat / bread, more appealing and tasty

Application

- Food illumination (butcher shops, bakeries, supermarkets etc.)

System

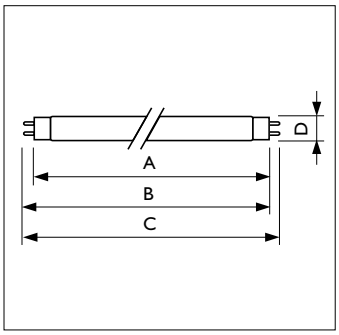
- Operated on AC mains with conventional or electronic gear

Environment

- This product is RoHS compliant
- This product is covered by WEEE

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D Food

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Food 18W	589.8	594.5	596.9	604	28
MASTER TL-D Food 30W	894.6	899.3	901.7	908.8	28
MASTER TL-D Food 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D Food 1m 36W	970	974.7	977.1	984.2	28
MASTER TL-D Food 58W	1500	1504.7	1507.1	1514.2	28

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Food 18W	0.360	18.0	59	18	B	Yes	20000
MASTER TL-D Food 30W	0.360	30.0	98	30	B	Yes	20000
MASTER TL-D Food 36W	0.440	36.0	103	36	B	Yes	20000
MASTER TL-D Food 1m 36W	0.560	36.0	80	36	B	Yes	20000
MASTER TL-D Food 58W	0.670	58.5	111	58	B	Yes	20000

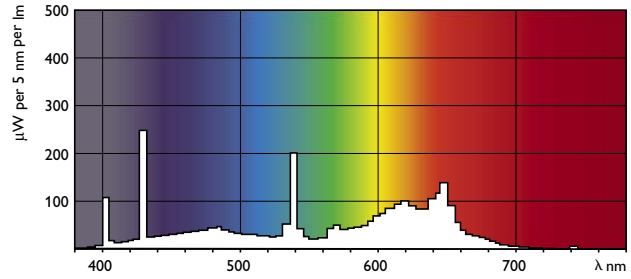
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Food 18W/79	740	41	Food	3800	74	365	314
MASTER TL-D Food 30W/79	1300	43	Food	3800	74	365	314
MASTER TL-D Food 36W/79	1750	49	Food	3800	74	365	314
MASTER TL-D Food 1m 36W/79	1600	44	Food	3800	74	369	317
MASTER TL-D Food 58W/79	2800	48	Food	3800	74	365	314

Ordering and packing data

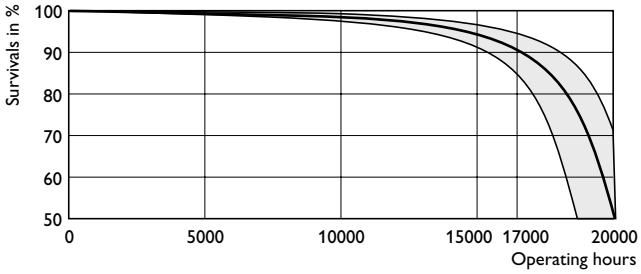
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Food 18W/79 SLV	FD-18/38/2A-E-G13	8711500706218	68.9 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500898531	706218 25
MASTER TL-D Food 18W/79 SLV	FD-18/38/2A-E-G13	8711500706218	68.9 gr	25	64.4 cm x 14.9 cm x 14.6 cm	8711500613080	706218 40
MASTER TL-D Food 30W/79 SLV	FD-30/38/2A-E-G13	8711500706249	113 gr	10	92.9 cm x 15.3 cm x 6.5 cm	8711500898548	706249 25
MASTER TL-D Food 30W/79 SLV	FD-30/38/2A-E-G13	8711500706249	113 gr	25	95.2 cm x 14.1 cm x 14.1 cm	8711500613103	706249 40
MASTER TL-D Food 36W/79 SLV	FD-36/38/2A-E-G13	8711500706225	138.4 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500898555	706225 25
MASTER TL-D Food 36W/79 SLV	FD-36/38/2A-E-G13	8711500706225	137.5 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500613127	706225 40
MASTER TL-D Food 1m 36W/79 SLV	FD-36/38/2A-E-G13	8711500706256	120 gr	10	99.8 cm x 15.5 cm x 6.8 cm	8711500898579	706256 25
MASTER TL-D Food 1m 36W/79 SLV	FD-36/38/2A-E-G13	8711500706256	120 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500613141	706256 40
MASTER TL-D Food 58W/79 SLV	FD-58/38/2A-E-G13	8711500706232	172.6 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500898562	706232 25
MASTER TL-D Food 58W/79 SLV	FD-58/38/2A-E-G13	8711500706232	186 gr	25	153 cm x 14.9 cm x 14.6 cm	8711500613165	706232 40

Spectral power distribution

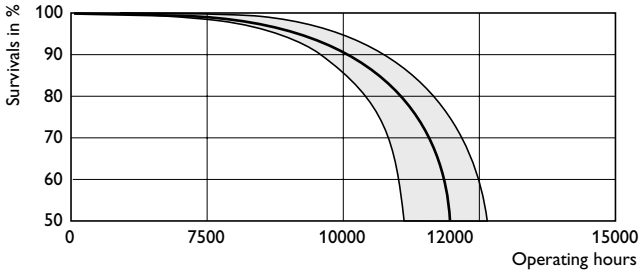


TL-D /Food

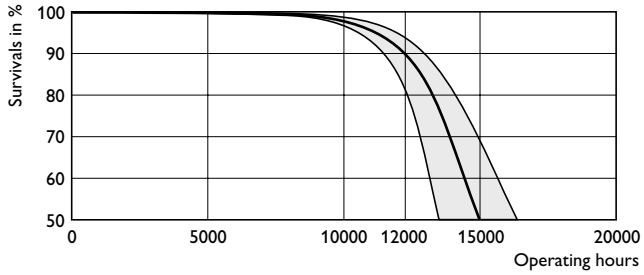
Life expectancy diagram



on HF gear (warm start)

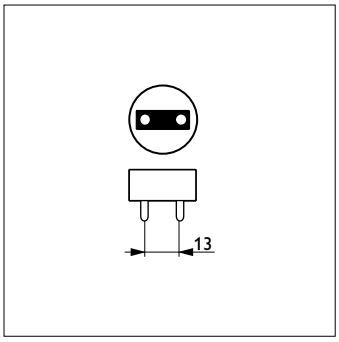


on HF gear (cold start)



on conventional gear (induc.)

Cap Base



G13





MASTER TL-D Food Secura

Product Description

- Coated low-pressure mercury discharge lamps with a tubular 26 mm envelope

Product Features

- Without having a red appearance themselves, the lamps emphasize deep red colours such as those of meat
- Protective coating around the entire lamp
- Two blue rings around one end
- Direct retrofit for all Standard and Super 80 TL-D lamps operating on conventional or electronic gear

Product Benefits

- Makes the appearance of food (especially meat) more tasty
- Special protective coating prevents products from contamination in case of accidental lamp breakage
- Protects products from discolouring and loss of taste by 90% lower UV-emission
- Easy identification in audit situations by two blue rings at one end
- Compliant with HACCP regulations and supports HACCP certification

Application

- Food illumination
  - spectral distribution optimally tuned to provide a good appearance of food in butcher's shops
  - preventing possible contamination of food in case of accidental lamp breakage
  - minimizing UV-emission (<390 nm)

Luminaires

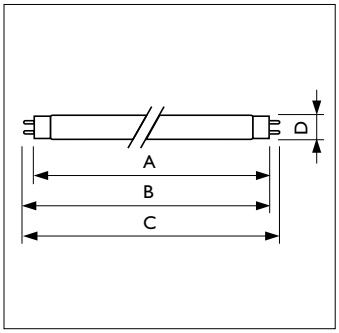
- Suitable for open luminaires only (as indicated by the two blue rings)

System

- Operated on AC mains with Switch-Start or HF Control Gear

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-D Food Secura

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL-D Food Secura 18W	589.8	594.5	596.9	604	28
MASTER TL-D Food Secura 30W	894.6	899.3	901.7	908.8	28
MASTER TL-D Food Secura 36W	1199.4	1204.1	1206.5	1213.6	28
MASTER TL-D Food Secura 58W	1500	1504.7	1507.1	1514.2	28

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures Preheat EL (hrs)
MASTER TL-D Food Secura 18W	0.360	18.0	59	18	B	Yes	20000
MASTER TL-D Food Secura 30W	0.360	30.0	98	30	B	Yes	20000
MASTER TL-D Food Secura 36W	0.440	36.0	103	36	B	Yes	20000
MASTER TL-D Food Secura 58W	0.670	58.5	111	58	B	Yes	20000

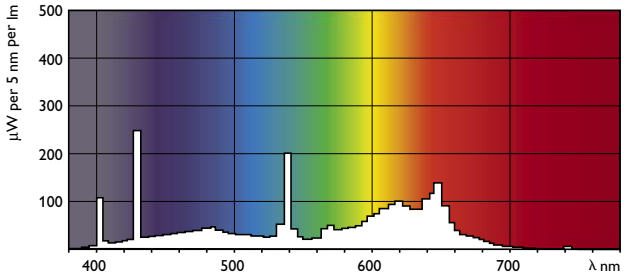
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-D Food Secura 18W/79	720	40	Food	3800	74	365	314
MASTER TL-D Food Secura 30W/79	1250	39	Food	3800	74	365	314
MASTER TL-D Food Secura 36W/79	1700	47	Food	3800	74	365	314
MASTER TL-D Food Secura 58W/79	2725	47	Food	3800	74	365	314

Ordering and packing data

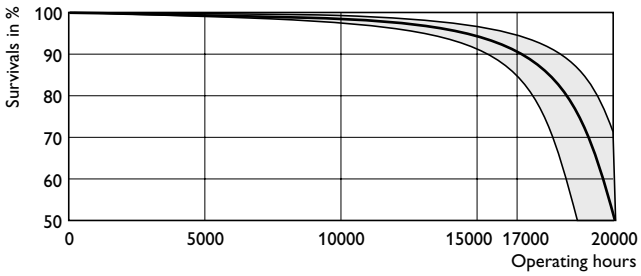
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-D Food Secura 18W/79 SLV	FD-18/38/2A-E-G13	8711500541109	100.3 gr	10	62.7 cm x 15.3 cm x 6.5 cm	8711500898234	541109 25
MASTER TL-D Food Secura 18W/79 SLV	FD-18/38/2A-E-G13	8711500541109	100.3 gr	25	62.4 cm x 14.9 cm x 14.6 cm	8711500541116	541109 40
MASTER TL-D Food Secura 30W/79 SLV	FD-30/38/2A-E-G13	8711500541123	113 gr	10	92.9 cm x 15.3 cm x 6.5 cm	8711500898241	541123 25
MASTER TL-D Food Secura 30W/79 SLV	FD-30/38/2A-E-G13	8711500541123	113 gr	25	96.2 cm x 15 cm x 15 cm	8711500541130	541123 40
MASTER TL-D Food Secura 36W/79 SLV	FD-36/38/2A-E-G13	8711500541147	137.5 gr	10	123 cm x 15.3 cm x 6.5 cm	8711500898258	541147 25
MASTER TL-D Food Secura 36W/79 SLV	FD-36/38/2A-E-G13	8711500541147	137.5 gr	25	124 cm x 14.9 cm x 14.6 cm	8711500541154	541147 40
MASTER TL-D Food Secura 58W/79 SLV	FD-58/38/2A-E-G13	8711500541161	186 gr	10	154 cm x 15.3 cm x 6.5 cm	8711500898265	541161 25
MASTER TL-D Food Secura 58W/79 SLV	FD-58/38/2A-E-G13	8711500541161	243.1 gr	25	153 cm x 14.9 cm x 14.6 cm	8711500541178	541161 40

Spectral power distribution

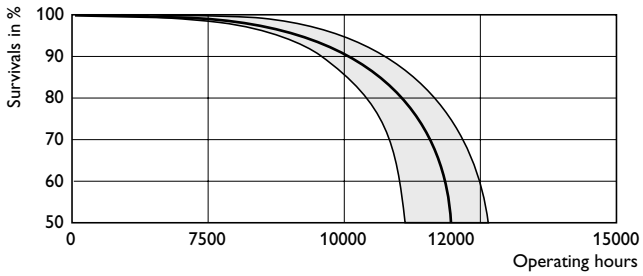


TL-D /79

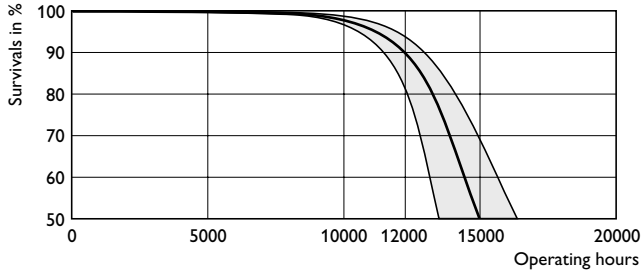
Life expectancy diagram



on HF gear (warm start)

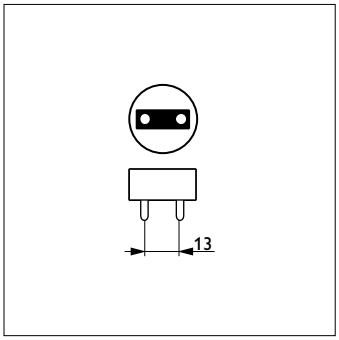


on HF gear (cold start)



on conventional gear (induc.)

Cap Base



G13


Gegrillde Specialiteit
ijne Hamsoorten
350
275
135
235
175
155
135
210



MASTER TL-E Circular Super 80

Product Description

- Low-pressure mercury discharge lamps with a circular 26 mm tube

Product Features

- Available in standard and /80 colours and varying colour designations

Product Benefits

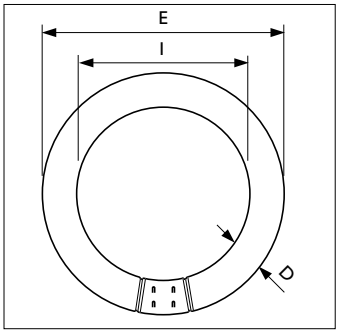
- /80 colours have good colour rendering and high efficacy compared with standard colours
- Symmetrical, omnidirectional light distribution
- Create atmospheres from warm white to cool daylight

Application

- Suitable for use in a wide range of luminaires for various purposes, including decorative luminaires
- Ideal for 'human' applications such as schools, offices, shops and homes

Recommended gear page 8.204

www.philips.com/OEM



MASTER TL-E Circular Super 80

Type	DMin	DMax	EMin	EMax	IMin	IMax
MASTER TL-E Circular Super 80 32W	26.2	30.9	292.1	304.8	236.5	246.1
MASTER TL-E Circular Super 80 40W	26.2	30.9	393.7	406.4	338.1	347.7

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable
MASTER TL-E Circular Super 80 32W	0.450	32.0	81	32	B	Yes
MASTER TL-E Circular Super 80 40W	0.420	40.0	110	40	B	Yes

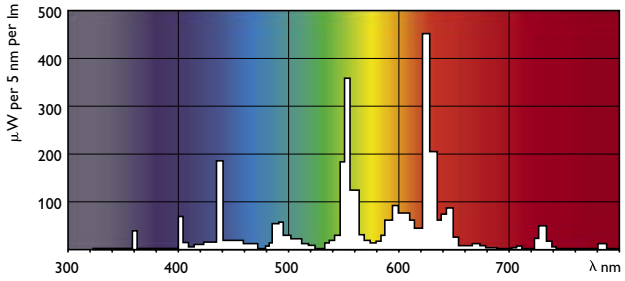
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL-E Circular Super 80 32W/830	2300	74	Warm White	3000	85	438	403
MASTER TL-E Circular Super 80 32W/840	2300	74	Cool White	4000	85	381	379
MASTER TL-E Circular Super 80 40W/830	3200	80	Warm White	3000	85	438	403
MASTER TL-E Circular Super 80 40W/840	3200	80	Cool White	4000	85	381	379

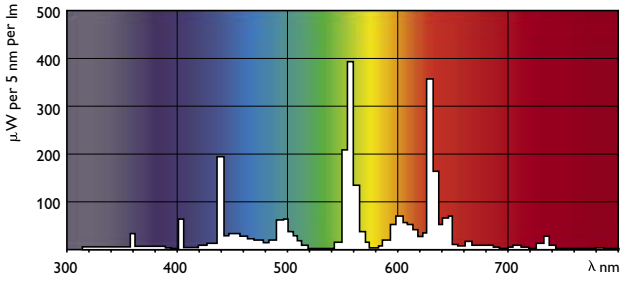
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL-E Circular Super 80 32W/830 1CT	FSC-32/30/1B-E-G10q-29	8711500559678	178 gr	12	43.8 cm x 31.5 cm x 32 cm	8711500620682	559678 15
MASTER TL-E Circular Super 80 32W/840 1CT	FSC-32/40/1B-E-G10q-29	8711500559685	178 gr	12	43.8 cm x 31.5 cm x 32 cm	8711500620712	559685 15
MASTER TL-E Circular Super 80 40W/830 1CT	FSC-40/30/1B-E-G10q-29	8711500284761	261 gr	12	43.8 cm x 40.7 cm x 41.5 cm	8711500559524	284761 15
MASTER TL-E Circular Super 80 40W/840 1CT	FSC-40/40/1B-E-G10q-29	8711500284747	261 gr	12	43.8 cm x 40.7 cm x 41.5 cm	8711500559555	284747 15

Spectral power distribution

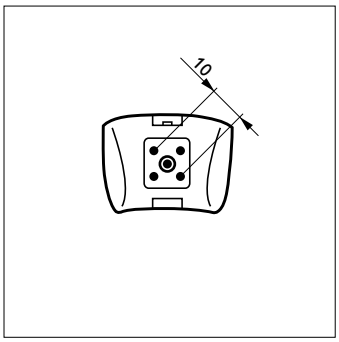


TL-E /830



TL-E /840

Cap Base



G10q



TL-M Rapid Start Super 80

Product Description

- Low-pressure mercury discharge lamps with a tubular 38 mm envelope

Product Features

- RS (Rapid Start) lamps with an external silicon coating
- External ignition strip connected via a high-ohmic resistor to one of the electrodes
- Available in /80 colours and varying colour designations

Product Benefits

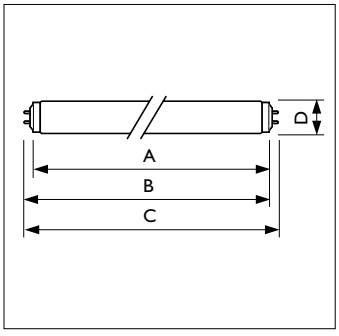
- Well-defined ignition for fast, easy ignition at low temperatures
- /80 colours have good colour rendering and high efficacy compared with standard colours
- Create atmospheres from warm white to cool daylight

Application

- /80 colours are especially used in applications where people are often present

Recommended gear page 8.206

www.philips.com/OEM



TL-M Rapid Start Super 80

Type	AMax	BMin	BMax	CMax	DMax
TL-M RS Super 80 20W	589.8	594.5	596.9	604.0	40.5
TL-M RS Super 80 40W	1199.4	1204.1	1206.5	1213.6	40.5
TL-M RS Super 80 65W	1500	1504.7	1507.1	1514.2	40.5

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable
TL-M RS Super 80 20W	0.37	19.3	57	20	B	Yes
TL-M RS Super 80 40W	0.43	39.5	103	40	B	Yes
TL-M RS Super 80 65W	0.67	64.0	110	65	B	Yes

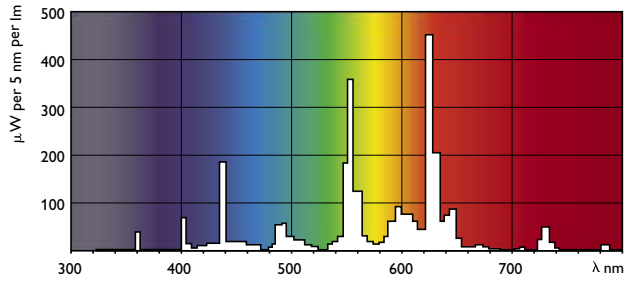
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
TL-M RS Super 80 20W/830	1250	64	Warm White	3000	85	438	403
TL-M RS Super 80 20W/840	1250	64	Cool White	4000	85	381	379
TL-M RS Super 80 40W/830	3100	78	Warm White	3000	85	438	403
TL-M RS Super 80 40W/840	3100	78	Cool White	4000	85	381	379
TL-M RS Super 80 65W/830	5100	80	Warm White	3000	85	438	403
TL-M RS Super 80 65W/840	5100	80	Cool White	4000	85	381	379

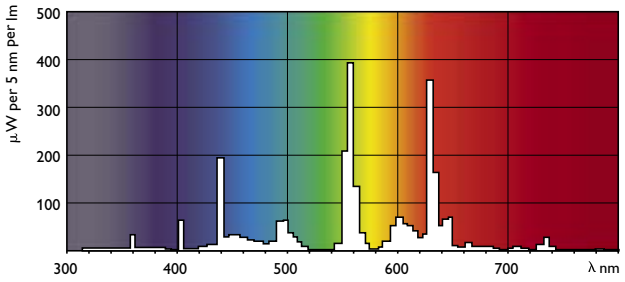
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
TL-M RS Super 80 20W/830 SLV	FD-20/30/1B-LC/P-G13	8711500723994	118 gr	25	65 cm x 21 cm x 20.5 cm	8711500724007	723994 40
TL-M RS Super 80 20W/840 SLV	FD-20/40/1B-LC/P-G13	8711500724052	118 gr	25	65 cm x 21 cm x 20.5 cm	8711500724069	724052 40
TL-M RS Super 80 40W/830 SLV	FD-40/30/1B-LC/P-G13	8711500724564	222 gr	25	125.5 cm x 21 cm x 20.5 cm	8711500724571	724564 40
TL-M RS Super 80 40W/840 SLV	FD-40/40/1B-LC/P-G13	8711500724625	222 gr	25	125.5 cm x 21 cm x 20.5 cm	8711500724632	724625 40
TL-M RS Super 80 65W/830 SLV	FD-65/30/1B-LC/P-G13	8711500725165	274 gr	25	155 cm x 21 cm x 20.5 cm	8711500725172	725165 40
TL-M RS Super 80 65W/840 SLV	FD-65/40/1B-LC/P-G13	8711500725226	274 gr	25	155 cm x 21 cm x 20.5 cm	8711500725233	725226 40

Spectral power distribution

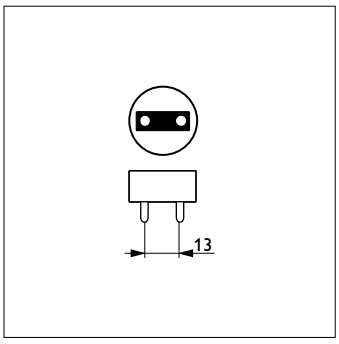


TL-M /830



TL-M /840

Cap Base



G13



TL-X XL

Product Description

- Single-pin low-pressure mercury discharge lamps with a tubular 38 mm envelope

Product Features

- 40 W and 65 W lamps with internal ignition strip for instant start, non-preheat, starterless operation

Product Benefits

- In combination with a special lampholder all possible sparking effects during ignition are eliminated
- Extended lifetime compared with standard TL lamps

Application

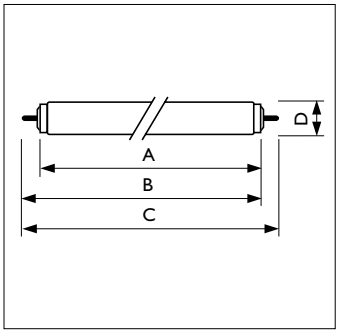
- Used in flameproof and increased-safety luminaires for both indoor and outdoor applications
- Used in applications like (petro-)chemical industry, offshore, mines and any locations where traces of explosive gases may be found

Luminaires

- Special Fa6 lamp cap has a long and thick pin, requires a special lampholder

Recommended gear page 8.206

www.philips.com/OEM



TL-X XL

Type	AMax	BMin	BMax	CMax	DMax
TL-X XL 15W	421.5	436.5	440	458.5	40.5
TL-X XL 20W	574	589	592.5	611	40.5
TL-X XL 40W	1183.5	1198.5	1202	1220.5	40.5
TL-X XL 65W	1484.1	1499.1	1502.6	1521.1	40.5

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable
TL-X XL 15W	0.37	15.0	44	15	B	Yes
TL-X XL 20W	0.38	20.0	58	20	B	Yes
TL-X XL 40W	0.43	39.0	103	40	B	Yes
TL-X XL 65W	0.67	64.0	110	65	B	Yes

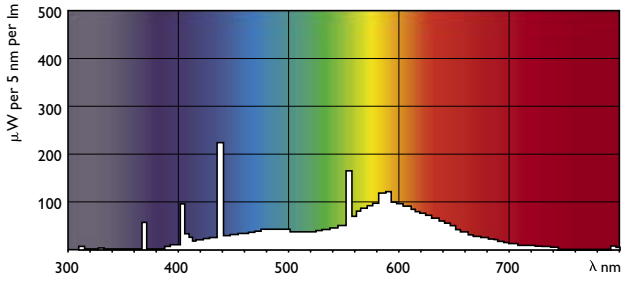
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
TL-X XL 15W/33-640	665	44	Cool White	4100	63	377	381
TL-X XL 20W/33-640	940	47	Cool White	4100	63	377	381
TL-X XL 40W/33-640	2300	58	Cool White	4100	63	377	381
TL-X XL 65W/33-640	4400	69	Cool White	4100	63	377	381

Ordering and packing data

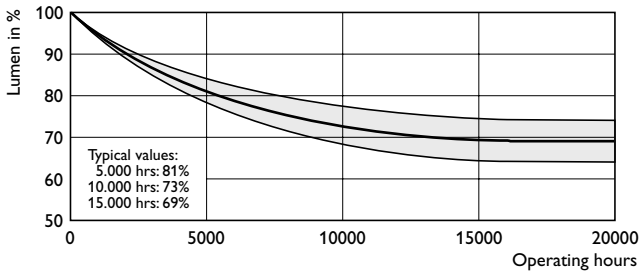
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
TL-X XL 15W/33-640 SLV	FD-15/41/2B-LC/N-Fa6	8711500261335	109 gr	25	50 cm x 23.5 cm x 21.5 cm	8711500261342	261335 40
TL-X XL 20W/33-640 SLV	FD-20/41/2B-LC/N-Fa6	8711500261359	150 gr	25	66 cm x 22.5 cm x 21.5 cm	8711500261366	261359 40
TL-X XL 40W/33-640 SLV	FD-40/41/2B-LC/N-Fa6	8711500261373	271 gr	25	130 cm x 22.5 cm x 21.5 cm	8711500261380	261373 40
TL-X XL 65W/33-640 SLV	FD-65/41/2B-LC/N-Fa6	8711500261397	325 gr	25	159 cm x 22.5 cm x 21.5 cm	8711500261403	261397 40

Spectral power distribution



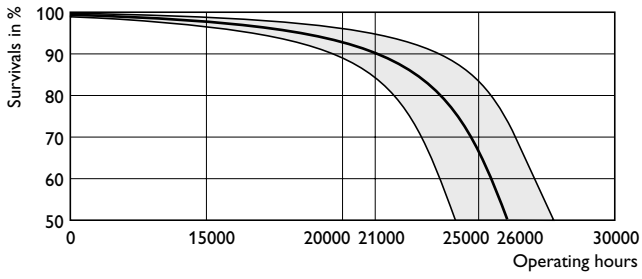
TL-X XL/33-640

Lumen maintenance diagram



TL-X XL

Life expectancy diagram



TL-X XL



MASTER TL Mini Super 80

Product Description

- Low-pressure mercury discharge lamps with a tubular 16 mm envelope

Product Features

- 16 mm diameter tubes with highly efficient 3-band fluorescent coating

Product Benefits

- Good colour rendering
- High efficacy, both initially and during lamp lifetime, with high lumen maintenance compared with standard lamps
- Small lamp dimensions enables system miniaturisation

Application

- Ideal for applications where space is limited and requiring better colour rendering and efficacy than standard colours:
  - hall and staircase lighting in apartment buildings
  - built into furniture, mirror and cupboard lighting
  - emergency lighting

System

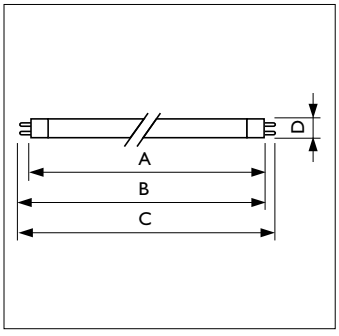
- Possibility for operation on low-voltage DC supply

Environment

- Best environmental choice because of highest energy efficiency available for fluorescent lighting. Lowest CO2 emission compared to any other comparable lightsource. 100% lead free
- This product range is RoHS compliant per 1-1-2006
- This product range is covered by WEEE

Recommended gear page 8.206

www.philips.com/OEM



MASTER TL Mini Super 80

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL Mini Super 80 6W	212.1	216.8	219.2	226.3	16
MASTER TL Mini Super 80 8W	288.3	293.0	295.4	302.5	16
MASTER TL Mini Super 80 13W	516.9	521.6	524.0	531.1	16

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL Mini Super 80 6W	0.16	6.0	42	6	B	Yes	5000	10000
MASTER TL Mini Super 80 8W	0.15	7.1	56	8	B	Yes	5000	10000
MASTER TL Mini Super 80 13W	0.17	13.0	90	13	A	Yes	4000	8000

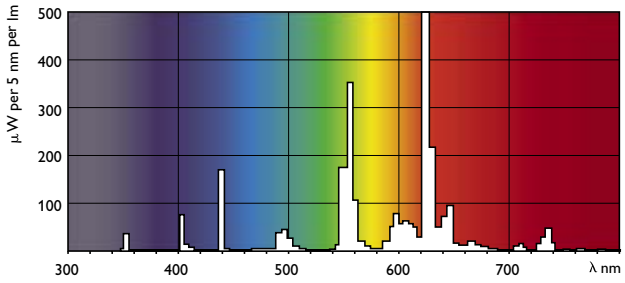
Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
MASTER TL Mini Super 80 6W/840	320	53	Cool White	4000	85	381	379
MASTER TL Mini Super 80 8W/827	470	59	Incandescent White	2700	82	469	416
MASTER TL Mini Super 80 8W/830	470	59	Warm White	3000	85	440	403
MASTER TL Mini Super 80 8W/840	470	59	Cool White	4000	85	381	379
MASTER TL Mini Super 80 13W/827	1000	77	Incandescent White	2700	82	467	418
MASTER TL Mini Super 80 13W/830	1000	77	Warm White	3000	85	438	403
MASTER TL Mini Super 80 13W/840	1000	77	Cool White	4000	85	381	379

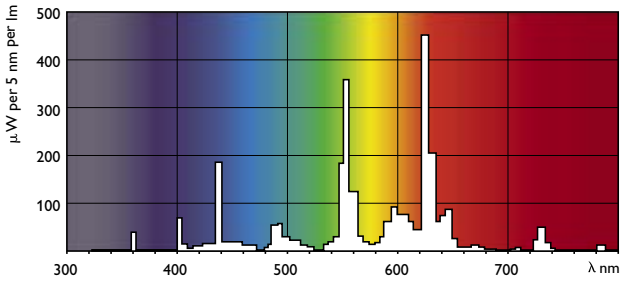
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL Mini Super 80 6W/840 FAM	FD-6/40/1B-E-G5	8711500893420	22 gr	250	51 cm x 20.8 cm x 25.5 cm	8711500893444	893420 27
MASTER TL Mini Super 80 8W/827 FAM	FD-8/27/1B-E-G5	8711500704740	27 gr	250	49 cm x 31.6 cm x 19.8 cm	8711500716361	704740 27
MASTER TL Mini Super 80 8W/827 SLV	FD-8/27/1B-E-G5	8711500894731	29 gr	10	34.2 cm x 4.5 cm x 9.5 cm	8711500894755	894731 25
MASTER TL Mini Super 80 8W/830 FAM	FD-8/30/1B-E-G5	8711500716385	27 gr	250	52.4 cm x 32.6 cm x 21.4 cm	8711500716408	716385 27
MASTER TL Mini Super 80 8W/840 FAM	FD-8/40/1B-E-G5	8711500716422	27 gr	250	49 cm x 31.6 cm x 19.8 cm	8711500716446	716422 27
MASTER TL Mini Super 80 13W/827 FAM	FD-13/27/1B-E-G5	8711500704764	40.2 gr	250	55 cm x 48.5 cm x 20 cm	8711500716798	704764 27
MASTER TL Mini Super 80 13W/827 SLV	FD-13/27/1B-E-G5	8711500894830	40.2 gr	10	56 cm x 4.5 cm x 9.5 cm	8711500894847	894830 25
MASTER TL Mini Super 80 13W/830 FAM	FD-13/30/1B-E-G5	8711500716811	40.2 gr	250	55.4 cm x 52.4 cm x 21.4 cm	8711500716835	716811 27
MASTER TL Mini Super 80 13W/840 FAM	FD-13/40/1B-E-G5	8711500716859	40.2 gr	250	55.4 cm x 52.4 cm x 21.4 cm	8711500716873	716859 27

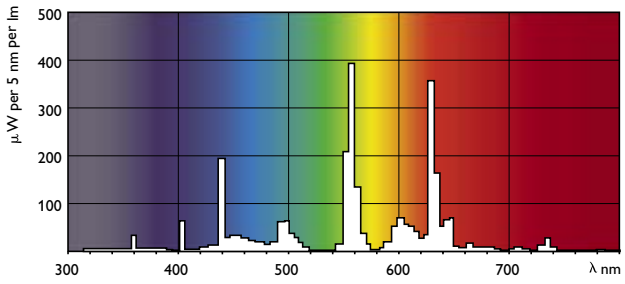
Spectral power distribution



TL /827

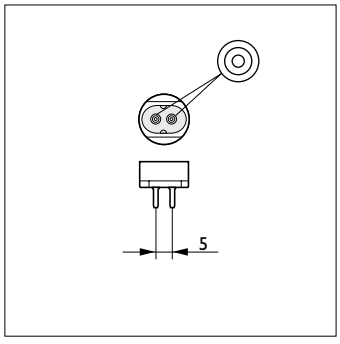


TL /830



TL /840

Cap Base



G5



MASTER TL Mini Aperture Super 80

Product Description

- Low-pressure mercury discharge lamps with a tubular 16 mm envelope

Product Features

- 16 mm diameter tubes with highly efficient 3-band fluorescent coating
- Lamps with an internal reflector and an aperture of 50°
- The lamps are available in two versions:
  - TL- FA50: Reflector parallel to the connector pins
  - TL- FA50P: Reflector perpendicular to the connector pins

Product Benefits

- Very high luminance at the aperture (four or five times higher than the luminance of normal /80 series equivalents)
- Allow the design of slim, energy-efficient and evenly illuminated edge-lit signs
- Good colour rendering
- Relatively high efficacy, both initially and during lamp lifetime, with high lumen maintenance

Application

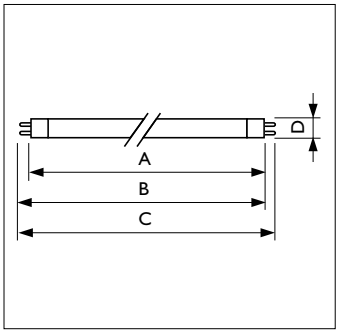
- High aperture luminance makes these lamps ideally suited for use in edge-lit signs

Environment

- Best environmental choice because of highest energy efficiency available for fluorescent lighting. Lowest CO2 emission compared to any other comparable lightsource. 100% lead free
- This product range is RoHS compliant per 1-1-2006
- This product range is covered by WEEE

Recommended gear page 8.206

www.philips.com/OEM



MASTER TL Mini Aperture Super 80

Type	AMax	BMin	BMax	CMax	DMax
MASTER TL Mini Aperture 8W	288.3	293.0	295.4	302.5	16
MASTER TL Mini Aperture 13W	516.9	521.6	524.0	531.1	16

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
MASTER TL Mini Aperture 8W	0.15	7.1	56	8	No	5000	10000
MASTER TL Mini Aperture 13W	0.17	13.0	90	13	No	4000	8000

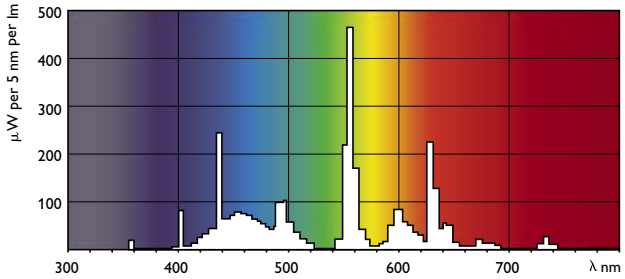
Light data

Type	Luminous Flux Lamp EM (lm)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Beam Description
MASTER TL Mini Aperture 8W/865 FA50	380	Cool Daylight	6500	80	316	336	FA50
MASTER TL Mini Aperture 8W/865 FA50P	380	Cool Daylight	6500	80	316	336	FA50P
MASTER TL Mini Aperture 13W/865 FA50	820	Cool Daylight	6500	80	316	336	FA50
MASTER TL Mini Aperture 13W/865 FA50P	820	Cool Daylight	6500	80	316	336	FA50P

Ordering and packing data

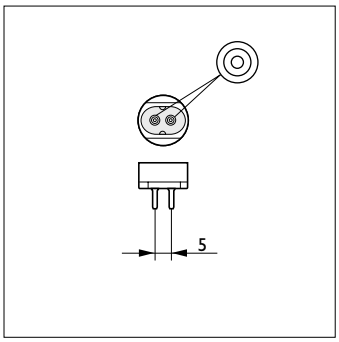
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER TL Mini Aperture 8W/865 FA50 FAM	FD-8/65/1A-E-G5	8711500644275	25.3 gr	250	52.4 cm x 32.6 cm x 21.4 cm	8711500644299	644275 27
MASTER TL Mini Aperture 8W/865 FA50P FAM	FD-8/65/1A-E-G5	8711500260123	25.3 gr	250	52.4 cm x 32.6 cm x 21.4 cm	8711500260147	260123 27
MASTER TL Mini Aperture 13W/865 FA50 FAM	FD-13/65/1A-E-G5	8711500644305	40.2 gr	250	55.4 cm x 52.4 cm x 21.4 cm	8711500644329	644305 27
MASTER TL Mini Aperture 13W/865 FA50P FAM	FD-13/65/1A-E-G5	8711500260154	40.2 gr	250	55.4 cm x 52.4 cm x 21.4 cm	8711500260178	260154 27

Spectral power distribution



TL /865

Cap Base



G5



TL Mini Standard Colours

Product Description

- Low-pressure mercury discharge lamps with a tubular 16 mm envelope

Product Features

- 16 mm diameter tubes with moderate colour rendering

Product Benefits

- Creates atmospheres from warm white to cool daylight

Application

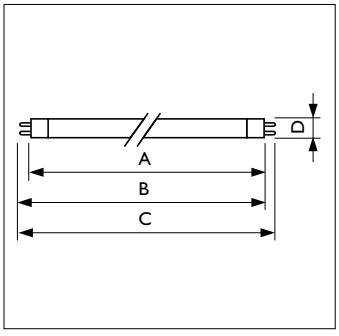
- Ideal for applications where space is limited and colour rendering is not important
- Orientation lighting
- Emergency lighting

System

- Possibility for operation on low-voltage DC supply

Recommended gear page 8.206

www.philips.com/OEM



TL Mini Standard Colours

Type	AMax	BMin	BMax	CMax	DMax
TL Mini 4W	135.9	140.6	143.0	150.1	16
TL Mini 6W	212.1	216.8	219.2	226.3	16
TL Mini 8W	288.3	293.0	295.4	302.5	16
TL Mini 13W	516.9	521.6	524.0	531.1	16

Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 10% failures Preheat EL (hrs)	Life to 50% failures Preheat EL (hrs)
TL Mini 4W/33-640	0.170	4.5	29	4	B	Yes	5000	10000
TL Mini 4W/33-640	0.170	4.5	29	4	B	Yes	3000	5000
TL Mini 6W/33-640	0.160	6.0	42	6	B	Yes	3000	5000
TL Mini 6W/33-640/35-535/54-765	0.160	6.0	42	6	B	Yes	5000	10000
TL Mini 8W/33-640/35-535/54-765	0.150	7.1	56	8	B	Yes	5000	10000
TL Mini 8W/33-640	0.150	7.1	56	8	B	Yes	3000	5000
TL Mini 13W/33-640	0.170	13.0	90	13	A	Yes	4000	8000
TL Mini 13W/35-535/54-765	0.170	13.0	90	13	B	Yes	4000	8000

Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y
TL Mini 4W/33-640	140	35	Cool White	4100	60	377	381
TL Mini 6W/33-640	260	43	Cool White	4100	60	377	381
TL Mini 6W/35-535	265	44	White	3500	55	409	394
TL Mini 6W/54-765	230	38	Cool Daylight	6200	75	315	341
TL Mini 8W/33-640	410	51	Cool White	4100	60	377	381
TL Mini 8W/33-640	410	48	Cool White	4100	60	377	381
TL Mini 8W/35-535	390	48	White	3500	55	409	394
TL Mini 8W/54-765	340	48	Cool Daylight	6200	75	315	341
TL Mini 13W/33-640	930	71	Cool White	4100	60	377	381
TL Mini 13W/35-535	855	66	White	3500	55	409	394
TL Mini 13W/54-765	740	57	Cool Daylight	6200	75	315	341

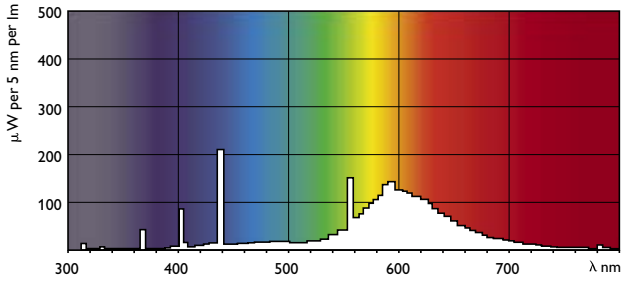
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
TL Mini 4W/33-640 FAM	FD-4/41/2B-E-G5	8711500615688	14 gr	250	49 cm x 17 cm x 19.8 cm	8711500615701	615688 27
TL Mini 4W/33-640 FAM	FD-4/41/2B-E-G5	8711500866714	12 gr	250	48 cm x 20.5 cm x 16.7 cm	8711500866721	866714 27
TL Mini 4W/33-640 SLV	FD-4/41/2B-E-G5	8711500894625	16 gr	10	18.9 cm x 4.5 cm x 9.5 cm	8711500894809	894625 25
TL Mini 4W/33-640 UNP	FD-4/41/2B-E-G5	8711500954725	12 gr	300	50.1 cm x 15.9 cm x 20.7 cm	8711500954732	954725 29
TL Mini 6W/33-640 FAM	FD-6/41/2B-E-G5	8711500866745	22 gr	250	48 cm x 24.5 cm x 20 cm	8711500866752	866745 27
TL Mini 6W/33-640 FAM	FD-6/41/2B-E-G5	8711500715838	21 gr	250	49 cm x 24.3 cm x 19.8 cm	8711500715852	715838 27
TL Mini 6W/33-640 UNP	FD-6/41/2B-E-G5	8711500641045	22 gr	300	50 cm x 24.5 cm x 21.5 cm	8711500641052	641045 29
TL Mini 6W/33-640 UNP	FD-6/41/2B-E-G5	8711500614889	18.3 gr	300	52 cm x 20.5 cm x 17.5 cm	8711500715876	614889 29
TL Mini 6W/35-535 FAM	FD-6/35/3-E-G5	8711500715937	21 gr	250	49 cm x 24.3 cm x 19.8 cm	8711500715951	715937 27
TL Mini 6W/54-765 FAM	FD-6/62/2A-E-G5	8711500715975	21 gr	250	49 cm x 24.3 cm x 19.8 cm	8711500715999	715975 27
TL Mini 8W/33-640 FAM	FD-8/41/2B-E-G5	8711500704733	27 gr	250	49 cm x 32.6 cm x 21.4 cm	8711500718440	704733 27
TL Mini 8W/33-640 FAM	FD-8/41/2B-E-G5	8711500641069	28 gr	250	48 cm x 32.5 cm x 20 cm	8711500641083	641069 27
TL Mini 8W/33-640 SLV	FD-8/41/2B-E-G5	8711500894700	29 gr	10	34.2 cm x 4.5 cm x 9.5 cm	8711500894724	894700 25
TL Mini 8W/33-640 UNP	FD-8/41/2B-E-G5	8711500641090	29 gr	300	50 cm x 31.5 cm x 21.5 cm	8711500641106	641090 29
TL Mini 8W/33-640 UNP	FD-8/41/2B-E-G5	8711500614919	29 gr	300	52 cm x 31.5 cm x 21.5 cm	8711500716149	614919 29
TL Mini 8W/35-535 FAM	FD-8/35/3-E-G5	8711500716170	29 gr	250	49.2 cm x 32.1 cm x 20.5 cm	8711500716194	716170 27
TL Mini 8W/54-765 FAM	FD-8/62/2A-E-G5	8711500716286	27 gr	250	49 cm x 31.6 cm x 19.8 cm	8711500716309	716286 27
TL Mini 13W/33-640 FAM	FD-13/41/2B-E-G5	8711500704757	45 gr	250	55.4 cm x 52.4 cm x 21.4 cm	8711500718518	704757 27
TL Mini 13W/33-640 SLV	FD-13/41/2B-E-G5	8711500894854	40.2 gr	10	56 cm x 4.5 cm x 9.5 cm	8711500894861	894854 25
TL Mini 13W/33-640 UNP	FD-13/41/2B-E-G5	8711500891723	40.2 gr	300	54 cm x 48.5 cm x 19.5 cm	8711500891730	891723 29

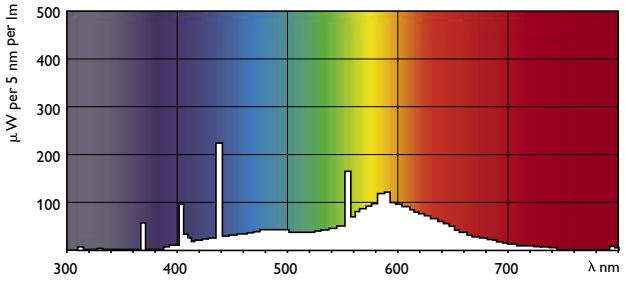
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
TL Mini 13W/35-535 FAM	FD-13/35/3-E-G5	87115007166 75	40.2 gr	250	55 cm x 48.5 cm x 20 cm	87115007166 99	716675 27
TL Mini 13W/54-765 FAM	FD-13/62/2A-E-G5	87115007167 12	40.2 gr	250	55 cm x 48.5 cm x 20 cm	87115007167 36	716712 27

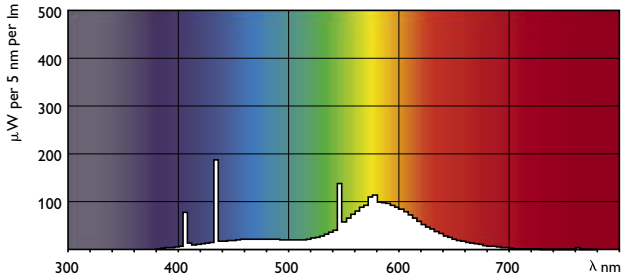
Spectral power distribution



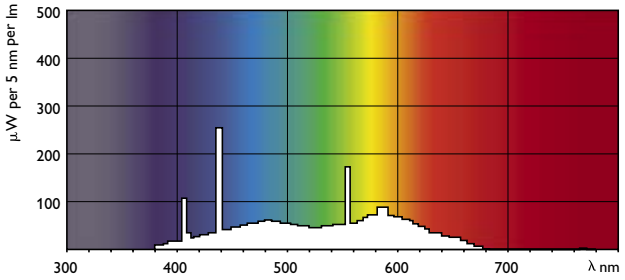
TL /29-530



TL /33-640

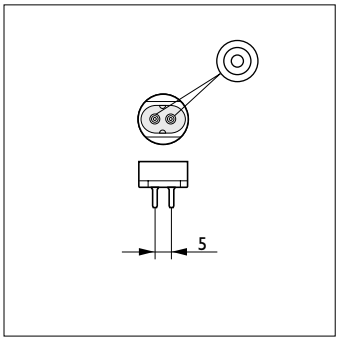


TL /35-535



TL /54-765

Cap Base



G5


223
225



Ecoclick Starters

Product Description

- Range of premium-quality glow switch starters for igniting fluorescent lamps with electromagnetic gear.

Product Features

- Redesigned canister top with two installation notches into which the pins of another starter fit perfectly (patented innovation)
- Radioactive-free (patented) and lead-free (RoHS-compliant)
- Premium reliability with more than 10,000 safe switches
- 2-pin igniter in plastic (flame-retardant polycarbonate) canister with high-quality radio-interference suppression capacitor
- Well-defined preheat and peak voltage ensure proper ignition

Product Benefits

- The only starter that offers fast, easy installation with no need to use any extra tools
- No irritation – even firmly stuck starters can be removed easily
- Eco-friendly, recyclable concept (free of lead and radioactivity)
- More than 25% longer lamp life; lower maintenance costs compared with lower-quality, non-IEC-compliant starters
- Optimal connectivity through brass components and oxidation-resistant brass pins
- Flame-retardant components and UV-resistant canister for additional safety and secure ignition (validated by Underwriters Laboratories UL)

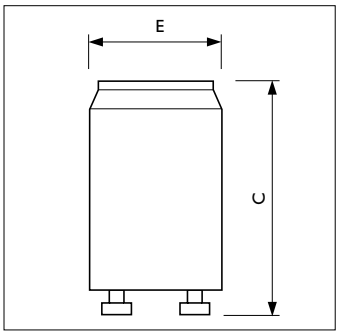
Application

- Ignite fluorescent lamps of all brands with conventional electromagnetic gear using TL-D (T8), TL (T12), TL mini and PL-L lamps
- S2 Ecoclick starters are suitable for:
  - 110/130 V, 4-22 W single applications
  - 220/240 V, 4-6-8-15-18-22 W single applications
  - 220/240 V, 4-22 W series applications
- S10 Ecoclick starters are suitable for 220/240 V, 4-65 W single applications
- S10 Ecoclick starter is required for 220/240 V, 13 W single application
- S2 Ecoclick starter is recommended for 220/240 V, 18 W single application for optimum performance

System

- Starter replacement recommended when replacing fluorescent lamps

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Ecoclick Starters

Type	CMax	EMax
S2/S10 4-22W SER/4-65W SIN 220-240V WH	40.3	21.5

Technical data

Type	Voltage (V)	Rated Lamp Wattage
S2 4-22W SER 220-240V WH	220-240	4-22
S10 4-65W SIN 220-240V WH	220-240	4-65

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
S2 4-22W SER 220-240V WH EUR BOX	8711500697509	7 gr	300	23 cm x 23 cm x 13.5 cm	8711500697721	697509 33
S2 4-22W SER 220-240V WH EUR BOX	8711500697509	7 gr	200	22.5 cm x 22.5 cm x 8.5 cm	8711500697882	697509 31
S2 4-22W SER 220-240V WH Eur BOX	8711500697509	7 gr	500	23 cm x 23 cm x 22.5 cm	8711500698391	697509 26
S2 4-22W SER 220-240V WH UNP	8711500698452	7 gr	1000	40 cm x 30 cm x 19.3 cm	8711500698469	698452 28
S2 4-22W SER 220-240V WH UNP	8711500697509	7 gr	1000	40 cm x 30 cm x 19.3 cm	8711500697516	697509 28
S2 4-22W SER 220-240V WH UNP	8711500697509	7 gr	300	23 cm x 23 cm x 13.5 cm	8711500697806	697509 29
S10 4-65W SIN 220-240V WH EUR	8711500697691	7 gr	300	23 cm x 23 cm x 13.5 cm	8711500697752	697691 33
S10 4-65W SIN 220-240V WH EUR BOX	8711500697691	7 gr	500	23 cm x 23 cm x 22.5 cm	8711500698407	697691 26
S10 4-65W SIN 220-240V WH EUR U	8711500697691	7 gr	200	22.5 cm x 22.5 cm x 8.5 cm	8711500697905	697691 31
S10 4-65W SIN 220-240V WH EUR UNP	8711500697691	7 gr	300	23 cm x 23 cm x 13.5 cm	8711500697820	697691 29
S10 4-65W SIN 220-240V WH UNP	8711500698476	7 gr	1000	40 cm x 30 cm x 19.3 cm	8711500698483	698476 28
S10 4-65W SIN 220-240V WH UNP	8711500697691	7 gr	1000	40 cm x 30 cm x 19.3 cm	8711500697707	697691 28



Solution Starters

Product Description

- Premium quality glow switch starter for igniting conventional electromagnetic fluorescent lamps in arctic conditions

Product Features

- Fluorescent starter for low temperature applications (-40 to +75°C)
- Free of radioactive material (patented technology) and lead (RoHS-compliant)
- 2-pin igniter in plastic (flame-retardant polycarbonate) canister with radio-interference suppression capacitor
- Premium reliability with less than 100 early failures per million products (<100 ppm) and >6000 safe switches guaranteed at –40°C (IEC compliant)
- Narrowed top with notch for easy installation
- CE and ENEC05 kitemarks

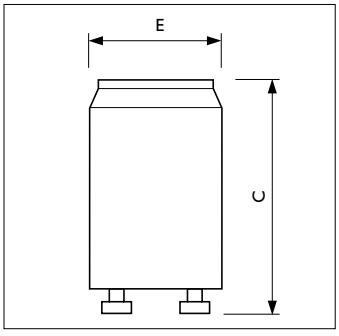
Product Benefits

- The only glow switch starter that can be used in extremely cold conditions
- Contributes to a green environment through elimination of radioactivity and lead (compliant with European legislation)
- Flame-retardant components and UV-resistant canister for additional safety and secure ignition
- Redesigned canister top for easy recognition, installation & replacement

Application

- Fluorescent lamp systems with conventional electromagnetic gear using TLD (T8) and TL (T12) lamps and operating under extremely cold conditions
- P10 starter suitable for 220/240 V~, 18-65 W single applications
- Starter replacement recommended when replacing fluorescent lamps

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Solution Starters

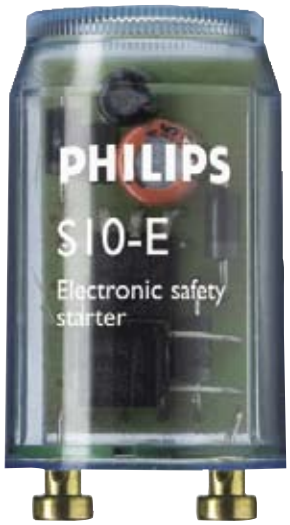
Type	CMax	EMax
P10 18-65W SIN 220-240V BL UNP	40.3	21.5

Technical data

Type	Voltage (V)	Rated Lamp Wattage
P10 18-65W SIN 220-240V BL UNP	220-240	18-65

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
P10 18-65W SIN 220-240V BL UNP	8711500902344	7 gr	300	23 cm x 23 cm x 13.5 cm	8711500902368	902344 33
P10 18-65W SIN 220-240V BL UNP	8711500902344	7 gr	100	22.5 cm x 11.5 cm x 8.5 cm	8711500904010	902344 53



Safety & Comfort Starters

Product Description

- Range of premium quality electronic starters for igniting fluorescent lamps operating on conventional electromagnetic gear.

Product Features

- S2E - S10E
  - Full thermal safety monitor which cuts off defective or end-of-life lamps
  - Instant flicker-free ignition (nom. 2.3 sec)
  - Cut-off circuit to protect the starter and overheating of the control gear
  - Premium reliability with 100.000 safe switches
  - Radioactive-free (patented) and lead-free (RoHS-compliant)
  - 2-pin igniter in plastic (flame-retardant polycarbonate) canister
  - Narrowed top & installation notch
- SiS10
  - Reliable automatic disconnection of defective or end-of-life fluorescent lamps
  - Cut-off circuit to protect the starter and overheating of the control gear
  - Button with 3x restart function
  - Premium reliability with 10.000 safe switches
  - Radioactive-free (patented)
  - 2-pin igniter in plastic (flame-retardant polycarbonate) canister with radio-interference suppression capacitor

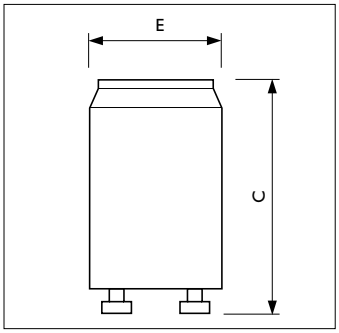
Product Benefits

- S2E - S10E
  - Lower cost of lighting ownership: - Electronic starters turn-off lamps at end-of-life, which avoids irritation (no flickering), useless electricity consumption and fire risk./- Lamps last much longer thanks to a totally smooth, flicker-free and fast starting. / -Longer starter service life compared to conventional starters
  - Contribution to a green environment (no lead and no radioactivity)
  - Flame-retardant components & UV-resistant canister lead to additional safety and a secure ignition
  - Easy recognition & installation and replacement friendly
- SiS10
  - Lower cost of lighting ownership: - SiS 10 starter turns off lamps at end-of-life, which avoids irritation (no flickering), useless electricity consumption and fire risk. / - Four times longer service life compared to conventional starters
  - System is immediately ready for use again by simply pressing the red button following an interruption
  - Contribution to a green environment (no radioactivity)
  - Flame-retardant components & UV resistant canister lead to additional safety and a secure ignition

Application

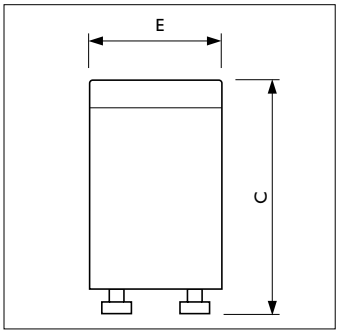
- Starters are used in conventional electromagnetic fluorescent lamp systems using TL-D (T8), TL (T12), TL mini, PL-S and PL-L lamps.
- S2-E starters are suitable for:
  - 110/130 V, 18-22 W single applications
  - 220/240 V, 18-22 W series applications
- S10-E starters are suitable for:
  - 220/240 V, 18-75 W single applications
- SiS 10 starters are suitable for:
  - 220/240 V, 30-65 W single applications
- As for the SiS 10 starter, always press the red button after replacing a lamp so that the system is operational again.

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STARTER S2E/S10E

Type	CMax	EMax
S2E/S10E 18-22W SER 220-240V BL BOX	40.3	21.5



STARTER SIS10

Type	CMax	EMax
SIS10 30-65W SIN 220-240V WH U	40.3	21.5

Technical data

Type	Voltage (V)	Rated Lamp Wattage
S2E 18-22W SER 220-240V BL BOX	220-240	18-22
S10E 18-75W SIN 220-240V BL BOX	220-240	18-75
SIS10 30-65W SIN 220-240V WH U	220-240	30-65

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
S2E 18-22W SER 220-240V BL BOX	8711500764980	8.5 gr	500	23 cm x 23 cm x 22.5 cm	8711500875839	764980 26
S10E 18-75W SIN 220-240V BL BOX	8711500764973	8.5 gr	500	23 cm x 23 cm x 22.5 cm	8711500875884	764973 26
SIS10 30-65W SIN 220-240V WH U	8711500765178	9.28 gr	200	22.5 cm x 13 cm x 17.5 cm	8711500765192	765178 31



QL 85W

Product Description

- QL Lamp-Gear system combining induction and fluorescent technology

Product Features

- Virtually maintenance free
- Ultra-long life time
- Pleasing light with high visual comfort - offering a range of colour temperatures
- Instant Hot-restrike

Product Benefits

- No lamp replacement costs and inconvenience
- Lamp system design gives maximum freedom in luminaire development

Application

- Ideal for use wherever high-quality white light is required
- Indoor and outdoor general lighting
- Locations where maintenance is difficult or costly, e.g. where accessibility is poor
- Special areas like tunnels and cleanrooms
- The lamp system is especially suitable for application in explosion-free luminaires

Luminaires

- The booklet "Philips QL lamp systems - information for original equipment manufacturers" gives detailed information for developing appropriate luminaire designs
- For specific questions direct email to infoql@philips.com

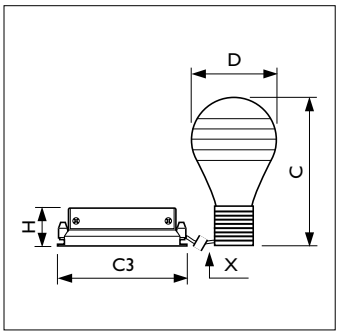
System

- HF operation ensures instant, flicker-free starting and restarting of the lamps without strobe effects

Environment

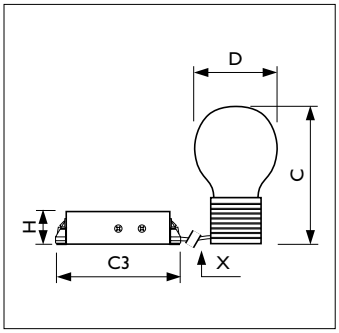
- Good environmental choice because of extremely long reliable life
- This product is a Philips Green product
- This product is covered by WEEE

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QL 165W

Type	CMax	C3Nom	DMax	HNom	XNom
MASTER QL 165W/827 Twist Base SLV	205.5	190	131	42.3	555



QL na 55W/85W

Type	CMax	C3Nom	DMax	HNom	XNom
MASTER QL 55W/827 Twist Base SLV	141	154	86	40.8	555
MASTER QL 85W/827 Twist Base SLV	180.5	154	111	40.8	555



QL 55W



QL 165W

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Ignition Time (sec)	Re-ignition Time (min)
QL Generator 55W 100-120V UNP	100-120	55		
QL Generator 55W 200-277V UNP	200-277	55		
QL Generator 85W 100-120V UNP	100-120	85		
QL Generator 85W 200-277V UNP	200-277	85		
QL Generator 165W 100-120V UNP	100-120	165		
QL Generator 165W 200-277V UNP	200-277	165		
QL Power Coupler 165W Twist Base SLV		165		
QL Power Coupler 55W Twist Base SLV		55		
QL Power Coupler 85W Twist Base SLV		85		
MASTER QL 55W/827 Twist Base SLV		55	0.5	0.008
MASTER QL 85W/827 Twist Base SLV		85	0.5	0.008
MASTER QL 165W/827 Twist Base SLV		165	0.5	0.008

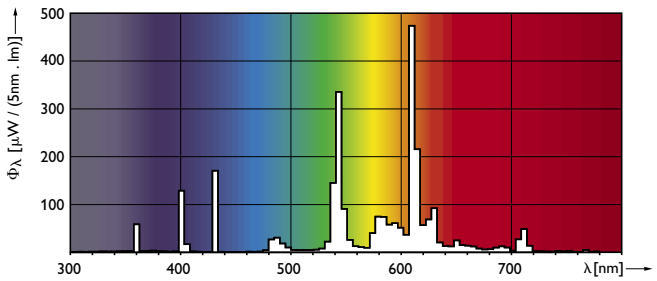
Light data

Type	Colour Designation	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
QL Generator 55W 100-120V UNP					
QL Power Coupler 165W Twist Base SLV					-
MASTER QL 55W/823 Twist Base SLV	Incandescent White				any
MASTER QL 55W/827 Twist Base SLV	Incandescent White	80	471	416	any
MASTER QL 55W/830 Twist Base SLV	Warm White	80	442	404	any
MASTER QL 55W/840 Twist Base SLV	Cool White	80	392	385	any
MASTER QL 85W/827 Twist Base SLV	Incandescent White	80	476	417	any
MASTER QL 85W/830 Twist Base SLV	Warm White	80	444	404	any
MASTER QL 165W/827 Twist Base SLV	Incandescent White	80	472	418	any
MASTER QL 165W/830 Twist Base SLV	Warm White	80	435	398	any
MASTER QL 165W/840 Twist Base SLV	Cool White	80	388	380	any

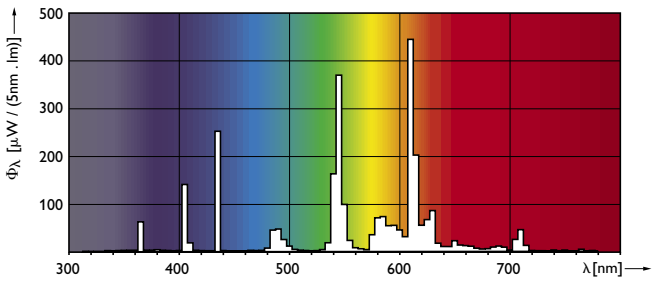
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
QL Generator 55W 100-120V UNP	N.A.	8711500205551	0.58 kg	6	21.4 cm x 21.4 cm x 15 cm	8711500205568	205551 10
QL Generator 55W 200-277V UNP	N.A.	8711500205575	0.58 kg	6	21.4 cm x 21.4 cm x 15 cm	8711500205582	205575 10
QL Generator 85W 100-120V UNP	N.A.	8711500205599	0.58 kg	6	21.4 cm x 21.4 cm x 15 cm	8711500205605	205599 10
QL Generator 85W 200-277V UNP	N.A.	8711500205612	0.58 kg	6	21.4 cm x 21.4 cm x 15 cm	8711500205629	205612 10
QL Generator 165W 100-120V UNP	N.A.	8711500208934	0.665 kg	6	42 cm x 23 cm x 12 cm	8711500208941	208934 10
QL Generator 165W 200-277V UNP	N.A.	8711500208958	0.703 kg	6	29 cm x 24 cm x 15 cm	8711500208965	208958 10
QL Power Coupler 165W Twist Base SLV	N/A	8711500200914	0.277 kg	6	24 cm x 19 cm x 23 cm	8711500200921	200914 10
QL Power Coupler 55W Twist Base SLV	N/A	8711500205636	0.166 kg	6	24.5 cm x 19.5 cm x 22.5 cm	8711500205643	205636 10
QL Power Coupler 85W Twist Base SLV	N/A	8711500205674	0.2 kg	6	24.5 cm x 19.5 cm x 22.5 cm	8711500205681	205674 10
MASTER QL 55W/823 Twist Base SLV	FSG-55/23/1B-L/N-K	8711500212771	0.105 kg	6	41 cm x 29.5 cm x 23 cm	8711500212788	212771 10
MASTER QL 55W/827 Twist Base SLV	FSG-55/27/1B-L/N-K	8711500205247	0.105 kg	6	41 cm x 29.5 cm x 23 cm	8711500205254	205247 10
MASTER QL 55W/830 Twist Base SLV	FSG-55/30/1B-L/N-K	8711500205261	0.105 kg	6	41 cm x 29.5 cm x 23 cm	8711500205278	205261 10
MASTER QL 55W/840 Twist Base SLV	FSG-55/40/1B-L/N-K	8711500205285	0.105 kg	6	41 cm x 29.5 cm x 23 cm	8711500205292	205285 10
MASTER QL 85W/827 Twist Base SLV	FSG-85/27/1B-L/N-K	8711500205308	0.137 kg	6	41 cm x 29.5 cm x 23 cm	8711500205315	205308 10
MASTER QL 85W/830 Twist Base SLV	FSG-85/30/1B-L/N-K	8711500205322	0.137 kg	6	41 cm x 29.5 cm x 23 cm	8711500205339	205322 10
MASTER QL 85W/840 Twist Base SLV	FSG-85/40/1B-L/N-K	8711500205346	0.137 kg	6	41 cm x 29.5 cm x 23 cm	8711500205353	205346 10
MASTER QL 165W/827 Twist Base SLV	FSG-165/27/1B-L/N-K	8711500204646	0.195 kg	6	47.5 cm x 33.9 cm x 23.5 cm	8711500204653	204646 10
MASTER QL 165W/830 Twist Base SLV	FSG-165/30/1B-L/N-K	8711500201027	0.195 kg	6	47.5 cm x 33.9 cm x 23.5 cm	8711500201034	201027 10
MASTER QL 165W/840 Twist Base SLV	FSG-165/40/1B-L/N-K	8711500201041	0.195 kg	6	47.5 cm x 33.9 cm x 23.5 cm	8711500201058	201041 10

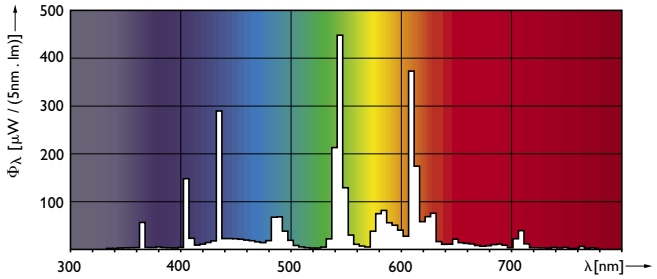
Spectral power distribution



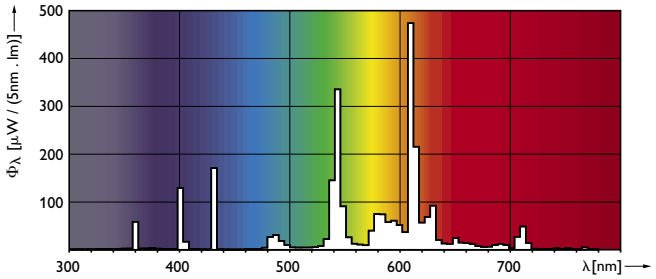
QL 55W /827



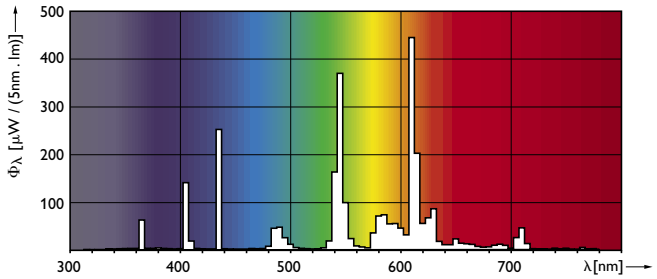
QL 55W /830



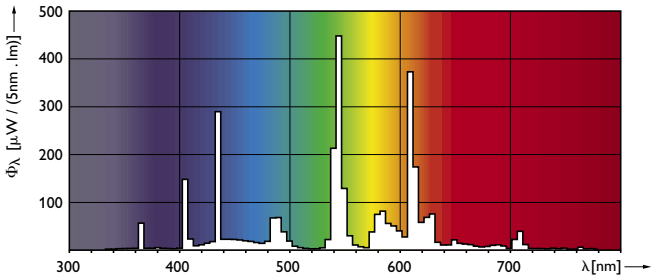
QL 55W /840



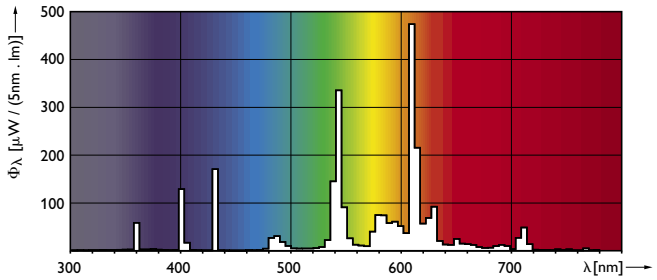
QL 85W /827



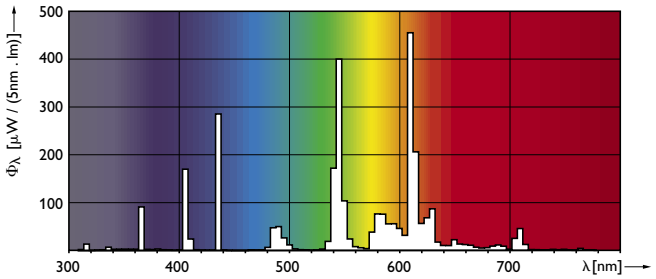
QL 85W /830



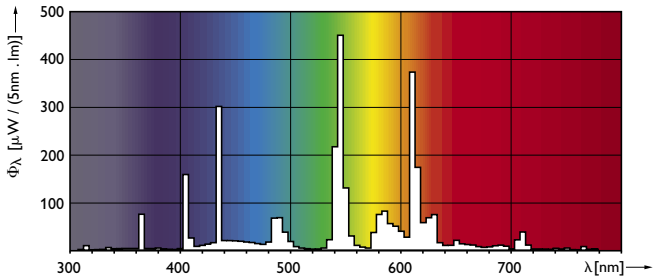
QL 85W /840



QL 165W /827



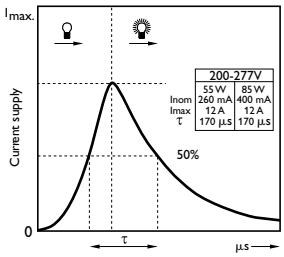
QL 165W /830



QL 165W /840

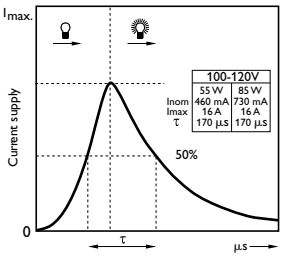
Performance diagram

Lamp performance during run up



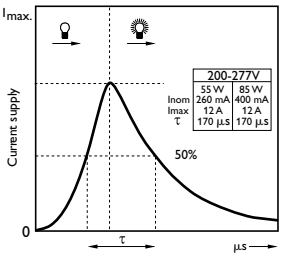
QL 55W/85W

Lamp performance during run up



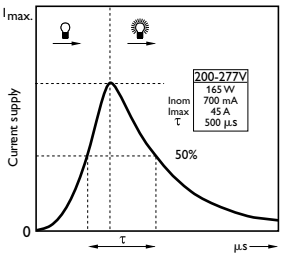
QL-GEN 55W/85W 100-120V

Lamp performance during run up



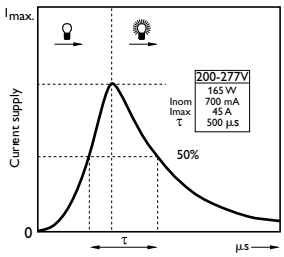
QL-GEN 55W/85W 200-277V

Lamp performance during run up



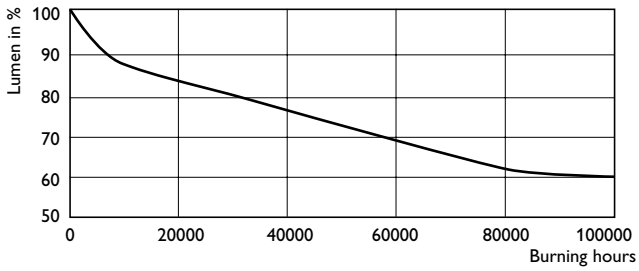
QL 165W

Lamp performance during run up



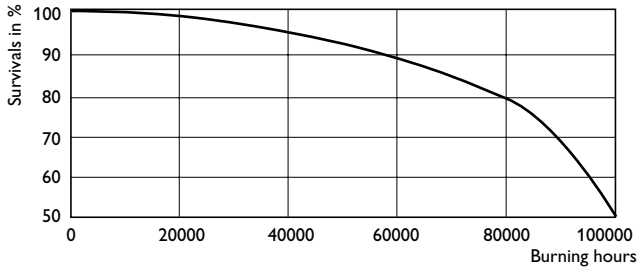
QL-GEN 165W 200-277V

Lumen maintenance diagram



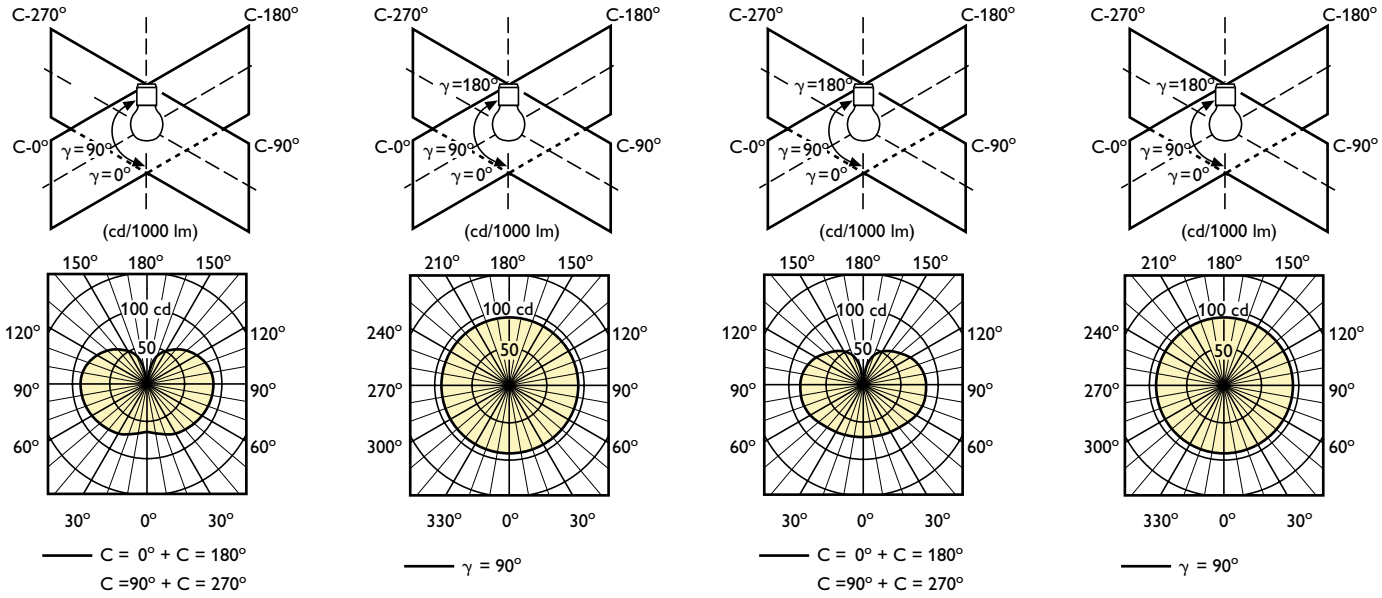
QL

Life expectancy diagram



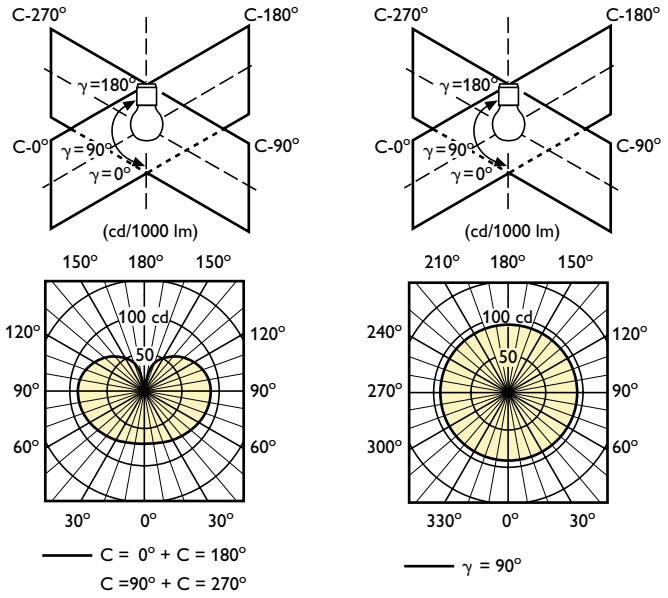
QL

Photometric diagram



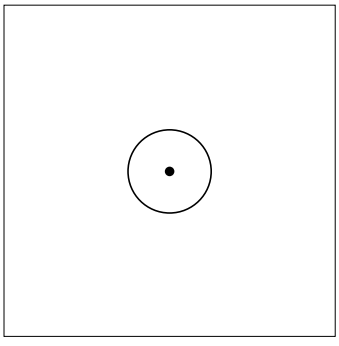
QL na 55W

QL na 85W



QL na 165W

Operating position



any



Electronic Fluorescent Gear

Electronic gear offers numerous important benefits in comparison to traditional Electromagnetic gear:

- Energy savings up to 25% compared with Electromagnetic gear and even up to 75% in combination with lighting controls (presence detection and daylight sensing)
- Up to 50% longer lamp life (depending on frequency of switches) reducing maintenance costs
- Improved lighting quality: no flickering, smooth and rapid lamp starting
- Extra safety: protection against overvoltage, mains spikes and controlled end of life (no stroboscopic effects)
- Electronic ballasts are lighter in weight, smaller and relatively simple to install compared with electromagnetic ballasts, requiring less wiring and fewer circuit components (no starters)

Electronic or High Frequency electronic gear comes in different versions to suit the application involved:

- HF-RegulatorII: for maximizing on energy savings or creating scene settings in lighting. Energy savings up to 75% are reached by harvesting daylight and by presence detection.
  There are 2 versions available:
  Touch and DALI (TD): The TD types combine the functionality of "Touch and Dim" – an easy way of controlling personal lighting level with a the touch of a any retractive push-to-make button available in the market - with DALI, (Digital Addressable Lighting Interface) the industry communication standard for dimmable ballasts in europe 1-10V: with 1-10V control input (European standard).

- HF-PerformerII: (warm start) is suited for situations with frequent switching (e.g. infrared remote control systems). HF-Performer II is the most energy efficient gear available on the market.

- The HF-PerformerII Intelligent gear is an intelligent electronic gear for MASTER TL5 lamps that automatically recognizes which lamp is being used and adjusts itself to the right settings.

- The HF-RegulatorII and PerformerII VHO gear is an electronic gear that in combination with MASTER TL5 VHO lamps offers a unique solution for high ceilings.

- The HF-PerformerII Xtreme gear is an electronic gear with extreme long-life for reduced maintenance costs and hassle. Moreover, it is a robust solution thanks to its protection against voltage peaks and overvoltage protection.



HF-REGULATOR II Touch and DALI for TL5 lamps

Product Description

- Flat, lightweight high-frequency electronic regulating gear, using DALI (Digital Addressable Lighting Interface) or Touch and Dim pushbutton protocol for TL5 fluorescent lamps

Features and Benefits

- Lamp power can be regulated from 1 to 100%
- Flat gear design, 22 mm high
- Digital control input according to the industry-standard DALI (Digital Addressable Lighting Interface) combined with the Touch and Dim pushbutton protocol
- Protected against excessive mains voltages, incorrect connections and incorrect lamp use
- Striation-free operation, no stroboscopic effects
- Lamp starts at 10% (DALI 1..100% in 250 ms, from 100..1% in 100ms)
- Stop circuit is activated within 5 s in case of lamp failure (safety stop)
- Gear resets automatically after lamp replacement
- Equipped with WAGO 251 connectors suitable for automatic wiring
- Up to 75% reduction in energy consumption by using automatic lighting control systems (e.g. Philips ActiLume)
- Quick programmed start: 0.5 s, flicker-free warm start by preheating the lamp electrodes enables lamps to be switched on and off without reducing useful life. Ideal for high switching frequency
- Low energy consumption in standby 0.35 W
- Smart power ensures constant light, independent of mains fluctuations
- Philips HF- REGULATOR II gear is equipped with Extended Cable Flexibility (ECF) Technology. ECF Technology is based on a dedicated integrated circuit that ensures independent control of lamps, and in doing so takes care that:
  - In case of long or asymmetrical wiring (e.g. with emergency units or bundled wiring) deep and stable dimming is guaranteed (possible consequences for electromagnetic interference and compatibility EMI/EMC to be checked)
  - Systems always remain operational in extreme conditions (e.g. low temperatures, lamp impurities at burning-in) in combination with the integrated anti extinguish control
  - Lamp life is unaffected by dimming position whilst energy savings are maximized

Applications

- Offices requiring simple, easy-to-install dimming or personal light level adjustment, e.g. with ActiLume
- DALI installations with daylight linking and/or movement detection
- DALI installations with remote control systems
- Installations with emergency back-up, according to IEC 60598-2-22

Quality

Philips Quality applies optimum quality with respect to:

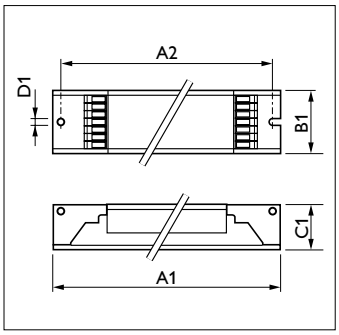
- System supplier: As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards: Philips HF electronic regulating gears comply with all relevant international rules and regulations.

Compliances and approvals

RFI 9kHz..30MHz	EN 55015
RFI 30 MHz..1000MHz	EN 55022 limit B
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3
Performance	EN 60929
Vibration & bump tests	EN 60068-2-6-FC
	EN 60068-2-29-Eb
Quality standard	ISO 9001
Environmental standard	ISO 14001
Approval marks	ENEC
	VDE-EMV
Temperature declared thermally protected	EN 61347-1
CE marking	

Recommended lamp page 8.202

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HF-R PL-L/PL-T/TL5/TL5/PL-L/TL-D

Type	A1Nom	A2Nom	C1Nom	D1Nom
HF-Regulator TD 1 14-35/149/154/180/2 14-35/249/254	360	350	22	4.2
HF-Regulator TD 124/139/224/239/314/324/414/424	359	350	22	4.2
HF-Regulator TD 280	425	415	22	4.2
HF-Regulator TD 2 95-120	425	415	28	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Regulator TD 1 14-35	28	27	0.30
HF-Regulator TD 124/139/149/154/180/224/314/414	28	27	0.25
HF-Regulator TD 2 14-35/239/249/254/324/424	12	45	0.40
HF-Regulator TD 280	9	40	0.15
HF-Regulator TD 2 95-120	6	55	0.51

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator TD 1 14-35 TL5 EII 220-240V 50/60Hz	1	14-35	3.5-4.4	A1	75	100
HF-Regulator TD 124 TL5/PL-L EII 220-240V	1	24	4.5	A1	75	100
HF-Regulator TD 139 TL5 EII 220-240V 50/60Hz	1	39	5.8	A1	75	100
HF-Regulator TD 149 TL5 EII 220-240V 50/60Hz	1	49	5.3	A1	150	100
HF-Regulator TD 154 TL5 EII 220-240V 50/60Hz	1	54	6.6	A1	150	100
HF-Regulator TD 180 TL5/PL-L EII 220-240V	1	80	7	A1	150	100
HF-Regulator TD 2 14-35 TL5 EII 220-240V 50/60Hz	2	14-35	5.3-6.5	A1	75	100
HF-Regulator TD 224 TL5/PL-L EII 220-240V	2	24	7.3	A1	75	100
HF-Regulator TD 239 TL5 EII 220-240V 50/60Hz	2	39	5.9	A1	75	100

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator TD 249 TL5 EII 220-240V 50/60Hz	2	49	7.9	A1	75	100
HF-Regulator TD 254 TL5 EII 220-240V 50/60Hz	2	54	11	A1	75	100
HF-Regulator TD 280 TL5/PL-L EII 220-240V	2	80	13.2	A1	150	100
HF-Regulator TD 2 95-120 TL5 EII 220-240V	2	95-120	12	A1	150	100
HF-Regulator TD 314 TL5 EII 220-240V 50/60Hz	3	14	7.7	A1	75	100
HF-Regulator TD 324 TL5/PL-L EII 220-240V	3	24	11.2	A1	75	100
HF-Regulator TD 414 TL5 EII 220-240V 50/60Hz	4	14	9.9	A1	75	100
HF-Regulator TD 424 TL5/PL-L EII 220-240V	4	24	16.4	A1	75	100

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Regulator TD 1 14-35 TL5 EII 220-240V 50/60Hz	0.255 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911599	911582 30
HF-Regulator TD 124 TL5/PL-L EII 220-240V	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914477	914460 30
HF-Regulator TD 139 TL5 EII 220-240V 50/60Hz	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914491	914484 30
HF-Regulator TD 149 TL5 EII 220-240V 50/60Hz	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500908896	908889 30
HF-Regulator TD 154 TL5 EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500909626	909619 30
HF-Regulator TD 180 TL5/PL-L EII 220-240V	0.285 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500909664	909657 30
HF-Regulator TD 2 14-35 TL5 EII 220-240V 50/60Hz	0.285 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911636	911629 30
HF-Regulator TD 224 TL5/PL-L EII 220-240V	0.295 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914538	914521 30
HF-Regulator TD 239 TL5 EII 220-240V 50/60Hz	0.295 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914569	914545 30
HF-Regulator TD 249 TL5 EII 220-240V 50/60Hz	0.31 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500909602	909596 30
HF-Regulator TD 254 TL5 EII 220-240V 50/60Hz	0.325 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500909640	909633 30
HF-Regulator TD 280 TL5/PL-L EII 220-240V	0.417 kg	12	47.6 cm x 20.6 cm x 7.6 cm	8711500910691	910677 30
HF-Regulator TD 2 95-120 TL5 EII 220-240V	0.579 kg	10	47.3 cm x 20.8 cm x 8.7 cm	8711500914897	914880 30
HF-Regulator TD 314 TL5 EII 220-240V 50/60Hz	0.34 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913524	913517 30
HF-Regulator TD 324 TL5/PL-L EII 220-240V	0.37 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913616	913609 30
HF-Regulator TD 414 TL5 EII 220-240V 50/60Hz	0.34 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913548	913531 30
HF-Regulator TD 424 TL5/PL-L EII 220-240V	0.385 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913630	913623 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for safety +/- 10%	198 - 264 V
Performance tolerance +6%-8%	202 - 254 V
Mains frequency	50/60 Hz
Smart power: with AC mains voltage fluctuations, luminous flux varies by ± 2% max.	202 - 254 V
Earth leakage current	< 0.5 mA per gear
Maximum number of gears which can be connected to one Residual Current Detector of 30 mA	30
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Automatic restart after lamp replacement or voltage dip	Yes
Insulation resistance test	500 V DC from Line/Neutral to Earth (not between Line and Neutral) Note: Ensure that the Neutral is reconnected again after the above mentioned test is carried out and before the installation is put into operation.
TL5 lamp wiring	500 V rated components and wiring are required
Ignition time	Typical 0.5 sec. quick warm start.
Ignition aid	For optimum ignition the TL5 lamps should be mounted at a maximum distance of 6 mm from a metal plate The metal plate should be electrically connected to the gear housing

Earthing	Earthing of the HF gear in a luminaire is necessary for EMC (electromagnetic compatibility)
Protected against accidental mains voltage connection	Yes

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.
3. For the HF-R TD 280 TL5/PL-L lamp EII power will be limited to 50% of the nominal lamp power when operating on DC.

Control characteristics

Control input

Regulating level (lamp power)	1 to 100% The control input complies with EN 60929 (Annex E) and is compatible with Philips lighting control equipment
Standby power consumption	< 350 mW
Control input insulation, basic insulation	≥ 1500 V

Option 1) DALI

Digital coded input signal according to "Digital Addressable Lighting Interface" protocol, including 16 presets and 64 addresses possibility.

Option 2) Touch and Dim

A short push on the button represents the On/Off command.

Personal light levels can be stored in the internal memory by a firm longer push on the push button.

Failure proof (non volatile) memory ensures that the gear always remembers your setting when next time switched on or in case of power failure.

Maximum number of gears connected in one circuit (switched on by one or multiple switches)	32 Pcs
Mains input signal	Retractive push-to-make switch
Ignore status, < 0.04 sec.	To avoid reaction on mains spikes!
Short push, between 0.04 sec. and 0.5 sec.	Switch On/Off
Long push, between 0.5 sec. and 10 sec.	Dim Up/Down
Reset push, >10 sec.	Set light to mid value (35% output)

Notes:

1. The dim function will toggle after each individual push. Except when the value is lower than 10% it will always dim up, and when the light output is higher than 70% it will always dim down to perform according human perception.
2. First digital regulating steps (DALI) are fixed at 1% light output (dimming specification).
3. For optimum performance care has to be taken for symmetrical wiring. Minimal 6 mm distance from lamp to earth plane.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm^2 and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting in fixtures

Temperatures

Temperature range to ignite lamp

With ignition aid 1..100%	0 °C to +50 °C
at a 70..100% dim input	-20 °C to +50 °C
Storage temperature range	-25 °C to +80 °C
Stable lamp operation assured	> 15 °C*
Striation possible	< 10 °C
Max Tcase	75 °C

* >20 °C for HF-R TD 280 TL5/PL-L EII

The lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. The HF-REGULATOR II gear for TL5 applications has a specified lifetime of 50,000 hrs with a maximum of 10% failures guaranteed at a measured Tcase of 75 °C.

For more information regarding this subject consult the Philips Application guide for fluorescent lamp control gear.

Class II luminaires	This application is not advisable; only with extensive tests on luminaires can the correct operation be verified EMI precautions have to be taken
Outdoor applications	IP=20 In outdoor the luminaire has to be sufficiently IP rated Permitted humidity is tested according to EN 61347-1 par 11 Note that no moisture or condensation may enter the gear
Hum and noise level	Inaudible

Connector type:

Connection wiring is greatly simplified through use of WAGO 251 universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring.

Wire cross-section:

IDC connection	0.5...1.0 mm^2
ADS manual connection	0.5...0.75 mm^2*

* Stranded wire

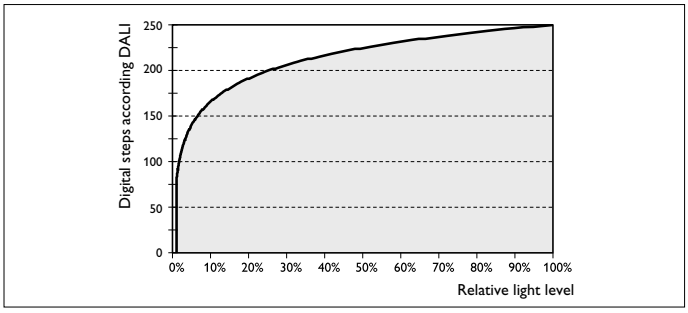
Strip length	8.0 - 9.0 mm

Wiring tips:

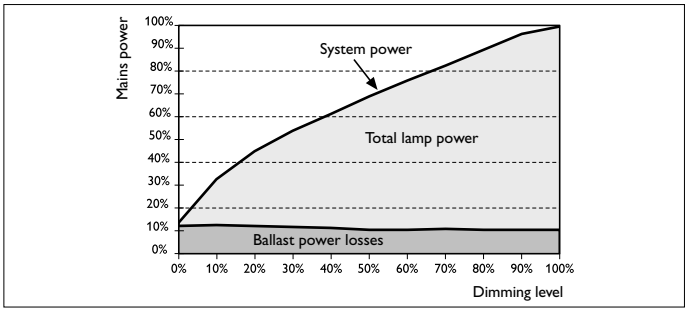
Earth connection to be made via housing or mains connector. Wiring inside fixture should be straight and as short as possible. Lamp wires should not run parallel to mains or control wires to avoid EMC problems. For optimal performance, note that:

1. For one lamp gears wires 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7 equal in length.

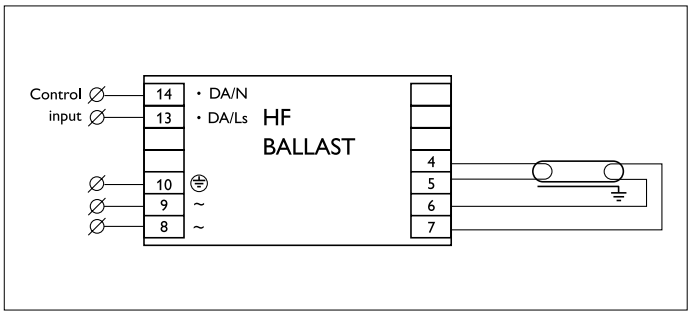
2. For two lamp gears wires 3, 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7, and 1 and 2 equal in length.



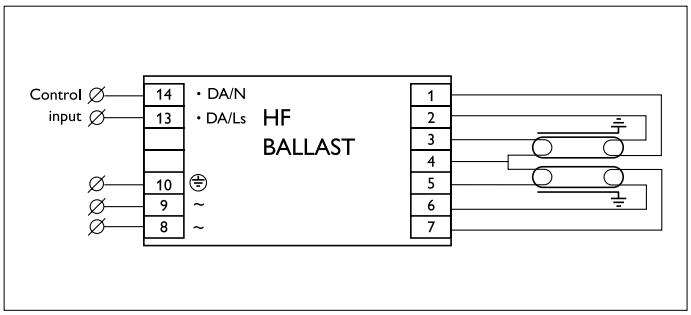
Relationship between lamp power and digital regulation



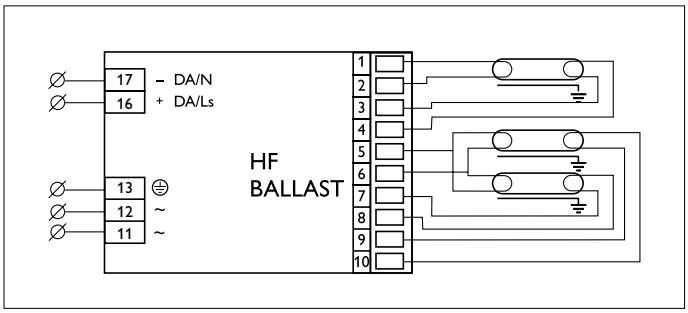
Input power vs dimlevel HF-REGULATOR II (Touch and DALI)



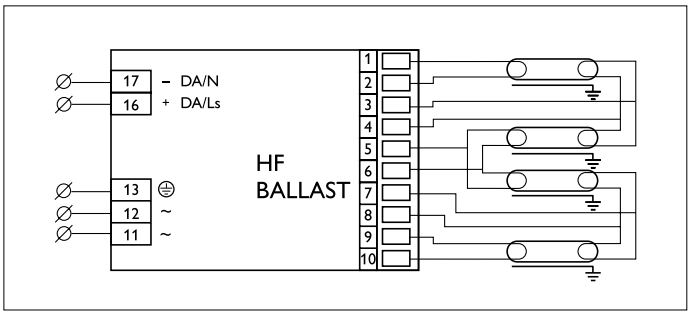
HF-R 1 TL5/TL5/PL-L/TL-D



HF-R 2 TL5/TL5/PL-L/TL-D



HF-R 3



HF-R 4



HF-REGULATOR II Touch and DALI for TL-D lamps

Product Description

- Flat, lightweight high-frequency electronic regulating gear, using DALI (Digital Addressable Lighting Interface) or Touch and Dim pushbutton protocol for TL-D fluorescent lamps

Features and Benefits

- Lamp power can be regulated from 1 to 100%
- Flat gear design, 22 mm high
- Digital control input according to the industry-standard DALI (Digital Addressable Lighting Interface) combined with the Touch and Dim pushbutton protocol
- Protected against excessive mains voltages, incorrect connections and incorrect lamp use
- Striation-free operation, no stroboscopic effects
- Lamp starts at 10% (DALI 1..100% in 250 ms, from 100..1% in 100ms)
- Stop circuit is activated within 5 s in case of lamp failure (safety stop)
- Gear resets automatically after lamp replacement
- Equipped with WAGO 251 connectors suitable for automatic wiring
- Up to 75% reduction in energy consumption by using automatic lighting control systems (e.g. Philips ActiLume)
- Quick programmed start: 0.5 s, flicker-free warm start by preheating the lamp electrodes enables lamps to be switched on and off without reducing useful life. Ideal for high switching frequency
- Low energy consumption in standby 0.35 W
- Smart power ensures constant light, independent of mains fluctuations
- Philips HF-REGULATOR II gear is equipped with Extended Cable Flexibility (ECF) Technology. ECF Technology is based on a dedicated integrated circuit that ensures independent control of lamps, and in doing so takes care that:
  - In case of long or asymmetrical wiring (e.g. with emergency units or bundled wiring) deep and stable dimming is guaranteed (possible consequences for electromagnetic interference and compatibility EMI/EMC to be checked)
  - Systems always remain operational in extreme conditions (e.g. low temperatures, lamp impurities at burning-in) in combination with the integrated anti extinguish control
  - Lamp life is unaffected by dimming position whilst energy savings are maximized

Applications

- Offices requiring simple, easy-to-install dimming or personal light level adjustment, e.g. with ActiLume
- DALI installations with daylight linking and/or movement detection
- DALI installations with remote control systems
- Installations with emergency back-up, according to IEC 60598-2-22

Quality

Philips Quality applies optimum quality with respect to:

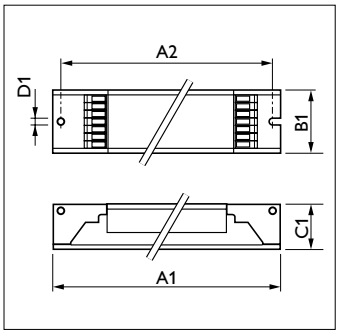
- System supplier: As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards: Philips HF electronic regulating gears comply with all relevant international rules and regulations.

Compliances and approvals

RFI 9kHz..30 MHz	EN 55015
RFI 30 MHz..1000MHz	EN 55022 limit B
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3
Performance	EN 60929
Vibration & bump tests	EN 60068-2-6-FC
	EN 60068-2-29-Eb
Quality standard	ISO 9001
Environmental standard	ISO 14001
Approval marks	ENEC
	VDE-EMV
Temperature declared thermally protected	EN 61347-1
CE marking	

Recommended lamp page 8.206

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HF-R PL-L/PL-T/TL5/TL5/PL-L/TL-D

Type	A1Nom	A2Nom	C1Nom	D1Nom
HF-Regulator TD 118/136/158/218/236/258	360	350	22	4.2
HF-Regulator TD 318/418	359	350	22	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Regulator TD 118	28	27	0.30
HF-Regulator TD 136/158/318	28	27	0.25
HF-Regulator TD 218/236/258/418	12	45	0.40

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator TD 118 TL-D EII 220-240V 50/60Hz	1	18	4.4	A1	75	100
HF-Regulator TD 136 TL-D EII 220-240V 50/60Hz	1	36	5.5	A1	150	100
HF-Regulator TD 158 TL-D EII 220-240V 50/60Hz	1	58	6.3	A1	150	100
HF-Regulator TD 218 TL-D EII 220-240V 50/60Hz	2	18	7.8	A1	75	100
HF-Regulator TD 236 TL-D EII 220-240V 50/60Hz	2	36	7.3	A1	75	100
HF-Regulator TD 258 TL-D EII 220-240V 50/60Hz	2	58	11.2	A1	75	100
HF-Regulator TD 318 TL-D EII 220-240V 50/60Hz	3	18	9.7	A1	75	100
HF-Regulator TD 418 TL-D EII 220-240V 50/60Hz	4	18	13.4	A1	75	100

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Regulator TD 118 TL-D EII 220-240V 50/60Hz	0.28 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911735	911728 30
HF-Regulator TD 136 TL-D EII 220-240V 50/60Hz	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500909688	909671 30
HF-Regulator TD 158 TL-D EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500909725	909718 30
HF-Regulator TD 218 TL-D EII 220-240V 50/60Hz	0.25 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911773	911742 30
HF-Regulator TD 236 TL-D EII 220-240V 50/60Hz	0.295 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500909701	909695 30
HF-Regulator TD 258 TL-D EII 220-240V 50/60Hz	0.325 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500909749	909732 30
HF-Regulator TD 318 TL-D EII 220-240V 50/60Hz	0.365 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913562	913555 30
HF-Regulator TD 418 TL-D EII 220-240V 50/60Hz	0.37 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913593	913586 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for safety +/- 10%	198 - 264 V
Performance tolerances +6%-8%	202 - 254 V
Mains frequency	50/60 Hz
Smart power	with AC mains voltage fluctuations, within 202-254 V, luminous flux varies by ± 2% max
Earth leakage current	< 0.5 mA per gear
Maximum number of gears which can be connected to one Residual Current Detector of 30 mA	30
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Automatic restart after lamp replacement or voltage dip	Yes
Insulation resistance test	500 V DC from Line/Neutral to Earth (not between Line and Neutral) Note: Ensure that the Neutral is reconnected again after the above mentioned test is carried out and before the installation is put into operation.
Ignition time	Typical 0.5 sec. quick warm start.
Ignition aid	For optimum ignition the TL-D lamps should be mounted 13 mm from a metal plate The metal plate should be electrically connected to the gear housing
Earthing	Earthing of the HF gear in a luminaire is necessary for EMC (electromagnetic compatibility)
Protected against accidental mains voltage connection	Yes

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Control characteristics

- Control input

Regulating level (lamp power)	1 to 100% The control input complies with EN 60929 (Annex E) and is compatible with Philips lighting control equipment
Standby power consumption	< 350 mW
Control input insulation, basic insulation	≥ 1500 V

- Option 1) DALI
- Digital coded input signal according to "Digital Addressable Lighting Interface" protocol, including 16 presets and 64 addresses possibilty
- Option 2) Touch and Dim
- A short push on the button represents the On/Off command
- Personal light levels can be stored in the internal memory by a firm longer push on the push button.
- Failure proof (non volatile) memory ensures that the gear always remembers your setting when next time switched on or in case of power failure

Maximum number of gears connected in one circuit (switched on one by one or multiple switches)	32 Pcs
Mains input signal	Retractive push-to-make switch
Ignore status, < 0.04 sec.	To avoid reaction on mains spikes!
Short push, between 0.04 sec. and 0.5 sec.	Switch On/Off
Long push, between 0.5 sec. and 10 sec.	Dim Up/Down
Reset push, >10 sec.	Set light to mid value (35% output)

- Notes:
- 1. The dim function will toggle after each individual push. Except when the value is lower than 10% it will always dim up, and when the light output is higher than 70% it will always dim to perform according human perception
- 2. First digital regulating steps (DALI) are fixed at 1% light output (dimming specification)
- 3. For optimum performance care has to be taken for symmetrical wiring

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting in fixtures

Temperatures

Temperature range to ignite lamp	
With ignition aid 1..100%	0 °C to +50 °C
at a 70..100% dim input	-20 °C to +50 °C
Storage temperature range	-25 °C to +80 °C
Stable lamp operation assured	> 15 °C
Striation possible	< 10 °C
Max Tcase	75 °C

Lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. The HF-REGULATOR II gear for TL-D applications has a specified lifetime of 50,000 hrs with a maximum of 10% failures guaranteed at a measured Tcase of 75 °C.

Class II luminaires	This application is not advisable; only with extensive tests on luminaires can the correct operation be verified
	EMI precautions have to be taken

Outdoor applications	IP=20 In outdoor the luminaire has to be sufficiently IP rated Permitted humidity is tested according to EN 61347-1 par 11 Note that no moisture or condensation may enter the gear
Hum and noise level	Inaudible

Connector type:

Connection wiring is greatly simplified through use of WAGO 251 universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring.

Wire cross-section:

ADS manual connection	0.5...1.0 mm^2
IDC connection	0.5...0.75 mm^2(*)

(*) Stranded wire

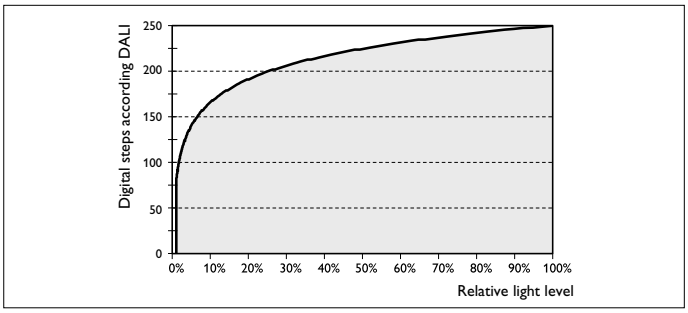
Strip length 8.0 - 9.0 mm

Wiring tips:

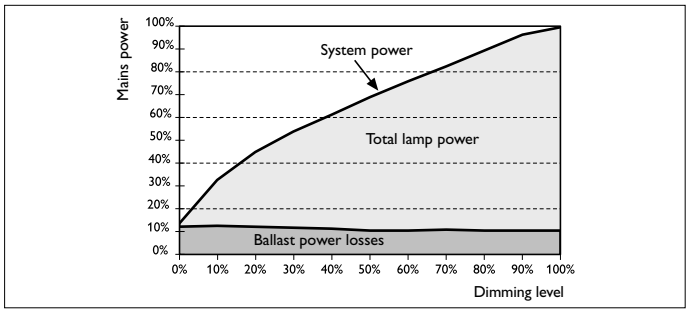
Earth connection to be made via housing or mains connector. Wiring inside fixture should be straight and as short as possible. Lamp wires should not run parallel to mains or control wires to avoid EMC problems. For optimal performance, note that:

1. For one lamp gears wires 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7 equal in length.

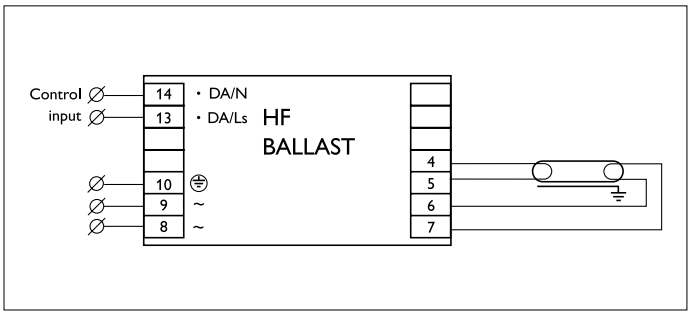
2. For two lamp gears wires 3, 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7, and 1 and 2 equal in length.



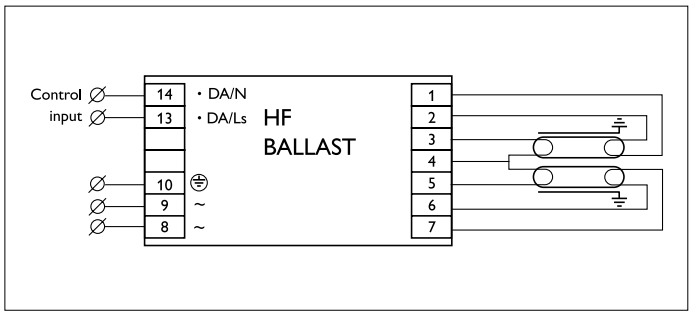
Relationship between lamp power and digital regulation



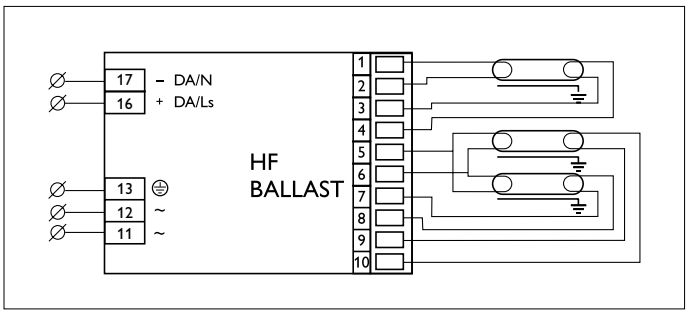
Input power vs dimlevel HF-REGULATOR II (Touch and DALI)



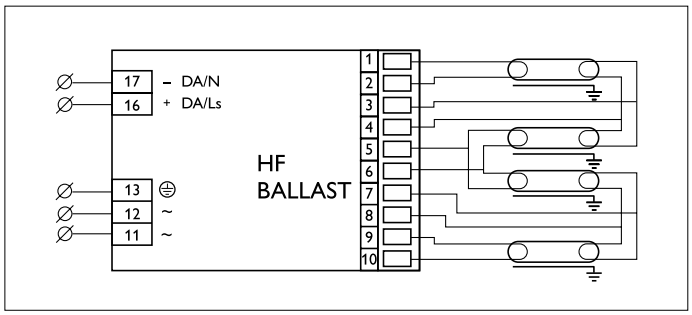
HF-R 1 TL5/TL5/PL-L/TL-D



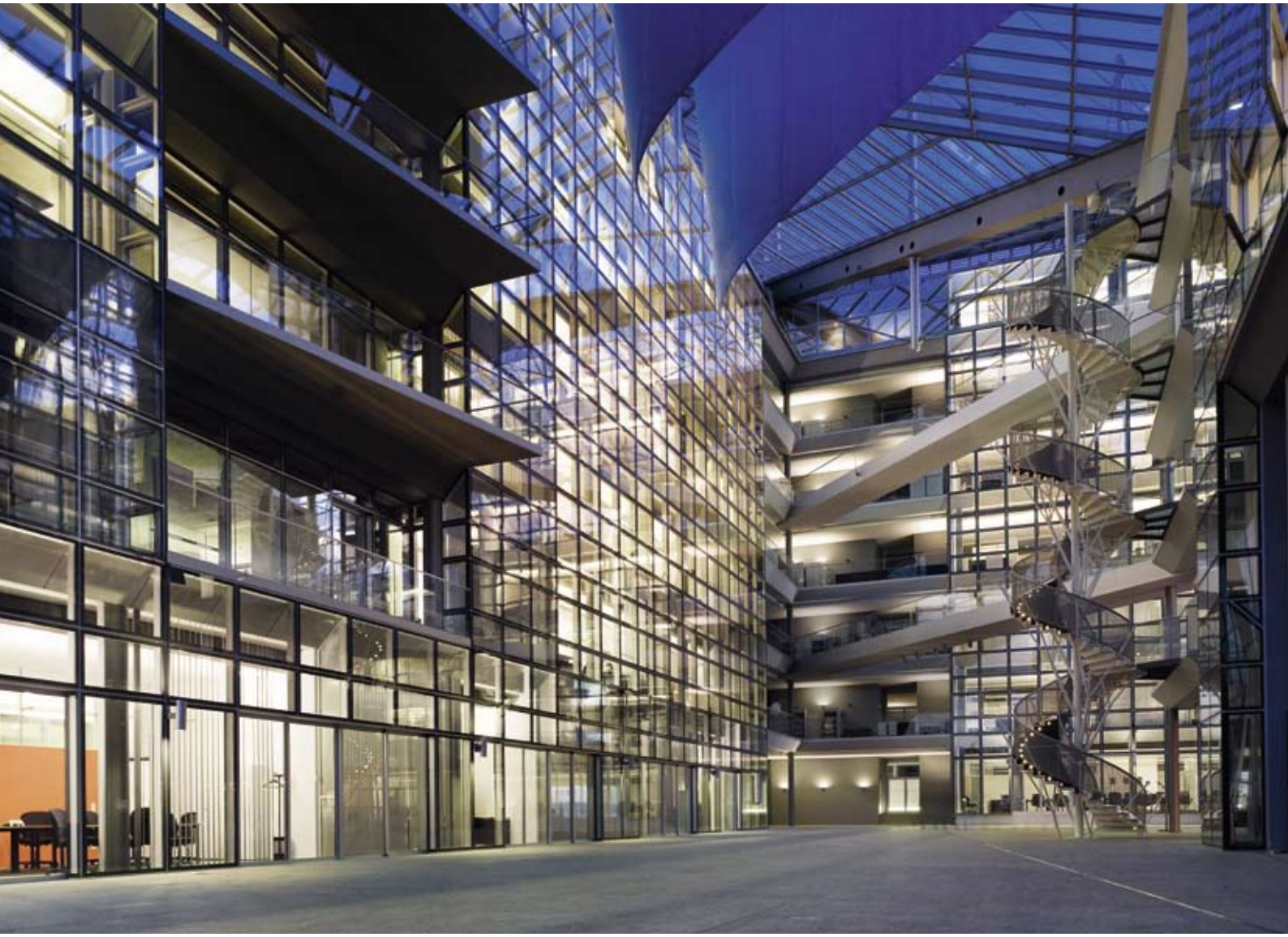
HF-R 2 TL5/TL5/PL-L/TL-D



HF-R 3



HF-R 4





HF-REGULATOR Touch&Dim/DALI TL5 Circular

Product Description

- Compact, lightweight High-Frequency electronic regulating gear using DALI (Digital Addressable Lighting Interface) protocol for TL5C fluorescent lamps

Features and Benefits

- Lamp power can be regulated down to 3%
- Striation-free operation
- Digital Addressable Lighting Interface control input (DALI protocol)
- Programmed, flicker-free warm start (0.5s) by preheating the lamp electrodes; ideal for areas with high switching frequency
- Frequent lamp switching does not reduce useful life
- Up to 60% reduction in energy consumption can be achieved by using automatic lighting control systems
- Smart power: constant light independent of mains fluctuations
- Low energy consumption
- Unit is protected against excessive mains voltages and incorrect connections
- Safety stop activated within 5 s of lamp failure; automatic reset after lamp replacement
- Dedicated α-control circuit for independent control of each electrode, ensuring that:
  - lamp life is unaffected by dimming setting
  - lamp burning is stable at all dimming settings
  - energy savings are maximized when using dimming

Applications

- DALI installations with daylight linking and/or movement detection
- DALI installations with remote control systems
- Installations with emergency back-up according to EN 60598-2-22

Quality

Philips Quality applies optimum quality with respect to:

- System supplier: As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards: Philips HF electronic regulating gear's comply with all relevant international rules and regulations.

Compliances and approvals

RFI 9kHz..30MHz	EN 55015*
RFI 30MHz..1000MHz	EN 55022 B
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3
Performance	EN 60929
Vibration & bump tests	EN 60068-2-6-FC
	EN 60068-2-29-Eb
Quality standard	ISO 9001
Environmental standard	EN 14001
Approval marks	ENEC
	VDE-EMV

Temperature declared thermally protected

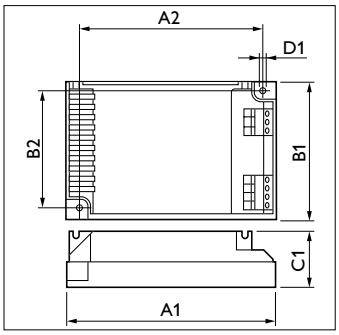
EN 61347-1

CE marking

*Tested with gear functional ground connected to earth.

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HF-R

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Regulator Dali&T 122/140/155/160	123.0	111.0	79.0	33.0	4.5

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Regulator DALI 122	28	19	0.25
HF-Regulator T 122/140	28	27	0.25
HF-Regulator DALI 140	28	25	0.25
HF-Regulator DALI 155	12	19	0.40
HF-Regulator T 155/160	12	45	0.40
HF-Regulator DALI 160	12	25	0.40

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator DALI 122 TL5C 220-240V 50/60Hz	1	22	5	A1	75	30
HF-Regulator T 122 TL5C 220-240V 50/60Hz	1	22	4.7	A1	75	30
HF-Regulator DALI 140 TL5C 220-240V 50/60Hz	1	40	6	A1	75	30
HF-Regulator T 140 TL5C 220-240V 50/60Hz	1	40	6.1	A1	75	30
HF-Regulator DALI 155 TL5C 220-240V 50/60Hz	1	55	6	A1	75	30
HF-Regulator T 155 TL5C 220-240V 50/60Hz	1	55	6.0	A1	75	30
HF-Regulator DALI 160 TL5C 220-240V 50/60Hz	1	60	6	A1	75	30
HF-Regulator T 160 TL5C 220-240V 50/60Hz	1	60	6.0	A1	75	30

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Regulator DALI 122 TL5C 220-240V 50/60Hz	0.205 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500934543	934536 30
HF-Regulator T 122 TL5C 220-240V 50/60Hz	0.215 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500934659	934635 30
HF-Regulator DALI 140 TL5C 220-240V 50/60Hz	0.205 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500934529	934512 30
HF-Regulator T 140 TL5C 220-240V 50/60Hz	0.215 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500934611	934598 30
HF-Regulator DALI 155 TL5C 220-240V 50/60Hz	0.205 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500934505	934499 30
HF-Regulator T 155 TL5C 220-240V 50/60Hz	0.215 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500934581	934574 30
HF-Regulator DALI 160 TL5C 220-240V 50/60Hz	0.205 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500934482	934475 30
HF-Regulator T 160 TL5C 220-240V 50/60Hz	0.193 kg	12	25.7 cm x 24.8 cm x 8.6 cm	8711500934567	934550 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for safety +/- 10%	198 - 264 V
Performance tolerance +6%-8%	202 - 254 V
Mains frequency	50/60 Hz
Operating frequency	> 42 kHz
Power factor	0.98 at 100% power
Smart power	with AC mains voltage fluctuations, within 202-254 V, luminous flux varies by + 2% max
Earth leakage current	< 0.5 mA per gear
Maximum number of gears which can be connected to one Residual Current Detector of 30 mA	30
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC 5 min. at 380 V AC
Automatic restart after lamp replacementor voltage dip	Yes
Insulation resistance test	500 V DC from Line/Neutral to Earth (not between Line and Neutral) Note: Ensure that the neutral is reconnected again after above mentioned test is carried out and before the installation is put in operation
Lamp wiring	The use of 500 V rated components and wiring is advised for TL5C 60W type.
Ignition time	Typical 0.5 sec.
Advised maximum cable capacity for optimum performance and EMI Suppression	Max. 30 pF: between two sets of lamp wires (each set of lamp wires is connected to one electrode of the lamp) Max. 150 pF: between one set of lamp wires (connected to one electrode of the lamp) and earth Care has to be taken for symmetrical wiring

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Control characteristics

Control input	
Digital coded input signal according to "Digital Addressable Lighting Interface" protocol	DALI
	Including 16 presets, 64 addresses possibility.
Regulating level (lamp power)	3 to 100% The control input complies with EN 60929 (Amendment 1, Annex E) and is compatible with Philips lighting control equipment.
Dim command for full lamp power (100%)	step 254
Dim command for min. lamp power (3%)	step 126
Protected against accidental mains voltage connection	Yes
Control input insulation, basic insulation	< 1500V
Standby power consumption	< 1W (Avg 0.5W)

Notes:

1. First digital regulating steps (DALI) are fixed at 3% light output (dimming specification).
2. For optimum performance, note that wires from connector 1 and 2 should be kept short and equal in length.

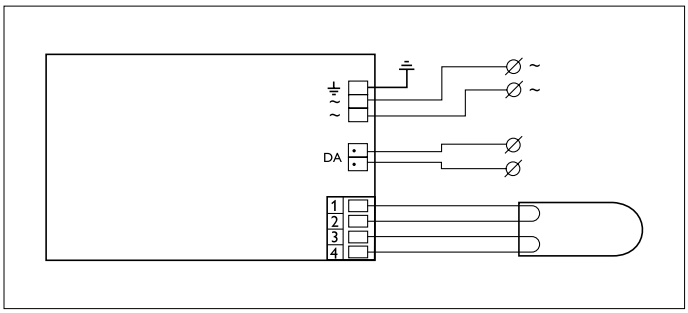
Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.



HF-R

Mechanical installation notes

Technical data for design and mounting in fixtures

Temperatures

Temperature range to ignite lamp with ignition aid	+10° to +50 °C
Stable lamp operation assured	> 15°C
Striation possible	< 15°C

Lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. The HF-Regulator gear for TL5C applications has a specified lifetime of 50.000 hrs at a measured Tcase of 65°C.

Earthing	Earthing of the HF gear in a luminaire is necessary for EMC (electromagnetic compatibility)
Class II luminaires	This application is not advisable; only with extensive tests on luminaires can the correct operation be verified
Hum and noise level	inaudible

Permitted humidity is tested according to EN 61347 par.11. Note that no moisture or condensation may enter the gear.

Notes:

1. Keep lamp wiring as short as possible; do not bunch wires from terminals 1&2 with those from 3&4.
2. lp-lp between lamp wires

Typical capacitance 1m wires close together (spacing 0.5 mm) 46pF

Typical capacitance 0.5 m wires close together (spacing 0.5 mm) 23pF

3. lp-lg between lamp wires and ground

Typical capacitance 1m wires close together (spacing 0.5 mm) 72pF

Typical capacitance 0.5 m wires close together (spacing 0.5 mm) 38pF

Connector type:

Connection wiring is greatly simplified through use of insert contacts; earth connection can be made via the terminal block.

Wire cross-section:

Mains connector	0.5...1.5 mm^2
Control connector	0.5...1.5 mm^2
Lamp(s) connector	0.5...1.5 mm^2
Strip length	7.5 - 8.5 mm



HF-REGULATOR II for TL5 lamps

Product Description

- Flat, lightweight high-frequency electronic regulating gear, using 1-10V protocol for TL5 fluorescent lamps

Features and Benefits

- Lamp power can be regulated from 1 to 100%
- Flat gear design, 22 mm high
- Analog control input according to the 1-10V industry standard
- Protected against excessive mains voltages, incorrect connections and incorrect lamp use
- Striation-free operation, no stroboscopic effects
- Stop circuit is activated within 5 s in case of lamp failure (safety stop)
- Gear resets automatically after lamp replacement
- Equipped with WAGO 251 connectors suitable for automatic wiring
- Up to 60% reduction in energy consumption by using automatic lighting control systems
- Quick programmed start: 0.5 s, flicker-free warm start by preheating the lamp electrodes enables the lamps to be switched on and off without reducing useful life. Ideal for areas with a high switching frequency
- Smart power ensures constant light, independent of mains voltage fluctuations
- Philips HF-REGULATOR II gear is equipped with Extended Cable Flexibility (ECF) Technology. ECF Technology is based on a dedicated integrated circuit that ensures independent control of lamps, and in doing so takes care that:
  - In case of long or asymmetrical wiring (e.g. with emergency units or bundled wiring) deep and stable dimming is guaranteed (possible consequences for electromagnetic interference and compatibility EMI/EMC to be checked)
  - Systems always remain operational in extreme conditions (e.g. low temperatures, lamp impurities at burning-in) in combination with the integrated anti extinguish control
  - Lamp life is unaffected by dimming position whilst energy savings are maximized

Applications

- 1-10V installations with daylight linking and/or movement detection (for energy savings)
- 1-10V installations with remote control systems (combining energy savings with comfort)
- Installations with emergency back-up, according to IEC 60598-2-22

Quality

Philips Quality implies optimum quality with respect to:

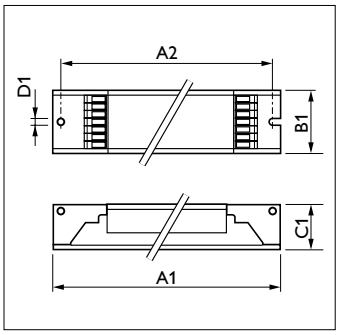
- System supplier: As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards: Philips HF electronic regulating gears comply with all relevant international rules and regulations.

Compliances and approvals

RFI 9kHz..30MHz	EN 55015
RFI 30MHz..1000MHz	EN 55022 Limit B
Harmonics	IEC 61000-3-2
Immunity	IEC 61547
Safety	IEC 61347-2-3
Performance	IEC 60929
Vibration & bump tests	IEC 60068-2-6-FC IEC 60068-2-29-Eb
Quality standard	ISO 9001
Environmental standard	ISO 14001
Approval marks	ENEC VDE-EMV
Temperature declared thermally protected	IEC 61347-1
CE marking	

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HF-R

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Regulator 1 14-35/149/154/180/214-35/249/254	360	350	30	22	4.2
HF-Regulator 124/139/224/239	359	350	30	22	4.2
HF-Regulator 280	425	415	30	22	4.2
HF-Regulator 2 95-120	425	415	39	28	4.2
HF-Regulator 314/324/414/424	359	350	39	22	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Regulator 1 14-35	28	27	0.30
HF-Regulator 124/139/149/154/224/314/414	28	27	0.25
HF-Regulator 180/2 14-35/239/249/254/324/424	12	45	0.40
HF-Regulator 280	9	40	0.15
HF-Regulator 2 95-120	6	55	0.508

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator 1 14-35 TL5 EII 220-240V 50/60Hz	1	14-35	3.5-4.4	A1	75	100
HF-Regulator 124 TL5/PL-L EII 220-240V 50/60Hz	1	24	4.5	A1	75	100
HF-Regulator 139 TL5 EII 220-240V 50/60Hz	1	39	5.8	A1	75	100
HF-Regulator 149 TL5 EII 220-240V 50/60Hz	1	49	5.3	A1	75	100
HF-Regulator 154 TL5 EII 220-240V 50/60Hz	1	54	6.6	A1	75	100
HF-Regulator 180 TL5/PL-L EII 220-240V 50/60Hz	1	80	7	A1	75	100
HF-Regulator 2 14-35 TL5 EII 220-240V 50/60Hz	2	14-35	5.3-6.5	A1	75	100
HF-Regulator 224 TL5/PL-L EII 220-240V 50/60Hz	2	24	7.3	A1	75	100
HF-Regulator 239 TL5 EII 220-240V 50/60Hz	2	39	5.9	A1	75	100
HF-Regulator 249 TL5 EII 220-240V 50/60Hz	2	49	7.9	A1	75	100
HF-Regulator 254 TL5 EII 220-240V 50/60Hz	2	54	11	A1	75	100
HF-Regulator 280 TL5/PL-L EII 220-240V 50/60Hz	2	80	13.2	A1	150	100
HF-Regulator 2 95-120 TL5 EII 220-240V 50/60Hz	2	95-120	12	A1	150	100

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator 314 TL5 EII 220-240V 50/60Hz	3	14	7.7	A1	75	100
HF-Regulator 324 TL5/PL-L EII 220-240V 50/60Hz	3	24	11.2	A1	75	100
HF-Regulator 414 TL5 EII 220-240V 50/60Hz	4	14	9.9	A1	75	100
HF-Regulator 424 TL5/PL-L EII 220-240V 50/60Hz	4	24	16.4	A1	75	100

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Regulator 1 14-35 TL5 EII 220-240V 50/60Hz	0.255 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911810	911803 30
HF-Regulator 124 TL5/PL-L EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914675	914668 30
HF-Regulator 139 TL5 EII 220-240V 50/60Hz	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914699	914682 30
HF-Regulator 149 TL5 EII 220-240V 50/60Hz	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500909992	909985 30
HF-Regulator 154 TL5 EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910073	910059 30
HF-Regulator 180 TL5/PL-L EII 220-240V 50/60Hz	0.285 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910127	910110 30
HF-Regulator 2 14-35 TL5 EII 220-240V 50/60Hz	0.29 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911797	911780 30
HF-Regulator 224 TL5/PL-L EII 220-240V 50/60Hz	0.325 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914736	914729 30
HF-Regulator 239 TL5 EII 220-240V 50/60Hz	0.325 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914750	914743 30
HF-Regulator 249 TL5 EII 220-240V 50/60Hz	0.31 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910042	910035 30
HF-Regulator 254 TL5 EII 220-240V 50/60Hz	0.325 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910103	910080 30
HF-Regulator 280 TL5/PL-L EII 220-240V 50/60Hz	0.417 kg	12	47.6 cm x 20.6 cm x 7.6 cm	8711500910660	910653 30
HF-Regulator 2 95-120 TL5 EII 220-240V 50/60Hz	0.579 kg	10	47.3 cm x 20.8 cm x 8.7 cm	8711500914873	914866 30
HF-Regulator 314 TL5 EII 220-240V 50/60Hz	0.34 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913692	913685 30
HF-Regulator 324 TL5/PL-L EII 220-240V 50/60Hz	0.385 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913715	913708 30
HF-Regulator 414 TL5 EII 220-240V 50/60Hz	0.34 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913654	913647 30
HF-Regulator 424 TL5/PL-L EII 220-240V 50/60Hz	0.385 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913753	913746 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for safety +/- 10%	198 - 264 V
Performance tolerance +6%-8%	202 - 254 V
Mains frequency	50/60 Hz
Smart power	with AC mains voltage fluctuations, within 202-254 V, luminous flux varies by ± 2% max
Earth leakage current	< 0.5 mA per gear
Maximum number of gears which can be connected to one Residual Current Detector of 30 mA	30
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Automatic restart after lamp replacement or voltage dip	Yes
Insulation resistance test	500 V DC from Line/Neutral to Earth (not between Line and Neutral)

TL5 lamp wiring	Note: Ensure that the Neutral is reconnected again after the above mentioned test is carried out and before the installation is put into operation. 500 V rated components and wiring are required
Ignition time	Typical 0.5 sec. quick warm start.
Ignition aid	For optimum ignition the TL5 lamps should be mounted at a maximum distance of 6 mm from a metal plate The metal plate should be electrically connected to the gear housing
Earthing	Earthing of the HF gear in a luminaire is necessary for EMC (electromagnetic compatibility)

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.
3. For the HF-R 280 TL5/PL-L EII lamp power will be limited to 50% of the nominal lamp power when operating on DC.

Control characteristics

Control input

Regulating level (lamp power)	1 to 100% The control input complies with IEC 60929 (Annex E) and is compatible with Philips lighting control equipment.
Control input insulation, basic insulation	≥ 1500 V
Protected against accidental mains voltage connection	Yes

Notes:

1. For optimum performance care has to be taken for symmetrical wiring. Minimal 6 mm distance from lamp to earth plane.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm^2 and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting in fixtures

Temperatures

Temperature range to ignite lamp

With ignition aid 1...100%	0 °C to +50 °C
at a 70..100% dim input	-20 °C to +50 °C
Storage temperature range	-25 °C to +80 °C
Stable lamp operation assured	> 15 °C*
Striation possible	< 10 °C
Maximum Tcase	75 °C

* > 20 °C for HF-R 280 TL5/PL-L EII

The lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. The HF REGULATOR II gear for TL5 applications has a specified lifetime of 50,000 hrs with a maximum of 10% failures guaranteed at a measured Tcase of 75 °C.

For more information regarding this subject consult the Philips Application guide to fluorescent lamp control gear.

Class II luminaires	This application is not advisable; only with extensive tests on luminaires can the correct operation be verified EMI precautions have to be taken
Outdoor Gear	IP=20 In outdoor the luminaire has to be sufficiently IP rated Permitted humidity is tested according to IEC 61347-1 par 11 Note that no moisture or condensation may enter the gear.
Hum and noise level	Inaudible

Connector type:

Connection wiring is greatly simplified through use of WAGO 251 universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring.

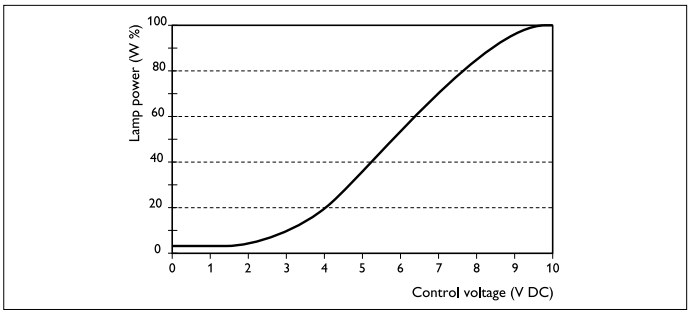
Wire cross-section:	
IDC connection	0.5...1.0 mm^2
ADS manual connection	0.5...0.75 mm^2*
* Stranded wire	
Strip length	8.0 - 9.0 mm

Wiring tips:

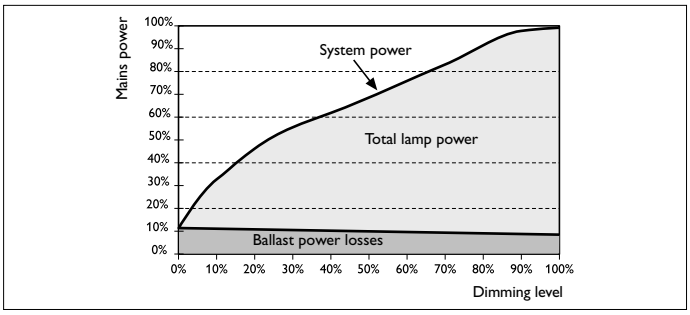
Earth connection to be made via housing or mains connector. Wiring inside fixture should be straight and as short as possible. Lamp wires should not run parallel to mains or control wires to avoid EMC problems. For optimal performance, note that:

1. For one lamp gears wires 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7 equal in length.

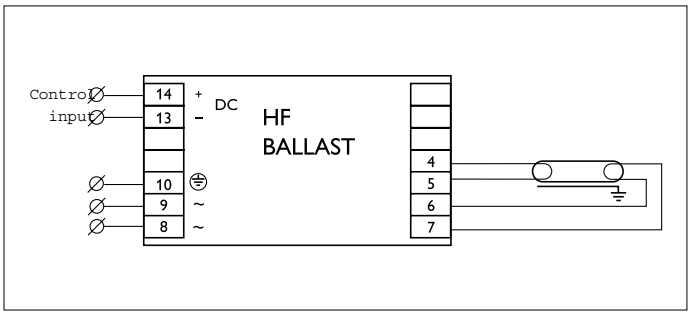
2. For two lamp gears wires 3, 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7 and 1 and 2 equal in length.



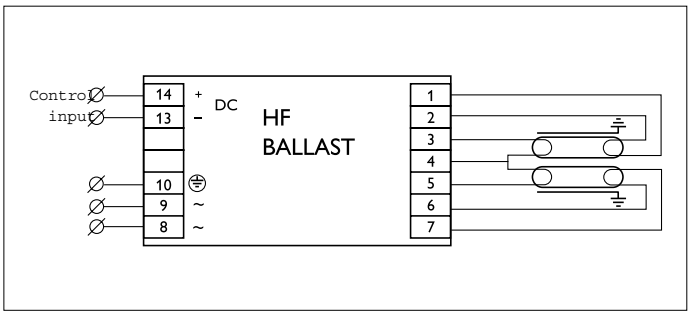
Relation between lamp power and 1-10V regulation (with 1% dimming)



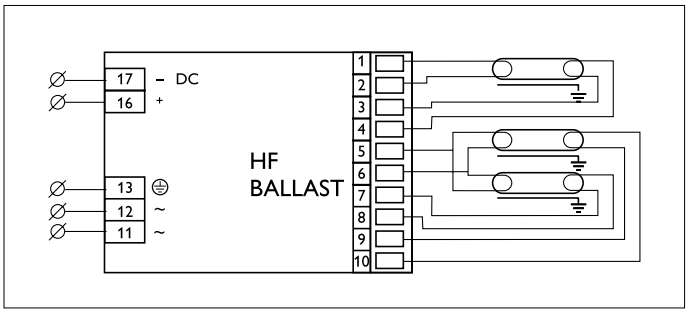
Input power vs dimlevel HR-REGULATOR II (1-10V)



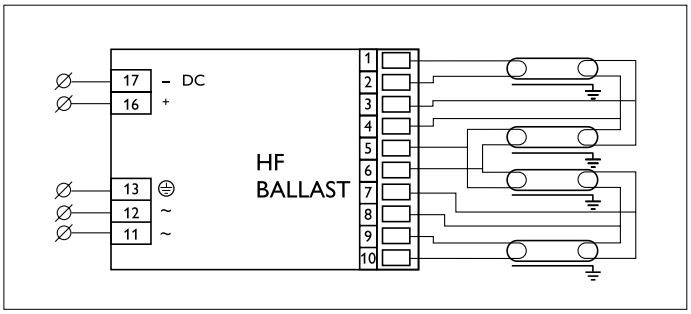
HF-R 1 TL5/TL5/PL-L/TL-D



HF-R 2 TL5/TL5/PL-L/TL-D



HF-R 3



HF-R 4





HF-REGULATOR II for TL-D lamps

Product Description

- Flat, lightweight high-frequency electronic regulating gear, using 1-10V protocol for TL-D fluorescent lamps

Features and Benefits

- Lamp power can be regulated from 1 to 100%
- Flat gear design, 22 mm high
- Analog control input according to the 1-10V industry standard
- Protected against excessive mains voltages, incorrect connections and incorrect lamp use
- Striation-free operation, no stroboscopic effects
- Stop circuit is activated within 5 s in case of lamp failure (safety stop)
- Gear resets automatically after lamp replacement
- Equipped with WAGO 251 connectors suitable for automatic wiring
- Up to 60% reduction in energy consumption by using automatic lighting control systems
- Quick programmed start: 0.5 s, flicker-free warm start by preheating the lamp electrodes enables the lamps to be switched on and off without reducing useful life. Ideal for areas with a high switching frequency
- Smart power ensures constant light, independent of mains fluctuations
- Philips HF-REGULATOR II gear is equipped with Extended Cable Flexibility (ECF) Technology. ECF Technology is based on a dedicated integrated circuit that ensures independent control of lamps, and in doing so takes care that:
  - In case of long or asymmetrical wiring (e.g. with emergency units or bundled wiring) deep and stable dimming is guaranteed (possible consequences for electromagnetic interference and compatibility EMI/EMC to be checked)
  - Systems always remain operational in extreme conditions (e.g. low temperatures, lamp impurities at burning-in) in combination with the integrated anti extinguish control
  - Lamp life is unaffected by dimming position whilst energy savings are maximized

Applications

- 1-10V installations with daylight linking and/or movement detection
- 1-10V installations with remote control systems
- Installations with emergency back-up, according to IEC 60598-2-22

Quality

Philips Quality implies optimum quality with respect to:

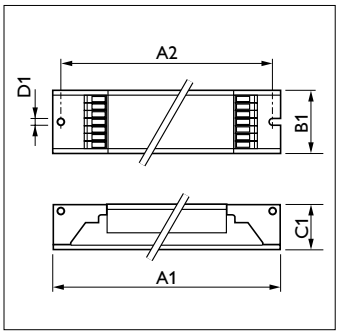
- System supplier: As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards: Philips HF electronic regulating gears comply with all relevant international rules and regulations.

Compliances and approvals

RFI 9kHz..30MHz	EN 55015
RFI 30MHz..1000MHz	EN 55022 Limit B
Harmonics	IEC 61000-3-2
Immunity	IEC 61547
Safety	IEC 61347-2-3
Performance	IEC 60929
Vibration & bump tests	IEC 60068-2-6-FC IEC 60068-2-29-Eb
Quality standard	ISO 9001
Environmental standard	ISO 14001
Approval marks	ENEC VDE-EMV
Temperature declared thermally protected	IEC 61347-1
CE marking	

Recommended lamp page 8.204

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HF-R

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Regulator 118/136/158/218/236/258	360	350	30	22	4.2
HF-Regulator 318/418	359	350	39	22	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Regulator 118	28	27	0.30
HF-Regulator 136/158/318	28	27	0.25
HF-Regulator 218/236/258/418	12	45	0.40

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator 118 TL-D EII 220-240V 50/60Hz	1	18	4.4	A1	75	100
HF-Regulator 136 TL-D EII 220-240V 50/60Hz	1	36	5.5	A1	75	100
HF-Regulator 158 TL-D EII 220-240V 50/60Hz	1	58	6.3	A1	75	100
HF-Regulator 218 TL-D EII 220-240V 50/60Hz	2	18	7.8	A1	75	100
HF-Regulator 236 TL-D EII 220-240V 50/60Hz	2	36	7.3	A1	75	100
HF-Regulator 258 TL-D EII 220-240V 50/60Hz	2	58	11.2	A1	75	100
HF-Regulator 318 TL-D EII 220-240V 50/60Hz	3	18	9.7	A1	75	100
HF-Regulator 418 TL-D EII 220-240V 50/60Hz	4	18	13.4	A1	75	100

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Regulator 118 TL-D EII 220-240V 50/60Hz	0.285 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911919	911902 30
HF-Regulator 136 TL-D EII 220-240V 50/60Hz	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910141	910134 30
HF-Regulator 158 TL-D EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910189	910172 30
HF-Regulator 218 TL-D EII 220-240V 50/60Hz	0.255 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500911933	911926 30
HF-Regulator 236 TL-D EII 220-240V 50/60Hz	0.295 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910165	910158 30
HF-Regulator 258 TL-D EII 220-240V 50/60Hz	0.325 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910202	910196 30
HF-Regulator 318 TL-D EII 220-240V 50/60Hz	0.365 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913777	913760 30
HF-Regulator 418 TL-D EII 220-240V 50/60Hz	0.37 kg	10	41.1 cm x 20.6 cm x 7.6 cm	8711500913678	913661 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for safety +/- 10%	198 - 264 V
Performance tolerance +6%-8%	202 - 254 V
Mains frequency	50/60 Hz
Smart power	with AC mains voltage fluctuations, within 202-254 V, luminous flux varies by ± 2% max
Earth leakage current	< 0.5 mA per gear
Maximum number of gears which can be connected to one Residual Current Detector of 30 mA	30
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Automatic restart after lamp replacement or voltage dip	Yes
Insulation resistance test	500 V DC from Line/Neutral to Earth (not between Line and Neutral) Note: Ensure that the Neutral is reconnected again after the above mentioned test is carried out and before the installation is put into operation.
Ignition time	Typical 0.5 sec. quick warm start.
Ignition aid	For optimum ignition the TL-D lamps should be mounted at a maximum distance of 13 mm from a metal plate The metal plate should be electrically connected to the gear housing
Earthing	Earthing of the HF gear in a luminaire is necessary for EMC (electromagnetic compatibility)

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Control characteristics

Control input

Regulating level (lamp power)	1 to 100% The control input complies with IEC 60929 (Annex E) and is compatible with Philips lighting control equipment
Control input insulation, basic insulation	≥ 1500 V
Protected against accidental mains voltage connection	Yes

Notes:

1. For optimum performance care has to be taken for symmetrical wiring.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm^2 and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting in fixtures

Temperatures

Temperature range to ignite lamp

With ignition aid 1...100%	0 °C to +50 °C
at a 70..100% dim input	-20 °C to +50 °C
Storage temperature range	-25 °C to +80 °C
Stable lamp operation assured	> 15 °C
Striation possible	< 10 °C
Max. Tcase	75 °C

The lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. The HF-REGULATOR II gear fot TL-D applications has a specified lifetime of 50,000 hrs with a maximum of 10% failures guaranteed at a measured Tcase of 75 °C.

For more information regarding this subject consult the Philips Application guide to fluorescent lamp control gear.

Class II luminaires	This application is not advisable; only with extensive tests on luminaires can the correct operation be verified EMI precautions have to be taken
Outdoor Gear	IP=20 In outdoor the luminaire has to be sufficiently IP rated Permitted humidity is tested according to IEC 61347-1 par 11 Note that no moisture or condensation may enter the gear.
Hum and noise level	Inaudible

Connector type:

Connection wiring is greatly simplified through use of WAGO 251 universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring.

Wire cross-section:

IDC connection	0.5...1.0 mm^2
ADS manual connection	0.5...0.75 mm^2*

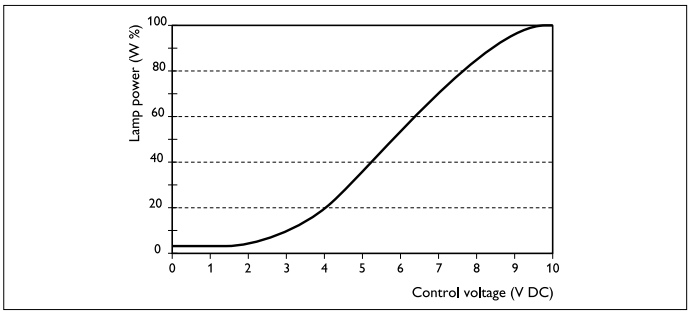
* Stranded wire

Strip length	8.0 - 9.0 mm

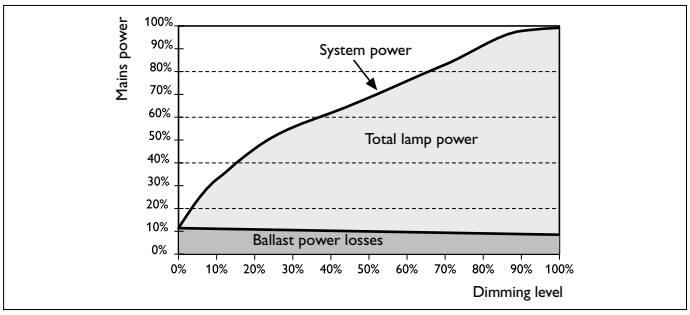
Wiring tips:

Earth connection to be made via housing or mains connector. Wiring inside fixture should be straight and as short as possible. Lamp wires should not run parallel to mains or control wires to avoid EMC problems. For optimal performance, note that:

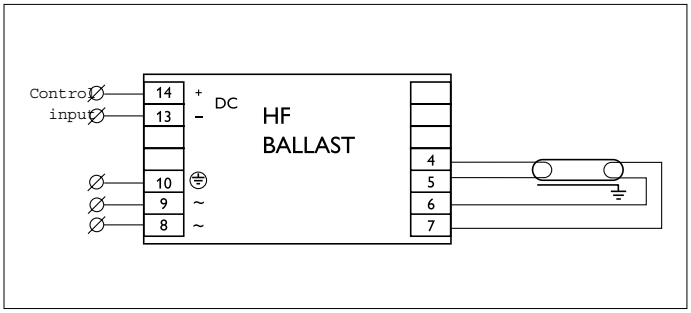
1. For one lamp gears wires 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7 equal in length.
2. For two lamp gears wires 3, 4 and 5 as short as possible, equal in length and a minimum of 50 mm from mains and dim wires. Keep lamp wires 6 and 7, and 1 and 2 equal in length.



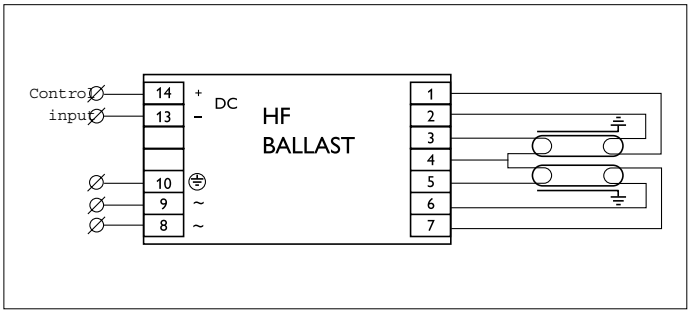
Relation between lamp power and 1-10V regulation (with 1% dimming)



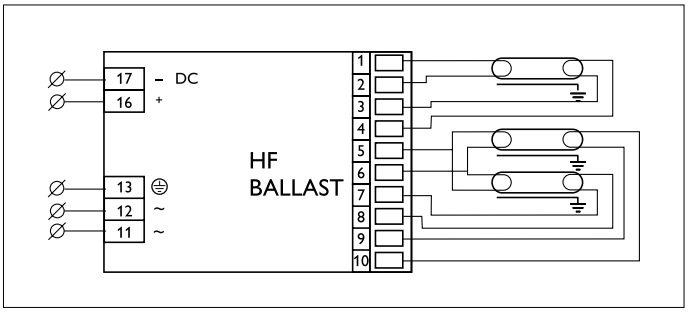
Input power vs dimlevel HR-REGULATOR II (1-10V)



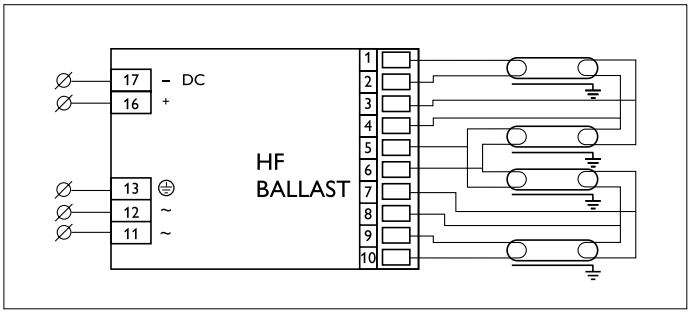
HF-R 1 TL5/TL5/PL-L/TL-D



HF-R 2 TL5/TL5/PL-L/TL-D



HF-R 3



HF-R 4





HF-REGULATOR TL5 Circular

Product Description

- Compact, lightweight High-Frequency electronic regulating gear for TL5C fluorescent lamps

Features and Benefits

- Lamp power can be regulated down to 3%
- Striation-free operation
- 1-10V control input (European standard)
- Programmed, flicker-free warm start; ideal for areas with high switching frequency
- Up to 60% reduction in energy consumption can be achieved by using automatic lighting control systems
- Dedicated α-control circuit for independent control of each electrode, ensuring that:
  - lamp life is unaffected by dimming setting
  - lamp burning is stable at all dimming settings
  - energy savings are maximized when using dimming

Applications

- Installations with daylight linking and/or movement detection
- Installations with remote control systems
- Installations with emergency back-up according to EN 60598-2-22

Quality

Philips Quality applies optimum quality with respect to:

- System supplier: As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards: Philips HF electronic regulating gear's comply with all relevant international rules and regulations.

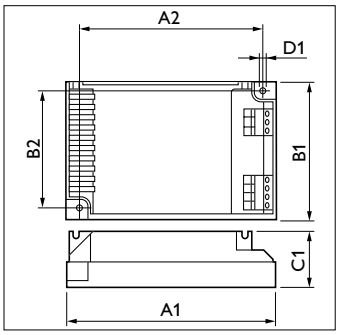
Compliances and approvals

RFI 9kHz..30 MHz	EN 55015*
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3
Performance	EN60929-1E
Quality standard	ISO 9001
Environmental standard	ISO 14001
Approval marks	ENEC
	VDE-EMV
Temperature declared thermally protected	EN 61347-1
CE marking	

*Tested with gear functional ground connected to earth.

Recommended lamp page 8.202

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HF-R

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
HF-Regulator 122/140	103.0	93.5	67.0	57.5	30.0	4.5
HF-Regulator 155/160	123.0	111.0	79.0	67.0	33.0	4.5

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Regulator 122	28	19	0.25
HF-Regulator 140	28	25	0.25
HF-Regulator 155	12	19	0.40
HF-Regulator 160	12	25	0.40

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Regulator 122 TL5C 220-240V 50/60Hz	1	22	5.0	A1	150	75
HF-Regulator 140 TL5C 220-240V 50/60Hz	1	40	6.0	A1	150	75
HF-Regulator 155 TL5C 220-240V 50/60Hz	1	55	6.0	A1	150	75
HF-Regulator 160 TL5C 220-240V 50/60Hz	1	60	6.0	A1	150	75

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Regulator 122 TL5C 220-240V 50/60Hz	0.145 kg	12	21 cm x 14 cm x 10 cm	8711500058874	058867 30
HF-Regulator 140 TL5C 220-240V 50/60Hz	0.145 kg	12	21 cm x 14 cm x 10 cm	8711500535719	058928 30
HF-Regulator 155 TL5C 220-240V 50/60Hz	0.2 kg	12	25 cm x 16.2 cm x 10 cm	8711500059185	058942 30
HF-Regulator 160 TL5C 220-240V 50/60Hz	0.2 kg	12	25 cm x 16.2 cm x 10 cm	8711500059574	059567 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for safety +/- 10%	198 - 264 V
Performance tolerances +6%-8%	202 - 254 V
Mains frequency	50/60 Hz
Operating frequency	> 40 kHz
Power factor	0.95 at 100% power
Earth leakage current	< 0.5 mA per gear
Maximum number of gear's which can be connected to one Residual Current Detector of 30 mA	30
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Automatic restart after lamp replacement or voltage dip	Yes
Dual fixture; master slave operation	not advisable
Insulation resistance test	500 V DC from Line/Neutral to Earth (not between Line and Neutral) Note: Ensure that the neutral is econnected again after above mentioned test is carried out and before the installation is put in operation
Lamp wiring	The use of 500 V rated components and wiring is advised for TL5C 60W type.

Ignition time	Typical 1.7 sec.
Advised maximum cable capacity for optimum performance and EMI Suppression	Max. 75 pF: between two sets of lamp wires (each set of lamp wires is connected to one electrode of the lamp) Max. 150 pF: between one set of lamp wires (connected to one electrode of the lamp) and earth Care has to be taken for symmetrical wiring

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Control characteristics

Control input	
Control voltage	1 - 10V DC
Protected against accidental mains voltage connection	Yes
Regulating level (lamp power)	3 to 100% The control input complies with EN 60929 (Amendment 1, Annex E) and is compatible with Philips lighting control equipment.
Control input insulation, basic insulation	< 1500V

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm^2 and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting in fixtures

Temperatures

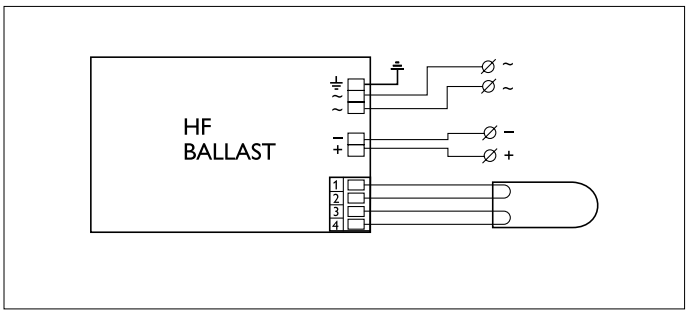
Temperature range to ignite lamp with ignition aid 3..100%	+10° to +50 °C
Stable lamp operation assured	> 15°C
Striation possible	< 15°C
Max Tcase 1x22W and 1x40W	75°C
Max Tcase 1x55W and 1x60W	70°C
Earthing	Earthing of the HF gear in a luminaire is necessary for EMC (electromagnetic compatibility)
Class II luminaires	This application is not advisable; only with extensive tests on luminaires can the correct operation be verified
Hum and noise level	inaudible

Permitted humidity is tested according to EN 61347 par.11. Note that no moisture or condensation may enter the gear.

Notes:

1. For optimum performance, note that wires from connector 1 and 2 should be kept short and equal in length.
2. Keep lamp wiring as short as possible; do not bunch wires from terminals 1&2 with those from 3&4.
3. lp-lp between lamp wires
Typical capacitance 1m wires close together (spacing 0.5 mm) 46pF
Typical capacitance 0.5m wires close together (spacing 0.5mm) 23pF
4. lp-lg between lamp wires and ground
Typical capacitance 1m wires close together (spacing 0.5 mm) 72pF
Typical capacitance 0.5m wires close together (spacing 0.5mm) 38pF
Connector type:
Connection wiring is greatly simplified through use of insert contacts; earth connection can be made via the terminal block.
Wire cross-section:

Mains connector	0.5...1.5mm^2
Control connector	0.5...1.5mm^2
Lamp(s) connector	0.5...1.5mm^2
Strip length	9.0 mm



HF-R



HF-Pi

Product Description

- Intelligent, flat, slim, lightweight high-frequency electronic gear for TL5 fluorescent lamps based on EII technology

Product Features and Benefits

- Intelligent technology enables the exchanging of HE and HO TL5 lamps, leading to maximum flexibility in choosing lux levels in the application, higher efficiency in the production of TL5 fixtures and in the logistic processes throughout the value chain
- Unique benefits of the Philips EII technology:
  - Optimised system efficiency, minimised gear power losses (cut-off)
  - Miniaturised dimensions for HF-Performer compact gear range
  - Simplified standardised portfolio allowing flexible, modular luminaire design
  - Cooler product allows more compact luminaire design
  - Fast preheat for short ignition time (1 s)
- Programmed start: flicker-free, warm start circuit preheating the lamp electrodes; this enables the lamps to be switched on and off without reducing useful life
- Smart power: constant light independent of mains voltage fluctuations
- Unit is protected against excessive mains voltages and incorrect connections
- Automatic stop circuit is activated within 5 seconds in case of lamp failure (safety stop); once the lamp has been replaced, the gear resets automatically
- Equipped with universal connector for both manual and automatic wiring

Application

- Ideal for applications with high switching frequency, typical application areas include:
  - Use with infrared remote control systems (e.g. movement detection)
  - Department stores, shops, supermarkets, hotels, hospitals, office buildings, industrial premises
  - Airports, railway stations
  - Outdoor lighting; in general suitable for Class I applications
- Suitable for emergency lighting luminaires acc. to IEC 60598-2-22, excluding high-risk task areas

Quality

Philips Quality assures optimum quality regarding:

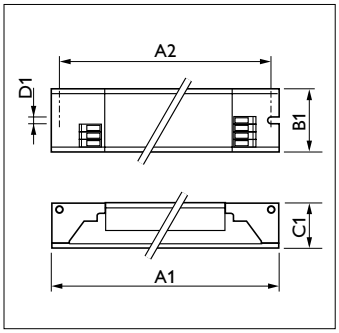
- System supplier: As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- International standards: Philips HF electronic regulating gear's complies with all relevant international rules and regulations.

Compliances and approvals

RFI < 30 MHz	EN 55015
RFI > 30 MHz	EN 55022 A
Harmonics	IEC 61000-3-2
Immunity	IEC 61547
Safety	IEC 61347-2-3
Performance	IEC 60929
Vibration & bump tests	IEC 60068-2-6-FC IEC 60068-2-29-Eb
Quality standard	ISO 9000-2000
Environmental standard	ISO 14001
Approval marks	ENEC EMV-VDE
Temperature declared thermally protected	IEC 61347-1
CE marking	

Recommended lamp page 8.202

www.philips.com/OEM



HF-Pi 1/2 TL5 HE/HO

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Performer Intelligent 1/2	360.0	350.0	30.0	22.0	4.2

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)
HF-Performer Intelligent 1 14/21/24/39 TL5 EII 220-240V	1	14-39	50/60	220-240
HF-Performer Intelligent 1 28/35/49/54 TL5 EII 220-240V	1	28-54	50/60	220-240
HF-Performer Intelligent 2 14/21/24/39 TL5 EII 220-240V	2	14-39	50/60	220-240
HF-Performer Intelligent 2 28/35/49/54 TL5 EII 220-240V	2	28-54	50/60	220-240

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Performer Intelligent 1 14/21/24/39 TL5 EII 220-240V	0.001 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914958	914941 30
HF-Performer Intelligent 1 28/35/49/54 TL5 EII 220-240V	0.001 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500914972	914965 30
HF-Performer Intelligent 2 14/21/24/39 TL5 EII 220-240V	0.001 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500915016	915009 30
HF-Performer Intelligent 2 28/35/49/54 TL5 EII 220-240V	0.001 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500915030	915023 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
Tolerances for performance +6%-8%	202 - 254 V
With tolerances for safety +/- 10%	198 - 264 V
Mains frequency	50/60 Hz
Power factor	> 0.95
Earth leakage current	< 0.5 mA per gear
Ignition time	<1 sec.
Constant light operation	In case of AC mains voltage fluctuations, within 202-254 V, the luminous flux changes by a maximum of + 2%
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC

Dual fixture: master-slave operation	Not advised
Automatic restart after lamp replacement or voltage dip	Yes
Insulation resistance test	500 V DC from both mains inputs to earth (not between Line and Neutral)

Notes:
1. Ensure that the neutral is reconnected again after above mentioned test is carried out and before the installation is put in operation.
2. Lamp wiring The use of 500 V rated components and wiring are required with HF-PERFORMER TL5.

Automatic lamp recognition:

- At every ignition of the lamp the process of lamp recognition starts automatically. The type and the wattage of the lamp is determined by the electronic control gear. The operating data will then be adjusted for operating the lamp with its standard data.

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:
1. For a continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:
1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm^2 and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Temperatures

Temperature range to ignite lamp with ignition aid	-25°C - +50°C
Max Tcase	75°C

Lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. This gear range has a specified lifetime of 50.000 hrs, with a maximum of 10% failures guaranteed, at a measured Tcase of 75°C.
For more information regarding this subject consult the Philips Application guide to fluorescent lamp control gear.

Hum and noise level	inaudible

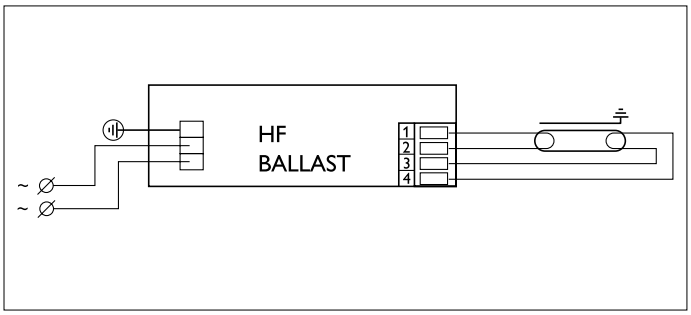
Permitted humidity is tested according to EN61347-1. Note that no moisture or condensation may enter the gear.
The gears that are thermally protected use a protective method of another type providing equivalent thermal protection
Connector type:
Connection wiring is greatly simplified through use of WAGO universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring; earth connection can be made via the earth terminal on the mains side.
Wire lengths:
1. For optimal performance, note that following wires need to be kept short:
2. For one lamp circuits keep wires to terminals 1 and 2 short
3. For two lamp circuits keep wires to terminals 1, 2, 6 and 7 short
Wire cross-section
Lower connector

Mains	Double insert "lower connector" 0.5...1.0 mm^2
Lamp(s) connector	Double insert "lower connector" 0.5...1.0 mm^2

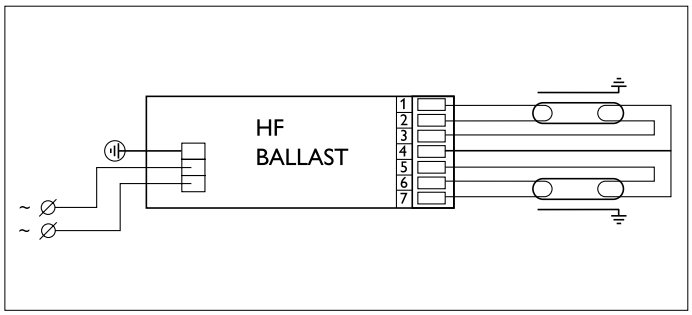
Upper connector

Mains & Control connector	Double insert "upper connector" 0.5...0.75 mm^2(*)
Lamp(s) connector	Double insert "lower connector" 0.5...0.75 mm^2(*)

(*) Stranded wire



HF-Pi 1 TL5 HE/HO



HF-Pi 2 TL5 HE/HO



HF-PERFORMER II (flat) TL5

Product Description

- Flat, slim, lightweight High Frequency electronic gear for TL5 fluorescent lamps, based on EII technology

Features and Benefits

- Unique benefits of the new Philips EII technology:
  - Optimised system efficiency, minimised gear power losses
  - Miniaturised dimensions for total HF-Performer II TL5 range
  - Simplified portfolio allowing flexible, modular luminaire design
  - Cooler product allows more compact luminaire design
  - Fast preheat for short ignition time (0.5 s)
- Programmed start: flicker-free, warm start circuit preheats (0.5 s) the lamp electrodes; lamps can be switched on and off without reducing useful life
- Smart power: constant light independent of mains voltage fluctuations
- Unit is protected against excessive mains voltages and incorrect connections
- Automatic stop circuit is activated within 5 seconds in case of lamp failure (safety stop); gear resets automatically after lamp replacement
- Universal connector for both manual and automatic wiring

Applications

- Ideal for applications with high switching frequency, for example:
  - Use with infrared remote control systems (e.g. movement detection)
  - Department stores, shops, supermarkets, hotels, hospitals, office buildings, industrial premises
  - Airports, railway stations
  - Outdoor lighting; in general suitable for Class I applications
  - Installations with emergency back-up according to VDE 0108-100 / EN 60598-2-22 with re-ignition <0.5 s

Quality

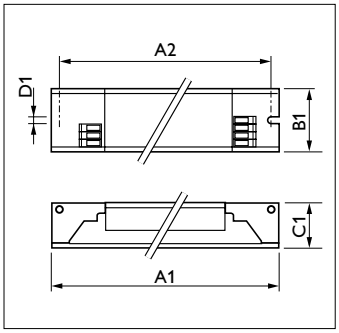
Philips Quality assures optimum quality regarding:

- System supplier: As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- International standards: Philips HF electronic regulating gear's complies with all relevant international rules and regulations.

Compliances and approvals

RFI < 30 MHz	EN 55015
RFI > 30 MHz	EN 55022 B
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3
Performance	EN 60929
Vibration & bump tests	IEC 600-68-2-6 Fc
	IEC 600-68-2-29 Eb
Quality standard	ISO 9000-2000

Environmental standard	ISO 14001	**Recommended lamp page 8.202**
Approval marks	ENEC	
	EMV-VDE	
CE marking		**www.philips.com/OEM**
Temperature declared thermally protected	IEC 61347-1	



HF-P 1/2/3/4

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Performer 1	360.0	350.0	30.0	22.0	4.2
HF-Performer 1 95-120 TL5 EII 220-240V 50/60Hz	359.0	350.0	30.0	28.0	4.2
HF-Performer 2	360.0	350.0	30.0	22.0	4.2
HF-Performer 280 TL5/PL-L EII 220-240V 50/60Hz	425.0	415.0	30.0	21.0	4.2
HF-Performer 2 95-120 TL5 EII 220-240V 50/60Hz	425.0	415.0	39.0	28.0	4.2
HF-Performer 3	360.0	350.0	30.0	22.0	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Performer 1/2 14-35 TL5 HE EII 220-240V 50/60Hz	28	18	0.25
HF-Performer 180//3/424 TL5/PL-L EII 220-240V 50/60Hz	12	45	0.40
HF-Performer 1 95-120 TL5 EII 220-240V 50/60Hz	12	31	0.34
HF-Performer 2 24-39/249/254 TL5 HO EII 220-240V 50/60Hz	12	31	0.35
HF-Performer 280 TL5/PL-L EII 220-240V 50/60Hz	12	40	0.40
HF-Performer 2 95-120 TL5 EII 220-240V 50/60Hz	6	55	0.508
HF-Performer 149/154 TL5 EII 220-240V 50/60Hz	28	18	0.25
HF-Performer 3/414 TL5 EII 220-240V 50/60Hz	28	24	0.25
HF-Performer 3/424 TL5/PL-L EII 220-240V 50/60Hz	12	45	0.4

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Performer 1 14-35	1	14-35	3.0-4.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 1 24-39	1	24-39	4.0-5.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 149	1	49	6.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 154	1	54	6.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 180	1	80	8.0	A2	50/60	220-240	75	75	50	150	150
HF-Performer 1 95-120	1	95-120	8.0	A2	50/60	220-240	70	70	50	150	100
HF-Performer 2 14-35	2	14-35	5.0-7.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 2 24-39	2	24-39	8.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 249	2	49	10.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 254	2	54	10.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 280	2	80	12.0	A2	50/60	220-240	75	75	50	150	150
HF-Performer 2 95-120	2	95-120	16.0	A2	50/60	220-240	75	75	50	150	100
HF-Performer 3/414	3/4	14	6.0/7.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 3/424	3/4	24	8.0/9.0	A2	50/60	220-240	75	75	50	200	200

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Performer 1 14-35 TL5 HE EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500928566	928559 30
HF-Performer 1 24-39 TL5 HO EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500928580	928573 30
HF-Performer 149 TL5 HO EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500928603	928597 30
HF-Performer 154 TL5 HO EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500928627	928610 30
HF-Performer 180 TL5/PL-L EII 220-240V 50/60Hz	0.257 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500002204	002198 30
HF-Performer 1 95-120 TL5 EII 220-240V 50/60Hz	0.328 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500914835	914828 30
HF-Performer 2 14-35 TL5 HE EII 220-240V 50/60Hz	0.25 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910240	910233 30
HF-Performer 2 24-39 TL5 HO EII 220-240V 50/60Hz	0.26 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910264	910257 30
HF-Performer 249 TL5 HO EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910288	910271 30
HF-Performer 254 TL5 HO EII 220-240V 50/60Hz	0.27 kg	12	40.8 cm x 20.8 cm x 7.6 cm	8711500910301	910295 30
HF-Performer 280 TL5/PL-L EII 220-240V 50/60Hz	0.378 kg	12	46.2 cm x 20.8 cm x 8.7 cm	8711500907561	060167 30
HF-Performer 2 95-120 TL5 EII 220-240V 50/60Hz	0.511 kg	10	47.3 cm x 20.8 cm x 8.7 cm	8711500914859	914842 30
HF-Performer 3/414 TL5 EII 220-240V 50/60Hz	0.259 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500059857	059840 30
HF-Performer 3/424 TL5/PL-L EII 220-240V 50/60Hz	0.288 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500907769	907752 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
Tolerances for performance +6%-8%	202 - 254 V
With tolerances for safety +/- 10%	198 - 264 V
Mains frequency	50/60 Hz
Power factor	> 0.95
Earth leakage current	< 0.5 mA per gear
Ignition time	0.5 sec.
Constant light operation	In case of AC mains voltage fluctuations, within 202-254 V, the luminous flux changes by a maximum of ± 2%
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Dual fixture: master-slave operation	Not advised
Automatic restart after lamp replacement or voltage dip	Yes: tested with a dip down to 30% with a duration of 10 mains cycles
Insulation resistance test	500 V DC from both mains inputs to earth (not between Line and Neutral) Note: Ensure that the neutral is reconnected again after above mentioned test is carried out and before the installation is put in operation
Lamp wiring	The use of 500 V rated components and wiring are required with HF-PERFORMER TL5

DC/Emergency operation

DC voltage operation (during emergency back-up)

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at a voltage of	220 - 240 V

Notes:

1. For a continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting HF gears in fixtures

Temperatures

Temperature range to ignite lamp with ignition aid	–25°C..+50°C
Max Tcase	75°C

Lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. This gear range has a specified lifetime of 50.000 hrs, with a maximum of 10% failures guaranteed, at a measured Tcase of 75°C.

For more information regarding this subject consult the Philips Application guide to fluorescent lamp control gear.

Hum and noise level	inaudible

Permitted humidity is tested according to EN61347-1 par. 11. Note that no moisture or condensation may enter the gear.

The gears that are thermally protected use a protective method of another type providing equivalent thermal protection.

Connector type:

Connection wiring is greatly simplified through use of WAGO universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring; earth connection can be made via the earth terminal on the mains side.

Please note: With the HF-P 3 /4 lamp gears (14,24W) earth connection must be made via the housing.

Wire lengths:

For optimal performance, note that following wires need to be kept short:

1. For one lamp circuits keep wires to terminals 1 and 2 short
2. For two lamp circuits keep wires to terminals 1, 2, 6 and 7 short
3. For triple and quad lamp circuits keep wires to terminals 1, 2, 13 and 14 short

Wire cross-section:

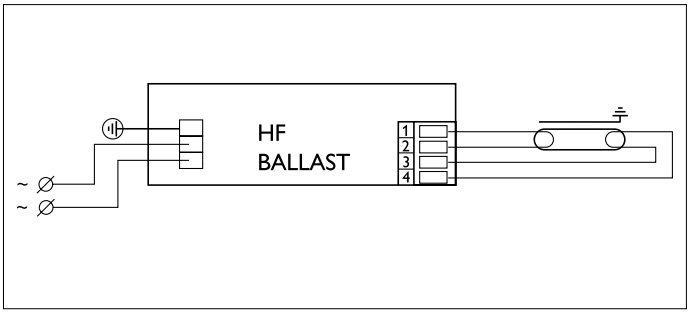
Lower connector

Mains	Double insert "lower connector" 0.5...1.0mm^2
Lamp(s) connector	Double insert "lower connector" 0.5...1.0mm^2

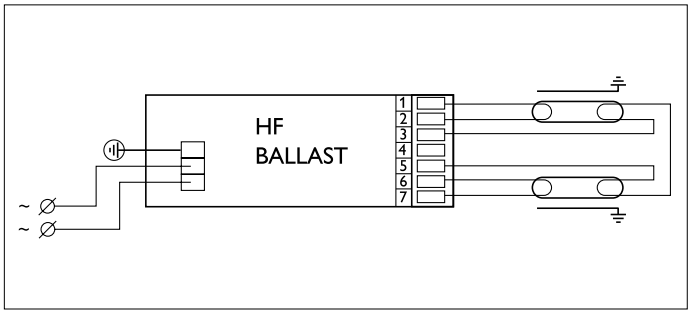
Upper connector

Mains & Control connector	Double insert "upper connector" 0.5...0.75mm^2(*)
Lamp(s) connector	Double insert "lower connector" 0.5...0.75mm^2(*)

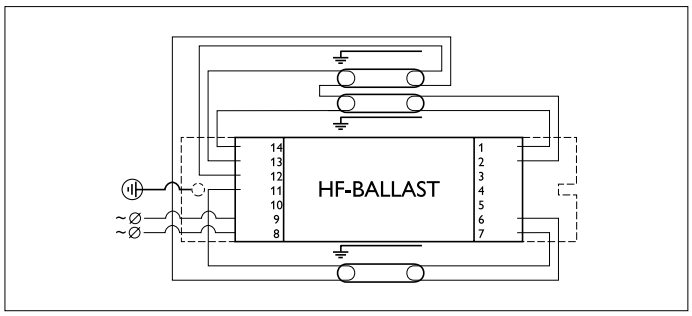
(*) Stranded wire



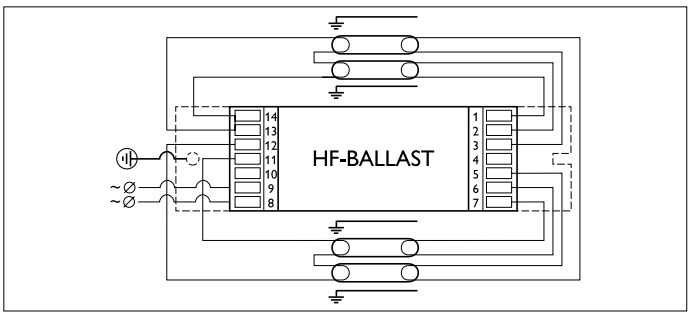
HF-P 1



HF-P 2



HF-P 3



HF-P 4



HF-PERFORMER II TL-D

Product Description

- Slim, lightweight High Frequency electronic gear for TL-D fluorescent lamps, based on EII technology

Features and Benefits

- Unique benefits of the new Philips EII technology:
  - Optimised system efficiency, minimised gear power losses
  - Miniaturised 280 mm length for total HF-Basic II TL-D/PL-L and HF-Performer II TL-D range
  - Simplified portfolio allowing flexible, modular luminaire design
  - Cooler product allows more compact luminaire design
  - Fast preheat for short ignition time (0.5 s)
- Programmed start: flicker-free, warm start circuit preheats (0.5 s) the lamp electrodes; lamps can be switched on and off without reducing useful life
- 50% longer lamp life than with conventional gears
- Up to 25% reduction in energy consumption at constant luminous flux compared with conventional gear
- Smart power: constant light independent of mains voltage fluctuations
- Unit is protected against excessive mains voltages and incorrect connections
- Automatic stop circuit is activated within 5 seconds in case of lamp failure (safety stop); gear resets automatically after lamp replacement
- Universal connector for both manual and automatic wiring

Applications

- Ideal for applications with high switching frequency, for example:
  - Use with infrared remote control systems (e.g. movement detection)
  - Department stores, shops, supermarkets, hotels, hospitals, office buildings, industrial premises
  - Airports, railway stations
  - Outdoor lighting; in general suitable for Class I applications
  - Installations with emergency back-up according to EN 60598-2-22 with re-ignition <0.5 s

Quality

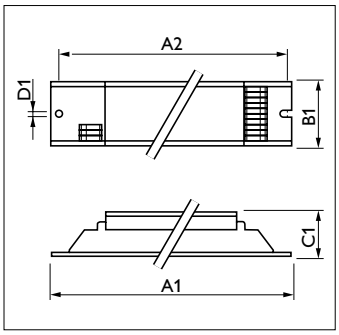
Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HF electronic gear complies with all relevant international rules and regulations.

Compliances and approvals

RFI < 30 MHz	EN 55015
RFI > 30 MHz	EN 55022 B*
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3

Performance	EN 60929	Temperature declared thermally protected	IEC61347-1
Vibration & bump tests	IEC 68-2-6 Fc IEC 68-2-29 Eb	* HF-P 270 TL-D EII EN 55022 A	
Quality standard	ISO 9000-2000		
Environmental standard	ISO 14001	**Recommended lamp page 8.204**	
Approval marks	ENEC VDE-EMV		
CE marking		**www.philips.com/OEM**	



HF-P 1/2/3/4

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Performer 1	280.0	265.0	30.0	28.0	4.2
HF-Performer 2	280.0	265.0	30.0	28.0	4.2
HF-Performer 3/4	280.0	265.0	39.0	28.0	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Performer 118/136/158/170/218/236	28	18	0.25
HF-Performer 258/270//3/418	12	31	0.35

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Performer 118	1	18	3.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 136	1	36	4.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 158	1	58	5.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 170	1	70	5.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 218	2	18	3.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 236	2	36	4.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 258	2	58	6.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 270	2	70	8.0	A2	50/60	220-240	75	75	50	200	200
HF-Performer 3/418	3/4	18	5.0	A2	50/60	220-240	75	75	50	200	200

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871150
HF-Performer 118 TL-D EII 220-240V 50/60Hz	0.225 kg	12	32.8 cm x 20.6 cm x 8.7 cm	871150093409 3	934086 30
HF-Performer 136 TL-D EII 220-240V 50/60Hz	0.4 kg	12	32.8 cm x 20.6 cm x 8.7 cm	871150093147 4	931467 30
HF-Performer 158 TL-D EII 220-240V 50/60Hz	0.222 kg	12	32.8 cm x 20.6 cm x 8.7 cm	871150093149 8	931481 30
HF-Performer 170 TL-D EII 220-240V 50/60Hz	0.225 kg	12	32.8 cm x 20.6 cm x 8.7 cm	871150093412 3	934116 30
HF-Performer 218 TL-D EII 220-240V 50/60Hz	0.236 kg	12	32.8 cm x 20.6 cm x 8.7 cm	871150093415 4	934130 30
HF-Performer 236 TL-D EII 220-240V 50/60Hz	0.4 kg	12	32.8 cm x 20.6 cm x 8.7 cm	871150093151 1	931504 30
HF-Performer 258 TL-D EII 220-240V 50/60Hz	0.247 kg	12	32.8 cm x 20.6 cm x 8.7 cm	871150093153 5	931528 30
HF-Performer 270 TL-D EII 220-240V 50/60Hz	0.25 kg	12	32.8 cm x 20.6 cm x 8.7 cm	871150005864 5	058638 30
HF-Performer 3/418 TL-D EII 220-240V 50/60Hz	0.279 kg	10	32.8 cm x 22.1 cm x 8.7 cm	871150093165 8	931641 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for performance +6%-8%	202 - 254 V
With tolerances for safety +/- 10%	198 - 264 V
Mains frequency	50/60Hz
Operation frequency (typical)	> 42 kHz (45 kHz)
Power factor	> 0.96
Earth leakage current	< 0.5 mA per gear
Ignition time	< 0.5 s
Constant light operation	In case of mains voltage fluctuations within 202 - 254 V, the luminous flux changes by a maximum of ± 2%
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350 V AC
Dual fixture; master-slave operation	Possible, in general a maximum of 3m of lamp wires between gear and lamp is allowed
Cable capacity	Max. 200 pF between lamp wires Max. 200 pF between lamp wires and earth EMI precautions have to be taken
Automatic restart after lamp replacement or voltage dip	Yes; tested with a dip down to 30% with a duration of 10 mains cycles
Insulation resistance test	500 V DC from both mains inputs to Earth (not between Line and Neutral) Note: Ensure that the neutral is reconnected again after abovementioned test is carried out and before the installation is put into operation.

DC/Emergency operation

DC voltage operation during emergency back-up

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at the DC voltage of	220 - 240 V

Notes:

1. For a continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.

3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Temperatures

Temperature range to ignite lamp with ignition aid	-25°C to +50°C
Max. Tcase	75°C

Lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. The HF-Performer II gear for TL-D applications has a specified lifetime of 50.000 hrs, with a maximum of 10% failures guaranteed, at a measured Tcase of 75°C.

Hum and noise level	inaudible

Permitted humidity is tested according to EN61347-1 par. 11. Note that no moisture or condensation may enter the gear.

The gears that are thermally protected use a protective method of another type providing equivalent thermal protection.

Connector types:

Wago universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring.

Wire lengths:

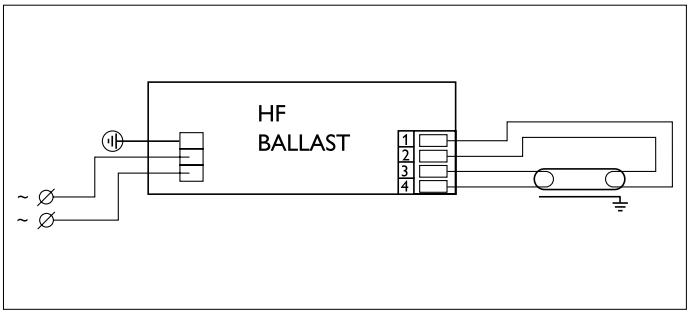
1. For 1L circuits keep wires to terminals 3 and 4 short
2. For 2L circuits keep wires to terminals 1, 2, 6 and 7 short
3. For 3 & 4L circuits keep wires to terminals 1, 2, 9 and 10 short

Wiring diagram 2 lamps:

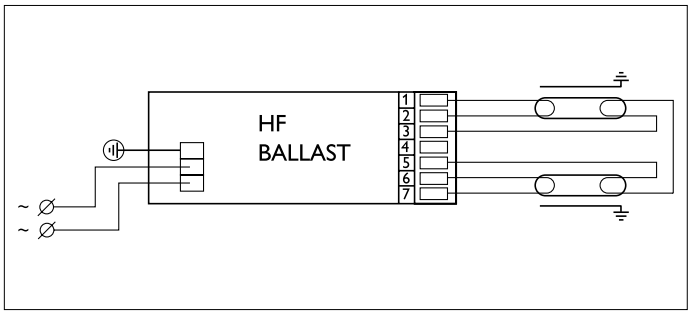
Connector 4 can be connected, but this is not necessary.

Wire cross-section:

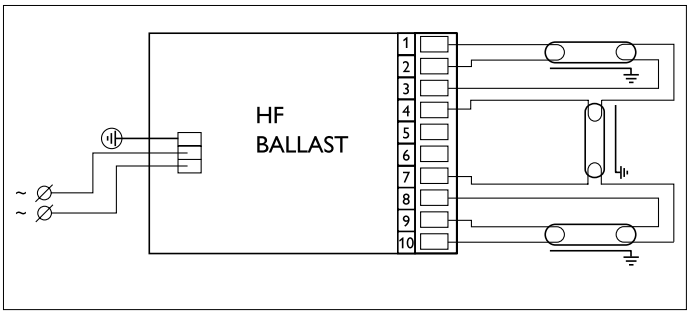
Lower connector	
On the mains side	0.5...1.0 mm^2
On the lamp side	0.5...1.0 mm^2
Upper connector	
On the mains side	0.5 mm^2 solid wire
	0.75 mm^2 stranded wire
On the lamp side	0.5 mm^2 solid wire
	0.75 mm^2 stranded wire
Strip length	8 - 9 mm



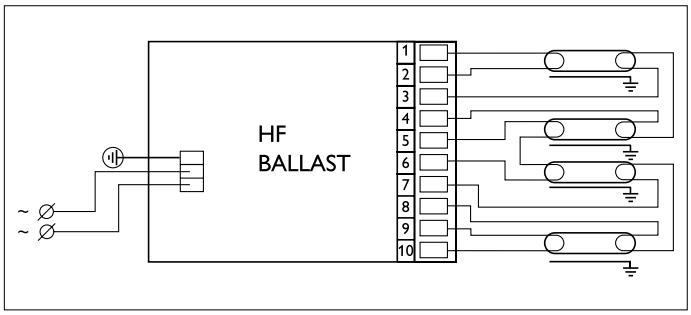
HF-P 1 TL-D



HF-P 2 TL-D



HF-P 3 TL-D



HF-P 4 TL-D



HF-PERFORMER II Xtreme for TL5/TL-D

Product Description

- Long-life, robust, high-frequency electronic gears for fluorescent lamps, based on EII technology

Product Features and Benefits

- Unique benefits of the new Philips EII technology:
  - Cooler product allows for Xtreme long lifetime of the gear
  - Optimised system efficiency; minimised gear power losses
  - Simplified Xtreme portfolio allows flexible, modular luminaire design
- Dedicated design for Xtreme low failure rate
- Suited for outdoor luminaires and industrial environments – protected against excessive voltage peaks (up to 4kV) and suitable for use in Class I and Class II luminaires
- Protected against excessive mains voltages and incorrect connections up to 400V AC
- Programmed start: flicker-free, warm start circuit preheating (2 s) of lamp electrodes enables lamp on/off switching without reducing useful life
- Smart power: constant light independent of mains voltage fluctuations
- Automatic stop circuit activated within 5 s in case of lamp failure (safety stop); gear resets automatically after lamp replacement
- Universal connector for both manual and automatic wiring

Application

- Ideal for applications where maintenance costs (high ceilings, difficult to reach) and disruptive costs are high (stopping of production process, closure of tunnels), or where lamp failure is not acceptable for e.g. safety reasons:
  - Process, food, petrochemical industry
  - Warehouses
  - Airports, railway stations
  - Tunnels, underground stations
  - Street lighting
  - Supermarkets
  - Outdoor lighting
  - Suitable for Class I and II applications
  - Use with infrared remote control systems (e.g. movement detection)
  - Suitable for emergency lighting luminaires acc. to IEC 60598-2-22, excluding high-risk task areas

Quality

Philips Quality assures optimum quality regarding:

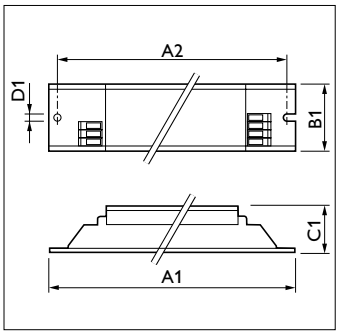
- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HF electronic gear complies with all relevant international rules and regulations.

Compliances and approvals

RFI < 30 MHz	EN 55015
RFI > 30 MHz	EN 55022 B
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3
Performance	EN 60929
Vibration & bump tests	IEC 68-2-6 Fc
	IEC 68-2-29 Eb
Quality standard	ISO 9000- 2000
Environmental standard	ISO 14001
Approval marks	ENEC
	VDE-EMV
CE marking	
Temperature declared thermally protected	IEC61347-1

Recommended lamp page 8.202

www.philips.com/OEM



HF-P Xt 1/2

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Performer Xtreme 1	360.0	350.0	30.0	28.0	4.2
HF-Performer Xtreme 2	360.0	350.0	30.0	28.0	4.2
HF-Performer Xtreme 280 TL5 EII 220-240V 50/60Hz	425.0	415.0	30.0	28.0	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Performer Xtreme 136/158 TL-D EII 220-240V 50/60Hz	28	18	0.270
HF-Performer Xtreme 236/258 TL-D EII 220-240V 50/60Hz	12	31	0.350
HF-Performer Xtreme 149/154 TL5 EII 220-240V 50/60Hz	28	20	0.250
HF-Performer Xtreme 180/249/254 TL5 EII 220-240V 50/60Hz	12	33	0.310
HF-Performer Xtreme 280 TL5 EII 220-240V 50/60Hz	8	35	0.370

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power (W)	Power losses gear (W)	Energy Efficiency Index	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Performer Xtreme 136	1	36	4.0	A2	50/60	220-240	75	75	60	200	200
HF-Performer Xtreme 158	1	58	5.0	A2	50/60	220-240	75	75	60	200	200
HF-Performer Xtreme 236	2	36	8.0	A2	50/60	220-240	75	75	60	200	200
HF-Performer Xtreme 258	2	58	10.0	A2	50/60	220-240	75	75	60	200	200
HF-Performer Xtreme 149	1	49	6.0	A2	50/60	220-240	75	75	60	200	200
HF-Performer Xtreme 154	1	54	6.0	A2	50/60	220-240	75	75	60	200	200
HF-Performer Xtreme 180	1	80	8.0	A2	50/60	220-240	75	75	60	200	200
HF-Performer Xtreme 249	2	49	10.0	A2	50/60	220-240	75	75	60	200	200
HF-Performer Xtreme 254	2	54	10.0	A2	50/60	220-240	75	75	60	200	200
HF-Performer Xtreme 280	2	80	15.0	A2	50/60	220-240	75	75	60	200	200

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Performer Xtreme 136 TL-D EII 220-240V 50/60Hz	0.4 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500912015	912008 30
HF-Performer Xtreme 158 TL-D EII 220-240V 50/60Hz	0.4 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500912053	912046 30
HF-Performer Xtreme 236 TL-D EII 220-240V 50/60Hz	0.4 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500912039	912022 30
HF-Performer Xtreme 258 TL-D EII 220-240V 50/60Hz	0.4 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500912077	912060 30
HF-Performer Xtreme 149 TL5 EII 220-240V 50/60Hz	0.35 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500914248	914231 30
HF-Performer Xtreme 154 TL5 EII 220-240V 50/60Hz	0.35 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500914309	914293 30
HF-Performer Xtreme 180 TL5 EII 220-240V 50/60Hz	0.36 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500914415	914408 30
HF-Performer Xtreme 249 TL5 EII 220-240V 50/60Hz	0.36 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500914286	914279 30
HF-Performer Xtreme 254 TL5 EII 220-240V 50/60Hz	0.36 kg	12	40.8 cm x 20.8 cm x 8.7 cm	8711500914323	914316 30
HF-Performer Xtreme 280 TL5 EII 220-240V 50/60Hz	0.52 kg	12	47.3 cm x 20.8 cm x 8.7 cm	8711500914439	914422 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
Tolerances for performance +6%-8%	202 - 254 V
With tolerances for safety +/- 10%	198 - 264 V
Mains frequency	50/60 Hz
Operation frequency (typical)	> 42 kHz (45 kHz)
Power factor	> 0.96
Earth leakage current	< 0.5 mA per gear
Ignition time	< 2 s
Constant light operation	In case of mains voltage fluctuations within 202 - 254 V, the luminous flux changes by a maximum of ± 2%
Overvoltage protection	Permanent operation up to 400 V AC
Dual fixture: master-slave operation	Possible, in general a maximum of 3m of lamp wires between gear and lamp is allowed
Cable capacity	Max. 200 pF between lamp wires Max. 200 pF between lamp wires and earth EMI precautions have to be taken
Automatic restart after lamp replacement or voltage dip	Yes: tested with a dip down to 30% with a duration of 10 mains cycles
Insulation resistance test	500 V DC from both mains inputs to Earth (not between Line and Neutral) Note: Ensure that the neutral is reconnected again after above mentioned test is carried out and before the installation is put in operation

DC/Emergency operation

DC voltage operation during emergency back-up	
Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at the DC voltage of	220 - 240 V

Notes:

1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm^2 and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measure ments will be verified in real installations; therefore data are subject to change.

3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting HF gears in fixtures

Temperatures

Temperature range to ignite lamp with ignition aid	-25° to +60°C
Max Tcase	75°C

Lifetime of gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. The HF-Performer II gear for TL-D applications has a specified lifetime of 100.000 hrs, with a maximum of 10% failures guaranteed, at a measured Tcase of 75°C.

Hum and noise level	inaudible

Permitted humidity is tested according to EN 61347-1 par.11. Note that no moisture or condensation may enter the gear.

IP rating	20

Connector types:

Wago universal connector. Suitable for both automatic wiring (ALF and ADS) and manual wiring

Wire lengths:

For 1L circuits keep wires to terminals 3 and 4 short

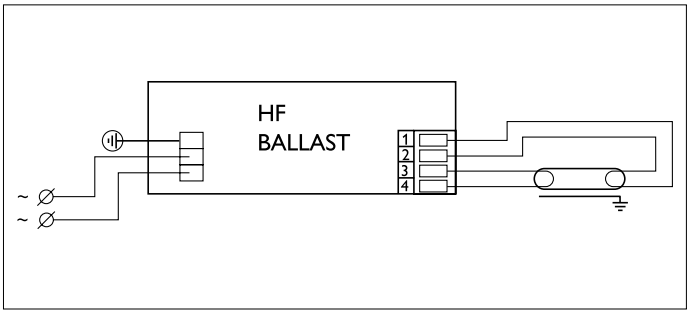
For 2L circuits keep wires to terminals 1, 2, 6 and 7 short

Wiring diagram 2 lamps:

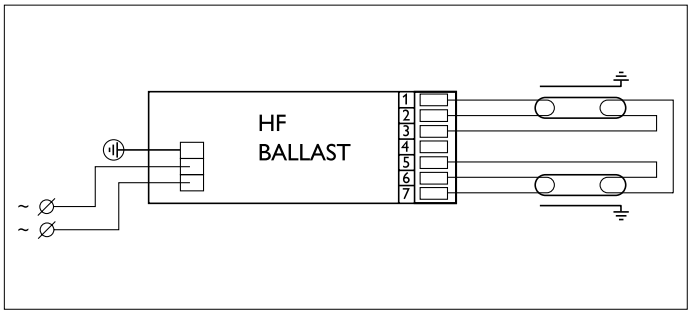
Connector 4 can be connected, but this is not necessary

Wire cross-section:

Lower connector	
On the main side	0.5...1.0mm^2
On the lamp side	0.5...1.0mm^2
Upper connector	
On the main side	0.5mm^{2}solid wire
	0.75mm^{2}stranded wire
On the lamp side	0.5mm^{2}solid wire
	0.75mm^{2}stranded wire
Strip length	8 - 9 mm



HF-P Xt 1



HF-P Xt 2



HF-BASIC II

Product Description

- Slim, lightweight, High Frequency electronic gears for TL-D and PL-L fluorescent lamps, for applications with low switching frequency, based on EII technology

Features and Benefits

- Unique benefits of the new Philips EII technology:
  - Optimised system efficiency, minimised gear power losses
  - Miniaturized 280 mm length for total HF-Basic II TL-D/PL-L and HF-Performer II TL-D range
  - Simplified portfolio allowing flexible, modular luminaire design
  - Cooler product allows more compact luminaire design
- Instant, flicker-free start (0.5 s), ideal for applications with low switching frequency (max. 3 times a day)
- 50% longer lamp life than with conventional gears (max. switching frequency 3 times a day)
- Up to 25% energy saving at constant luminous flux compared with conventional gears
- Smart Power: constant light independent of mains voltage fluctuations
- Unit is protected against excessive mains voltages and incorrect connections
- Universal connector for both manual and automatic wiring
- Automatic stop circuit is activated within 5 seconds in case of lamp failure (safety stop); gear resets automatically after lamp replacement
- Universal connector for both manual and automatic wiring

Applications

- Ideal for applications with long lamp burning hours, for example:
  - Department stores, shops, supermarkets, industrial premises
  - Offices and corridors with low switching frequency
  - Airports, railway stations
  - Outdoor lighting; in general suitable for Class I applications
  - Installations with emergency back-up according to EN 60598-2-22 with re-ignition <0.5 s

Quality

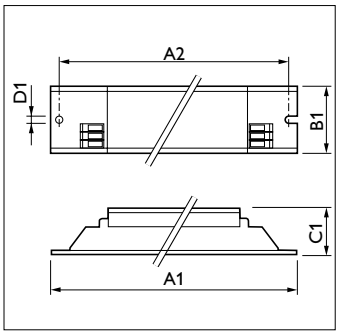
Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips electronic gear comply with all relevant international rules and regulations.

Compliances and approvals

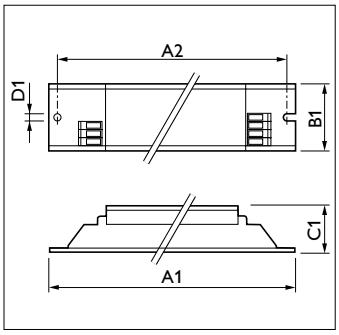
RFI < 30 MHz	EN 55015
RFI > 30 MHz	EN 55022 A
Harmonics	EN 61000-3-2
Immunity	EN 61547
Safety	EN 61347-2-3
Performance	EN 60929

Vibration & bump tests	IEC 68-2-6 Fc IEC 68-2-29 Eb	Temperature declared thermally protected	IEC 61347-1
Quality standard	ISO 9000-2000		
Environmental standard	ISO 14001	**Recommended lamp page 8.204**	
Approval marks	ENEC VDE-EMV		
CE marking		**www.philips.com/OEM**	



HF-B 1

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Basic 1	280.0	265.0	30.0	28.0	4.2



HF-B 2

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HF-Basic 2	280.0	265.0	30.0	28.0	4.2

Inrush current

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HF-Basic 136/158/236 TL-D EII 220-240V 50/60Hz	28	18	0.25
HF-Basic 258 TL-D EII 220-240V 50/60Hz	12	31	0.35

Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Energy Efficiency Index	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Cable-Cap outputwires to earth (pF)	Cable-Cap outputwires mutual (pF)
HF-Basic 136	1	36	3.0	A2	50/60	220-240	75	75	50	120	120
HF-Basic 158	1	58	3.5	A2	50/60	220-240	75	75	50	120	120
HF-Basic 236	2	36	4.0	A2	50/60	220-240	75	75	50	120	120
HF-Basic 258	2	58	6.0	A2	50/60	220-240	75	75	50	120	120

Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HF-Basic 136 TL-D EII 220-240V 50/60Hz	0.214 kg	12	32.8 cm x 20.6 cm x 8.7 cm	8711500931559	931542 30
HF-Basic 158 TL-D EII 220-240V 50/60Hz	0.214 kg	12	32.8 cm x 20.6 cm x 8.7 cm	8711500931573	931566 30
HF-Basic 236 TL-D EII 220-240V 50/60Hz	0.234 kg	12	32.8 cm x 20.6 cm x 8.7 cm	8711500931597	931580 30
HF-Basic 258 TL-D EII 220-240V 50/60Hz	0.24 kg	12	32.8 cm x 20.6 cm x 8.7 cm	8711500931610	931603 30

Electrical installation notes

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for performance +6%-8%	202 - 254 V
With tolerances for safety +/- 10%	198 - 264 V
Mains frequency	50/60Hz
Operation frequency (typical)	> 42 kHz (45 kHz)
Power factor	> 0.96
Earth leakage current	< 0.5 mA per gear
Ignition time	< 0.5 s
Constant light operation	In case of mains voltage fluctuations within 202 - 254 V, the luminous flux changes by amaximum of ± 2%
Overvoltage protection	48 hrs at 320 V AC 2 hrs at 350V AC
Dual fixture; master-slave	Possible, in general a maximum of operation 2m of lamp wires between gear and lamp is allowed
Cable capacity	Max. 120 pF between lamp wires Max. 120 pF between lamp wires and earth EMI precautions have to be taken
Automatic restart after lamp replacement or voltage dip	Yes: tested with a dip down to 30% with a duration of 10 mains cycles
Insulation resistance test	500 V DC from both mains inputs to Earth (not between Line and Neutral) Note: Ensure that the neutral is reconnected again after above-mentioned test is carried out and before the installation is put into operation.

DC/Emergency operation

DC voltage operation during emergency back-up

Required battery voltage for guaranteed ignition	198 - 254 V
Required battery voltage for burning lamps	176 - 254 V
Nominal light output is obtained at the DC voltage of	220 - 240 V

Notes:

1. For a continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (< 198 V) can influence the lifetime of the gear.

Inrush current

Conversion table for max. quantities of gears on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of gears
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 $mm^2$and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of gears can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of gears is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of gears is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of gears by 20%.
6. The maximum number of gears which can be connected to one Residual Current Detector of 30 mA is 30.

Mechanical installation notes

Technical data for design and mounting HF gears in fixtures

Temperatures

Temperature range to ignite lamp with ignition aid	-15°C to +50°C
Max. Tcase	75°C

Lifetime of a gear depends on the temperature of the gear. This means there is a relation between the Tc point on the gear and its lifetime. The HF-Basic II gear for TL-D and PL-L application has a specified lifetime of 50.000 hrs, with a maximum of 10% failures guaranteed, at a measured Tcase of 75°C.

Hum and noise level	inaudible

Permitted humidity is tested according to EN 61347-1 par. 11. Note that no moisture or condensation may enter the gear.

The gears that are thermally protected use a protective method of another type providing equivalent thermal protection.

Connector types:

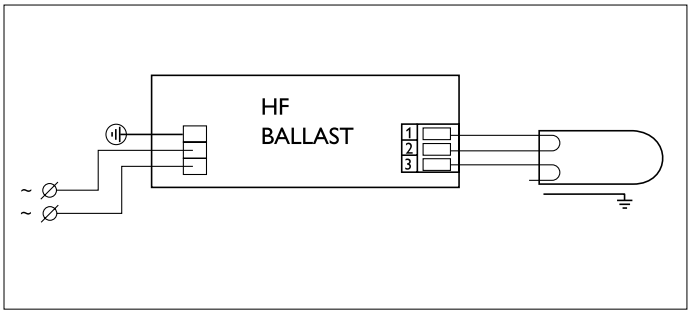
Wago universal connector. Suitable or both automatic wiring (ALF and ADS) and manual wiring.

Wire lenghts:

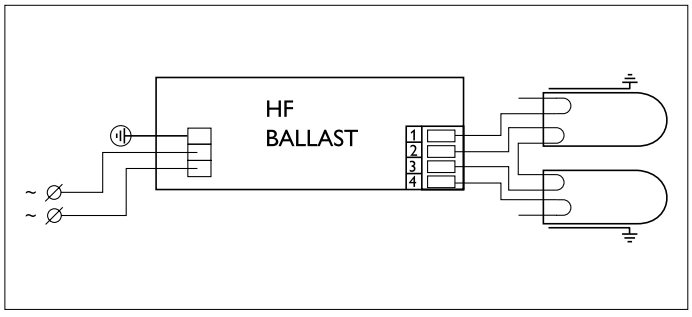
For 1L circuits keep wire to terminal 3 short

For 2L circuits keep wires to terminal 1 and 5 short

Strip length	8 - 9 mm
Wire cross-section:	
Lower connector	
On the mains side	0.5...1.0 mm^2
On the lamp side	0.5...1.0 mm^2
Upper connector	
On the mains side	0.5 mm^2solid wire
	0.75 mm^2stranded wire
On the lamp side	0.5 mm^2solid wire
	0.75 mm^2stranded wire



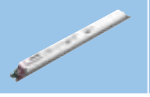
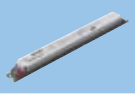
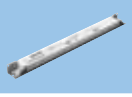
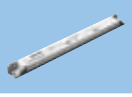
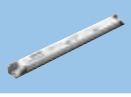
HF-B 1 PL-L/TL-D



HF-B 2 PL-L/TL-D

Lamps										
TL5 systems	**W**	**Page**	**colours**				**type**			
			/st	/80	/90	RGB	secura	reflex	Xtra	Xtre
TL5 HE										
	14W	8.6		•			•			
	21W	8.6		•						
	28W	8.6		•			•			
	35W						•			
TL5 HO										
	24W	8.14		•	•	•	•			
	39W	8.14		•						
	54W	8.14		•	•	•	•		•	
	49W	8.14		•	•		•		•	
	80W	8.14		•			•		•	
TL5 C										
	22W	8.52		•						
	40W	8.52		•						
	55W	8.52		•						
	60W	8.52		•						

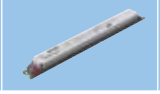
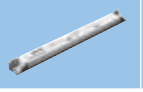
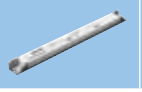
Housing
Regulating power level
Lamp start
Constant light output
Automatic switch off at lamp failure
Temperature range 1-100% dim operation
Tcase max
Tcase 50k hr
Nominal mains voltage
Operating frequency

Gear							
HF-R			HF-P	HF-P Intelligent	HF-P Xtreme	HF-M	
DALI	1-10V	T&D				BLUE	RED
							
1L/2L+3/4L	1L/2L+3/4L	1L/2L+3/4L	1L/2L+3/4L	1L/2L		1L	1L
1L/2L	1L/2L	1L/2L	1L/2L	1L/2L		1L	
1L/2L	1L/2L	1L/2L	1L/2L	1L/2L		1L	
1L/2L	1L/2L	1L/2L	1L/2L	1L/2L			
1L/2L	1L/2L	1L/2L+3/4L	1L/2L, 3/4L	1L/2L		1L	
1L/2L	1L/2L	1L/2L	1L/2L	1L/2L			1L
1L/2L	1L/2L	1L/2L	1L/2L	1L/2L	1L/2L		
1L/2L	1L/2L	1L/2L	1L/2L	1L/2L	1L/2L		
1L/2L	1L/2L	1L/2L	1L/2L	1L/2L	1L/2L		
1L	1L	1L	1L/2L			1L	1L
1L	1L	1L	1L/2L				
1L	1L	1L	1L				
1L	1L	1L	1L				
linear/sq	linear/sq	linear/sq	linear/sq	linear	linear	linear/sq	sq
1%	1%	1%	-	-	-	-	-
programmed	programmed	programmed	programmed	programmed	programmed	instant	programmed
•	•	•	•	•	•		
•	•	•	•	•	•	•	•
+10..+50	+10..+50	+10..+50	-25..+50	-25..+50	-25..+60	-10..+40	-10..+40
85	85	85	75	75	75	75	75
75	75	75	75	75	75 (100k hr)	65 (40k hr)	65
220-240	220-240	220-240	220-240	220-240	220-240	230-240	230-240
>42kHz	>42kHz	>42kHz	<30kHz, >42kHz	<30kHz, >42kHz	<30kHz, >42kHz	<30kHz	<30kHz

.

Lamps										
TL-D systems (T8)	**W**	**Page**	**colours**				**type**			
			/st	/80	/90	RGB	secura	reflex	Xtra	Xtre
TL5-D										
	14W	8.56	•							
	15W	8.56	•	•	•	•				
	18W	8.56	•	•	•	•	•	•	•	•
	30W	8.56	•	•	•	•				
	36W	8.56	•	•	•	•	•	•	•	•
	36W-1m	8.56	•	•		•				
	38W	8.56	•	•						
	58W	8.56	•	•	•	•	•	•	•	•
	70W	8.56	•	•						

Housing	
Regulating power level	
Lamp start	
Constant light output	
Automatic switch off at lamp failure	
Temperature range 1-100% reliable dim operation	
Tcase max	
Tcase 50k hr	
Nominal mains voltage	
Operating frequency	

Gear								
HF-R			HF-P	HF-P Xtreme	HF-M		HF-B	EM
DALI	1-10V	T&D			BLUE	RED		
								
					1L			1L/2L
1L/2L+3/4L	1L/2L+3/4L	1L/2L+3/4L	1L/2L+3/4L		1L	1L		1L/2L
								1L
1L/2L	1L/2L	1L/2L	1L/2L	1L/2L				1L
			1L/2L					
								1L
1L/2L	1L/2L	1L/2L	1L/2L	1L/2L		1L/2L	1L/2L	1L
			1L/2L					
linear	linear	linear	linear	linear	linear/sq	sq	linear	linear
1%	1%	1%	-	-	-	-	-	-
programmed	programmed	programmed	programmed	programmed	instant	programmed	instant	*
•	•	•	•	•			•	
•	•	•	•	•	•	•		*
+10..+50	+10..+50	+10..+50	-25..+50	-25..+60	-10..+40	-10..+40	-15..+50	*/**
85	85	85	75	75	75	75	75	
75	75	75	75	75 (100k hr)	65 (40k hr)	65	75	
220-240	220-240	220-240	220-240	220-240	230-240	230-240	220-240	
>42kHz	>42kHz	>42kHz	>42kHz	>42kHz	<30kHz	<30kHz	>42kHz	50Hz

Lamps										Gear
TL systems (T12)	**W**	**Page**	**colours**			**types**				**EM**
			/st	/80	/90	TLX XL	TL 5	TL RS	TLM RS	
TL										
	20W	????	•			•	•	•	•	1L/2L
	40W	????	•			•	•	•	•	1L
	65W	????	•			•	•	•	•	1L
Housing										linear
Regulating power level										-
Lamp start										*
Constant light output										
Automatic switch off at lamp failure										*
Temperature range										*/**
Tcase max										
Tcase 50k hr										
Nominal mains voltage										
Operating frequency										50Hz

Lamps										Gear		
TL mini systems	**W**	**Page**	**colours**			**types**				**HF-M**		**EM**
			/st	/80	/90	secura	reflex	Xtra	Xtre	BLUE 	RED 	
TL mini												
	4W	????	•							1L		1L/2L
	6W	????	•							1L		1L/2L
	8W	????	•	•			apert.			1L	1L	1L/2L
	13W	????	•	•			apert			1L	1L	1L
Housing										linear/sq	sq	linear
Regulating power level										-	-	-
Lamp start										instant	programmed	*
Constant light output												
Automatic switch off at lamp failure										•	•	*
Temperature range										-10..+40	-10..+40	*/**
Tcase max										75	75	
Tcase 50k hr										65 (40k hr)	65	
Nominal mains voltage										230-240	230-240	230V
Operating frequency										<30kHz	<30kHz	50Hz


BOSS

Halogen Lamps and Transformers



A touch of brilliance

Philips Halogen Lamps for every professional lighting requirement
Halogen lamps can provide brilliant, contrast-rich light. This contributes to creating just the right ambience for every need. Whatever the purpose, our halogen lamps will add the touch of brilliance that makes all the difference.
Our rich variety of halogen lamps outperforms standard incandescent lamps in terms of lifetime and energy efficiency. The quality of the light remains constant for the lifetime of the lamp. Moreover, our halogen lamps provide widespread, soft, shadow-free illumination or sharply defined narrow beams and can be dimmed to adjust the lighting level to your every need. Whether for mood setting in the home, in restaurants and hotels, or for general-purpose and accent lighting of merchandise in shops, halogen light is the ideal solution.

In our continuous efforts to develop halogen light that is increasingly energy efficient, we have achieved a breakthrough that realizes massive energy savings. Our EcoBoost technology saves between 40% and 60% of the energy required for halogen lamps, depending on the type of lamp involved.
This greatly benefits the environment while reducing the cost of ownership for lamps significantly. Moreover, this new technology increases the lamp lifespan, further reducing cost of ownership.

Thanks to our EcoBoost technology, a whole new lamp category has been made possible. Called Compact Halogen Lamp integrated (CHL-I), it offers a further energy-saving alternative to less energy-efficient incandescent lamps.
The first in this new generation of high efficiency lamps is our MASTERClassic series, which is characterized by lamps with a small, single ended burner and integrated electronics packaged in a compact housing. The revolutionary thing about Philips MASTERClassic lamps is that they look like classic light bulbs and can be plugged into the same standard light fittings, yet they use 50% less energy and last three times as long!



MASTERLine ES

Product Description

- MASTER dichroic coated low-voltage halogen reflector lamp with EcoBoost technology: the most energy-efficient dichroic lamp on the market

Product Features

- Unique Philips patented infrared-coated single-ended burner by using EcoBoost technology with 40% higher efficiency than standard products
- Heat-reflecting coating on the inner lamp burner reflects heat back to the filament so less energy is needed to operate the lamp
- Revolutionary compact and precision-shaped single-ended burner and high-performance coating for maximum lamp performance
- Extreme long average rated life
- GU5.3 base for extra retention in luminaire
- Complex reflector design for excellent beam performance
- Range of energy saving wattages to replace the higher standard wattages

Product Benefits

- Lowest possible energy and maintenance costs while maintaining light levels
- Lowest possible heat production
- Bright, sparkling white halogen light with excellent colour rendering
- Replaces standard and high-end dichroic reflector lamps
- Energy savings of up to 40% compared with standard dichroics
- Increased comfort and (where applicable) lower cooling costs through up to 40% lower heat transmission
- Up to 66% more lifetime (5000 hours) compared with standard conventional halogen dichroics
- Lowest dichroic UV-output reduces fading risks to an absolute minimum

Application

- Accent and general lighting applications in homes, shops, hotels and restaurants, where energy efficiency and low maintenance are important
- Art galleries, museums and exhibitions

Luminaires

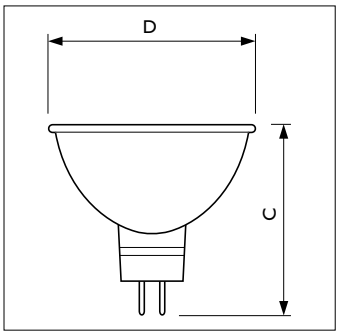
- Can be used in luminaires without front glass in accordance with IEC 598

Environment

- Excellent environmental choice because of high energy efficiency and long reliable life
- This product is a Philips Green product

Recommended transformer page 9.118 - 9.123

www.philips.com/OEM



MASTERLine ES

Type	C1Max	DMax
MASTERLine ES GU5.3 12V	50.5	51

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
MASTERLine ES 20W GU5.3 12V	12	1.67	20	Yes	5000
MASTERLine ES 30W GU5.3 12V	12	3	30	Yes	5000
MASTERLine ES 35W GU5.3 12V	12	2.92	35	Yes	5000
MASTERLine ES 45W GU5.3 12V	12	3.75	45	Yes	5000

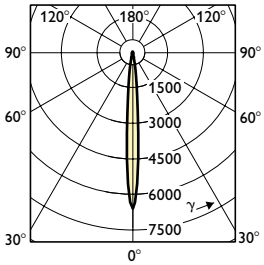
Light data

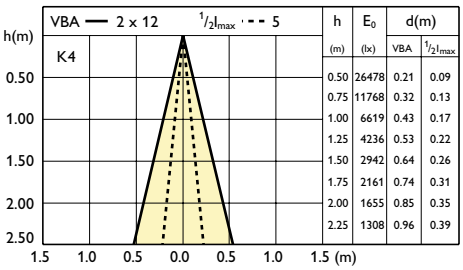
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
MASTERLine ES GU5.3 12V	3000	100	any

Ordering and packing data

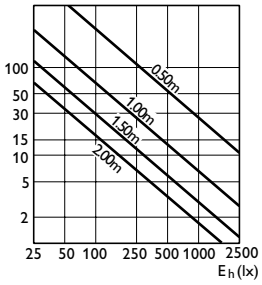
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERLine ES 20W GU5.3 12V 8D 1CT	HRGS-20-12-GU5.3-50/8	8711500413642	30 gr	20	29.5 cm x 25.2 cm x 7.3 cm	8711500436818	413642 71
MASTERLine ES 20W GU5.3 12V 36D 1CT	HRGS-20-12-GU5.3-50/36	8711500439468	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500439475	439468 05
MASTERLine ES 20W GU5.3 12V 36D 1CT	HRGS-20-12-GU5.3-50/36	8711500413673	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500409980	413673 71
MASTERLine ES 20W GU5.3 12V 60D 1CT	HRGS-20-12-GU5.3-50/60	8711500440266	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500440280	440266 71
MASTERLine ES 30W GU5.3 12V 8D 1CT	HRGS-30-12-GU5.3-50/8	8711500413703	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500409997	413703 71
MASTERLine ES 30W GU5.3 12V 24D 1CT	HRGS-30-12-GU5.3-50/24	8711500413758	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500410023	413758 71
MASTERLine ES 30W GU5.3 12V 36D 1CT	HRGS-30-12-GU5.3-50/36	8711500413789	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500410047	413789 71
MASTERLine ES 30W GU5.3 12V 60D 1CT	HRGS-30-12-GU5.3-50/60	8711500413826	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500410108	413826 71
MASTERLine ES 35W GU5.3 12V 8D 1CT	HRGS-35-12-GU5.3-50/8	8711500413871	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500410139	413871 71
MASTERLine ES 35W GU5.3 12V 24D 1CT	HRGS-35-12-GU5.3-50/24	8711500413970	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500410146	413970 71
MASTERLine ES 35W GU5.3 12V 36D 1CT	HRGS-35-12-GU5.3-50/36	8711500448996	30 gr	30	23.6 cm x 14.3 cm x 12 cm	8711500448972	448996 78
MASTERLine ES 35W GU5.3 12V 36D 1CT	HRGS-35-12-GU5.3-50/36	8711500424327	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500410184	424327 71
MASTERLine ES 35W GU5.3 12V 60D 1CT	HRGS-35-12-GU5.3-50/60	8711500424358	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500410191	424358 71
MASTERLine ES 45W GU5.3 12V 8D 1CT	HRGS-45-12-GU5.3-50/8	8711500424389	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500410221	424389 71
MASTERLine ES 45W GU5.3 12V 24D 1CT	HRGS-45-12-GU5.3-50/24	8711500424419	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500410283	424419 71
MASTERLine ES 45W GU5.3 12V 24D UNP	HRGS-45-12-GU5.3-50/24	8711500439444	30 gr	240	57.2 cm x 38.7 cm x 30.1 cm	8711500439451	439444 29
MASTERLine ES 45W GU5.3 12V 36D 1CT	HRGS-45-12-GU5.3-50/36	8711500424440	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500410344	424440 71
MASTERLine ES 45W GU5.3 12V 60D 1CT	HRGS-45-12-GU5.3-50/60	8711500424471	30 gr	20	29.5 cm x 25.2 cm x 6.9 cm	8711500410368	424471 71

Photometric diagram

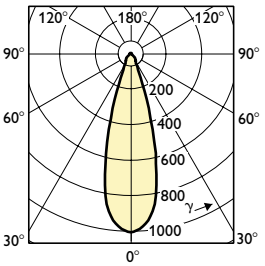


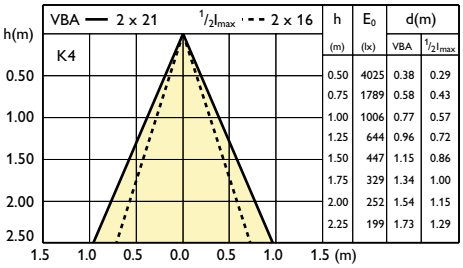


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	26478	0.21	0.09
0.75	11768	0.32	0.13
1.00	6619	0.43	0.17
1.25	4236	0.53	0.22
1.50	2942	0.64	0.26
1.75	2161	0.74	0.31
2.00	1655	0.85	0.35
2.25	1308	0.96	0.39

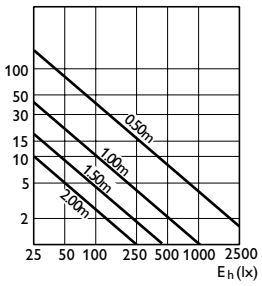


MLES 20W 8D

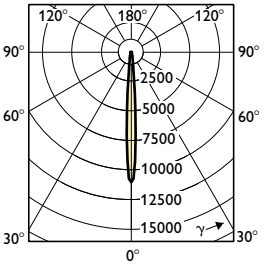


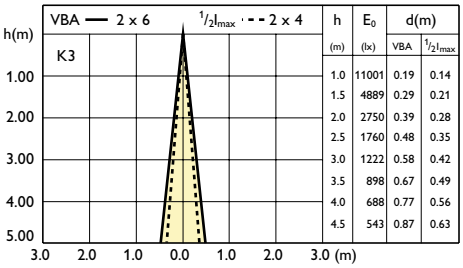


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	4025	0.38	0.29
0.75	1789	0.58	0.43
1.00	1006	0.77	0.57
1.25	644	0.96	0.72
1.50	447	1.15	0.86
1.75	329	1.34	1.00
2.00	252	1.54	1.15
2.25	199	1.73	1.29

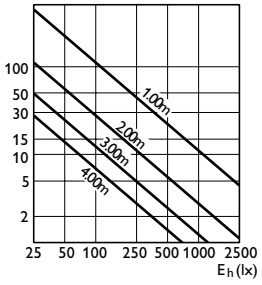


MLES 20W 36D

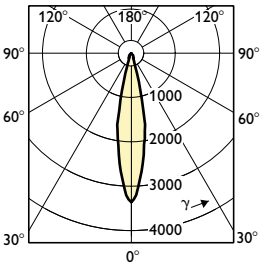


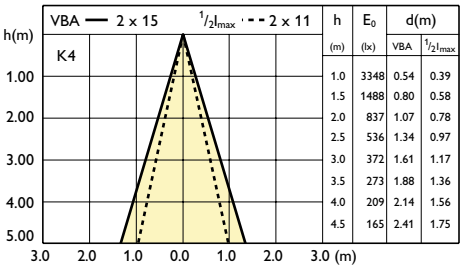


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	11001	0.19	0.14
1.5	4889	0.29	0.21
2.0	2750	0.39	0.28
2.5	1760	0.48	0.35
3.0	1222	0.58	0.42
3.5	898	0.67	0.49
4.0	688	0.77	0.56
4.5	543	0.87	0.63

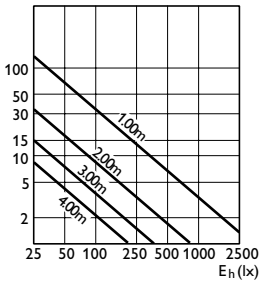


MLES 30W 8D

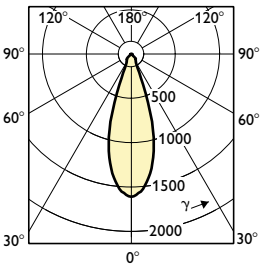


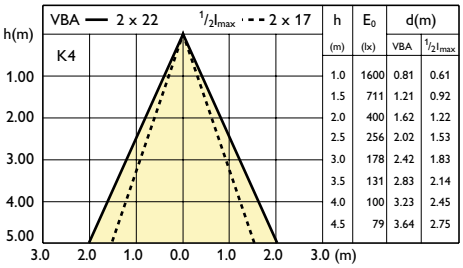


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	3348	0.54	0.39
1.5	1488	0.80	0.58
2.0	837	1.07	0.78
2.5	536	1.34	0.97
3.0	372	1.61	1.17
3.5	273	1.88	1.36
4.0	209	2.14	1.56
4.5	165	2.41	1.75

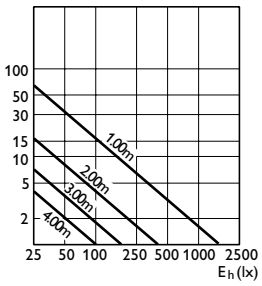


MLES 30W 24D

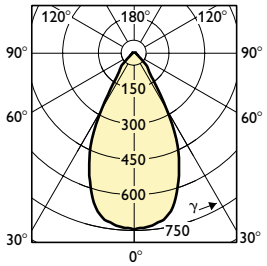


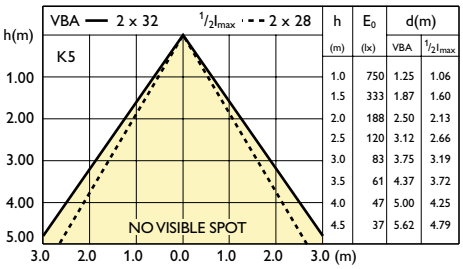


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	1600	0.81	0.61
1.5	711	1.21	0.92
2.0	400	1.62	1.22
2.5	256	2.02	1.53
3.0	178	2.42	1.83
3.5	131	2.83	2.14
4.0	100	3.23	2.45
4.5	79	3.64	2.75

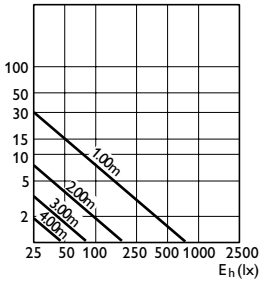


MLES 30W 36D

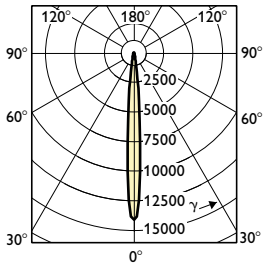


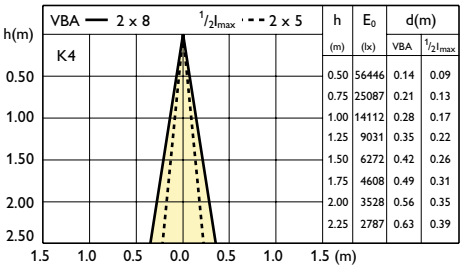


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2 Imax
1.0	750	1.25	1.06
1.5	333	1.87	1.60
2.0	188	2.50	2.13
2.5	120	3.12	2.66
3.0	83	3.75	3.19
3.5	61	4.37	3.72
4.0	47	5.00	4.25
4.5	37	5.62	4.79

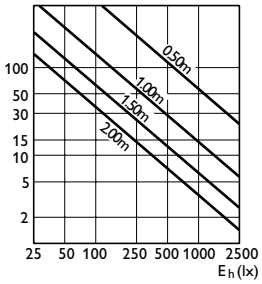


MLES 30W 60D

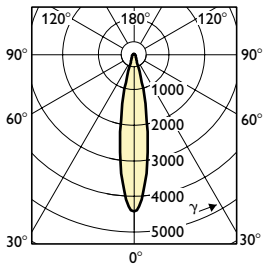


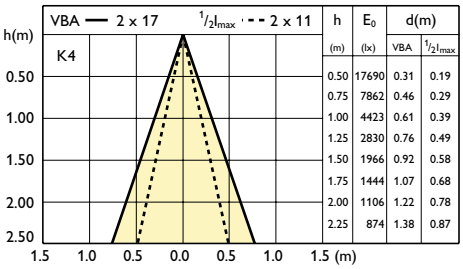


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2 Imax
0.50	56446	0.14	0.09
0.75	25087	0.21	0.13
1.00	14112	0.28	0.17
1.25	9031	0.35	0.22
1.50	6272	0.42	0.26
1.75	4608	0.49	0.31
2.00	3528	0.56	0.35
2.25	2787	0.63	0.39

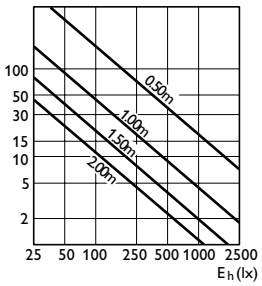


MLES 35W 8D

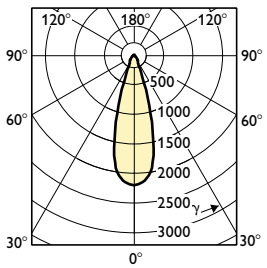


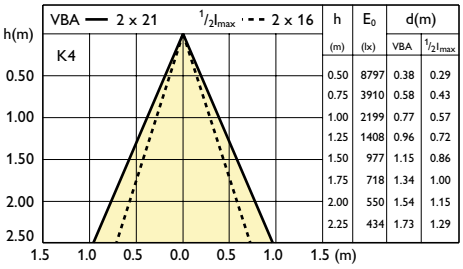


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2 Imax
0.50	17690	0.31	0.19
0.75	7862	0.46	0.29
1.00	4423	0.61	0.39
1.25	2830	0.76	0.49
1.50	1966	0.92	0.58
1.75	1444	1.07	0.68
2.00	1106	1.22	0.78
2.25	874	1.38	0.87

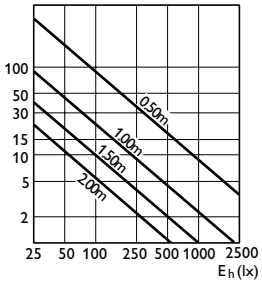


MLES 35W 24D

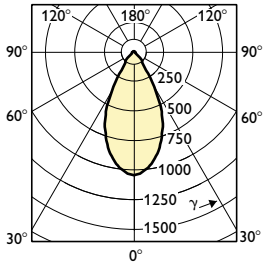


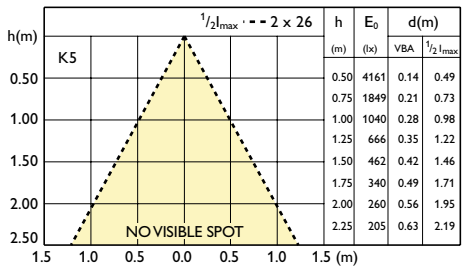


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2 Imax
0.50	8797	0.38	0.29
0.75	3910	0.58	0.43
1.00	2199	0.77	0.57
1.25	1408	0.96	0.72
1.50	977	1.15	0.86
1.75	718	1.34	1.00
2.00	550	1.54	1.15
2.25	434	1.73	1.29

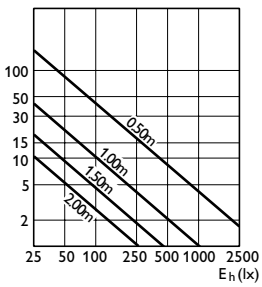


MLES 35W 36D

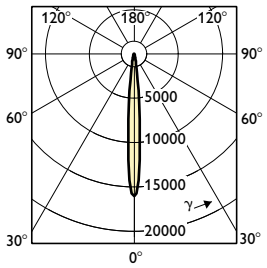


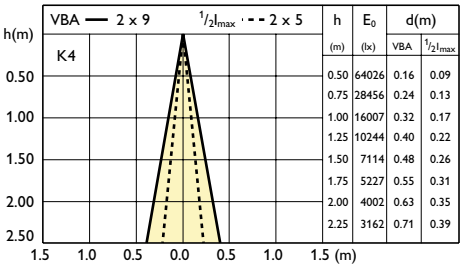


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2 Imax
0.50	4161	0.14	0.49
0.75	1849	0.21	0.73
1.00	1040	0.28	0.98
1.25	666	0.35	1.22
1.50	462	0.42	1.46
1.75	340	0.49	1.71
2.00	260	0.56	1.95
2.25	205	0.63	2.19

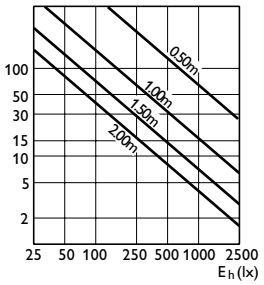


MLES 35W 60D

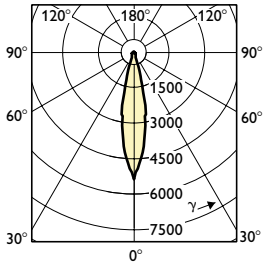


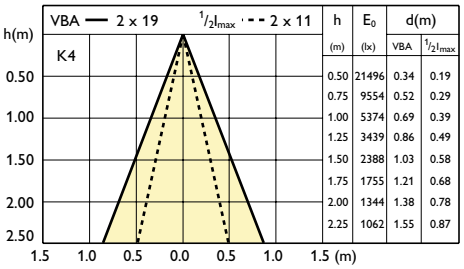


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	64026	0.16	0.09
0.75	28456	0.24	0.13
1.00	16007	0.32	0.17
1.25	10244	0.40	0.22
1.50	7114	0.48	0.26
1.75	5227	0.55	0.31
2.00	4002	0.63	0.35
2.25	3162	0.71	0.39

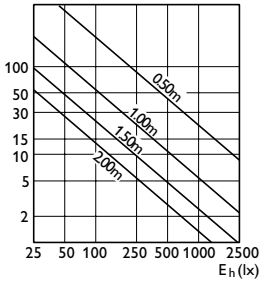


MLES 45W 8D

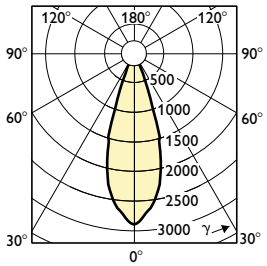


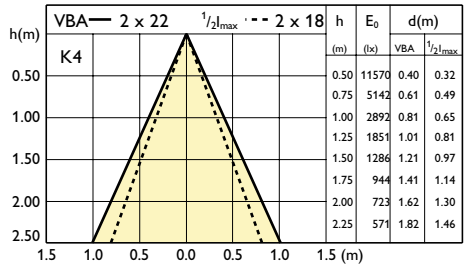


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	21496	0.34	0.19
0.75	9554	0.52	0.29
1.00	5374	0.69	0.39
1.25	3439	0.86	0.49
1.50	2388	1.03	0.58
1.75	1755	1.21	0.68
2.00	1344	1.38	0.78
2.25	1062	1.55	0.87

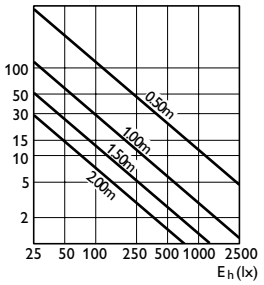


MLES 45W 24D

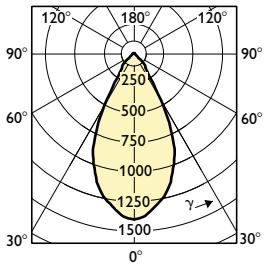


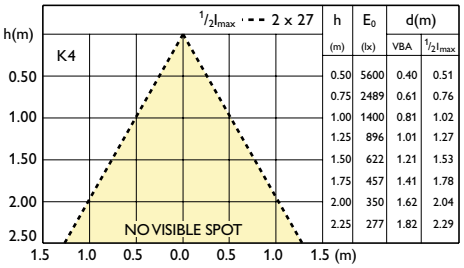


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	11570	0.40	0.32
0.75	5142	0.61	0.49
1.00	2892	0.81	0.65
1.25	1851	1.01	0.81
1.50	1286	1.21	0.97
1.75	944	1.41	1.14
2.00	723	1.62	1.30
2.25	571	1.82	1.46

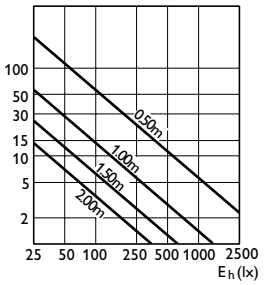


MLES 45W 36D



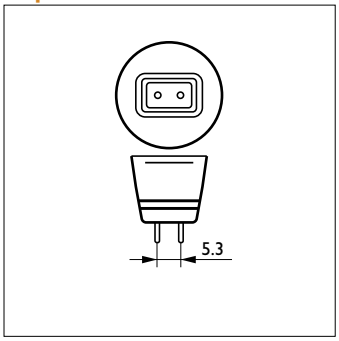


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	5600	0.40	0.51
0.75	2489	0.61	0.76
1.00	1400	0.81	1.02
1.25	896	1.01	1.27
1.50	622	1.21	1.53
1.75	457	1.41	1.78
2.00	350	1.62	2.04
2.25	277	1.82	2.29



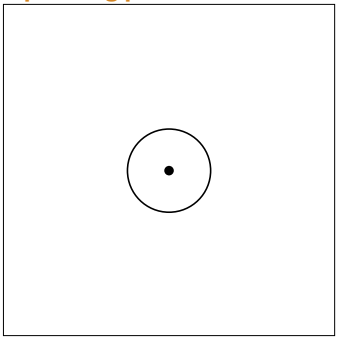
MLES 45W 60D

Cap Base



GU5.3

Operating position



any





Brilliantline Dichroic

Product Description

- Low-voltage, xenon gas-filled halogen burner with axial filament optically positioned in a dichroic coated glass reflector

Product Features

- High-intensity beam with a clearly defined beam spread
- Reflector has a light-reflecting, light-transmitting hard dichroic coating
- Constant high quality and aesthetics maintained over lifetime
- Wide range of 25 mm, 35 mm and 50 mm types
- UV-Block glass
- Excellent colour rendering
- GU5.3, GU4 or GZ4 base for extra retention in luminaire

Product Benefits

- Cool beam as a large part of the heat generated is transmitted backwards through the back glass

Application

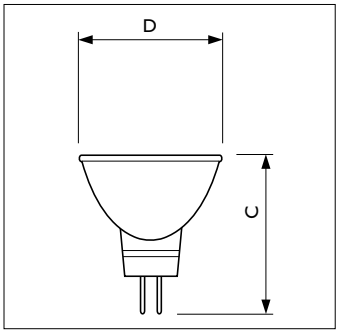
- Ideally suited for accent, task and decorative lighting in shops, stores, hotels, restaurants etc.

Luminaires

- Can be used in luminaires without a front glass in accordance with IEC 598

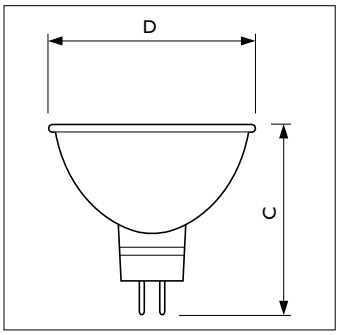
Recommended transformer page 9.118 - 9.123

www.philips.com/OEM



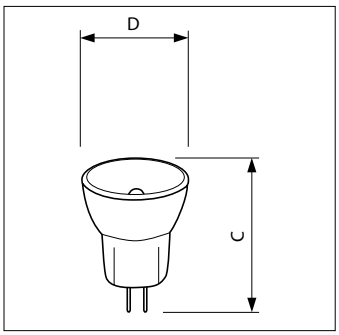
Brilliantline Dichroic GU4

Type	CMax	DMax
Brilliantline Dichroic GU4 12V	40	35.3



Brilliantline Dichroic GU5.3

Type	CMax	DMax
Brilliantline Dichroic GU5.3 12V	46	51



Brilliantline Dichroic GZ4

Type	CMax	DMax
Brilliantline Dichroic GZ4 12V	40	25.4

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Brilliantline Dichroic 20W GU4 12V	12	1.6	20	Yes	4000
Brilliantline Dichroic 35W GU4 12V	12	2.9	35	Yes	4000
Brilliantline Dichroic 20W GU5.3 12V	12	1.7	20	Yes	4000
Brilliantline Dichroic 35W GU5.3 12V	12	3.0	35	Yes	4000
Brilliantline Dichroic 50W GU5.3 12V	12	4.2	50	Yes	4000
Brilliantline Dichroic 20W GZ4 12V	12	1.6	20	Yes	4000
Brilliantline Dichroic 35W GZ4 12V	12	2.9	35	Yes	4000

Light data

Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Brilliantline Dichroic GU4 12V	3000	100	any

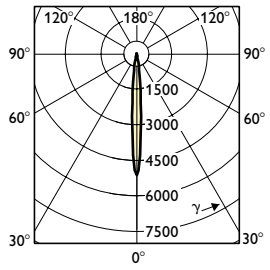
Ordering and packing data

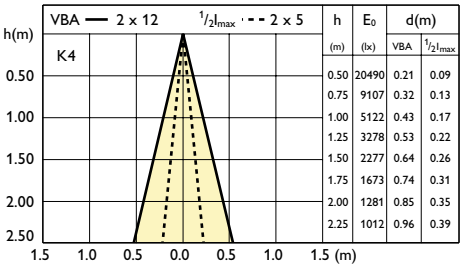
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Brilliantline Dichroic 20W GU4 12V 10D 1CT	HRGS-20-12-GU4-35/10	8711500425379	14.1 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500425393	425379 60
Brilliantline Dichroic 20W GU4 12V 30D 1CT	HRGS-20-12-GU4-35/30	8711500425409	13 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500425423	425409 60
Brilliantline Dichroic 20W GU4 12V 30D 1CT	HRGS-20-12-GU4-35/30	8711500425409	13 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500655165	425409 96
Brilliantline Dichroic 20W GU4 12V MR11 30D 1CT	HRGS-20-12-GU4-35/30	8711500648662	14.1 gr	30	22.2 cm x 13.7 cm x 12.5 cm	8711500648679	648662 18
Brilliantline Dichroic 20W GU4 12V MR11 30D UNP	HRGS-20-12-GU4-35/30	8711500050236	14.1 gr	230	56.3 cm x 38 cm x 28.7 cm	8711500050243	050236 28
Brilliantline Dichroic 35W GU4 12V 10D 1CT	HRGS-35-12-GU4-35/10	8711500425430	14.1 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500425454	425430 60
Brilliantline Dichroic 35W GU4 12V 30D 1CT	HRGS-35-12-GU4-35/30	8711500425461	14.2 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500425485	425461 60
Brilliantline Dichroic 35W GU4 12V MR11 30D 1CT	HRGS-35-12-GU4-35/30	8711500425461	14.2 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500655585	425461 96
Brilliantline Dichroic 20W GU5.3 12V 10D 1CT	HRGS-20-12-GU5.3-50/10	8711500424549	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500424709	424549 60

Ordering and packing data

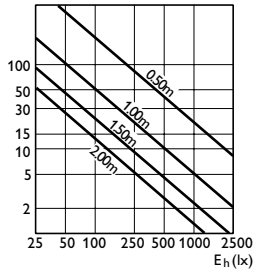
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Brilliantline Dichroic 20W GU5.3 12V 10D 1CT	HRGS-20-12-GU5.3-50/10	8711500424549	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500655509	424549 96
Brilliantline Dichroic 20W GU5.3 12V 24D 1CT	HRGS-20-12-GU5.3-50-24	8711500424716	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500424785	424716 60
Brilliantline Dichroic 20W GU5.3 12V 36D 1CT	HRGS-20-12-GU5.3-50-36	8711500424846	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500424860	424846 60
Brilliantline Dichroic 20W GU5.3 12V 36D 1CT	HRGS-20-12-GU5.3-50-36	8711500424846	30 gr	50	30.6 cm x 11.2 cm x 24.1 cm	8711500655516	424846 96
Brilliantline Dichroic 20W GU5.3 12V 60D 1CT	HRGS-20-12-GU5-3-50/60	8711500424877	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500424891	424877 60
Brilliantline Dichroic 20W GU5.3 12V MR16 36D UNP	HRGS-20-12-GU5.3-50-36	8711500428660	30 gr	240	56.5 cm x 38.7 cm x 30.4 cm	8711500428677	428660 29
Brilliantline Dichroic 20W GU5.3 12V MR16 60D 1CT	HRGS-20-12-GU5-3-50/60	8711500424877	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8711500655950	424877 96
Brilliantline Dichroic 35W GU5.3 12V 10D 1CT	HRGS-35-12-GU5.3-50/10	8711500424907	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8711500424921	424907 60
Brilliantline Dichroic 35W GU5.3 12V 24D 1CT	HRGS-35-12-GU5.3-50/24	8711500424938	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500425003	424938 60
Brilliantline Dichroic 35W GU5.3 12V 24D 1CT	HRGS-35-12-GU5.3-50/24	8711500424938	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500655523	424938 96
Brilliantline Dichroic 35W GU5.3 12V 36D 1CT	HRGS-35-12-GU5.3-50/36	8711500425041	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8711500425065	425041 60
Brilliantline Dichroic 35W GU5.3 12V 60D 1CT	HRGS-35-12-GU5.3-50/60	8711500425072	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500425096	425072 60
Brilliantline Dichroic 35W GU5.3 12V 60D 1CT	HRGS-35-12-GU5.3-50/60	8711500425072	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8711500655530	425072 96
Brilliantline Dichroic 50W GU5.3 12V 10D 1CT	HRGS-50-12-GU5.3-50/10	8711500425102	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500425126	425102 60
Brilliantline Dichroic 50W GU5.3 12V 10D 1CT	HRGS-50-12-GU5.3-50/10	8711500425102	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500655547	425102 96
Brilliantline Dichroic 50W GU5.3 12V 24D 1CT	HRGS-50-12-GU5.3-50/24	8711500425133	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500425157	425133 60
Brilliantline Dichroic 50W GU5.3 12V 24D 1CT	HRGS-50-12-GU5.3-50/24	8711500425133	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500655554	425133 96
Brilliantline Dichroic 50W GU5.3 12V 36D 1CT	HRGS-50-12-GU5.3-50/36	8711500425164	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500425188	425164 60
Brilliantline Dichroic 50W GU5.3 12V 36D 1CT	HRGS-50-12-GU5.3-50/36	8711500425164	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500655561	425164 96
Brilliantline Dichroic 50W GU5.3 12V 60D 1CT	HRGS-50-12-GU5.3-50/60	8711500425195	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8711500425218	425195 60
Brilliantline Dichroic 50W GU5.3 12V 60D 1CT	HRGS-50-12-GU5.3-50/60	8711500425195	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8711500655578	425195 96
Brilliantline Dichroic 50W GU5.3 12V MR16 24D UNP	HRGS-50-12-GU5.3-50/24	8711500430885	30 gr	240	56.5 cm x 38.7 cm x 30.4 cm	8711500430892	430885 29
Brilliantline Dichroic 20W GZ4 12V MR8 13D 1CT	HRGS-20-12-GZ4-25.4/13	8711500439567	9.6 gr	20	14.1 cm x 6 cm x 19.1 cm	8711500440327	439567 71
Brilliantline Dichroic 35W GZ4 12V MR8 19D 1CT	HRGS-35-12-GZ4-25.4/19	8711500439598	9.6 gr	20	14.1 cm x 6 cm x 19.1 cm	8711500440341	439598 71

Photometric diagram

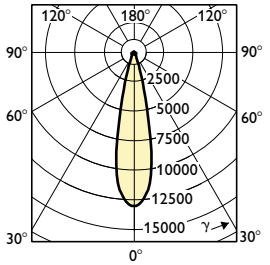


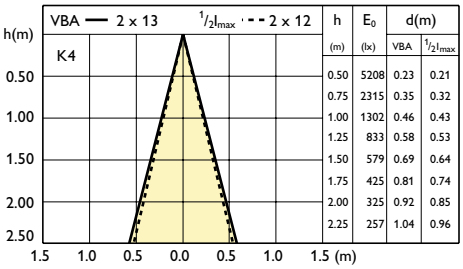


h (m)	E0 (lx)	d(m) VBA	d(m) ½Imax
0.50	20490	0.21	0.09
0.75	9107	0.32	0.13
1.00	5122	0.43	0.17
1.25	3278	0.53	0.22
1.50	2277	0.64	0.26
1.75	1673	0.74	0.31
2.00	1281	0.85	0.35
2.25	1012	0.96	0.39

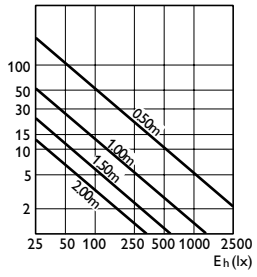


DICHRO 20W 10D

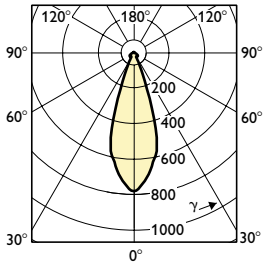


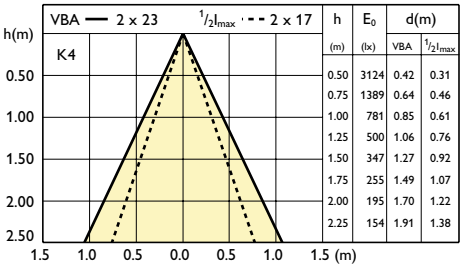


h (m)	E0 (lx)	d(m) VBA	d(m) ½Imax
0.50	5208	0.23	0.21
0.75	2315	0.35	0.32
1.00	1302	0.46	0.43
1.25	833	0.58	0.53
1.50	579	0.69	0.64
1.75	425	0.81	0.74
2.00	325	0.92	0.85
2.25	257	1.04	0.96

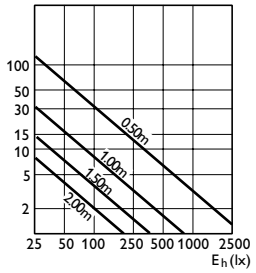


DICHRO 20W 24D

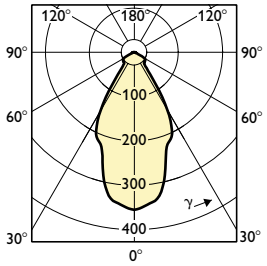


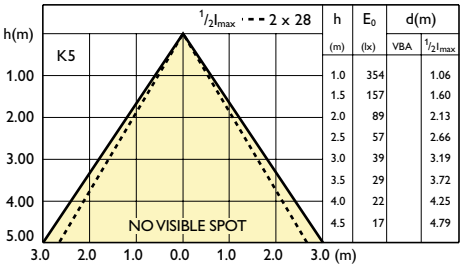


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	3124	0.42	0.31
0.75	1389	0.64	0.46
1.00	781	0.85	0.61
1.25	500	1.06	0.76
1.50	347	1.27	0.92
1.75	255	1.49	1.07
2.00	195	1.70	1.22
2.25	154	1.91	1.38

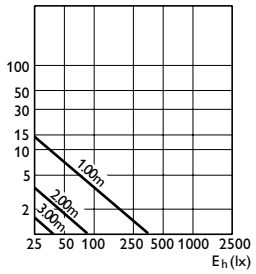


DICHRO 20W 36D

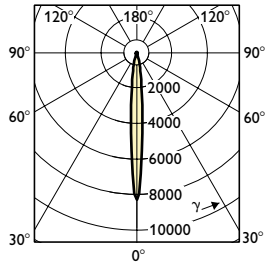


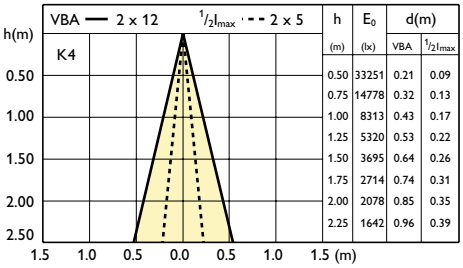


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	354		1.06
1.5	157		1.60
2.0	89		2.13
2.5	57		2.66
3.0	39		3.19
3.5	29		3.72
4.0	22		4.25
4.5	17		4.79

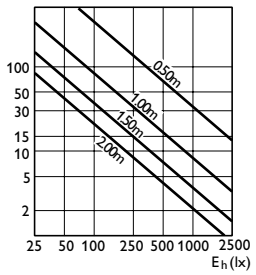


DICHRO 20W 60D

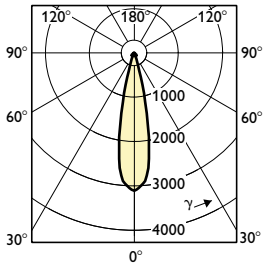


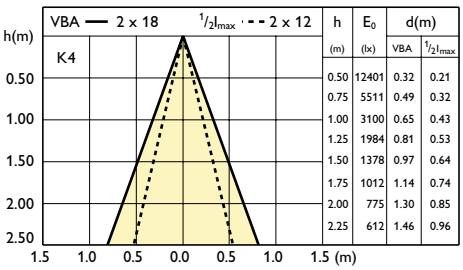


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	33251	0.21	0.09
0.75	14778	0.32	0.13
1.00	8313	0.43	0.17
1.25	5320	0.53	0.22
1.50	3695	0.64	0.26
1.75	2714	0.74	0.31
2.00	2078	0.85	0.35
2.25	1642	0.96	0.39

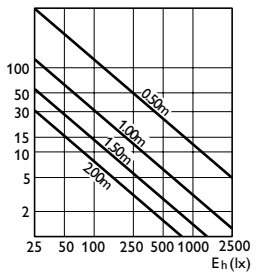


DICHRO 35W 10D

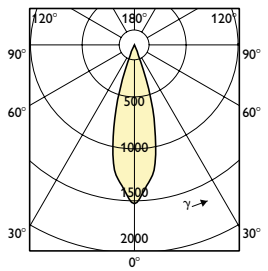


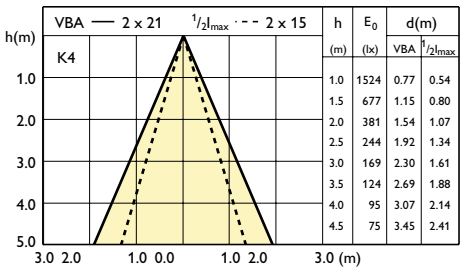


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	12401	0.32	0.21
0.75	5511	0.49	0.32
1.00	3100	0.65	0.43
1.25	1984	0.81	0.53
1.50	1378	0.97	0.64
1.75	1012	1.14	0.74
2.00	775	1.30	0.85
2.25	612	1.46	0.96

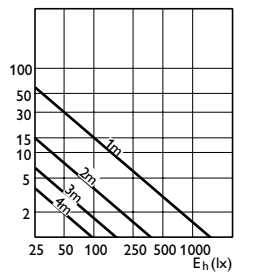


DICHRO 35W 24D

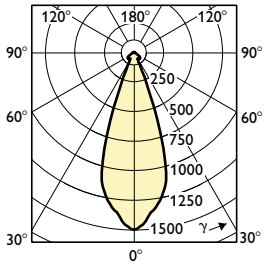


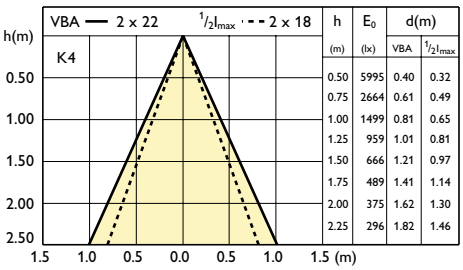


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	1524	0.77	0.54
1.5	677	1.15	0.80
2.0	381	1.54	1.07
2.5	244	1.92	1.34
3.0	169	2.30	1.61
3.5	124	2.69	1.88
4.0	95	3.07	2.14
4.5	75	3.45	2.41

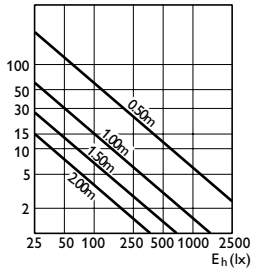


DICHRO 35W 30D

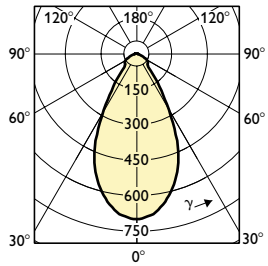


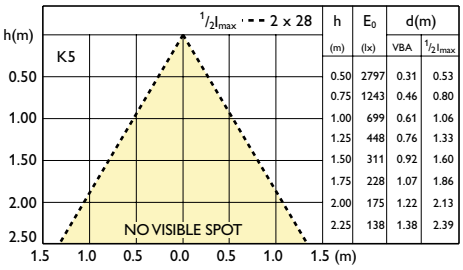


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	5995	0.40	0.32
0.75	2664	0.61	0.49
1.00	1499	0.81	0.65
1.25	959	1.01	0.81
1.50	666	1.21	0.97
1.75	489	1.41	1.14
2.00	375	1.62	1.30
2.25	296	1.82	1.46

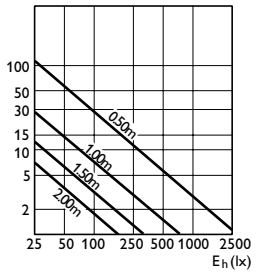


DICHRO 35W 36D

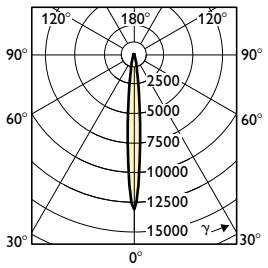


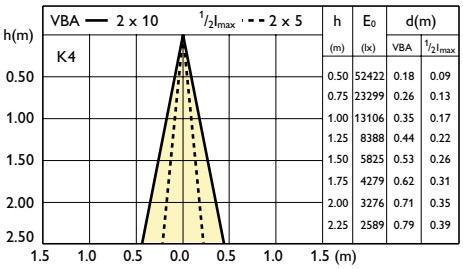


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	2797	0.31	0.53
0.75	1243	0.46	0.80
1.00	699	0.61	1.06
1.25	448	0.76	1.33
1.50	311	0.92	1.60
1.75	228	1.07	1.86
2.00	175	1.22	2.13
2.25	138	1.38	2.39

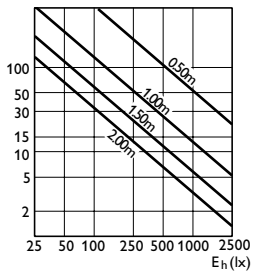


DICHRO 35W 60D

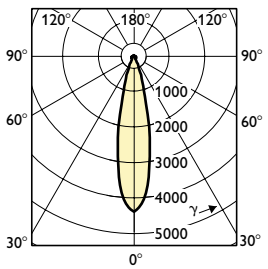


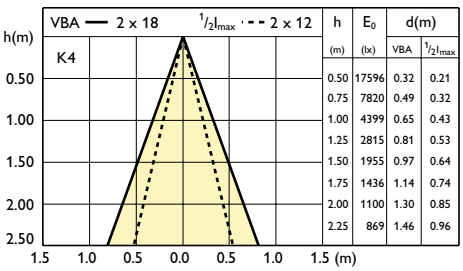


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	52422	0.18	0.09
0.75	23299	0.26	0.13
1.00	13106	0.35	0.17
1.25	8388	0.44	0.22
1.50	5825	0.53	0.26
1.75	4279	0.62	0.31
2.00	3276	0.71	0.35
2.25	2589	0.79	0.39

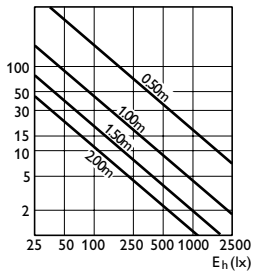


DICHRO 50W 10D

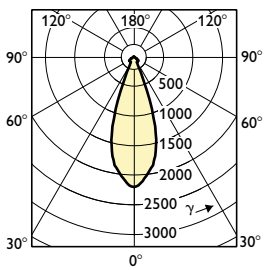


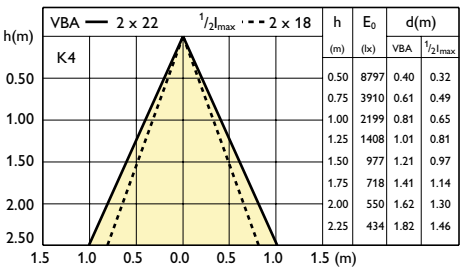


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	17596	0.32	0.21
0.75	7820	0.49	0.32
1.00	4399	0.65	0.43
1.25	2815	0.81	0.53
1.50	1955	0.97	0.64
1.75	1436	1.14	0.74
2.00	1100	1.30	0.85
2.25	869	1.46	0.96

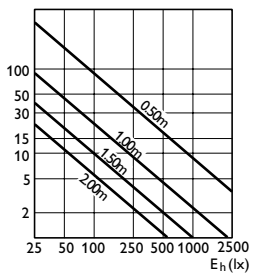


DICHRO 50W 24D

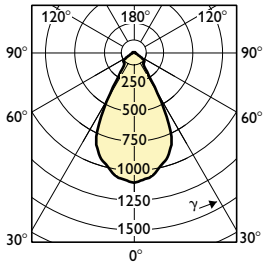


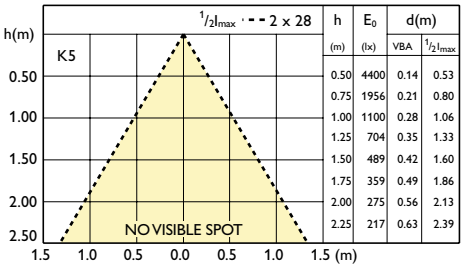


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
0.50	8797	0.40	0.32
0.75	3910	0.61	0.49
1.00	2199	0.81	0.65
1.25	1408	1.01	0.81
1.50	977	1.21	0.97
1.75	718	1.41	1.14
2.00	550	1.62	1.30
2.25	434	1.82	1.46

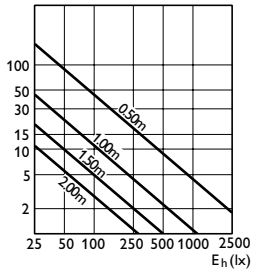


DICHRO 50W 36D



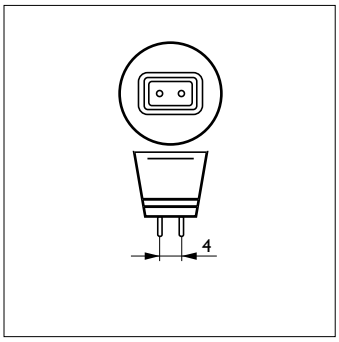


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2 I_{max}$
0.50	4400	0.14	0.53
0.75	1956	0.21	0.80
1.00	1100	0.28	1.06
1.25	704	0.35	1.33
1.50	489	0.42	1.60
1.75	359	0.49	1.86
2.00	275	0.56	2.13
2.25	217	0.63	2.39

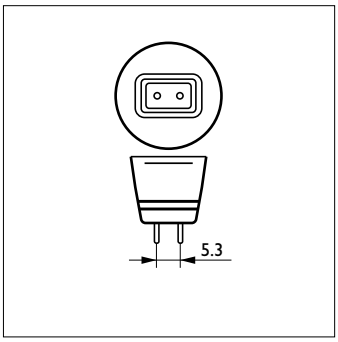


DICHRO 50W 60D

Cap Base

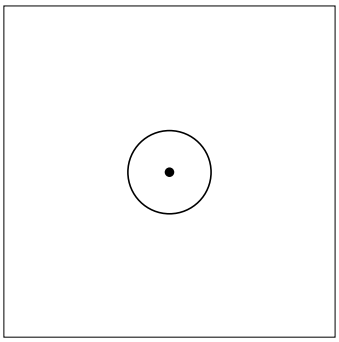


GU4



GU5.3

Operating position



any



Brilliantline Alu

Product Description

- Low voltage, xenon gas filled halogen burner with axial filament optically positioned in a aluminum coated glass reflector

Product Features

- High intensity beam with a clearly defined beam spread
- Reflector has a high-light and heat reflecting aluminium coating
- Wide range of 25 mm and 50 mm types
- UV-block glass
- Excellent colour rendering
- GU 5.3 or GZ4 base for extra retention in luminaire

Product Benefits

- Minimal light reflection to the back avoiding glare when used in open luminaires in e.g. show cases
- Minimalising risk of dark dust rings on the ceiling around the luminaire otherwise occuring, because the ceiling starts to breath (convection due to warming-up and cooling-down of upper ceiling)

Application

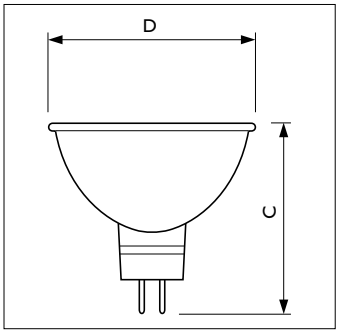
- Ideally suited for accent, task and decorative lighting in open luminaires shops (e.g. glas vitrines), stores, hotel and restaurants
- Especially suited for white or other light coloured celings with limited space above the ceiling

Luminaires

- Can be used in luminaires without frontglass in accordance with IEC 598

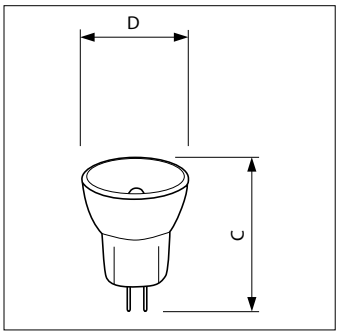
Recommended transformer page 9.118 - 9.123

www.philips.com/OEM



Brilliantline Alu GU5.3

Type	CMax	DMax
Brilliantline Alu GU5.3 12V	46	51



Brilliantline Alu GZ4

Type	CMax	DMax
Brilliantline Alu GZ4 12V	40	25.4

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Brilliantline Alu 20W GU5.3 12V MR16	12	1.7	20	Yes	4000
Brilliantline Alu 35W GU5.3 12V MR16	12	3.0	35	Yes	4000
Brilliantline Alu 50W GU5.3 12V MR16	12	4.2	50	Yes	4000
Brilliantline Alu 20W GZ4 12V MR8	12	1.7	20	Yes	4000
Brilliantline Alu 35W GZ4 12V MR8	12	3.0	35	Yes	4000

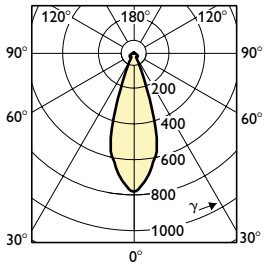
Light data

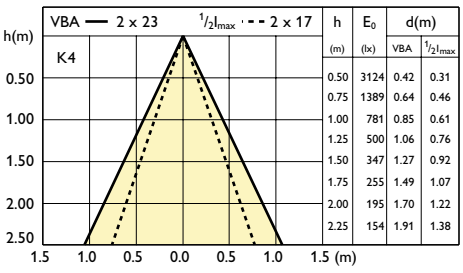
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Brilliantline Alu GU5.3 12V	3000	100	any

Ordering and packing data

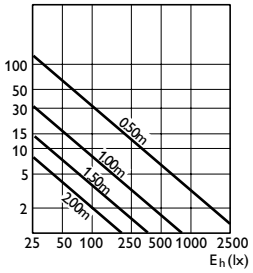
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Brilliantline Alu 20W GU5.3 12V MR16 36D 1CT	HAGS-20-12-GU5.3-50/36	8711500430724	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500430748	430724 60
Brilliantline Alu 20W GU5.3 12V MR16 36D 1CT	HAGS-20-12-GU5.3-50/36	8711500430724	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8711500655943	430724 96
Brilliantline Alu 35W GU5.3 12V MR16 36D 1CT	HAGS-35-12-GU5.3-50/36	8711500430755	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8711500430779	430755 60
Brilliantline Alu 50W GU5.3 12V MR16 36D 1CT	HAGS-50-12-GU5.3-50/36	8711500430793	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8711500430823	430793 60
Brilliantline Alu 20W GZ4 12V MR8 14D 1CT	HAGS-20-12-GZ4-25.4/14	8711500440358	9.6 gr	20	14.1 cm x 6 cm x 19.1 cm	8711500440372	440358 71
Brilliantline Alu 35W GZ4 12V MR8 23D 1CT	HAGS-35-12-GZ4-25.4/23	8711500440389	9.6 gr	20	14.1 cm x 6 cm x 19.1 cm	8711500440402	440389 71

Photometric diagram

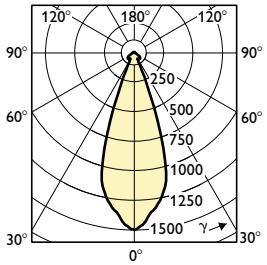


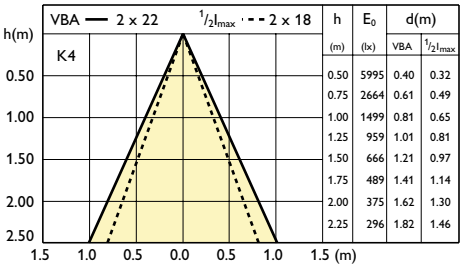


h (m)	E0 (lx)	d(m) VBA	d(m) ½Imax
0.50	3124	0.42	0.31
0.75	1389	0.64	0.46
1.00	781	0.85	0.61
1.25	500	1.06	0.76
1.50	347	1.27	0.92
1.75	255	1.49	1.07
2.00	195	1.70	1.22
2.25	154	1.91	1.38

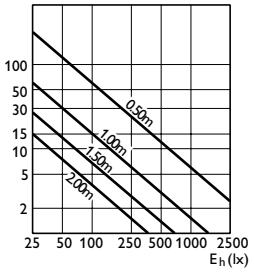


ALU 20W 36D

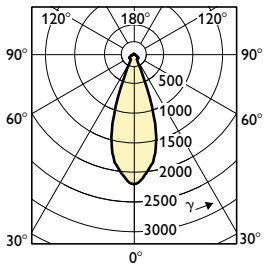


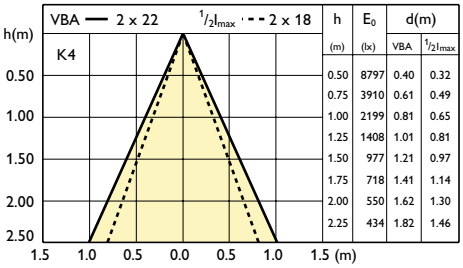


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	5995	0.40	0.32
0.75	2664	0.61	0.49
1.00	1499	0.81	0.65
1.25	959	1.01	0.81
1.50	666	1.21	0.97
1.75	489	1.41	1.14
2.00	375	1.62	1.30
2.25	296	1.82	1.46

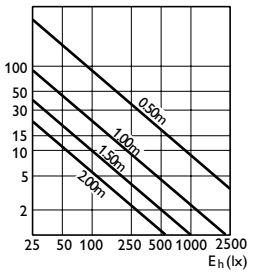


ALU 35W 36D



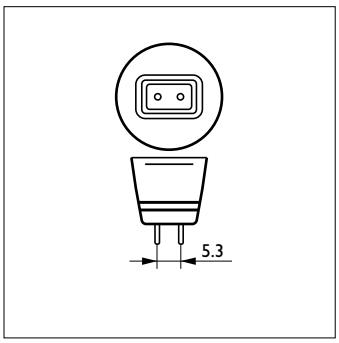


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	8797	0.40	0.32
0.75	3910	0.61	0.49
1.00	2199	0.81	0.65
1.25	1408	1.01	0.81
1.50	977	1.21	0.97
1.75	718	1.41	1.14
2.00	550	1.62	1.30
2.25	434	1.82	1.46



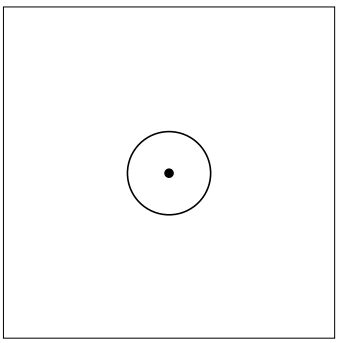
ALU 50W 36D

Cap Base



GU5.3

Operating position



any





Diamondline

Product Description

- Low-voltage, high-pressure xenon gas-filled cool daylight halogen burner with axial filament optically aligned in a glass reflector

Product Features

- Reflector has a heat-transmitting, light-reflecting hard dichroic coating
- Constant high quality and aesthetics maintained over lifetime
- Range of 35 W and 50 W in 50 mm types
- Cool daylight colour appearance (4100 K)
- Excellent colour rendering
- GU5.3 base for extra retention in luminaire

Product Benefits

- Cool daylight appearance of beam with a clearly defined beam shape
- Enhanced attractiveness of especially jewelry making diamonds and crystal sparkle, and bringing a natural shine to silver and porcelein

Application

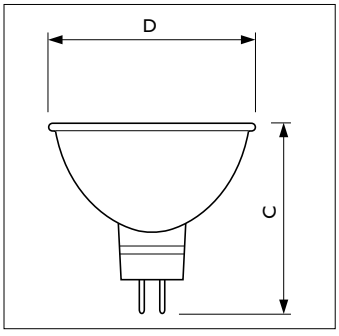
- Accent, task lighting and decorative applications, especially in jewelry shops (sparkling diamonds, silver, gold, crystal)

Luminaires

- Lamps can be used in luminaires without a front glass in accordance with IEC 598

Recommended transformer page 9.118 - 9.123

www.philips.com/OEM



Diamondline GU5.3

Type	CMax	DMax
Diamondline GU5.3 12V	46	51

Technical data

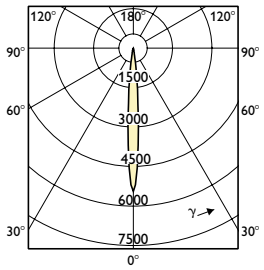
Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Diamondline 35W GU5.3 12V 1CT	12	3	35	Yes	4000
Diamondline 50W GU5.3 12V 1CT	12	4.25	50	Yes	4000

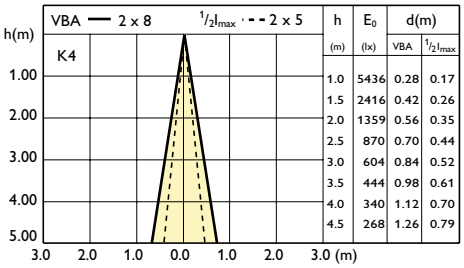
Light data

Type	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Diamondline 3500K GU5.3 12V	3500 Kelvin	3500	100	any
Diamondline 4100K GU5.3 12V	4100 Kelvin	4100	100	any
Diamondline 4700K GU5.3 12V	4700 Kelvin	4700	100	any

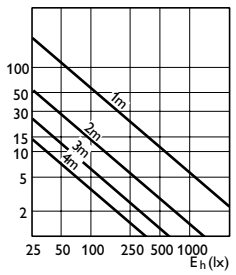
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Diamondline 35W 3500K GU5.3 12V 10D 1CT	HRGS/UBIB-35-12-GU5.3-51/10	8727900203134	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203264	203134 60
Diamondline 35W 3500K GU5.3 12V 24D 1CT	HRGS/UBIB-35-12-GU5.3-51/24	8727900203141	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203288	203141 60
Diamondline 35W 3500K GU5.3 12V 36D 1CT	HRGS/UBIB-35-12-GU5.3-51/36	8727900203158	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203301	203158 60
Diamondline 50W 3500K GU5.3 12V 10D 1CT	HRGS/UBIB-50-12-GU5.3-51/10	8727900203196	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203387	203196 60
Diamondline 50W 3500K GU5.3 12V 24D 1CT	HRGS/UBIB-50-12-GU5.3-51/24	8727900203202	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203400	203202 60
Diamondline 50W 3500K GU5.3 12V 36D 1CT	HRGS/UBIB-50-12-GU5.3-51/36	8727900203219	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203424	203219 60
Diamondline 35W 4100K GU5.3 12V 10D 1CT	HRGS/UBIB-35-12-GU5.3-51/10	8711500428813	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500428837	428813 60
Diamondline 35W 4100K GU5.3 12V 24D 1CT	HRGS/UBIB-35-12-GU5.3-51/24	8711500428844	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500428868	428844 60
Diamondline 35W 4100K GU5.3 12V 36D 1CT	HRGS/UBIB-35-12-GU5.3-51/36	8711500428875	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500428899	428875 60
Diamondline 50W 4100K GU5.3 12V 10D 1CT	HRGS/UBIB-50-12-GU5.3-51/10	8711500428905	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500428929	428905 60
Diamondline 50W 4100K GU5.3 12V 24D 1CT	HRGS/UBIB-50-12-GU5.3-51/24	8711500428936	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500428950	428936 60
Diamondline 50W 4100K GU5.3 12V 36D 1CT	HRGS/UBIB-50-12-GU5.3-51/36	8711500428967	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500428981	428967 60
Diamondline 35W 4700K GU5.3 12V 10D 1CT	HRGS/UBIB-35-12-GU5.3-51/10	8727900203165	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203325	203165 60
Diamondline 35W 4700K GU5.3 12V 24D 1CT	HRGS/UBIB-35-12-GU5.3-51/24	8727900203172	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203349	203172 60
Diamondline 35W 4700K GU5.3 12V 36D 1CT	HRGS/UBIB-35-12-GU5.3-51/36	8727900203189	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203363	203189 60
Diamondline 50W 4700K GU5.3 12V 10D 1CT	HRGS/UBIB-50-12-GU5.3-51/10	8727900203226	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203448	203226 60
Diamondline 50W 4700K GU5.3 12V 24D 1CT	HRGS/UBIB-50-12-GU5.3-51/24	8727900203233	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203462	203233 60
Diamondline 50W 4700K GU5.3 12V 36D 1CT	HRGS/UBIB-50-12-GU5.3-51/36	8727900203240	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8727900203486	203240 60

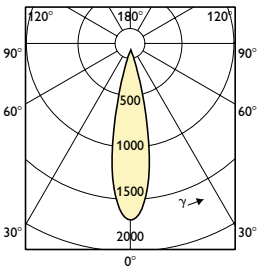


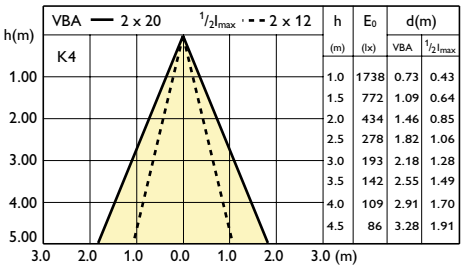


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
1.0	5436	0.28	0.17
1.5	2416	0.42	0.26
2.0	1359	0.56	0.35
2.5	870	0.70	0.44
3.0	604	0.84	0.52
3.5	444	0.98	0.61
4.0	340	1.12	0.70
4.5	268	1.26	0.79

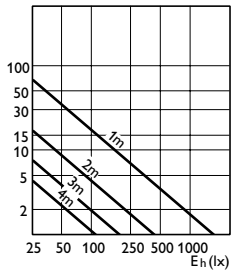


DL 35W 10D

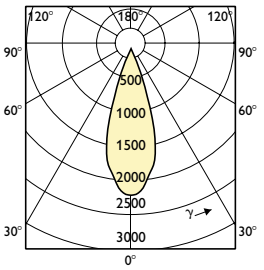


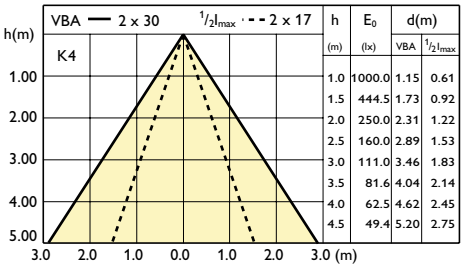


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
1.0	1738	0.73	0.43
1.5	772	1.09	0.64
2.0	434	1.46	0.85
2.5	278	1.82	1.06
3.0	193	2.18	1.28
3.5	142	2.55	1.49
4.0	109	2.91	1.70
4.5	86	3.28	1.91

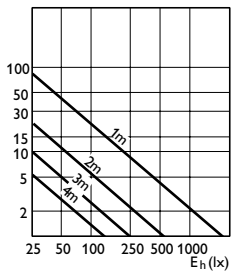


DL 35W 24D

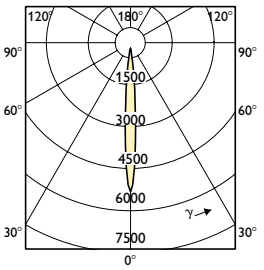


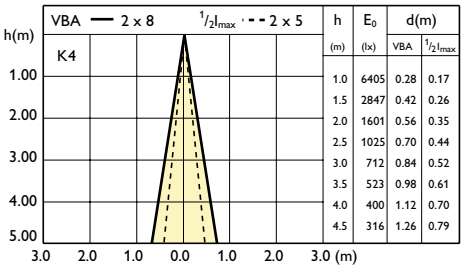


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
1.0	1000.0	1.15	0.61
1.5	444.5	1.73	0.92
2.0	250.0	2.31	1.22
2.5	160.0	2.89	1.53
3.0	111.0	3.46	1.83
3.5	81.6	4.04	2.14
4.0	62.5	4.62	2.45
4.5	49.4	5.20	2.75

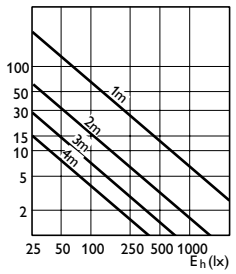


DL 35W 36D

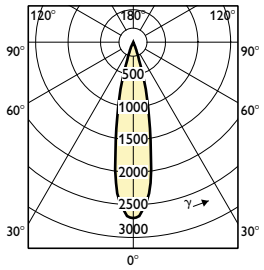


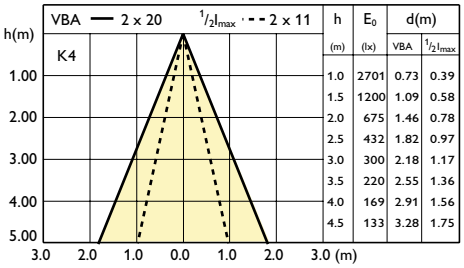


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
1.0	6405	0.28	0.17
1.5	2847	0.42	0.26
2.0	1601	0.56	0.35
2.5	1025	0.70	0.44
3.0	712	0.84	0.52
3.5	523	0.98	0.61
4.0	400	1.12	0.70
4.5	316	1.26	0.79

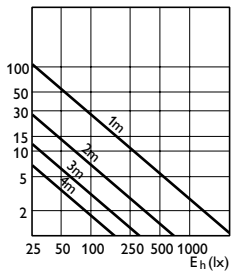


DL 50W 10D

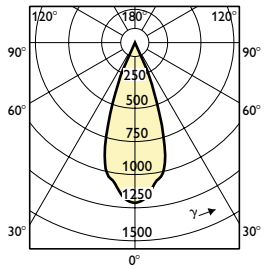


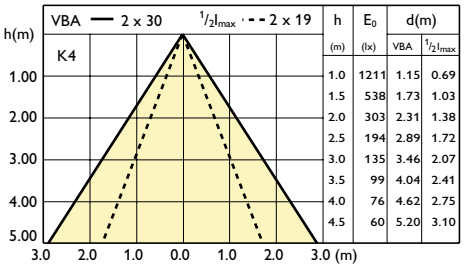


h (m)	E_0 (lx)	d(m) VBA	d(m) $^1/_2I_{max}$
1.0	2701	0.73	0.39
1.5	1200	1.09	0.58
2.0	675	1.46	0.78
2.5	432	1.82	0.97
3.0	300	2.18	1.17
3.5	220	2.55	1.36
4.0	169	2.91	1.56
4.5	133	3.28	1.75

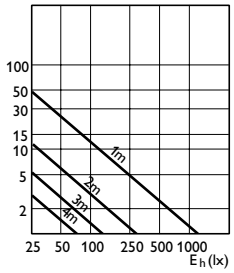


DL 50W 24D



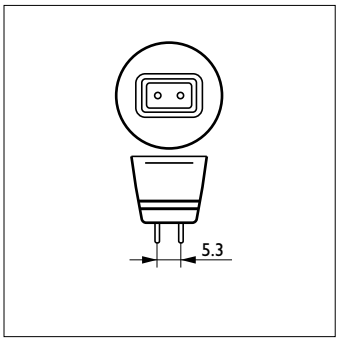


h	E_0	d(m)	
(m)	(lx)	VBA	1/2 Imax
1.0	1211	1.15	0.69
1.5	538	1.73	1.03
2.0	303	2.31	1.38
2.5	194	2.89	1.72
3.0	135	3.46	2.07
3.5	99	4.04	2.41
4.0	76	4.62	2.75
4.5	60	5.20	3.10



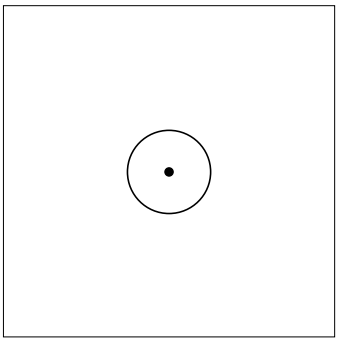
DL 50W 36D

Cap Base



GU5.3

Operating position



any



Accentline

Product Description

- Low-voltage halogen burner optically positioned in a glass reflector with and without front glass

Product Features

- Dichroic reflector coating is heat-transmitting towards the back, and light-reflecting towards the front of the lamp
- UV-Block burner
- Excellent colour rendering
- GU5.3 base for extra retention in luminaire

Product Benefits

- Good light quality, cool beam halogen light and a professional lifetime

Application

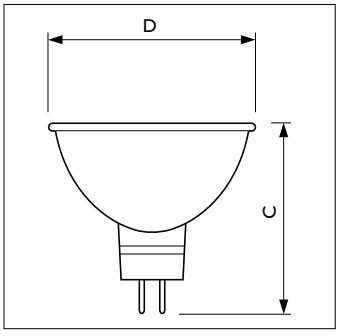
- Accent, task lighting and decorative applications in homes, shops, hotels and restaurants

Luminaires

- Can be used in luminaires without a front glass in accordance with IEC 598

Recommended transformer page 9.118 - 9.123

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Accentline GU5.3

Type	CMax	DMax
Accentline GU5.3 12V	46	51

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Accentline 20W GU5.3 12V 10D 1CT	12	1.6	20	Yes	3000
Accentline 35W GU5.3 12V 10D 1CT	12	2.9	35	Yes	3000
Accentline 50W GU5.3 12V 10D 1CT	12	4.2	50	Yes	3000
Accentline 50W GU5.3 12V 24D 1CT	12	4.2	50	Yes	3000
Accentline 20W GU5.3 12V 36D UNP	12	1.6	20	Yes	3000

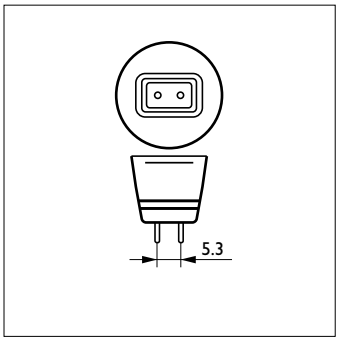
Light data

Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Accentline GU5.3 12V	3000	100	any

Ordering and packing data

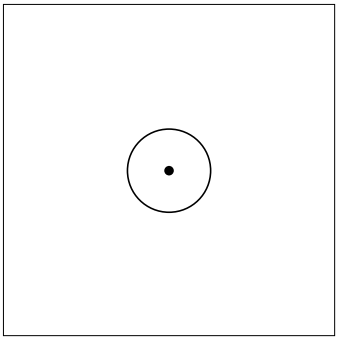
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Accentline 20W GU5.3 12V 10D 1CT	HRGI-20-12-GU5.3-20/10	8711500411907	30 gr	50	30.3 cm x 24.1 cm x 10.5 cm	8711500411921	411907 60
Accentline 20W GU5.3 12V 36D 1CT	HRGI-20-12-GU5.3-20/36	8711500411990	30 gr	50	30.3 cm x 24.1 cm x 10.5 cm	8711500412010	411990 60
Accentline 20W GU5.3 12V 36D 1CT	HRGI-20-12-GU5.3-20/36	8711500412171	30 gr	50	30.3 cm x 10.5 cm x 24.1 cm	8711500412195	412171 60
Accentline 35W GU5.3 12V 10D 1CT	HRGI-35-12-GU5.3-35/10	8711500412119	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500412133	412119 60
Accentline 35W GU5.3 12V 10D 1CT	HRGI-35-12-GU5.3-35/10	8711500411938	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500411952	411938 60
Accentline 35W GU5.3 12V 36D 1CT	HRGI-35-12-GU5.3-35/36	8711500412027	30 gr	50	30.3 cm x 24.1 cm x 10.5 cm	8711500412041	412027 60
Accentline 35W GU5.3 12V 36D 1CT	HRGI-35-12-GU5.3-35/36	8711500412201	30 gr	50	30.3 cm x 10.5 cm x 24.1 cm	8711500412225	412201 60
Accentline 50W GU5.3 12V 10D 1CT	HRGI-50-12-GU5.3-50/10	8711500412140	30 gr	50	33 cm x 24.1 cm x 10.3 cm	8711500412164	412140 60
Accentline 50W GU5.3 12V 10D 1CT	HRGI-50-12-GU5.3-50/10	8711500411969	30 gr	50	30.3 cm x 24.1 cm x 10.5 cm	8711500411983	411969 60
Accentline 50W GU5.3 12V 24D 1CT	HRGI-50-12-GU5.3-50/24	8711500412263	30 gr	50	30.3 cm x 10.6 cm x 24.7 cm	8711500412287	412263 60
Accentline 50W GU5.3 12V 24D 1CT	HRGI-50-12-GU5.3-50/24	8711500413246	30 gr	50	30.3 cm x 24.1 cm x 10.5 cm	8711500413277	413246 60
Accentline 50W GU5.3 12V 36D 1CT	HRGI-50-12-GU5.3-50/36	8711500412232	30 gr	50	30.3 cm x 24.1 cm x 10.5 cm	8711500412256	412232 60
Accentline 50W GU5.3 12V 36D 1CT	HRGI-50-12-GU5.3-50/36	8711500412058	30 gr	50	30.3 cm x 10.5 cm x 24.1 cm	8711500412072	412058 60
Accentline 50W GU5.3 12V 36D UNP	HRGI-50-12-GU5.3-50/36	8711500412737	29 gr	240	56.5 cm x 38.7 cm x 30.4 cm	8711500412744	412737 29
Accentline 50W GU5.3 12V 60D 1CT	HRGI-50-12-GU5.3-50/60	8711500426086	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8711500426109	426086 60
Accentline 50W GU5.3 12V 60D 1CT	HRGI-50-12-GU5.3-50/60	8711500426918	30 gr	50	30.3 cm x 24.1 cm x 10.5 cm	8711500426925	426918 60
Accentline 50W GU5.3 12V 60D 1CT	HRGI-50-12-GU5.3-50/60	8711500657176	30 gr	50	30.6 cm x 10.6 cm x 24.7 cm	8711500657190	657176 60
Accentline 20W GU5.3 12V 10D 1CT	HRGI-20-12-GU5.3-20/10	8711500412089	30 gr	50	30.3 cm x 24.1 cm x 10.5 cm	8711500412102	412089 60
Accentline 20W GU5.3 12V 36D UNP	HRGI-20-12-GU5.3-50/36	8711500426635	30 gr	240	56.5 cm x 38.7 cm x 30.4 cm	8711500426642	426635 29

Cap Base



GU5.3

Operating position



any



MASTERLine 111

Product Description

- Low-voltage halogen reflector lamp with double-ended burner and high-purity aluminium reflector

Product Features

- Unique infrared-coated burner technology
- Revolutionary compact, precision burner for maximum performance of the infra-red reflecting coating
- Ceramic filament shield reduces glare and improves beam shape
- Flat profile, very tight beam pattern and excellent glare control
- G53 socket & screw or tab terminals for direct wire connection with mating eyelet or receptacle
- UV-Block quartz glass

Product Benefits

- Glare free, well-defined accent lighting with minimum amount of direct glare from the lamp
- Up to 40% lower energy costs compared to the equivalent versions of this lamp, thanks to improved burner efficacy (lm/W)
- Increased comfort and (where applicable) lower cooling costs because of up to 40% lower heat transmission
- Low maintenance costs due to increased lifetime (33% higher than equivalent versions)
- Lowest UV-output compared to other versions of this lamps, reducing fading risks to absolute minimum

Application

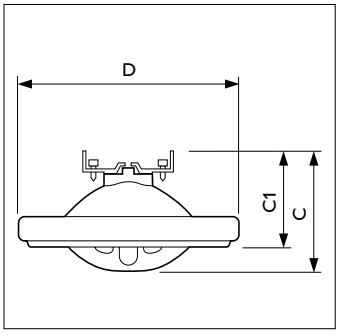
- Excellent light source for general lighting and especially creative accent lighting in shops, restautants, hotels, and especially for galleries, exhibitions and museums

Environment

- Excellent environmental choice because of high energy efficiency and long reliable life
- This product is a Philips Green product

Recommended transformer page 9.118 - 9.123

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MASTERLine 111 G53

Type	CMax	C1Max	DMax
MASTERLine 111 G53 12V	65	51	111

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
MASTERLine III 30W G53 12V	12	2.5	30	Yes	4000
MASTERLine III 45W G53 12V	12	3.8	45	Yes	4000
MASTERLine III 60W G53 12V	12	5.0	60	Yes	4000

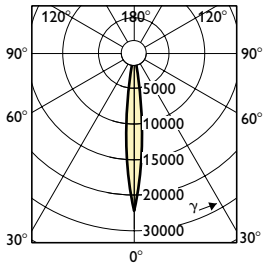
Light data

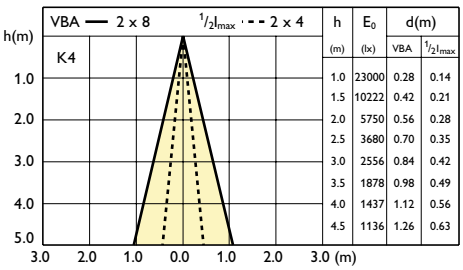
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
MASTERLine III G53 12V	3000	100	any

Ordering and packing data

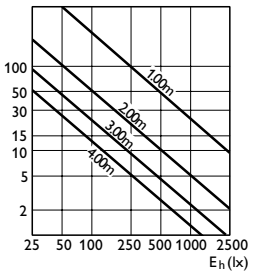
Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERLine III 30W G53 12V 8D ICT	8711500411013	65.6 gr	6	27.1 cm x 18.6 cm x 13.1 cm	8711500437310	411013 10
MASTERLine III 30W G53 12V 24D ICT	8711500411037	65.6 gr	6	27.1 cm x 18.6 cm x 13.1 cm	8711500437327	411037 10
MASTERLine III 45W G53 12V 8D ICT	8711500411051	65.6 gr	6	27.1 cm x 18.6 cm x 13.1 cm	8711500437334	411051 10
MASTERLine III 45W G53 12V 24D ICT	8711500411075	65.6 gr	6	27.1 cm x 18.6 cm x 13.1 cm	8711500437341	411075 10
MASTERLine III 45W G53 12V 45D ICT	8711500411099	65.6 gr	6	27.1 cm x 18.6 cm x 13.1 cm	8711500437358	411099 10
MASTERLine III 60W G53 12V 8D ICT	8711500411112	65.6 gr	6	27.1 cm x 18.6 cm x 13.1 cm	8711500411129	411112 10
MASTERLine III 60W G53 12V 24D ICT	8711500411150	65.6 gr	6	27.1 cm x 18.6 cm x 13.1 cm	8711500437365	411150 10
MASTERLine III 60W G53 12V 45D ICT	8711500411136	65.6 gr	6	26.3 cm x 17.9 cm x 13 cm	8711500411143	411136 10

Photometric diagram

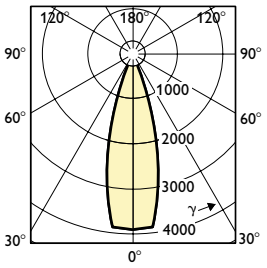


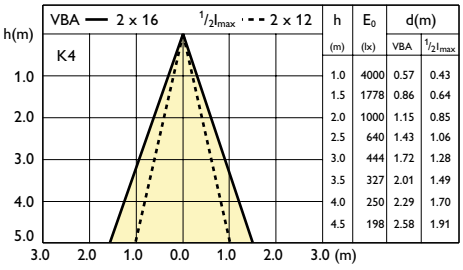


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	23000	0.28	0.14
1.5	10222	0.42	0.21
2.0	5750	0.56	0.28
2.5	3680	0.70	0.35
3.0	2556	0.84	0.42
3.5	1878	0.98	0.49
4.0	1437	1.12	0.56
4.5	1136	1.26	0.63

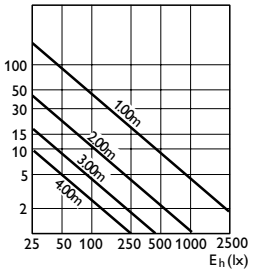


ML III 30W 8D

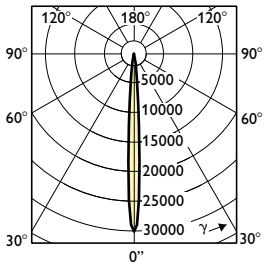


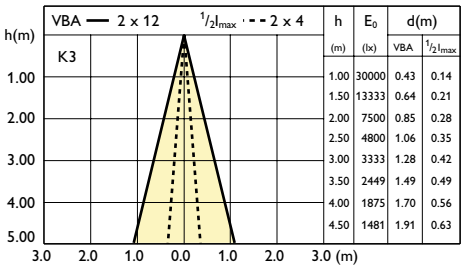


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	4000	0.57	0.43
1.5	1778	0.86	0.64
2.0	1000	1.15	0.85
2.5	640	1.43	1.06
3.0	444	1.72	1.28
3.5	327	2.01	1.49
4.0	250	2.29	1.70
4.5	198	2.58	1.91

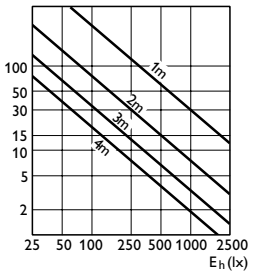


ML III 30W 24D

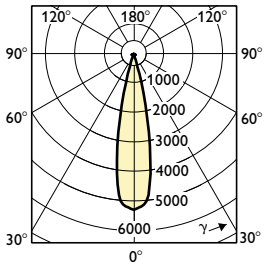


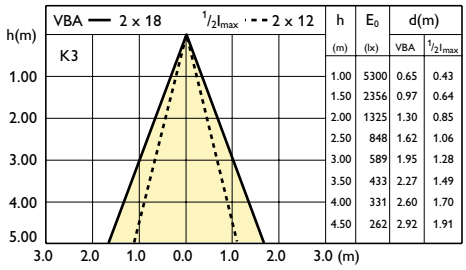


h (m)	E_0 (lx)	d(m) VBA	d(m) ½Imax
1.00	30000	0.43	0.14
1.50	13333	0.64	0.21
2.00	7500	0.85	0.28
2.50	4800	1.06	0.35
3.00	3333	1.28	0.42
3.50	2449	1.49	0.49
4.00	1875	1.70	0.56
4.50	1481	1.91	0.63

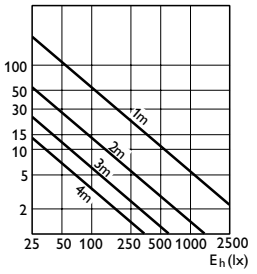


ML III 45W 8D

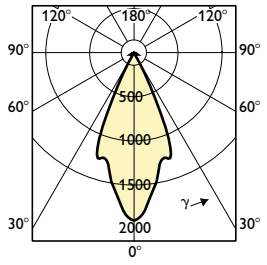


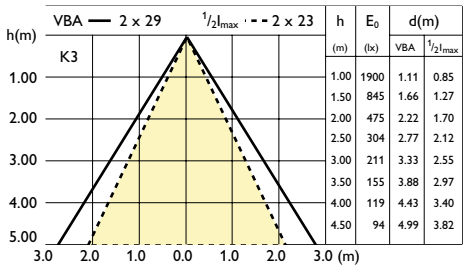


h (m)	E_0 (lx)	d(m) VBA	d(m) ½Imax
1.00	5300	0.65	0.43
1.50	2356	0.97	0.64
2.00	1325	1.30	0.85
2.50	848	1.62	1.06
3.00	589	1.95	1.28
3.50	433	2.27	1.49
4.00	331	2.60	1.70
4.50	262	2.92	1.91

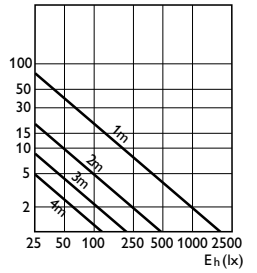


ML III 45W 24D

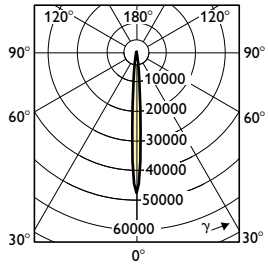


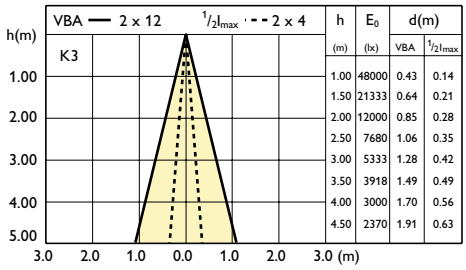


h (m)	E_0 (lx)	d(m) VBA	d(m) ½Imax
1.00	1900	1.11	0.85
1.50	845	1.66	1.27
2.00	475	2.22	1.70
2.50	304	2.77	2.12
3.00	211	3.33	2.55
3.50	155	3.88	2.97
4.00	119	4.43	3.40
4.50	94	4.99	3.82

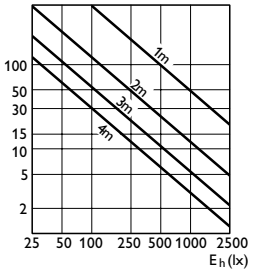


ML III 45W 45D

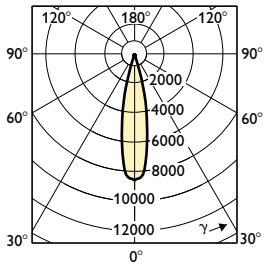


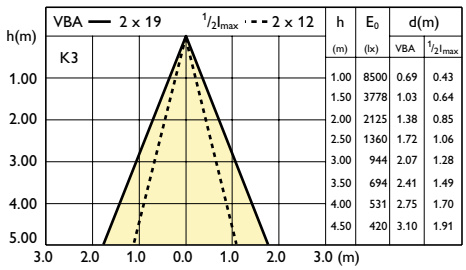


h (m)	E_0 (lx)	d(m) VBA	d(m) ½Imax
1.00	48000	0.43	0.14
1.50	21333	0.64	0.21
2.00	12000	0.85	0.28
2.50	7680	1.06	0.35
3.00	5333	1.28	0.42
3.50	3918	1.49	0.49
4.00	3000	1.70	0.56
4.50	2370	1.91	0.63

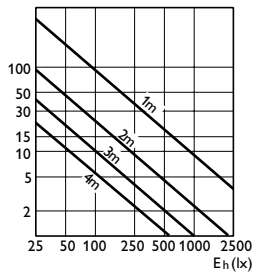


ML III 60W 8D

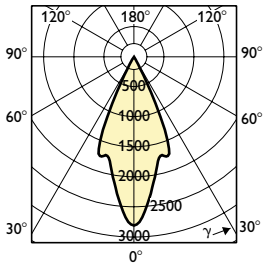


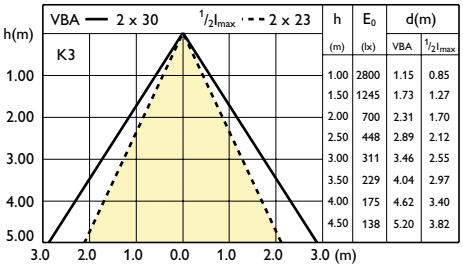


h (m)	E_0 (lx)	d(m) VBA	d(m) ½Imax
1.00	8500	0.69	0.43
1.50	3778	1.03	0.64
2.00	2125	1.38	0.85
2.50	1360	1.72	1.06
3.00	944	2.07	1.28
3.50	694	2.41	1.49
4.00	531	2.75	1.70
4.50	420	3.10	1.91

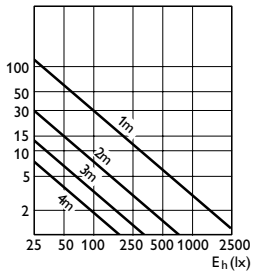


ML III 60W 24D



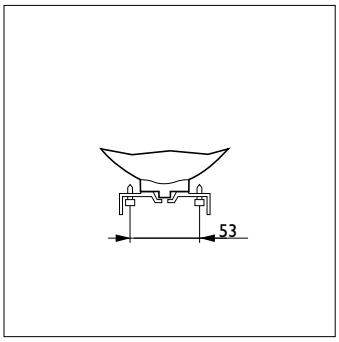


h	E_0	d(m)	
(m)	(lx)	VBA	$^1/_2I_{max}$
1.00	2800	1.15	0.85
1.50	1245	1.73	1.27
2.00	700	2.31	1.70
2.50	448	2.89	2.12
3.00	311	3.46	2.55
3.50	229	4.04	2.97
4.00	175	4.62	3.40
4.50	138	5.20	3.82



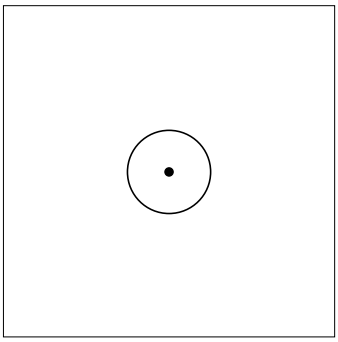
ML III 60W 45D

Cap Base



G53

Operating position



any



Aluline 111

Product Description

- Low-voltage halogen reflector lamp with high-purity aluminium reflector of 111 mm

Product Features

- Metal cap to shield filament to reduce glare and improve beam shape
- G53 socket & screw or tab terminals allowing for direct wire connection with imating eyelet or receptacle
- UV-block quartz glass

Product Benefits

- Glare free, well-defined accent lighting with minimum amount of direct glare from the lamp

Application

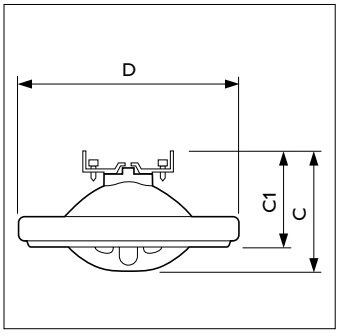
- Excellent light source for general lighting and especially creative accent lighting in shops, restautants, hotels, galleries, exhibitions and museums

Luminaires

- For use in open luminaires

Recommended transformer page 9.118 - 9.123

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Aluline 111 G53

Type	CMax	C1Max	DMax
Aluline 111 G53 12V	61	50	111

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Aluline 111 50W G53 12V	12	4.2	50	Yes	3000
Aluline 111 75W G53 12V	12	6.3	75	Yes	3000
Aluline 111 100W G53 12V	12	8.3	100	Yes	3000

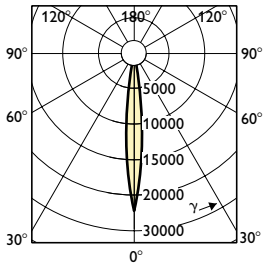
Light data

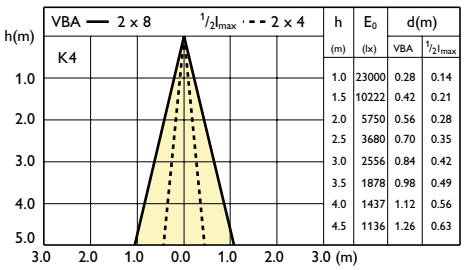
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Aluline 111 G53 12V	3000	100	any

Ordering and packing data

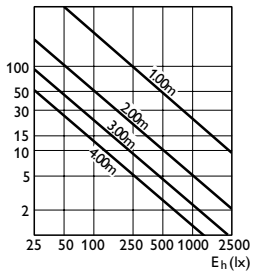
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Aluline 111 50W G53 12V 8D 1CT	HRGI-50-12-G53-50/8	8711500426529	60 gr	6	27 cm x 18.3 cm x 12.7 cm	8711500426543	426529 33
Aluline 111 50W G53 12V 24D 1CT	HRGI-50-12-G53-50/24	8711500426550	60 gr	6	26.3 cm x 17.9 cm x 13 cm	8711500426574	426550 33
Aluline 111 75W G53 12V 8D 1CT	HRGI-75-12-G53-50/8	8711500426987	60 gr	6	26.3 cm x 17.9 cm x 13 cm	8711500426994	426987 33
Aluline 111 75W G53 12V 24D 1CT	HRGI-75-12-G53-50/24	8711500427007	60 gr	6	26.3 cm x 17.9 cm x 13 cm	8711500427014	427007 33
Aluline 111 75W G53 12V 45D 1CT	HRGI-75-12-G53-50/45	8711500427021	60 gr	6	26.3 cm x 17.9 cm x 13 cm	8711500427038	427021 33
Aluline 111 100W G53 12V 8D 1CT	HRGI-100-12-G53-50/8	8711500427045	60 gr	6	26.3 cm x 17.9 cm x 13 cm	8711500427052	427045 33
Aluline 111 100W G53 12V 24D 1CT	HRGI-100-12-G53-50/24	8711500427069	60 gr	6	26.3 cm x 17.9 cm x 13 cm	8711500427076	427069 33
Aluline 111 100W G53 12V 45D 1CT	HRGI-100-12-G53-50/45	8711500427083	60 gr	6	26.3 cm x 17.9 cm x 13 cm	8711500427090	427083 33

Photometric diagram

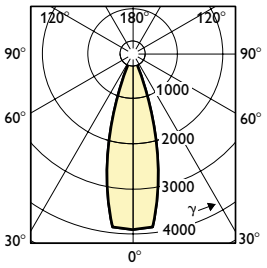


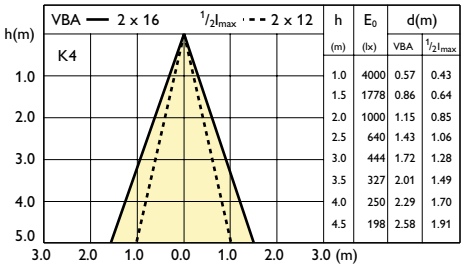


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	23000	0.28	0.14
1.5	10222	0.42	0.21
2.0	5750	0.56	0.28
2.5	3680	0.70	0.35
3.0	2556	0.84	0.42
3.5	1878	0.98	0.49
4.0	1437	1.12	0.56
4.5	1136	1.26	0.63

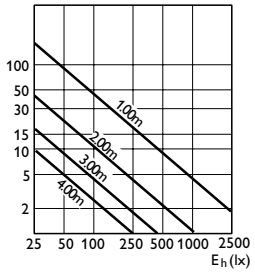


ALU 50W 8D

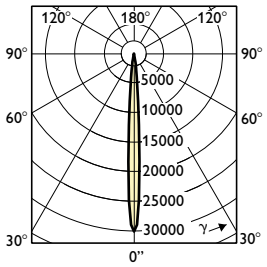


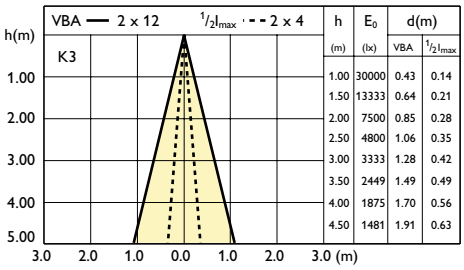


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	4000	0.57	0.43
1.5	1778	0.86	0.64
2.0	1000	1.15	0.85
2.5	640	1.43	1.06
3.0	444	1.72	1.28
3.5	327	2.01	1.49
4.0	250	2.29	1.70
4.5	198	2.58	1.91

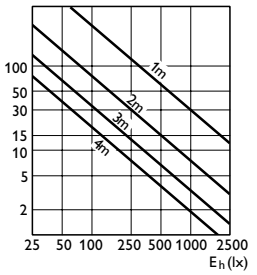


ALU 50W 24D

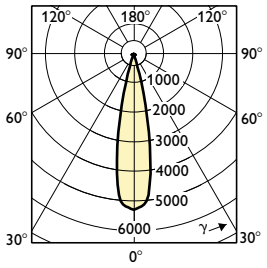


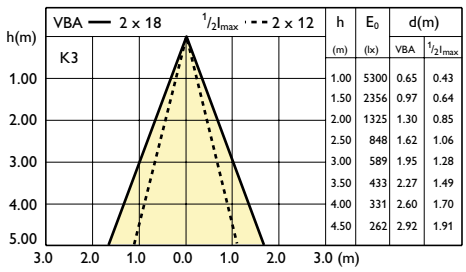


h	E_0	d(m)	
(m)	(lx)	VBA	$^1/_2I_{max}$
1.00	30000	0.43	0.14
1.50	13333	0.64	0.21
2.00	7500	0.85	0.28
2.50	4800	1.06	0.35
3.00	3333	1.28	0.42
3.50	2449	1.49	0.49
4.00	1875	1.70	0.56
4.50	1481	1.91	0.63

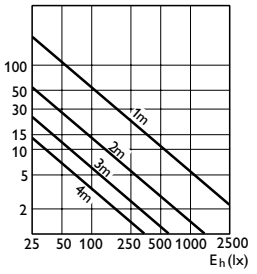


ALU 75W 8D

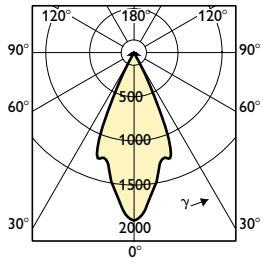


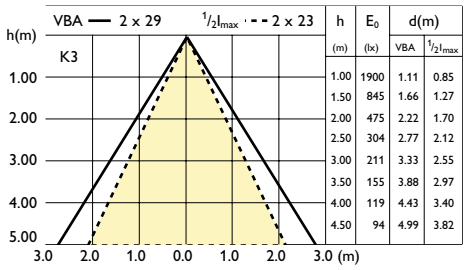


h	E_0	d(m)	
(m)	(lx)	VBA	$^1/_2I_{max}$
1.00	5300	0.65	0.43
1.50	2356	0.97	0.64
2.00	1325	1.30	0.85
2.50	848	1.62	1.06
3.00	589	1.95	1.28
3.50	433	2.27	1.49
4.00	331	2.60	1.70
4.50	262	2.92	1.91

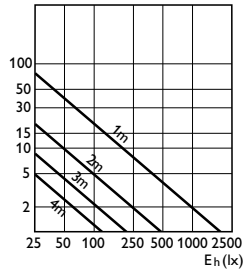


ALU 75W 24D

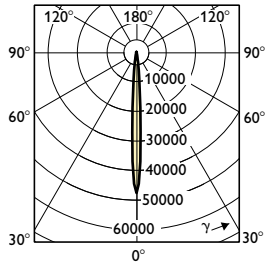


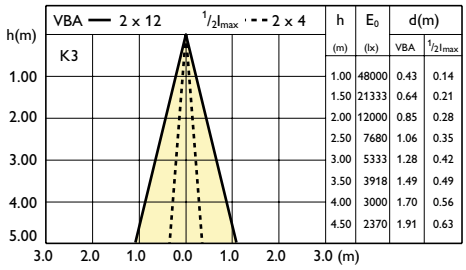


h	E_0	d(m)	
(m)	(lx)	VBA	$^1/_2I_{max}$
1.00	1900	1.11	0.85
1.50	845	1.66	1.27
2.00	475	2.22	1.70
2.50	304	2.77	2.12
3.00	211	3.33	2.55
3.50	155	3.88	2.97
4.00	119	4.43	3.40
4.50	94	4.99	3.82

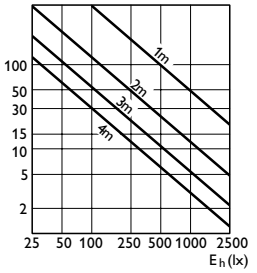


ALU 75W 45D

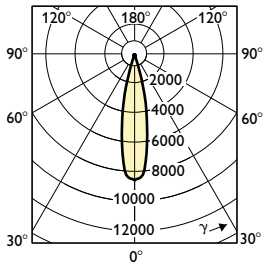


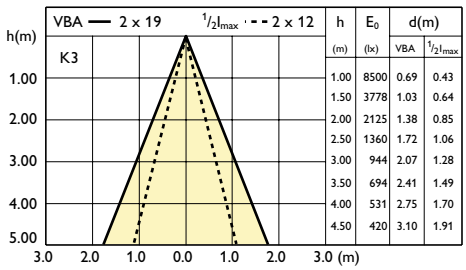


h	E_0	d(m)	
(m)	(lx)	VBA	$^1/_2I_{max}$
1.00	48000	0.43	0.14
1.50	21333	0.64	0.21
2.00	12000	0.85	0.28
2.50	7680	1.06	0.35
3.00	5333	1.28	0.42
3.50	3918	1.49	0.49
4.00	3000	1.70	0.56
4.50	2370	1.91	0.63

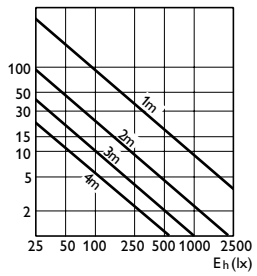


ALU 100W 8D

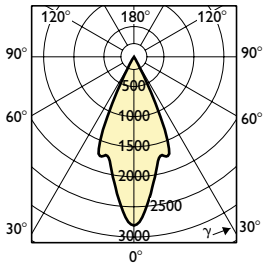


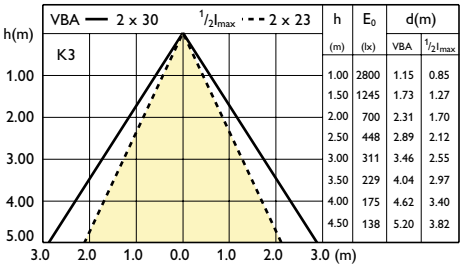


h	E_0	d(m)	
(m)	(lx)	VBA	$^1/_2I_{max}$
1.00	8500	0.69	0.43
1.50	3778	1.03	0.64
2.00	2125	1.38	0.85
2.50	1360	1.72	1.06
3.00	944	2.07	1.28
3.50	694	2.41	1.49
4.00	531	2.75	1.70
4.50	420	3.10	1.91

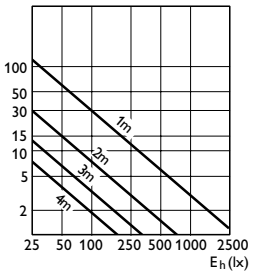


ALU 100W 24D



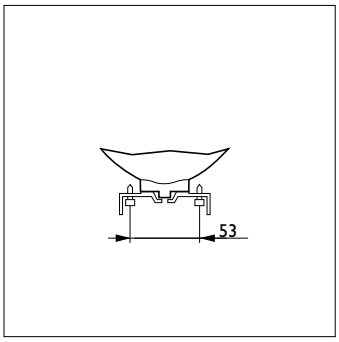


h (m)	E_0 (lx)	d(m) VBA	d(m) ½Imax
1.00	2800	1.15	0.85
1.50	1245	1.73	1.27
2.00	700	2.31	1.70
2.50	448	2.89	2.12
3.00	311	3.46	2.55
3.50	229	4.04	2.97
4.00	175	4.62	3.40
4.50	138	5.20	3.82



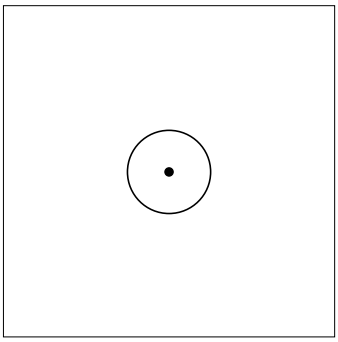
ALU 100W 45D

Cap Base



G53

Operating position



any



Aluline 37/56

Product Description

- Low-voltage halogen burner in a lightweight, high-gloss anodised aluminium reflector giving a white halogen light

Product Features

- Integrated protective front glass
- Choice of clear or frosted glass
- High-intensity beam with an extremely clearly defined beam shape (clear glass versions only)
- Excellent colour rendering

Product Benefits

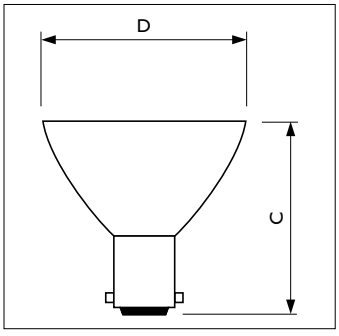
- Excellent accent lighting effects due to reduced spill light (clear versions only)

Application

- Excellent light source for accent and general lighting in shops, home, restaurants, galleries, exhibitions and museums

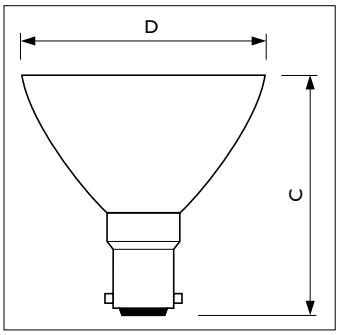
Recommended transformer page 9.118 - 9.123

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Aluline 37/56 R37

Type	CMax	DMax
Aluline R37	41	38



Aluline 37/56 R56

Type	CMax	DMax
Aluline R56	58	58

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Aluline 15W 6V R37	6	1.25	15	Yes	2000
Aluline 15W 6V R56	6	2.50	15	Yes	2000
Aluline 20W 12V R37	12	1.67	20	Yes	2000
Aluline 35W 6V R56	6	5.83	35	Yes	2000
Aluline 50W 12V R56	12	4.17	50	Yes	2000

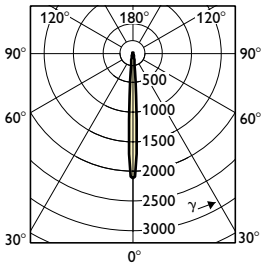
Light data

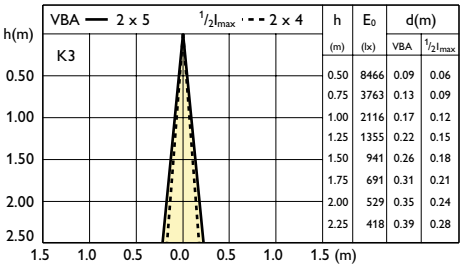
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Aluline	3000	100	any

Ordering and packing data

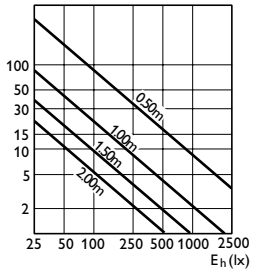
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Aluline 15W 6V R37 6D CL 1CT	HMGI-15-6-B15d-37/6	8711500401915	19.1 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500416483	401915 60
Aluline 15W 6V R56 4D CL 1CT	HMGI-15-6-B15d-56/4	8711500401922	39.2 gr	50	29 cm x 14.9 cm x 29 cm	8711500416407	401922 60
Aluline 15W 6V R56 14D CL 1CT	HMGI-15-6-B15d-56/14	8711500401939	39.2 gr	50	29 cm x 14.9 cm x 29 cm	8711500416421	401939 60
Aluline 20W 12V R37 6D CL 1CT	HMGI-20-12-B15d-37/6	8711500401946	19.1 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500415936	401946 60
Aluline 20W 12V R37 18D CL 1CT	HMGI-20-12-B15d-37/18	8711500401953	19.1 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500415950	401953 60
Aluline 20W 12V R37 18D FR 1CT	HMGI/F-20-12-B15d-37/18	8711500409386	19.1 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500421999	409386 60
Aluline 20W 12V R37 32D CL 1CT	HMGI-20-12-B15d-37/32	8711500401960	19.1 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500415974	401960 60
Aluline 20W 12V R37 32D FR 1CT	HMGI/F-20-12-B15d-37/32	8711500409355	19.1 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500421975	409355 60
Aluline 20W 12V R37 32D FR 1CT	HMGI/F-20-12-B15d-37/32	8711500409355	19.1 gr	50	22.2 cm x 12.9 cm x 22 cm	8711500655370	409355 96
Aluline 35W 6V R56 6D CL 1CT	HMGI-35-6-B15d-56/6	8711500401977	39.2 gr	50	29 cm x 14.9 cm x 29 cm	8711500415851	401977 60
Aluline 35W 6V R56 14D CL 1CT	HMGI-35-6-B15d-56/14	8711500401984	39.2 gr	50	29 cm x 14.9 cm x 29 cm	8711500415875	401984 60
Aluline 50W 12V R56 10D CL 1CT	HMGI-50-12-B15d-56/10	8711500402004	39.2 gr	50	29 cm x 14.9 cm x 29 cm	8711500415998	402004 60
Aluline 50W 12V R56 25D CL 1CT	HMGI-50-12-B15d-56/25	8711500402011	39.2 gr	50	29 cm x 14.9 cm x 29 cm	8711500416018	402011 60
Aluline 50W 12V R56 25D FR 1CT	HMGI/F-50-12-B15d-37/22	8711500409348	39.2 gr	50	29 cm x 14.9 cm x 29 cm	8711500422224	409348 60

Photometric diagram

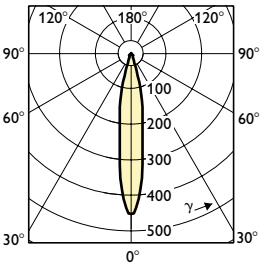


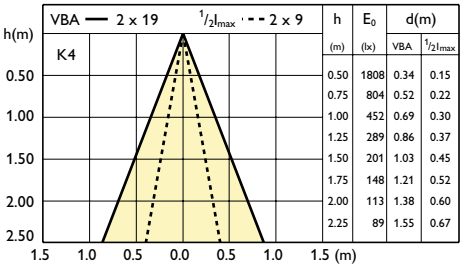


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	8466	0.09	0.06
0.75	3763	0.13	0.09
1.00	2116	0.17	0.12
1.25	1355	0.22	0.15
1.50	941	0.26	0.18
1.75	691	0.31	0.21
2.00	529	0.35	0.24
2.25	418	0.39	0.28

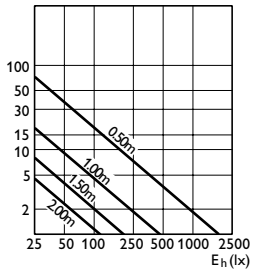


Alu 20W 6D

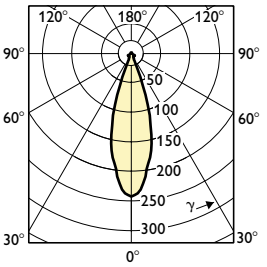


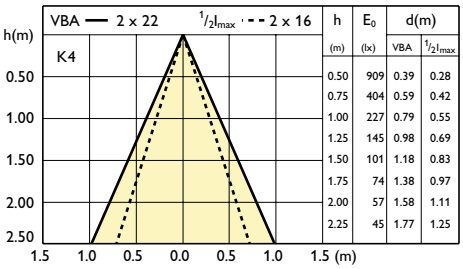


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	1808	0.34	0.15
0.75	804	0.52	0.22
1.00	452	0.69	0.30
1.25	289	0.86	0.37
1.50	201	1.03	0.45
1.75	148	1.21	0.52
2.00	113	1.38	0.60
2.25	89	1.55	0.67

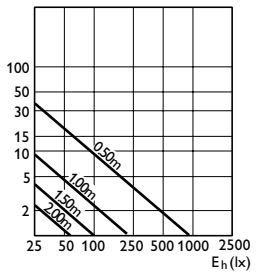


Alu 20W 18D

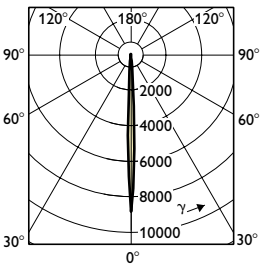


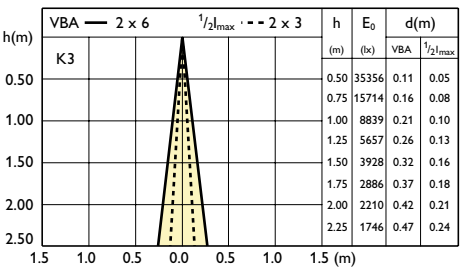


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	909	0.39	0.28
0.75	404	0.59	0.42
1.00	227	0.79	0.55
1.25	145	0.98	0.69
1.50	101	1.18	0.83
1.75	74	1.38	0.97
2.00	57	1.58	1.11
2.25	45	1.77	1.25

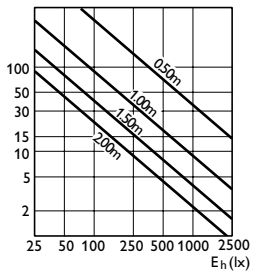


Alu 20W 32D

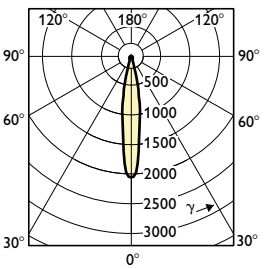


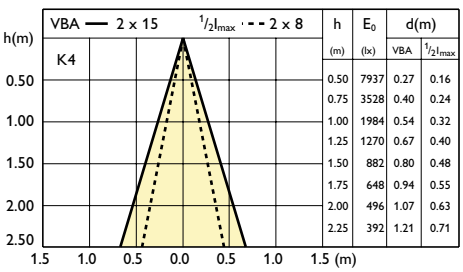


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	35356	0.11	0.05
0.75	15714	0.16	0.08
1.00	8839	0.21	0.10
1.25	5657	0.26	0.13
1.50	3928	0.32	0.16
1.75	2886	0.37	0.18
2.00	2210	0.42	0.21
2.25	1746	0.47	0.24

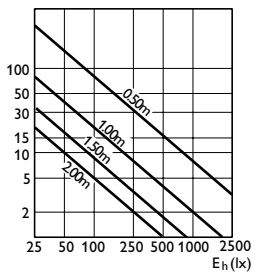


Alu 35W 6D

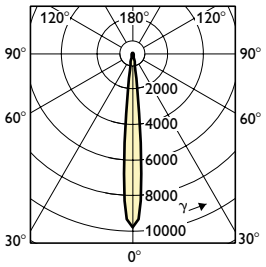


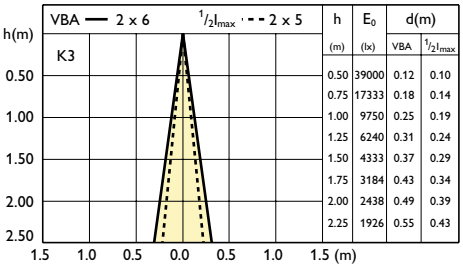


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
0.50	7937	0.27	0.16
0.75	3528	0.40	0.24
1.00	1984	0.54	0.32
1.25	1270	0.67	0.40
1.50	882	0.80	0.48
1.75	648	0.94	0.55
2.00	496	1.07	0.63
2.25	392	1.21	0.71

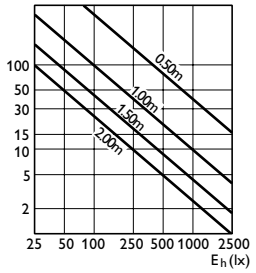


Alu 35W 14D

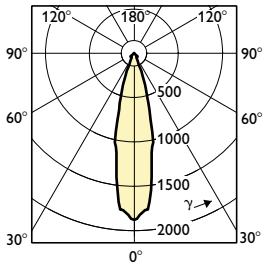


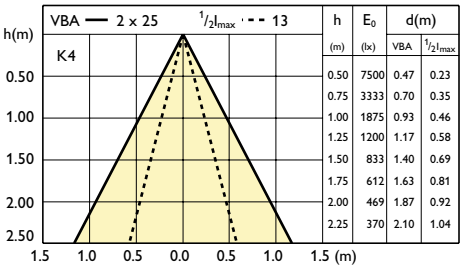


h	E_0	d(m)	
(m)	(lx)	VBA	$^1/_2I_{max}$
0.50	39000	0.12	0.10
0.75	17333	0.18	0.14
1.00	9750	0.25	0.19
1.25	6240	0.31	0.24
1.50	4333	0.37	0.29
1.75	3184	0.43	0.34
2.00	2438	0.49	0.39
2.25	1926	0.55	0.43

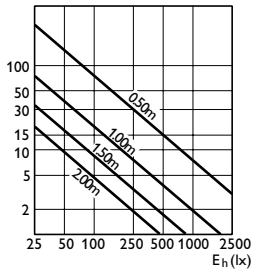


Alu 50W 10D



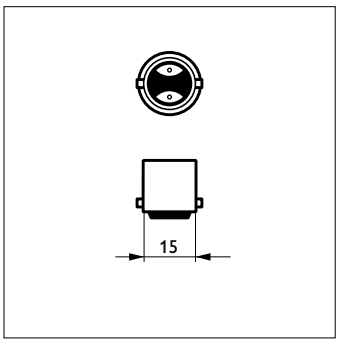


h	E_0	d(m)	
(m)	(lx)	VBA	$^1/_2I_{max}$
0.50	7500	0.47	0.23
0.75	3333	0.70	0.35
1.00	1875	0.93	0.46
1.25	1200	1.17	0.58
1.50	833	1.40	0.69
1.75	612	1.63	0.81
2.00	469	1.87	0.92
2.25	370	2.10	1.04



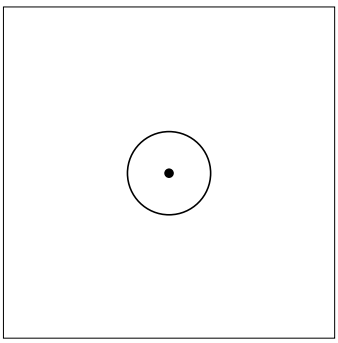
Alu 50W 25D

Cap Base



B15

Operating position



any



MASTERLine TC

Product Description

- Double-ended halogen burner with an infrared-reflective coating, assembled in a TC-shaped outer bulb

Product Features

- High-performance halogen lamp
- Long lifetime
- Halogen burner with infrared reflective coating
- TC shape: same geometry, shape, base and light centre length (LCL)

Product Benefits

- Energy saving alternative to low-wattage CDM gas discharge lamps
- Can be used in luminaires designed for TC-shaped CDM lamps
- Low maintenance costs
- Benefits of halogen technology: excellent colour rendering and lumen maintenance, dimmable, instant (re-)start
- System modularity: gives luminaire manufacturers and end customers a wider choice of technologies without big changes in installations or luminaires – tailored solutions

Application

- Professional lighting in shops and hotel, restaurant, catering, and hospitality venues
- Can be used for both general and accent lighting

Luminaires

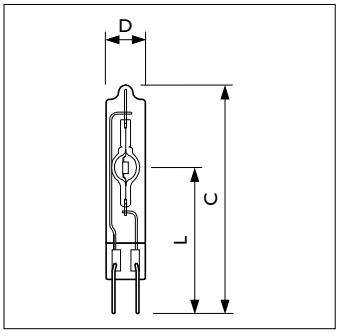
- All luminaires designed for CDM TC-shaped lamps can be used if the gas discharge gear is replaced by a transformer

Environment

- Excellent environmental choice because of high energy efficiency and long reliable life

Recommended transformer page 9.118 - 9.123

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MASTERLine TC G8.5

Type	CMax	DMax	LNom
MASTERLine TC G8.5 12V	85	14	52

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
MASTERLine TC 45W G8.5 12V 1CT	12	3.75	45	Yes	5000
MASTERLine TC 60W G8.5 12V 1CT	12	5.17	60	Yes	5000

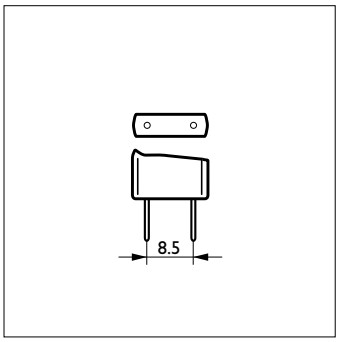
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
MASTERLine TC 45W G8.5 12V 1CT	1100	23.8	3050	100	any
MASTERLine TC 60W G8.5 12V 1CT	1600	25.8	3050	100	any

Ordering and packing data

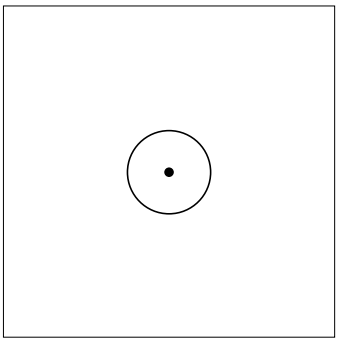
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERLine TC 45W G8.5 12V 1CT	HSGS/UB-45-12-G8.5-14.0	8711500438973	9.2 gr	12	13.6 cm x 11.6 cm x 14.3 cm	8711500438980	438973 15
MASTERLine TC 45W G8.5 12V 1CT	HSGS/UB-45-12-G8.5-14.0	8711500410924	9.2 gr	12	13.6 cm x 11.6 cm x 14.3 cm	8711500410931	410924 15
MASTERLine TC 60W G8.5 12V 1CT	HSGS/UB-60-12-G8.5-14.0	8711500437372	9.5 gr	12	14.2 cm x 11.5 cm x 13.3 cm	8711500437389	437372 15
MASTERLine TC 60W G8.5 12V 1CT	HSGS/UB-60-12-G8.5-14.0	8711500439017	9.5 gr	12	14.2 cm x 11.5 cm x 13.3 cm	8711500439024	439017 15

Cap Base



G8.5

Operating position



any



MASTERCapsule

Product Description

- MASTERCapsule with EcoBoost Technology: highest halogen capsule energy savings, 40% more savings than standard capsules

Product Features

- Unique Philips patented EcoBoost single-ended burner: 40% higher efficiency than standard products
- GY6.35 lamp base with single-ended low-pressure burner
- Small size
- Average lifetime up to four times longer than standard capsule
- Low-voltage halogen light quality: sparkling, crisp light
- Dimmable
- No mercury content
- High-performance coating for high efficiency
- Complete range equipped with Philips EcoBoost technology coated low-voltage halogen capsule

Product Benefits

- Retrofit replacement for standard halogen capsules
- High energy savings
- Lower replacement costs due to longer burning hours
- Bright, sparkling white halogen light with excellent colour rendering
- Supports a green environment
- Excellent beam performance
- Lower cost of ownership compared with standard halogen capsule

Application

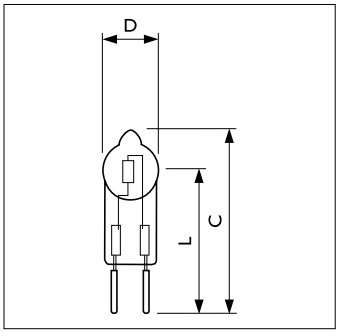
- Replacement for standard capsules in most professional and semi-professional applications
- Indoor lighting (e.g. hotels, restaurants, offices)
- Enclosed fixtures required for outdoor applications

Environment

- Excellent environmental choice because of high energy efficiency and long reliable life

Recommended transformer page 9.118 - 9.123

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MASTERCapsule GY6.35 IR

Type	CMax	DMax	LNom
MASTERCapsule GY6.35 12V IR	44	12	30

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
MASTERCapsule 20W GY6.35 12V IR 1CT	12	1.66	20	Yes	4000
MASTERCapsule 30W GY6.35 12V IR 1CT	12	2.5	30	Yes	4000
MASTERCapsule 45W GY6.35 12V IR 1CT	12	3.75	45	Yes	4000
MASTERCapsule 60W GY6.35 12V IR 1CT	12	5	60	Yes	4000

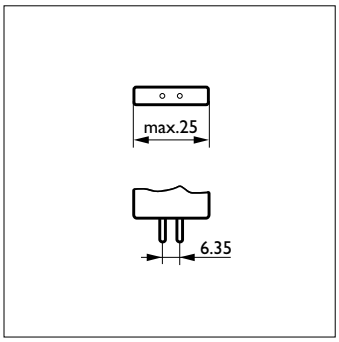
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
MASTERCapsule 20W GY6.35 12V IR 1CT	420	20	3000	100	any
MASTERCapsule 30W GY6.35 12V IR 1CT	750	23	3000	100	any
MASTERCapsule 45W GY6.35 12V IR 1CT	1250	24	3000	100	any
MASTERCapsule 60W GY6.35 12V IR 1CT	1700	26	3000	100	any

Ordering and packing data

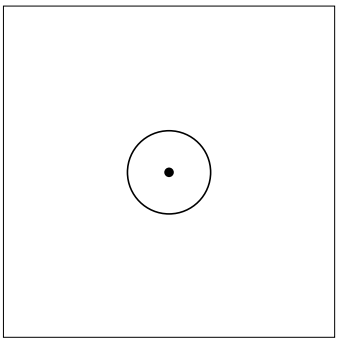
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERCapsule 20W GY6.35 12V IR 1CT	HSG/F-20-12-GY6.35	8727900203530	2.3 gr	50	27.1 cm x 13.5 cm x 8.4 cm	8727900203882	203530 70
MASTERCapsule 30W GY6.35 12V IR 1CT	HSG/F-30-12-GY6.35	8727900203547	2.3 gr	50	27.1 cm x 13.5 cm x 8.4 cm	8727900203905	203547 70
MASTERCapsule 45W GY6.35 12V IR 1CT	HSG/F-45-12-GY6.35	8727900203554	2.3 gr	50	27.1 cm x 13.5 cm x 8.4 cm	8727900203929	203554 70
MASTERCapsule 60W GY6.35 12V IR 1CT	HSG/F-45-12-GY6.35	8727900203561	2.3 gr	50	27.1 cm x 13.5 cm x 8.4 cm	8727900203943	203561 70

Cap Base



GY6.35

Operating position



any



Capsuleline

Product Description

- Single-ended low-voltage halogen capsule giving crisp white halogen light

Product Features

- Sturdy, low-pressure lamps with UV-Block glass (IEC 357)
- Axial filament for higher light output in combination with luminaires and a uniform beam
- Excellent colour rendering
- Universal burning position

Product Benefits

- Low-pressure technology allows use in luminaires without front glass

Application

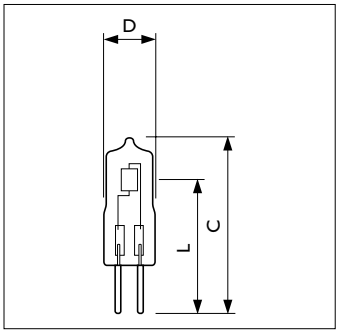
- Task lighting and decorative applications in homes, shops, hotels and restaurants

Luminaires

- Lamps can be used in luminaires without a front glass in accordance with IEC 598

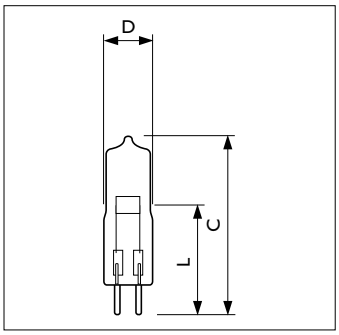
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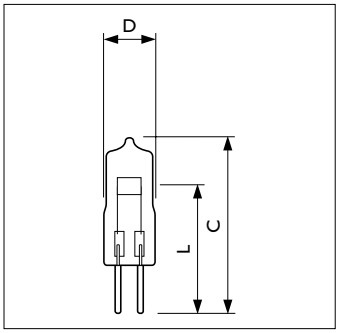
Capsuleline G4

Type	CMax	DMax	LNom
Capsuleline G4 12V	32	8.8	22



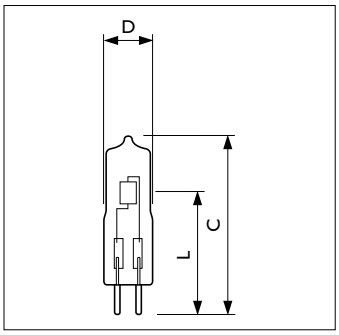
Capsuleline GY6.35

Type	CMax	DMax	LNom
Capsuleline GY6.35 12V	44	12.5	30



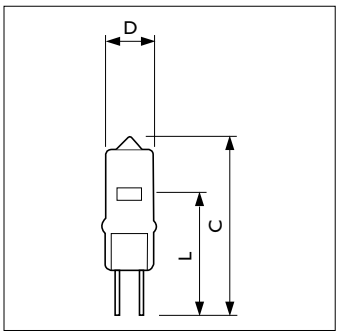
Capsuleline G4

Type	CMax	DMax	LNom
Capsuleline G4 12V	32	9	22



Capsuleline GY6.35

Type	CMax	DMax	LNom
Capsuleline GY6.35 12V	44	12	30



Capsuleline G4

Type	CMax	DMax	LNom
Capsuleline G4 12V	32	9	22

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Capsuleline 5W G4 12V CL 2000h	12	0.42	5	Yes	2000
Capsuleline 5W G4 12V CL 4000h	12	0.42	5	Yes	4000
Capsuleline 10W G4 12V CL 2000h	12	0.83	10	Yes	2000
Capsuleline 10W G4 12V CL 2000h	12	0.83	10		2000
Capsuleline 10W G4 12V CL 4000h	12	0.83	10	Yes	4000
Capsuleline 10W G4 12V FR 4000h	12	0.83	10	Yes	4000
Capsuleline 20W G4 12V CL 2000h	12	1.67	20		2000
Capsuleline 20W G4 12V CL 2000h	12	1.67	20	Yes	2000
Capsuleline 20W G4 12V CL 4000h	12	1.67	20	Yes	4000
Capsuleline 20W G4 24V CL 4000h	24	0.83	20	Yes	4000
Capsuleline 20W GY6.35 12V CL 4000h	12	1.66	20	Yes	4000
Capsuleline 35W GY6.35 12V CL 2000h	12	2.95	35	Yes	2000
Capsuleline 35W GY6.35 12V CL 4000h	12	2.95	35	Yes	4000
Capsuleline 50W GY6.35 12V CL 1500h	12	4.25	50	Yes	1500
Capsuleline 50W GY6.35 12V CL 2000h	12	4.25	50	Yes	2000
Capsuleline 50W GY6.35 12V CL 4000h	12	4.25	50	Yes	4000
Capsuleline 50W GY6.35 12V FR 4000h	12	4.17	50	Yes	4000
Capsuleline 50W GY6.35 24V CL 4000h	24	2.08	50	Yes	4000
Capsuleline 75W GY6.35 12V CL 4000h	12	6.25	75	Yes	4000
Capsuleline 100W GY6.35 12V CL 4000h	12	8.33	100	Yes	4000
Capsuleline 100W GY6.35 24V CL 3000h	24	4.17	100	Yes	3000

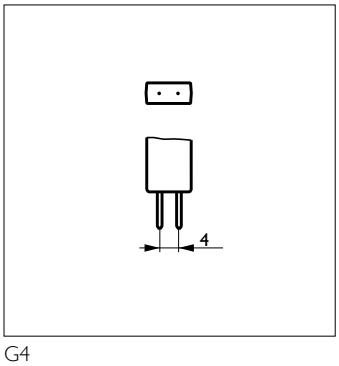
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Capsuleline 5W G4 12V CL 2000h	40	8	3000	100	any
Capsuleline 5W G4 12V CL 4000h	60	12	3000	100	any
Capsuleline 10W G4 12V CL 2000h	120	12.7	3000	100	any
Capsuleline 10W G4 12V CL 4000h	140	14	3000	100	any
Capsuleline 10W G4 12V FR 4000h	140	14	3000	100	any
Capsuleline 20W G4 12V CL 2000h	250	12.5	3000	100	any
Capsuleline 20W G4 12V CL 4000h	310	15.5	3000	100	any
Capsuleline 20W G4 12V FR 4000h	310	15.5	3000	100	any
Capsuleline 20W G4 24V CL 4000h	300	15	3000	100	any
Capsuleline 20W GY6.35 12V CL 2000h	250	12.5	3000	100	any
Capsuleline 35W GY6.35 12V CL 2000h	480	13.3	3000	100	any
Capsuleline 35W GY6.35 12V CL 4000h	600	17	3000	100	any
Capsuleline 50W GY6.35 12V CL 1500h	800	18.6	3000	100	any
Capsuleline 50W GY6.35 12V CL 2000h	850	17	3000	100	any
Capsuleline 50W GY6.35 12V CL 4000h	880	17.2	3000	100	any
Capsuleline 50W GY6.35 12V FR 4000h	880	17.2	3000	100	any
Capsuleline 50W GY6.35 24V CL 4000h	850	17	3000	100	any
Capsuleline 75W GY6.35 12V CL 4000h	1575	18.8	3000	100	any
Capsuleline 100W GY6.35 12V CL 4000h	2200	22	3000	100	any

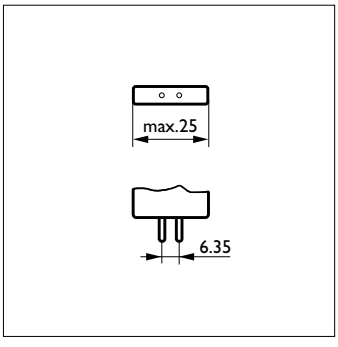
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Capsuleline 5W G4 12V CL 2000h 1CT	HSG/C-5-12-G4	8711500654106	1.2 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500654120	654106 50
Capsuleline 5W G4 12V CL 4000h 1CT	HSG/C-5-12-G4	8711500409690	1.2 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425638	409690 50
Capsuleline 5W G4 12V CL 4000h UNP	HSG/C-5-12-G4	8711500409669	1.2 gr	1000	21.6 cm x 21.6 cm x 12.5 cm	8711500421333	409669 26
Capsuleline 10W G4 12V CL 2000h 1CT	HSG/C/UB-10-12-G4	8711500412294	1.2 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500412324	412294 50
Capsuleline 10W G4 12V CL 2000h 1CT	HSG/C/UB-10-12-G4	8711500412980	1.2 gr	100	26 cm x 14.6 cm x 14.2 cm	8711500425799	412980 50
Capsuleline 10W G4 12V CL 2000h 1CT	HSG/C/UB-10-12-G4	8711500413994	1.2 gr	50	27.1 cm x 13.5 cm x 8.4 cm	8711500430915	413994 70
Capsuleline 10W G4 12V CL 2000h UNP	HSG/C/UB-10-12-G4	8711500413321	1.2 gr	1000	21.6 cm x 21.6 cm x 12.5 cm	8711500413345	413321 26
Capsuleline 10W G4 12V CL 4000h 1CT	HSG/C/UB-10-12-G4	8711500409706	1.2 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425645	409706 50
Capsuleline 10W G4 12V CL 4000h UNP	HSG/C/UB-10-12-G4	8711500409973	1.2 gr	1000	20.9 cm x 10.7 cm x 19.4 cm	8711500421340	409973 26
Capsuleline 10W G4 12V FR 4000h UNP	HSG/C/UB-10-12-G4	8711500648525	1.2 gr	1000	20.9 cm x 10.7 cm x 19.4 cm	8711500648532	648525 26
Capsuleline 20W G4 12V CL 2000h 1CT	HSG/C/UB-20-12-G4	8711500412997	1.2 gr	100	26.6 cm x 14.8 cm x 14.2 cm	8711500425812	412997 50
Capsuleline 20W G4 12V CL 2000h 1CT	HSG/C/UB-20-12-G4	8711500412331	1.2 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500412348	412331 50
Capsuleline 20W G4 12V CL 2000h 1CT	HSG/C/UB-20-12-G4	8711500413963	1.2 gr	50	27.1 cm x 13.5 cm x 8.4 cm	8711500430854	413963 70
Capsuleline 20W G4 12V CL 2000h UNP	HSG/C/UB-20-12-G4	8711500413352	1.2 gr	1000	21.6 cm x 21.6 cm x 12.5 cm	8711500413369	413352 26
Capsuleline 20W G4 12V CL 4000h 1CT	HSG/C/UB-20-12-G4	8711500402103	1.2 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425652	402103 50
Capsuleline 20W G4 12V CL 4000h UNP	HSG/C/UB-20-12-G4	8711500409263	1.2 gr	1000	20.9 cm x 10.7 cm x 19.4 cm	8711500421418	409263 26
Capsuleline 20W G4 12V FR 4000h 1CT	HSG/C/UB-20-12-G4	8711500404466	1.2 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425669	404466 50
Capsuleline 20W G4 24V CL 4000h 1CT	HSG/C-20-24-G4	8711500409621	1.2 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425706	409621 50
Capsuleline 20W GY6.35 12V CL 2000h 1CT	-	8711500654441	2.1 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500654465	654441 50
Capsuleline 20W GY6.35 12V CL 2000h 1CT	-	8711500656797	2.1 gr	100	26.6 cm x 14.6 cm x 14.2 cm	8711500656810	656797 50
Capsuleline 20W GY6.35 12V CL 4000h 1CT	HSG/C/UB-20-12-GY6.35	8711500402196	2.1 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425782	402196 50
Capsuleline 20W GY6.35 12V FR 4000h 1CT	HSG/F-20-12-GY6.35	8711500402455	2.1 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500655431	402455 26
Capsuleline 20W GY6.35 12V FR 4000h 1CT	HSG/F-20-12-GY6.35	8711500402455	2.1 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500426031	402455 50
Capsuleline 35W GY6.35 12V CL 2000h 1CT	HSG/C/UB-35-12-GY6.35	8711500652430	2.1 gr	100	27.1 cm x 14.8 cm x 14.5 cm	8711500652454	652430 50
Capsuleline 35W GY6.35 12V CL 4000h 1CT	HSG/C/UB-35-12-GY6.35	8711500651495	2.1 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500651518	651495 50
Capsuleline 35W GY6.35 12V CL 4000h 1CT	HSG/C/UB-35-12-GY6.35	8711500402189	2.1 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425775	402189 50
Capsuleline 35W GY6.35 12V CL 4000h UNP	HSG/C/UB-35-12-GY6.35	8711500409331	2.1 gr	800	32.1 cm x 32.1 cm x 13.5 cm	8711500422255	409331 34
Capsuleline 50W GY6.35 12V CL 1500h 1CT	HSG/C/UB-50-12-G4	8711500412355	2.1 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500412362	412355 50
Capsuleline 50W GY6.35 12V CL 1500h 1CT	HSG/C/UB-50-12-G4	8711500413987	2.1 gr	50	27.1 cm x 13.5 cm x 8.4 cm	8711500430991	413987 70
Capsuleline 50W GY6.35 12V CL 2000h 1CT	HSG/C/UB-50-12-GY6.35	8711500412959	2.1 gr	100	26.6 cm x 14.6 cm x 14.2 cm	8711500425829	412959 50
Capsuleline 50W GY6.35 12V CL 4000h 1CT	HSG/C/UB-50-12-GY6.35	8711500402172	2.1 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500655400	402172 26
Capsuleline 50W GY6.35 12V CL 4000h 1CT	HSG/C/UB-50-12-GY6.35	8711500402172	2.1 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425737	402172 50
Capsuleline 50W GY6.35 12V FR 4000h 1CT	HSG/F-50-12-GY6.35	8711500402431	2.1 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425997	402431 50
Capsuleline 50W GY6.35 24V CL 4000h 1CT	HSG/C-50-24-GY6.35	8711500409638	2.1 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425690	409638 50
Capsuleline 75W GY6.35 12V CL 4000h 1CT	HSG/C/UB-75-12-GY6.35	8711500402165	2.3 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425720	402165 50
Capsuleline 100W GY6.35 12V CL 4000h 1CT	HSG/C/UB-100-12-GY6.35	8711500402134	2.3 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500426192	402134 50
Capsuleline 100W GY6.35 12V CL 4000h 1CT	HSG/C/UB-100-12-GY6.35	8711500402158	2.3 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425713	402158 50
Capsuleline 100W GY6.35 24V CL 3000h 1CT	HSG/C-100-24-GY6.35	8711500409645	2.3 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500425683	409645 50

Cap Base

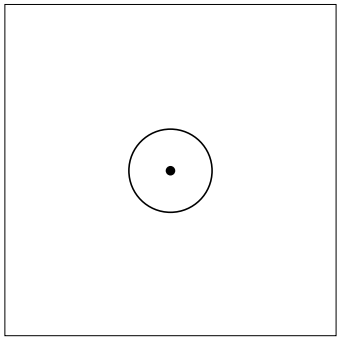


G4



GY6.35

Operating position



any



EcoClassic30 Reflector

Product Description

- Energy-saving mains-voltage halogen lamp in classic NR50/NR63 reflector shapes

Product Features

- Direct retrofit for the corresponding incandescent lamps
- Replaces classic incandescent 40 W and 60 W lamps
- Available with E27, E14 and B22 caps
- 2000 hours lifetime

Product Benefits

- Sparkling, crisp white halogen light of professional quality
- 30% energy savings compared with classic incandescent lamps
- Creates an attractive ambiance
- Dimmable

Application

- General lighting applications in homes, shops, hotels and restaurants

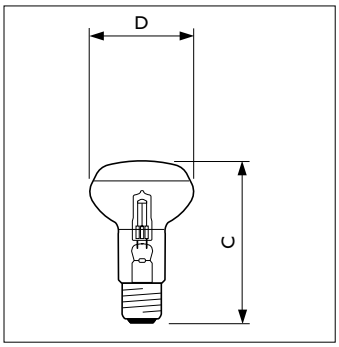
Luminaires

- Fits the same classic luminaires as the corresponding incandescent lamps

Environment

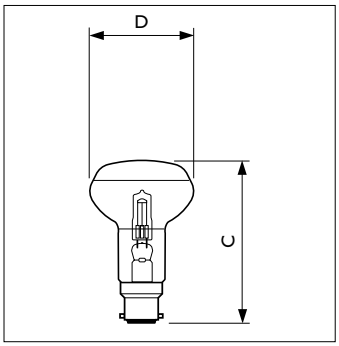
- Excellent environmental choice because of high energy efficiency and long reliable life

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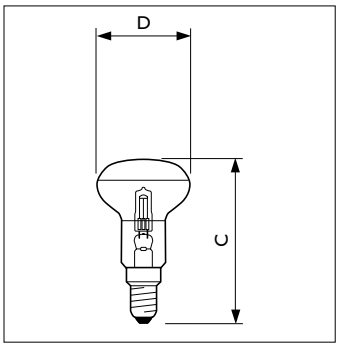
EcoClassic30 Reflector E27 NR63

Type	CMax	DMax
EcoClassic30 E27 NR63	105	64.5



EcoClassic30 Reflector B22 NR63

Type	CMax	DMax
EcoClassic30 B22 NR63	103.5	64.5



EcoClassic30 Reflector E14 NR50

Type	CMax	DMax
EcoClassic30 E14 NR50	86.5	51

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
EcoClassic30 28W E14 230V NR50 FR 1CT	230	0.12	28	Yes	2000
EcoClassic30 28W E14 240V NR50 FR 1CT	240	0.12	28	Yes	2000
EcoClassic30 42W B22 240V NR63 FR 1CT	240	0.18	42	Yes	2000
EcoClassic30 42W E27 230V/240V NR63 FR 1CT	230	0.18	42	Yes	2000

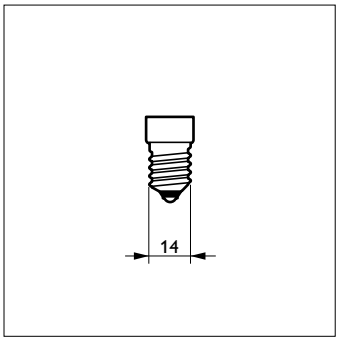
Light data

Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
EcoClassic30 28W	2800	100	any

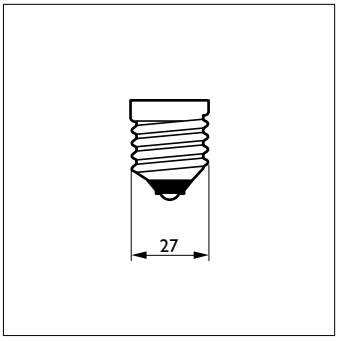
Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8727900
EcoClassic30 28W E14 230V NR50 FR 1CT	8727900252743	21.9 gr	10	27.1 cm x 14.8 cm x 14.7 cm	8727900661989	252743 25
EcoClassic30 28W E14 240V NR50 FR 1CT	8727900252767	21.9 gr	10	27.1 cm x 14.8 cm x 14.7 cm	8727900661996	252767 25
EcoClassic30 42W B22 240V NR63 FR 1CT	8727900251975	34 gr	10	32.1 cm x 13.6 cm x 11.8 cm	8727900660791	251975 25
EcoClassic30 42W E27 230V NR63 FR 1CT	8727900251951	30 gr	10	32.1 cm x 13.6 cm x 11.8 cm	8727900660777	251951 25
EcoClassic30 42W E27 240V NR63 FR 1CT	8727900251968	30 gr	10	32.1 cm x 13.6 cm x 11.8 cm	8727900660784	251968 25

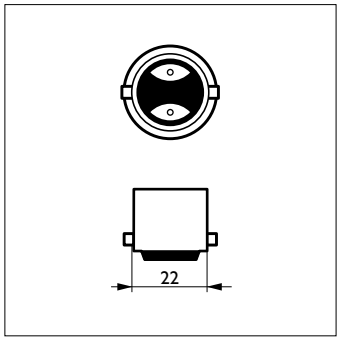
Cap Base



E14

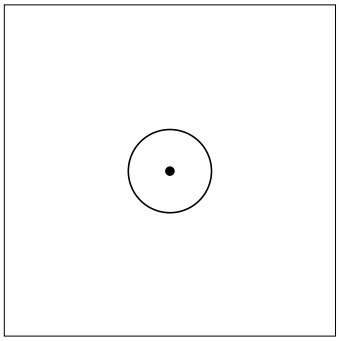


E27



B22

Operating position



any



Twistline Alu 3000 hours

Product Description

- Mains-voltage 51 mm diameter reflector lamp with aluminium reflector

Product Features

- Aluminium version (GU10 lamp base) directs most of its heat to the front
- Quartz burner with a U-shaped filament optically positioned in a hard coated aluminium full glass reflector
- Lifetime of 3000 hours is 50% more than a standard Twistline
- Clear front glass protects against touching the burner and against dust / moisture
- High and stable light output throughout lifetime
- GU10 bases ensure good retention in the luminaire and easy 'twist' insertion and replacement
- Built-in double fuses for additional safety at end-of-life

Product Benefits

- Aluminium version provides a well-defined, homogeneous beam, with no light escaping at the back of the reflector
- No transformers are required, as lamps can be connected directly to the mains supply
- There is less frequent replacement and so less maintenance cost due to increased lifetime
- UV-Block lamp so no additional front glass or UV-filter is required for the luminaire

Application

- Designed to replace the 2000 hours Twistline type of product range.
- Due to Professional 3000 hours specification typically used in accent and general lighting in shops, hotels, restaurants, bars etc.

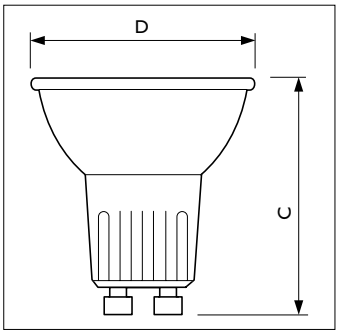
Luminaires

- Conforms to IEC 598 for use in open luminaires
- The luminaire must carry instructions about which lamp should be used (GU10 / aluminium)

Environment

- Excellent environmental choice because of high energy efficiency and long reliable life

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Twistline Alu 3000 hours GU10

Type	CMax	DMax
Twistline Alu GU10	51	51

PHILIPS

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Twistline Alu 3000h 50W GU10 230V	230	50	Yes	3000
Twistline Alu 3000h 50W GU10 240V	240	50	Yes	3000

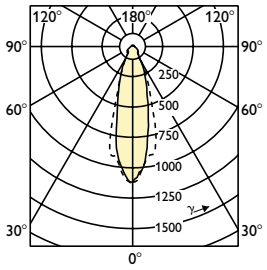
Light data

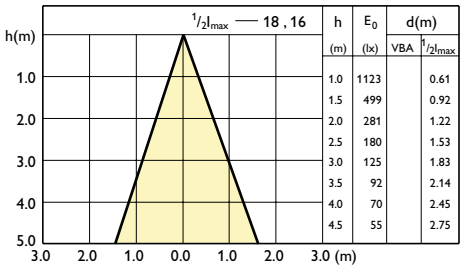
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Twistline Alu 3000h 50W GU10	2800	98	any

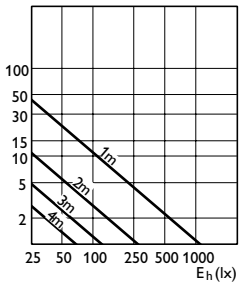
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Twistline Alu 3000h 50W GU10 230V 25D 1CT	HAGS-50-230-GU10-51/25	8711500649324	38.4 gr	50	32.8 cm x 24.6 cm x 11.5 cm	8711500649348	649324 60
Twistline Alu 3000h 50W GU10 230V 50D 1CT	HAGS-50-230-GU10-51/50	8711500649355	38.4 gr	50	33.1 cm x 11.1 cm x 15.9 cm	8711500649379	649355 60
Twistline Alu 3000h 50W GU10 240V 25D 1CT	HAGS-50-240-GU10-51/25	8711500649447	38.4 gr	50	32.8 cm x 24.6 cm x 11.5 cm	8711500649461	649447 60
Twistline Alu 3000h 50W GU10 240V 50D 1CT	HAGS-50-240-GU10-51/50	8711500649478	38.4 gr	50	32.8 cm x 24.6 cm x 11.5 cm	8711500649492	649478 60

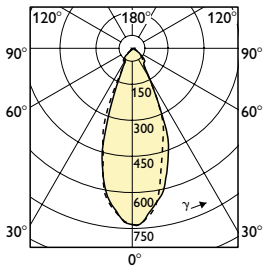
Photometric diagram

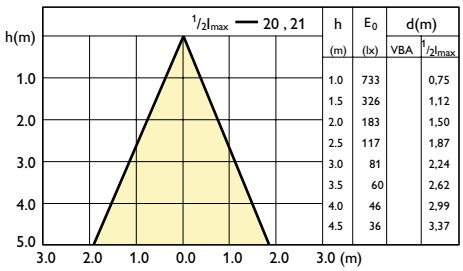


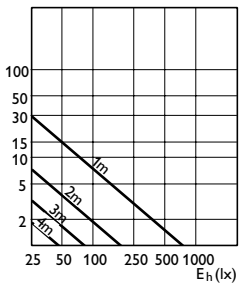




TWIST Alu 25D

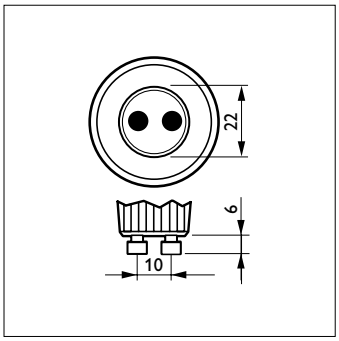






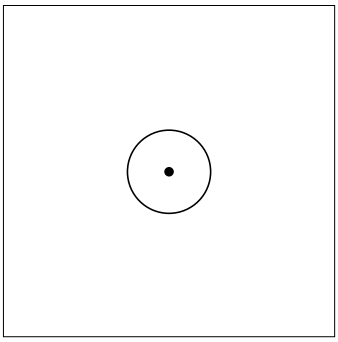
TWIST Alu 50D

Cap Base



GU10

Operating position



any



Twistline Dichroic 3000 hours

Product Description

- Mains-voltage 51mm diameter reflector lamp with dichroic reflector

Product Features

- Dichroic version (GZ10 lamp base) has a cool beam as a large part of heat is transmitted backwards through the reflector glass. Quartz burner with a U-shaped filament optically positioned in a hard coated dichroic full glass reflector
- Lifetime of 3000 hours is 50% more than a standard Twistline
- Clear front glass protects against touching the burner and against dust / moisture
- High and stable light output throughout lifetime
- GZ10 bases ensure good retention in the luminaire and easy 'twist' insertion and replacement
- Built-in double fuses for additional safety at end-of-life

Product Benefits

- Dichroic version provides a well-defined, homogeneous beam and sparkling effects in open luminaires, with controlled light spill at the back
- No transformers are required, as lamps can be connected directly to the mains supply
- There is less frequent replacement and so less maintenance cost due to increased lifetime
- UV-Block lamp so no additional front glass or UV-filter is required for the luminaire

Application

- Designed to replace the 2000 hours Twistline type of product range.
- Due to Professional 3000 hours specification typically used in accent and general lighting in shops, hotels, restaurants, bars etc.

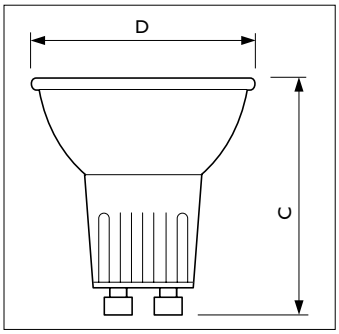
Luminaires

- Conforms to IEC 598 for use in open luminaires
- The luminaire must carry instructions about which lamp should be used (GZ10 / cool beam)

Environment

- Excellent environmental choice because of high energy efficiency and long reliable life

www.philips.com/OEM



Twistline Dichroic 3000 hours GZ10

Type	CMax	DMax
Twistline Dichroic 3000h GZ10	51	51

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Twistline Dichroic 3000h 50W GZ10 230V	230	50	Yes	3000
Twistline Dichroic 3000h 50W GZ10 240V	240	50	Yes	3000

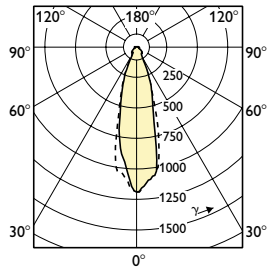
Light data

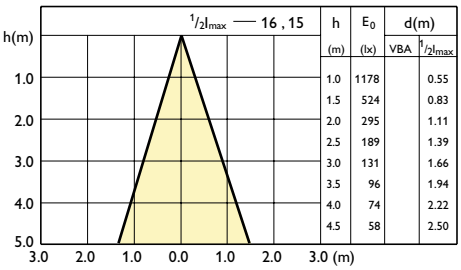
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Twistline Dichroic 3000h 50W GZ10	2800	98	any

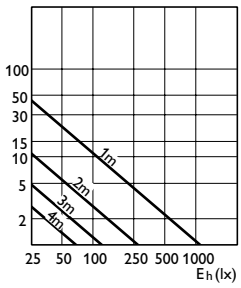
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Twistline Dichroic 3000h 50W GZ10 230V 25D 1CT	HRGS-50-230-GZ10-51/25	8711500649386	38.4 gr	50	32.8 cm x 24.6 cm x 11.5 cm	8711500649409	649386 60
Twistline Dichroic 3000h 50W GZ10 230V 50D 1CT	HRGS-50-230-GZ10-51/50	8711500649416	38.4 gr	50	32.8 cm x 24.6 cm x 11.5 cm	8711500649430	649416 60
Twistline Dichroic 3000h 50W GZ10 240V 25D 1CT	HRGS-50-240-GZ10-51/25	8711500649508	38.4 gr	50	32.8 cm x 24.6 cm x 11.5 cm	8711500649522	649508 60
Twistline Dichroic 3000h 50W GZ10 240V 50D 1CT	HRGS-50-240-GZ10-51/50	8711500649539	38.4 gr	50	32.8 cm x 24.6 cm x 11.5 cm	8711500649553	649539 60

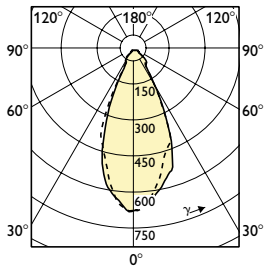
Photometric diagram

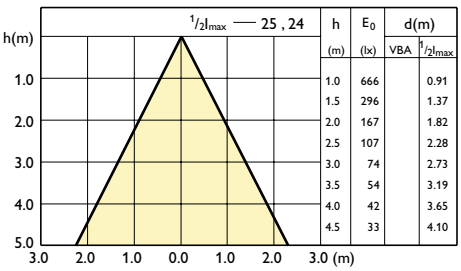


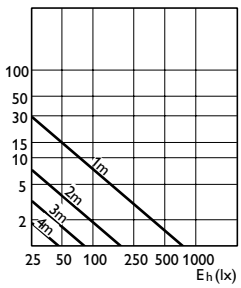




TWIST Dichr 25D

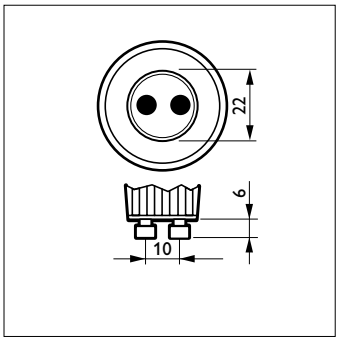






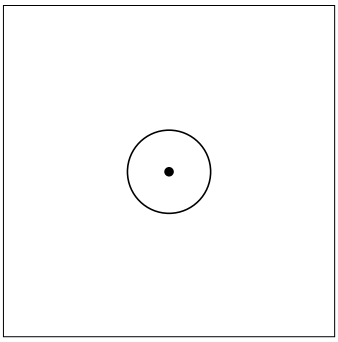
TWIST Dichr 50D

Cap Base



GZ10

Operating position



any



Twistline Alu 2000 hours

Product Description

- Mains-voltage 50 mm diameter reflector lamp with aluminium reflector

Product Features

- Quartz burner with Lambda-shape filament optically positioned in a hard-coated aluminium-coated reflector
- Aluminium-coated version (GU10 lamp base) directs most of its heat to the front
- No light goes to the back of the reflector
- Clear front glass protects against touching the burner and against dust / moisture
- Distinct MR16 look
- High and stable light output throughout lifetime
- GU10 bases ensure good retention in the luminaire and easy, 'twist and take out' insertion and replacement
- Built-in double fuses for additional safety at end-of-life

Product Benefits

- Lamp can be connected directly to the mains supply, so no transformers are needed
- UV-Block lamp so no additional front glass or UV-filter required
- Twistline dichroic and aluminium versions are the most compact lamps of their kind available

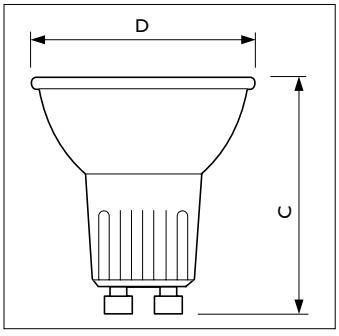
Application

- Typically used for accent lighting in homes
- Also used in accent and general lighting in shops, hotels, restaurants, bars etc.

Luminaires

- Conforms to IEC 598 for use in open luminaires
- The luminaire must carry instructions about which lamp should be used (GU10 / aluminium)

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Twistline Alu 2000 hours GU10

Type	CMax	DMax
Twistline Alu 2000h GU10w	51	50.7

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Twistline Alu 2000h 20W GU10 240V 40D	240	20	Yes	2000
Twistline Alu 2000h 35W GU10 230V 20D/40D	230	35	Yes	2000
Twistline Alu 2000h 35W GU10 240V 20D/40D	240	35	Yes	2000
Twistline Alu 2000h 40W GU10 230V 25D/50D	230	40	Yes	2000
Twistline Alu 2000h 40W GU10 240V 25D	240	40	Yes	2000
Twistline Alu 2000h 50W GU10 230V 40D/50D	230	50	Yes	2000
Twistline Alu 2000h 50W GU10 240V 25D/40D	240	50	Yes	2000
Halogen Twist 2yr 50W GU10 240V 40D	240	50	Yes	2000

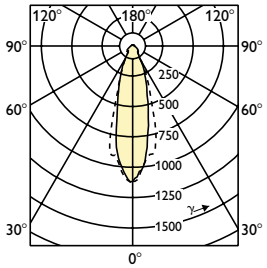
Light data

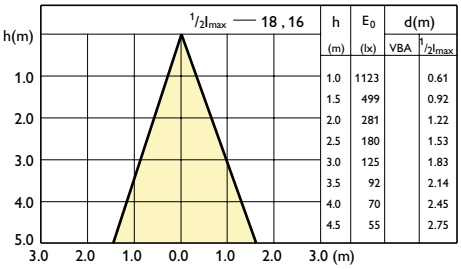
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Twistline Alu 2000h GU10	2800	100	any

Ordering and packing data

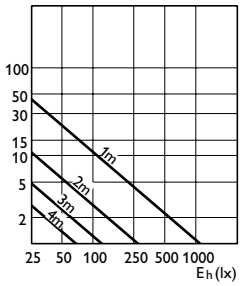
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Twistline Alu 2000h 20W GU10 240V 40D ICT	HAGS-20-240-GU10-51/40	8711500652713	44 gr	50	33.1 cm x 25.6 cm x 11.5 cm	8711500652720	652713 60
Twistline Alu 2000h 20W GU10 240V 40D ICT	HAGS-20-240-GU10-51/40	8711500652461	44 gr	50	33.1 cm x 25.9 cm x 11.1 cm	8711500652478	652461 65
Twistline Alu 2000h 35W GU10 230V 20D ICT	HAGS-35-230-GU10-51/20	8711500652287	44 gr	50	33.1 cm x 25.6 cm x 11.5 cm	8711500652300	652287 65
Twistline Alu 2000h 35W GU10 230V 20D ICT	HAGS-35-230-GU10-51/20	8711500652751	44 gr	50	33.1 cm x 25.9 cm x 11.5 cm	8711500652768	652751 65
Twistline Alu 2000h 35W GU10 230V 40D ICT	HAGS-35-230-GU10-51/40	8711500652836	44 gr	50	32.8 cm x 11 cm x 25 cm	8711500653758	652836 60
Twistline Alu 2000h 35W GU10 230V 40D ICT	HAGS-35-230-GU10-51/40	8711500652836	44 gr	50	33.1 cm x 25.9 cm x 11.1 cm	8711500652843	652836 65
Twistline Alu 2000h 35W GU10 240V 20D ICT	HAGS-35-240-GU10-51/20	8711500652737	44 gr	50	33.1 cm x 25.9 cm x 11.1 cm	8711500652744	652737 65
Twistline Alu 2000h 35W GU10 240V 20D ICT	HAGS-35-240-GU10-51/20	8711500652331	44 gr	50	33.1 cm x 25.6 cm x 11.8 cm	8711500652355	652331 65
Twistline Alu 2000h 35W GU10 240V 40D ICT	HAGS-35-240-GU10-51/40	8711500437037	44 gr	30	25.6 cm x 15.5 cm x 12.5 cm	8711500437051	437037 18
Twistline Alu 2000h 35W GU10 240V 40D ICT	HAGS-35-240-GU10-51/40	8711500652805	44 gr	50	33.1 cm x 24.6 cm x 11.7 cm	8711500652829	652805 65
Twistline Alu 2000h 35W GU10 240V 40D ICT	HAGS-35-240-GU10-51/40	8711500652850	44 gr	50	33.1 cm x 24.6 cm x 11.7 cm	8711500652867	652850 65
Twistline Alu 2000h 40W GU10 230V 25D ICT	HAGS-40-230-GU10-51/50	8711500430229	44 gr	50	32.8 cm x 24.6 cm x 11.5 cm	8711500430267	430229 60
Twistline Alu 2000h 40W GU10 230V 50D ICT	HAGS-40-230-GU10-51/50	8711500430434	44 gr	50	32.8 cm x 24.6 cm x 11.5 cm	8711500430458	430434 60
Twistline Alu 2000h 40W GU10 240V 25D ICT	HAGS-40-240-GU10-51/25	8711500430274	44 gr	50	32.8 cm x 24.6 cm x 11.5 cm	8711500430298	430274 60
Twistline Alu 2000h 50W GU10 230V 40D ICT	HAGS-50-230-GU10-51/40	8711500410382	44 gr	50	32.8 cm x 24.6 cm x 11.5 cm	8711500410405	410382 60
Twistline Alu 2000h 50W GU10 230V 40D ICT	HAGS-50-230-GU10-51/40	8711500412584	44 gr	50	33.1 cm x 24.6 cm x 11.7 cm	8711500412607	412584 60
Twistline Alu 2000h 50W GU10 230V 40D ICT	HAGS-50-230-GU10-51/40	8711500428530	44 gr	50	32.8 cm x 25 cm x 11.5 cm	8711500428554	428530 60
Twistline Alu 2000h 50W GU10 230V 40D UNP	HAGS-50-230-GU10-51/40	8711500648105	44 gr	231	59.5 cm x 39.5 cm x 20.5 cm	8711500648112	648105 39
Twistline Alu 2000h 50W GU10 230V 50D ICT	HAGS-50-230-GU10-51/50	8711500412584	44 gr	50	33.1 cm x 25.9 cm x 11.1 cm	8711500654946	412584 96
Twistline Alu 2000h 50W GU10 230V 50D UNP	HAGS-50-230-GU10-51/50	8711500648396	44 gr	192	56 cm x 38 cm x 30 cm	8711500648402	648396 38
Twistline Alu 2000h 50W GU10 240V 25D UNP	HAGS-50-240-GU10-51/25	8711500426048	44 gr	192	56 cm x 38 cm x 30 cm	8711500426055	426048 38
Twistline Alu 2000h 50W GU10 240V 40D ICT	HAGS-50-240-GU10-51/40	8711500648761	44 gr	30	26.2 cm x 16.1 cm x 13.7 cm	8711500648778	648761 18
Twistline Alu 2000h 50W GU10 240V 40D ICT	HAGS-50-240-GU10-51/40	8711500412614	44 gr	50	32.8 cm x 11 cm x 25 cm	8711500412645	412614 60
Twistline Alu 2000h 50W GU10 240V 40D ICT	HAGS-50-240-GU10-51/40	8711500410504	44 gr	50	33.1 cm x 11.1 cm x 26 cm	8711500410528	410504 60
Halogen Twist 2yr 50W GU10 240V 40D ICT	HAGS-50-240-GU10-51/40	8711500428561	44 gr	50	33.1 cm x 25.6 cm x 11.5 cm	8711500428585	428561 60

Photometric diagram

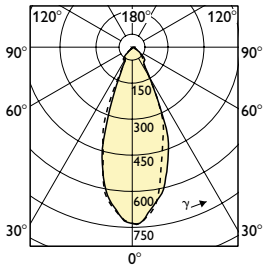


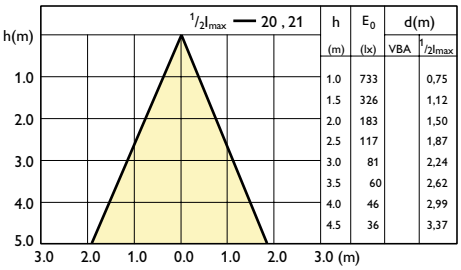


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	1123		0.61
1.5	499		0.92
2.0	281		1.22
2.5	180		1.53
3.0	125		1.83
3.5	92		2.14
4.0	70		2.45
4.5	55		2.75

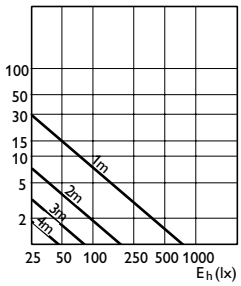


TWIST Alu 25D



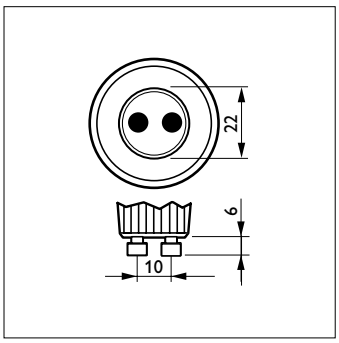


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	733		0,75
1.5	326		1,12
2.0	183		1,50
2.5	117		1,87
3.0	81		2,24
3.5	60		2,62
4.0	46		2,99
4.5	36		3,37



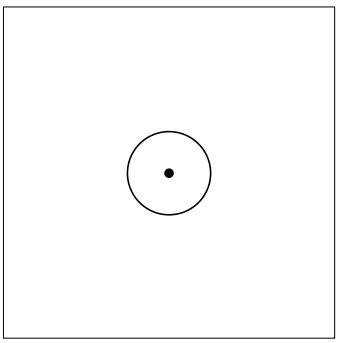
TWIST Alu 50D

Cap Base



GU10

Operating position



any


50%
50%
50%



Twistline Dichroic 2000 hours

Product Description

- Mains-voltage 50 mm diameter reflector lamp with dichroic reflector

Product Features

- Quartz burner with Lambda-shape filament optically positioned in a hard-coated dichroic full-glass reflector
- Dichroic version (GZ10 lamp base) has a cool beam as a large part of the heat generated is transmitted backwards through the back glass
- Clear front glass protects against touching the burner and against dust/moisture
- Distinct MR16 look
- High and stable light output throughout lifetime
- Dichroic version provides a well-defined, homogeneous beam and sparkling effects in open luminaires, with controlled light spill at back
- GZ10 bases ensure good retention in the luminaire and easy, 'twist and take out' insertion and replacement
- Built-in double fuses for additional safety at end-of-life

Product Benefits

- Lamp can be connected directly to the mains supply, so no transformers are needed
- UV-Block lamp so no additional front glas s or UV-filter required
- Twistline dichroic and aluminium versions are the most compact lamps of their kind available

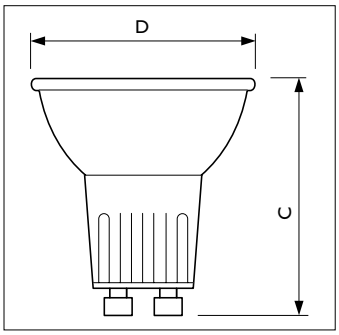
Application

- Typically used for accent lighting in homes
- Also used in accent and general lighting in shops, hotels, restaurants, bars etc.

Luminaires

- Conforms to IEC 598 for use in open luminaires
- The luminaire must carry instructions about which lamp should be used (GZ10 / cool beam)

www.philips.com/OEM



Twistline Dichroic 2000 hours GZ10

Type	CMax	DMax
Twistline Dichroic 2000h GZ10	51	51

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Twistline Dichroic 2000h 50W GZ10 230V	230	50	Yes	2000
Twistline Dichroic 2000h 50W GZ10 240V	240	50	Yes	2000

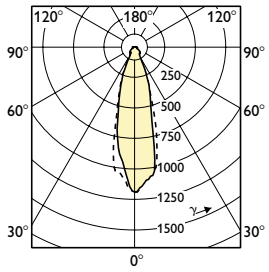
Light data

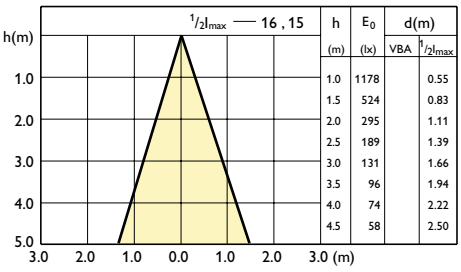
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Twistline Dichroic 2000h 50W GZ10	2900	100	any

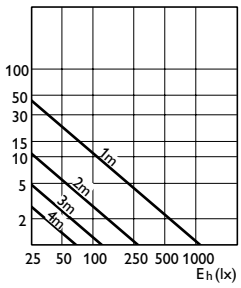
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Twistline Dichroic 2000h 50W GZ10 230V 25D UNP	HRGS-50-230-GZ10-51/25	8711500413314	38.4 gr	192	56 cm x 38 cm x 30 cm	8711500427991	413314 38
Twistline Dichroic 2000h 50W GZ10 240V 25D UNP	HRGS-50-240-GZ10-51/25	8711500413857	39.0 gr	192	56 cm x 38 cm x 30 cm	8711500430700	413857 38

Photometric diagram

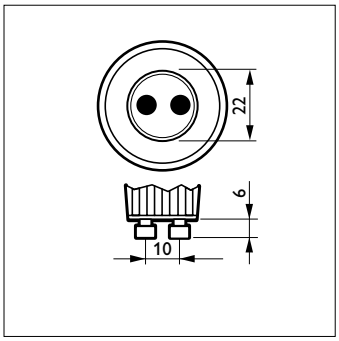






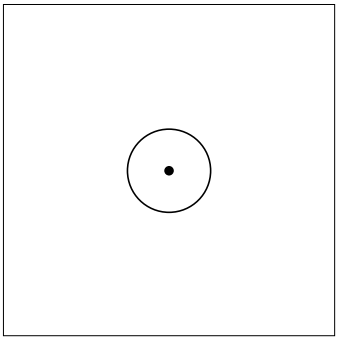
TWIST Dichr 25D

Cap Base



GZ10

Operating position



any



MASTER PAR20 E

Product Description

- Mains-voltage energy saving reflector lamp with EcoBoost technology with E27 base and built-in transformer, giving white halogen light

Product Features

- Low-voltage halogen burner
- Easy upgrading of existing PAR 20 or R63 installations; no need for transformer in new installations
- Choice of spot or flood beam widths
- Power conversion from mains to 12 V by a built-in electronic transformer
- Aluminium-coated facetted parabolic pressed-glass reflector
- Clear, flat front glass
- Extreme long life of 5000 hours: twice as high as PAR and five times as high as R63
- Excellent colour rendering
- Crisp white light matches other light sources like metal halide and low-voltage halogen
- Not dimmable

Product Benefits

- Combines the good efficacy and long lifetime of low-voltage halogen technology with the ease of use of HalogenA PAR and R63 lamps
- 20 W MASTER PAR offers 60% energy saving compared with 50 W PAR20 with similar (flood) or double (spot) intensity, or 66% energy saving compared with 60W R63 and 25% (flood) to seven times (spot) more light compared to R63
- Unprecedented beam contrast and uniformity for a mains-voltage reflector lamp. Highlights goods and exhibits, adds drama and creates ambience

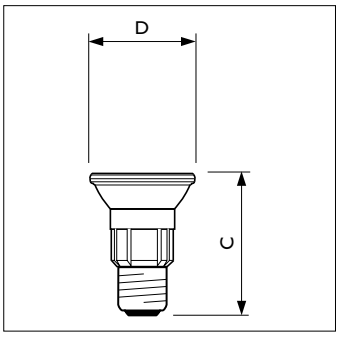
Application

- Accent and downlighting in shops, hotels, lobbies, bars, restaurants, museums and galleries
- Also very suitable for general lighting in high ceiling situations (eg office and hotel lobbies)

Environment

- Excellent environmental choice because of high energy efficiency and long reliable life
- This product is a Philips Green product
- This product is RoHS compliant

www.philips.com/OEM



MASTER PAR20 E

Type	CMax	DMax
MASTER PAR20 E E27	85.9	63.5

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Life to 50% failures (hrs)
MASTER PAR20 E 20W E27 230V	230	20	5000
MASTER PAR20 E 20W E27 240V	240	20	5000

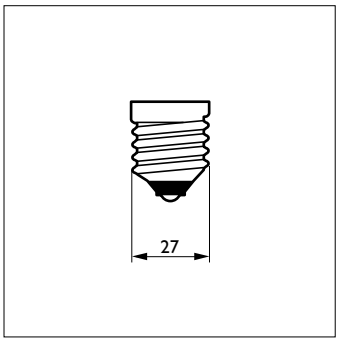
Light data

Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER PAR20 E 20W E27	2940	100	0.43	0.41	any

Ordering and packing data

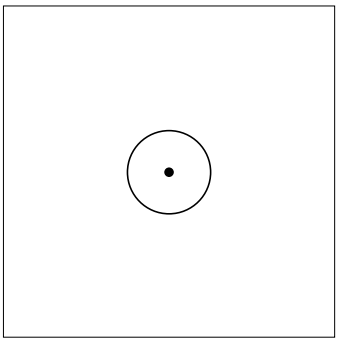
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER PAR20 E 20W E27 230V 10D 1CT	HRGI-20-230-E27	8711500413109	101 gr	12	31.6 cm x 25 cm x 11.6 cm	8711500425973	413109 17
MASTER PAR20 E 20W E27 230V 25D 1CT	HRGI-20-230-E27	8711500413086	101 gr	12	31.3 cm x 25 cm x 11.7 cm	8711500425959	413086 17
MASTER PAR20 E 20W E27 240V 10D 1CT	HRGI-20-240-E27	8711500412393	101 gr	12	31.3 cm x 25 cm x 11.7 cm	8711500412409	412393 17
MASTER PAR20 E 20W E27 240V 25D 1CT	HRGI-20W-240-E27	8711500651129	101 gr	12	31.3 cm x 25 cm x 11.7 cm	8711500651136	651129 15
MASTER PAR20 E 20W E27 240V 25D 1CT	HRGI-20W-240-E27	8711500412379	101 gr	12	31.3 cm x 25 cm x 11.7 cm	8711500412386	412379 17

Cap Base



E27

Operating position



any



HalogenA PAR16

Product Description

- Mains-voltage 50 mm diameter reflector lamp

Product Features

- Hard-glass halogen burner (M-shaped filament) optically positioned in a parabolic, aluminium-coated pressed-glass reflector (PAR) with new optical pressing design
- Excellent colour rendering
- Crisp white halogen type of light
- Good luminous efficacy
- Long life (twice the lifetime of a normal incandescent lamp)
- Spot versions have slightly stippled front glass to emphasise the sparkling reflector
- Flood versions have a faceted front glass to prevent glare and ensure a homogeneous beam distribution
- Front glass protects the lamp for safety and prevents touching and dust deposits

Product Benefits

- Bright, sparkling halogen light
- Convenient halogen solutions that fit in standard, existing luminaires
- Retrofit halogen replacement for R50 incandescent reflector lamps

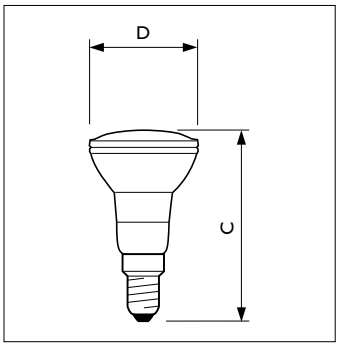
Application

- Typically used in home accent and task lighting

Luminaires

- Can be used in any luminaire in which R50 incandescent lamps can be used

www.philips.com/OEM



HalogenA PAR16

Type	CMax	DMax
HalogenA PAR16 40W E14 230V 25D	85	51.2

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
HalogenA PAR16 40W E14 230V 25D	230	40	Yes	2000

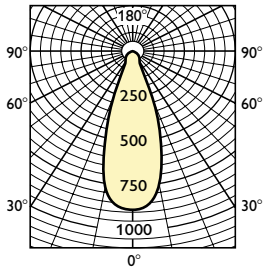
Light data

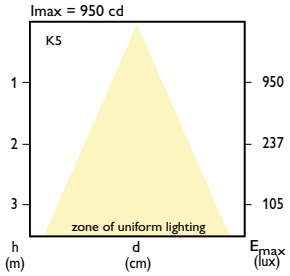
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
HalogenA PAR16 40W E14 230V 25D	2700	100	any

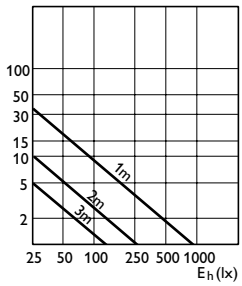
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HalogenA PAR16 40W E14 230V 25D 1CT	HEGPAR-40-230-E14-50/30	8711500497536	54 gr	15	26.1 cm x 16.2 cm x 9.8 cm	8711500516312	497536 20
HalogenA PAR16 40W E14 230V 25D 1CT	HEGPAR-40-230-E14-50/30	8711500651372	56 gr	60	25.6 cm x 15.6 cm x 26.2 cm	8711500651389	651372 91

Photometric diagram

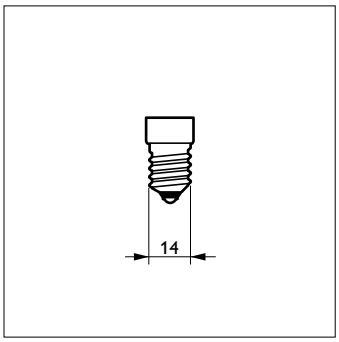






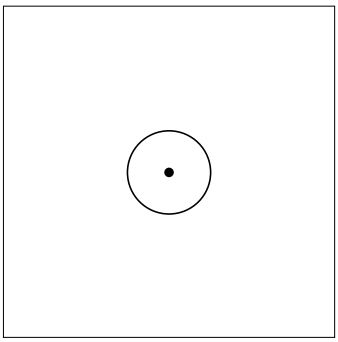
PAR16 40W 25D

Cap Base



E14

Operating position



any



HalogenA PAR20

Product Description

- Mains-voltage 63 mm diameter reflector lamp

Product Features

- Hard-glass halogen burner optically positioned in a parabolic, aluminium-coated pressed-glass reflector (PAR) with new optical pressing design
- Excellent colour rendering
- White, crisp sparkling halogen light
- Long life (two and a half times the lifetime of a normal incandescent lamp)
- Spot versions have slightly stippled front glass to emphasise the sparkling reflector
- Flood versions have a faceted front glass to prevent glare and ensure a homogeneous beam distribution
- Front glass protects the lamp for safety and prevents touching and dust deposits

Product Benefits

- Bright, sparkling halogen light
- Convenient halogen solutions that fit in standard, existing luminaires
- Retrofit halogen replacement for R60/R63 incandescent reflector lamps

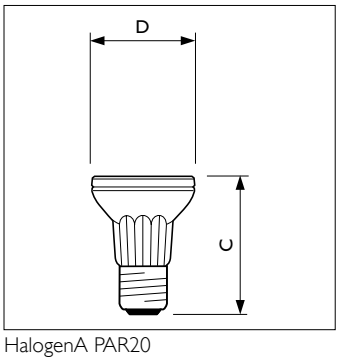
Application

- Typically used for accent and display lighting in shops, especially for premium goods
- Also used as accent and task lighting in the home

Luminaires

- Can be used in any luminaire in which R60/R63 incandescent lamps can be used
- For outdoor use, the lamp should be protected from direct water contact
- The luminaire must have a waterproof connection between the reflector and the luminaire

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HalogenA PAR20

Type	CMax	DMax
HalogenA PAR20 50W E27	105	64.5

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
HalogenA PAR20 50W E27 230V	230	50	Yes	2000
HalogenA PAR20 50W E27 240V	240	50	Yes	2000

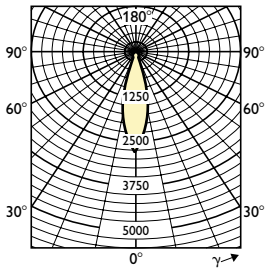
Light data

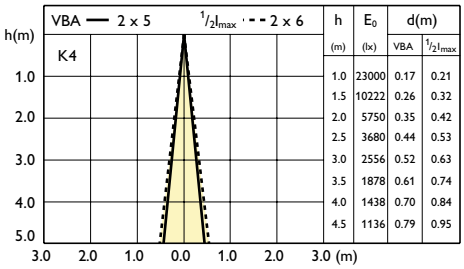
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
HalogenA PAR20 50W E27	2800	100	any

Ordering and packing data

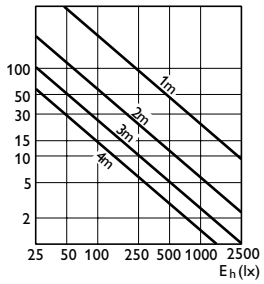
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HalogenA PAR20 50W E27 230V 10D 1CT	HEGPAR-50-230-E27-63/10	8711500494870	108 gr	15	42 cm x 25 cm x 10 cm	8711500524010	494870 20
HalogenA PAR20 50W E27 230V 25D 1CT	HEGPAR-50-230-E27-63/10	8711500494894	120 gr	15	42 cm x 25 cm x 10 cm	8711500524034	494894 20
HalogenA PAR20 50W E27 240V 10D 1CT	HEGPAR-50-230-E27-63/10	8711500494887	108 gr	15	42.5 cm x 25.5 cm x 10.5 cm	8711500524027	494887 20
HalogenA PAR20 50W E27 240V 25D 1CT	HEGPAR-50-230-E27-63/10	8711500494900	108 gr	15	41.5 cm x 25.5 cm x 10.7 cm	8711500524041	494900 20

Photometric diagram

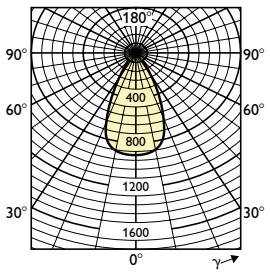


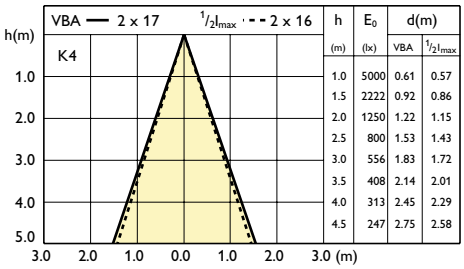


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	23000	0.17	0.21
1.5	10222	0.26	0.32
2.0	5750	0.35	0.42
2.5	3680	0.44	0.53
3.0	2556	0.52	0.63
3.5	1878	0.61	0.74
4.0	1438	0.70	0.84
4.5	1136	0.79	0.95

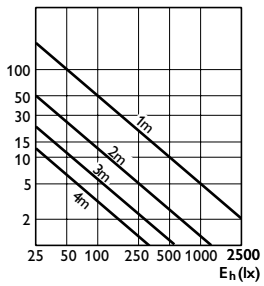


PAR20 10D



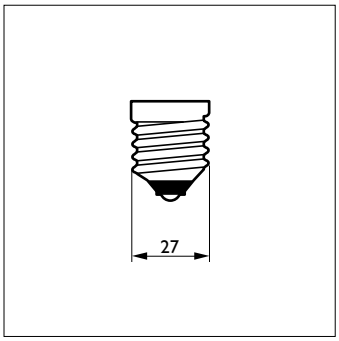


h (m)	E_0 (lx)	d(m) VBA	d(m) 1/2Imax
1.0	5000	0.61	0.57
1.5	2222	0.92	0.86
2.0	1250	1.22	1.15
2.5	800	1.53	1.43
3.0	556	1.83	1.72
3.5	408	2.14	2.01
4.0	313	2.45	2.29
4.5	247	2.75	2.58



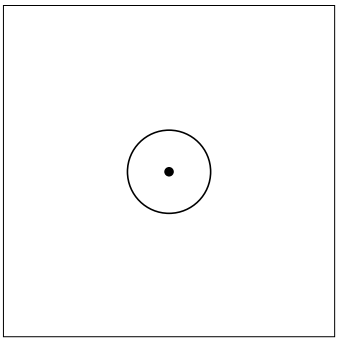
PAR20 25D

Cap Base



E27

Operating position



any



HalogenA PAR30S

Product Description

- Mains-voltage 97 mm diameter reflector lamp

Product Features

- Hard-glass halogen burner (linear filament) optically positioned in a parabolic, aluminium-coated pressed-glass reflector (PAR)
- Natural colour rendering
- Sparkling, crisp white halogen light
- Good luminous efficacy
- Long life (two and a half times the lifetime of a normal incandescent lamp)
- Spot versions have slightly stippled front glass to emphasise the sparkling reflector
- Flood versions have a faceted front glass to prevent glare and ensure a homogeneous beam distribution
- Front glass protects the lamp for safety and prevents touching and dust deposits

Product Benefits

- Bright, sparkling halogen light
- Convenient halogen solutions that fit in standard, existing luminaires

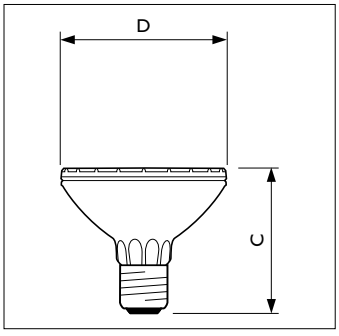
Application

- Typically used for accent and display lighting in shops, especially for premium goods
- Also used as general lighting in hotels, theatres and lobby areas

Luminaires

- For outdoor use, the lamp should be protected from direct water contact
- The luminaire must have a waterproof connection between the reflector and the luminaire

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HalogenA PAR30S

Type	CMax	DMax
HalogenA PAR30S E27	90.5	97

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
HalogenA PAR30S 75W E27 230V	230	75	Yes	2000
HalogenA PAR30S 75W E27 240V	240	75	Yes	2000
HalogenA PAR30S 100W E27 230V	230	100	Yes	2500

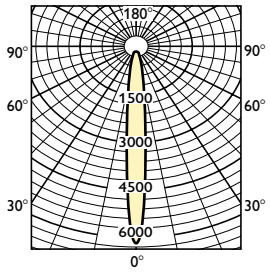
Light data

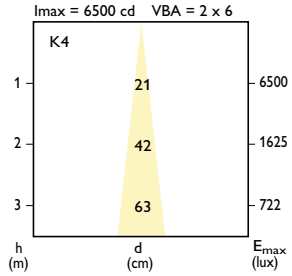
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
HalogenA PAR30S E27	2800	100	any

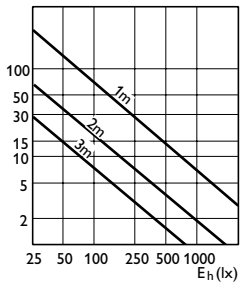
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HalogenA PAR30S 75W E27 230V 10D 1CT	HEGPAR-75-230-E27-95S/10	8711500504418	300 gr	15	56.5 cm x 33.5 cm x 18.2 cm	87115005163	504418 20
HalogenA PAR30S 75W E27 230V 30D 1CT	HEGPAR-75-230-E27-95S/30	8711500504395	300 gr	15	48 cm x 28.5 cm x 10.5 cm	87115005149	504395 20
HalogenA PAR30S 75W E27 240V 10D 1CT	HEGPAR-75-240-E27-95S/10	8711500504425	300 gr	15	48 cm x 28.5 cm x 10.5 cm	87115005170	504425 20
HalogenA PAR30S 75W E27 240V 30D 1CT	HEGPAR-75-240-E27-95S/30	8711500504401	300 gr	15	48 cm x 28.5 cm x 11.5 cm	87115005156	504401 20
HalogenA PAR30S 100W E27 230V 10D 1CT	HEGPAR-100-230-E27-95S/10	8711500518804	300 gr	15	48 cm x 28.9 cm x 11 cm	8711500520869	518804 20
HalogenA PAR30S 100W E27 230V 30D 1CT	HEGPAR-100-230-E27-95S/30	8711500518811	300 gr	15	48 cm x 28.5 cm x 11 cm	8711500520876	518811 20

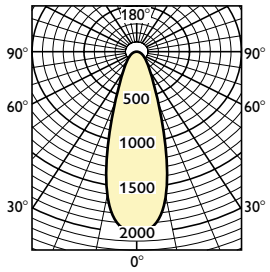
Photometric diagram

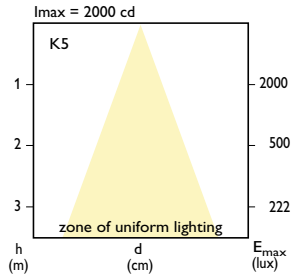


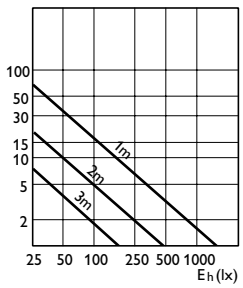




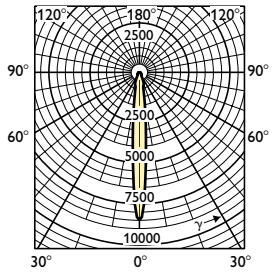
PAR30S 75W 10D

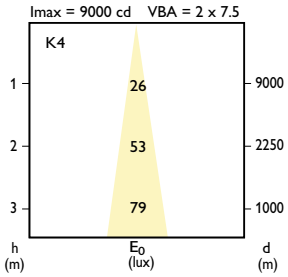


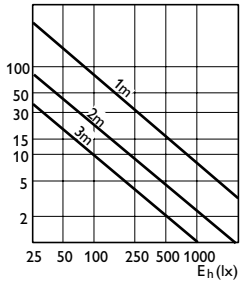




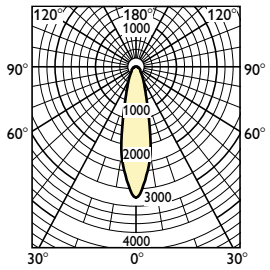
PAR30S 75W 30D

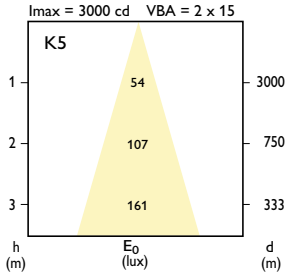


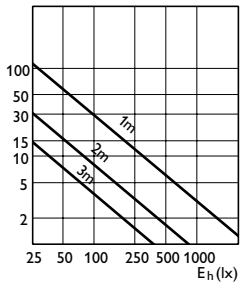




PAR30S 100W 10D

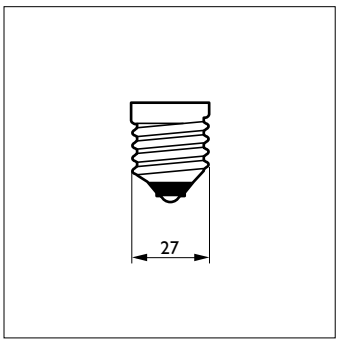






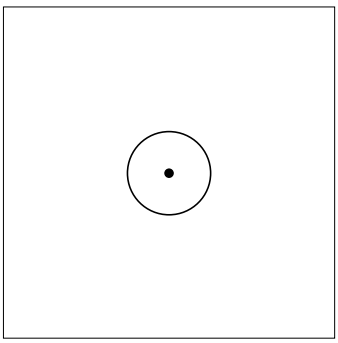
PAR30S 100W 30D

Cap Base



E27

Operating position



any


TEK ÖDEME
T-SHIRT
25.00 YTL



HalogenA PAR38

Product Description

- Mains-voltage 123 mm diameter reflector lamp

Product Features

- Hard-glass halogen burner (linear filament) optically positioned in a parabolic, aluminium-coated pressed-glass reflector (PAR)
- Natural colour rendering
- Cool halogen type of beam colour appearance
- Good luminous efficacy
- Long life (two and a half times the lifetime of a normal incandescent lamp)
- Spot versions have slightly stippled front glass to emphasise the sparkling reflector
- Flood versions have a faceted front glass to prevent glare and ensure a homogeneous beam distribution
- Front glass protects the lamp for safety and prevents touching and dust deposits

Product Benefits

- Bright, sparkling halogen light combined with a two and a half times higher lifetime, giving better light at lower costs
- Convenient halogen solutions that fit in standard, existing luminaires
- Equiped with E27 lamp socket designed to retrofit PAR 38 incandescent reflector lamps

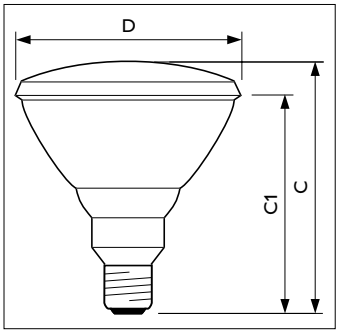
Application

- Accent and display lighting in shops
- Accent and task lighting in the home

Luminaires

- Can be used in any luminaire in which PAR 38 incandescent lamps can be used
- Suitable for outdoor use
- The luminaire must have a waterproof connection (rubber ring) between the reflector and the luminaire

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HalogenA PAR38

Type	CMax	C1Max	DMax
HalogenA PAR38 E27	136	123	123.5

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
HalogenA PAR38 50W E27 230V	230	50	Yes	2000
HalogenA PAR38 65W E27 230V	230	65	Yes	2000
HalogenA PAR38 75W E27 230V	230	75	Yes	2000
HalogenA PAR38 100W E27 230V	230	100	Yes	2500

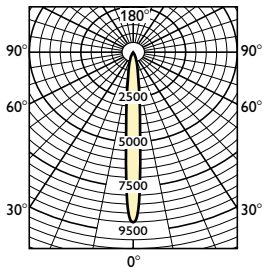
Light data

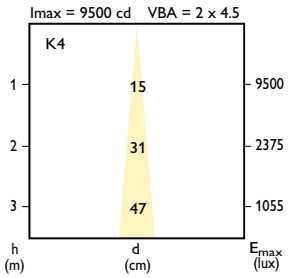
Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
HalogenA PAR38 E27	2800	100	any

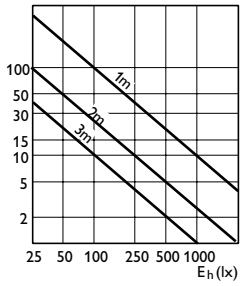
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HalogenA PAR38 50W E27 230V 12D 1CT	HEGPAR-50-230-E27-121/12	8711500654281	310 gr	15	61.3 cm x 37.3 cm x 16.9 cm	8711500654298	654281 20
HalogenA PAR38 50W E27 230V 30D 1CT	HEGPAR-50-230-E27-121/30	8711500654366	310 gr	15	61.3 cm x 37.3 cm x 16.9 cm	8711500654373	654366 20
HalogenA PAR38 65W E27 230V 12D 1CT	HEGPAR-65-230-E27-121/12	8711500654380	310 gr	15	61.3 cm x 37.3 cm x 16.9 cm	8711500654397	654380 20
HalogenA PAR38 65W E27 230V 30D 1CT	HEGPAR-65-230-E27-121/30	8711500654403	310 gr	15	61.3 cm x 37.3 cm x 16.9 cm	8711500654410	654403 20
HalogenA PAR38 75W E27 230V 10D 1CT	HEGPAR-75-230-E27-121/10	8711500494566	310 gr	15	62 cm x 37.5 cm x 15.5 cm	8711500514554	494566 20
HalogenA PAR38 75W E27 230V 30D 1CT	HEGPAR-75-230-E27-121/30	8711500494580	310 gr	15	61.5 cm x 37.6 cm x 16.5 cm	8711500514578	494580 20
HalogenA PAR38 100W E27 230V 10D 1CT	HEGPAR-100-230-E27-121/10	8711500494573	310 gr	15	62 cm x 37.5 cm x 15.5 cm	8711500514561	494573 20
HalogenA PAR38 100W E27 230V 12D 1CT	HEGPAR-100-230-E27-121/12	8711500655196	350 gr	15	61.3 cm x 37.3 cm x 16.9 cm	8711500655202	655196 20
HalogenA PAR38 100W E27 230V 30D 1CT	HEGPAR-100-230-E27-121/10	8711500655219	350 gr	15	62 cm x 37.5 cm x 16.9 cm	8711500655226	655219 20
HalogenA PAR38 100W E27 230V 30D 1CT	HEGPAR-100-230-E27-121/10	8711500494597	350 gr	15	61.5 cm x 37.6 cm x 16.5 cm	8711500514585	494597 20

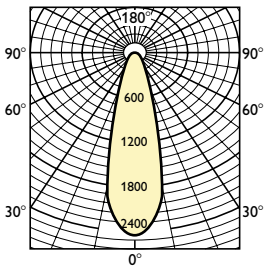
Photometric diagram

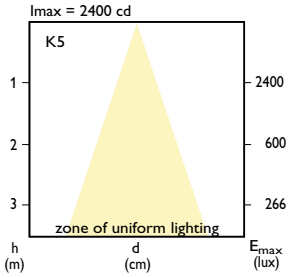


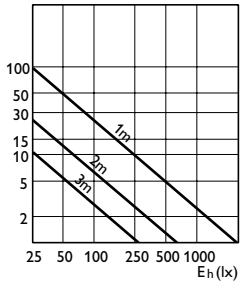




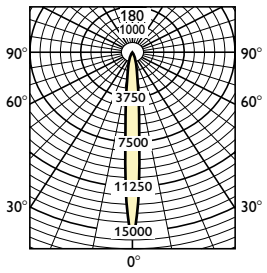
PAR38 75W 10D

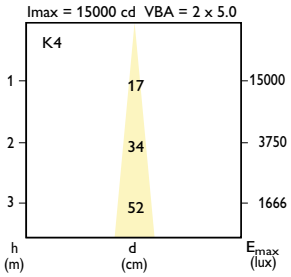


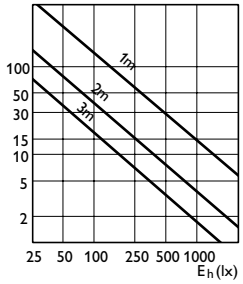




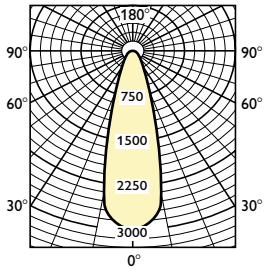
PAR38 75W 30D

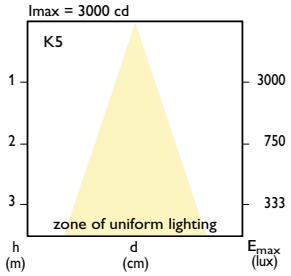


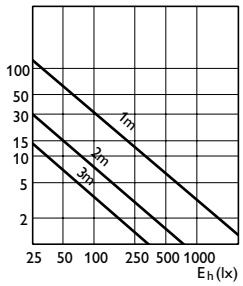




PAR38 100W 10D/12D

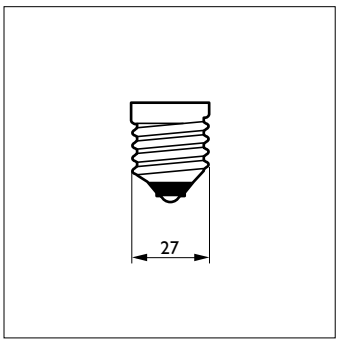






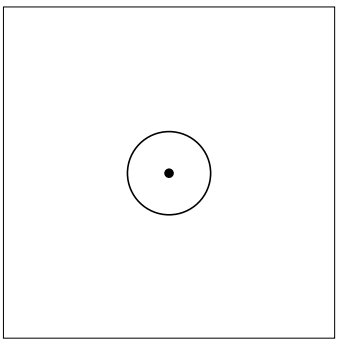
PAR38 100W 30D

Cap Base



E27

Operating position



any



HalogenA R80

Product Description

- Mains-voltage high-wattage double-envelope giving a white halogen light

Product Features

- Tube located axially in a single-ended normal glass outer envelope filled with an inert gas mixture
- Fully interchangeable with incandescent lamps of the same wattage
- Cap temperature same as the corresponding GLS lamps
- Excellent colour rendering
- Crisp, white halogen light
- Constant light output during life

Product Benefits

- Offers the universal applicability of standard incandescent lamps and matches standard GLS bulb dimensions
- Wide choice of wattages

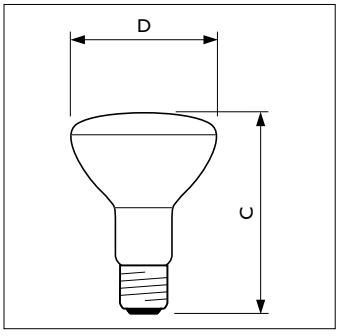
Application

- Homes, offices, shops, hotels, restaurants and bars, museums etc. as a replacement for incandescent lamps

Luminaires

- Open luminaires are permitted indoors, but a protective front cover glass and a water-resistant luminaire are required for outdoor use

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HalogenA R80

Type	CMax	DMax
HalogenA E27 230V R80	112	81

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
HalogenA 60W E27 230V R80	230	0.2	60	Yes	2000
HalogenA 100W E27 230V R80	230	0.4	100	Yes	2000

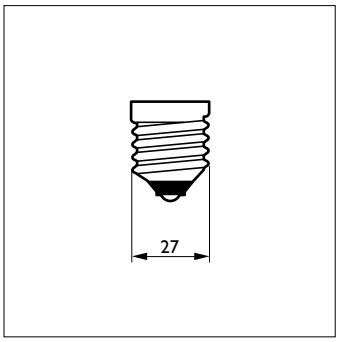
Light data

Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
HalogenA E27 230V R80	2900	100	any

Ordering and packing data

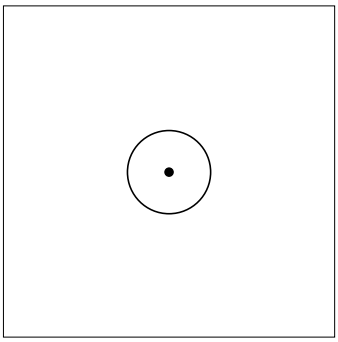
Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HalogenA 60W E27 230V R80 FR 1CT	8711500496461	46 gr	10	40.6 cm x 16.8 cm x 13 cm	8711500501288	496461 25
HalogenA 100W E27 230V R80 FR 1CT	8711500496478	46 gr	10	40.6 cm x 16.6 cm x 13.2 cm	8711500501295	496478 25

Cap Base



E27

Operating position



any



Halogen Spot NR-shape

Product Description

- Blown bulb NR reflector lamp with a mains voltage halogen burner

Product Features

- Higher light output than GLS reflector lamps: 10% with R50 lamps and 40% with R63 lamps
- Medium wide beam spread

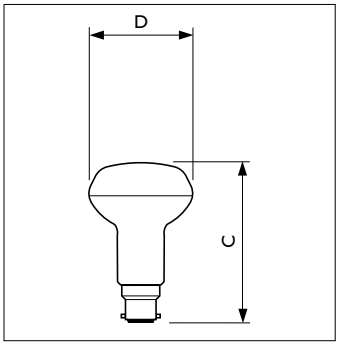
Product Benefits

- Distinctive shape designed to replace standard incandescent NR lamps
- Double the lifetime of standard reflector lamps
- Increased light output compared with incandescent reflector lamps
- Excellent colour rendering
- Bright white halogen light

Application

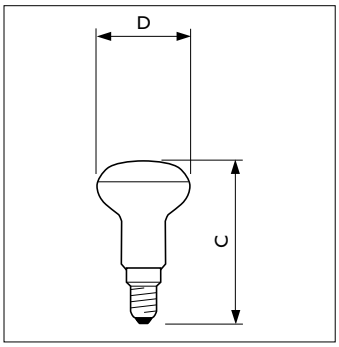
- All the benefits of high-performance, high-efficiency, bright halogen lighting, simply by replacing standard incandescent NR reflector lamps with halogen reflector lamps of the same size and wattage
- Display lighting in hotels, restaurants and homes

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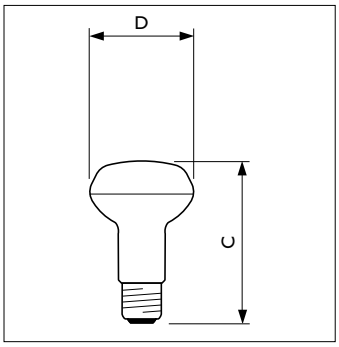
Halogen Spot NR-shape B22 NR63

Type	CMax	DNom
Halogen Spot 2yr B22 NR63	103.5	63



Halogen Spot NR-shape E14 NR50

Type	CMax	DNom
Halogen Spot 2yr E14 NR50	86.5	50



Halogen Spot NR-shape E27 NR63

Type	CMax	DNom
Halogen Spot 2yr E27 NR63	105	63

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Halogen Spot 2yr 40W B22 NR63 30D	240	40	Yes	2000
Halogen Spot 2yr 40W E14 NR50 30D	230	40	Yes	2000
Halogen Spot 2yr 60W B22 NR63 30D	240	60	Yes	2000
Halogen Spot 2yr 60W E27 NR63 30D	230	60	Yes	2000

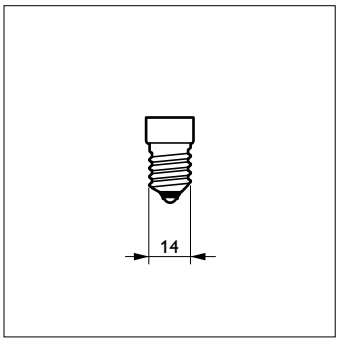
Light data

Type	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position	Beam Angle (°)
Halogen Spot 2yr 40W 30D	2700	100	any	30
Halogen Spot 2yr 60W 30D	2800	100	any	30

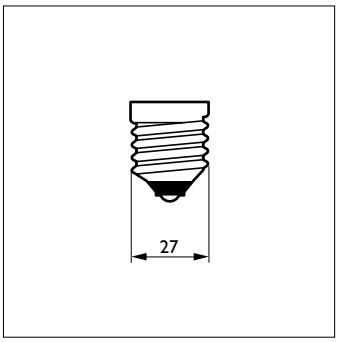
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Halogen Spot 2yr 40W B22 240V NR63 30D 1CT	HSGSRR-40-240-B22-63/30	8711500050076	21.9 gr	15	32.1 cm x 19.8 cm x 11.8 cm	8711500050083	050076 20
Halogen Spot 2yr 40W E14 230V NR50 30D 1CT	HSGSRR-40-230-E14-50/30	8711500050199	21.9 gr	3	15 cm x 5 cm x 8.6 cm	8711500649317	050199 11
Halogen Spot 2yr 40W E14 230V NR50 30D 1CT	HSGSRR-40-230-E14-50/30	8711500050199	21.9 gr	15	26.1 cm x 16.2 cm x 9.8 cm	8711500050649	050199 23
Halogen Spot 2yr 40W E14 230V NR50 30D 1CT	HSGSRR-40-230-E14-50/30	8711500050199	21.9 gr	15	26.1 cm x 16.2 cm x 9.8 cm	8711500051714	050199 24
Halogen Spot 2yr 40W E14 230V NR50 30D 1CT	HSGSRR-40-230-E14-50/30	8711500050199	21.9 gr	15	26.3 cm x 16.2 cm x 9.8 cm	8711500655158	050199 97
Halogen Spot 2yr 40W E14 230V NR50 30D 1CT	HSGSRR-40-230-E14-50/30	8711500050199	21.9 gr	15	26.3 cm x 16.2 cm x 9.8 cm	8711500655257	050199 98
Halogen Spot 2yr 40W E14 230V NR50 30D 1CT	HSGSRR-40-230-E14-50/30	8711500050199	21.9 gr	15	26.3 cm x 16.2 cm x 9.8 cm	8711500050205	050199 20
Halogen Spot 2yr 40W E14 240V NR50 30D 1CT	HSGSRR-40-240-E14-50/30	8711500050212	21.9 gr	10	26.2 cm x 11.1 cm x 10.1 cm	8711500648815	050212 25
Halogen Spot 2yr 40W E14 240V NR50 30D 1CT	HSGSRR-40-240-E14-50/30	8711500050212	21.9 gr	12	20.1 cm x 16 cm x 9.5 cm	8711500649867	050212 96
Halogen Spot 2yr 40W E14 240V NR50 30D 1CT	HSGSRR-40-240-E14-50/30	8711500050212	21.9 gr	15	26.1 cm x 16.2 cm x 9.8 cm	8711500050229	050212 20
Halogen Spot 2yr 40W E27 230V NR63 30D 1CT	HSGSRR-40-230-E27-63/30	8711500050038	30.5 gr	3	18.6 cm x 6.2 cm x 10.5 cm	8711500649300	050038 11
Halogen Spot 2yr 40W E27 230V NR63 30D 1CT	HSGSRR-40-230-E27-63/30	8711500050038	30.5 gr	15	32.1 cm x 19.8 cm x 11.8 cm	8711500050045	050038 20
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Halogen Spot 2yr 40W E27 230V NR63 30D 1CT	HSGSRR-40-230-E27-63/30	8711500050038	30.5 gr	15	32.1 cm x 19.8 cm x 11.8 cm	8711500051677	050038 24
Halogen Spot 2yr 40W E27 230V NR63 30D 1CT	HSGSRR-40-230-E27-63/30	8711500050038	30.5 gr	15	32.1 cm x 19.8 cm x 11.8 cm	8711500655134	050038 97
Halogen Spot 2yr 40W E27 230V NR63 30D 1CT	HSGSRR-40-230-E27-63/30	8711500050038	30.5 gr	15	32.1 cm x 19.8 cm x 11.8 cm	8711500655233	050038 98
Halogen Spot 2yr 40W E27 240V NR63 30D 1CT	HSGSRR-40-240-E27-63/30	8711500648822	30.4 gr	10	32.4 cm x 13.6 cm x 12.1 cm	8711500648839	648822 25
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Halogen Spot 2yr 60W E27 230V NR63 30D 1CT	HSGSRR-60-230-E27-63/30	8711500050052	30.5 gr	15	32.1 cm x 19.8 cm x 11.8 cm	8711500051691	050052 24
Halogen Spot 2yr 60W E27 230V NR63 30D 1CT	HSGSRR-60-230-E27-63/30	8711500050052	30.5 gr	15	32.1 cm x 19.8 cm x 11.8 cm	8711500655141	050052 97
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Halogen Spot 2yr 60W E27 230V NR63 30D 1CT	HSGSRR-60-230-E27-63/30	8711500050052	30.5 gr	15	32.1 cm x 19.8 cm x 11.8 cm	8711500050625	050052 23
Halogen Spot 2yr 60W E27 240V NR63 30D 1CT	HSGSRR-60-240-E27-63/30	8711500648846	30.4 gr	10	32.4 cm x 13.6 cm x 12.1 cm	8711500648853	648846 25
Halogen Spot 2yr 60W E27 240V NR63 30D 1CT	HSGSRR-60-240-E27-63/30	8711500648846	30.4 gr	12	23.7 cm x 19.8 cm x 11.3 cm	8711500649843	648846 96
Halogen Spot 2yr 60W E27 240V NR63 30D 1CT	HSGSRR-60-240-E27-63/30	8711500655882	30.5 gr	6	19.4 cm x 13.1 cm x 12.2 cm	8711500655899	655882 10

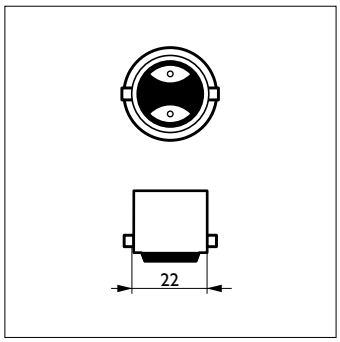
Cap Base



E14

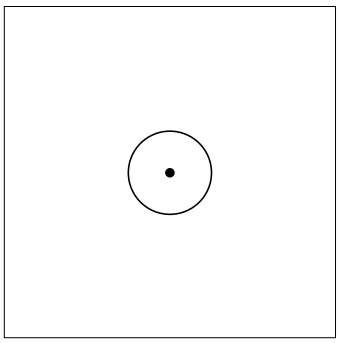


E27



B22

Operating position


any





MASTERClassic

Product Description

- Energy-saving halogen MASTERlamp with EcoBoost technology for 50% savings on energy costs compared with incandescent lamps, while maintaining or even improving the quality of light

Product Features

- Unique Philips patented EcoBoost single-ended burner: 50% higher efficiency than standard products
- Shape and base like classic incandescent lamps, compact size and hidden electronics
- 50% lower energy consumption than an incandescent lamp
- Average lifetime three times longer than an incandescent lamp
- Low-voltage halogen light quality: sparkling, crisp light
- Dimmable
- No mercury content
- Unique, attractive design
- Complete range with Philips EcoBoost technology coated low-voltage halogen capsule

Product Benefits

- Retrofit replacement for standard incandescent lamps
- Big energy savings
- Lower replacement costs due to longer burning hours
- Creates a warm, attractive light
- Supports a green environment
- Familiar, incandescent-look design
- Lower cost of ownership compared with incandescent lamps

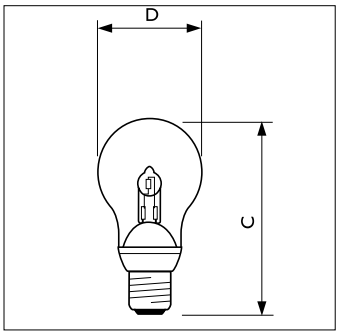
Application

- Replacement for incandescent lamps in most professional and semi-professional applications
- Indoor lighting (e.g. hotels, restaurants, offices)
- Enclosed fixtures required for outdoor applications
- Suitable for emergency lighting with DC supply

Environment

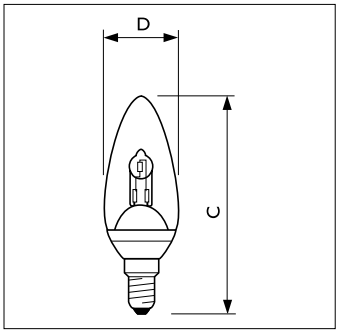
- Excellent environmental choice because of high energy efficiency and long reliable life
- This product is a Philips Green product
- This product is RoHS compliant

www.philips.com/OEM



MASTERClassic A55

Type	CMax	DMax
MASTERClassic A55	109	56.5



MASTERClassic B35

Type	CMax	DMax
MASTERClassic B35	103	40

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
MASTERClassic 20W 240V B35	240	20	B	Yes	3000
MASTERClassic 20W 230V B35	230	20	B	Yes	3000
MASTERClassic 30W 240V A55	240	30	B	Yes	3000
MASTERClassic 30W 230V A55	230	30	B	Yes	3000

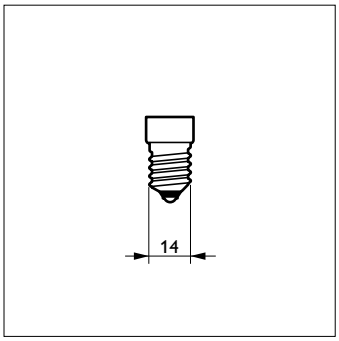
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)
MASTERClassic 20W B35 CL	370	20.5	2850	100
MASTERClassic 20W B35 FR	365	20.5	2850	100
MASTERClassic 30W A55 CL	620	23.7	2850	100
MASTERClassic 30W A55 FR	615	23.7	2850	100

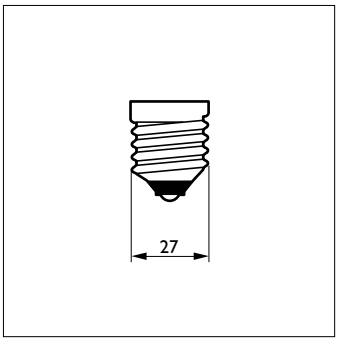
Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTERClassic 20W B15 240V B35 CL 1CT	8727900252392	65 gr	12	25.6 cm x 20.7 cm x 14.2 cm	8727900661040	252392 15
MASTERClassic 20W B15 240V B35 FR 1CT	8727900252484	65 gr	12	25.6 cm x 20.7 cm x 14.2 cm	8727900661606	252484 15
MASTERClassic 20W B22 240V A55 CL 1CT	8727900203622	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900204001	203622 15
MASTERClassic 20W B22 240V A55 FR 1CT	8727900203608	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900203981	203608 15
MASTERClassic 20W B22 240V B35 CL 1CT	8727900203790	65 gr	12	17.7 cm x 13.6 cm x 11.6 cm	8727900204117	203790 15
MASTERClassic 20W B22 240V B35 FR 1CT	8727900203806	65 gr	12	17.7 cm x 13.6 cm x 11.6 cm	8727900204124	203806 15
MASTERClassic 20W E14 230V B35 CL 1CT	8727900203783	65 gr	12	17.7 cm x 13.6 cm x 11.6 cm	8727900204100	203783 15
MASTERClassic 20W E14 230V B35 FR 1CT	8727900203776	65 gr	12	17.7 cm x 13.6 cm x 11.6 cm	8727900204094	203776 15
MASTERClassic 20W E14 240V B35 CL 1CT	8727900250381	65 gr	12	17.7 cm x 13.6 cm x 11.6 cm	8727900251296	250381 15
MASTERClassic 20W E14 240V B35 FR 1CT	8727900250398	65 gr	12	17.7 cm x 13.6 cm x 11.6 cm	8727900251302	250398 15
MASTERClassic 20W E27 230V A55 CL 1CT	8727900203615	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900203998	203615 15
MASTERClassic 20W E27 230V A55 FR 1CT	8727900203592	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900203974	203592 15
MASTERClassic 20W E27 240V A55 CL 1CT	8727900203677	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900204056	203677 15
MASTERClassic 20W E27 240V A55 FR 1CT	8727900203684	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900204063	203684 15
MASTERClassic 20W E27 240V B35 CL 1CT	8727900250404	65 gr	12	17.7 cm x 13.6 cm x 11.6 cm	8727900251319	250404 15
MASTERClassic 20W E27 240V B35 FR 1CT	8727900250411	65 gr	12	17.7 cm x 13.6 cm x 11.6 cm	8727900251326	250411 15
MASTERClassic 30W B22 240V A55 CL 1CT	8727900203660	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900204049	203660 15
MASTERClassic 30W B22 240V A55 FR 1CT	8727900203646	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900204025	203646 15
MASTERClassic 30W E27 230V A55 CL 1CT	8727900203653	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900204032	203653 15
MASTERClassic 30W E27 230V A55 FR 1CT	8727900203639	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900204018	203639 15
MASTERClassic 30W E27 240V A55 CL 1CT	8727900203691	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900204070	203691 15
MASTERClassic 30W E27 240V A55 FR 1CT	8727900203707	87 gr	12	24 cm x 8.1 cm x 11.5 cm	8727900204087	203707 15

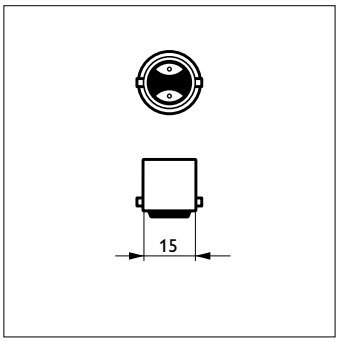
Cap Base



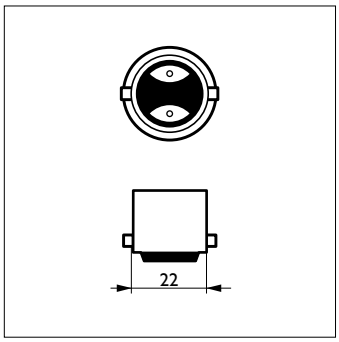
E14



E27



B15



B22





EcoClassic30 A-shape

Product Description

- Energy-saving mains-voltage halogen lamp in classic A60 shape

Product Features

- Direct retrofit for the corresponding incandescent lamps
- Wide choice of wattages to replace classic incandescent range from 40 W to 200 W
- Available with E27, E14 and B22 caps
- 2000 hours lifetime

Product Benefits

- Sparkling, crisp white halogen light of professional quality
- 30% energy savings compared with classic incandescent lamps
- Creates an attractive ambiance
- Dimmable

Application

- General lighting applications in homes, shops, hotels and restaurants

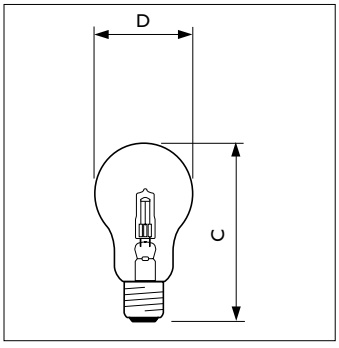
Luminaires

- Fits the same classic luminaires as the corresponding incandescent lamps

Environment

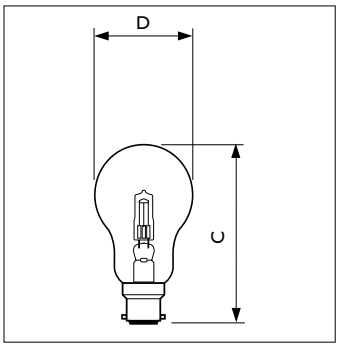
- Excellent environmental choice because of high energy efficiency and long reliable life

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EcoClassic30 A-shape E27

Type	CMax	DMax
EcoClassic30 E27 A60	107	61



EcoClassic30 A-shape B22

Type	CMax	DMax
EcoClassic30 B22 A60	105.5	61

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
EcoClassic30 28W B22 240V A60	240	0.12	28	D	Yes	2000
EcoClassic30 28W E27 230V A60	230	0.12	28	D	Yes	2000
EcoClassic30 42W B22 240V A60	240	0.18	42	C	Yes	2000
EcoClassic30 42W E27 230V A60	230	0.18	42	C	Yes	2000
EcoClassic30 53W B22 240V A60	240	0.22	53	C	Yes	2000
EcoClassic30 53W E27 230V A60	230	0.23	53	C	Yes	2000
EcoClassic30 70W B22 240V A60	240	0.29	70	C	Yes	2000
EcoClassic30 70W E27 230V A60	230	0.30	70	C	Yes	2000
EcoClassic30 105W B22 240V A60	240	0.44	105	C	Yes	2000
EcoClassic30 105W E27 230V A60	230	0.46	105	C	Yes	2000
EcoClassic30 140W B22 230V A60	230	0.61	140	C	Yes	2000
EcoClassic30 140W B22 240V A60	240	0.58	140	C	Yes	2000

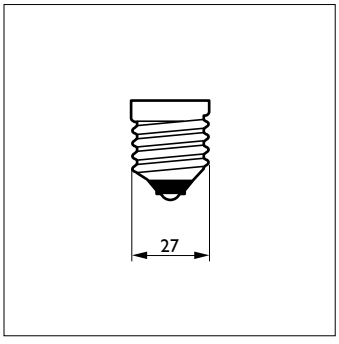
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
EcoClassic30 28W 240V A60	340	12.1	2900	100	any
EcoClassic30 42W 240V A60	630	15.0	2900	100	any
EcoClassic30 53W 240V A60	850	16.0	2900	100	any
EcoClassic30 70W 240V A60	1200	17.1	2900	100	any
EcoClassic30 105W 240V A60	2100	20.0	2900	100	any
EcoClassic30 140W 230V A60	2800	20.0	2900	100	any

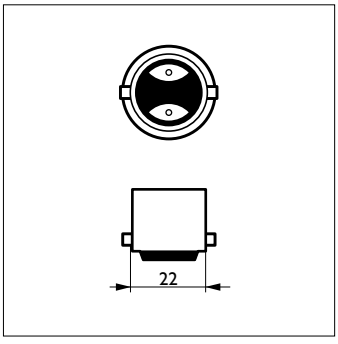
Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8727900
EcoClassic30 28W B22 240V A60 CL 1CT	8727900252859	34 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900662023	252859 25
EcoClassic30 28W B22 240V A60 FR 1CT	8727900252866	34 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900662030	252866 25
EcoClassic30 28W E27 230V A60 CL 1CT	8727900252774	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900661965	252774 25
EcoClassic30 28W E27 230V A60 FR 1CT	8727900252798	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900661972	252798 25
EcoClassic30 28W E27 240V A60 CL 1CT	8727900252835	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900662009	252835 25
EcoClassic30 28W E27 240V A60 FR 1CT	8727900252842	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900662016	252842 25
EcoClassic30 42W B22 240V A60 CL 1CT	8727900251876	34 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660692	251876 25
EcoClassic30 42W B22 240V A60 FR 1CT	8727900251913	34 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660715	251913 25
EcoClassic30 42W E27 230V A60 CL 1CT	8727900251715	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660531	251715 25
EcoClassic30 42W E27 230V A60 FR 1CT	8727900251753	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660555	251753 25
EcoClassic30 42W E27 240V A60 CL 1CT	8727900251791	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660579	251791 25
EcoClassic30 42W E27 240V A60 FR 1CT	8727900251838	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660593	251838 25
EcoClassic30 53W B22 240V A60 CL 1CT	8727900251883	34 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660708	251883 25
EcoClassic30 53W B22 240V A60 FR 1CT	8727900251920	34 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660722	251920 25
EcoClassic30 53W E27 230V A60 CL 1CT	8727900251722	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660548	251722 25
EcoClassic30 53W E27 230V A60 FR 1CT	8727900251760	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660562	251760 25
EcoClassic30 53W E27 240V A60 CL 1CT	8727900251807	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660586	251807 25
EcoClassic30 53W E27 240V A60 FR 1CT	8727900251845	30 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660609	251845 25
EcoClassic30 70W B22 240V A60 CL 1CT	8727900251890	36 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660739	251890 25
EcoClassic30 70W B22 240V A60 FR 1CT	8727900251937	36 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660753	251937 25
EcoClassic30 70W E27 230V A60 CL 1CT	8727900252255	32 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660654	252255 25
EcoClassic30 70W E27 230V A60 FR 1CT	8727900251777	32 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660616	251777 25
EcoClassic30 70W E27 240V A60 CL 1CT	8727900251814	32 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660630	251814 25
EcoClassic30 70W E27 240V A60 FR 1CT	8727900251852	32 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660678	251852 25
EcoClassic30 105W B22 240V A60 CL 1CT	8727900251906	36 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660746	251906 25
EcoClassic30 105W B22 240V A60 FR 1CT	8727900251944	36 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660760	251944 25
EcoClassic30 105W E27 230V A60 CL 1CT	8727900252262	32 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660661	252262 25
EcoClassic30 105W E27 230V A60 FR 1CT	8727900251784	32 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660623	251784 25
EcoClassic30 105W E27 240V A60 CL 1CT	8727900251821	32 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660647	251821 25
EcoClassic30 105W E27 240V A60 FR 1CT	8727900251869	32 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900660685	251869 25
EcoClassic30 140W B22 230V A60 CL 1CT	8727900252576	36 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900661644	252576 25
EcoClassic30 140W B22 230V A60 FR 1CT	8727900252583	36 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900661651	252583 25
EcoClassic30 140W B22 240V A60 FR 1CT	8727900252606	36 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900661675	252606 25
EcoClassic30 140W E27 230V A60 CL 1CT	8727900252552	32 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900661620	252552 25
EcoClassic30 140W E27 230V A60 FR 1CT	8727900252569	32 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900661637	252569 25
EcoClassic30 140W E27 240V A60 FR 1CT	8727900252590	32 gr	10	31.1 cm x 13.1 cm x 12.2 cm	8727900661668	252590 25

Cap Base

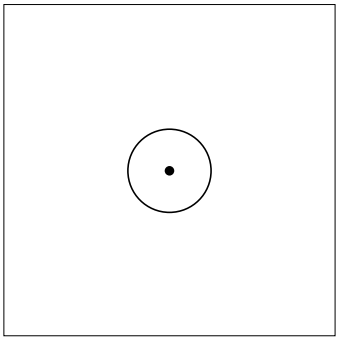


E27



B22

Operating position



any





EcoClassic30 Candle B35

Product Description

- Energy-saving mains-voltage halogen lamp in classic B35 shape

Product Features

- Direct retrofit for the corresponding incandescent lamps
- Replaces classic incandescent 40 W lamp
- Available with E14 and B22 caps
- 2000 hours lifetime

Product Benefits

- Sparkling, crisp white halogen light of professional quality
- 30% energy savings compared with classic incandescent lamps
- Creates an attractive ambiance
- Dimmable

Application

- General lighting applications in homes, shops, hotels and restaurants

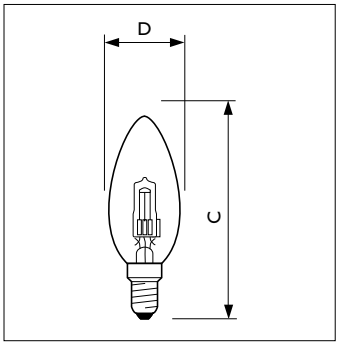
Luminaires

- Fits the same classic luminaires as the corresponding incandescent lamps

Environment

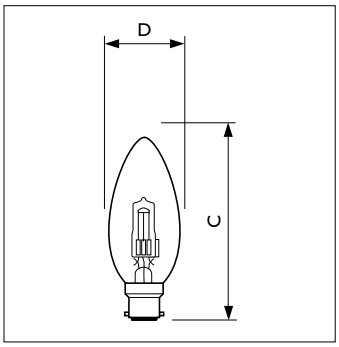
- Excellent environmental choice because of high energy efficiency and long reliable life

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EcoClassic30 Candle B35 E14

Type	CMax	DMax
EcoClassic30 28W E14 B35	99.5	36



EcoClassic30 Candle B35 B22

Type	CMax	DMax
EcoClassic30 28W B22 B35	94.5	36

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
EcoClassic30 28W 240V B35	240	0.12	28	D	Yes	2000
EcoClassic30 28W 230V B35	230	0.12	28	D	Yes	2000

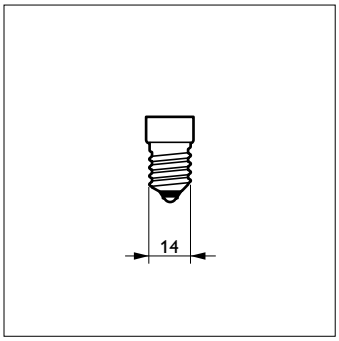
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
EcoClassic30 28W B35	340	12.1	2900	100	any

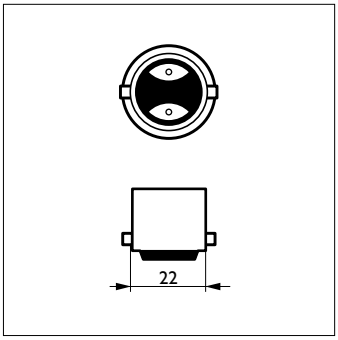
Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8727900
EcoClassic30 28W B22 240V B35 CL 1CT	8727900252736	25.4 gr	15	19.1 cm x 11.9 cm x 11.8 cm	8727900661934	252736 20
EcoClassic30 28W B22 240V B35 FR 1CT	8727900253023	25.4 gr	15	19.1 cm x 11.9 cm x 11.8 cm	8727900661897	253023 20
EcoClassic30 28W E14 230V B35 CL 1CT	8727900252651	21.3 gr	15	19.1 cm x 11.9 cm x 11.8 cm	8727900661873	252651 20
EcoClassic30 28W E14 230V B35 FR 1CT	8727900252675	21.3 gr	15	19.1 cm x 11.9 cm x 11.8 cm	8727900661880	252675 20
EcoClassic30 28W E14 240V B35 CL 1CT	8727900252712	21.3 gr	15	19.1 cm x 11.9 cm x 11.8 cm	8727900661903	252712 20
EcoClassic30 28W E14 240V B35 FR 1CT	8727900252729	21.3 gr	15	19.1 cm x 11.9 cm x 11.8 cm	8727900661910	252729 20

Cap Base

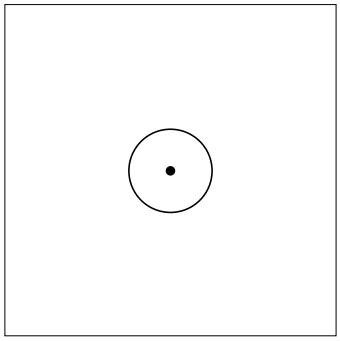


E14



B22

Operating position



any



HalogenA BTT-shape

Product Description

- Mains-voltage high-wattage double-envelope lamp with a coiled-coil linear filament

Product Features

- Tube located axially in a single-ended normal glass outer envelope filled with an inert gas mixture
- Offers the universal applicability of standard incandescent lamps and matches standard GLS bulb dimensions
- Fully interchangeable with incandescent lamps of the same wattage
- Built-in fuses to prevent arcing (two fuses in the burner and two fuses in the cap)
- Professional four year lifetime
- Constant light output during life
- Universal burning position

Product Benefits

- Less relamping thanks to long lifetime
- Safe to use thanks to fuses preventing possible short-circuits at end-of-life
- Creates a distinctive, high-class ambiance with a white halogen light
- Can be installed with bare hands, unlike most other halogen types
- Excellent colour rendering

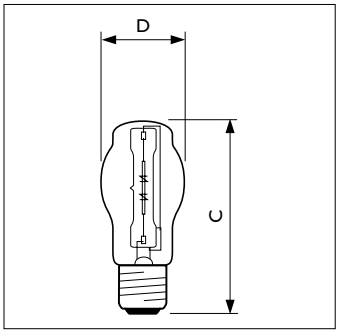
Application

- Incandescent lamp replacement in homes, offices, shops, hotels, restaurants and bars, museums etc.

Luminaires

- Open luminaires may be used indoors
- For outdoor use a protective front cover glass and a water-resistant luminaire are required

www.philips.com/OEM



HalogenA E27 BTT46 BTT-shape

Type	CMax	DMax
HalogenA 4 Year E27 BTT46	109	47.3

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
HalogenA 4 Year 60W E27 230V BTT46 CL	230	0.26	60	Yes	4000
HalogenA 4 Year 100W E27 230V BTT46 CL	230	0.43	100	Yes	4000
HalogenA 4 Year 150W E27 230V BTT46 CL	230	0.65	150	Yes	4000

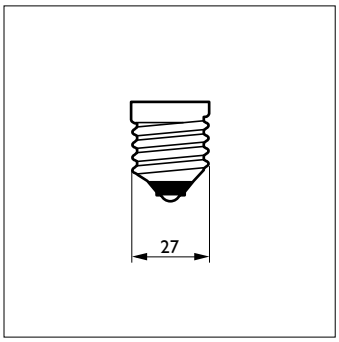
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
HalogenA 4 Year 60W E27 230V BTT46 CL	800	13.3	2900	100	any
HalogenA 4 Year 60W E27 230V BTT46 OP	740	12.3	2900	100	any
HalogenA 4 Year 100W E27 230V BTT46 CL	1520	15.2	2900	100	any
HalogenA 4 Year 100W E27 230V BTT46 OP	1400	14	2900	100	any
HalogenA 4 Year 150W E27 230V BTT46 CL	2420	16.1	2900	100	any
HalogenA 4 Year 150W E27 230V BTT46 OP	2220	14.8	2900	100	any

Ordering and packing data

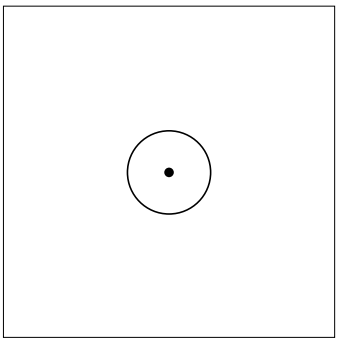
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HalogenA 4 Year 60W E27 230V BTT46 CL 1CT	hegbt/c-60-230-e27	8711500504005	30 gr	10	27.1 cm x 11 cm x 13.2 cm	8711500504067	504005 25
HalogenA 4 Year 60W E27 230V BTT46 OP 1CT	hegbt/w-60-230-e27	8711500503978	30 gr	10	27.1 cm x 11 cm x 13.2 cm	8711500504036	503978 25
HalogenA 4 Year 100W E27 230V BTT46 CL 1CT	hegbt/c-100-230-e27	8711500504012	30 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500504074	504012 25
HalogenA 4 Year 100W E27 230V BTT46 OP 1CT	hegbt/w-100-230-e27	8711500503985	30 gr	10	27.1 cm x 11 cm x 13.2 cm	8711500504043	503985 25
HalogenA 4 Year 150W E27 230V BTT46 CL 1CT	hegbt/c-150-230-e27	8711500504029	30 gr	10	28.8 cm x 14.2 cm x 12.7 cm	8711500504081	504029 25
HalogenA 4 Year 150W E27 230V BTT46 OP 1CT	hegbt/w-150-230-e27	8711500503992	30 gr	10	27.1 cm x 11 cm x 13.2 cm	8711500504050	503992 25

Cap Base



E27

Operating position



any



HalogenA 2 Year BTT-shape

Product Description

- Mains-voltage high-wattage double-envelope giving a white halogen light

Product Features

- Electrically fused mains-voltage coiled-coil linear filament
- Built-in arc-preventing fuses
- Tube located axially in a single-ended normal glass outer envelope filled with an inert gas mixture
- Offers the universal applicability of standard incandescent lamps and matches standard GLS bulb dimensions
- Wide choice of wattages
- Fully interchangeable with incandescent lamps of the same wattage
- Cap temperature same as the corresponding GLS lamps
- Excellent colour rendering
- Crisp, white halogen light
- Constant light output during life

Product Benefits

- Creating a classic high class ambiance
- Can be installed with bare hands, unlike most other halogen types

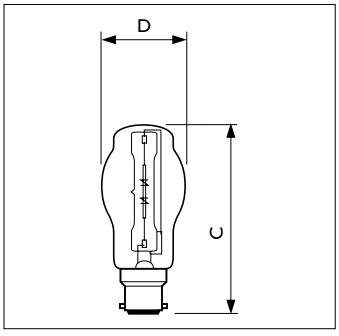
Application

- Homes, offices, shops, hotels, restaurants and bars, museums etc. as a replacement for incandescent lamps

Luminaires

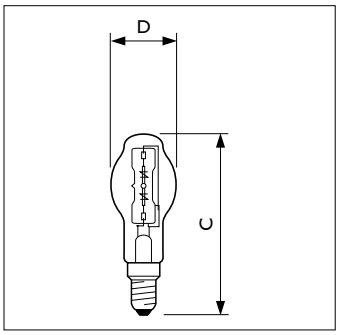
- Open luminaires are permitted indoors, but a protective front cover glass and a water-resistant luminaire are required for outdoor use

www.philips.com/OEM



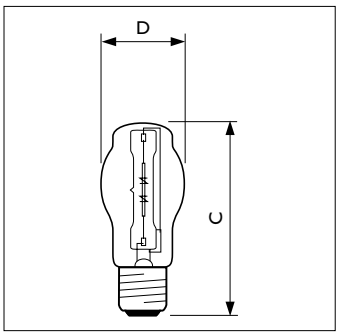
HalogenA 2 Year BTT-shape B22

Type	CMax	DMax
HalogenA 2 Year B22 BTT46	109	47.3



HalogenA 2 Year BTT-shape E14

Type	CMax	DMax
HalogenA 2 Year E14 BTT40	103	41



HalogenA 2 Year BTT-shape E27

Type	CMax	DMax
HalogenA 2 Year E27 BTT46	109	47.3

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
HalogenA 2 Year 60W E14 230V BTT40 CL	230	0.26	60	E	Yes	2000
HalogenA 2 Year 60W B22 230V BTT46 CL	230	0.26	60	D	Yes	2000
HalogenA 2 Year 60W B22 240V BTT46 CL	240	0.25	60	D	Yes	2000
HalogenA 2 Year 100W B22 230V BTT46 CL	230	0.43	100	D	Yes	2000
HalogenA 2 Year 100W B22 230V BTT46 OP	230	0.43	100	E	Yes	2000
HalogenA 2 Year 100W B22 240V BTT46 CL	240	0.42	100	D	Yes	2000
HalogenA 2 Year 150W E27 230V BTT46 CL	230	0.65	150	D	Yes	2000
HalogenA 2 Year 150W E27 230V BTT46 OP	230	0.65	150	E	Yes	2000
HalogenA 2 Year 150W E27 240V BTT46 CL	240	0.63	150	D	Yes	2000
HalogenA 2 Year 150W E27 240V BTT46 OP	240	0.63	150	E	Yes	2000

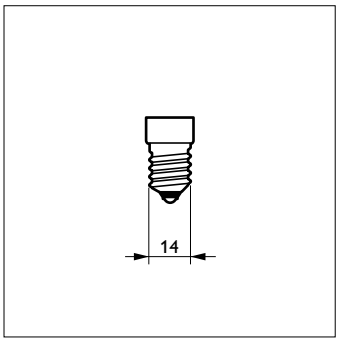
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
HalogenA 2 Year 60W E14 230V BTT40 CL	840	14	2900	100	any
HalogenA 2 Year 60W E27 230V BTT46 OP	800	13.3	2900	100	any
HalogenA 2 Year 100W B22 230V BTT46 CL	1550	15.5	2900	100	any
HalogenA 2 Year 100W B22 230V BTT46 OP	1480	14.8	2900	100	any
HalogenA 2 Year 150W E27 230V BTT46 CL	2550	17	2900	100	any
HalogenA 2 Year 150W E27 230V BTT46 OP	2380	15.8	2900	100	any

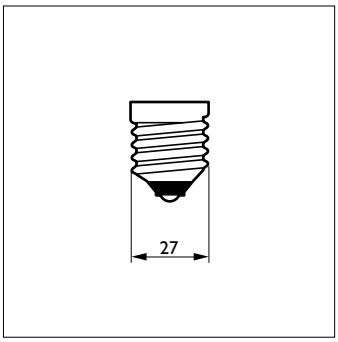
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HalogenA 2 Year 60W E14 230V BTT40 CL 1CT	hegbt/c-60-230-e14-40	8711500494085	24 gr	10	24 cm x 10.5 cm x 13 cm	8711500513083	494085 25
HalogenA 2 Year 60W B22 230V BTT46 CL 1CT	hegbt/c-60-230-b22	8711500493828	33 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500512895	493828 25
HalogenA 2 Year 60W B22 240V BTT46 CL 1CT	hegbt/c-60-240-e27	8711500493835	33 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500512901	493835 25
HalogenA 2 Year 60W E27 230V BTT46 CL 1CT	hegbt/c-60-230-e27	8711500493781	26.5 gr	10	28.8 cm x 14.2 cm x 12.7 cm	8711500512871	493781 25
HalogenA 2 Year 60W E27 230V BTT46 CL 1CT	hegbt/c-60-230-e27	8711500511324	30 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500511423	511324 25
HalogenA 2 Year 60W E27 230V BTT46 OP 1CT	hegbt/w-60-230-e27	8711500493804	26.5 gr	10	28.8 cm x 14.2 cm x 12.7 cm	8711500512918	493804 25
HalogenA 2 Year 60W E27 230V BTT46 OP 1CT	hegbt/w-60-230-e27	8711500511331	30 gr	10	27.1 cm x 11 cm x 13.2 cm	8711500511430	511331 25
HalogenA 2 Year 100W B22 230V BTT46 CL 1CT	hegbt/c-100-230-b22	8711500054739	33 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500510075	054739 25
HalogenA 2 Year 100W B22 230V BTT46 OP 1CT	hegbt/w-100-230-b22	8711500025647	33 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500510099	025647 25
HalogenA 2 Year 100W B22 240V BTT46 CL 1CT	hegbt/c-100-240-b22	8711500054777	33 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500510082	054777 25
HalogenA 2 Year 100W E27 230V BTT46 CL 1CT	hegbt/c-100-230-e27	8711500020680	26.5 gr	10	28.8 cm x 14.2 cm x 12.7 cm	8711500509901	020680 25
HalogenA 2 Year 100W E27 230V BTT46 CL 1CT	hegbt/c-100-230-e27	8711500511300	30 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500511409	511300 25
HalogenA 2 Year 100W E27 230V BTT46 OP 1CT	hegbt/w-100-230-e27	8711500511317	30 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500511416	511317 25
HalogenA 2 Year 100W E27 230V BTT46 OP 1CT	hegbt/w-100-230-e27	8711500020697	26.5 gr	10	28.8 cm x 14.2 cm x 12.7 cm	8711500509925	020697 25
HalogenA 2 Year 100W E27 240V BTT46 CL 1CT	hegbt/c-100-240-e27	8711500054753	30 gr	10	27.1 cm x 11 cm x 13.2 cm	8711500509918	054753 25
HalogenA 2 Year 150W E27 230V BTT46 CL 1CT	hegbt/c-150-230-e27	8711500600547	30 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500509864	600547 25
HalogenA 2 Year 150W E27 230V BTT46 OP 1CT	hegbt/w-150-230-e27	8711500020666	30 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500509888	020666 25
HalogenA 2 Year 150W E27 240V BTT46 CL 1CT	hegbt/c-150-240-e27	8711500054937	30 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500509871	054937 25
HalogenA 2 Year 150W E27 240V BTT46 OP 1CT	hegbt/w-150-230-e27	8711500055026	30 gr	10	25.9 cm x 11 cm x 13.2 cm	8711500509895	055026 25

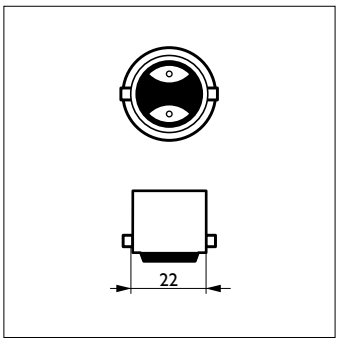
Cap Base



E14

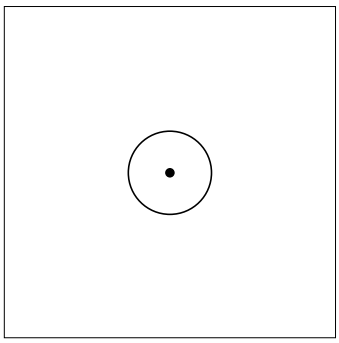


E27



B22

Operating position


any





HalogenA BS/CG-shape

Product Description

- Mains-voltage high-wattage double-envelope giving a white halogen light

Product Features

- Electrically fused mains-voltage coiled-coil linear filament
- Built-in arc-preventing fuses
- Tube located axially in a single-ended normal glass outer envelope filled with an inert gas mixture
- Offers the universal applicability of standard incandescent lamps and matches standard GLS bulb dimensions
- Wide choice of wattages
- Fully interchangeable with incandescent lamps of the same wattage
- Cap temperature same as the corresponding GLS lamps
- Excellent colour rendering
- Crisp, white halogen light
- Constant light output during life

Product Benefits

- Creating a classic high class ambiance
- Can be installed with bare hands, unlike most other halogen types

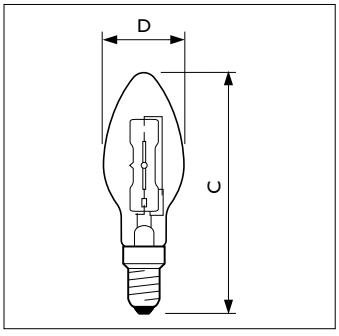
Application

- Homes, offices, shops, hotels, restaurants and bars, museums etc. as a replacement for incandescent lamps

Luminaires

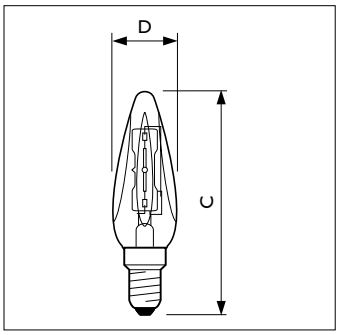
- Open luminaires are permitted indoors, but a protective front cover glass and a water-resistant luminaire are required for outdoor use

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HalogenA BS/CG-shape BS35

Type	CMax	DMax
HalogenA E14 BS35	111.5	35.8



HalogenA BS/CG-shape CG35

Type	CMax	DMax
HalogenA E14 CG35	117	36

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
HalogenA 40W E14 230V BS35	230	0.17	40	D	Yes	2000
HalogenA 60W E14 230V BS35	230	0.26	60	D	Yes	2000
HalogenA 40W E14 230V CG35	230	0.17	40	D	Yes	2000
HalogenA 60W E14 230V CG35	230	0.26	60	D	Yes	2000

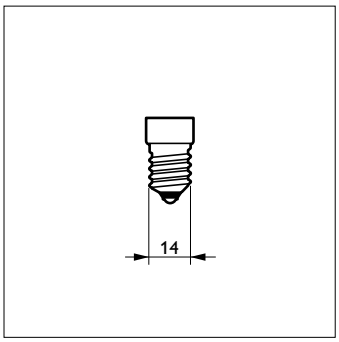
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
HalogenA 40W E14 230V BS35	480	12	2900	100	any
HalogenA 60W E14 230V BS35	840	14	2900	100	any

Ordering and packing data

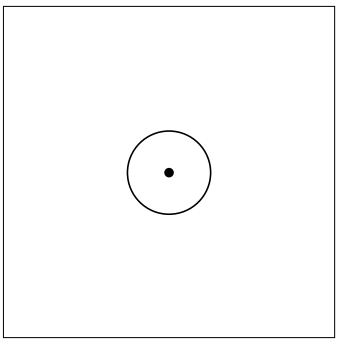
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HalogenA 40W E14 230V BS35 CL 1CT	HEBG/C-40-230-E14-BS35	8711500511348	22.5 gr	10	23 cm x 10.5 cm x 13 cm	8711500511447	511348 25
HalogenA 40W E14 230V BS35 FR 1CT	HEGB/F-40-230-E14-BS35	8711500511355	22.5 gr	10	23 cm x 10.5 cm x 13 cm	8711500511454	511355 25
HalogenA 60W E14 230V BS35 CL 1CT	HEGB/C-60-230-E14-BS35	8711500511379	22.5 gr	10	23 cm x 10.5 cm x 13 cm	8711500511478	511379 25
HalogenA 60W E14 230V BS35 FR 1CT	HEBG/F-60-230-E14-BS35	8711500511386	22.5 gr	10	23 cm x 10.5 cm x 13 cm	8711500511485	511386 25
HalogenA 40W E14 230V CG35 CL 1CT	hegb/c-40-230-e14-35	8711500511362	29.5 gr	10	22.5 cm x 11.5 cm x 13 cm	8711500511461	511362 25
HalogenA 60W E14 230V CG35 CL 1CT	hegb/c-60-230-e14-35	8711500511393	19 gr	10	22.5 cm x 11 cm x 13 cm	8711500511492	511393 25

Cap Base



E14

Operating position


any



HalogenA Globe

Product Description

- Mains-voltage high-wattage double-envelope halogen lamps giving a white halogen light

Product Features

- Electrically fused mains-voltage coiled-coil linear filament
- Built-in arc-preventing fuses
- Tube located axially in a single-ended normal glass outer envelope filled with an inert gas mixture
- Offers the universal applicability of standard incandescent lamps and matches standard GLS bulb dimensions
- Wide choice of wattages
- Globe bulb shape
- Fully interchangeable with incandescent lamps of the same wattage
- Cap temperature same as the corresponding GLS lamps
- Excellent colour rendering
- Crisp, white halogen light
- Constant light output during life

Product Benefits

- Can be installed with bare hands, unlike most other halogen lamps

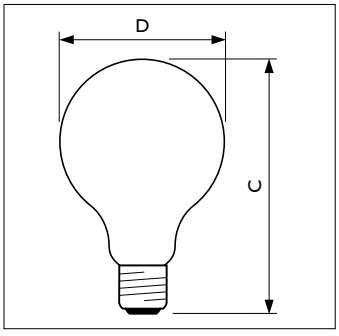
Application

- Homes, offices, shops, hotels and restaurants and bars, museums etc. as a replacement for incandescent lamps

Luminaires

- Open luminaires are permitted indoors, but a protective front cover glass and a water-resistant luminaire are required for outdoor use

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HalogenA Globe E27

Type	CMax	DMax
HalogenA E27 G95	148	96

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
HalogenA 100W E27 230V G95 OP	230	0.43	100	D	Yes	2000
HalogenA 150W E27 230V G95 OP	230	0.65	150	D	Yes	2000

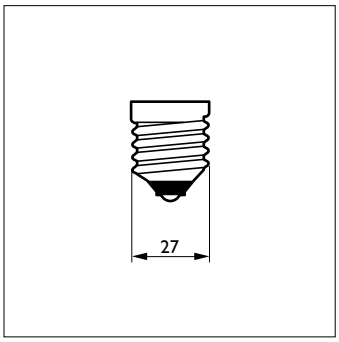
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
HalogenA 100W E27 230V G95 OP	1480	14.8	2900	100	any
HalogenA 150W E27 230V G95 OP	2380	15.8	2900	100	any

Ordering and packing data

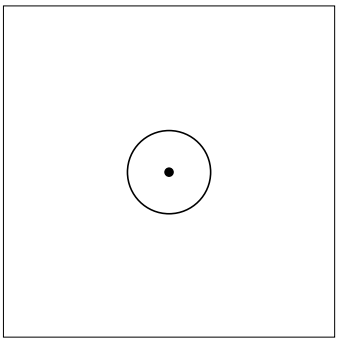
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HalogenA 100W E27 230V G95 OP 1CT	hegg/w-100-230-e27-95	8711500031501	61 gr	10	48.6 cm x 19.8 cm x 15.2 cm	8711500521224	031501 25
HalogenA 150W E27 230V G95 OP 1CT	hegg/w-150-230-e27-95	8711500031525	61 gr	10	48.6 cm x 19.8 cm x 15.2 cm	8711500521231	031525 25

Cap Base



E27

Operating position



any



HalogenA Tubular

Product Description

- Mains-voltage high-wattage double-envelope giving a white halogen light

Product Features

- Electrically fused mains-voltage coiled-coil linear filament
- Built-in arc-preventing fuses
- Tube located axially in a single-ended normal glass outer envelope filled with an inert gas mixture
- Offers the universal applicability of standard incandescent lamps and matches standard GLS bulb dimensions
- Wide choice of wattages
- Fully interchangeable with incandescent lamps of the same wattage
- Cap temperature same as the corresponding GLS lamps
- Excellent colour rendering
- Crisp, white halogen light
- Constant light output during life

Product Benefits

- Can be installed with bare hands, unlike most other halogen types

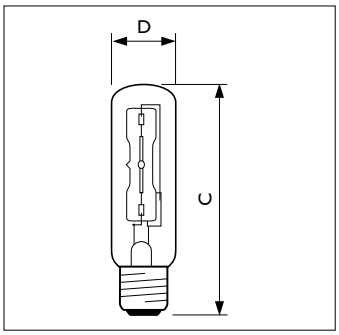
Application

- Homes, offices, shops, hotels, restaurants and bars, museums etc. as a replacement for incandescent lamps

Luminaires

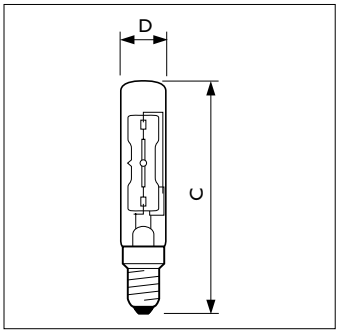
- Open luminaires are permitted indoors, but a protective front cover glass and a water-resistant luminaire are required for outdoor use

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HalogenA Tubular E27

Type	CMax	DMax
HalogenA E27 T32	103	32.8



HalogenA Tubular E14

Type	CMax	DMax
HalogenA E14 T25	105	26

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
HalogenA 60W E27 230V T32	230	0.26	60	D	Yes	2000
HalogenA 100W E27 230V T32	230	0.43	100	D	Yes	2000
HalogenA 150W E27 230V T32	230	0.65	150	D	Yes	2000
HalogenA 150W E27 240V T32	240	0.62	150	D	Yes	2000
HalogenA 40W E14 230V T25	230	0.17	40	D	Yes	2000

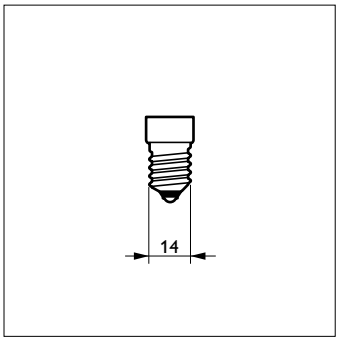
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
HalogenA 60W E27 T32	840	14	2900	100	any
HalogenA 100W E27 T32	1550	15.5	2900	100	any
HalogenA 100W E27 T32	1550	16	2900	100	any
HalogenA 150W E27 T32	2550	17	2900	100	any
HalogenA 40W E14 T25	480	12	2900	100	any

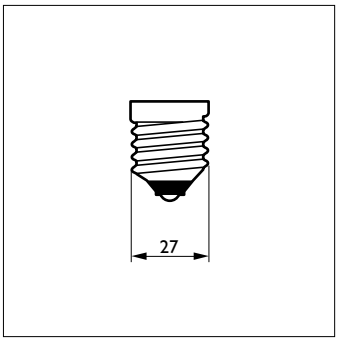
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HalogenA 13656 60W E27 230V T32 CL 1CT	hegt/c-60-230-e27-32	8711500506610	30 gr	10	24 cm x 11 cm x 13 cm	8711500507655	506610 25
HalogenA 13658 60W E27 230V T32 FR 1CT	hegt/f-60-230-e27-32	8711500506634	30 gr	10	24 cm x 11 cm x 13 cm	8711500507679	506634 25
HalogenA 13660 100W E27 230V T32 CL 1CT	hegt/c-100-230-e27-32	8711500506665	30 gr	10	24 cm x 11 cm x 13 cm	8711500507693	506665 25
HalogenA 13662 100W E27 230V T32 FR 1CT	hegt/f-100-230-e27-32	8711500506689	30 gr	10	24 cm x 11 cm x 13 cm	8711500507716	506689 25
HalogenA 13945 150W E27 230V T32 CL 1CT	hegt/c-150-230-e27-32	8711500506702	30 gr	10	24 cm x 11 cm x 13 cm	8711500507730	506702 25
HalogenA 13945 150W E27 240V T32 CL 1CT	hegt/c-150-240-e27-32	8711500506726	30 gr	10	24 cm x 11 cm x 13 cm	8711500507778	506726 25
HalogenA 13946 150W E27 230V T32 FR 1CT	hegt/f-150-230-e27-32	8711500506719	30 gr	10	24 cm x 11 cm x 13 cm	8711500507747	506719 25
HalogenA 13946 150W E27 240V T32 FR 1CT	hegt/f-150-240-e27-32	8711500506733	30 gr	10	24 cm x 11 cm x 13 cm	8711500507785	506733 25
HalogenA 14076 40W E14 230V T25 CL 1CT	hegt/c-40-230-e14-25	8711500504449	19.6 gr	10	18.6 cm x 10.1 cm x 11.1 cm	8711500503411	504449 25
HalogenA 14077 60W E14 230V T25 CL 1CT	hegt/c-60-230-e14-25	8711500504487	19.6 gr	10	18.6 cm x 10.1 cm x 11.1 cm	8711500503459	504487 25
HalogenA 14078 100W E14 230V T25 CL 1CT	hegt/c-100-230-e14-25	8711500504524	19.6 gr	10	18.6 cm x 10.1 cm x 11.1 cm	8711500503497	504524 25
HalogenA 14079 40W E14 230V T25 FR 1CT	hegt/f-40-230-e14-25	8711500504456	19.6 gr	10	18.6 cm x 10.1 cm x 11.1 cm	8711500503428	504456 25
HalogenA 14081 100W E14 230V T25 FR 1CT	hegt/f-100-230-e14-25	8711500504531	19.6 gr	10	18.6 cm x 10.1 cm x 11.1 cm	8711500503503	504531 25

Cap Base

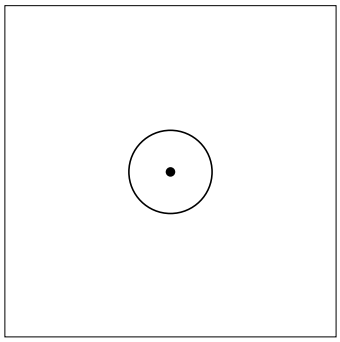


E14



E27

Operating position



any



Krypton 2 Year BW35

Product Description

- Twisted flame shaped bulb BW35 in opal and clear finish with a mains voltage halogen burner inside

Product Features

- 2000 hours / two years lifetime
- Higher light output than standard incandescent product
- Fully interchangeable with standard incandescent product
- Built-in double fuses for additional safety at end-of-life
- Natural upgrading from standard incandescent product
- Halogen lamp in standard incandescent shape
- Bright sparkling halogen light
- Constant light output during life

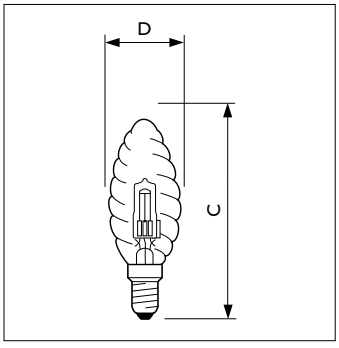
Product Benefits

- Double lifetime compared with standard incandescent product
- Dimmable
- No transformer required

Application

- Home use in living room, dining room, bedroom, halls, kitchen and studies
- In hotels, bedrooms, bars, foyers, restaurants and conference rooms
- Shops and boutiques
- Clubs and social areas

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Krypton 2 Year BW35

Type	CMax	DMax
Krypton 2yr E14 BW35	100	35

Technical data

Type	Voltage (V)	Rated Lamp Wattage
Krypton 2yr 40W E14 230V BW35	230	40

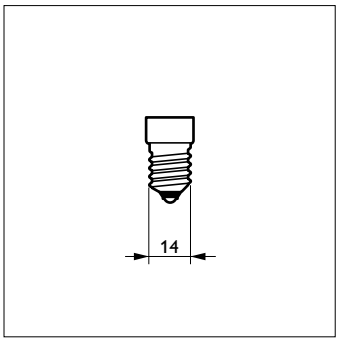
Light data

Type	Operating Position
Krypton 2yr 40W E14 230V BW35	any

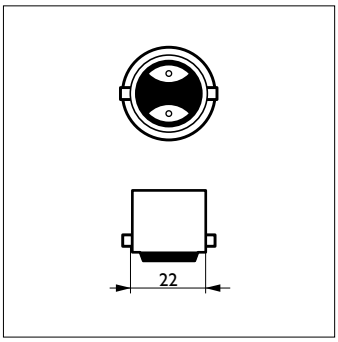
Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Krypton 2yr 40W E14 230V BW35 CL 1CT	8711500649607	22.8 gr	15	19.1 cm x 11.9 cm x 11.8 cm	8711500649614	649607 20
Krypton 2yr 40W E14 230V BW35 OP 1CT	8711500649621	22.8 gr	15	19.1 cm x 11.9 cm x 11.6 cm	8711500649638	649621 20

Cap Base

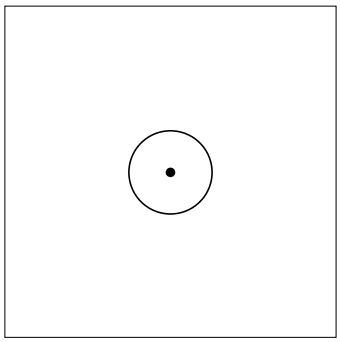


E14



B22

Operating position



any



HalogenA IDE

Product Description

- Mains-voltage high-wattage double-envelope giving a white halogen light

Product Features

- Quartz burner with a linear tungsten filament in a single-ended thermal-shock-resistant clear glass tubular envelope
- High luminous efficacy
- Excellent colour rendering

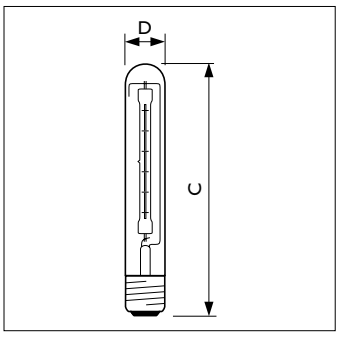
Application

- Typical application: outdoor floodlighting such as sport grounds, car parks, building sites, harbours and airport aprons
- Also used in Indoor applications: public halls, factories, sport halls etc.

Luminaires

- Should be used in enclosed luminaires or lighting systems

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HalogenA IDE

Type	CMax	DNom	DMax
HalogenA IDE 500W E40	220	38.5	38.5
HalogenA IDE 1000W E40	260	38.5	38.5
HalogenA IDE 2000W E40	300	38.5	38.5

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
HalogenA IDE 500W E40 230V CL	230	2.17	500	Yes	2000
HalogenA IDE 500W E40 240V CL	240	2.08	500	Yes	2000
HalogenA IDE 1000W E40 230V CL	230	4.35	1000	Yes	2000
HalogenA IDE 1000W E40 240V CL	240	4.17	1000	Yes	2000
HalogenA IDE 2000W E40 230V CL	230	8.7	2000	Yes	2000

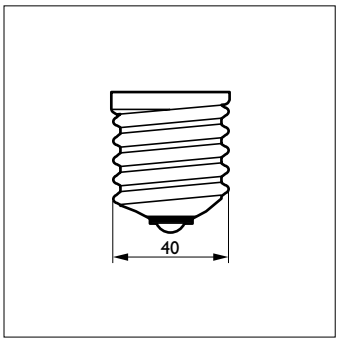
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
HalogenA IDE 500W E40 230V CL 1CT	10250	20.5	2900	100	any
HalogenA IDE 500W E40 240V CL 1CT	10000	20	2900	100	any
HalogenA IDE 1000W E40 230V/240V CL 1CT	24000	24	2900	100	any
HalogenA IDE 2000W E40 230V CL 1CT	50000	24	2900	100	any

Ordering and packing data

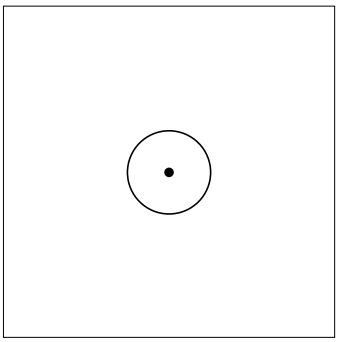
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HalogenA IDE 500W E40 230V CL 1CT	HEGT-500-230-e40	8711500491268	141 gr	6	26.5 cm x 17.8 cm x 12 cm	8711500499943	491268 10
HalogenA IDE 500W E40 240V CL 1CT	HEGT-500-240-e40	8711500491275	141 gr	6	26.5 cm x 17.8 cm x 12 cm	8711500499950	491275 10
HalogenA IDE 1000W E40 230V CL 1CT	HEGT-1000-230-e40	8711500491282	158 gr	6	29.5 cm x 17.8 cm x 12 cm	8711500499967	491282 10
HalogenA IDE 1000W E40 240V CL 1CT	HEGT-1000-240-e40	8711500491299	158 gr	6	29.5 cm x 17.8 cm x 12 cm	8711500499974	491299 10
HalogenA IDE 2000W E40 230V CL 1CT	HEGT-2000-230-e40	8711500491305	146 gr	6	33.5 cm x 17.8 cm x 12 cm	8711500499981	491305 10

Cap Base



E40

Operating position



any



Clickline MV

Product Description

- Single-ended mains-voltage capsule

Product Features

- UV block quartz glass
- G9 base for easy insertion and replacement

Product Benefits

- The most compact capsule in its range
- Mains voltage so no transformer needed
- Available in a clear and a frosted version for softer light effects
- Easily dimmable

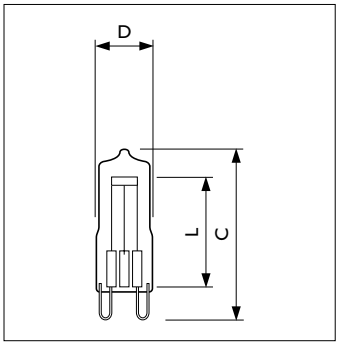
Application

- Accent and general lighting in homes, hotels, bars and restaurants

Luminaires

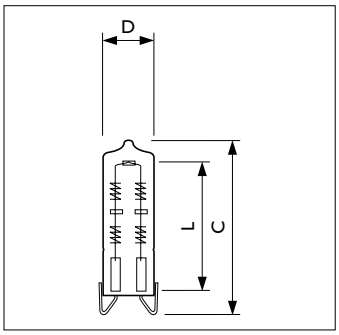
- Ideal for use in small, lightweight, open luminaires
- A covered luminaire is not required according to IEC 357 and 432-2

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Clickline MV 25W/40W/60W

Type	CMax	DMax
Clickline 25W/40W/60W G9	44.6	12.75



Clickline MV 75W

Type	CMax	DMax	LNom
Clickline 75W G9	44.6	12.8	21.7

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
Clickline 25W G9 230V CL	230	0.10	25	E	Yes	2000
Clickline 25W G9 240V CL	240	0.10	25	E	Yes	2000
Clickline 40W G9 120V CL	120	0.33	40	D	Yes	2000
Clickline 40W G9 120V FR	120	0.17	40	E	Yes	2000
Clickline 40W G9 230V CL	230	0.17	40	D	Yes	2000
Clickline 40W G9 230V FR	230	0.17	40	E	Yes	2000
Clickline 40W G9 240V CL	240	0.16	40	D	Yes	2000
Clickline 40W G9 240V FR	240	0.16	40	E	Yes	2000
Clickline 60W G9 120V CL	120	0.26	60	D	Yes	2000
Clickline 60W G9 230V CL	230	0.26	60	D	Yes	2000
Clickline 60W G9 240V CL	240	0.26	60	D	Yes	2000
Clickline 75W G9 230V CL	230	0.31	75	E	Yes	2000
Clickline 75W G9 240V CL	240	0.31	75	E	Yes	2000
Clickline 75W G9 240V FR	240	0.31	75	F	Yes	2000

Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Clickline 25W G9 CL	290	11.6	2770	100	any
Clickline 25W G9 FR	260	10.4	2770	100	any
Clickline 40W G9 CL	490	12.3	2770	100	any
Clickline 40W G9 FR	460	11.5	2770	100	any
Clickline 60W G9 CL	820	13.67	2800	100	any
Clickline 60W G9 FR	790	13.17	2800	100	any
Clickline 75W G9 CL	1100	13	2800	100	any
Clickline 75W G9 FR	1050	12.1	2800	100	any

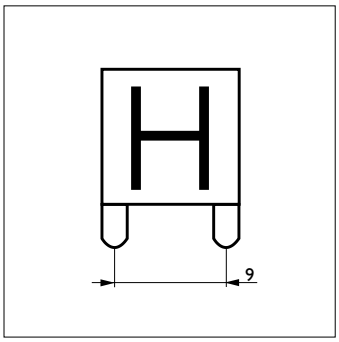
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Clickline 25W G9 230V CL 1CT	HSG/C/UB-25-230-G9-44	8711500429513	3 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500429537	429513 50
Clickline 25W G9 230V FR 1CT	HSG/F/UB-25-230-G9-44	8711500429544	3 gr	100	27 cm x 14.8 cm x 14.7 cm	8711500656513	429544 26
Clickline 25W G9 230V FR 1CT	HSG/F/UB-25-230-G9-44	8711500429544	3 gr	100	27 cm x 14.8 cm x 14.7 cm	8711500429568	429544 50
Clickline 25W G9 240V CL 1CT	HSG/C/UB-25-240-G9-44	8711500429759	3 gr	100	27.1 cm x 27.1 cm x 8.2 cm	8711500429773	429759 50
Clickline 25W G9 240V FR 1CT	HSG/F/UB-25-240-G9-44	8711500429780	3 gr	100	27.1 cm x 27.1 cm x 8.2 cm	8711500429803	429780 50
Clickline 40W G9 120V CL 1CT	HSG/C/UB-40-120-G9-44	8711500436887	3 gr	100	27.1 cm x 27.1 cm x 8.2 cm	8711500436900	436887 50

Ordering and packing data

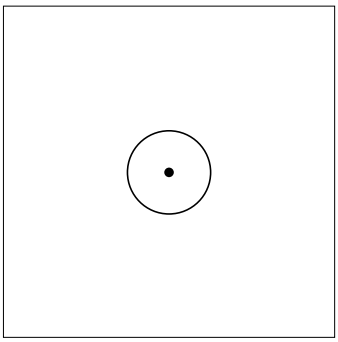
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Clickline 40W G9 120V FR 1CT	HSG/F/UB-40-120-G9-44	8711500436917	3 gr	100	27.1 cm x 27.1 cm x 8.2 cm	8711500436931	436917 50
Clickline 40W G9 230V CL 1CT	HSG/C/UB-40-230-G9-44	8711500429575	3 gr	100	27 cm x 14.8 cm x 14.7 cm	8711500656605	429575 26
Clickline 40W G9 230V CL 1CT	HSG/C/UB-40-230-G9-44	8711500429575	3 gr	100	27 cm x 15.2 cm x 15.5 cm	8711500429599	429575 50
Clickline 40W G9 230V CL UNP	HSG/C/UB-40-230-G9-44	8711500430106	3 gr	800	32.1 cm x 31.8 cm x 13.5 cm	8711500430113	430106 34
Clickline 40W G9 230V FR 1CT	HSG/F/UB-40-230-G9-44	8711500429605	3 gr	100	27 cm x 14.8 cm x 14.7 cm	8711500656612	429605 26
Clickline 40W G9 230V FR 1CT	HSG/F/UB-40-230-G9-44	8711500429605	3 gr	100	33.1 cm x 11.1 cm x 25.9 cm	8711500429629	429605 50
Clickline 40W G9 230V FR UNP	HSG/F/UB-40-230-G9-44	8711500430120	3 gr	800	32.1 cm x 31.8 cm x 13.5 cm	8711500430137	430120 34
Clickline 40W G9 240V CL 1CT	HSG-C-UB-40-240-G9-44	8711500429810	3 gr	100	27.1 cm x 27.1 cm x 8.2 cm	8711500429834	429810 50
Clickline 40W G9 240V FR 1CT	HSG/F/UB-40-240-G9-44	8711500429841	3 gr	100	27 cm x 27 cm x 8 cm	8711500429865	429841 50
Clickline 60W G9 120V CL 1CT	HSG-C-UB-60-120-G9-44	8711500436979	3 gr	100	27.1 cm x 27.1 cm x 8.2 cm	8711500436993	436979 50
Clickline 60W G9 120V FR 1CT	HSG/F/UB-60-120-G9-44	8711500436948	3 gr	100	27.1 cm x 27.1 cm x 8.2 cm	8711500436962	436948 50
Clickline 60W G9 230V CL 1CT	HSG-C-UB-60-230-G9-44	8711500429636	3 gr	100	27 cm x 14.8 cm x 14.7 cm	8711500656438	429636 26
Clickline 60W G9 230V CL 1CT	HSG-C-UB-60-230-G9-44	8711500429636	3 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500429650	429636 50
Clickline 60W G9 230V CL UNP	HSG-C-UB-60-230-G9-44	8711500430656	3 gr	800	32.1 cm x 31.8 cm x 13.5 cm	8711500430663	430656 34
Clickline 60W G9 230V FR 1CT	HSG/F/UB-60-230-G9-44	8711500429667	3 gr	100	27 cm x 14.8 cm x 14.7 cm	8711500656629	429667 26
Clickline 60W G9 230V FR 1CT	HSG/F/UB-60-230-G9-44	8711500429667	3 gr	100	27 cm x 15.2 cm x 15.5 cm	8711500429681	429667 50
Clickline 60W G9 230V FR UNP	HSG/F/UB-60-230-G9-44	8711500430564	3 gr	800	32.1 cm x 31.8 cm x 13.5 cm	8711500430571	430564 34
Clickline 60W G9 240V CL 1CT	HSG-C-UB-60-230-G9-44	8711500429872	3 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500429896	429872 50
Clickline 60W G9 240V FR 1CT	HSG/F/UB-60-240-G9-44	8711500429902	3 gr	100	27.1 cm x 27.1 cm x 8.2 cm	8711500429926	429902 50
Clickline 75W G9 230V CL 1CT	HSG/C/UB-75-230-G9-44	8711500650979	3 gr	100	27.1 cm x 15.5 cm x 14.7 cm	8711500650993	650979 50
Clickline 75W G9 230V FR 1BS	HSG/F/UB-75-230-G9-44	8711500655110	3 gr	15	17.6 cm x 10.6 cm x 13.5 cm	8711500655127	655110 20
Clickline 75W G9 230V FR 1CT	HSG/F/UB-75-230-G9-44	8711500651051	3 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500651075	651051 50
Clickline 75W G9 240V CL 1CT	HSG/C/UB-75-240-G9-44	8711500651006	3 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500651020	651006 50
Clickline 75W G9 240V FR 1CT	HSG/F/UB-75-240-G9-44	8711500651082	3 gr	100	27.1 cm x 14.8 cm x 14.7 cm	8711500651105	651082 50

Cap Base



G9

Operating position



any





Capsuleline MV B15d

Product Description

- Single-ended mains-voltage capsule halogen lamp giving crisp white halogen light

Product Features

- UV-Block quartz glass bulb for reduced UV-output
- Enable well-defined beams in combination with luminaires
- Available with clear glass or frosted glass for softer effects
- Excellent colour rendering
- Crisp halogen lighting

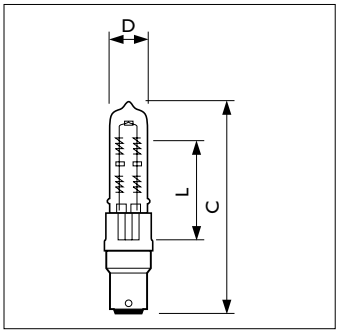
Product Benefits

- Ideal for use in small, lightweight luminaires

Application

- Spot, accent and downlighting in shops and homes

www.philips.com/OEM



Capsuleline MV B15d

Type	CMax	DMax
Capsuleline B15 230V	86	19

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
Capsuleline 75W B15 230V	230	0.33	75	E	Yes	2000
Capsuleline 100W B15 230V	230	0.43	100	E	Yes	2000
Capsuleline 150W B15 230V	230	0.65	150	E	Yes	2000

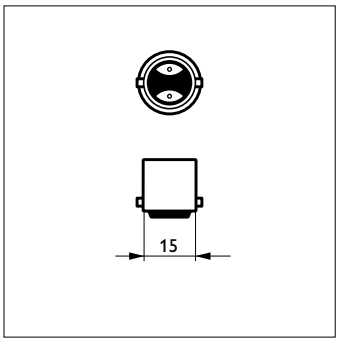
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Capsuleline 75W B15 230V FR 1CT	910	12.1	2800	100	any
Capsuleline 75W B15d 230V CL 1CT	975	13	2800	100	any
Capsuleline 100W B15 230V CL 1CT	1400	14	2800	100	any
Capsuleline 100W B15 230V FR 1CT	1300	13	2800	100	any
Capsuleline 150W B15 230V CL 1CT	2250	15	2800	100	any
Capsuleline 150W B15 230V FR 1CT	2100	14	2800	100	any

Ordering and packing data

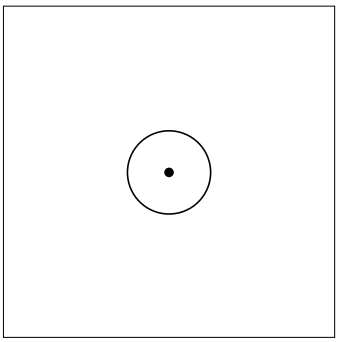
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Capsuleline 75W B15 230V FR 1CT	N/A	8711500179678	24 gr	10	19.7 cm x 10.8 cm x 16 cm	8711500499455	179678 25
Capsuleline 75W B15d 230V CL 1CT	N/A	8711500179630	24 gr	10	19.7 cm x 10.8 cm x 16 cm	8711500499431	179630 25
Capsuleline 100W B15 230V CL 1CT	N/A	8711500179654	24 gr	10	19.7 cm x 10.8 cm x 16 cm	8711500499462	179654 25
Capsuleline 100W B15 230V FR 1CT	N/A	8711500179715	24 gr	10	19.7 cm x 10.8 cm x 16 cm	8711500499486	179715 25
Capsuleline 150W B15 230V CL 1CT	N/A	8711500179616	24 gr	10	19.7 cm x 10.8 cm x 16 cm	8711500499493	179616 25
Capsuleline 150W B15 230V FR 1CT	N/A	8711500179692	24 gr	10	19.7 cm x 10.8 cm x 16 cm	8711500499509	179692 25

Cap Base



B15

Operating position



any



Plusline Compact (double ended)

Product Description

- Mains-voltage linear with a coiled-coil filament, giving white halogen light

Product Features

- Double-ended high-efficacy lamps
- Clear tubular quartz bulb
- Reinforced filament supports for maximum safety and shock resistance resulting in longer lifetime
- Two arc-preventing fuses for greater safety
- Excellent colour rendering
- Constant light output during life

Product Benefits

- 20% more light than ordinary double-ended
- Long lifetime

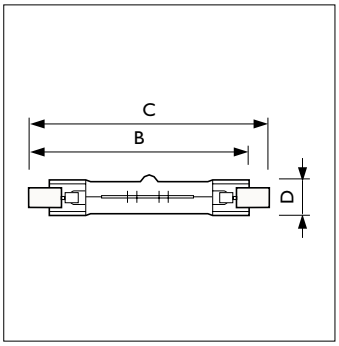
Application

- Typically used in shop lighting applications
- Indoor: homes, offices, shops and museums
- Outdoor: billboards, car parks, security lighting and construction sites

Luminaires

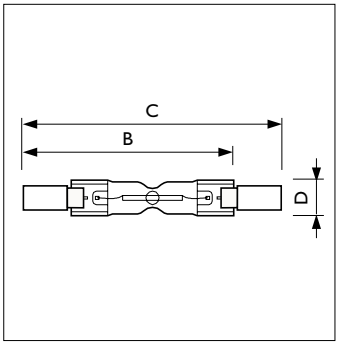
- Must be used in luminaires with a front cover glass

www.philips.com/OEM



Plusline Compact (double ended) R7s/10

Type	BMin	BNom	BMax	CMax	DMax
Plusline Compact R7s/10	73.3	74.9	76.5	78.3	12



Plusline Compact (double ended) R7s/18

Type	BMin	BNom	BMax	CMax	DMax
Plusline Compact R7s/18	73.3	74.9	76.5	78.3	12

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
Plusline Compact 60W R7s/18	230	0.26	60	D	Yes	2000
Plusline Compact 100W R7s/18	230	0.43	100	D	Yes	2000
Plusline Compact 100W R7s/18	240	0.42	100	D	Yes	2000
Plusline Compact 150W R7s/18	230	0.65	150	D	Yes	2000
Plusline Compact 150W R7s/18	240	0.63	150	D	Yes	2000
Plusline Compact 200W R7s/10	230	0.87	200	D	Yes	2000

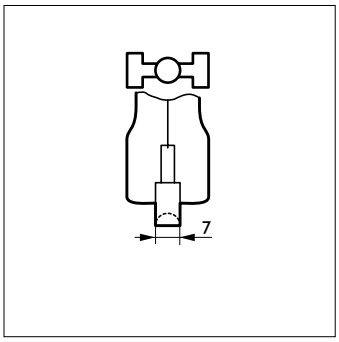
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Plusline Compact 60W R7s/18	828	13.8	2900	100	any
Plusline Compact 100W R7s/18	1550	15.5	2900	100	any
Plusline Compact 150W R7s/18	2550	17	2900	100	any
Plusline Compact 200W R7s/10	3200	16	2900	100	any

Ordering and packing data

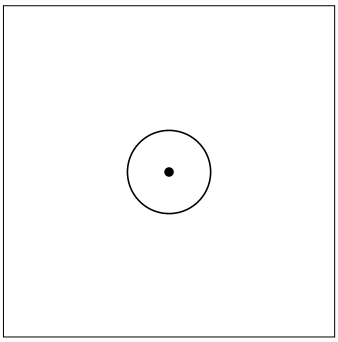
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Plusline Compact 60W R7s/18 230V 1BB	HDG/RS-60-230-R7s-74,9	8711500494726	6.5 gr	100	42.5 cm x 16 cm x 19.8 cm	8711500514417	494726 26
Plusline Compact 100W R7s/18 230V 1BB	HDG/RS-100-230-R7S-74,9	8711500058331	6.5 gr	100	42.5 cm x 16 cm x 19.8 cm	8711500508997	058331 26
Plusline Compact 100W R7s/18 240V 1BB	HDG/RS-100-240-R7S-74,9	8711500058270	6.5 gr	100	42 cm x 16.7 cm x 20.5 cm	8711500509000	058270 26
Plusline Compact 150W R7s/18 230V 1BB	HDG/RS-150-230-R7S-74,9	8711500058348	6.5 gr	100	42.5 cm x 16 cm x 19.8 cm	8711500508973	058348 26
Plusline Compact 150W R7s/18 240V 1BB	HDG/RS-150-240-R7S-74,9	8711500058287	6.5 gr	100	42 cm x 16 cm x 19.8 cm	8711500508980	058287 26
Plusline Compact 150W R7s/18 240V UNP	HDG/RS-150-240-R7S-74,9	8711500519481	6.5 gr	200	34.5 cm x 14 cm x 15.2 cm	8711500519511	519481 31
Plusline Compact 200W R7s/10 230V 1BB	HDG/RS-200-230-R7s-74,9	8711500494290	6.5 gr	100	42.5 cm x 16 cm x 19.8 cm	8711500513243	494290 26
Plusline Compact 200W R7s/10 230V UNP	HDG/RS-200-230-R7s-74,9	8711500519474	6.5 gr	200	34.5 cm x 14 cm x 15.5 cm	8711500519504	519474 31

Cap Base



R7s

Operating position



any



Plusline Small (double ended)

Product Description

- Mains-voltage linear with a coiled-coil filament, giving white halogen light

Product Features

- Double-ended high-efficacy lamps
- Clear tubular UV-block quartz bulb
- Reinforced filament supports for maximum safety and shock resistance resulting in longer lifetime
- Two arc-preventing fuses for greater safety
- Excellent colour rendering
- Constant light output during life

Product Benefits

- 20% more light than ordinary double-ended
- Long lifetime

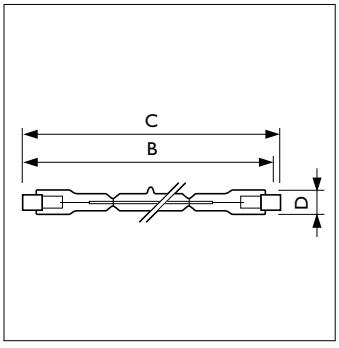
Application

- Typically used in shop lighting applications
- Indoor: homes, offices, shops and museums
- Outdoor: billboards, car parks, security lighting and construction sites

Luminaires

- Must be used in luminaires with a front cover glass

www.philips.com/OEM



Plusline Small (double ended)

Type	BMin	BNom	BMax	CMax	DMax
Plusline Small R7s	112.6	114.2	115.8	117.6	12

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Life to 50% failures (hrs)
Plusline Small 150W R7s 230V	230	0.65	150	E	Yes	2000
Plusline Small 200W R7s 230V	230	0.87	200	D	Yes	2000
Plusline Small 200W R7s 240V	240	0.83	200	D	Yes	2000
Plusline Small 300W R7s 120V	120	2.5	300	D	Yes	3000
Plusline Small 300W R7s 230V	230	1.3	300	D	Yes	2000
Plusline Small 300W R7s 240V	240	1.25	300	D	Yes	2000
Plusline Small 500W R7s 120V	120	4.16	500	D	Yes	3000
Plusline Small 500W R7s 230V	230	2.17	500	D	Yes	2000
Plusline Small 500W R7s 240V	240	2.08	500	D	Yes	2000

Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Plusline Small 150W R7s 230V	2250	15	2900	100	any
Plusline Small 200W R7s 230V/240V	3520	17.6	2900	100	any
Plusline Small 300W R7s 120V	5200	17	2900	100	p4
Plusline Small 300W R7s 230V/240V	5600	18.7	2900	100	any
Plusline Small 500W R7s 120V	9500	19	2900	100	p4
Plusline Small 500W R7s 230V/240V	9900	19.8	2900	100	any

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Plusline Small 150W R7s 230V 1BB	HDG/RS-150-230-R7s-114,2	8711500494733	9 gr	100	42.5 cm x 16 cm x 19.8 cm	8711500514424	494733 26
Plusline Small 200W R7s 230V 1BB	HDG/RS-200-230-R7s-114,2	8711500494375	9 gr	100	42.5 cm x 16 cm x 19.8 cm	8711500509031	494375 26
Plusline Small 200W R7s 240V 1BB	HDG/RS-200-240-R7s-114,2	8711500058294	9 gr	100	42.5 cm x 16 cm x 19.8 cm	8711500509048	058294 26
Plusline Small 300W R7s 120V 1BB	HDG/RS-300-120-R7s-114,2	8711500494665	9 gr	100	42.5 cm x 16 cm x 19.8 cm	8711500513557	494665 26
Plusline Small 300W R7s 230V 1BB	HDG/RS-300-230-R7s-114,2	8711500494382	9 gr	100	41.7 cm x 18.6 cm x 19.3 cm	8711500509055	494382 26
Plusline Small 300W R7s 240V 1BB	HDG/RS-300-240-R7s-114,2	8711500058317	9 gr	100	41.7 cm x 18.6 cm x 19.3 cm	8711500509062	058317 26
Plusline Small 500W R7s 120V 1BB	HDG/RS-500-120-R7s-114,2	8711500494634	9 gr	100	42.5 cm x 16 cm x 19.8 cm	8711500513526	494634 26
Plusline Small 500W R7s 230V 1BB	HDG/RS-500-230-R7s-114,2	8711500494399	9 gr	100	42.5 cm x 16 cm x 19.8 cm	8711500509079	494399 26
Plusline Small 500W R7s 240V 1BB	HDG/RS-500-240-R7s-114,2	8711500058324	9 gr	100	42.5 cm x 16 cm x 19.8 cm	8711500509086	058324 26



Plusline Large (double ended)

Product Description

- Mains-voltage linear with a coiled-coil filament, giving white halogen light

Product Features

- Double-ended high-efficacy lamps
- Clear tubular quartz bulb
- Reinforced filament supports for maximum safety and shock resistance resulting in longer lifetime
- Limited burning position: +/-4°
- Excellent colour rendering
- Constant light output during life

Product Benefits

- 20% more light than ordinary double-ended
- Long lifetime
- Safe in use

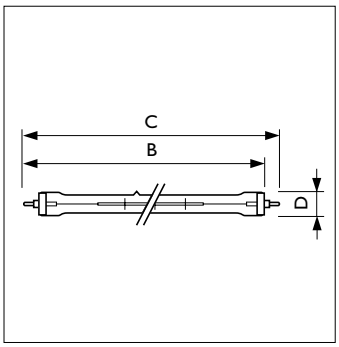
Application

- Typically used in outdoor applications: billboards, car parks, security lighting and construction sites
- Also used in Indoor applications: homes, offices, shops and museums

Luminaires

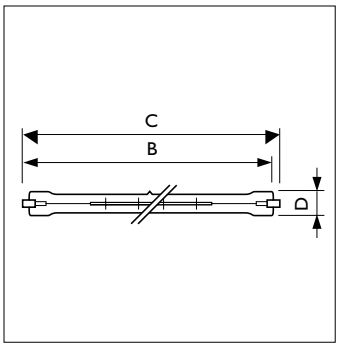
- Must be used in luminaires with a front cover glass

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Plusline Large (double ended) FA4

Type	BMin	BNom	BMax	CMax	DMax
Plusline Large 2000W FA4	319.9	322	324.1	334.4	11



Plusline Large (double ended) R7s

Type	BMin	BNom	BMax	CMax	DMax
Plusline Large 750W R7s	184.1	185.7	187.3	189.1	11
Plusline Large 1500W R7s	249.1	250.7	252.3	254.1	11

Technical data

Type	Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
Plusline Large 750W R7s 230V	230	3.2	750	Yes	2000
Plusline Large 750W R7s 240V	240	3.1	750	Yes	2000
Plusline Large 1000W R7s 120V	120	8.3	1000	Yes	2000
Plusline Large 1000W R7s 230V	230	4.3	1000	Yes	2000
Plusline Large 1000W R7s 240V	240	4.1	1000	Yes	2000
Plusline Large 1500W R7s 230V	230	6.5	1500	Yes	2000
Plusline Large 1500W R7s 240V	240	6.2	1500	Yes	2000
Plusline Large 2000W FA4 230V	230	8.7	2000	Yes	2000
Plusline Large 2000W FA4 240V	240	8.3	2000	Yes	2000

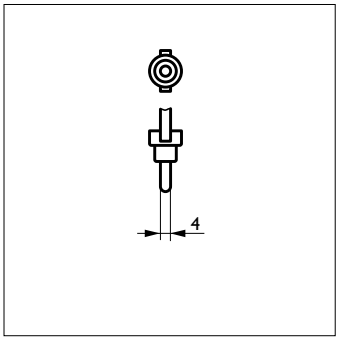
Light data

Type	Luminous flux lamp (lm)	Luminous Efficacy Lamp (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Operating Position
Plusline Large 750W R7s 230V	17100	22.8	2900	100	p4
Plusline Large 750W R7s 240V	16875	22.5	2900	100	p4
Plusline Large 1000W R7s 120V	22000	22	2900	100	p4
Plusline Large 1000W R7s 230V/240V	24200	24.2	2900	100	p4
Plusline Large 1500W R7s 230V/240V	36300	24.2	2900	100	p4
Plusline Large 2000W FA4 230V/240V	48400	24.2	2900	100	p4

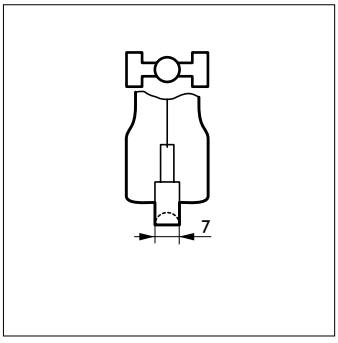
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Plusline Large 750W R7s 230V 1CT	HDG/RS-750-230-R7s-185,7	87115004943337	16 gr	10	22.5 cm x 8.7 cm x 6.7 cm	87115005216337	494337 25
Plusline Large 750W R7s 240V 1CT	HDG/RS-750-240-R7s-185,7	87115000559585	16 gr	10	22.5 cm x 8.7 cm x 6.7 cm	87115005216444	055958 25
Plusline Large 1000W R7s 120V 1CT	HDG/RS-1000-120-R7s-185,7	87115004948563	16 gr	10	22.5 cm x 8.7 cm x 6.7 cm	87115005216513	494856 25
Plusline Large 1000W R7s 230V 1CT	HDG/RS-1000-230-R7s-185,7	87115004943443	16 gr	10	22.5 cm x 8.7 cm x 6.7 cm	87115005216680	494344 25
Plusline Large 1000W R7s 240V 1CT	HDG/RS-1000-240-R7s-185,7	87115000559729	16 gr	10	22.5 cm x 8.7 cm x 6.7 cm	87115005216758	055972 25
Plusline Large 1500W R7s 230V 1CT	HDG/RS-1500-230-R7s-250,7	87115004943511	22 gr	10	28.5 cm x 8.7 cm x 6.7 cm	87115005216826	494351 25
Plusline Large 1500W R7s 240V 1CT	HDG/RS-1500-240-R7s-250,7	87115000559965	22 gr	10	28.5 cm x 8.7 cm x 6.7 cm	87115005216994	055996 25
Plusline Large 2000W FA4 230V 1CT	HDG/RS-2000-230-Fa4-322	87115004943689	23 gr	10	36 cm x 8.7 cm x 6.7 cm	87115005217052	494368 25
Plusline Large 2000W FA4 240V 1CT	HDG/RS-2000-240-Fa4-322	87115000560165	23 gr	10	36 cm x 8.7 cm x 6.7 cm	87115005217120	056016 25

Cap Base

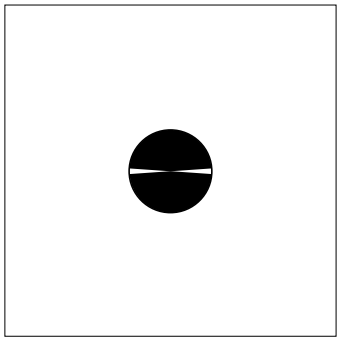


FA4



R7s

Operating position



p4



Halogen transformer range: Primaline and Certaline

Two complete ranges making halogen transformer installation even easier.

Philips Primaline is an electronic halogen transformer suitable for low voltage halogen lamps. It offers ultimate performance and is built with overload and short circuit protection and complies to IEC and ENEC standards.
With a range of new features resulting in more freedom and scope for installation, its compact and smart design fits in all standard applications. Philips Primaline is also dimmable with all standard trailing and leading edge dimmers.

Bringing you more flexibility

Philips Primaline gives you the possibility to connect up to 2 lamps for the 70 and 105 W transformer (or 4 lamps depending on cable cross section). You can connect up to 3 lamps or 6 lamps for smallest cables cross section and also loop through for 150 W for a simpler wiring. Philips Primaline also allows variety of cable cross sections.

A performance you can trust

You can expect low losses during operation. With a longer lifetime of 50,000 hours this transformer also features a soft start to further increase lamp life. With less heat radiation it is also safe to fit in/around wood surrounds.



Certaline 60

Product Description

- Electronic halogen transformer for low voltage halogen lamps. The range includes Certaline 60 W 230-240 V, Certaline 105 W 230-240 V and Certaline 150 W 230-240 V

Features and Benefits

- Extremely compact dimensions for the 60 W model
- Optimal operation even at high ambient temperatures Ta 40°C for 60 W model and Ta 45°C for 105 W and 150 W models
- Suitable for independent operation thanks to its robust strain relief
- Compliant to IEC norms
- Possibility to dim with trailing edge dimmer (end phase cut dimmer)
- Three levels of protection: protected against over-voltage, over-temperature and short circuit
- SELV (Safety Extra Low Voltage)
- Possibility to connect two lamps for the 105 W model thanks to its double output connections. Possible to connect three lamps to 150 W and to loop through the mains thanks to its double input connection

Application

- Indoor residential use including living rooms and decorative and accent lighting
- Professional applications including retail, offices, conference rooms and exhibitions

Quality

Philips Quality implies optimum quality with regard to:

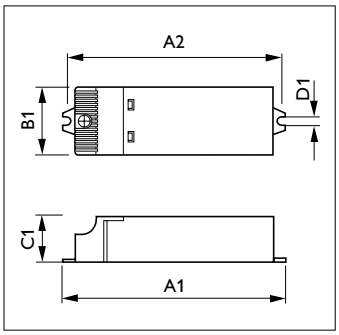
- System supplier: As manufacturer of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- International standards: Philips electronic gears comply with relevant international rules and regulations

Compliances and approvals

Compliant to IEC norms
CE compliant
TUV approved
ELV

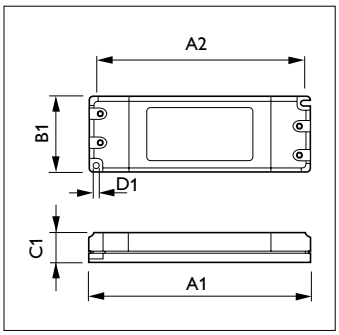
Recommended lamp page 9.4 - 9.45

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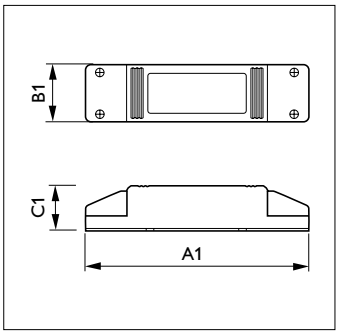
Certaline 60

Type	A1Nom	B1Nom	C1Nom
Certaline 60W 230-240V 50/60Hz	107.0	32.0	22.0



Certaline 105

Type	A1Nom	B1Nom	C1Nom
Certaline 105W 230-240V 50/60Hz	146.0	50.0	19.5



Certaline 150

Type	A1Nom	B1Nom	C1Nom
Certaline 150W 220-240V 50/60Hz	180.0	46.0	36.0



Certaline 105



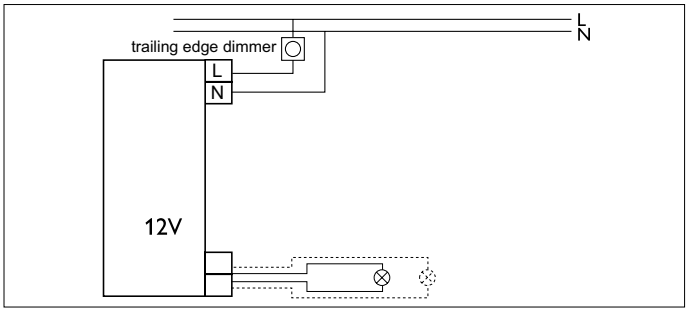
Certaline 150

Electrical data

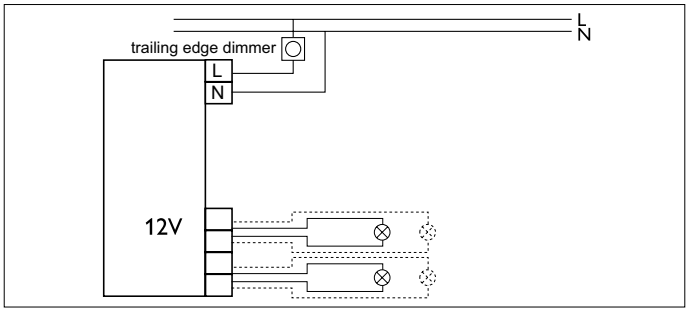
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)
Certaline 105W 230-240V 50/60Hz	2	105	50/60	230-240
Certaline 150W 230-240V 50/60Hz	3	150	50/60	220-240
Certaline 60W 230-240V 50/60Hz	1	60	50/60	230-240

Ordering and packing data

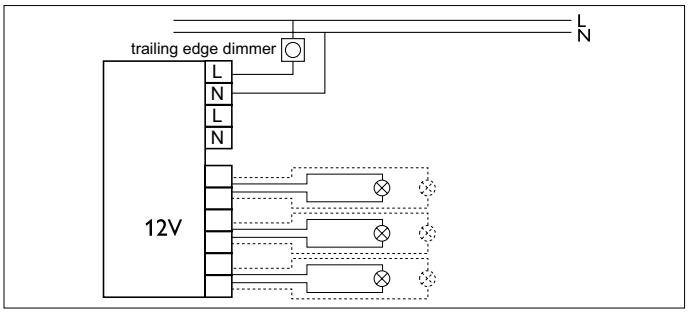
Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Certaline 105W 230-240V 50/60Hz	8711500913807	128.5 gr	100	54 cm x 32 cm x 14 cm	8711500913814	913807 30
Certaline 150W 230-240V 50/60Hz	8711500913852	234.5 gr	50	38.5 cm x 25.5 cm x 22 cm	8711500913869	913852 30
Certaline 60W 230-240V 50/60Hz	8711500913784	65.8 gr	100	23.5 cm x 18.5 cm x 27.5 cm	8711500913791	913784 30



Certaline 60



Certaline 105



Certaline 150





Primaline

Product Description

- High-Frequency electronic transformer for operation with 12V halogen lamps, available in 70, 105 and 150W versions

Features and Benefits

- Fits in smallest downligthing halogen application
- Posssibility to connect two lamps for 70W and 105W and to connect three lamps for 150W
- Possibility to loop through one transformer to another for the 150W
- Unique compact, lightweight design
- Fully IEC compliant
- Dimmable with Philips-approved Leading and Trailing Edge dimmers
- Safe operation due to to protection circuits:
  - in case of short circuit at the output
  - in case of excessive loads
  - in case of excessive temperatures
- Constant output voltage:
  - constant light level in case of undervoltage
  - full service life in case of overvoltage

Application

- Indoor residential use including living rooms and decorative and accent lighting
- Professional applications including retail, offices, conference rooms and exhibitions

Quality

Philips Quality implies optimum quality with regard to:

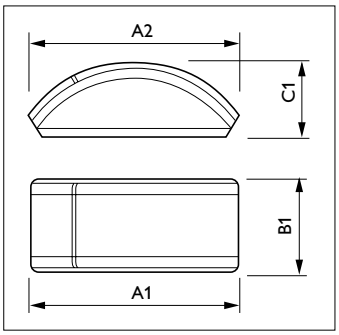
- System supplier: As manufacturer of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- International standards: Philips electronic gears comply with relevant international rules and regulations

Compliances and approvals

- Complies to IIEC and ENEC standards
- Compliant to all safety standards (CE, ENEC)

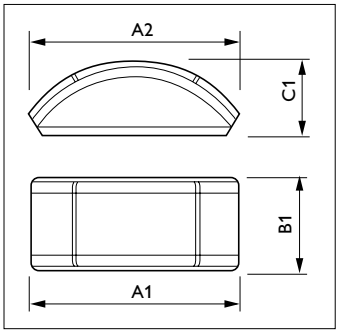
Recommended lamp page 9.4 - 9.45

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Primaline 105/70

Type	AINom	BINom	CINom
Primaline 105 230-240V 50/60Hz	110	45	33



Primaline 150

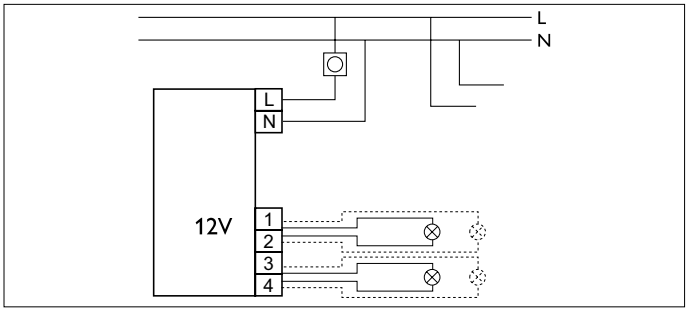
Type	AINom	BINom	CINom
Primaline 150 230-240V 50/60Hz	145	51	33

Electrical data

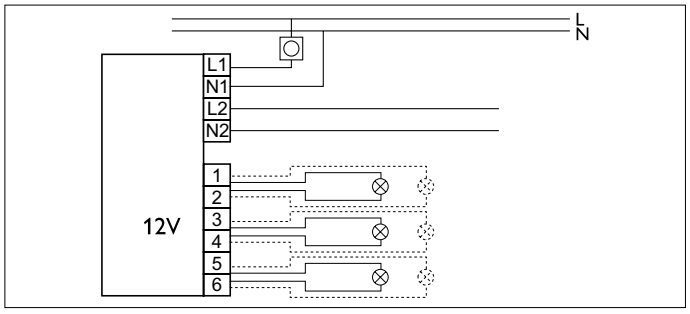
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)
Primaline 105 230-240V 50/60Hz	2	50-105	50/60	230-240
Primaline 150 230-240V 50/60Hz	3	70-150	50/60	230-240
Primaline 70 230-240V 50/60Hz	2	35-70	50/60	230-240

Ordering and packing data

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Primaline 105 230-240V 50/60Hz	8711500912688	0.126 kg	50	25.5 cm x 22 cm x 19.5 cm	8711500912695	912688 30
Primaline 150 230-240V 50/60Hz	8711500912701	0.2 kg	50	30.5 cm x 29 cm x 19.6 cm	8711500912718	912701 30
Primaline 70 230-240V 50/60Hz	8711500912664	0.12 kg	50	25.5 cm x 22 cm x 19.5 cm	8711500912671	912664 30



Primaline 105/70



Primaline 150



General Purpose and Traffic Lamps



General Purpose Lamps

We have been manufacturing General purpose lamps for more than one hundred years. They remain the most widely used lamps with the largest number of types. We continue to invest in this range to make sure we can offer the best lighting solution for the right application.

We are constantly addressing issues like ease of installation, lower power consumption, longer lifetime, miniaturization, all of which contribute to making sure the overall performance of all our General lamps meet our customer's requirements.

As an example, our range of domestic appliance lighting for cookers, refrigerators and ovens under go vigorous testing procedures both in laboratory conditions and real application environments. They are designed to achieve the best lighting performance in either general lighting or in challenging conditions where shocks, high temperatures and vibrations may occur.

With our modern manufacturing and testing facilities, combined with over a century of application know how, the results of our lamps are often a combination of dialogue with our customers to make sure we continue to meet the needs of the market place.



APP E14 T25 CL

Product Description

- Tubular vacuum lamps with clear glass (T-bulb)

Product Features

- Coiled-coil filament
- Manufactured with heat-resistant solder, getter and lamp-base cement

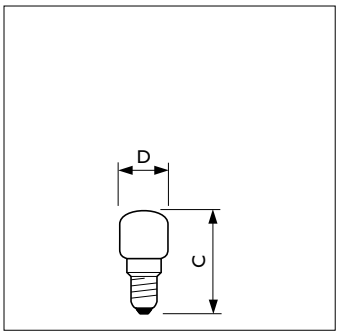
Product Benefits

- Reliable operation when used in special lampholders at high oven temperatures (up to 300°C)

Application

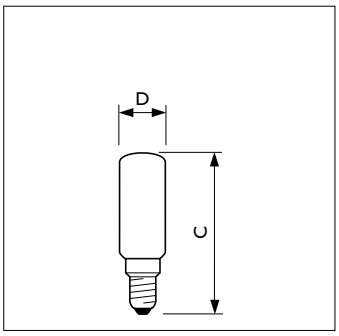
- Electrical and standard ovens, rotisseries and similar places subject to high operating temperatures
- Available for specific oven luminaires fitted in different positions such as downlighter, side-light and backlight

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APP E14 T22

Type	CMax	DNom
Appliance 15W E14 T22	49	22
Appliance 25W E14 T25	57	25



APP E14 T25X61

Type	CMax	DNom
Appliance 25W E14 T25X61	62	25
Appliance 40W E14 T29	76	29

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Average Life time (hrs)
Appliance 15W E14 125-130V T22 CL OV	125-130	15	F	1000
Appliance 15W E14 230-240V T22 CL OV	230-240	15	F	1000
Appliance 15W E14 240-250V T22 CL OV	240-250	15	F	1000
Appliance 25W E14 125-130V T25 CL OV	125-130	25	F	1000
Appliance 25W E14 230-240V T25 CL OV	230-240	25	F	1000
Appliance 40W E14 230-240V T29 CL OV	230-240	40	E	1000

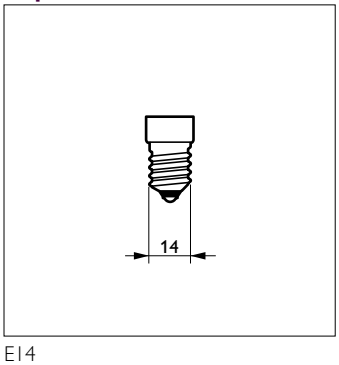
Light data

Type	Luminous flux lamp (lm)	Operating Position
Appliance 15W E14 125-130V T22 CL OV	90	any
Appliance 25W E14 125-130V T25 CL OV	172	any
Appliance 25W E14 230-240V T25X61 CL OV	175	any
Appliance 40W E14 230-240V T29 CL OV	400	any

Ordering and packing data

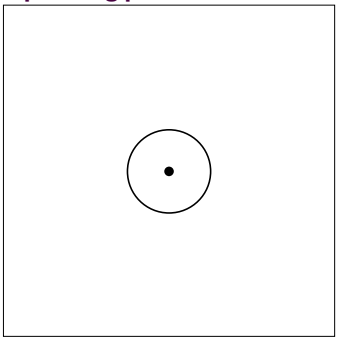
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Appliance 15W E14 125-130V T22 CL OV IP	IBT/C-15-125/130-E14-22*	8711500249623	10.5 gr	300	40.3 cm x 20.3 cm x 34 cm	8711500258243	249623 34
Appliance 15W E14 230-240V T22 CL OV 1BL	IBT/C-15-230/240-E14-22*	8711500249593	10.5 gr	10	27 cm x 8.9 cm x 15.6 cm	8711500251145	249593 25
Appliance 15W E14 230-240V T22 CL OV 1BL	IBT/C-15-230/240-E14-22*	871150003711 4	10.5 gr	10	27 cm x 15 cm x 13.6 cm	8711500259103	037114 25
Appliance 15W E14 230-240V T22 CL OV 1CT	IBT/C-15-230/240-E14-22*	8711500036599	10.5 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500257673	036599 50
Appliance 15W E14 230-240V T22 CL OV 1CT	IBT/C-15-230/240-E14-22*	8711500036599	10.5 gr	20	13.2 cm x 10.4 cm x 5.8 cm	8711500252593	036599 05
Appliance 15W E14 230-240V T22 CL OV 2BL	IBT/C-15-230/240-E14-22*	8711500249517	5.25 gr	10	27 cm x 15 cm x 13.6 cm	8711500257666	249517 25
Appliance 15W E14 230-240V T22 CL OV IP	IBT/C-15-230/240-E14-22*	8711500249654	10.5 gr	10200	120 cm x 80 cm x 57 cm	8711500254955	249654 94
Appliance 15W E14 230-240V T22 CL OV IP	IBT/C-15-230/240-E14-22*	8711500249654	10.5 gr	300	40 cm x 20 cm x 33 cm	8711500258274	249654 34
Appliance 15W E14 230-240V T22 CL OV IP	IBT/C-15-230/240-E14-22*	8711500251480	10.5 gr	300	40.3 cm x 20.3 cm x 34 cm	8711500251497	251480 34
Appliance 15W E14 240-250V T22 CL OV IP	IBT/C-15-240/250-E14-22*	8711500249661	12 gr	300	40.3 cm x 20.3 cm x 34 cm	8711500258793	249661 34
Appliance 25W E14 125-130V T25 CL OV IP	IBT/C-25-125/130-E14-25*	8711500250315	13 gr	250	40.3 cm x 20.3 cm x 32 cm	8711500258410	250315 28
Appliance 25W E14 230-240V T25 CL OV 1BL	IBT/C-25-230/240-E14-25*	8711500253378	12.5 gr	10	27 cm x 15 cm x 13.6 cm	8711500253385	253378 25
Appliance 25W E14 230-240V T25 CL OV 1CT	IBT/C-25-230/240-E14-25*	8711500038715	10.5 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500257918	038715 50
Appliance 25W E14 230-240V T25 CL OV 1CT	IBT/C-25-230/240-E14-25*	8711500038715	8 gr	20	13 cm x 10.4 cm x 5.8 cm	8711500252586	038715 05
Appliance 25W E14 230-240V T25 CL OV IP	IBT/C-25-230/240-E14-25*	8711500250339	12.5 gr	250	40 cm x 20 cm x 32 cm	8711500258434	250339 28
Appliance 25W E14 230-240V T25 CL OV IP	IBT/C-25-230/240-E14-25*	8711500252418	12.5 gr	250	40.3 cm x 20.3 cm x 32 cm	8711500258984	252418 28
Appliance 25W E14 230-240V T25 CL OV UNP	IBT/C-25-230/240-E14-25*	8711500254931	12.5 gr	7800	120 cm x 80 cm x 57 cm	8711500254962	254931 93
Appliance 25W E14 230-240V T25X61 CL OV IP	IBT/C-25-230/240-E14-25*	8711500250421	13.5 gr	250	40.3 cm x 20.3 cm x 36.1 cm	8711500258496	250421 28
Appliance 40W E14 230-240V T29 CL OV IP	IBT/C-40-230/240-E14-29	8711500250568	16.5 gr	200	40 cm x 20 cm x 33 cm	8711500259905	250568 38

Cap Base



E14

Operating position



any



APP E14 P45 CL

Product Description

- Lustre vacuum lamps with clear glass (P-bulb)

Product Features

- Coiled-coil filament
- Manufactured with heat-resistant solder, getter and lamp-base cement

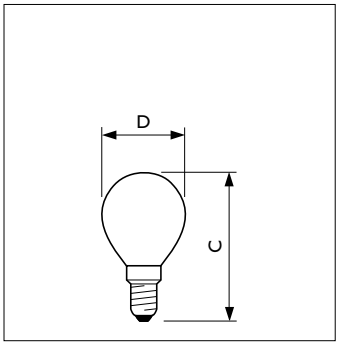
Product Benefits

- Reliable operation when used in special lampholders at high oven temperatures (up to 300°C)

Application

- Electrical and standard ovens, rotisseries and similar places subject to high operating temperatures
- Available for specific oven luminaires fitted in different positions such as downlighter, side-light and backlight

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APP E14 P45

Type	CMax	DNom
Appliance 40W E14 P45	78	45

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Average Life time (hrs)
Appliance 40W E14 230V P45 CL OV 1CT	230	40	E	1000
Appliance 40W E14 240V P45 CL OV 1BL/ICT	240	40	E	1000

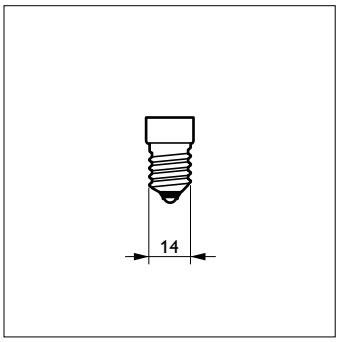
Light data

Type	Luminous flux lamp (lm)	Operating Position
Appliance 40W E14 230V P45 CL OV 1CT	430	any
Appliance 40W E14 240V P45 CL OV 1BL/ICT	420	any

Ordering and packing data

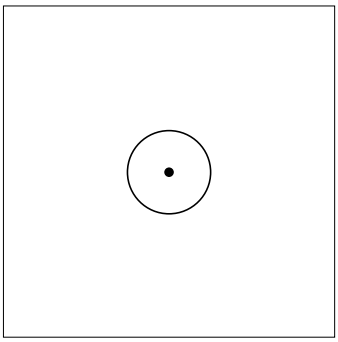
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Appliance 40W E14 230V P45 CL OV 1CT	IBP/C-40-230-E14-45*	8711500029331	15.46 gr	100	47.6 cm x 24.1 cm x 16.7 cm	8711500122568	029331 50
Appliance 40W E14 230V P45 CL OV 1CT	IBP/C-40-230-E14-45*	8711500029331	15.46 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500390752	029331 38
Appliance 40W E14 240V P45 CL OV 1BL	IBP/C-40-240-E14-45*	8711500157546	15.46 gr	10	27.1 cm x 15 cm x 15.4 cm	8711500158727	157546 25
Appliance 40W E14 240V P45 CL OV 1CT	IBP/C-40-240-E14-45*	8711500035455	15.46 gr	100	47.6 cm x 24.1 cm x 16.7 cm	8711500085221	035455 50

Cap Base



E14

Operating position



any



APP E14 T25 CL

Product Description

- Tubular lamp with clear glass bulb

Product Features

- Reinforced filament
- T-CLICK design with integrated lampholder reduces integral costs of refrigerator lighting

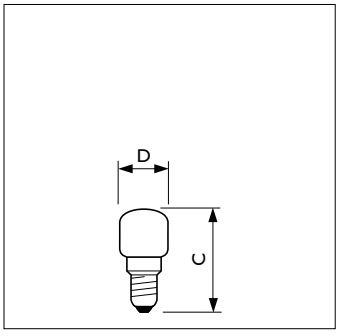
Product Benefits

- Long useful life in refrigerators and freezers

Application

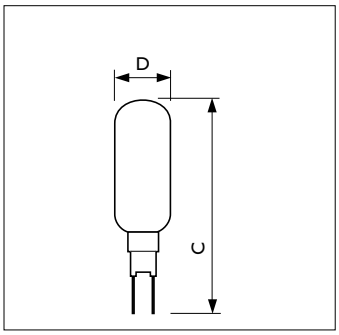
- Refrigerators and freezers

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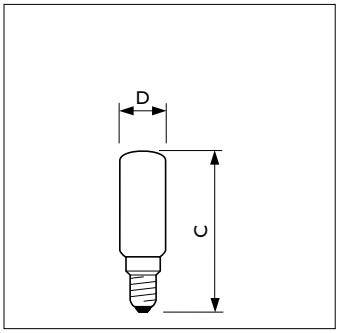
APP E14 T22

Type	CMax	DNom
Appliance 12W E14 T22	49	22
Appliance 10W/12W/15W/25W E14 T25	57	25



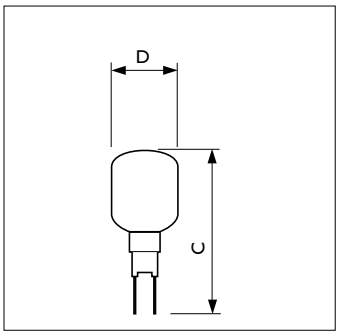
APP T25L

Type	CNom	CMax	DNom
Appliance 25W T25L	70	70.5	25
Appliance 40W T25L	97	100	25



APP E14 T25L

Type	CMax	DNom
Appliance 25W/30W/40W E14 T25L	86	25



APP T25

Type	CNom	CMax	DNom
Appliance 15W T25	70	70.5	25

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Average Life time (hrs)
Appliance 10W E14 230-240V T25 CL RF IP	230-240	10	G	1000
Appliance 12W E14 230-240V T22 CL RF IP	230-240	12	E	1000
Appliance 15W E14/T-CL 125-130V T25 CL RF IP	125-130	15	E	1000
Appliance 15W E14 230-240V T25 CL RF 1BL	230-240	15	E	1000
Appliance 15W E14 240-250V T25 CL RF IP	240-250	15	E	1000
Appliance 25W E14 125-130V T25 CL RF IP	125-130	25	F	1000
Appliance 25W E14 230-240V T25 CL RF 1BL	230-240	25	F	1000
Appliance 25W E14 230-240V T25L CL RF IP	230-240	25	E	1000
Appliance 25W T-CL 230-240V T25L NEO RF IP	230-240	25	G	1000
Appliance 40W T-CL 125-130V T25L CL RF IP	125-130	40	E	1000
Appliance 40W T-CL 230-240V T25L CL RF IP	230-240	40	E	1000
Appliance 40W T-CL 230-240V T25L NEO RF IP	230-240	40	F	1000

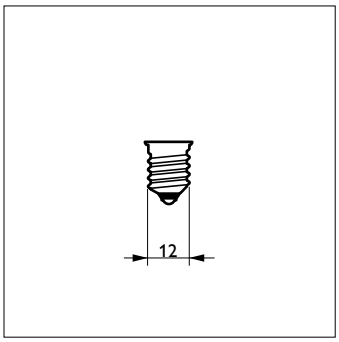
Light data

Type	Luminous flux lamp (lm)	Operating Position
Appliance 10W E14 230-240V T25 CL RF IP	35	any
Appliance 12W E14 230-240V T22 CL RF IP	84	any
Appliance 15W E14 125-130V T25 CL RF IP	110	any
Appliance 25W E14 125-130V T25 CL RF IP	172	any
Appliance 25W E14 230-240V T25L CL RF IP	217	any
Appliance 25W T-CL 230-240V T25L NEO RF IP	146	any
Appliance 40W T-CL 125-130V T25L CL RF IP	450	any
Appliance 40W T-CL 230-240V T25L CL RF IP	420	any
Appliance 40W T-CL 230-240V T25L NEO RF IP	382	any

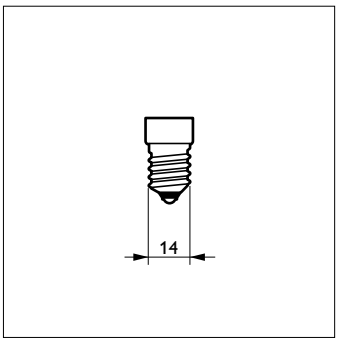
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871150
Appliance 10W E14 230-240V T25 CL RF IP	N/A	8711500250438	12.5 gr	250	40 cm x 20 cm x 32 cm	8711500259714	250438 28
Appliance 12W E14 230-240V T22 CL RF IP	IBT/C-12-230/240-E14-22*	8711500251022	10.5 gr	300	40 cm x 20 cm x 33 cm	8711500251039	251022 34
Appliance 15W E14 125-130V T25 CL RF IP	IBT/C-15-125/130-E14-25*	8711500249876	12.5 gr	250	40.3 cm x 20.3 cm x 32 cm	8711500258373	249876 28
Appliance 15W E14 230-240V T25 CL RF 1BL	IBT/C-15-230/240-E14-25*	8711500249791	12.5 gr	10	27 cm x 15 cm x 13.6 cm	8711500258953	249791 25
Appliance 15W E14 230-240V T25 CL RF 1BL	IBT/C-15-230/240-E14-25*	8711500250223	12.5 gr	10	27 cm x 8.9 cm x 15.6 cm	8711500251503	250223 25
Appliance 15W E14 230-240V T25 CL RF 1CT	IBT/C-15-230/240-E14-25*	8711500038517	12.5 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500250827	038517 50
Appliance 15W E14 230-240V T25 CL RF 1CT	IBT/C-15-230/240-E14-25*	8711500038517	12.5 gr	20	13.2 cm x 10.4 cm x 5.8 cm	8711500252579	038517 05
Appliance 15W E14 230-240V T25 CL RF 2BL	IBT/C-15-230/240-E14-25*	8711500249579	6.25 gr	10	27 cm x 8.9 cm x 15.6 cm	8711500251152	249579 25
Appliance 15W E14 230-240V T25 CL RF 2BL	IBT/C-15-230/240-E14-25*	8711500250247	12.5 gr	10	27 cm x 15 cm x 13.6 cm	8711500259837	250247 25
Appliance 15W E14 230-240V T25 CL RF IP	IBT/C-15-230/240-E14-25*	8711500249913	12.5 gr	250	40 cm x 20 cm x 32 cm	8711500258397	249913 28
Appliance 15W E14 230-240V T25 CL RF IP	IBT/C-15-230/240-E14-25*	8711500252401	12.5 gr	250	40.3 cm x 20.3 cm x 32 cm	8711500258816	252401 28
Appliance 15W E14 230-240V T25 CL RF IP		8711500253156	0.013 kg	250	40.3 cm x 20.3 cm x 32 cm	8711500253163	253156 28
Appliance 15W E14 240-250V T25 CL RF IP	IBT/C-15-240/250-E14-25*	8711500250018	12.5 gr	250	40.3 cm x 20.3 cm x 32 cm	8711500259134	250018 28
Appliance 15W T-CL 125-130V T25 CL RF IP	N/A	8711500252197	10.6 gr	200	39.9 cm x 19.9 cm x 31.2 cm	8711500252203	252197 38
Appliance 15W T-CL 230-240V T25 CL RF IP	N/A	8711500250476	10.6 gr	200	39.9 cm x 19.9 cm x 31.2 cm	8711500259929	250476 38
Appliance 15W T-CL 230-240V T25 NEO RF IP		8711500256355	12 gr	200	40.3 cm x 20.3 cm x 32 cm	8711500256362	256355 38
Appliance 25W E14 125-130V T25 CL RF IP	IBT/C-25-125/130-E14-25	8711500253286	13 gr	250	40.3 cm x 20.3 cm x 32 cm	8711500253293	253286 28
Appliance 25W E14 230-240V T25 CL RF 1BL	N/A	8711500249807	12.5 gr	10	27 cm x 8.9 cm x 15.6 cm	8711500251176	249807 25
Appliance 25W E14 230-240V T25 CL RF 1CT	N/A	8711500249814	12.5 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500251770	249814 50
Appliance 25W E14 230-240V T25 CL RF IP	N/A	8711500252067	12.5 gr	250	40.3 cm x 20.3 cm x 32 cm	8711500252074	252067 28
Appliance 25W E14 230-240V T25 FR RF IP		8711500253200	12.5 gr	250	40.3 cm x 20.3 cm x 32 cm	8711500253217	253200 28
Appliance 25W E14 230-240V T25L CL RF IP	IBT/C-25-230/240-E14-25L	8711500252814	15.88 gr	150	40.3 cm x 20.3 cm x 32 cm	8711500252821	252814 37
Appliance 25W E14 230-240V T25L CL RF IP	IBT/C-25-230/240-E14-25L	8711500253132	13.2 gr	150	40 cm x 20 cm x 32 cm	8711500253149	253132 37
Appliance 25W T-CL 230-240V T25L NEO RF IP		8711500256379	12 gr	200	40.3 cm x 20.3 cm x 32 cm	8711500256386	256379 38
Appliance 40W T-CL 125-130V T25L CL RF IP	IBT/C-40-125/130	8711500255044	15.88 gr	150	40 cm x 20 cm x 31.2 cm	8711500255136	255044 37
Appliance 40W T-CL 230-240V T25L CL RF IP		8711500253262	15.88 gr	150	40.3 cm x 20.3 cm x 32 cm	8711500253279	253262 37
Appliance 40W T-CL 230-240V T25L NEO RF IP		8711500256331	16 gr	150	40.3 cm x 20.3 cm x 32 cm	8711500256348	256331 37

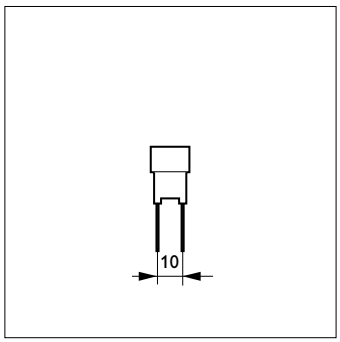
Cap Base



E12

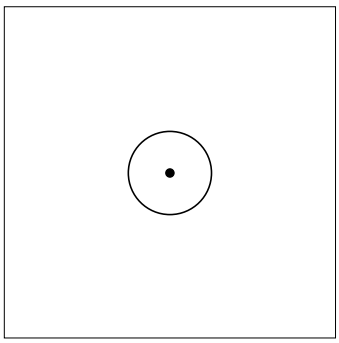


E14



T-Click

Operating position



any



APP E14 T22 CL

Product Description

- Tubular incandescent vacuum lamp

Product Features

- Reinforced single / double coil filament
- Available in different lengths for use in various types of sewing machines

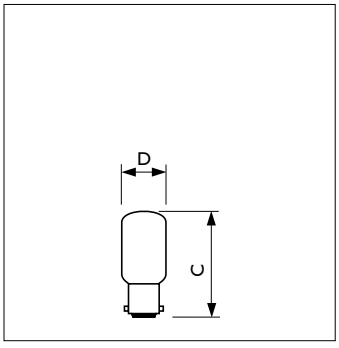
Product Benefits

- Long useful life in sewing machines

Application

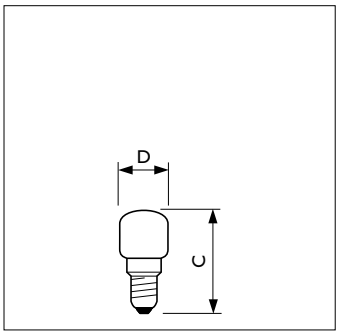
- Sewing machines

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APP B15d T22X51

Type	CMax	DNom
Appliance 15W/20W B15d T22X51	52	22



APP E14 T22

Type	CMax	DNom
Appliance 20W E14 T22	49	22

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Average Life time (hrs)
Appliance 20W B15d 230V T22X51 CL SM 1CT	230	20	F	1000
Appliance 20W E14 230-240V T22 CL SM 1BL/1CT	230-240	20	F	1000

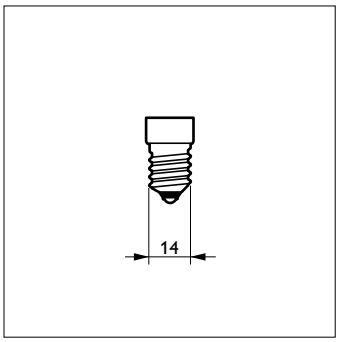
Light data

Type	Luminous flux lamp (lm)	Operating Position
Appliance 20W T22X51/T22	120	any

Ordering and packing data

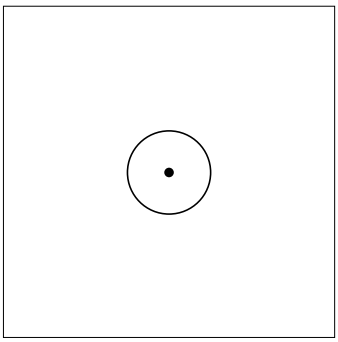
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Appliance 20W B15d 230V T22X51 CL SM 1CT	N/A	8711500250230	12.5 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500251336	250230 50
Appliance 20W E14 230-240V T22 CL SM 1BL	IBT/C-20-230/240-E14-22*	8711500249975	10.5 gr	10	27 cm x 15 cm x 13.6 cm	8711500259561	249975 25
Appliance 20W E14 230-240V T22 CL SM 1CT	IBT/C-20-230/240-E14-22*	8711500250971	10.5 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500251718	250971 50

Cap Base



E14

Operating position



any



APP E14 T25 CL

Product Description

- Tubular vacuum lamp with clear bulb

Product Features

- Reinforced single / double coil filament
- T-CLICK design specially developed for use in microwave ovens

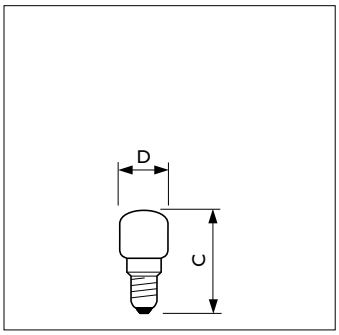
Product Benefits

- Reinforced filament construction for resistance to vibration
- Easy mounting with various fixing parts allows the lamps to be used in the area in the oven where light is needed
- Long useful life in microwave ovens

Application

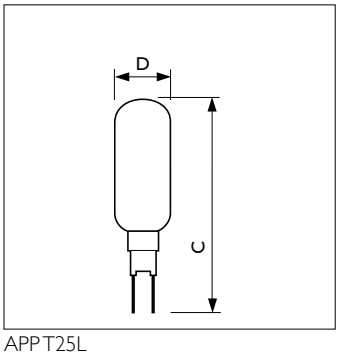
- Microwave ovens

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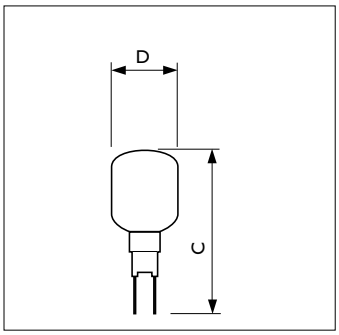
APP E14 T25

Type	CMax	DNom
Appliance 25W E14 T25	57	25



APP T25L

Type	CNom	CMax	DNom
Appliance 40W T-CL T25L	97	100	25



APPT25

Type	CNom	CMax	DNom
Appliance 25W T-CL T25	70	70.5	25

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Average Life time (hrs)
Appliance 25W E14 230-240V T25 CL MWO 1BL	230-240	25	F	1000
Appliance 25W T-CL 125-130V T25 CL MWO IP	125-130	25	F	2000
Appliance 25W T-CL 230-240V T25 CL MWO 1BL/IP	230-240	25	F	2000
Appliance 25W T-CL 240-250V T25 CL MWO IP	240-250	25	F	2000
Appliance 40W T-CL 230-240V T25L CL MWO IP	230-240	40	E	1000

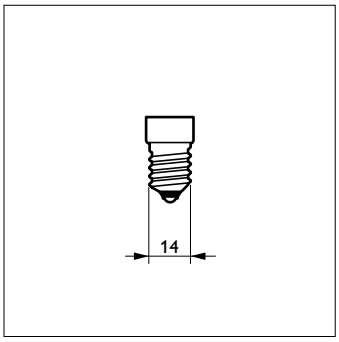
Light data

Type	Luminous flux lamp (lm)	Operating Position
Appliance 25W T25 CL	172	any
Appliance 40W T25L CL	420	any

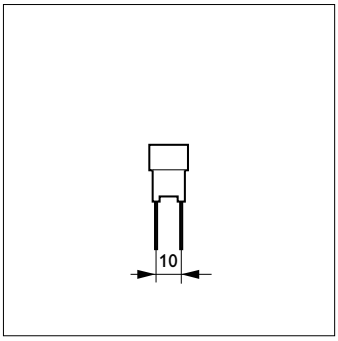
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Appliance 25W E14 230-240V T25 CL MWO 1BL	IBT/C-25-230/240-E14-25*	8711500250025	12.5 gr	10	27 cm x 15 cm x 13.6 cm	8711500259424	250025 25
Appliance 25W T-CL 125-130V T25 CL MWO IP	N/A	8711500251947	10.6 gr	200	39.9 cm x 19.9 cm x 31.2 cm	8711500251954	251947 38
Appliance 25W T-CL 230-240V T25 CL MWO 1BL	N/A	8015250006896	14.9 gr	10	17.6 cm x 15.1 cm x 15.7 cm	2005030002091	006896 25
Appliance 25W T-CL 230-240V T25 CL MWO IP	N/A	8711500250520	13.5 gr	200	40 cm x 20 cm x 31.2 cm	8711500259530	250520 38
Appliance 25W T-CL 230-240V T25 CL MWO IP	N/A	8711500251961	10.6 gr	200	39.9 cm x 19.9 cm x 31.2 cm	8711500251978	251961 38
Appliance 25W T-CL 230-240V T25 CL MWO IP	N/A	8711500252234	10.6 gr	200	39.9 cm x 19.9 cm x 31.2 cm	8711500252241	252234 38
Appliance 25W T-CL 240-250V T25 CL MWO IP	N/A	8711500251985	14.25 gr	200	40.3 cm x 20.3 cm x 32 cm	8711500251992	251985 38
Appliance 25W T-CL 240-250V T25 CL MWO IP	N/A	8711500250551	15 gr	200	40.3 cm x 20.3 cm x 32 cm	8711500259738	250551 38
Appliance 40W T-CL 230-240V T25L CL MWO IP		8711500252937	0.015 kg	150	39.9 cm x 19.9 cm x 31.2 cm	8711500252944	252937 37

Cap Base

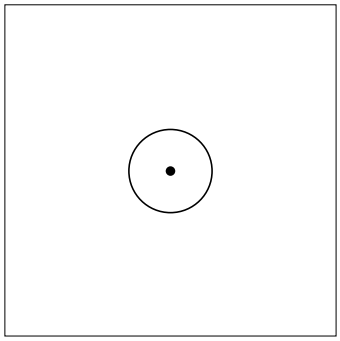


E14



T-Click

Operating position


any



APP E14 T25L CL

Product Description

- Gas-filled lamp with clear bulb

Product Features

- Extra filament support for resistance to vibration from extractor motors

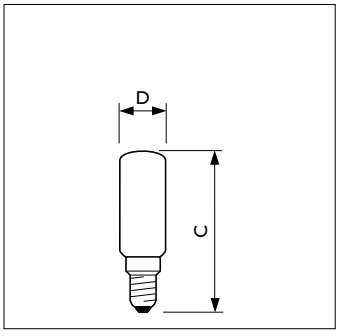
Product Benefits

- High reliability for long, trouble-free life
- Compact size fits well in the limited space available

Application

- Replaces the non-dedicated lamps formerly used in this application
- Cooker hoods

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APP E14 T25L

Type	CMax	DNom
Appliance 40W E14 T25L	86	25

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Average Life time (hrs)
Appliance 40W E14 125-130V T25L CL CH 1CT/UNP	125-130	40	E	1000
Appliance 40W E14 230-240V T25L CL CH 1CT/2BL/1P	230-240	40	E	1000

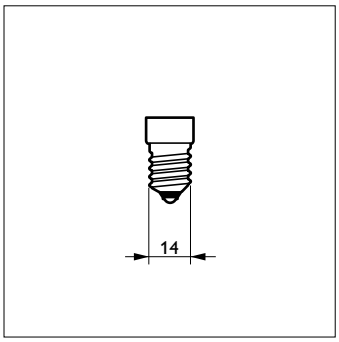
Light data

Type	Luminous flux lamp (lm)	Operating Position
Appliance 40W E14 125-130V T25L CL CH 1CT/UNP	484	any
Appliance 40W E14 230-240V T25L CL CH 1CT/2BL/1P	424	any

Ordering and packing data

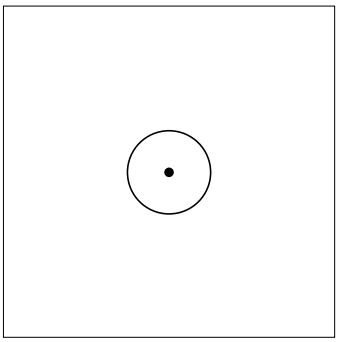
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Appliance 40W E14 125-130V T25L CL CH 1CT	N/A	8711500250216	16 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500259806	250216 70
Appliance 40W E14 125-130V T25L CL CH UNP	N/A	8711500250377	13.2 gr	600	50 cm x 40 cm x 26 cm	8711500259790	250377 29
Appliance 40W E14 230-240V T25L CL CH 1CT	N/A	8711500250056	16 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500259622	250056 70
Appliance 40W E14 230-240V T25L CL CH 1CT	N/A	8711500251206	16 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500251213	251206 70
Appliance 40W E14 230-240V T25L CL CH 1CT	N/A	8711500250056	13.2 gr	20	13.2 cm x 10.4 cm x 9.8 cm	8711500255464	250056 05
Appliance 40W E14 230-240V T25L CL CH 2BL	N/A	8711500250049	6.6 gr	10	27 cm x 15 cm x 13.6 cm	8711500259615	250049 25
Appliance 40W E14 230-240V T25L CL CH IP	N/A	8711500250391	13.2 gr	150	40.3 cm x 20.3 cm x 32 cm	8711500250766	250391 37
Appliance 40W E14 230-240V T25L CL CH IP	N/A	8711500250391	13.2 gr	600	39 cm x 32.5 cm x 26.8 cm	8711500259455	250391 29

Cap Base



E14

Operating position



any



ELV E27 A60 CL

Product Description

- Clear lamp (A-bulb) for operation on voltages of 12, 24, 42 and 50 V

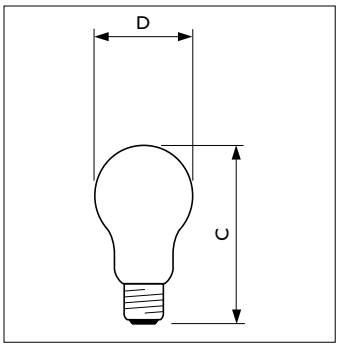
Product Features

- Types till 42 V are safer in combination with a mains power supply transformer

Application

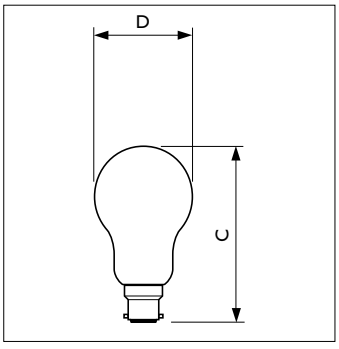
- Rural and isolated areas where mains power supplies are not available
- Emergency lighting installations

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ELV E27 A60

Type	CMax	DNom
Standard ELV 25W/40W/60W/100W E27/BRC A60	107.5	60



ELV B22 A60

Type	CMax	DNom
Standard ELV 40W/60W B22/BRC A60	106	60

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Average Life time (hrs)
Standard ELV 25W E27/BRC 24V A60 CL 1CT	24	25	Yes	1000
Standard ELV 40W E27/B22/BRC 24V A60 CL 1CT	24	40	Yes	1000
Standard ELV 40W E27/BRC 42V A60 CL 1CT	42	40	Yes	1000
Standard ELV 40W E27/BRC 50V A60 CL 1CT	50	40	Yes	1000
Standard ELV 75W E27/BRC 24V A60 CL 1CT	24	75	Yes	1000

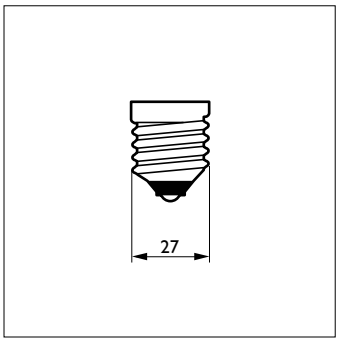
Light data

Type	Luminous flux lamp (lm)	Operating Position
Standard ELV 25W E27/BRC 24V A60 CL 1CT	335	any
Standard ELV 40W B22/BRC 24V A60 CL 1CT	640	any
Standard ELV 40W E27/BRC 42V A60 CL 1CT	570	any
Standard ELV 40W E27/BRC 50V A60 CL 1CT	520	any
Standard ELV 75W E27/BRC 24V A60 CL 1CT	1300	any

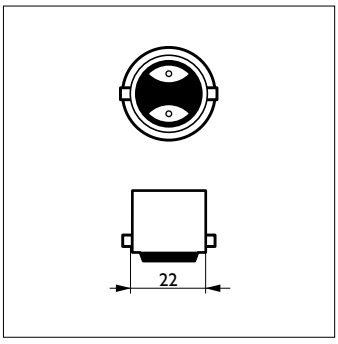
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Standard ELV 25W E27/BRC 24V A60 CL 1CT	IAA/C-25-24-E27-60	8711500090133	28 gr	120	43.5 cm x 30.6 cm x 37.3 cm	8711500348876	090133 84
Standard ELV 25W E27/BRC 24V A60 CL 1CT	IAA/C-25-24-E27-60	8711500090133	28 gr	20	31.1 cm x 25.1 cm x 12 cm	8711500101266	090133 05
Standard ELV 40W B22/BRC 24V A60 CL 1CT	IAA/C-40-24-B22d-60	8711500090140	32.3 gr	120	43.5 cm x 31 cm x 37.3 cm	8711500348883	090140 84
Standard ELV 40W E27/BRC 24V A60 CL 1CT	IAA/C-40-24-E27-60	8711500022936	28 gr	120	44.6 cm x 31.6 cm x 37.3 cm	8711500348906	022936 84
Standard ELV 40W E27/BRC 24V A60 CL 1CT	IAA/C-40-24-E27-60	8711500022936	28 gr	20	31.1 cm x 25.1 cm x 12 cm	8711500118196	022936 05
Standard ELV 40W E27/BRC 42V A60 CL 1CT	IAA/C-40-42-E27-60	8711500090157	28 gr	120	44.6 cm x 31.6 cm x 37.3 cm	8711500348920	090157 84
Standard ELV 40W E27/BRC 50V A60 CL 1CT	IAA/C-40-50-E27-60	8711500101563	28 gr	120	43.5 cm x 30.6 cm x 37.3 cm	8711500348937	101563 84
Standard ELV 75W E27/BRC 24V A60 CL 1CT	IAA/C-75-24-E27-60	8711500090225	28 gr	120	43.5 cm x 30.6 cm x 37.3 cm	8711500349002	090225 84

Cap Base

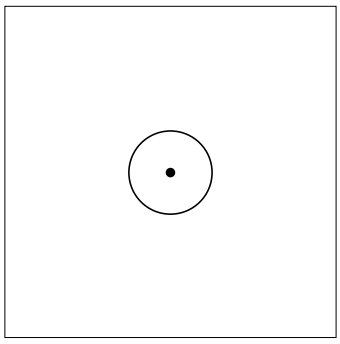


E27



B22

Operating position



any



ELV B22 P45 CL

Product Description

- Clear lamp (P-bulb) for operation on 24 V

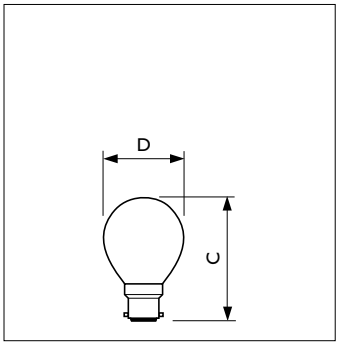
Product Features

- Types till 42 V are safer in combination with a mains power supply transformer

Application

- Rural and isolated areas where mains power supplies are not available
- Emergency lighting installations

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ELV B22 P45

Type	CMax	DNom
Standard ELV 15W/25W/40W B22 24V P45 CL 1CT	71.5	45

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Average Life time (hrs)
Standard ELV 15W B22 24V P45 CL 1CT	24	15	Yes	1000
Standard ELV 25W B22 24V P45 CL 1CT	24	25	Yes	1000
Standard ELV 40W B22 24V P45 CL 1CT	24	40	Yes	1000

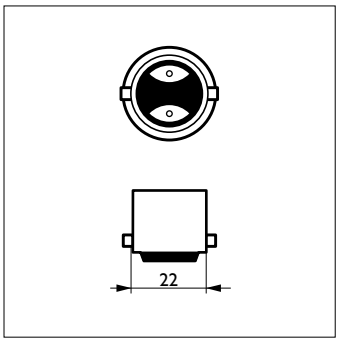
Light data

Type	Operating Position
Standard ELV 15W/25W/40W B22 24V P45 CL 1CT	any

Ordering and packing data

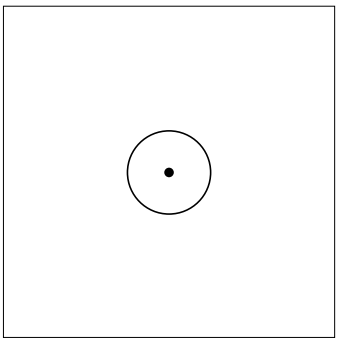
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Standard ELV 15W B22 24V P45 CL 1CT	IBP/C-15-24-B22d-45	8711500066763	21.3 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500080523	066763 65
Standard ELV 25W B22 24V P45 CL 1CT	IBP/C-25-24-B22d-45	8711500066800	24 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500080745	066800 65
Standard ELV 40W B22 24V P45 CL 1CT	IBP/C-40-24-B22d-45	8711500159342	20.5 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500159359	159342 65

Cap Base



B22

Operating position



any



LUS COL E14 P45 RE

Product Description

- Coloured incandescent lamp with P45 shape and superior ESC coating

Product Features

- Choice of attractive colours
- Superior quality thanks to the Electro Static Coated (ESC) internal coating (instead of the conventional wet-flushed inside paint process)

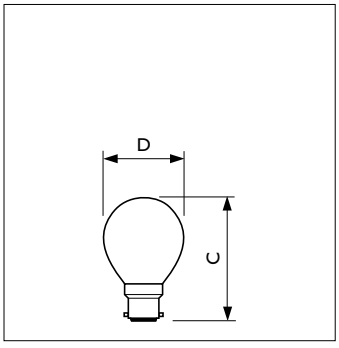
Product Benefits

- Environment-friendly due to ESC coating and cadmium-free lamp
- Energy savings thanks to much higher colour brilliance and lumen output than conventional coloured lamps with higher wattages
- Weather-resistant bulbs are perfectly suitable for outdoor use

Application

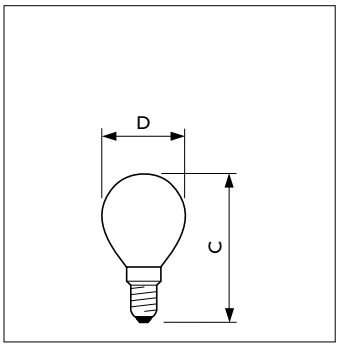
- All kinds of indoor and outdoor decorative lighting and special effects
- Outdoor: streets, facades, shopping centres, amusement parks, garden parties, carnivals, restaurants, bars, beaches, Christmas and other decorations
- Indoor: parties, special celebrations and decorative effects
- Multi-colour versions and printing of special graphics available on project basis

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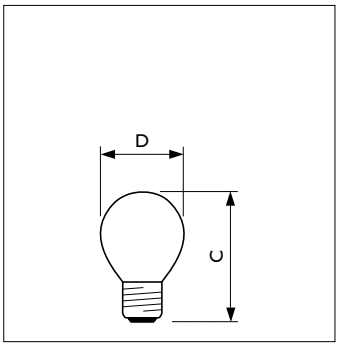
LUS COL B22

Type	CMax	DNom
Party 15W B22 P45	71.5	45
Party 40W/60W B22 P45	71.5	45



LUS COL E14

Type	CMax	DNom
Party 15W E14 P45	76.5	45



LUS COL E27

Type	CMax	DNom
Party 15W E27 P45	72.5	45

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Average Life time (hrs)
Party 15W E14/E27/B22 220-240V P45	220-240	15	Yes	1000
Party 40W B22 240V P45	240	40	Yes	1000
Party 60W B22 240V P45	240	60	Yes	1000

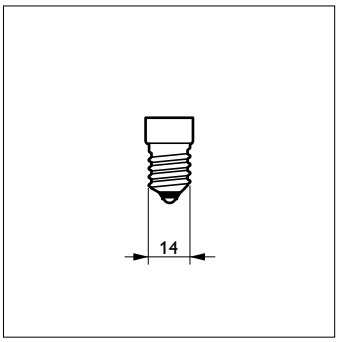
Light data

Type	Luminous flux lamp (lm)	Operating Position
Party 15W B22 220-240V P45 BL 1CT	-	any
Party 15W B22 220-240V P45 WH 1CT	100	any
Party 15W E14 220-240V P45 BL 1CT	5	any
Party 15W E14 220-240V P45 OR 1CT	40	any
Party 15W E14 220-240V P45 YE 1CT	75	any
Party 15W E27 220-240V P45 BL 1CT	2	any
Party 15W E27 220-240V P45 OR 1CT	25	any
Party 15W E27 220-240V P45 RE 1CT	8	any
Party 15W E27 220-240V P45 WH UNP	90	any
Party 40W B22 240V P45 WH 2BL	345	any
Party 60W B22 240V P45 WH 2BL	575	s90

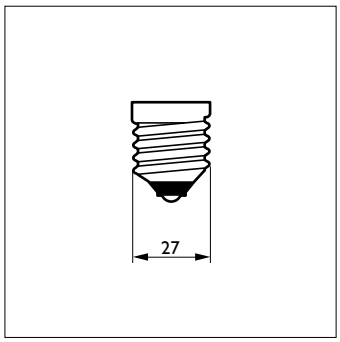
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Party 15W B22 220-240V P45 BL 1CT	IBP/B-15-220/240-B22d-45	8711500173126	21.2 gr	100	40.3 cm x 24.3 cm x 20.4 cm	8711500173140	173126 50
Party 15W B22 220-240V P45 BL UNP	IBP/B-15-220/240-B22d-45	8711500173249	21.2 gr	180	47.5 cm x 25 cm x 18.1 cm	8711500173256	173249 97
Party 15W B22 220-240V P45 GR 1CT	IBP/G-15-220/240-B22d-45	8711500173096	21.2 gr	100	47.6 cm x 24.1 cm x 16.5 cm	8711500173119	173096 50
Party 15W B22 220-240V P45 GR UNP	IBP/G-15-220/240-B22d-45	8711500173225	21.2 gr	180	47.5 cm x 25 cm x 18.1 cm	8711500173232	173225 97
Party 15W B22 220-240V P45 RE 1CT	IBP/R-15-220/240-B22d-45	8711500173065	21.2 gr	100	40.3 cm x 24.3 cm x 20.4 cm	8711500173089	173065 50
Party 15W B22 220-240V P45 RE UNP	IBP/R-15-220/240-B22d-45	8711500173201	21.2 gr	180	47.5 cm x 25 cm x 18.1 cm	8711500173218	173201 97
Party 15W B22 220-240V P45 WH 1CT	IBP/W-15-220/240-B22d-45	8711500173034	21.2 gr	100	40.3 cm x 24.3 cm x 20.4 cm	8711500173058	173034 50
Party 15W B22 220-240V P45 WH UNP	IBP/W-15-220/240-B22d-45	8711500173188	21.2 gr	180	47.5 cm x 25 cm x 18.1 cm	8711500173195	173188 97
Party 15W B22 220-240V P45 YE 1CT	IBP/Y-15-220/240-B22d-45	8711500173157	21.2 gr	100	40.3 cm x 24.3 cm x 20.4 cm	8711500173171	173157 50
Party 15W B22 220-240V P45 YE UNP	IBP/Y-15-220/240-B22d-45	8711500173263	21.2 gr	180	47.5 cm x 25 cm x 18.1 cm	8711500173270	173263 97
Party 15W E14 220-240V P45 BL 1CT	IBP/B-15-220/240-E14-45	8711500332554	14 gr	100	40.3 cm x 24.3 cm x 20.4 cm	8711500385314	332554 50
Party 15W E14 220-240V P45 BL 1CT	IBP/B-15-220/240-E14-45	8711500332554	14 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500378934	332554 38
Party 15W E14 220-240V P45 GR 1CT	IBP/G-15-220/240-E14-45	8711500332578	14 gr	100	40 cm x 24 cm x 20 cm	8711500385376	332578 50
Party 15W E14 220-240V P45 GR 1CT	IBP/G-15-220/240-E14-45	8711500332578	14 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500378910	332578 38
Party 15W E14 220-240V P45 OR 1CT	IBP/O-15-220/240-E14-45	8711500332653	14 gr	100	40.3 cm x 24.3 cm x 20.4 cm	8711500385390	332653 50
Party 15W E14 220-240V P45 OR 1CT	IBP/O-15-220/240-E14-45	8711500332653	14 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500380319	332653 38
Party 15W E14 220-240V P45 RE 1CT	IBP/R-15-220/240-E14-45	8711500332592	14 gr	100	40 cm x 24 cm x 20 cm	8711500385338	332592 50
Party 15W E14 220-240V P45 RE 1CT	IBP/R-15-220/240-E14-45	8711500332592	14 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500378897	332592 38
Party 15W E14 220-240V P45 YE 1CT	IBP/Y-15-220/240-E14-45	8711500332639	14 gr	100	40.3 cm x 24.3 cm x 20.4 cm	8711500385352	332639 50
Party 15W E14 220-240V P45 YE 1CT	IBP/Y-15-220/240-E14-45	8711500332639	14 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500378958	332639 38
Party 15W E27 220-240V P45 BL 1CT	IBP/B-15-220/240-E27-45	8711500177476	14.55 gr	100	40.3 cm x 24.3 cm x 20.4 cm	8711500332691	177476 50
Party 15W E27 220-240V P45 BL 1CT	IBP/B-15-220/240-E27-45	8711500177476	14.55 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500334077	177476 38
Party 15W E27 220-240V P45 BL UNP	IBP/B-15-220/240-E27-45	8711500332714	14.55 gr	180	47.5 cm x 25 cm x 18.1 cm	8711500332721	332714 97
Party 15W E27 220-240V P45 GR 1CT	IBP/G-15-220/240-E27-45	8711500326904	14.55 gr	100	40.3 cm x 24.3 cm x 20.4 cm	8711500332172	326904 50
Party 15W E27 220-240V P45 GR 1CT	IBP/G-15-220/240-E27-45	8711500326904	14.55 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500334091	326904 38
Party 15W E27 220-240V P45 GR UNP	IBP/G-15-220/240-E27-45	8711500332189	14.55 gr	180	47.5 cm x 25 cm x 18.1 cm	8711500332196	332189 97
Party 15W E27 220-240V P45 OR 1CT	IBP/O-15-220/240-E27-45	8711500326928	14.55 gr	100	47.6 cm x 24.3 cm x 16.7 cm	8711500332486	326928 50
Party 15W E27 220-240V P45 OR 1CT	IBP/O-15-220/240-E27-45	8711500326928	14.55 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500334114	326928 38
Party 15W E27 220-240V P45 RE 1CT	IBP/R-15-220/240-E27-45	8711500177438	14.55 gr	100	40.3 cm x 24.3 cm x 20.4 cm	8711500332240	177438 50
Party 15W E27 220-240V P45 RE 1CT	IBP/R-15-220/240-E27-45	8711500177438	14.55 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500334138	177438 38
Party 15W E27 220-240V P45 RE UNP	IBP/R-15-220/240-E27-45	8711500332257	14.55 gr	180	47.5 cm x 25 cm x 18.1 cm	8711500332264	332257 97
Party 15W E27 220-240V P45 WH UNP	IBP/W-15-220/240-E27-45	8711500332356	14.55 gr	180	47.5 cm x 25 cm x 18.1 cm	8711500332363	332356 97
Party 15W E27 220-240V P45 YE 1CT	IBP/Y-15-220/240-E27-45	8711500177452	14.55 gr	100	40.3 cm x 24.3 cm x 20.4 cm	8711500332417	177452 50
Party 15W E27 220-240V P45 YE 1CT	IBP/Y-15-220/240-E27-45	8711500177452	14.55 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500334152	177452 38
Party 15W E27 220-240V P45 YE UNP	IBP/Y-15-220/240-E27-45	8711500332424	14.55 gr	180	47.5 cm x 25 cm x 18.1 cm	8711500332431	332424 97
Party 40W B22 240V P45 WH 2BL	IBP/W-40-240-B22d-45	8711500157478	21.3 gr	10	25.9 cm x 17.5 cm x 15.3 cm	8711500158307	157478 25
Party 40W B22 240V P45 WH 2CT	IBP/W-40-240-B22d-45	8711500379368	21.2 gr	20	22.8 cm x 12.1 cm x 22.6 cm	8711500376107	379368 35
Party 60W B22 240V P45 WH 2BL	IBP/W-60-240-B22d-45	8711500157522	21.3 gr	10	25.9 cm x 17.5 cm x 15.3 cm	8711500158345	157522 25
Party 60W B22 240V P45 WH 2CT	IBP/W-60-240-B22d-45	8711500379399	21.2 gr	20	22.8 cm x 12.1 cm x 22.6 cm	8711500376114	379399 35
Party 60W B22 240V P45 WH 4FO	IBP/W-60-240-B22d-45	8711500382849	21.3 gr	12	28.1 cm x 23.3 cm x 12 cm	8711500390004	382849 15
Party 60W B22 240V P45 WH 4FO	IBP/W-60-240-B22d-45	8711500379689	0.024 kg	10	18.2 cm x 15.1 cm x 21.4 cm	8711500376343	379689 46

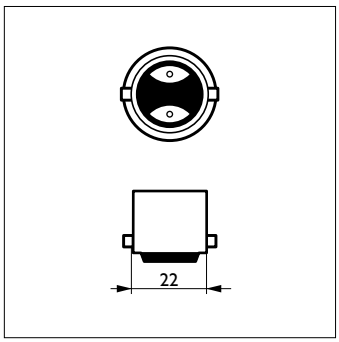
Cap Base



E14

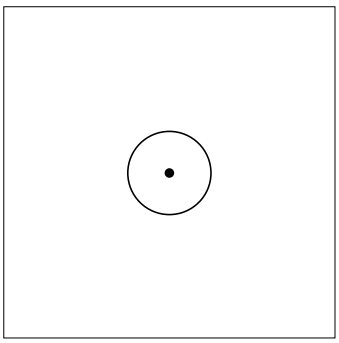


E27

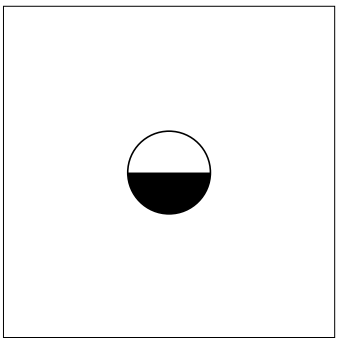


B22

Operating position



any



s90



DAYBLUE E27 A60 D-B

Product Description

- Natural blue-tinted transparent glass bulb to filter out the excess red light characteristic of normal incandescent lamps

Product Features

- Colour rendering close to that of daylight
- Coiled coil filament

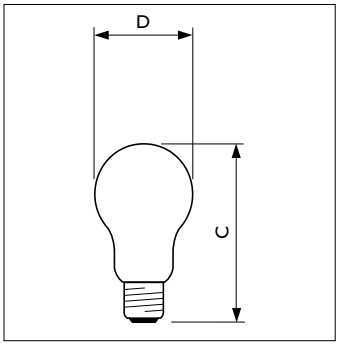
Product Benefits

- Colour rendering closer to daylight than with standard incandescent
- Bright light keeping people alert
- Cool light

Application

- Activities which require good colour rendering:
  - matching yarns and textiles
  - sorting tobaccos or cigars
  - selecting paints
  - colour photography
  - advertising, design and printing companies

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DAYBLUE E26/E27 A60

Type	CMax	DNom
Daylight 40W E27 A60	107.5	60

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Average Life time (hrs)
Daylight 40W E27 230V A60 D-B 1CT	230	40	Yes	1000

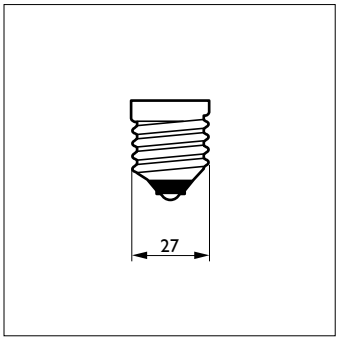
Light data

Type	Luminous flux lamp (lm)	Operating Position
Daylight 40W E27 230V A60 D-B 1CT	200	any

Ordering and packing data

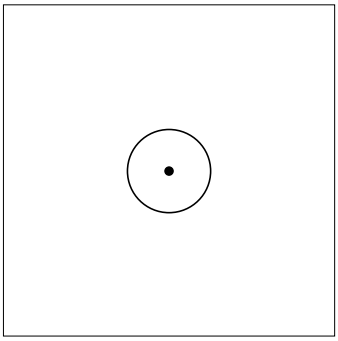
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Daylight 40W E27 230V A60 D-B 1CT	IAA/BT-40-230-E27-60	8711500071811	28 gr	120	44.6 cm x 31.6 cm x 37.3 cm	8711500349132	071811 84

Cap Base



E27

Operating position



any



NIGHTLIG E27 P45 FR

Product Description

- Incandescent lamp applied as nightlight

Product Features

- Extra strong single-coil filament
- In low wattages available
- Suitable for operation between 220 V and 250 V

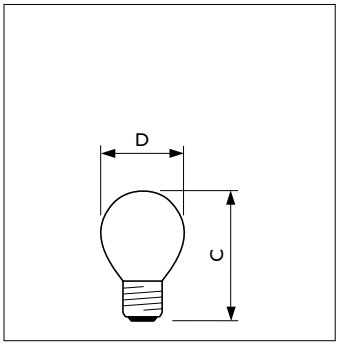
Product Benefits

- Subdued light with low energy consumption

Application

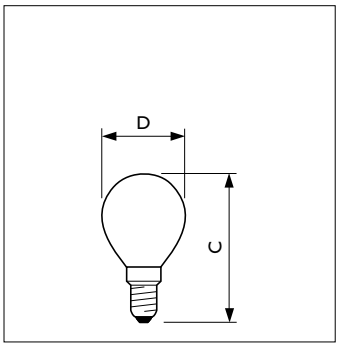
- As orientation lighting in corridors and staircases, service areas in homes, hotels, offices, public buildings, outdoor illumination for Christmas trees

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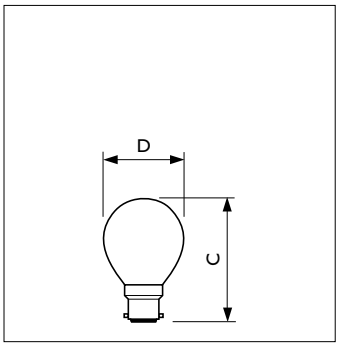
NIGHTLIG E27 P45

Type	CMax	DNom
Nightlight 5/8W E27 P45	73	45



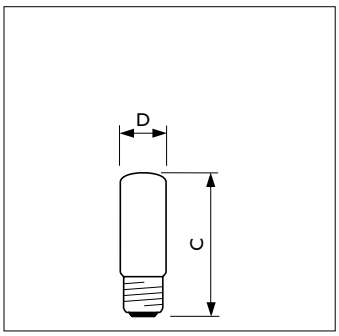
NIGHTLIG E14 P45

Type	CMax	DNom
Nightlight 5/8W E14 P45	78	45



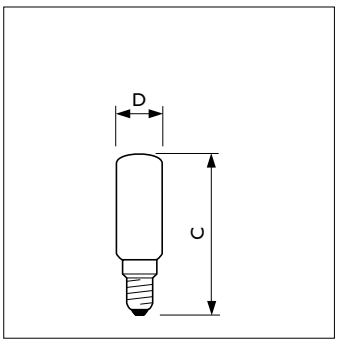
NIGHTLIG B22 P45

Type	CMax	DNom
Nightlight 5/8W B22 P45	71.5	45



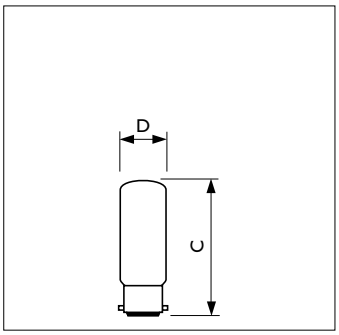
TUB E27 T29

Type	CMax	DNom
Nightlight 7.5W E27 T29	73	29



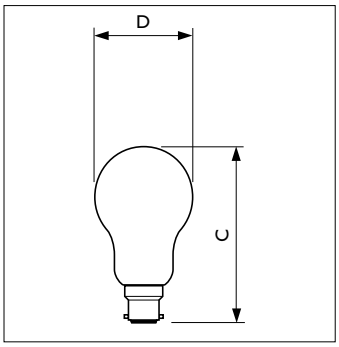
TUB E14 T25L/T29

Type	CMax	DNom
Nightlight 7.5W E14 T29	76	29



TUB B22d T29

Type	CMax	DNom
Nightlight 7.5W B22d T29	71	29



NIGHTLIG B22 A60

Type	CMax	DNom
Nightlight 10W B22 A60	106	60

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable	Average Life time (hrs)
Nightlight 10W B22 240V A60 FR 2BL	240	10	Yes	1000
Nightlight 5/8W E14/E27/B22 220-250V P45 FR 1CT	220-250	5/8	Yes	1000
Nightlight 7.5W E14/E27/B22d 210-240V T29 WH 1BL	210-240	7.5	Yes	1000

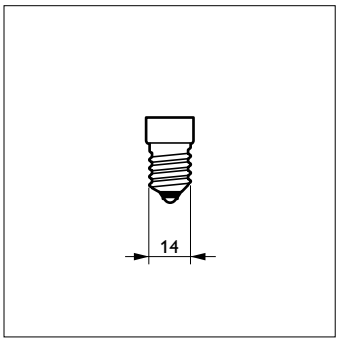
Light data

Type	Luminous flux lamp (lm)	Colour Rendering Index (Ra)	Operating Position
Nightlight 10W B22 240V A60 FR 2BL	75	100	any
Nightlight 5/8W E14/E27/B22 220-250V P45 FR 1CT	70	100	any
Nightlight 7.5W E14/E27/B22d 210-240V T29 WH 1BL	20	100	any

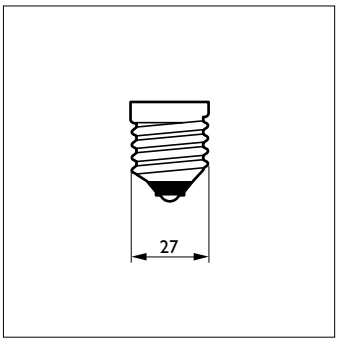
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871150
Nightlight 10W B22 240V A60 FR 2BL	IAA/F-10-240-B22d-60	8711500157171	35.4 gr	10	43.2 cm x 21.9 cm x 13.3 cm	8711500158130	157171 25
Nightlight 5/8W B22 220-250V P45 FR 1CT	IBP/F-5-220/250-B22d-45*	8711500067104	21.3 gr	100	47.6 cm x 24.1 cm x 16.7 cm	8711500158871	067104 50
Nightlight 5/8W E14 220-250V P45 FR 1CT	IBP/F-5-220/250-E14-45*	8711500067111	16 gr	100	40.1 cm x 24.1 cm x 20 cm	8711500150967	067111 50
Nightlight 5/8W E27 220-250V P45 FR 1CT	IBP/F-5-220/250-E27-45*	8711500014122	16 gr	100	40 cm x 24 cm x 19.8 cm	8711500085061	014122 50
Nightlight 7.5W B22d 210-240V T29 WH 1BL	N/A	8711500012692	21 gr	10	31.2 cm x 15 cm x 13.6 cm	8711500323002	012692 25
Nightlight 7.5W B22d 210-240V T29 WH 1CT	N/A	8711500322845	19 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500322999	322845 70
Nightlight 7.5W E14 210-240V T29 WH 1BL	N/A	8711500026200	13.5 gr	10	31.2 cm x 15 cm x 13.6 cm	8711500323019	026200 25
Nightlight 7.5W E27 210-240V T29 WH 1BL	N/A	8711500146908	15.5 gr	10	31.2 cm x 15 cm x 13.6 cm	8711500146922	146908 25

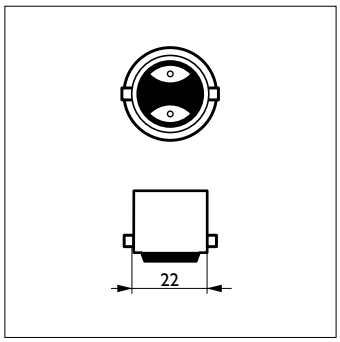
Cap Base



E14

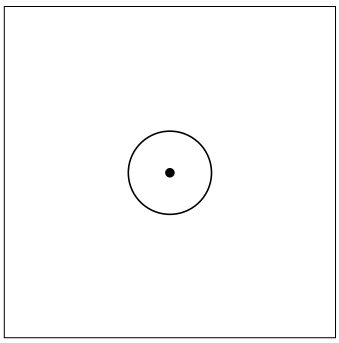


E27



B22

Operating position



any



TUB E14 T25 CL

Product Description

- Tubular lamps with single- and coiled-coil filaments and clear, inside frosted or internally coated white bulbs with B- or E-base

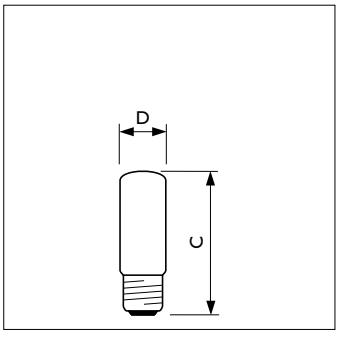
Product Features

- Internal coating cannot chip, fade, become scratched or weathered

Application

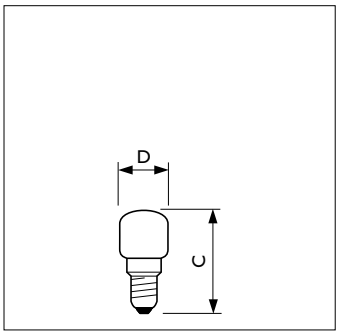
- General lighting: switchboards, cupboards, piano and painting lighting
- Clear lamps:
  - industrial / professional lighting: sign boards, elevator sign systems, fair and festive lighting
- Lamps with inside-frosted bulb:
  - ideal for a wide range of domestic and industrial applications

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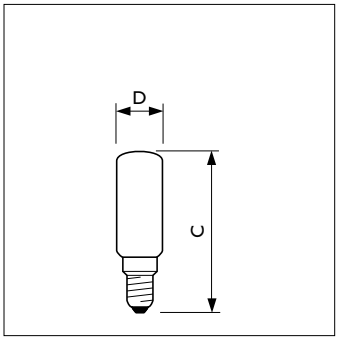
TUB E27 T29

Type	CMax	DNom
Deco 15W E27 240V T29 CL 1CT	61	29
Deco 40W E27 230V T29 CL 1CT	96	29



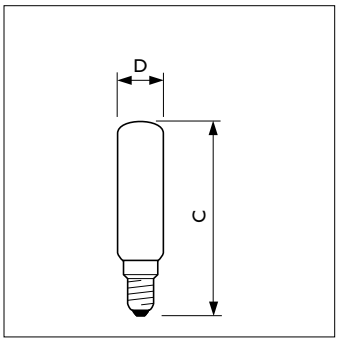
TUB E14 T22/T25/T25X61

Type	CMax	DNom
Deco 10W E14 T22	49	22
Deco 10W E14 T25	57	25



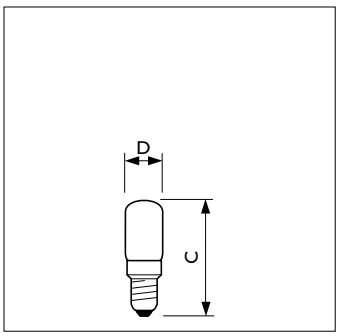
TUB E14 T25L/T29

Type	CMax	DNom
Deco 25W E14 T25L	86	25
Deco 40W E14 T29	96	29



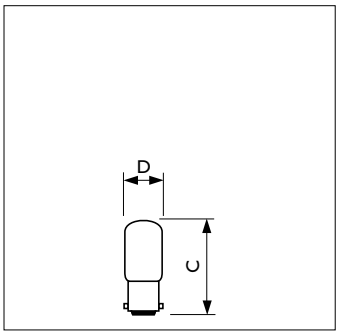
TUB E14 T29L

Type	CMax	DNom
Deco 60W E14 T29L	96	29



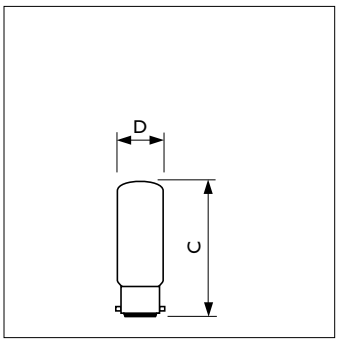
TUB E14 T17

Type	CMax	DNom
Deco 7W/10W/15W E14 T17	54	17



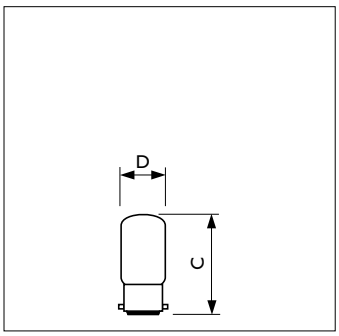
TUB B15d T17

Type	CMax	DNom
Deco 10W/15W B15d T17	53	17



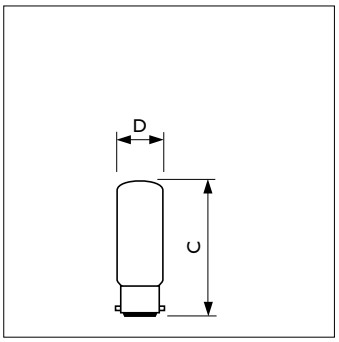
TUB B22d T29L

Type	CMax	DNom
Deco 40W/60W B22d T29L	91	29



TUB B22d T25

Type	CMax	DNom
Deco 15W B22d T25	52	25



TUB B22d T25L

Type	CMax	DNom
Deco 25W/40W B22d T25L	81	25

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Average Life time (hrs)
Deco 7W E14 230-240V T17 CL 1CT	230-240	7	G	Yes	1000
Deco 10W E14 230V T22 CL IP	230	10	G	Yes	1000
Deco 10W E14 230-240V T17/T25 CL IP/ICT	230-240	10	G	Yes	1000
Deco 10W E14 240-250V T17 CL 1CT/IP	240-250	10	G	Yes	1000
Deco 15W B15d 230V T17 CL 1CT	230	15	F	Yes	1000
Deco 15W B22d 110-120V T25 CL UNP	110-120	15	E	Yes	1000
Deco 15W E14/B22d 230-240V T25 CL 1CT/2BL	230-240	15	F	Yes	1000
Deco 15W E14 125-130V T25 CL 1CT	125-130	15	E	Yes	1000
Deco 15W E14 220-230V T25 CL 1CT	220-230	15	E	Yes	1000
Deco 15W E14 230-240V T25 CL 1CT/2BL	230-240	15	E	Yes	1000
Deco 15W E27 240V T29 CL 1CT	240	15	E	Yes	1000
Deco 25W B22d 230-240V T25L CL 1CT/2BL	230-240	25	E	Yes	1000
Deco 25W E14 125-130V T25 CL 1CT	125-130	25	F	Yes	1000
Deco 25W E14 220-230V T25 CL/FR 1CT/2BL	220-230	25	F	Yes	1000
Deco 25W E14 230-240V T25 CL 1CT/2BL	230-240	25	F	Yes	1000
Deco 40W B22d 230-240V T25L CL/WH 1CT/2BL	230-240	40	E	Yes	1000
Deco 40W E14/E27 230V T29 CL 1CT/2BL	230	40	E	Yes	1000
Deco 60W E14/B22d 230-240V T29L CL 2BL	230-240	60	E	Yes	1000

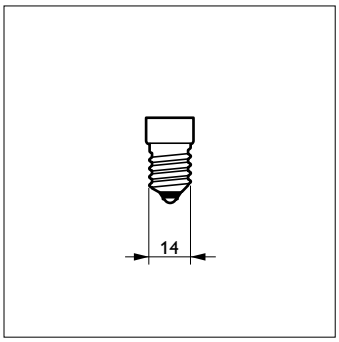
Light data

Type	Luminous flux lamp (lm)	Colour Rendering Index (Ra)	Operating Position
Deco 7W E14 230-240V T17 CL 1CT	21	100	any
Deco 10W E14 230V T22 CL IP	35	100	any
Deco 10W E14 230-240V T17 CL IP	37	100	any
Deco 10W E14 230-240V T25 CL 1CT	34	100	any
Deco 10W E14 240-250V T17 CL 1CT/IP	40	100	any
Deco 15W B15d 230V T17 CL 1CT	97	100	any
Deco 15W B22d 110-120V T25 CL UNP	115	100	any
Deco 15W B22d 230-240V T25 CL 1CT	110	100	any
Deco 15W E14 125-130V T25 CL 1CT	120	100	any
Deco 15W E14 220-230V T25 CL 1CT	110	100	any
Deco 15W E14 230-240V T17 CL 1CT	98	100	any
Deco 25W B22d 230-240V T25L CL 1CT	212	100	any
Deco 25W E14 125-130V T25 CL 1CT	172	100	any
Deco 25W E14 230-240V T25 CL 1CT	172	100	any
Deco 25W E14 230-240V T25L CL 1CT	217	100	any
Deco 40W B22d 230-240V T25L CL 1CT	412	100	any
Deco 40W B22d 230-240V T29L WH 1CT	380	100	any
Deco 40W E14 230V T29 CL 1CT	400	100	any
Deco 40W E14 230-240V T25L CL 1CT	420	100	any
Deco 40W E27 230V T29 CL 1CT	430	100	any
Deco 60W B22d 230-240V T29L CL 2BL	670	100	any
Deco 60W B22d 230-240V T29L WH 2BL	610	100	any
Deco 60W E14 230-240V T29L WH 2BL	620	100	any

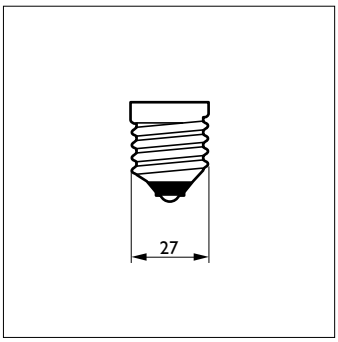
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Deco 7W E14 230-240V T17 CL 1CT	N/A	8711500250087	8 gr	100	47.6 cm x 24.1 cm x 16.7 cm	8711500251619	250087 50
Deco 7W E14 230-240V T17 CL 1CT	N/A	8711500250087	8 gr	20	13 cm x 10.4 cm x 5.8 cm	8711500256898	250087 05
Deco 7W E14 230-240V T17 CL IP	N/A	8711500251510	8 gr	250	40.3 cm x 20.3 cm x 32 cm	8711500251527	251510 28
Deco 10W E14 230V T22 CL IP	N/A	8711500250353	10.5 gr	300	40 cm x 20 cm x 33 cm	8711500258465	250353 34
Deco 10W E14 230-240V T17 CL IP	N/A	8711500254887	8 gr	250	40.3 cm x 20.3 cm x 32 cm	8711500254870	254887 28
Deco 10W E14 230-240V T25 CL 1CT	IBT/C-10-240/250-E14-25	8711500042217	12.5 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500252142	042217 50
Deco 10W E14 240-250V T17 CL 1CT	IBT/C-10-240/250-E14-17	8711500038210	8 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500251657	038210 50
Deco 10W E14 240-250V T17 CL IP	IBT/C-10-240/250-E14-17	8711500252272	8 gr	250	40.3 cm x 20.3 cm x 32 cm	8711500252289	252272 28
Deco 15W B15d 230V T17 CL 1CT	N/A	8711500249906	10.6 gr	100	27.6 cm x 14.1 cm x 15.4 cm	8711500259264	249906 50
Deco 15W B22d 110-120V T25 CL UNP	IBT/C-15-110/120-B22d-25	8711500252210	19 gr	800	39 cm x 32.5 cm x 26.8 cm	8711500252227	252210 97
Deco 15W B22d 230-240V T25 CL 1CT	N/A	8711500249739	19 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500251916	249739 50
Deco 15W B22d 230-240V T25 CL 2BL	N/A	8711500250117	19 gr	10	27 cm x 15 cm x 13.6 cm	8711500259677	250117 25
Deco 15W E14 125-130V T25 CL 1CT	IBT/C-15-125/130-E14-25	8711500249500	13 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500251732	249500 50
Deco 15W E14 125-130V T25 CL 1CT	IBT/C-15-125/130-E14-25	8711500645074	13 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500645098	645074 50
Deco 15W E14 220-230V T25 CL 1CT		8711500645302	13 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500645326	645302 50
Deco 15W E14 230-240V T17 CL 1CT	N/A	8711500038272	8 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500251817	038272 50
Deco 15W E14 230-240V T25 CL 1CT	IBT/C-15-230/240-E14-25	8711500042279	12.5 gr	10	12.5 cm x 5 cm x 6 cm	8711500254894	042279 41
Deco 15W E14 230-240V T25 CL 1CT	IBT/C-15-230/240-E14-25	8711500042279	12.5 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500257727	042279 50
Deco 15W E14 230-240V T25 CL 2BL	IBT/C-15-230/240-E14-25	8711500251084	6.25 gr	10	27 cm x 8.9 cm x 15.6 cm	8711500251121	251084 25
Deco 15W E14 230-240V T25 CL 2BL	IBT/C-15-230/240-E14-25	8711500040510	6.25 gr	10	27 cm x 15 cm x 13.6 cm	8711500257734	040510 25
Deco 15W E14 230-240V T25 FR 1CT	N/A	8711500058393	12.5 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500257772	058393 50
Deco 15W E14 230-240V T25 FR 1CT	N/A	8711500058393	12.5 gr	20	13.2 cm x 10.4 cm x 5.8 cm	8711500255440	058393 05
Deco 15W E27 240V T29 CL 1CT	N/A	8711500324122	16 gr	100	32.6 cm x 16.6 cm x 16.2 cm	8711500324146	324122 50
Deco 25W B22d 230-240V T25L CL 1CT	N/A	8711500041876	17.8 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500257994	041876 70
Deco 25W B22d 230-240V T25L CL 2BL	N/A	8711500040114	8.9 gr	10	27 cm x 15 cm x 13.6 cm	8711500258731	040114 25
Deco 25W E14 125-130V T25 CL 1CT	N/A	8711500645180	13 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500645203	645180 50
Deco 25W E14 220-230V T25 CL 1CT	N/A	8711500645364	13 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500645388	645364 50
Deco 25W E14 220-230V T25 FR 1CT		8711500645395	13 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500645418	645395 50
Deco 25W E14 230-240V T25 CL 1CT	N/A	8711500042439	12.5 gr	10	12.5 cm x 5 cm x 6 cm	8711500254900	042439 41
Deco 25W E14 230-240V T25 CL 1CT	N/A	8711500042439	12.5 gr	100	28.1 cm x 14.4 cm x 13.7 cm	8711500250803	042439 50
Deco 25W E14 230-240V T25 CL 1CT	N/A	8711500042439	12.5 gr	20	13.2 cm x 10.4 cm x 5.8 cm	8711500252609	042439 05
Deco 25W E14 230-240V T25 CL 2BL	N/A	8711500249586	6.25 gr	10	27 cm x 8.9 cm x 15.6 cm	8711500251138	249586 25
Deco 25W E14 230-240V T25 FR 1CT	N/A	8711500042477	8 gr	100	28.1 cm x 14.4 cm x 13.6 cm	8711500257819	042477 50
Deco 25W E14 230-240V T25 FR 1CT	N/A	8711500042477	8 gr	20	13 cm x 10.4 cm x 5.8 cm	8711500255433	042477 05
Deco 25W E14 230-240V T25L CL 1CT	N/A	8711500041715	13.2 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500257970	041715 70
Deco 25W E14 230-240V T25L CL 2BL	N/A	8711500039958	6.6 gr	10	27 cm x 15 cm x 13.6 cm	8711500258724	039958 25
Deco 40W B22d 230-240V T25L CL 1CT	N/A	8711500042118	21 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500258038	042118 70
Deco 40W B22d 230-240V T25L CL 2BL	N/A	8711500040350	8.9 gr	10	27 cm x 15 cm x 13.6 cm	8711500258755	040350 25
Deco 40W B22d 230-240V T29L WH 1CT	N/A	8711500041074	21 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500258076	041074 70
Deco 40W B22d 230-240V T29L WH 2BL	N/A	8711500039316	12.5 gr	10	31.2 cm x 15 cm x 13.6 cm	8711500258069	039316 25
Deco 40W E14 230V T29 CL 1CT	N/A	8711500320193	16 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500322616	320193 70
Deco 40W E14 230-240V T25L CL 1CT	N/A	8711500041951	13.2 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500258014	041951 70
Deco 40W E14 230-240V T25L CL 2BL	N/A	8711500040190	6.6 gr	10	27 cm x 15 cm x 13.6 cm	8711500258748	040190 25
Deco 40W E27 230V T29 CL 1CT	N/A	8711500320179	19.3 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500322579	320179 70
Deco 60W B22d 230-240V T29L CL 2BL	N/A	8711500039873	12.5 gr	10	31.2 cm x 15 cm x 13.6 cm	8711500258762	039873 25
Deco 60W B22d 230-240V T29L WH 2BL	N/A	8711500039439	12.5 gr	10	31.2 cm x 15 cm x 13.6 cm	8711500258120	039439 25
Deco 60W E14 230-240V T29L WH 2BL	N/A	8711500039354	8.25 gr	10	31.2 cm x 15 cm x 13.6 cm	8711500258083	039354 25

Cap Base

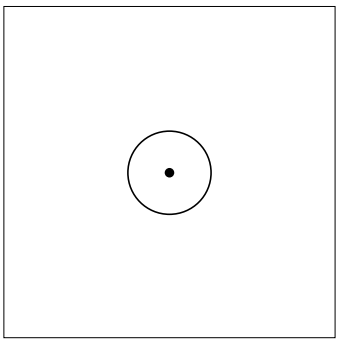


E14



E27

Operating position



any



LINEAR E14 T20 CL

Product Description

- Tubular lamps with clear or bronze glass bulb

Product Features

- Designed for use in functional and / or decorative applications, depending on shape and finish
- 20 or 45 mm diameter bulb
- Slim, clear version with E14 base
- Decorative filament and clear-finish lighting effects

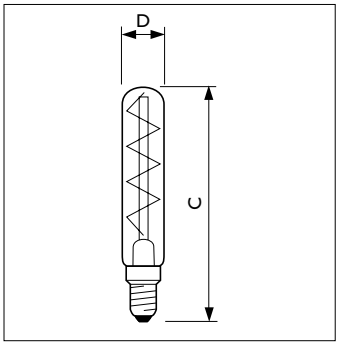
Product Benefits

- Give brilliant and decorative lighting effects
- Ideal for creating a comfortable and relaxing ambience

Application

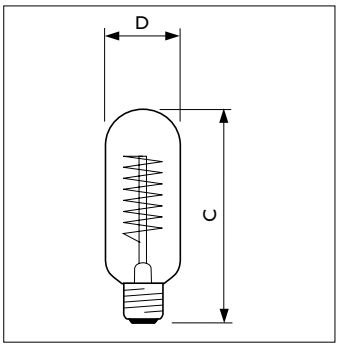
- Homes and hotels
- Clubs, social areas
- Theatres
- Restaurants
- Shops, boutiques
- Other similar areas

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LINEAR

Type	CMax	DNom
Deco 15W/25W E14 T20	115	20



DECO CLAS E27T45

Type	CMax	DNom
Deco 35W E27 230V T45 GO 1CT	130	45

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Average Life time (hrs)
Deco 15W E14 230V T20 CL 1CT	230	15	D	Yes	1000
Deco 25W E14 230V T20 CL 1CT	230	25	E	Yes	1000
Deco 35W E27 230V T45 GO 1CT	230	35	G	Yes	2000

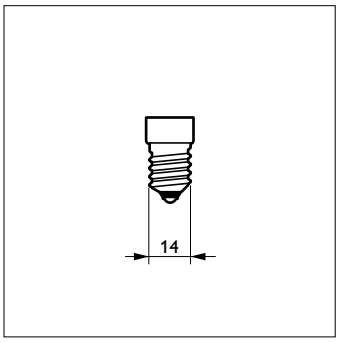
Light data

Type	Luminous flux lamp (lm)	Colour Rendering Index (Ra)	Operating Position
Deco 15W E14 230V T20 CL 1CT	130	100	any
Deco 25W E14 230V T20 CL 1CT	225	100	any
Deco 35W E27 230V T45 GO 1CT	125	100	any

Ordering and packing data

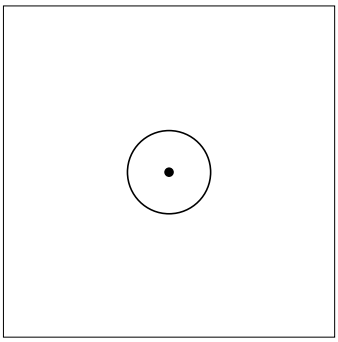
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Deco 15W E14 230V T20 CL 1CT	IBT/C-15-230-E14-20	8711500057150	17 gr	100	23 cm x 23 cm x 13.2 cm	8711500320476	057150 50
Deco 25W E14 230V T20 CL 1CT	IBT/C-25-230-E14-20	8711500019974	17 gr	100	23 cm x 23 cm x 13.5 cm	8711500320513	019974 50
Deco 35W E27 230V T45 GO 1CT	IBT/DX-35-230-E27-45	8711500055279	15.5 gr	10	24.1 cm x 10.2 cm x 14 cm	8711500321046	055279 25

Cap Base



E14

Operating position


any



LINEAR S14s T30 WH

Product Description

- Decorative linear double- or single-ended vacuum-filled incandescent lamps with Softone coating

Product Features

- White-enamelled finish
- Slender shape and high luminous intensity

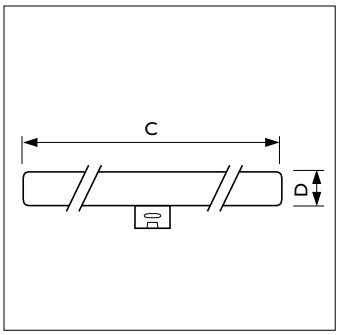
Product Benefits

- White-enamelled versions provide softly diffused lighting
- Specially positioned lamp bases allowing installation in continuous strips of light

Application

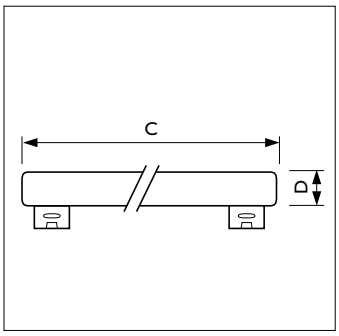
- Aquariums
- Pictures
- Mirrors
- Kitchen cabinets
- Other similar objects

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LINEAR S14d

Type	CMax	DNom
Philinea 35W S14d T30	300	30
Philinea 60W S14d T30	500	30



LINEAR S14s

Type	CMax	DNom
Philinea 35W S14s T30	300	30
Philinea 60W S14s T30	500	30

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Average Life time (hrs)
Philinea 35W S14d 230V T30 WH 1CT	230	35	F	Yes	1000
Philinea 35W S14d 240V T30 WH 1CT	240	35	F	Yes	1000
Philinea 35W S14s 125-130V T30 WH 1CT	125-130	35	F	Yes	1000
Philinea 60W S14d 230V T30 WH 1CT	230	60	G	Yes	1000
Philinea 60W S14s 240V T30 WH 1CT	240	60	G	Yes	1000
Philinea 60W S14s 125-130V T30 WH 1CT	125-130	60	G	Yes	1000

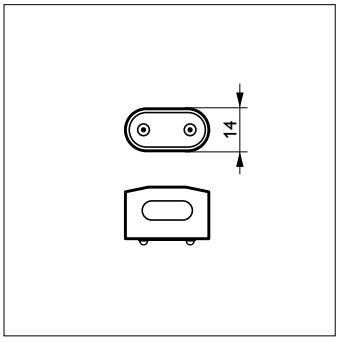
Light data

Type	Luminous flux lamp (lm)	Colour Rendering Index (Ra)	Operating Position
Philinea 35W S14 T30	270	100	any
Philinea 60W S14 T30	420	100	any

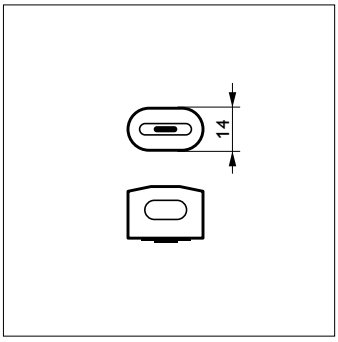
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Philinea 35W S14d 230V T30 WH 1CT	INT/W-35-230-S14d-30	8711500013552	59 gr	10	32 cm x 26.5 cm x 8.2 cm	8711500175298	013552 25
Philinea 35W S14d 230V T30 WH 1CT	INT/W-35-230-S14d-30	8711500013552	59 gr	25	32 cm x 26 cm x 17 cm	8711500320858	013552 40
Philinea 35W S14d 240V T30 WH 1CT	INT/W-35-240-S14d-30	8711500056894	59 gr	25	32 cm x 26.5 cm x 18.5 cm	8711500320865	056894 40
Philinea 35W S14s 230V T30 WH 1CH	INT/W-35-230-S14s-30	8711500331588	48.8 gr	10	32 cm x 26.5 cm x 8.2 cm	8711500331595	331588 25
Philinea 35W S14s 230V T30 WH 1CT	INT/W-35-230-S14s-30	8711500013606	66 gr	10	32 cm x 26.5 cm x 7.5 cm	8711500175304	013606 25
Philinea 35W S14s 230V T30 WH 1CT	INT/W-35-230-S14s-30	8711500013606	66 gr	25	32 cm x 26.5 cm x 18 cm	8711500320872	013606 40
Philinea 35W S14s 240V T30 WH 1CT	INT/W-35-240-S14s-30	8711500056900	74 gr	25	32 cm x 26.5 cm x 18.5 cm	8711500320889	056900 40
Philinea 35W S14s 125-130V T30 WH 1CT	INT/W-35-125/130-S14s-30	8711500137869	74 gr	25	32 cm x 26.5 cm x 18.5 cm	8711500137876	137869 40
Philinea 60W S14d 230V T30 WH 1CT	INT/W-60-230-S14d-30	8711500013576	100 gr	10	52 cm x 26 cm x 7.4 cm	8711500175311	013576 25
Philinea 60W S14d 230V T30 WH 1CT	INT/W-60-230-S14d-30	8711500013576	100 gr	25	52 cm x 26.5 cm x 18 cm	8711500320902	013576 40
Philinea 60W S14s 230V T30 WH 1CH	INT/W-60-230-S14s-30	8711500331601	108 gr	10	52 cm x 26.5 cm x 8 cm	8711500331618	331601 25
Philinea 60W S14s 230V T30 WH 1CT	INT/W-60-230-S14s-30	8711500013569	108 gr	10	52 cm x 26.5 cm x 7 cm	8711500175328	013569 25
Philinea 60W S14s 230V T30 WH 1CT	INT/W-60-230-S14s-30	8711500013569	108 gr	25	52 cm x 26.5 cm x 17 cm	8711500320926	013569 40
Philinea 60W S14s 240V T30 WH 1CT	INT/W-60-240-S14s-30	8711500056931	108 gr	25	52 cm x 26.5 cm x 18.5 cm	8711500320933	056931 40
Philinea 60W S14s 125-130V T30 WH 1CT	INT/W-60-125/130-S14s-30	8711500137883	108 gr	25	52 cm x 26.5 cm x 18.5 cm	8711500137890	137883 40

Cap Base

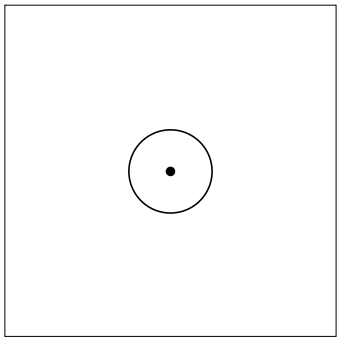


S14d



S14s

Operating position



any



TUB E14 T29L WH

Product Description

- Incandescent T29 tubular lamps with a Krypton gas-filled bulb for a whiter light output

Product Features

- Internally coated with an opal layer giving an attractive, soft diffused light

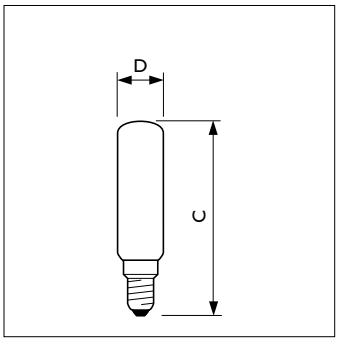
Product Benefits

- Krypton gas filling allows a higher filament temperature giving a whiter light and a higher light output than standard incandescent lamps

Application

- Recommended for use in compact luminaires with translucent or opalised diffusors

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TUB E14 T29L

Type	CMax	DNom
Krypton 40W/60W E14 230-240V T29L WH 1CT/2BL	96	29

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Energy Efficiency Label	Dimmable	Average Life time (hrs)
Krypton 40W E14 230-240V T29L WH 1CT/2BL	230-240	40	E	Yes	1000
Krypton 60W E14 230-240V T29L WH 1CT	230-240	60	E	Yes	1000

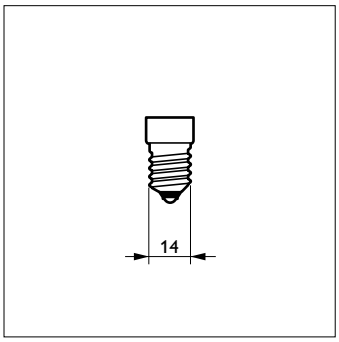
Light data

Type	Luminous flux lamp (lm)	Colour Rendering Index (Ra)	Operating Position
Krypton 40W E14 230-240V T29L WH 1CT/2BL	385	100	any
Krypton 60W E14 230-240V T29L WH 1CT	620	100	any

Ordering and packing data

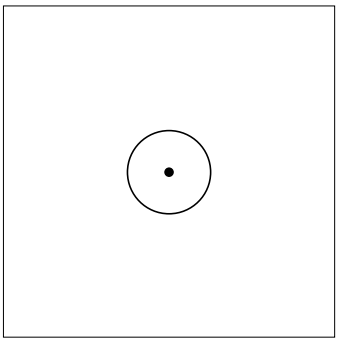
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Krypton 40W E14 230-240V T29L WH 1CT	N/A	8711500040992	16 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500258052	040992 70
Krypton 40W E14 230-240V T29L WH 2BL	N/A	8711500039231	8.25 gr	10	31.2 cm x 15 cm x 13.6 cm	8711500258045	039231 25
Krypton 60W E14 230-240V T29L WH 1CT	N/A	8711500041111	16 gr	50	32.6 cm x 16.6 cm x 11.5 cm	8711500258090	041111 70

Cap Base



E14

Operating position



any



TRAF E27 A60 CL

Product Description

- Traffic Signalling incandescent lamp with Low Voltage (LV)

Product Features

- Reinforced single-coil filament construction for high resistance to vibration and shocks
- Restricted burning position
- Replacement cycle of maximally four months (for 25 W - three months)

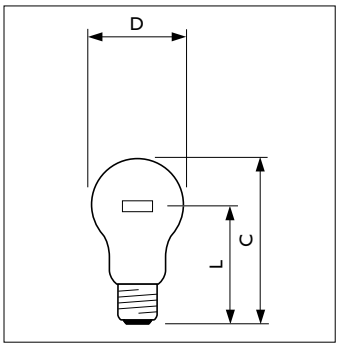
Product Benefits

- Low maintenance costs due to low early failure rate
- Specially treated filament assures high luminous efficacy and light intensity

Application

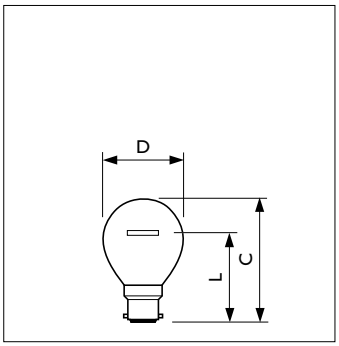
- Traffic Signalling on road intersections, bridges etc.
- Harbour and airport approach roads
- Industrial estates
- Parking areas of shopping or exhibition centres

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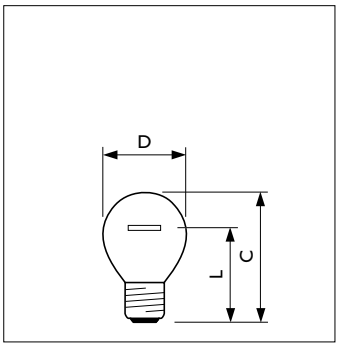
TRAF E26/E27 A60/A60R/A65/A65R

Type	CMax	DNom	DMax
Traffic 6943E/6944E/6937E	107	60	61
Traffic 27179	95	60	61



TRAF B22 P45

Type	CMax	DNom	DMax
Traffic 25W B22	69.5	45	46
Traffic 40W B22	72.5	45	46



TRAF E27 P45

Type	CMax	DNom	DMax
Traffic 25W E27	74	45	46

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable
Traffic 25W E27/B22 125-135V P45 CL 1CT	125-135	25	Yes
Traffic 6944E 40W E27/B22 125-135V P45 CL 1CT	125-135	40	Yes
Traffic 6937E 60W E27 125-135V A60 CL 1CT	125-135	60	Yes
Traffic 27179/6943E 75W E27 125-135V A60 CL 1CT	125-135	75	Yes

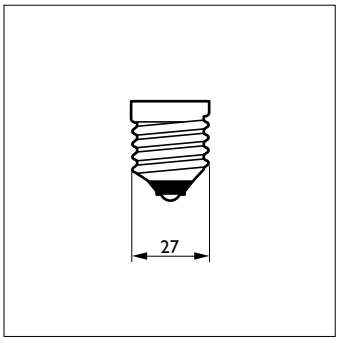
Light data

Type	Luminous flux lamp (lm)	Operating Position
Traffic 25W E27/B22 125-135V P45 CL 1CT	150	s112
Traffic 40W E27/B22 125-135V P45 CL 1CT	295	s112
Traffic 6944E 40W E27 125-135V A60 CL 1CT	290	s112
Traffic 6937E 60W E27 125-135V A60 CL 1CT	400	s112
Traffic 27179 75W E27 125-135V A60 CL 1CT	600	s112
Traffic 6943E 75W E27 125-135V A60 CL 1CT	620	s112

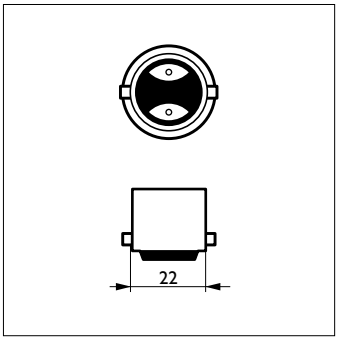
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Traffic 25W B22 125-135V P45 CL 1CT	IBP/C/RS-25-125/135-B22d-45	8711500492708	20.5 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500064134	492708 65
Traffic 25W E27 125-135V P45 CL 1CT	IBP/C/RS-25-125/135-E27-45	8711500492722	16 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500064158	492722 65
Traffic 40W B22 125-135V P45 CL 1CT	IBP/C/RS-40-125/135-B22d-45	8711500492579	20.5 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500064103	492579 65
Traffic 40W E27 125-135V P45 CL 1CT	IBP/C/RS-40-125/135-E27-45	8711500145758	16 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500145734	145758 65
Traffic 6944E 40W E27 125-135V A60 CL 1CT	IAA/C/RS-40-125/135-E27-60	8711500125859	30.8 gr	50	30.9 cm x 30.9 cm x 22.2 cm	8711500123411	125859 65
Traffic 6937E 60W E27 125-135V A60 CL 1CT	IAA/C/RS-60-125/135-E27-60	8711500125903	30.8 gr	50	30.9 cm x 30.9 cm x 22.2 cm	8711500123466	125903 65
Traffic 27179 75W E27 125-135V A60 CL 1CT	IAA/C/RS-75-125/135-E27-60	8711500492616	30.8 gr	50	30.9 cm x 30.9 cm x 22.2 cm	8711500139481	492616 65
Traffic 6943E 75W E27 125-135V A60 CL 1CT	IAA/C/RS-75-125/135-E27-60	8711500125934	30.8 kg	50	30.9 cm x 30.9 cm x 22.2 cm	8711500123497	125934 65

Cap Base

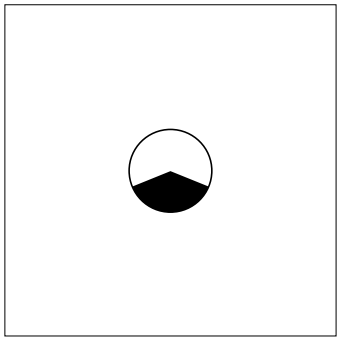


E27



B22

Operating position



s112



TRAF BA20d P36

Product Description

- Traffic Signalling incandescent lamp with Extra Low Voltage (ELV)

Product Features

- For use in 200 and 300 mm traffic signals
- Reinforced transversal single-coil filament for high resistance to vibration and shocks
- Construction enables accurate positioning in the optical system of the signal
- Restricted burning position
- Recommended group replacement cycles 6 months or 8 months, or in accordance with operating conditions
- Failure rate of 2% max. after 4400 and 6000 operating hours, respectively (max. 6-8 months)

Product Benefits

- Low energy consumption and longer lifetime give significant savings in operating costs compared with standard 230-240 V lamps

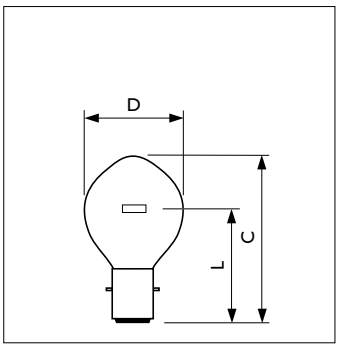
Application

- Traffic signalling on road intersections, bridges etc.
- Harbour and airport approach roads
- Industrial estates
- Parking areas of shopping or exhibition centres

System

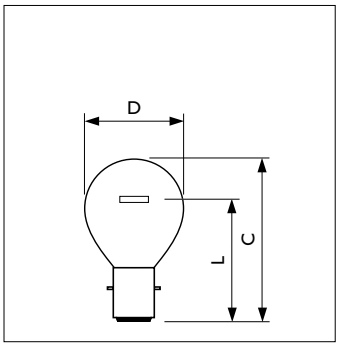
- Can be used on existing 230-240V circuits if a tranformer is built in to step down the voltage signal to either 10 or 40V

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TRAF BA20s PC35

Type	CMax	DNom	DMax
Traffic 13580/13581/13585/13586	67	36	36



TRAF BA20d P36

Type	CMax	DNom	DMax
Traffic 13575/13575-LL/13576/13576-LL/13577	67	36	37
Traffic 13590	67	36	36

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable
Traffic 13580/13585 20W BA20s 10V PC35 CL UNP/ICT	10	20	Yes
Traffic 13575/13575-LL 25W BA20d 40V P36 CL 1CT	40	25	Yes
Traffic 13581/13586 30W BA20s 10V PC35 CL UNP/ICT	10	30	Yes
Traffic 13576/13576-LL 40W BA20d 40V P36 CL 1CT	40	40	Yes
Traffic 13577 60W BA20d 40V P36 CL 1CT	40	60	Yes
Traffic 13590 20/20W BA20d 10V P36 CL UNP	10	20/20	Yes

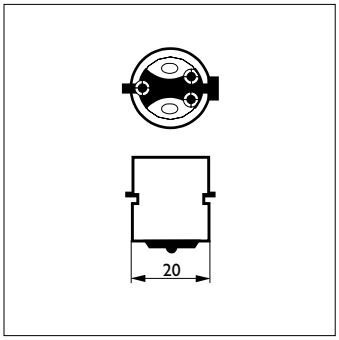
Light data

Type	Luminous flux lamp (lm)	Operating Position
Traffic 13580/13585/13590 20W BA20s 10V PC35 CL UNP/ICT	270	s135
Traffic 13575 25W BA20d 40V P36 CL 1CT	250	s112
Traffic 13575-LL 25W BA20d 40V P36 CL 1CT	250	s135
Traffic 13581/13586 30W BA20s 10V PC35 CL UNP/ICT	400	s135
Traffic 13576 40W BA20d 40V P36 CL 1CT	500	s112
Traffic 13576-LL 40W BA20d 40V P36 CL 1CT	450	s135
Traffic 13577 60W BA20d 40V P36 CL 1CT	800	s112

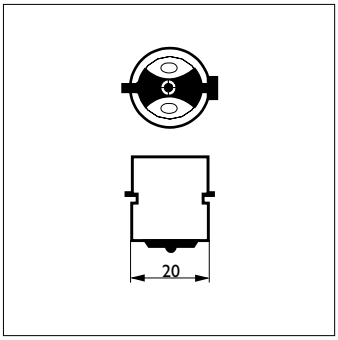
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Traffic 13580 20W BA20s 10V PC35 CL UNP	IBP/C/RS-20-10-BA20s-35	8711500400192	18 gr	200	47.1 cm x 28.5 cm x 33 cm	8711559515175	400192 69
Traffic 13585 20W BA20s 10V PC35 CL 1CT	IBP/C/RS-20-10-BA20s-35	8711500346926	13 gr	200	38.8 cm x 38.8 cm x 16.1 cm	8711500346940	346926 73
Traffic 13585 20W BA20s 10V PC35 CL UNP	IBP/C/RS-20-10-BA20s-35	8711559513577	18 gr	200	47.1 cm x 28.5 cm x 25 cm	8711559515366	513577 69
Traffic 13575 25W BA20d 40V P36 CL 1CT	IBP/C/RS-25-40-BA20d-36	8711500164469	16 gr	200	38.5 cm x 20 cm x 16.2 cm	8711500164476	164469 69
Traffic 13575-LL 25W BA20d 40V P36 CL 1CT	IBP/C/RS-25-40-BA20d-36	8711500383037	16 gr	200	37 cm x 30.5 cm x 20 cm	8711500389671	383037 69
Traffic 13581 30W BA20s 10V PC35 CL UNP	IBP/C/RS-30-10-BA20s-35	8711500400208	18 gr	200	47.1 cm x 28.5 cm x 33 cm	8711559515267	400208 69
Traffic 13586 30W BA20s 10V PC35 CL 1CT	IBP/C/RS-30-10-BA20s-35	8711500346957	13 gr	200	38.8 cm x 38.8 cm x 16.1 cm	8711500346971	346957 73
Traffic 13586 30W BA20s 10V PC35 CL UNP	IBP/C/RS-30-10-BA20s-35	8711559513584	34 gr	200	47.1 cm x 28.5 cm x 33 cm	8711559515373	513584 69
Traffic 13576 40W BA20d 40V P36 CL 1CT	IBP/C/RS-40-40-BA20d-36	8711500164483	16 gr	200	37 cm x 31 cm x 20 cm	8711500164490	164483 69
Traffic 13576-LL 40W BA20d 40V P36 CL 1CT	IBP/C/RS-40-40-BA20d-36	8711500383044	16 gr	200	37 cm x 30.5 cm x 19.5 cm	8711500389657	383044 69
Traffic 13577 60W BA20d 40V P36 CL 1CT	IBP/C/RS-60-40-BA20d-36	8711500164506	16 gr	200	37.5 cm x 31 cm x 19.5 cm	8711500164513	164506 69
Traffic 13590 20/20W BA20d 10V P36 CL UNP	IBP/C/RS-20(2x)-10-BA20d-36	8711559513645	20 gr	200	47 cm x 28 cm x 33 cm	8711559514383	513645 69

Cap Base

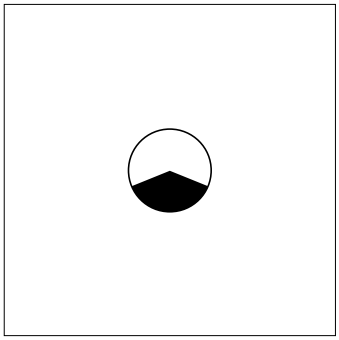


BA20d

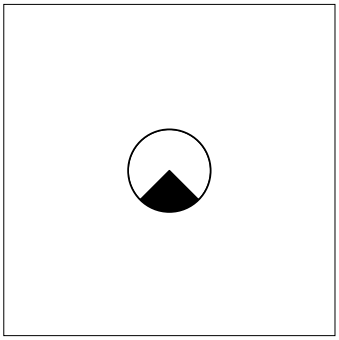


BA20s

Operating position



s112



s135



TRAF E27 A65

Product Description

- Traffic Signalling incandescent lamp for Mains Voltage (MV)

Product Features

- Reinforced single-coil filament construction for high resistance to vibration and shocks
- Restricted burning position
- Recommended group replacement cycle of maximally four months with a failure rate of 2%
- 25 W high-voltage type available for eye-level repeater lights, with maximally three months group replacement cycle

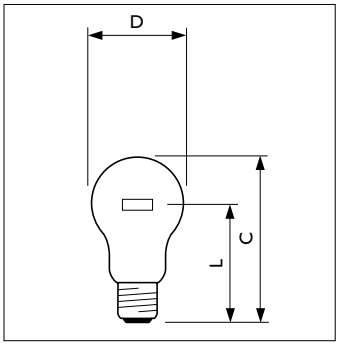
Product Benefits

- Low maintenance costs due to low early failure rate
- Specially treated filament assures high luminous efficacy and light intensity
- Standardized bulb dimensions and low power consumption reduces heat development and increases lamp life

Application

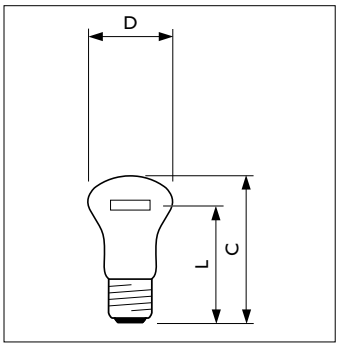
- Traffic Signalling on road intersections, bridges etc.
- Harbour and airport approach roads
- Industrial estates
- Parking areas of shopping or exhibition centres

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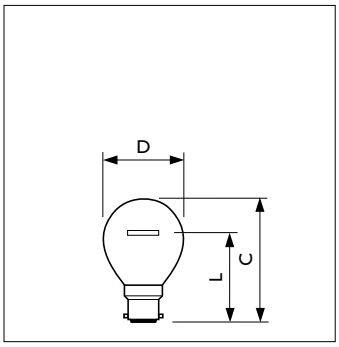
TRAF E26/E27 A60/A60R/A65/A65R

Type	CMax	DNom	DMax
Traffic 35W/6937E/6943E/6944E/6945E	107	60	61
Traffic 6796E	105.5	60	61
Traffic 27180	95	60	61
Traffic 6938E/6939E/7530E	118	65	66



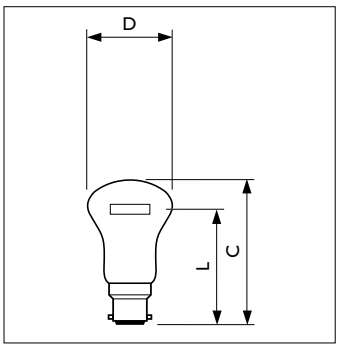
TRAF E27 E50

Type	CMax	DNom	DMax
Traffic 60W E27	91	50	51
Traffic 70W E27	85	50	51



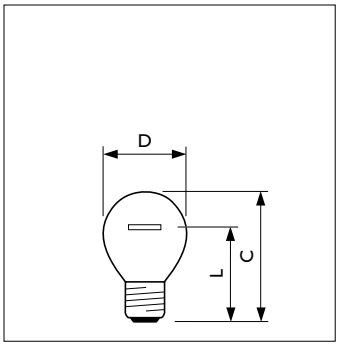
TRAF B22 P45

Type	CMax	DNom	DMax
Traffic 25W/40W B22	72.5	45	46



TRAF B22 E50

Type	CMax	DNom	DMax
Traffic 60W B22	89.5	50	51



TRAF E27 P45

Type	CMax	DNom	DMax
Traffic 6998E/Traffic 25W/40W	74	45	46

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable
Traffic 6998E 25W E27/B22 230-240V P45 CL 1CT	230-240	25	Yes
Traffic 35W E27 230-240V A60 CL 1CT	230-240	35	Yes
Traffic 6944E 40W E27/B22 230-240V P45 CL 1CT	230-240	40	Yes
Traffic 40W E27 125-130V P45 CL 1CT	125-130	40	Yes
Traffic 6937E/6945E 60W E27/B22 230-240V E50/A60 CL 1CT/UNP	230-240	60	Yes
Traffic 6796E 65W E27 240V A60 CL 1CT	240	65	Yes
Traffic 70W E27 235V E50 CL 1CT	235	70	Yes
Traffic 27180/6943E 75W E27 230-240V A60 CL 1CT	230-240	75	Yes
Traffic 6938E/6939E 100W E27 230-240V A65 CL 1CT	230-240	100	Yes
Traffic 7530E 150W E27 230-240V A65 CL 1CT	230-240	150	Yes

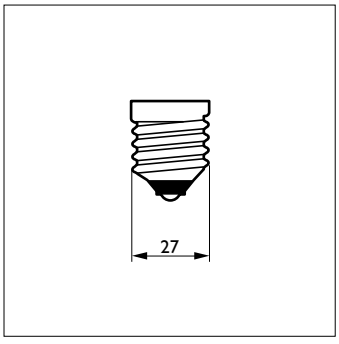
Light data

Type	Luminous flux lamp (lm)	Operating Position
Traffic 25W E27/B22 230-240V P45 CL 1CT	140	s12
Traffic 6998E 25W E27 230-240V P45 CL 1CT	135	s12
Traffic 35W E27 230-240V A60 CL 1CT	135	s12
Traffic 40W E27/B22 230-240V P45 CL 1CT	270	s12
Traffic 40W E27 125-130V P45 CL 1CT	295	s12
Traffic 6944E 40W E27 230-240V A60 CL 1CT/UNP	230	s12
Traffic 60W E27/B22 230-240V E50 CL 1CT	520	s12
Traffic 6937E 60W E27 230-240V A60 CL 1CT/UNP	380	s12
Traffic 6945E 60W E27 230-240V A60 CL 1CT/UNP	405	s12
Traffic 6796E 65W E27 240V A60 CL 1CT	455	s12
Traffic 70W E27 235V E50 CL 1CT	610	s12
Traffic 70W E27 235V E50 CL 1CT	530	s12
Traffic 6943E/27180 75W E27 230-240V A60 CL 1CT	520	s12
Traffic 6938E 100W E27 230-240V A65 CL 1CT/UNP	710	s12
Traffic 6939E 100W E27 230-240V A65 CL 1CT/UNP	790	s12
Traffic 7530E 150W E27 230-240V A65 CL 1CT	1275	s12

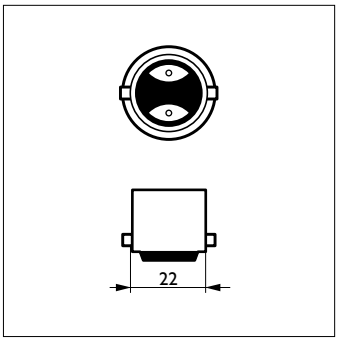
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Traffic 25W B22 230-240V P45 CL 1CT	IBP/C/RS-25-230/240-B22d-45	8711500492715	20.5 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500064141	492715 65
Traffic 25W E27 230-240V P45 CL 1CT	IBP/C/RS-25-230/240-E27-45	8711500492739	16 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500064165	492739 65
Traffic 6998E 25W E27 230-240V P45 CL 1CT	IBP/C/RS-25-230/240-E27-45	8711500121448	20 gr	100	47.6 cm x 24.1 cm x 16.7 cm	8711500122193	121448 50
Traffic 6998E 25W E27 230-240V P45 CL 1CT	IBP/C/RS-25-230/240-E27-45	8711500121448	20 gr	20	24.1 cm x 19.4 cm x 9.2 cm	8711500332837	121448 05
Traffic 35W E27 230-240V A60 CL 1CT	IAA/C/RS-35-230/240-E27-60	8711500175403	30.8 kg	20	30.9 cm x 24.4 cm x 11.6 cm	8711500175410	175403 05
Traffic 40W B22 230-240V P45 CL 1CT	IBP/C/RS-40-230/240-B22d-45	8711500492586	20.5 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500064110	492586 65
Traffic 40W E27 230-240V P45 CL 1CT	IBP/C/RS-40-230/240-E27-45	8711500492593	16 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500064127	492593 65
Traffic 40W E27 125-130V P45 CL ICT	IBP/C/RS-40-125-130V-E27-45	8711500145758	16 gr	50	46.5 cm x 23.5 cm x 9.2 cm	8711500333285	145758 65
Traffic 6944E 40W E27 230-240V A60 CL 1CT	IAA/C/RS-40-230/240-E27-60	8711500125866	30.8 kg	20	30.9 cm x 24.4 cm x 11.6 cm	8711500123435	125866 05
Traffic 6944E 40W E27 230-240V A60 CL 1CT	IAA/C/RS-40-230/240-E27-60	8711500125866	30.8 gr	50	30.9 cm x 30.9 cm x 22.2 cm	8711500123428	125866 65
Traffic 6944E 40W E27 230-240V A60 CL UNP	IAA/C/RS-40-230/240-E27-60	8711500166074	30.8 kg	60	48.4 cm x 40.8 cm x 18 cm	8711500146281	166074 75
Traffic 60W B22 230-240V E50 CL 1CT	IAM/C/RS-60-230/240-B22d-50	8711500133915	0.03 kg	50	51.1 cm x 25.8 cm x 10.4 cm	8711500134042	133915 65
Traffic 60W E27 230-240V E50 CL 1CT	IAM/C/RS-60-230/240-E27-50	8711500133922	0.026 kg	50	51.1 cm x 25.8 cm x 10.4 cm	8711500133939	133922 65
Traffic 6937E 60W E27 230-240V A60 CL 1CT	IAA/C/RS-60-230/240-E27-60	8711500125910	30.8 gr	20	30.9 cm x 24.4 cm x 11.6 cm	8711500123480	125910 05
Traffic 6937E 60W E27 230-240V A60 CL 1CT	IAA/C/RS-60-230/240-E27-60	8711500125910	30.8 gr	50	30.9 cm x 30.9 cm x 22.2 cm	8711500123473	125910 65
Traffic 6937E 60W E27 230-240V A60 CL UNP	IAA/C/RS-60-230/240-E27-60	8711500166098	30.8 gr	60	48.4 cm x 40.8 cm x 18 cm	8711500146298	166098 75
Traffic 6945E 60W E27 230-240V A60 CL 1CT	IAA/C/RS-60-230/240-E27-60	8711500125897	30.8 gr	20	30.9 cm x 24.4 cm x 11.6 cm	8711500123459	125897 05
Traffic 6945E 60W E27 230-240V A60 CL UNP	IAA/C/RS-60-230/240-E27-60	8711500166081	30 gr	150	48.4 cm x 40.8 cm x 34.8 cm	8711500123213	166081 97
Traffic 6796E 65W E27 240V A60 CL 1CT	IAA/C/RS-65-240-E27-60	8711500125750	30.8 gr	20	30.9 cm x 24.4 cm x 11.6 cm	8711500123251	125750 05
Traffic 70W E27 235V E50 CL 1CT	IAM/C-70-235-E27-50	8711500162878	0.026 kg	50	51.1 cm x 25.8 cm x 10.4 cm	8711500162885	162878 65
Traffic 70W E27 235V E50 CL 1CT	IAM/C/RS-70-235-E27-50	8711500170859	0.026 kg	50	51.1 cm x 25.8 cm x 10.4 cm	8711500170866	170859 65
Traffic 27180 75W E27 230-240V A60 CL 1CT	IAA/C/RS-75-230/240-E27-60	8711500492623	0.03 kg	50	31.1 cm x 31.1 cm x 22.6 cm	8711500139498	492623 65
Traffic 6943E 75W E27 230-240V A60 CL 1CT	IAA/C/RS-75-230/240-E27-60	8711500125736	30.8 gr	20	30.9 cm x 24.4 cm x 11.6 cm	8711500123237	125736 05
Traffic 6943E 75W E27 230-240V A60 CL 1CT	IAA/C/RS-75-230/240-E27-60	8711500125736	30 gr	50	30.9 cm x 30.9 cm x 22.2 cm	8711500173690	125736 65
Traffic 6943E 75W E27 230-240V A60 CL UNP	IAA/C/RS-75-230/240-E27-60	8711500166104	30.8 gr	60	48.4 cm x 40.8 cm x 18 cm	8711500146304	166104 75
Traffic 6938E 100W E27 230-240V A65 CL 1CT	IAA/C/RS-100-230/240-E27-65	8711500126207	35 gr	20	33.4 cm x 27.1 cm x 13.6 cm	8711500123978	126207 05
Traffic 6938E 100W E27 230-240V A65 CL 1CT	IAA/C/RS-100-230/240-E27-65	8711500126207	35 gr	50	39 cm x 39 cm x 25.6 cm	8711500123961	126207 65
Traffic 6938E 100W E27 230-240V A65 CL UNP	IAA/C/RS-100-230/240-E27-65	8711500166111	35 gr	40	48.6 cm x 41 cm x 19.9 cm	8711500146311	166111 55
Traffic 6939E 100W E27 230-240V A65 CL 1CT	IAA/C/RS-100-230/240-E27-65	8711500126191	34 gr	20	33.4 cm x 26.9 cm x 13 cm	8711500123954	126191 05
Traffic 7530E 150W E27 230-240V A65 CL 1CT	IAA//RS-150-230/240-E27-65	8711500126221	35 gr	20	33.4 cm x 26.9 cm x 13 cm	8711500123992	126221 05

Cap Base

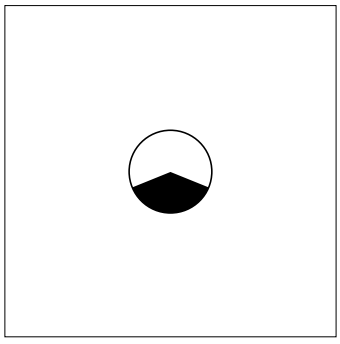


E27



B22

Operating position



s112



TRAF E27 A60 CL

Product Description

- Traffic Signalling krypton gas-filled incandescent lamp for Mains Voltage (MV)

Product Features

- Reinforced single-coil filament construction for high resistance to vibration and shocks
- Restricted burning position
- Extended average lifetime
- Recommended group replacement cycle of eight months reduces early failures to a minimum

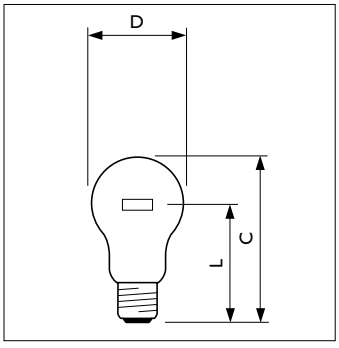
Product Benefits

- Low maintenance costs due to low early failure rate

Application

- Traffic Signalling on road intersections, bridges etc.
- Harbour and airport approach roads
- Industrial estates
- Parking areas of shopping or exhibition centres

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TRAF E26/E27 A60/A60R/A65/A65R

Type	CMax	DNom	DMax
Traffic 9129E/9138E	107	60	61
Traffic 9136E	118	60	61

Technical data

Type	Voltage (V)	Rated Lamp Wattage	Dimmable
Traffic 9129E 60W E27 230-240V A60 CL UNP	230-240	60	Yes
Traffic 9138E/9141E 75W E27 230-240V A60 CL UNP	230-240	75	Yes
Traffic 9136E 100W E27 230-240V A65 CL UNP	230-240	100	Yes

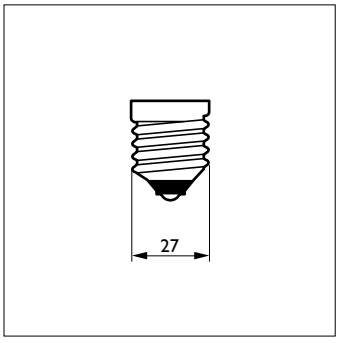
Light data

Type	Luminous flux lamp (lm)	Operating Position
Traffic 9129E 60W E27 230-240V A60 CL UNP	405	s12
Traffic 9138E/9141E 75W E27 230-240V A60 CL UNP	520	s12
Traffic 9136E 100W E27 230-240V A65 CL UNP	830	s12

Ordering and packing data

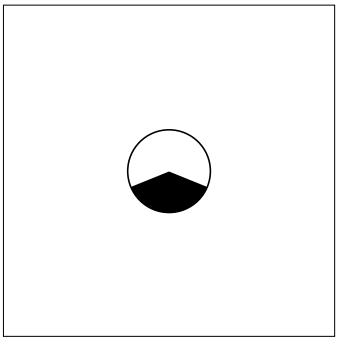
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Traffic 9129E 60W E27 230-240V A60 CL UNP	IAA/C/RS-60-230/240-E27-60	8711500344281	30 gr	150	48.4 cm x 40.8 cm x 34.8 cm	8711500344298	344281 97
Traffic 9129E 60W E27 230-240V A60 CL UNP	IAA/C/RS-60-230/240-E27-60	8711500363176	30.8 gr	150	48.4 cm x 40.8 cm x 34.8 cm	8711500363213	363176 97
Traffic 9129E 60W E27 230-240V A60 CL UNP	IAA/C/RS-60-230/240-E27-60	8711500344281	30.8 gr	60	48.4 cm x 40.8 cm x 18 cm	8711500346797	344281 75
Traffic 9138E 75W E27 230-240V A60 CL UNP	IAA//RS-75-230/240-E27-60	8711500347367	30.8 gr	60	48.4 cm x 40.8 cm x 18 cm	8711500347374	347367 75
Traffic 9138E 75W E27 230-240V A60 CL UNP	IAA//RS-75-230/240-E27-60	8711500345691	30.8 gr	60	48.4 cm x 40.8 cm x 18 cm	8711500345707	345691 75
Traffic 9141E 75W E27 230-240V A60 KR UNP	IAA//RS-75-230/240-E27-60	8711500347404	30.8 gr	60	48.6 cm x 41 cm x 18.4 cm	8711500347411	347404 75
Traffic 9136E 100W E27 230-240V A65 CL UNP	IAA//RS-100-230/240-27-60	8711500345455	35 kg	40	48 cm x 40.4 cm x 18.7 cm	8711500345462	345455 55
Traffic 9136E 100W E27 230-240V A65 CL UNP	IAA//RS-100-230/240-27-60	8711500346759	35 gr	80	48.4 cm x 40.8 cm x 34.8 cm	8711500346766	346759 74

Cap Base



E27

Operating position



s12



TRAF HM FAC

Product Description

- Halogen burner optically positioned in a lightweight high-gloss 50 mm dichroic reflector

Product Features

- Very sturdy and compact light source
- Corrosion- and heat-resistant flexible cables simplify lamps replacement
- Cables should be downwards to ensure that filament position is horizontal
- Deviations of burning position may lead to 30% shorter lifetime
- It is advisable, independent from the duty cycle, to replace lamps in a group replacement cycle of maximally one year for safety and functioning reasons. Lamp fixation should be done on the glass part and not on the ceramic part to avoid corrosion problems
- Do not use the rim of the reflector to clamp the lamps. Problems will arise due to tolerances in glass thickness
- Types for 6 mm and 10.2 mm diaphragm available. Lamp is optimised for a working distance of 42 mm

Product Benefits

- Allows a high-intensity beam with clearly defined beam spread
- Cool beam, with some 65% of the infrared radiation transmitted backwards

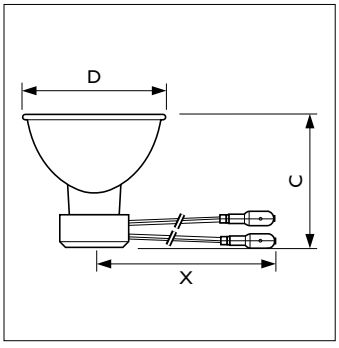
Application

- Fibre optic solutions
- Traffic matrix systems
- Variable message signs and DRIPs (Dynamic Route Information Panels)

Luminaires

- Must be used in a closed, dry and very well-ventilated luminaire

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TRAF HM K23d

Type	CMax	DMax
Traffic Halogen Fiber Optics 39W/50W	48	50
Traffic Halogen Fiber Optics 48W	45	50
Traffic Halogen Fiber Optics 50W/65W	46	50

Technical data

Type	Voltage (V)	Rated Lamp Wattage
Traffic Halogen Fiber Optics 39W K23d 10V CL FAC 1CT	10	39
Traffic Halogen Fiber Optics 48W K23d 10V CL FAC 1CT	10	48
Traffic Halogen Fiber Optics 50W K23d 10V CL SM 1CT	10	50
Traffic Halogen Fiber Optics 50W K23d 12V CL FAC/SM 1CT	12	50
Traffic Halogen Fiber Optics 65W K23d 42V CL SM 1CT	42	65

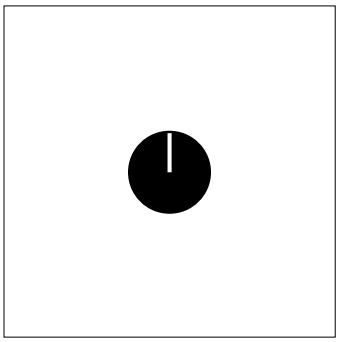
Light data

Type	Luminous flux lamp (lm)	Operating Position
Traffic Halogen Fiber Optics 39W K23d 10V CL FAC 1CT	200	p
Traffic Halogen Fiber Optics 48W K23d 10V CL FAC 1CT	260	p
Traffic Halogen Fiber Optics 50W K23d 12V CL FAC 1CT	350	p
Traffic Halogen Fiber Optics 50W K23d 12V CL FAC/SM 1CT	190	p
Traffic Halogen Fiber Optics 65W K23d 42V CL SM 1CT	250	p

Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Traffic Halogen Fiber Optics 39W K23d 10V CL FAC 1CT	-	8711500470584	41 gr	50	28.9 cm x 28.4 cm x 12.5 cm	8711500470607	470584 44
Traffic Halogen Fiber Optics 48W K23d 10V CL FAC 1CT	-	8711500473264	41 gr	50	28.9 cm x 28.4 cm x 12.5 cm	8711500473271	473264 44
Traffic Halogen Fiber Optics 50W K23d 10V CL SM 1CT	HRT-50-10-K	8711500470614	41 gr	50	28.9 cm x 28.4 cm x 12.5 cm	8711500470638	470614 44
Traffic Halogen Fiber Optics 50W K23d 12V CL FAC 1CT	-	8711500475145	41 gr	50	28.9 cm x 28.4 cm x 12.5 cm	8711500475152	475145 44
Traffic Halogen Fiber Optics 50W K23d 12V CL SM 1CT	-	8711500472441	41 gr	50	28.9 cm x 28.4 cm x 12.5 cm	8711500472458	472441 44
Traffic Halogen Fiber Optics 65W K23d 42V CL SM 1CT	HRT-65-42-K	8711500409324	42 gr	50	28.9 cm x 28.4 cm x 12.5 cm	8711500409416	409324 60

Operating position



p



TRAF HAL GY6.35

Product Description

- Compact halogen traffic signalling lamp

Product Features

- Quartz glass bulb contains a mainly transversally positioned filament
- Compact filament gives a sharp, efficient beam for high signal visibility
- Recommended group replacement cycles of +/- one year
- The recommended burning position should be maintained, deviation might lead to early lamp failure
- If dimmed a longer lifetime could be achieved

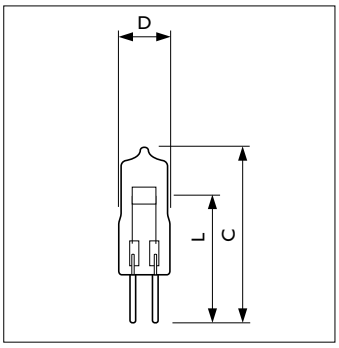
Product Benefits

- Very high light output for limited power consumption
- High resistance to vibration and shock

Application

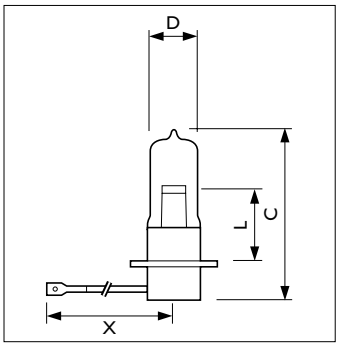
- Traffic Signalling on road intersections, bridges etc.
- Harbour and airport approach roads
- Industrial estates
- Parking areas of shopping or exhibition centres

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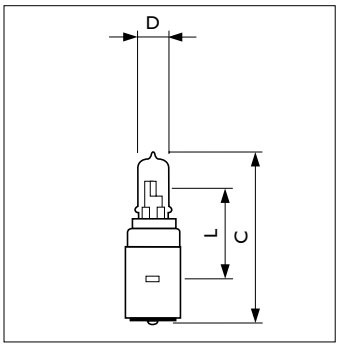
TRAF HAL G4

Type	CMax	DMax
Traffic Halogen 12345	31	8.5



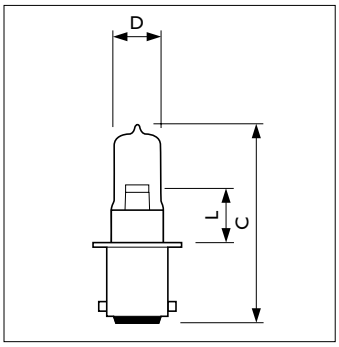
TRAF HAL 13523/13526/13563/13911 /6611 PKX22s

Type	CMax	DMax
Traffic Halogen 6611/13523/13563	42	11.5



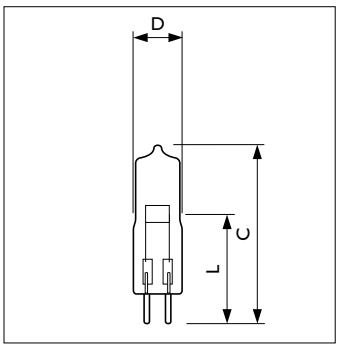
TRAF HAL BA20s

Type	CMax	DMax
Traffic Halogen 14608/14609	65	12



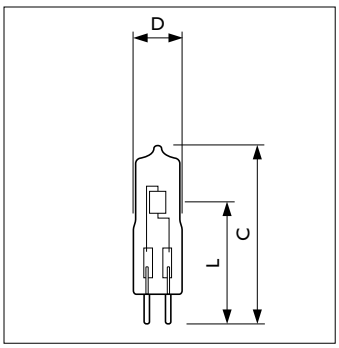
TRAF HAL BA15d

Type	CMax	DMax
Traffic Halogen 6613/13557	50	11.5



TRAF HAL 13512 GY6.35

Type	CMax	DMax
Traffic Halogen 13512	44	12



TRAF HAL 12058 GY6.35

Type	CMax	DMax
Traffic Halogen 12058	44	10.7

Technical data

Type	Voltage (V)	Rated Lamp Wattage
Traffic Halogen 12345 20W G4 12V 1CT	12	20
Traffic Halogen 14608 20W BA20s 10V 1CT	10	20
Traffic Halogen 14609 30W BA20s 10V 1CT	10	30
Traffic Halogen 6611 35W PKX22s/6613 35W BA15d 10V 1CT	10	35
Traffic Halogen 12058/13512 50W GY6.35 12V 1CT/UNP	12	50
Traffic Halogen 13523/13563 50W PKX22s/13557 50W BA15d 10V 1CT/UNP	10	50

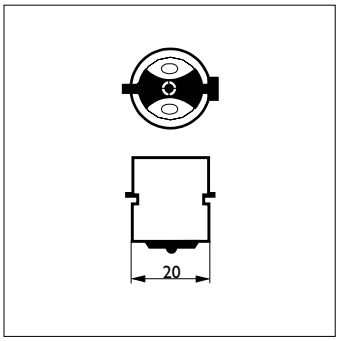
Light data

Type	Luminous flux lamp (lm)	Operating Position
Traffic Halogen 12345 20W G4 12V 1CT	420	any
Traffic Halogen 14608 20W BA20s 10V 1CT	270	any
Traffic Halogen 14609 30W BA20s 10V 1CT	400	any
Traffic Halogen 6611 35W PKX22s / 6613 35W BA15d 10V 1CT	525	p
Traffic Halogen 12058 50W GY6.35 12V 1CT/UNP	975	any
Traffic Halogen 13512 50W GY6.35 12V 1CT	935	any
Traffic Halogen 13523 50W PKX22s / 13557 50W BA15d 10V 1CT	820	p
Traffic Halogen 13563 50W PKX22s 10V UNP	950	p

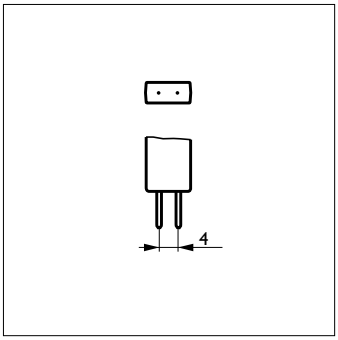
Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Traffic Halogen 12345 20W G4 12V 1CT	HST-20-12-G4	8711500410016	1.3 gr	100	27.1 cm x 27.1 cm x 8.1 cm	8711500473363	410016 50
Traffic Halogen 14608 20W BA20s 10V 1CT	HST-20-10.5-BA20s	8711500413550	13 gr	100	26.5 cm x 26.5 cm x 7 cm	8711500413574	413550 50
Traffic Halogen 14609 30W BA20s 10V 1CT	HST-30-10.5-BA20s	8711500413581	13 gr	100	26.5 cm x 26.5 cm x 7 cm	8711500413628	413581 50
Traffic Halogen 6611 35W PKX22s 10V 1CT	HST-35-10-PKX22s	8711500405036	8.7 gr	100	26 cm x 13.2 cm x 15 cm	8711500471871	405036 50
Traffic Halogen 6613 35W BA15d 10V 1CT	HST-35-10-BA15d	8711500405012	7 gr	100	27.1 cm x 27.1 cm x 8.1 cm	8711500471925	405012 60
Traffic Halogen 12058 50W GY6.35 12V 1CT	HST-50-12-GY6.35	8711500474735	3 gr	100	27.1 cm x 27.1 cm x 8.2 cm	8711500474759	474735 60
Traffic Halogen 12058 50W GY6.35 12V UNP	HST-50-12-GY6.35	8711500405395	2.3 gr	900	32.1 cm x 32.1 cm x 13.5 cm	8711500405401	405395 63
Traffic Halogen 13512 50W GY6.35 12V 1CT	HST-50-12-GY6.35	8711500410436	2.7 gr	100	27.1 cm x 27.1 cm x 8.1 cm	8711500473370	410436 50
Traffic Halogen 13523 50W PKX22s 10V 1CT	HST-50-10-PKX22s	8711500404992	6.8 gr	100	26.6 cm x 13.8 cm x 18.7 cm	8711500471826	404992 50
Traffic Halogen 13557 50W BA15d 10V 1CT	HST-50-10-BA15d	8711500405043	6.6 gr	100	27.1 cm x 27.1 cm x 8.1 cm	8711500471970	405043 60
Traffic Halogen 13563 50W PKX22s 10V UNP	HST-50-10-PKX22s	8711500475046	8.7 gr	100	39.8 cm x 19.6 cm x 10.7 cm	8711500475053	475046 49

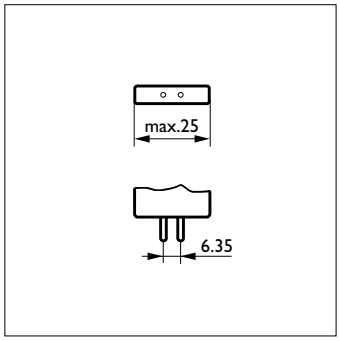
Cap Base



BA20s

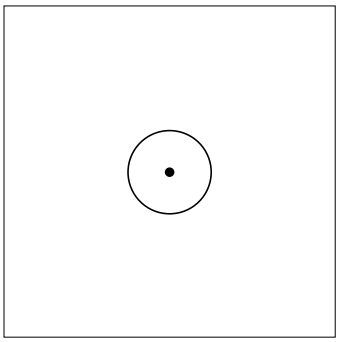


G4

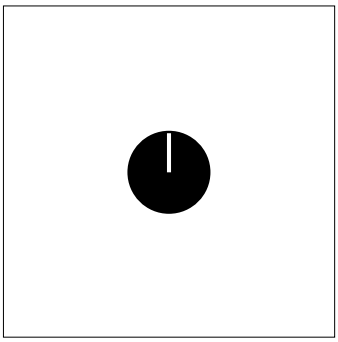


GY6.35

Operating position



any



p



General Information

Colour

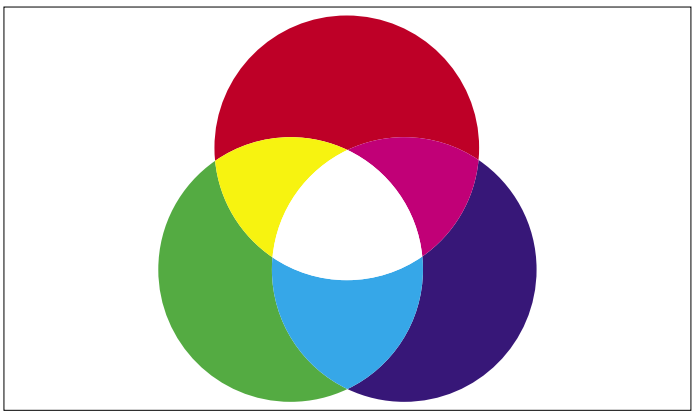
Colour is the way we distinguish different wavelengths of light. The subject of colour is a rather complicated one, as it involves both the spectral characteristics of the light itself, the spectral reflectance of the illuminated surface as well as the perception of the observer.

The colour of a light source depends on the spectral composition of the light emitted by it. The apparent colour of a light reflecting surface, on the other hand, is determined by two characteristics: the spectral composition of the light by which it is illuminated, and the spectral reflectance characteristics of the surface. A coloured surface is coloured because it reflects wavelengths selectively. The spectral reflectance of red paint, for example, shows that it reflects a high percentage of the red wavelengths and little or none of the blue end of the spectrum. But an object painted red can only appear red if the light falling on it contains sufficient red radiation, so that this can be reflected. Moreover, it will appear dark when illuminated with a light source having no red radiation.

Mixing light of different colours

When coloured light beams are mixed, the result will always be brighter than the individual colours, and if the right colours are mixed in the right intensities, the result will be white light. This is known as additive colour mixing. The three basic light colours are red, green and violet-blue. These are called the primary colours and additive mixing of these colours will produce all other light colours, including white.

So:
red + green = yellow
red + violet-blue = magenta (purplish red)
green + violet-blue = cyan (sky blue)
red + green + violet-blue = white



The colours yellow, magenta and cyan are called secondary or complementary colours as they are made up of combinations of primary colours.
A colour television is an example of additive colour mixing in which the light emitted from the red, green and violet-blue phosphors on the television screen combines to produce all visible colours and white.

Subtractive colour mixing

Subtractive colour mixing occurs for example when coloured paints are mixed on a palette.
This always gives a result darker than the original colours and if the right colours are mixed in the right proportions, the result will be black. Subtractive colour mixing of any of the primary light colours will always produce black but subtractive colour mixing of the secondary light colours can produce all other visible colours.

So:

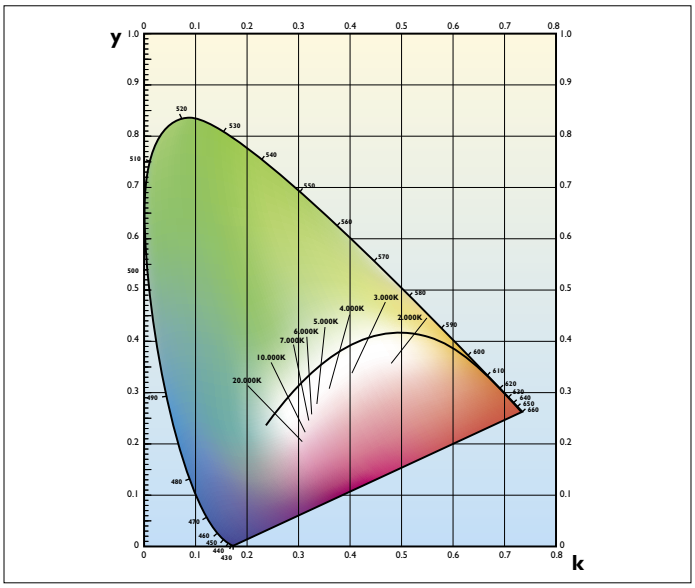
yellow + magenta = red
yellow + cyan = green
magenta + cyan = violet-blue
but
yellow + magenta + cyan = black



An example of subtractive colour mixing, for instance, is printed coloured matter that uses the secondary colours yellow, magenta and cyan (plus black) to produce the full range of printed colours. Printers, therefore, call magenta, yellow and cyan the primary colours.

CIE chromaticity diagram

A graphic representation of the range of light colours visible to the human eye is given by the CIE* chromaticity diagram. The saturated colours red, green and violet are located at the corners of the triangle with intermediate spectral colours along the sloping sides, and magenta at the bottom. Going inwards, they become lighter and diluted at the same time. The centre of the triangle -where all colours meet- is white. The colour values are numerically plotted along the right-angled x- and y-axis. Thus, each light colour can be defined by its x- and y-values, which are called chromaticity coordinates, or colour point.
Also contained in the triangle is the so-called Black-Body-Locus represented by a curved line (see section on colour temperature onwards). It indicates the colour points of the radiation emitted by blackbody radiators at different temperatures (K). For instance, the colour point at 1000 K equals with that of red light of 610 nm.



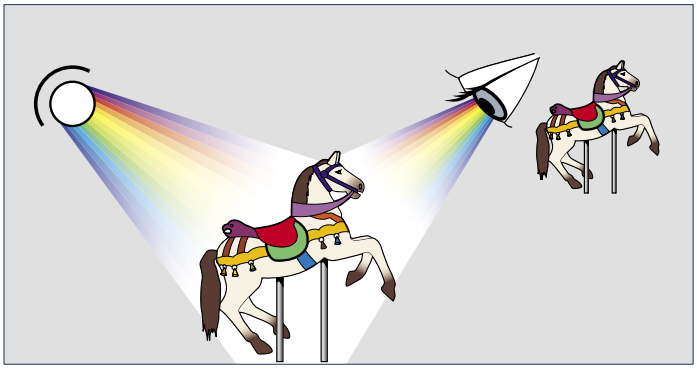
Colour rendering

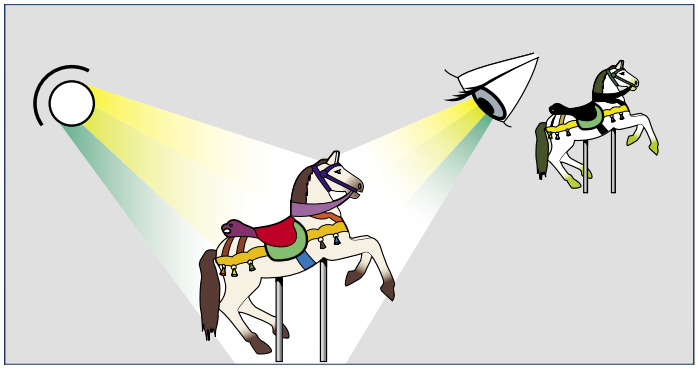
Although light sources may have the same colour appearance, this doesn't necessarily mean that coloured surfaces will look the same under them. Two lights that appear the same white, may be the result of different blends of wavelengths. And since the surface may not reflect the constituent wavelengths by the same extent, its colour appearance will change when it is exposed to one or other light. A piece of red cloth will appear 'true' red when seen illuminated by white light produced by a continuous spectrum, but in an equally white looking mixture of yellow and blue light it will look greyish brown. Because of the absence of red wavelengths, there is no red for the cloth to reflect into the eye to notice.

Colour rendering is an important aspect of artificial lighting. In some situations colours should be represented as naturally as possible as under daylight conditions, yet in other cases lighting should highlight individual colours or create a specific ambience. However, there are also various lighting situations where it is not so much a precise natural colour rendering that matters most, but where illumination level and efficacy are of greater importance. So, colour rendering is an important criterion when selecting light sources for lighting application solutions.

To classify light sources on their colour rendering properties the so called colour rendering index (CRI or also denoted as Ra) has been introduced. The scale of the Ra ranges from 50-100.
The following table shows the meaning of the Ra values:

Ra = 90 - 100	Excellent colour rendering properties
Ra = 80 - 90	Good colour rendering properties
Ra = 60 - 80	Moderate colour rendering properties
Ra < 60	Poor colour rendering properties





These 2 figures illustrate the principles of the colour rendering. In the left picture a lamp, emitting light with all colours, illuminates a rocking horse. The light reflected from the rocking horse enters the eye of the observer forming in his brain an image as depicted in the top right corner. In the right picture the light falling on the horse has no red radiation. This means that no light will be reflected from the red parts of the rocking horse and these parts will appear dark to an observer as can be seen. Both pictures indicate that the spectrum of the light source plays an important role in the way we perceive the colour of objects.

Metamerism

Metamerism is the property exhibited by some coloured surfaces of showing different colour appearances under different light sources. It results from the differences in interaction between the reflective properties of the dyes, and the spectral composition of the light. One paint manufacturer, for example, might mix a particular shade of brown in a certain way. Another manufacturer trying to match it arrives at what appears to be the same colour using a different formula. These two paint colours, although apparently the same under one light source will look differently under another source owing to the difference in spectral composition of the other light used. Metamerism can be minimized by using products from the same paint or dye manufacturer. Many manufacturers also limit the number of colorants used in formulating colours to reduce the chance for metamerism.



Incandescent/halogen



Low-pressure Sodium



Metal halide

Continuous and discontinuous spectrum

A light spectrum in which all wavelengths are present is called a continuous spectrum, ranging from red through orange, yellow, green, blue to violet. White light like daylight has such a spectrum, as well as white light from so-called thermal radiators like the flame of a candle and the filament of an incandescent light bulb. White light, however, can also be achieved by two or more selected wavelengths, and the other wavelengths being totally
absent. For example by mixing red, green and blue, or merely blue and yellow. Light sources with selected wavelengths have so-called discontinuous spectra, like for example gas discharge lamps.

Colour temperature

Although white light is a mixture of colours, not all whites are the same since they depend on their constituent colours. So a white with a higher proportion of red will appear warmer and a white with a higher proportion of blue will appear cooler. In order to classify the different types of white light, the concept of colour temperature is applied which is described as the colour impression of a perfect black-body radiator at certain temperatures. This concept can be best explained with the help of familiar thermal radiators like the filament of an incandescent lamp or an iron bar. When these materials are heated to a temperature of 1000 K their colour appearance will be red, at 2000-3000 K they will look yellow white, at 4000 K neutral white, and at 5000-7000 K cool white. In other words: the higher the colour temperature, the cooler the impression of the white light becomes.

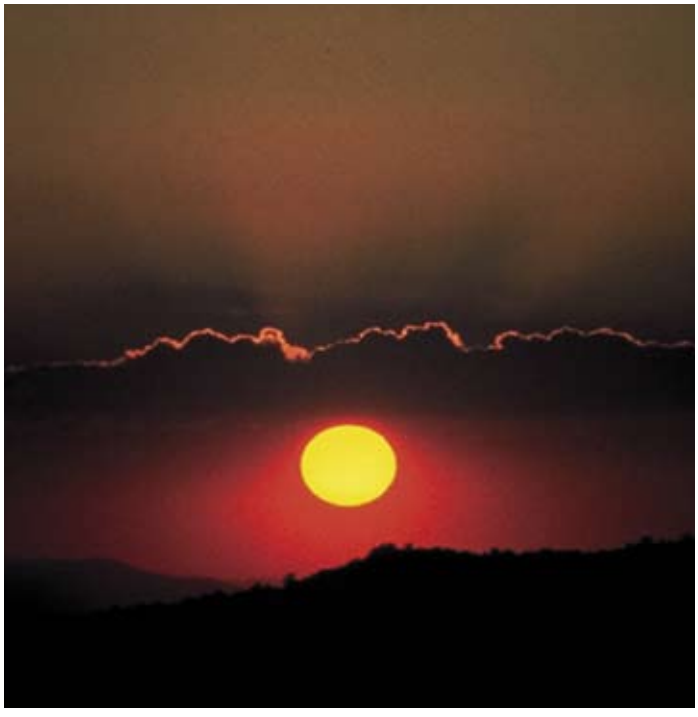
Colour temperature is an important aspect in lighting applications – the choice of colour temperature being determined by the following factors:

Examples of different colour temperatures	
Type of light	**Colour temperature (K)**
Candles	1900 - 2500
Tungsten filament lamps	2700 - 3200
Fluorescent lamps	2700 - 6500
High-pressure sodium (SON)	2000 - 2500
Metal halide	3000 - 5600
High-pressure mercury	3400 - 4000
Moonlight	4100
Sunlight	5000 - 5800
Daylight (sun + clear sky)	5800 - 6500
Overcast sky	6000 - 6900

- *Ambience*: warm-white creates a cosy, inviting ambience; neutral/ cool-white creates a business-like ambience.
- *Climate*: inhabitants of cooler geographical regions generally prefer a warmer light, whilst inhabitants of (sub)-tropical areas prefer, in general, a cooler light.
- *Level of illumination* needed. Intuitively, we take daylight as a natural reference. A warm-white light is daylight at the end of the day, at a lower lighting level. Cool-white light is daylight during the middle part of day. This means that in interior lighting, low illumination levels should be achieved with warm-white light. When a very high lighting level is needed, this should be realised with a neutral or cool white light.
- *Colour scheme in an interior*. Colours like red and orange are shown to advantage with a warm-white light, cool colours like blue and green look somewhat more saturated under a cool-white light.



Daylight at noon: approx. 6000K



Daylight at sunset: approx. 2000K

A		
Accentline		9.24
Accessories for Affinium LED freezer modules LFM 223	New	5.58
Accessories for Affinium LED string low and medium power		5.26
Accessories for LED freezer modules 200 and 210	New	5.56
Accessories for LED posterbox modules	New	5.44
ActiLume	New	4.12
ActiLume Color	New	4.20
Affinium LED freezer modules 200	New	5.46
Affinium LED freezer modules 210	New	5.50
Affinium LED freezer modules 223	New	5.54
Affinium LED posterbox modules	New	5.40
Affinium LED string kit		5.22
Affinium LED string low and medium power		5.18
Aluline 111		9.30
Aluline 37/56		9.34
Appliance Cooker Hood Tubular		10.16
Appliance Microwave Oven Tubular		10.14
Appliance Oven P45		10.6
Appliance Oven Tubular		10.4
Appliance Refrigerator Tubular		10.8
Appliance Sewing Machine Tubular		10.12
Artcolour MH-T		3.28
B		
BeneKit	New	3.50
Brilliantline Alu		9.16
Brilliantline Dichroic		9.10
C		
Capsuleline		9.42
Capsuleline MV B15d		9.108
Certaline Halogen Transformers	New	9.118
Circular ESaver		6.54
Clickline MV		9.104
D		
Daylight A60		10.26
Deco Tubular		10.32
Deco Tubular Long		10.38
Diamondline		9.20
Dimmable LED Driver	New	5.78
Downlighter ESaver	New	6.50
E		
EcoClassic30 A-shape	New	9.82
EcoClassic30 Candle B35	New	9.86
EcoClassic30 Reflector	New	9.46
Ecoclick Starters	New	8.136
Exterieur ESaver		6.42
F		
Fortimo LED DLM (Downlight Module) system	New	5.10
G		
Genie ESaver		6.16
H		
Halogen Spot 2 Year NR-shape		9.74
HalogenA 2 Year BTT-shape		9.90
HalogenA 4 Year BTT-shape		9.88
HalogenA BS/CG-shape		9.94
HalogenA Globe		9.96
HalogenA IDE		9.102
HalogenA PAR16		9.60
HalogenA PAR20		9.62
HalogenA PAR30S		9.64
HalogenA PAR38		9.68
HalogenA R80		9.72
HalogenA Tubular		9.98
HF-BASIC II		8.198
HF-MatchboxBLUE		7.110
HF-MatchboxRED		7.106
HF-PERFORMER II (flat) TL5		8.186
HF-PERFORMER II PL-L		7.94
HF-PERFORMER II PL-T/C/R/L/TL5C		7.98
HF-PERFORMER II TL-D		8.190
HF-PERFORMER II Xtreme for TL5/TL-D	New	8.194
HF-PERFORMER Intelligent for TL5 HE/HO	New	8.182
HF-PERFORMER PL-H		7.102
HF-REGULATOR II for PL-L lamps	New	7.88
HF-REGULATOR II for TL5 lamps		8.166
HF-REGULATOR II for TL-D lamps		8.172
HF-REGULATOR II Touch and DALI for PL-L lamps	New	7.78
HF-REGULATOR II Touch and DALI for PL-T, PL-C, PL-R	New	7.72
HF-REGULATOR II Touch and DALI for TL5 lamps	New	8.150
HF-REGULATOR II Touch and DALI for TL-D lamps	New	8.156
HF-REGULATOR PL-T/C		7.84
HF-REGULATOR TL5 Circular		8.178
HF-REGULATOR Touch&Dim/DALI TL5 Circular		8.162
HID ignitors		3.184
HID-Basic BHL (HPL/HPI)		3.164
HID-Basic BSN/BMH semi-parallel ignitor		3.152
HID-Basic BSN/BMH series ignitor		3.156
HID-Basic gears BSX (SOX)		3.176
HID-Basic Multi-Wattage series ignitor		3.158
HID-Constant wattage BSX (SOX)		3.180
HID-CSLS Control system for SDW		2.100
HID-DynaVision Control SON		3.146
HID-DynaVision DALI SON and CDO		3.136
HID-DynaVision LumiStep	New	3.136
HID-DynaVision SON and CDO		3.132

HID-EXC for SOX lamps		3.140
HID-gear BHA (HPA)		3.182
HID-HeavyDuty BHL (HPL/HPI)		3.168
HID-HeavyDuty BSN semi-parallel ignitor		3.160
HID-HeavyDuty BSX (SOX)		3.178
HID-HighPower MH, HPI, HPL, SON		3.172
HID-PrimaVision (potted) for MH/CDM lamps		2.92
HID-PrimaVision Compact for CDM lamps - Built-in	New	2.76
HID-PrimaVision Compact for CDM lamps - Independent	New	2.80
HID-PrimaVision CPO-TW Xtreme	New	3.142
HID-PrimaVision for CDM Mid-Wattage lamps	New	2.96
HID-PrimaVision for SDW-TG lamps (mini White SON)		2.98
HID-PrimaVision mini for CDM lamps - Built-in	New	2.84
HID-PrimaVision mini for CDM lamps - Independent	New	2.88
HID-PrimaVision SON and CDO		3.128
HID-SDU for regulating systems		3.150
HPI-T		3.16
HPL 4		3.108
HPL Comfort		3.112
HPL-N		3.116
I		
Intuos LED control interface		5.38
Intuos LED module system		5.30
Intuos LED module system on/off		5.34
K		
Krypton 2 Year BW35		9.100
Krypton Tubular		10.42
L		
LED CI Ambiscene	New	5.64
LED Gear		5.60
LED Power Drivers Outdoor		5.74
LED string system, generation 1		5.24
LED strip kit	New	5.28
Lexel LED DLM (Downlight Module) System	New	5.8
Lexel LED Spot System	New	5.6
Lighting Controls		4.2
LightLine	New	8.4
LuxSense		4.34
M		
Manual Potentiometers		4.10
MASTER Agro		3.54
MASTER CityWhite CDO-ET		3.44
MASTER CityWhite CDO-TT		3.40
MASTER CosmoWhite CPO-TW	New	3.36
MASTER GreenPower	New	3.56
MASTER HPI Plus		3.24
MASTER HPI-T Plus		3.20
MASTER LED Lamps	New	5.12
MASTER MHN-FC	New	3.32
MASTER MHN-LA		3.10
MASTER MHN-SA		3.6
MASTER PAR20 E		9.58
MASTER PL-C 2 Pin		7.12
MASTER PL-C 4 Pin		7.16
MASTER PL-C Xtra 2 Pin	New	7.20
MASTER PL-C Xtra 4 Pin	New	7.22
MASTER PL-Electronic	New	6.4
MASTER PL-Electronic Automatic	New	6.24
MASTER PL-Electronic Dimmable	New	6.8
MASTER PL-Electronic Polar	New	6.22
MASTER PL-H 4 Pin		7.58
MASTER PL-L 4 Pin		7.42
MASTER PL-L Polar 4 Pin		7.46
MASTER PL-L Xtra 4 Pin	New	7.50
MASTER PL-L Xtra Polar 4 Pin	New	7.54
MASTER PL-R Eco 4 Pin	New	7.68
MASTER PL-S 2 Pin		7.4
MASTER PL-S 4 Pin		7.8
MASTER PL-T 2 Pin		7.24
MASTER PL-T 4 Pin		7.28
MASTER PL-T TOP 2 Pin		7.32
MASTER PL-T TOP 4 Pin		7.34
MASTER PL-T Xtra 4 Pin	New	7.38
MASTER QL System		8.142
MASTER SDW-T		2.62
MASTER SDW-TG Mini		2.58
MASTER SON PIA (Hg-Free)		3.72
MASTER SON PIA Plus		3.64
MASTER SON-T PIA Hg-Free		3.68
MASTER SON-T PIA Plus		3.60
MASTER SOX PSG		3.92
MASTER SOX-E		3.96
MASTER SOX-E PSG		3.94
MASTER TL Mini Aperture Super 80		8.130
MASTER TL Mini Super 80		8.128
MASTER TL5 ActiViva	New	8.44
MASTER TL5 Circular		8.52
MASTER TL5 Coloured		8.48
MASTER TL5 High Efficiency		8.6
MASTER TL5 High Efficiency Secura	New	8.10
MASTER TL5 High Output		8.14
MASTER TL5 High Output 90 De Luxe	New	8.36
MASTER TL5 High Output Optiview	New	8.40
MASTER TL5 High Output Secura	New	8.20
MASTER TL5 High Output TOP	New	8.28
MASTER TL5 High Output Xtra	New	8.24
MASTER TL5 Very High Output TOP	New	8.32
MASTER TL-D 90 De Luxe		8.102
MASTER TL-D 90 Graphica		8.106
MASTER TL-D ActiViva	New	8.98

MASTER TL-D Eco	New	8.70
MASTER TL-D Food		8.114
MASTER TL-D Food Secura		8.118
MASTER TL-D Optiview	New	8.110
MASTER TL-D Reflex Eco	New	8.66
MASTER TL-D Secura		8.62
MASTER TL-D Super 80		8.56
MASTER TL-D Xtra	New	8.74
MASTER TL-D Xtra Polar	New	8.78
MASTER TL-D Xtra Secura	New	8.82
MASTER TL-D Xtreme	New	8.86
MASTER TL-D Xtreme Polar	New	8.90
MASTER TL-D Xtreme Secura	New	8.94
MASTER TL-E Circular Super 80		8.122
MASTERCapsule	New	9.40
MASTERClassic	New	9.78
MASTERColour CDM-Elite MW	New	2.14
MASTERColour CDM-i	New	2.54
MASTERColour CDM-R		2.42
MASTERColour CDM-R Mini	New	2.50
MASTERColour CDM-R111		2.36
MASTERColour CDM-T		2.18
MASTERColour CDM-T Elite	New	2.6
MASTERColour CDM-TC		2.24
MASTERColour CDM-TC Elite	New	2.10
MASTERColour CDM-TD		2.32
MASTERColour CDM-Tm Mini		2.16
MASTERColour CDM-TP		2.28
MASTERColour CDM-TT		3.46
MASTERLine 111		9.26
MASTERLine ES		9.4
MASTERLine TC		9.38
MHN-SB		3.14
MHN-TD		2.66
MHN-TD B		2.70
ML		3.120
MultiDim		4.40

N

Nightlight		10.28
Nightlight ESaver A-shape		6.44

O

Occuswitch	New	4.26

P

PAR38 Downlighter ESaver	New	6.52
Party Lustre P45		10.22
Philinea		10.40
PL-Electronic Ambiance		6.26
PL-Electronic Globe		6.36
PL-Electronic Reflector R50	New	6.46
PL-Q 2 Pin		7.60
PL-Q 4 Pin		7.64
Plusline Compact (double ended)		9.110
Plusline Large (double ended)		9.116
Plusline Small (double ended)		9.112
Primaline Halogen Transformers	New	9.122
Recommended Compact HID Lamp and Gear combination		2.104
Recommended Lamp and Gear Combination		7.114

R

Recommended LED and Driver Combination		5.80

S

Safety & Comfort Starters	New	8.140
SL-Electronic		6.40
Softone ESaver Candle		6.32
Softone ESaver Globe		6.38
Softone ESaver T-shape		6.28
Solution Starters	New	8.138
SON		3.80
SON Comfort		3.86
SON H		3.88
SON-T		3.76
SON-T Comfort		3.84
SOX		3.100
SOX Plus (UK only)		3.104
Standard Extra Low Voltage A60		10.18
Standard Extra Low Voltage P45		10.20

T

TL Mini Standard Colours		8.132
TL-M Rapid Start Super 80		8.124
TL-X XL		8.126
TORNADO ESaver	New	6.10
Traffic (ELV)		10.46
Traffic (LV)		10.44
Traffic (MV)		10.48
Traffic Halogen Fiber Optics MR16		10.54
Traffic Halogen Single Ended		10.56
Traffic Krypton (MV)		10.52
Twistline Alu 2000 hours		9.52
Twistline Alu 3000 hours		9.48
Twistline Dichroic 2000 hours		9.56
Twistline Dichroic 3000 hours		9.50

X

Xitanium LED Drivers Indoor		5.66
Xitanium LED Drivers Outdoor		5.70