





# **SPANNINGA COLLECTION**

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SPANNINGA NETHERLANDS

**FRANCE** 

SINCE SING B

The origins of SPANNINGA go back to 1918, when the company was founded in the Frisian town of Joure, The Netherlands. The forward-looking actions of three generations of entrepreneurs have led to the company developing from a small workshop to a globally active group, which today is amongst the leaders of micromobility lighting in the world. Our century-long heritage, the trust of our customers, and the dedication of our worldwide team drive us to meet new challenges and contribute to safer, smarter, and more attractive micromobility solutions day and night.

At Spanninga, unity is at the heart of our operations. Our One Company, One Team philosophy ensures seamless collaboration across all departments and sites. By fostering a culture of communication and expertise, we optimize efficiency and resource allocation, engaging our employees and customers alike. This collaborative approach allows us to integrate customer feedback into our decision-making processes, ensuring mutual success and satisfaction. Our unified culture and sense of belonging drive innovation and excellence in every aspect of our business.

We believe in the power of people. Our People Matter principle prioritizes employee well-being, fostering a culture of respect and appreciation. By investing in our employees, we attract and retain top talent who share our passion for excellence, boosting morale and motivation. This commitment extends beyond our organization to our end-users. Through our motto Lights for Life, we ensure cyclists can ride safely, underscoring our dedication to enhancing the well-being of individuals both within and outside our company.

Innovation is at the core of Spanninga. Our customer-centric approach drives us to develop cutting-edge lighting solutions and provide personalized support. By nurturing a culture of continuous improvement, we ensure our products and services not only meet but exceed our customers' evolving needs.

This dedication to innovation and customer satisfaction sets us apart from the competition and drives long-term success for our partners.

Trust is the cornerstone of our relationships. With a steadfast commitment to integrity and reliability, we build strong connections with our customers, suppliers, and partners. As a family-run company headquartered in Joure, The Netherlands, we have maintained a singular focus on cyclist safety for over a century. This dedication has established the Spanninga Group as a global leader in bicycle safety, transcending borders and elevating industry standards. Our 100-year heritage is a testament to our customers' trust and our relentless commitment to innovation and safety.

Spanninga operates through three strategic sites in Europe and Asia, each contributing to our leadership in micromobility lighting. Our production sites guarantee optimal product quality and safety, adhering to ISO standards. In the Rhône-Alpes region of Nantua, Spanninga France proudly produces "Made in France" items, combining production flexibility with decades of expertise to meet various customer requests, including small series.

In China, our fully integrated manufacturing facility boasts in-house processes such as electronics production, injection moulding, and metallization. This capability allows us to industrialize large-scale projects and supply customers worldwide. Our highly efficient industrial equipment and committed teams support the development and industrialization of our products, ensuring quality and innovation at every step.

As a major source of innovation, Research & Development is a core branch of Spanninga, constituting 10% of our global staff. Our R&D specialists in multiple fields drive the continuous improvement and advancement of our products, reinforcing our position as leaders in micromobility lighting.

Spanninga's commitment to excellence is reflected in our products and services. We strive to deliver safety, quality, and assurance to our customers today and in the future. Our passion, entrepreneurial culture, and global team inspire us to establish new standards in micromobility lighting, contributing to a safer, smarter, and more attractive world for everyone, day and night





#### 1918

Foundation of SPANNINGA METAAL BV in Joure (The Netherlands) by Hotso Spanninga, specialized in precious metal forging and in particular plaques.

#### 1920

SPANNINGA starts with the production of roadside lights for the automotive industry.

#### 1922

Due to exceptional performances, SPANNINGA receives the distinguished title of: "Purveyor to the Royal Household of The Netherlands."

#### 1935

Foundation of JOS in Nantua (France) by Mr. Josserand, one of SPANNINGA's French competitors, specialized in bicycle and automotive lighting.

#### 1937

SPANNINGA starts with the production of bicycle lighting. Hotso Spanninga being originally a goldsmith, first SPANNINGA rearlights were artwork: polished until they shine like jewels.

#### 1947

Completion of the SPANNINGA factory at Geert Knolweg in Joure (The Netherlands).

#### 1952

Due to a shortage of copper during the Korean War, SPANNINGA is forced to use aluminum for the production of bicycle lighting.

#### 1959

SPANNINGA starts with the production of the iconic streamline rearlight.

SPANNINGA introduces the first integrated pedal reflectors.

#### 1960

SPANNINGA creates the first plastic optical blocks for rearlights replacing glass.

#### 1965

Gatze and Gerben (Jeppe) Spanninga take over the company from their father. Each brother owns 50% of the shares.

Production by SPANNINGA of the first insurance plates for mopeds.

#### 1970

Takeover of JOS by CIBIÉ in Nantua (France).

#### 1973

Production by SPANNINGA of the first red reflectors for Dutch bicycles (compulsory in The Netherlands since 1977).

#### 1984

JOS becomes independent again and is now called JOS/CIBIÉ.

#### 1986

SPANNINGA starts with the production of bicycle

#### 1987

Side reflectors in bicycle wheels become compulsory in The Netherlands.

#### 1989

Feike Spanninga takes over the company from his father

SPANNINGA Netherlands starts with the production of kickstands.

#### 1992

Takeover of JOS by SPANNINGA Netherlands and creation of the company JOS INTERNATIONAL, alias SPANNINGA France, in Nantua (France).

#### 1997

Creation of the first sensors in bicycle lights. SPANNINGA Netherlands brings (among others) the SPX and Ultra with sensors to the market.

#### 2002

SPANNINGA France sells its automotive activities and from now on focuses completely on the production of bicycle lighting.

#### 2006

Takeover by SPANNINGA Netherlands of the European activities of HELLA BIKE.

Creation of a subsidiary in Shunde (China) called Spanninga Bicycle Components, alias SPANNINGA China.

#### 2015

Takeover by SPANNINGA Netherlands of the bicycle lighting activities of PHILIPS.

#### 2018

Celebration of SPANNINGA's 100 years anniversary.



Feike Spanning

# SAFE WAY OF RIDING



SPANNINGA lights are designed to keep you and your loved ones safe in the dark but also in daylight. The use of our lights enhances visibility and helps feeling safe while riding. Powerful and lightweight, water-resistant and reliable, user-friendly and durable: our products unite all the qualities required for carefree use.

This aspiration does not only apply to the exceptional quality that our products are known for around the world. Independent, respected authorities confirm our enduring management systems through recurring certification each year and support us in ensuring our high standards.

#### Certificates

Our production sites in France and in China are both certified ISO 9001, proving that we are constantly seeking higher performance, especially in terms of quality and customer service.

Spanninga France also has the ATEX certification, which means the factory is authorized to develop products which comply with the regulations for use in explosive environments. This certification implies a thorough risk analysis in the conception phase and in the choices of production methods.

#### Values

In order to define the visibility distance of our lights, Spanninga uses their own specific calculations linked to light illumination.

In the same way, the battery lifetime of our products is measured until the light illumination reaches the minimum visibility level at 10m that we have defined, which is 0,25 Lux for front lights and 0,5 Cd for rear lights.

#### **Quality tests**

From development to deliveries, all our products go through a series of tests defined in an extensive quality procedure, among which:

- Photometric values are regularly measured to ensure the light output and visibility meet our expectations and the regulations we apply for,
- Impact resistance tests are carried out to ensure the best use of our products in all kinds of conditions (vibration and crash tests, temperature tests, UV, moisture and corrosion tests, durability tests, etc.),
- Water resistance is controlled to achieve min. the IPX4 rating (protection against splashed or sprayed water from any angle for some time).

#### **Batteries**

Our development teams give priority to technologies offering very low battery consumption in order to provide the longest burning time. We also pay great attention to the quality of the batteries we use and mainly supply our products with high-performance batteries.





SPANNINGA brand stands for innovation. That is how we managed to gain the trust and recognition from our customers for hundred years. "Keep ahead of light" is and has always been the philosophy of our brand based on constant and extended research in new technologies, optics, electronics and study of users' insights.

Over the years, SPANNINGA has always created exclusive and innovative high-end lights.
Our unique touch has brought illustrious bike manufacturers to work with us to develop specially-designed products for their bicycles.
The high quality of the SPANNINGA name in this field is rewarded by the satisfaction and the trust of our customers.

SPANNINGA's design vision focuses on a strong link between technology and design. In most of our products, technology is not hidden but rather integrated into the design of the product and therefore displayed as a real asset.

We are convinced that internal technical elements (like cooling elements, optical parts etc.) give another dimension to our creations and highlight the authenticity of our products. Our approach to bicycle lights design is to maintain, in addition to the core functionalities of the product, clear and clean surfaces and limited control elements (like integrated switch or attachment).

The use of innovative combinations of materials (like brushed aluminum or stainless steel) and the selection of specific colour shades enhanced by the SPANNINGA icon contribute to a certain harmony to make it easier to distinguish our brand based on the design of our products.





















#### DAYTIME RUNNING LIGHT® FUNCTION

The Daytime Running Light (DRL®) function increases the visibility of the bicycle, and protects the rider during the day. This function features one or more LEDs which shine automatically during the daytime to bring extra visibility. When it gets dark, a light sensor dims the daytime LEDs and lets the main beam take over.

However the DRL® is not a lighting system in itself: while the main beam is directed towards the road to allow the rider to see his way, the daytime running LEDs shine straight to allow him to be seen by other road users (visible enough but not blinding).



#### XTL TECHNOLOGY®

The XTL® uses the total reflection phenomena of light rays on the specially shaped and polished surface of a lens. Due to the total reflection of the ray, hardly any light is lost, resulting in a very efficient light system where most Lumens of the light source are used in the effective beam on the road.

This results in a good light spread, large light beam and economic power consumption.

#### REVERSE BEAM TECHNOLOGY®

As a major development, Spanninga has developed the LED Reverse Beam Technology (RBT $^{\circ}$ ) that uses only 1/4 of the energy of a regular bulb for the same intensity and with hardly any heat loss.

The light rays of the LED are projected backwards onto a mirror directing it into a powerful conical beam with a perfect light spread. The light is then divided over a large surface which makes it less aggressive to the eyes. The result is a more efficient system and a reduced power consumption.



#### LIGHT GUIDE TECHNOLOGY®

In a low visibility environment, the rearlight is the first safety tool of the cyclist to be seen from the approaching traffic. Most accidents happening at road junctions, it is also important to offer good side visibility.

Our R&D teams have developed a unique technology providing an optimal spread of the LED light on the sides of the rearlight: the Light Guide Technology (LGT®).

It captures the lateral light coming from the LED and brings it with minimum loss on the sides of the rearlight.

#### LIGHT LINE TECHNOLOGY®

The Light Line Technology (LLT<sup>©</sup>) uses one or more very low consumption LEDs. The light is spread through a specially shaped light guide which diffuses it following a line shape.

The shape of both the light line and the glass is designed in a way that the light is also guided on the lateral sides of the carrier. This technology is broadly used nowadays and a similar one is commonly featured in the automotive industry in order to have the most creative, trendy and unique design for rearlights.



#### LASER TECHNOLOGY

The laser technology is a brand new feature integrated in bicycle lights, mainly into rear lights. A safety zone is projected by the laser around the bike when on the road which improves significantly the cyclist visibility by giving a clear signal to other road users approaching from behind. The colour, shape and width of the V shaped lines are optimally tuned to create the safety zone. Laser technology has been chosen due to its low energy consumption and limited additional costs in comparison with the enhanced safety resulting from the feature.

#### **COB LED TECHNOLOGY**

Chip on Board, basically multiple LED chips bonded directly to a substrate to form a single module – are the latest LEDs available on the market. Main advantages are that they offer the highest efficiency (higher light emitting area, better heat dissipation, decreased light loss, increased viewing angle) and also almost endless design possibilities since the substrate can be bent or follow any shape.





#### CONTOUR LIGHTING TECHNOLOGY®

The Contour Lighting Technology (CLT®) provides a previously unattainable level of light diffusion. It features an array of LEDs radiating through a semi-transparent light diffuser which is coated with a reflective material in order to project the light towards the desired direction.

Inspired by automotive lighting, it is the next step in bicycle lighting technology opening up endless creative opportunities by enabling customizable lighting designs.













					-									
	AXENDO 100	AXEN	IDO 80		AXEN	DO 60		X&	0 50		AXENDO 40		AXEN	DO 40+
					PREMIUM									
LUX	100	3	30		6	0		5	50		40			40
MODEL	XEc	XE	XEFc	XE	XEAc	XD0c	XDASTc	XE	XEAFTc	XE	XD0c	XDASc	XE	XD0c
DYNAMO						•	•				•	•		•
E-BIKE		•	•	•	•			•	•	•			•	
SPEED-EBIKE	•													
BATTERY														
SWITCH					•	•					•	•		
SAFE-STOP							•					•		
AUTO					•		•		•			•		
DAYLIGHT							•		•					
HIGH BEAM			•						•					
REARLIGHT CONNECTION					•	•	•				•	•		•
VOLTAGE RANGE	6-24VDC	6-36VDC	6-36VDC	6VDC 6-36VDC	6-36VDC			6-48VDC	6-36VDC	6VDC 12VDC 6-36VDC			6-48VDC	
CABLE LENGTH (cm)	150 160		80		70	60	60	150	80	120 190	60	60	50	120
APPROVALS														
GERMAN			•	•	•	•	•	•	•	•	•	•	•	•
FRENCH				•	•	•	•			•	•	•	•	•
DUTCH			•	•	•	•	•	•	•	•	•	•	•	•
DANISH			•	•	•	•	•	•	•	•	•	•	•	•
ECE	•													
BRITISH														
CHINA														
US														
JAPAN														
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AXENDO 30	AXENDO 30+	X&0 30		KEN	IDO+		X&0 25		SWINGO		X&(	0 15		TRENDO		
		MID											ENTRY			
30	30	30		3	30		25		20		1	5		15		
XE	XE	XE	XE	XDOc	XDOSc	XDASc	XB	XE	XD0c	XB	XE	XDOc	XE	XD0c	XB	
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6VDC 6-36VDC	6-48VDC	6-36VDC	48VDC 6-36VDC					6VDC 6-36VDC			6-48VDC		6-36VDC			
20			70	60	60	60										
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2	29	30	32		52		61	31	53	61	30	52	31	52	61	













		SWINGO  4  XE XB			GALEO			ILLICO 3	PIMENTO FRONT	PIMENTO LARGE FRONT	CALIP FRONT
						ENTRY				{New}	
LUX	4				4			4			
MODEL	XE	XB	XE	XD	XDO	XD0c	XB	XB	XE	XE	XEc
DYNAMO				•	•	•					
E-BIKE	•		•						•	•	•
SPEED-EBIKE											
BATTERY		•					•	•			
SWITCH					•	•					
SAFE-STOP											
AUTO											
DAYLIGHT											
HIGH BEAM											
REARLIGHT CONNECTION						•					
VOLTAGE RANGE	6VDC		6VDC 6-36VDC						6-36VDC	6-48VDC	6-48VDC
CABLE LENGTH (cm)											215
APPROVALS											
GERMAN											
FRENCH	•	•	•	•	•	•	•	•			
DUTCH											
DANISH	•	•	•	•	•	•	•	•	•	•	•
ECE											
BRITISH											
CHINA											
US											
JAPAN											
PAGE	31	61	33		52		61	61	32	33	34









			GLOW				FLEXIO				HALO				HAI	<b>_</b> 0+	
				{New}					PREMIUM			{New}				{New}	
MODEL	XE	XEr	XERc	XErlw	XDS	XER	XERc	XERc	XE	XEr	XERc	XErlw	XDS	XE	XEr	XERic	XDS
DYNAMO													•				•
E-BIKE	•	•	•	•		•	•		•	•	•	•		•	•	•	
SPEED-EBIKE			•					•			•						
BATTERY																	
SAFE-STOP					•								•				•
AUTO																	
STOPLIGHT		•		•						•		•			•		
BRAKE-LIGHT			•			•	•	•			•						
INDICATORS				•								•				•	
VOLTAGE RANGE	6-48VDC	6-48VDC	6-48VDC	6-48VDC		6VDC	48VDC 6-36VDC	6-36VDC	6-48VDC	6-48VDC	6-48VDC	6-48VDC		6-48VDC	6-48VDC	48VDC	
MOUNTING DISTANCE (mm)						50/80	50/80	50/80	50	50	50	50	50	50/80	50/80	50/80	50/80
APPROVALS																	
GERMAN		•	•		•				•	•	•		•	•	•		•
Z REFLECTOR	optional	optional	optional	optional	optional	•	•	•	•	•	•	•	•	•	•	•	•
FRENCH	•								•				•	•			•
DUTCH									•	•	•	•	•	•	•	•	•
DANISH	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
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BRITISH														•	•	•	•
CHINA																	
US														•	•	•	•
JAPAN														•	•	•	•
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			GUARD			PIMI	ENTO			PIMENT	O LARGE		PIMEN.	TO MINI	PIN	MENTO-GUA	RD
		PREI	MIUM			{New}					{New}	MID		lew}		{New}	
MODEL	XE	XEr	XERc	XDS	XE	XEr	XERc	XDvS	XE	XEr	XERc	XDvS	XE	XERc	XE	XEr	XDvS
DYNAMO				•				•				•					•
E-BIKE	•	•	•		•	•	•		•	•	•		•	•	•	•	
SPEED-EBIKE			•				•				•			•			
BATTERY																	
SAFE-STOP				•				•				•					•
AUTO																	
STOPLIGHT		•				•				•						•	
BRAKE-LIGHT			•				•				•			•			
INDICATORS																	
VOLTAGE RANGE	6-48VDC	6-48VDC	6-48VDC		6-36VDC	6-12VDC	6-48VDC		6-48VDC	6-48VDC	6-48VDC		6-12VDC	6-12VDC	6-36VDC	6-12VDC	
MOUNTING DISTANCE (mm)					50	50	50	50	50/80	50/80	50/80	50/80	50	50			
APPROVALS																	
GERMAN		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Z REFLECTOR	•	•	•	•	optional												
FRENCH				•	•			•	•			•	•		•		•
DUTCH	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
DANISH	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
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CHINA																	
US																	
JAPAN																	
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SOLO+		ELIPS				BRASA		O-GUARD		Nr 9				CALIP REAR			
{New}								N	1ID								
XEr	XE	XDvS	XB	XE	XDv	XDvS	XB	XBA	XE	XE	XDv	XB	XE	XDv	XDvS	XB	XE
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6-48VDC	6-36VDC			36VDC					6-12VDC	6-36VDC			6-36VDC				6-48VDC
50/80	50/80	50/80	50/80	50/80	50/80	50/80	50/80	50/80	50/80								
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	optional
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	•			•	•	•	•	•	•							•	optional
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42	42	56	62	43	5	6	6	2	43	45	57	63	45	5	57	63	35







			SOLO					PLATEO				DU	IXO	
							ENT	RY						
MODEL	XE	XDv	XDvS	XB	XBA	XE	XDv	XDvS	ХВ	XBA	XE	XDv	XDvS	ХВ
DYNAMO		•	•				•	•				•	•	
E-BIKE	•					•					•			
SPEED-EBIKE														
BATTERY				•	•				•	•				•
SAFE-STOP			•					•					•	
AUTO					•					•				
STOPLIGHT														
BRAKE-LIGHT														
INDICATORS														
VOLTAGE RANGE	6VDC 12VDC 6-36VDC					6-36VDC					48VDC 36-48VDC			
MOUNTING DISTANCE (mm)	50/80	50/80	50/80	50/80	50/80	50/80	50/80	50/80	50/80	50/80	50/80	50/80	50/80	50/80
APPROVALS														
GERMAN	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Z REFLECTOR	•	•	•	•	•	•	•	•	•	•				
FRENCH	•	•	•	•	•						•	•	•	•
DUTCH	•	•	•	•	•						•	•	•	•
DANISH	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ECE														
BRITISH														
CHINA														
US														
JAPAN														
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	VI	V0		VENA					PIXEO				PRESTO	-GUARD	PRESTO 2	
								ENTRY								
XE	XDv	XDvS	XB	XE	XDv	XDvS	XE	XDv	XDvS	XB	XBA	XE	XDv	XDvS	XB	XB
	•	•			•	•		•	•				•	•		
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6VDC				12 VDC 48VDC			12VDC 36VDC					6-36VDC				
6-36VDC				48VDC			36VDC					0 30000				
50/80	50/80	50/80	50/80													
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											-					
43	5	i6	62	45	5	57	45	5	57	6	3	45	5	57	63	63



offering the best style and safety.









# **AXENDO 80**



+BH520 bracket





**AXENDO 60** 



+BH520 bracket

# **AXENDO 40**





+BH520 bracket

3,80 rnx	
o∕o 80 m	
5000 m	
HIGH BEAM MODE	
Sept.	

MODELS	XE / XEFc
LIGHT SOURCE <sup>1</sup>	2 white LEDs> 80 Lux
	+ 4 extra LEDs (high beam) >
	80 + 80 Lux
POWER SOURCE	6-36VDC
POWER CONSUMPTION	2,5 Watt (XE), 6 Watt (XEFc)
AUTONOMY	=
functions	High beam <sup>11</sup> (XEFc)
WEIGHT	<130g

3, 90 rnx	
o∕o 80 m	
<b>1000</b> m	
AUTOMATIC MODE	
sura.	
nue /	

XE / XEAc
2 white LEDs > 60 Lux
6VDC / 6-36VDC
2,1 Watt
-
Light & Motion Sensor 8 (XEAc)
<130g



MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 white LED > 40 Lux
POWER SOURCE	6VDC / 12VDC / 6-36VDC
POWER CONSUMPTION	1,5 Watt
AUTONOMY	=
FUNCTIONS	=
WEIGHT	<70g

# AXENDO 40+



MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 white LED > 40 Lux
POWER SOURCE	6-48VDC
POWER CONSUMPTION	1,5 Watt
AUTONOMY	-
FUNCTIONS	-
WEIGHT	<50g







¢	MODEL	XE
m	LIGHT SOURCE <sup>1</sup>	1 white LED > 30 Lux
	POWER SOURCE	6VDC / 6-36VDC
n	POWER CONSUMPTION	1,2 Watt
	AUTONOMY	-
	FUNCTIONS	-
	WEIGHT	<50g

# AXENDO 30+





+BH520 bracket

LUX	MODEL	XE
<b>70</b> m	LIGHT SOURCE <sup>1</sup>	1 white LED > 30 Lux
	POWER SOURCE	6-48VDC
ю 00 m	POWER CONSUMPTION	1,2 Watt
	AUTONOMY	-
	FUNCTIONS	-
	WEIGHT	<40g

# X&O 50





SW007 incl. (XEAFTc)













 $\Theta_{\underline{k}}$ 



MODELS	XE / XEAFTc	
LIGHT SOURCE <sup>1</sup>	1 white LED > 50 Lux + 2 extra LEDs (DRL®) > 10 Lux (XEAFTc) + 3 extra LEDs (high beam) > 50 + 50 Lux (XEAFTc)	
POWER SOURCE	6-48VDC / 6-36VDC	
POWER CONSUMPTION	2 Watt (XE), 5 Watt (XEAFTc)	
AUTONOMY	-	
FUNCTIONS	Light & Motion Sensor <sup>8</sup> (XEAFTc) DRL <sup>© 4</sup> (XEAFTc) High beam <sup>11</sup> (XEAFTc)	
WEIGHT	<105g	









. G		
0,0	<b>70</b> m	





MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 white LED > 30 Lux
POWER SOURCE	6-36VDC
POWER CONSUMPTION	0,8 Watt
AUTONOMY	=
FUNCTIONS	=
WEIGHT	<40g

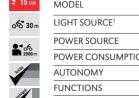
# X&O 15



14	15 LUX	
o	<b>6</b> 30 m	



MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 white LED > 15 Lux
POWER SOURCE	6-48VDC
POWER CONSUMPTION	1,2 Watt
AUTONOMY	=
FUNCTIONS	-
WEIGHT	<40g



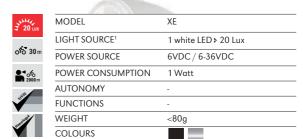




# SWINGO 20















LUX	MODEL	XE
	LIGHT SOURCE <sup>1</sup>	1 white LED > 15 Lux
8 <b>0</b> m	POWER SOURCE	6-36VDC
С 00 m	POWER CONSUMPTION	1 Watt
	AUTONOMY	-
	FUNCTIONS	=
	WEIGHT	<50g
	COLOURS	





MODEL	XE	
LIGHT SOURCE <sup>1</sup>	1 white LED > 4 Lux	
POWER SOURCE	6VDC	
POWER CONSUMPTION	0,6 Watt	
AUTONOMY	-	
FUNCTIONS	=	
WEIGHT	<80g	
COLOURS		









# E-BIKE LIGHT SELECTION - HEADLAN $\Theta_{\mathbf{Z}_{\mathbf{Z}}}$

# KENDO+





+BH520 bracket









MODEL	XE
IGHT SOURCE <sup>1</sup>	1 white LED > 30 Lux
OWER SOURCE	36VDC / 48VDC / 6-36VDC
OWER CONSUMPTION	1 Watt
UTONOMY	-
UNCTIONS	-
VEIGHT	<70g

# **PIMENTO** FRONT







MODEL	XE
	AL .
LIGHT SOURCE <sup>1</sup>	White COB LED > 90 Lumens
POWER SOURCE	6-36VDC
POWER CONSUMPTION	0,6 Watt
AUTONOMY	=
FUNCTIONS	-
WEIGHT	<20g

# GALEO













MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 white LED > 4 Lux
POWER SOURCE	6VDC / 6-36VDC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	-
FUNCTIONS	-
WEIGHT	<60g

# PIMENTO LARGE FRONT







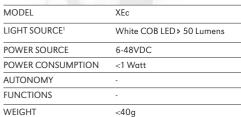
MODEL	XE
LIGHT SOURCE <sup>1</sup>	White COB LED > 90 Lumens
POWER SOURCE	6-48VDC
POWER CONSUMPTION	0,6 Watt
AUTONOMY	-
FUNCTIONS	-
WEIGHT	<40g



### **CALIP FRONT**

















# **CALIP** REAR









MODEL	XE
LIGHT SOURCE <sup>1</sup>	Red COB LED > 50 Lumens
POWER SOURCE	6-48VDC
POWER CONSUMPTION	<1 Watt
AUTONOMY	-
FUNCTIONS	-
WEIGHT	<40g











#### **GLOW**







Optional RR02 reflector





₹2,5candela	
\$ 0.50 m	







MODELS	XE/ XEr / XERc
LIGHT SOURCE <sup>1</sup>	50 miniature LEDs > 2,5 Cd full
	angle (8 Cd Stop-Light /
	40 Candela Brake-Light)
POWER SOURCE	6-48VDC
POWER CONSUMPTION	1 Watt, 3 Watt (Brake-light),
	4,8 Watt (Stop-Light)
AUTONOMY	=
FUNCTIONS	Stop-Light <sup>6</sup> (XEr), Brake-light <sup>5</sup>
	(XERc)
WEIGHT	<40g
-	



LIGHT SOURCE<sup>1</sup>





POWER SOURCE	6-48VDC
POWER CONSUMPTION	1,1 Watt
AUTONOMY	-
FUNCTIONS	Stop-Light <sup>6</sup> , Indicators <sup>12</sup> ,
	Start-up sequence
WEIGHT	<40g

50 miniature LEDs > 2,5 Cd full angle (8 Cd Stop-Light)

#### **HALO**

#### **HALO** STOPLIGHT INDICATOR

#### HALO+

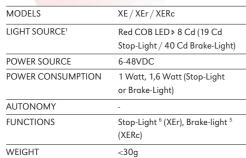














8 CANDELA	
<b>6</b> 00 m 500 m	







MODELS	XErlw
LIGHT SOURCE <sup>1</sup>	red COB LED > 8 Cd (19 Cd Stop-light)
POWER SOURCE	6-48VDC
POWER CONSUMPTION	1,1 Watt
AUTONOMY	-
FUNCTIONS	Stop-Light <sup>6</sup> (XEr), Indicators <sup>12</sup>
WEIGHT	<30g









MODELS





Red COB LED > 8 Cd
(18 Cd Brake-Light)
48VDC
1,1 Watt
-
Brake-Light <sup>5</sup> (XERc), Indicators <sup>12</sup>

XERIc







#### HALO-GUARD









A COLUMN	
MODELS	XE / XEr / XERc
LIGHT SOURCE <sup>1</sup>	Red COB LED > 8 Cd (19 Cd Stop-Light / 40 Cd Brake-Light)
POWER SOURCE	6-48VDC
POWER CONSUMPTION	1 Watt, 1,6 Watt (Stop-Light or Brake-Light)
AUTONOMY	=
FUNCTIONS	Stop-Light <sup>6</sup> (XEr), Brake-light <sup>5</sup> (XERc)
WEIGHT	<30g

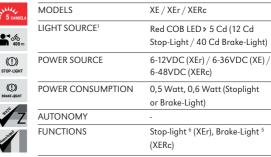
# PIMENTO SERIES

**PIMENTO** 



Optional RR06 reflector





<30g







WEIGHT



#### **PIMENTO** LARGE

MODELS

(I) STOP-LIGHT

(!) BRAKE-LIGHT

LIGHT SOURCE<sup>1</sup>

POWER SOURCE POWER CONSUMPTION

**AUTONOMY** 

**FUNCTIONS** 

WEIGHT



Optional RR02 reflector



XE / XEr / XERc

6-48VDC

(XERc)

<40g

or Brakelight)

Red COB LED > 5 Cd (12 Cd

Stop-Light / 40 Cd Brake-Light)

0,5 Watt, 0,6 Watt (Stoplight

Stop-light <sup>6</sup> (XEr), Brake-Light <sup>5</sup>







+BR19 carrier bracket



+BR20 fender bracket



MODELS	XE/ XERc
LIGHT SOURCE <sup>1</sup>	4 red LEDs > 4 Cd
	(40 Cd Brake-Light)
POWER SOURCE	6-12VDC
POWER CONSUMPTION	0,2 Watt, 0,7 Watt (Brake-Light)
AUTONOMY	-
FUNCTIONS	Brake-Light <sup>5</sup> (XERc)
WEIGHT	<7g

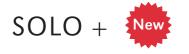
#### PIMENTO-GUARD



ANDELA	MODELS	XE / XEr
o <sup>5</sup> o 400 m	LIGHT SOURCE <sup>1</sup>	Red COB LED > 5 Cd (12 Cd Stop-Light)
D)	POWER SOURCE	6-12VDC (XEr) / 6-36VDC (XE)
LIGHT	POWER CONSUMPTION	0,5 Watt, 0,6 Watt (Stoplight)
	AUTONOMY	-
<b>/</b>	FUNCTIONS	Stop-light <sup>6</sup> (XEr)
	WEIGHT	<20g



 $\Theta_{\underline{l},\underline{l}}$ 







MODEL







LIGHT SOURCE <sup>1</sup>	Red COB LED > 6 Cd
	(9 Cd Stop-Light)
POWER SOURCE	6-48VDC
POWER CONSUMPTION	0,7 Watt, 3,3 Watt (Stop-Light)
AUTONOMY	=
FUNCTIONS	Stop-light <sup>6</sup>
WEIGHT	<30g

XEr

#### **ELIPS**





MODEL	XE
LIGHT SOURCE <sup>1</sup>	6 red LEDs≯ 13 Cd
POWER SOURCE	6-36VDC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	-
FUNCTIONS	-
WEIGHT	<60g













MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 red LED > 6 Cd
POWER SOURCE	6VDC / 12VDC / 6-36VDC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	-
FUNCTIONS	-
WEIGHT	<30g

#### BRASA







MODELS	XER / XERc
LIGHT SOURCE <sup>1</sup>	Red COB LED > 12 Cd + 2 extra
	LEDs (Brake-Light) > 80 Cd
POWER SOURCE	6VDC (XER)
	48VDC / 6-36VDC (XERc)
POWER CONSUMPTION	1,5 Watt
AUTONOMY	-
FUNCTIONS	Brake-Light <sup>5</sup> (XER, XERc)
WEIGHT	<60g



<b>600</b> m
« Z
Hard Bridge

MODEL	XE
LIGHT SOURCE <sup>1</sup>	2 red LEDs> 10 Cd
POWER SOURCE	36VDC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	=
functions	-
WEIGHT	<70g







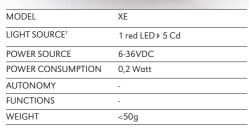
MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 red LED > 7 Cd
POWER SOURCE	6-12VDC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	=
FUNCTIONS	-
WEIGHT	<90g

#### **PLATEO**









#### DUXO



3 5 CANDELA
<b>5</b> 050 m 400 m
SHE
, in



ODEL	XE
IGHT SOURCE <sup>1</sup>	1 red LED > 5 Cd
POWER SOURCE	48VDC / 36-48VDC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	=
FUNCTIONS	=
WEIGHT	<60g

#### VIVO





MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 red LED > 5 Cd
POWER SOURCE	6VDC / 6-36VDC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	=
FUNCTIONS	=
WEIGHT	<40g



#### VENA



8 CANDELA
500 m

MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 red LED > 8 Cd
POWER SOURCE	12VDC / 48VDC
POWER CONSUMPTION	0,2 Watt
AUTONOMY	-
FUNCTIONS	-
WEIGHT	<30g

### PIXEO









_	500 m
.42	
STATE	
$\blacksquare$	
Honolo	<b>'/</b>
Ho.	

MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 red LED > 8 Cd
POWER SOURCE	12VDC / 36VDC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	-
FUNCTIONS	=
WEIGHT	<30g
COLOURS	

### O-GUARD







MODEL	XE
LIGHT SOURCE <sup>1</sup>	2 red LEDs≯ 4 Cd
POWER SOURCE	6-36VDC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	-
FUNCTIONS	=
WEIGHT	<50g

### NR 9









MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 red LED > 5 Cd
POWER SOURCE	6-36VDC
POWER CONSUMPTION	0,2 Watt
AUTONOMY	
FUNCTIONS	-
WEIGHT	<30g
COLOURS	

#### PRESTO-GUARD





MODEL	XE
LIGHT SOURCE <sup>1</sup>	1 red LED > 4 Cd
POWER SOURCE	6-36VDC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	=
FUNCTIONS	-
WEIGHT	<20g

#### **AXENDO 100**



+ BH 520



SW001 incl.

#### **DECIBEL**







3100 LUX
•-











MODEL	XEc
LIGHT SOURCE <sup>1</sup>	1 white LED > 100 Lux
POWER SOURCE	6-24VDC
POWER CONSUMPTION	6 Watt
AUTONOMY	-
FUNCTIONS	Horn <sup>10</sup>
WEIGHT	<150g





MODEL	XEc
LIGHT SOURCE <sup>1</sup>	-
POWER SOURCE	6-36VDC
POWER CONSUMPTION	1 Watt
AUTONOMY	-
FUNCTIONS	Horn <sup>10</sup>
WEIGHT	<25g



MINI

**PIMENTO** 

**GLOW** 

MODEL	XERc
LIGHT SOURCE <sup>1</sup>	50 miniature LEDs > 2,5 Cd full angle (40 Candela Brake-Light)
POWER SOURCE	6-48VDC
POWER CONSUMPTION	1,2 Watt, 3 Watt (Brake-light)
AUTONOMY	-
FUNCTIONS	Brake-light <sup>5</sup>
WEIGHT	<40g

#### **PIMENTO**

MODEL





**Optional RR06** reflector







Optional RR02 reflector





+BR19 carrier bracket









LIGHT SOURCE <sup>1</sup>	Red COB LED > 5 Cd (40 Cd
	Brake-Light)
POWER SOURCE	6-48VDC
POWER CONSUMPTION	0,5 Watt, 0,6 Watt (Brake-Light)
AUTONOMY	=
FUNCTIONS	Brake-light <sup>5</sup>
WEIGHT	<30g

XERc







MODEL	XERc
LIGHT SOURCE <sup>1</sup>	Red COB LED > 5 Cd (40 Cd Brake-Light)
POWER SOURCE	6-48VDC
POWER CONSUMPTION	0,5 Watt, 0,6 Watt (Brake-Light)
AUTONOMY	=
FUNCTIONS	Brake-light <sup>5</sup>
WEIGHT	<40g



MODEL

LIGHT SOURCE1







	(40 Cd Brake-Light)
POWER SOURCE	6-12VDC
POWER CONSUMPTION	0,2 Watt, 0,7 Watt (Brake-Light)
AUTONOMY	-
FUNCTIONS	-
WEIGHT	<7g

XERc

4 red LEDs > 4 Cd



+BR20 fender bracket



#### **HALO**

#### HALO-GUARD

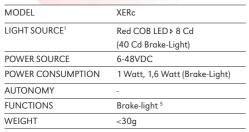
#### **FLEXIO**





500 m
(I) BRAKE-LIGHT







3 8 CANDELA
500 m
(I) BRAKE-L <b>I</b> GHT

MODEL	XERc
LIGHT SOURCE <sup>1</sup>	Red COB LED > 8 Cd
	(40 Cd Brake-Light)
POWER SOURCE	6-48VDC
POWER CONSUMPTION	1 Watt, 1,6 Watt (Brake-Light)
AUTONOMY	-
FUNCTIONS	Brake-light <sup>5</sup>
WEIGHT	<30g



12 CANDELA	
<b>600</b> m	
(I) BRAKE-L <b>I</b> IGHT	

XERc
Red COB LED > 12 Cd 2 extra LEDs (brake-light) > 80Cd
6-36VDC
1,5 Watt
-
Brake-light <sup>5</sup>
<60g











MODEL	XEI
LIGHT SOURCE <sup>1</sup>	7 amber LEDs> 90 Cd
POWER SOURCE	6-36VDC
POWER CONSUMPTION	1,5 Watt
AUTONOMY	-
FUNCTIONS	Indicators 12
WEIGHT	<16g x 2



MOUNTING	Carriers
MATERIAL	galvanized steel

#### LICENSE PLATE LIGHT



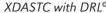
2 CANDELA	MODEL	XE
	LIGHT SOURCE <sup>1</sup>	2 white LEDs > 12 Cd
	POWER SOURCE	6 VDC
	POWER CONSUMPTION	1 Watt
	AUTONOMY	=
	FUNCTIONS	-
	WEIGHT	<25g





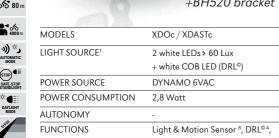
#### **AXENDO 60**







+BH520 bracket



#### Safe-Stop 3 (XDASTc) WEIGHT <130g

#### KENDO+



+BH520 bracket



MODELS	XDOc / XDOSc / XDASc
LIGHT SOURCE <sup>1</sup>	1 white LED > 30 Lux
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	1,2 Watt
AUTONOMY	-
FUNCTIONS	Safe-Stop <sup>3</sup> (XDOSc, XDASc),
	Light & Motion Sensor <sup>8</sup> (XDASc)
WEIGHT	<70g

#### **AXENDO 40**





+BH520 bracket





MODELS	XDOc / XDASc
LIGHT SOURCE <sup>1</sup>	1 white LED > 40 Lux
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	2,4 Watt
AUTONOMY	-
FUNCTIONS	Light & Motion Sensor 8,
	Safe-Stop <sup>3</sup> (XDASc)

	XDOc / XDASc
CE <sup>1</sup>	1 white LED > 40 Lux
RCE	DYNAMO 6VAC
SUMPTION	2,4 Watt
	=
	Light & Motion Sensor 8,
	Safe-Stop <sup>3</sup> (XDASc)
	<70g



**GALEO** 

MODEL	XDOc
LIGHT SOURCE <sup>1</sup>	1 white LED > 40 Lux
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	2,4 Watt
AUTONOMY	-
FUNCTIONS	=
WEIGHT	<50g



WEIGHT





+BH520 bracket

MODELS	XD/ XDO / XDOc
LIGHT SOURCE <sup>1</sup>	1 white LED > 4 Lux
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	3 Watt
AUTONOMY	-
FUNCTIONS	-
WEIGHT	<60g







XDOc
1 white LED > 15 Lux
DYNAMO 6VAC
3 Watt
-
=
<40g

#### SWINGO 20















MODEL	XDOc	
LIGHT SOURCE <sup>1</sup>	1 white LED > 20 Lux	
POWER SOURCE	DYNAMO 6VAC	
POWER CONSUMPTION	1,2 Watt	
AUTONOMY	-	
FUNCTIONS	-	
WEIGHT	<80g	
COLOURS		

#### TRENDO













MODEL	XDOc
LIGHT SOURCE <sup>1</sup>	1 white LED > 15 Lux
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	0,8 Watt
AUTONOMY	-
FUNCTIONS	-
WEIGHT	<50g
COLOURS	
COLOURS	



### GLOW



Optional RR02 reflector







XDS
50 miniature LEDs> 2,5 Cd full angle
DYNAMO 6VAC
1,1 Watt
-
Safe-Stop <sup>3</sup>
<40g



#### **HALO**

₹ 8 CANDELA
<b>1</b> 500 m

MILE





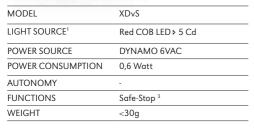
MODEL	XDS
LIGHT SOURCE <sup>1</sup>	Red COB LED > 8 Cd
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	1 Watt
AUTONOMY	-
FUNCTIONS	Safe-Stop <sup>3</sup>
WEIGHT	<30g

#### **PIMENTO**





5 CANDELA	
<b>1</b> 050 m 400 m	
STOP  SAFE-STOP STANDLIGHT	
WID .	



#### HALO+



#### **PIMENTO** LARGE





5 CANDELA
<b>100</b> m
SAFE-STOP STANDLIGHT
sur Z

#### MODEL XDvS LIGHT SOURCE1 Red COB LED > 5 Cd **POWER SOURCE** DYNAMO 6VAC POWER CONSUMPTION 0,6 Watt **AUTONOMY FUNCTIONS** Safe-Stop <sup>3</sup> WEIGHT <40g

#### HALO-GUARD



8 CANDELA	MODEL	XDS
<b>≥</b> %	LIGHT SOURCE <sup>1</sup>	Red COB LED > 8 Cd
500 m	POWER SOURCE	DYNAMO 6VAC
SAFE-STOP	POWER CONSUMPTION	1 Watt
TANDLIGHT	AUTONOMY	-
Z	FUNCTIONS	Safe-Stop <sup>3</sup>
a di	WEIGHT	<30g

#### PIMENTO-GUARD



CANDELA	MODEL
ింకం	LIGHT SOU
400 m	POWER SO
OP ■  FE-STOP  NDLIGHT	POWER CO
	AUTONOM
	FUNCTION
	WEIGHT

MODEL	XDvS
LIGHT SOURCE <sup>1</sup>	Red COB LED > 5 Cd
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	0,6 Watt
AUTONOMY	=
FUNCTIONS	Safe-Stop <sup>3</sup>
WEIGHT	<20g

#### **ELIPS**



13 CANDELA	MODEL	XDvS
<b>600</b> m	LIGHT SOURCE <sup>1</sup>	6 red LEDs≯ 13 Cd
(STOP) ■≡	POWER SOURCE	DYNAMO 6VAC
SAFE-STOP STANDLIGHT	POWER CONSUMPTION	0,6 Watt
**** 7	AUTONOMY	-
	FUNCTIONS	Safe-Stop <sup>3</sup>
	WEIGHT	<60g

#### LINEO



MODELS	XDv / XDvS
LIGHT SOURCE <sup>1</sup>	2 red LEDs > 10 Cd
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	0,4 Watt
AUTONOMY	-
functions	Safe-Stop <sup>3</sup> (XDvS)
WEIGHT	<70g

#### SOLO



500 m
SAFE-STOP STANDLIGHT
Z
Hallagar

MODELS	XDv / XDvS
LIGHT SOURCE <sup>1</sup>	1 red LED > 6 Cd
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	-
FUNCTIONS	Safe-Stop <sup>3</sup> (XDvS)
WEIGHT	<30g

#### **PLATEO**



- O CANDELA
<b>1</b> 00 m 400 m
Z Z

5 CANDELA

MODELS	XDv / XDvS
LIGHT SOURCE <sup>1</sup>	1 red LED > 5 Cd
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	=
FUNCTIONS	Safe-Stop <sup>3</sup> (XDvS)
WEIGHT	<50g

#### DUXO



MODELS	XDv / XDvS
LIGHT SOURCE <sup>1</sup>	1 red LED > 5 Cd
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	0,5 Watt
AUTONOMY	-
FUNCTIONS	Safe-Stop <sup>3</sup> (XDvS)
WEIGHT	<60g

#### VIVO





MODELS



XDv / XDvS

#### **VENA**











MODELS	XDv / XDvS
LIGHT SOURCE <sup>1</sup>	1 red LED > 8 Cd
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	0,2 Watt
AUTONOMY	-
FUNCTIONS	Safe-Stop <sup>3</sup> (XDvS)
WEIGHT	<50g

#### **PIXEO**













MODELS	XDv / XDvS
LIGHT SOURCE <sup>1</sup>	1 red LED > 8 Cd
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	=
FUNCTIONS	Safe-Stop <sup>3</sup> (XDvS)
WEIGHT	<40g
COLOURS	

#### O-GUARD







MODEL	XDv
LIGHT SOURCE <sup>1</sup>	2 red LEDs > 4 Cd
POWER SOURCE	DYNAMO 6VAC
POWER CONSUMPTION	0,3 Watt
AUTONOMY	=
FUNCTIONS	=
WEIGHT	<70g

#### NR 9





#### PRESTO-GUARD



4 CANDELA
<b>1</b> 0 0 0 m
SAFE-STOP STANDLIGHT

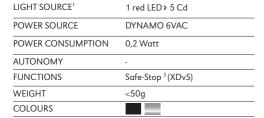
CANDELA	MODELS	XDv / XDvS
ර්ර 400 m	LIGHT SOURCE <sup>1</sup>	1 red LED > 4 Cd
) <b>4</b> 00 III	POWER SOURCE	DYNAMO 6VAC
E-STOP IDLIGHT	POWER CONSUMPTION	0,3 Watt
7	AUTONOMY	-
<u>_</u>	FUNCTIONS	Safe-Stop <sup>3</sup> (XDvS)
	WEIGHT	<20g



MODELS







XDv / XDvS









XB

0,6 Watt Max. 100h

<130g

1 white LED > 15 Lux

BATTERIES 3 x AA 1.5V

#### SWINGO 20



#### SWINGO 4



0	

MODEL

LIGHT SOURCE1

POWER SOURCE

FUNCTIONS WEIGHT

COLOURS

POWER CONSUMPTION

**TRENDO** 

20 LUX	
of 30 m	







MODEL	XB
LIGHT SOURCE <sup>1</sup>	1 white LED > 20 Lux
POWER SOURCE	BATTERIES 4 x AAA 1.5V
POWER CONSUMPTION	1 Watt
AUTONOMY	Max. 40h
FUNCTIONS	-
WEIGHT	<130g
COLOURS	

3 4 LUX
o <sup>6</sup> o 20 m
1000 m
LOW BATTERY

MODEL	XB
LIGHT SOURCE <sup>1</sup>	1 white LED > 4 Lux
POWER SOURCE	BATTERIES 3 x AAA 1.5V
POWER CONSUMPTION	0,5 Watt
AUTONOMY	Max. 40h
FUNCTIONS	-
WEIGHT	<130g
COLOURS	

#### X&O 25

FUNCTIONS WEIGHT



MODEL	VP.	
MODEL	ХВ	
LIGHT SOURCE <sup>1</sup>	1 white LEDs > 25 Lux	
POWER SOURCE	BATTERIES 2 x AA 1.5V	
POWER CONSUMPTION	0,6 Watt	
AUTONOMY	=	

<110g





		<i>) )</i>
3 4 LUX	MODEL	ХВ
27	LIGHT SOURCE <sup>1</sup>	1 white LED > 4 Lux
o∕o 20 m	POWER SOURCE	BATTERIES 2 x AA 1.5V
<b>1000</b> m	POWER CONSUMPTION	0,3 Watt
	AUTONOMY	Max. 40h
LOW BATTERY	FUNCTIONS	-
Morelbuil	WEIGHT	<100g

#### ILLICO 3





o5 10	O 00 m
Heffolder	

MODEL	XB
LIGHT SOURCE <sup>1</sup>	1 white LED > 4 Lux
POWER SOURCE	BATTERIES 2 x CR2032 3V
POWER CONSUMPTION	0,5 Watt
AUTONOMY	Max. 10h
FUNCTIONS	-
WEIGHT	<20g

#### **ELIPS**





MODEL	ХВ
LIGHT SOURCE <sup>1</sup>	6 red LEDs≯ 13 Cd
POWER SOURCE	BATTERIES 2x AAA 1.5V
POWER CONSUMPTION	0,2 Watt
AUTONOMY	Max. 50h
FUNCTIONS	-
WEIGHT	<90g

#### LINEO



MODELS	XB / XBA
LIGHT SOURCE <sup>1</sup>	2 red LEDs > 10 Cd
POWER SOURCE	BATTERIES 2x AA 1.5V
POWER CONSUMPTION	0,2 Watt
AUTONOMY	Max. 180h
FUNCTIONS	Light & Motion Sensor <sup>8</sup> (XBA
WEIGHT	<120g

### SOLO



500 m	
AUTOMATIC MODE	
LOW BATTERY	
Z V	
Harris Barris	

MODELS	XB / XBA
LIGHT SOURCE <sup>1</sup>	1 red LED > 6 Cd
POWER SOURCE	BATTERIES 2x AAA 1.5V
POWER CONSUMPTION	0,3 Watt
AUTONOMY	Max. 100h
FUNCTIONS	Light & Motion Sensor <sup>8</sup> (XBA)
WEIGHT	<60g

#### **PLATEO**





MODELS	XB / XBA
LIGHT SOURCE <sup>1</sup>	1 red LED > 5 Cd
POWER SOURCE	BATTERIES 2x AAA 1.5V
POWER CONSUMPTION	0,1 Watt
AUTONOMY	Max. 70h
FUNCTIONS	Light & Motion Sensor <sup>8</sup> (XBA)
WEIGHT	<70g

#### DUXO



14		
5 CANDELA	MODEL	XB
<b>400</b> m	LIGHT SOURCE <sup>1</sup>	1 red LED > 5 Cd
 	POWER SOURCE	BATTERIES 2x AA 1.5V
BATTERY	POWER CONSUMPTION	0,2 Watt
\$	AUTONOMY	Max. 180h
stir/	FUNCTIONS	-
	WEICHT	-110a

#### VIVO





MODEL	XB
LIGHT SOURCE <sup>1</sup>	1 red LED > 5 Cd
POWER SOURCE	BATTERIES 2 x AAA 1.5V
POWER CONSUMPTION	0,2 Watt
AUTONOMY	Max. 140h
functions	-
WEIGHT	<40g

#### **PIXEO**











3 8 CANDELA	
500 m	







MODELS	XB / XBA
LIGHT SOURCE <sup>1</sup>	1 red LED > 8 Cd
POWER SOURCE	BATTERIES 2 x AAA 1.5V
POWER CONSUMPTION	0,2 Watt
AUTONOMY	Max. 180h
FUNCTIONS	Light & Motion Sensor 8 (XBA)
WEIGHT	<40g
COLOURS	



	300 111
(0)	
LOW B	ATTERY
5WZ0	



MODEL	XB
LIGHT SOURCE <sup>1</sup>	1 red LED > 5 Cd
POWER SOURCE	BATTERIES 2x AA 1.5V
POWER CONSUMPTION	0,1 Watt
AUTONOMY	Max. 120h
FUNCTIONS	-
WEIGHT	<50g
COLOURS	

#### O-GUARD

MODEL

LIGHT SOURCE<sup>1</sup>









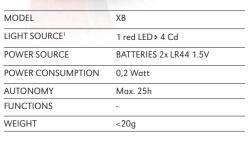
XB

2 red LEDs > 4 Cd

#### PRESTO-GUARD







#### PRESTO 2



4 CANDELA
\$ 50 m
LOW BATTERY



MODEL	XB
LIGHT SOURCE <sup>1</sup>	1 red LED > 4 Cd
POWER SOURCE	BATTERIES 2x LR44 1.5V
POWER CONSUMPTION	0,2 Watt
AUTONOMY	Max. 10h
FUNCTIONS	=
WEIGHT	<20g

# OTHER GEAR ACCESSORIES

## PIMENTO New INDICATOR









MODEL	XEI
LIGHT SOURCE <sup>1</sup>	7 amber LED > 90 Cd
POWER SOURCE	6-36VDC
POWER CONSUMPTION	1,5 Watt
AUTONOMY	=
FUNCTIONS	Indicators 12
WEIGHT	<16g x 2

#### LICENSE PLATE LIGHT





MODEL	XE
LIGHT SOURCE <sup>1</sup>	2 white LEDs> 12 Cd
POWER SOURCE	6 VDC
POWER CONSUMPTION	1 Watt
AUTONOMY	=
FUNCTIONS	-
WEIGHT	<25g

#### **MINIBELL**



MOUNTING	Handlebar	
DIMENSIONS	Ø 30mm	
MATERIAL	Steel / aluminum	

#### **DECIBEL**







MODEL	XEc
LIGHT SOURCE <sup>1</sup>	-
POWER SOURCE	6-36VDC
POWER CONSUMPTION	1 Watt
AUTONOMY	-
FUNCTIONS	Horn <sup>10</sup>
WEIGHT	<25g

















MODEL	BH190-1	BH190-2	BH190-3	BH194	BH192	BH195	BH251	BH252
MATERIAL	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Plastic	Plastic
MOUNTING	Front fork wire thickness Ø=4mm L=70mm	Front fork, L=52mm, angle 90°	Front fork, L=50mm, angle 120°	Front fork, L=57mm, angle 90°	Front fork wire thickness Ø=3mm L=50mm	Front fork wire thickness Ø=4mm L=80mm	Front fork	SUNTOUR® MOBY front fork
COLOURS								
COMPATIBLE WITH								
AXENDO 100	•	•	•	•		•	•	•
AXENDO 80	•	•	•	•		•	•	•
AXENDO 60	•	•	•	•		•	•	•
AXENDO 40	•	•	•	•		•	•	•
AXENDO 40+	•	•	•	•		•	•	•
AXENDO 30	•	•	•	•		•	•	•
AXENDO 30+	•	•	•	•		•	•	•
DECIBEL								
GALEO BATT	•			•	•	•		
GALEO DYN/EBIKE								
KENDO+	•	•	•	•	•	•	•	•
SWINGO 20 / 4								
TRENDO								
X&O 50	•	•	•	•		•	•	•
X&O 30	•	•	•	•		•	•	•
X&O 15	•	•	•	•		•	•	•















MODEL	BH253	BH255	BH257	BH350	BH282	BH520	BH539
MATERIAL	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic
MOUNTING	SUNTOUR® CR8/NEX front fork	Front tube	ZOOM® and PROMAX® stem systems	Front tube (e-scooters)	Handlebar Ø 22.2-32mm	BOSCH® INTUVIA & NYON handlebar displays Ø 22-31mm Ø22-31mm	Offset handlebar bracket Ø 22.2-32mm
COLOURS							
COMPATIBLE WITH							
AXENDO 100	•	•	•		•	•	•
AXENDO 80	•	•	•		•	•	•
AXENDO 60	•	•	•		•	•	•
AXENDO 40	•	•	•		•	•	•
AXENDO 40+	•	•	•		•	•	•
AXENDO 30	•	•	•	•	•	•	•
AXENDO 30+	•	•	•		•	•	•
DECIBEL							
GALEO BATT							
GALEO DYN/EBIKE							
KENDO+	•	•	•	•	•	•	•
SWINGO 20 / 4							
TRENDO							
X&O 50	•	•	•	•	•	•	•
X&O 30	•	•	•	•	•	•	•
X&O 15	•	•	•	•	•	•	•















			200	80.00			
MODEL	BH600-2	BH210	BH230	BH250	BH260	BH270	BH180
MATERIAL	Aluminum	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic
MOUNTING	Front fork	Front fork	SUNTOUR CR8/NEX front fork	RST ICS CROWN front fork	Front fork	Front fork	Front fork
COLOURS							
COMPATIBLE WITH							
AXENDO 100	•						
AXENDO 80	•						
AXENDO 60	•						
AXENDO 40	•						
AXENDO 40+	•						
AXENDO 30	•						
AXENDO 30+	•						
DECIBEL							
GALEO BATT					•		
GALEO DYN/EBIKE		•	•	•			•
KENDO+	•	• (with RW11)	• (with RW11)	• (with RW11)			
SWINGO 20 / 4						•	
TRENDO						•	
X&O 50	•						
X&O 30	•						
X&O 15	•						

















MODEL	BH530	BH40	BH191	BH196	BH201	BH211	BH310	BH320
MATERIAL	Plastic	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Steel	Stainless steel	Stainless steel
MOUNTING	Front carrier / basket	Front fork wire thickness Ø=4mm L=80mm	Front fork L=61mm	Front fork wire thickness Ø=4mm	Front fork L=28mm	Front fork wire thickness Ø=4mm L=78mm	Adaptor to Axendo 100	Adaptor to RW14
COLOURS								
COMPATIBLE WITH								
AXENDO 100								
AXENDO 80								
AXENDO 60								
AXENDO 40								
AXENDO 40+								
AXENDO 30								
AXENDO 30+	•				•			•
DECIBEL							•	
GALEO BATT								
GALEO DYN/EBIKE						•		
KENDO+						•		
SWINGO 20 / 4		•	•	•				
TRENDO		•	•	•				
X&O 50								
X&O 30								
X&O 15								

















MODEL	BR01	BR02	BR03	BR04	BR06	BR07	BR11	BR13
MATERIAL	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Steel	Steel	Plastic	Stainless steel
MOUNTING	Brake-bolt	Seat-post	Seat-stay	Seat-stay	50 mm mount carrier	Protector	Saddle	Seat-post
COLOURS								
COMPATIBLE WITH								
BRASA								
DECIBEL								
DUXO								
ELIPS								
FLEXIO								
GLOW series								
HALO series							•	
LINEO								
O-GUARD	•	•	•	•			•	•
NR9	•	•	•	•				•
PIMENTO series	•	•	•	•	•		•	•
PIXEO	•	•	•	•		•		•
PLATEO								
PRESTO-GUARD	•	•	•	•				•
RRO1					•		•	
RRO2					•		•	
RR03 (50mm)								
RR03 (80mm)					•		•	
RRO6					•		•	
RR16 (saddle)								
RR20					•		•	
RR22 (50mm)					•		•	
RR22 (80mm)								
SOLO series								
VENA	•	•	•	•				•
VIVO								













MODEL	BR17	BR19	BR20	BR25	BR700
MATERIAL	Steel	Plastic	Plastic	Steel	Galvanized steel
MOUNTING	Carriers	50 mm mount carrier	Mudguard	Adaptor	Carrier / license plate holder
COLOURS					
COMPATIBLE WITH					
BRASA					
DECIBEL					
DUXO					
ELIPS					
FLEXIO					•
GLOW series				•	
HALO series					•
LINEO					
O-GUARD					
NR9					
PIMENTO series	•	•	•		•
PIXEO					
PLATEO					
PRESTO-GUARD					
RRO1	•				
RRO2	•			•	
RR03 (50mm)	•				
RR03 (80mm)					
RRO6	•				
RR16 (saddle)					
RR20	•				
RR22 (50mm)	•				
RR22 (80mm)					
SOLO series					
VENA					
VIVO					



















MODEL	CC01	CC02	CC03	CC04	SW001	SW007	SW009	GLOW tool
MATERIAL	Plastic	Plastic	Plastic	Plastic	Plastic / rubber	Plastic / rubber	Plastic / rubber	Plastic
MOUNTING	Cable connector x100	Cable connector x2	Cable connector x2	Cable connector	Handlebar Ø 20.5-25mm	Handlebar Ø 20.5-25mm	Handlebar Ø 20.5-25mm	Cable retracting tool
COLOURS								
COMPATIBLE WITH								
AXENDO 100		•			•			
AXENDO 80			•			•		
AXENDO 60			•					
AXENDO 40		•						
AXENDO 40+		•						
AXENDO 30	•							
AXENDO 30+	•							
BRASA	•							
DECIBEL					•			
DUXO	•							
ELIPS	•							
FLEXIO				•				
GALEO BATT								
GALEO DYN/EBIKE	•							
GLOW series							•	•
HALO series	•						•	
KENDO+	•							
LINEO	•							
O-GUARD	•							
NR9	•							
PIMENTO series	•							
PIXEO	•							
PLATEO	•							
PRESTO-GUARD	•							
SWINGO 20 / 4								
SOLO series	•							
TRENDO								
VENA	•							
VIVO	•							
X&O 50						•		
X&O 30	•							
X&O 15	•							









RW06

Front (50mm

RW20

Spoke

MODEL

MOUNTING



RW07

Front (incl. 3M



RW08

Front



RW09



RW15

Front (with clip to Front with hook



Front fork, with

RW16



Front with hook,

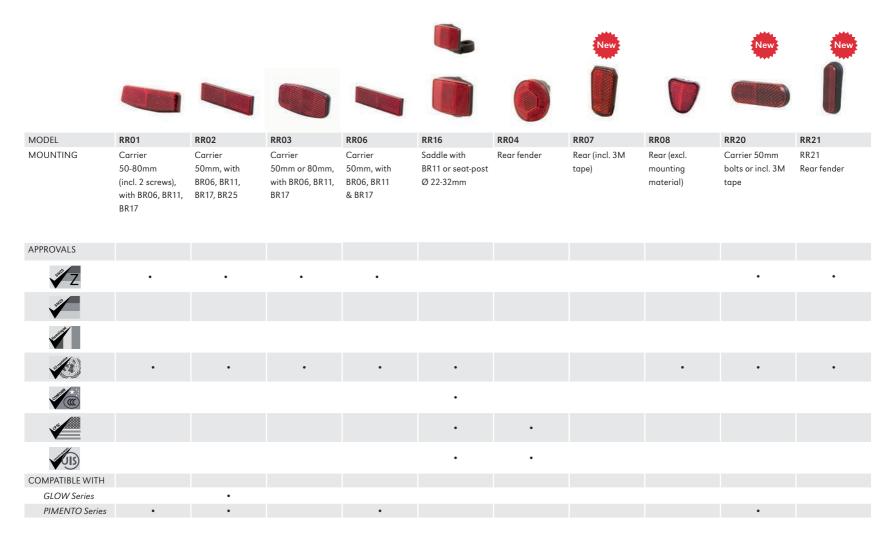
RW11



RW23

Front with hook

MOUNTING	Зроке	distance bolts or incl. 3M tape)	tape to BH230 or clip to BH06 or hook)	(excl. mounting material), to BH320	BH195 or hook)	FIGHT WITH HOOK	BH198 Handlebar, with BH280	with BH210, BH230, BH240, BH250	FIGHT WITH HOOK
APPROVALS									
y Z									
Sure		•							
Harris Contraction of the Contra									
		•	•	•	•	•	•	•	
die X							•		
							•		•
<b>V</b> UIS							•		
COMPATIBLE WITH									
AXENDO 100									
AXENDO 80					•	•			
AXENDO 60					•	•			
AXENDO 40					•	•			
AXENDO 40+									
AXENDO 30					•	•			
AXENDO 30+									
GALEO BATT					•				
KENDO+			•		•	•		•	
X&O 50						•			
X&O 30						٠			
X&O 15						•			















MODEL	RR22	RA09	RA07	RA02	RA03
MOUNTING	Carrier 50mm	Rear fender	Side	Spoke	Spoke
	or 80mm bolts or	(excl. mounting	(incl. 3M tape)		
	incl 3M tane	material)			

APPROVALS					
yes Z	•				
gree .					•
we distributed to the state of				•	
	•	•	•		•
Salar (CC)					
	•				
VIS	•				
COMPATIBLE WITH					
GLOW Series					
PIMENTO Series	•				





# CREATIONS

Over the years, Spanninga has developed a specific know-how in creating and producing customised design solutions that support and mediate illustrious micromobility manufacturers identities to the surrounding world. The notoriety of the Spanninga name in this field is rewarded by the satisfaction and the trust of our customers.







BASTILLE @











cannondale

























































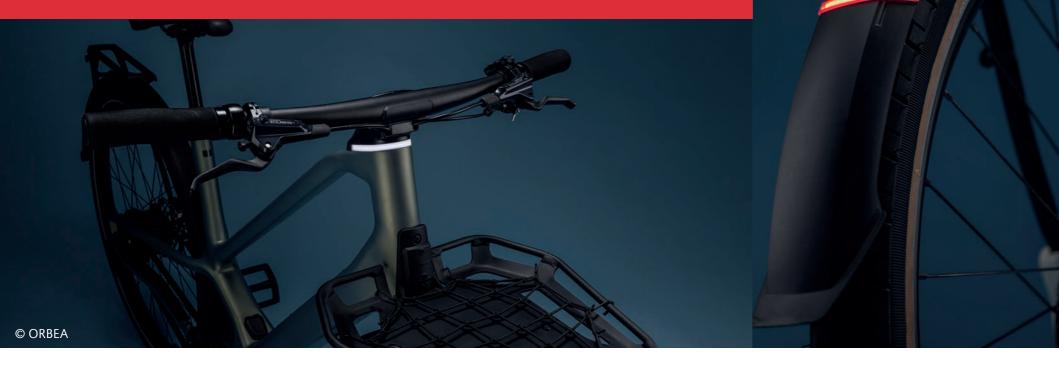






"Diem epitomizes the fusion of cutting-edge performance, sleek design, and a core commitment to enhancing the joy of riding. Through a collaborative effort with SPANNINGA, we've pioneered a state-of-the-art integrated lighting system. Engineered with a paramount focus on personal safety, bike security, and user convenience, it sets a new standard in cycling illumination."

Sports Marketing Manager - Orbea









"Bastille is a premium fully-equipped city bicycle for which a best-in-class lighting system was mandatory. It was a challenge considering its unique folding frame. We are very happy with the way we could integrate the Axendo and Pimento lights into our design."

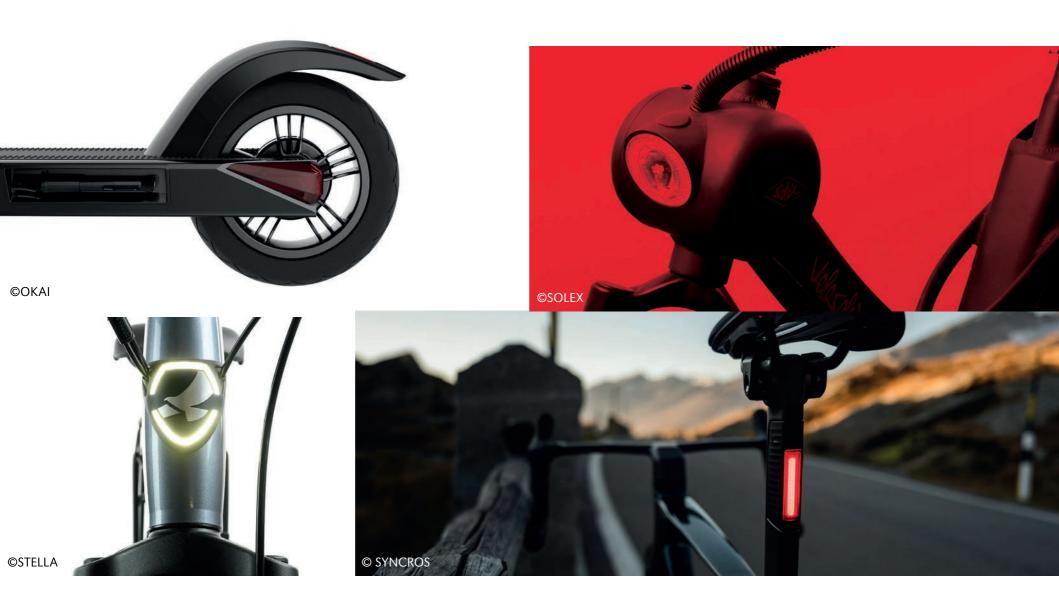
CEO - Bastille Cycles

"The collaboration with people from Spanninga was great. For our first Opium series they followed exactly all targets of our custom-light. A light which is an eyecatcher and designfeature as well. This new light gives our Opium an unique look, exactly what we want."

Product Manager – Opium





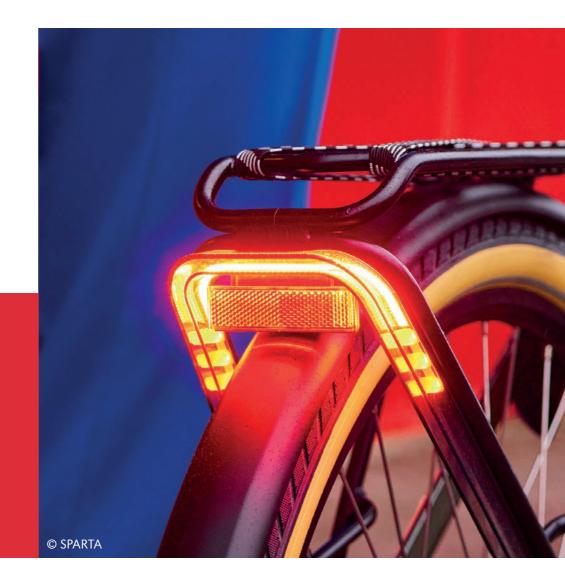




© STELLA

"Syncros components are fundamental for SCOTT bikes to achieving aerodynamic gains, reduction in weight and of course in increasing the comfort factor. Marketing Leader – Syncros, the innovative seatpost integrates the Campbell 20 Aero light, designed in collaboration with Spanninga. Very unique on the market, It's super easy to use with 3 running modes while still keeping the aerodynamic advantage of the seatpost."

Marketing Leader – Syncros





"Spanninga's adeptness in translating our design concepts into tangible technical drawings was pivotal in bringing our vision to life. The structured and efficient process they employed throughout the development phase ensured a smooth journey from ideation to execution. Their ability to not just meet but surpass our stringent quality and timeline requirements was truly remarkable. The result? An exceptional line of integrated lights that not only meets but exceeds industry standards.

Ahooga Bike looks forward to continued collaborations with Spanninga, knowing that together, we'll continue to illuminate the path forward in the world of biking innovation."

Manufacturing engineer – Ahooga







"The cooperation with Spanninga has been pleasant. Not only does Spanninga have a lot of experience and knowledge in the field of light, but also thought along on aspects of the housing, production and assembly, and thus smart solutions were found. The end result fits perfectly with the Mokumono Polder and gives the bike a unique look."

Founder & Head of design – Mokumono



When we asked Spanninga to make us an offer for a new rearlight for one of our e-bike battery series, already in the beginning they surprised us with a working prototype to demonstrate their technology. During the project there was good collaboration between us and Spanninga R&D. They managed to translate our demanding design ideas into a good looking and well-functioning product. And on top of that they managed to do this in time. It was a pleasure to work with Spanninga in this project.

Product Engineer - Koga







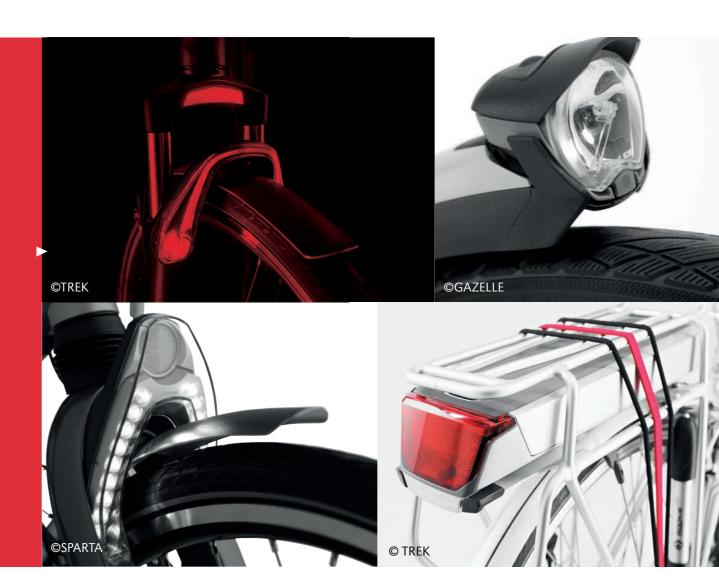


For Trek Benelux, as being part of a worldwide company, safety is of very great importance. As one of the initiators of the RAI-mark for bicycle lighting (RKF), Spanninga has proved to consider safety, like us, as a high priority.

Trek has carried out several projects in which design and integration were important requirements. Spanninga was closely involved in the development projects and could very well meet the wishes of our designers and engineers.

Spanninga is capable of delivering the right things to customers and to us as a bicycle manufacturer in the constantly changing lighting market.

Product Manager - Trek Benelux



Purchasing a bicycle is becoming more and more an emotional choice.

An appealing design is of great importance. Batavus designs almost all their components themselves.

Spanninga helps us to transfer these designs in solutions which fulfil our quality and safety standards.

Cooperating with Spanninga means a big advantage of design freedom.

Spanninga is a company that is constantly trying to update their products. They come up regularly with new developments which follow the latest lighting trends. Furthermore they know how to implement these innovations in our own designs. Our most recent line of headlights and rearlights is a good example of this way of working.

Product Manager - Batavus















© BATAVUS

© SELLE BASSANO



"We were looking for a reliable manufacturing partner for our new helmet light and picked Spanninga based on their reputation for reliability and expertise. Spanninga was professional, fast and effective with their support in the industrialization of our light. In the end, we pleasantly surprised with the quality of the final product."

Product Manager - Scott Sports









© GAZELLE

Safety is an important issue for us. Our lighting must meet what we call 'robust quality' with which 'to see' and 'being seen' is of great importance. This must last over the total lifetime of the bicycle.

One of the brand visions of Gazelle is 'smart design'. This provides us a great part of our distinctive position in the cycle market. So that is how we add value to our bicycles.

Spanninga delivers a very good balance in price/quality and combines this for e.g. rearlights with good lightguiding technologies. Moreover they are leaders in the modular construction of their products.

Innovation Manager - Gazelle



Safety, efficiency, and riding pleasure while commuting are central aspects in the development of Stromer products. A powerful light system with daylight, headlights and back light including brakelight, is, in addition to reliable brakes and great tire performance for high directional stability and grip in any weather, crucial for riding safety. Stromer's design standards always aim to combine aesthetic and technology to achieve a clean design, including in the integration the daylight into the head which has become a trademark.

Communications Manager - MyStromer AG



© LOOK



To achieve this project, we needed to partner with an expert in lighting, so that we could rely on his experience. The choice of Spanninga came naturally. We found a French partner whose geographic proximity has facilitated the collaboration in the development of this project and enabled rapid and constructive discussions. The know-how of Spanninga allowed us to meet the challenges of the project, one of the major points of which was the miniaturization and the integration of the lighting components into the pedal.

The launch of the Look Geo Trekking range of pedals was very positive. The Vision lighting built into the pedal really caught the eye! It is a real success for our two brands and a good proof of our respective know-how."

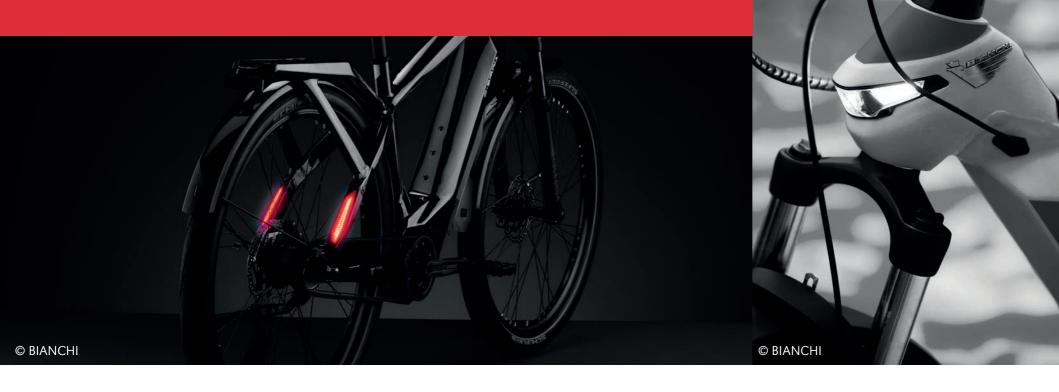
Product Manager - Look Cycle International



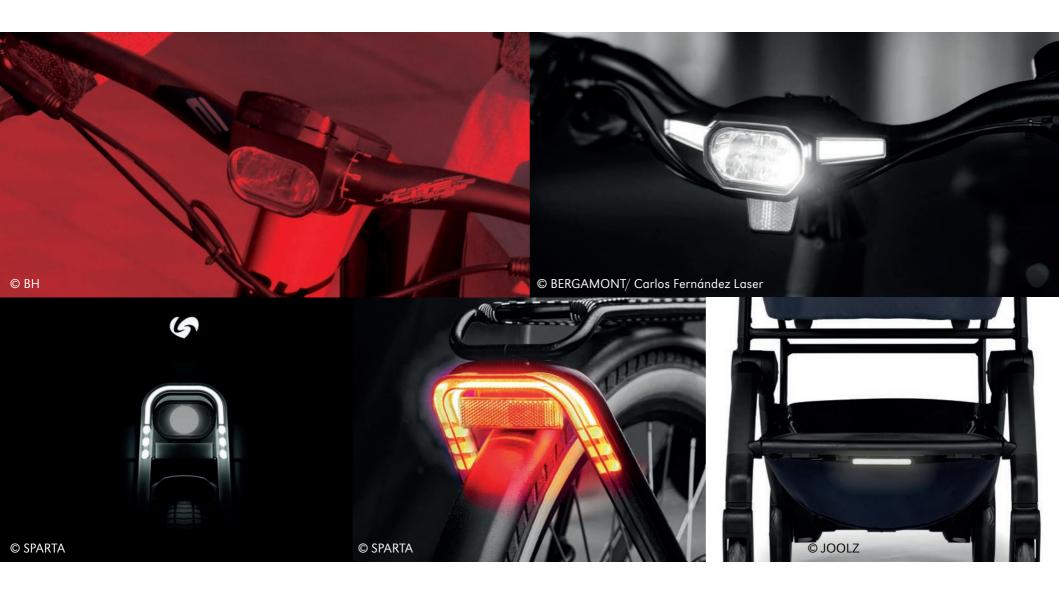


The e-Omnia platform harnesses pioneering technology to improve the user's experience. The integrated rear headlights which allow us to have a visibility to other up to 500 meters away and a front headlight that have a lighting depth of up to 100 meters. Safety in the first place.

CEO - Bianchi

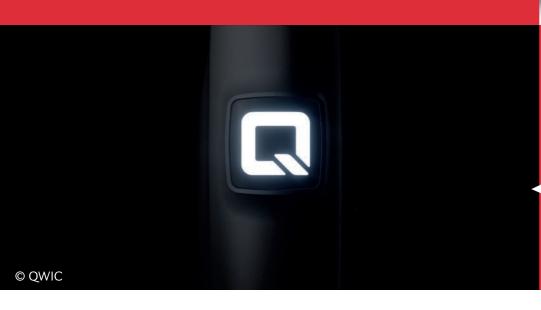






"We had three goals in mind when developing the light concept: at first it is of outmost importance in the city to be seen well, night and day! Second, we wanted our new e-bike to be recognized as something distinct, as something with character. And third, we were aiming at a high level of integration of all components. We developed a completely new front light - integrated into the cockpit - that provides excellent visibility - with a strong headlight and two broad daytime running light stripes. The light switches automatically between day and night mode."

Product engineer - Bergamont





In developing e-bikes, we drew inspiration from the automotive industry. Likewise, for the Q-light, we observed that today's cars are standard equipped with daytime running lights to increase visibility and safety. Since a normal bike lacks this feature, we decided to incorporate it into our e-bikes as a unique feature that showcases their electric power.

Technical Innovation Lead - Qwic

	LETTER 1		LETT 2							LETTER 3, 4,					
	LIGHT SOURCE <sup>1</sup>	POWER SOURCE				FEATURES									
	Х	В	D	Dv	E	0	Α	S	F	R	r	T	I	С	w
	LED	BATTERY	DYNAMO AC powered	DYNAMO AC powered (should be connected to headlamp)	E-BIKE <sup>9</sup> DC powered	manual SWITCH <sup>7</sup>	AUTO <sup>8</sup>	SAFE-STOP <sup>3</sup>	HIGH BEAM <sup>11</sup>	BRAKE-LIGHT <sup>5</sup>	STOPLIGHT <sup>6</sup>	DAYLIGHT <sup>4</sup>	TURNING INDICATORS <sup>12</sup>	SECONDARY CONNECTION <sup>13</sup>	WIRELESS CONNECTION
XB	•	•													
XBA	•	•					•								
XD	•		•												
XDc	•		•											•	
XDv	•			•											
XDvc	•		•											•	
XDvS	•			•				•							
XDvr	•			•							•				
XDS	•		•					•							
XDO	•		•			•									
XDOc	•		•			•								•	
XDOSc	•		•			•		•						•	
XDASc	•		•				•	•						•	
XDASTc	•		•				•	•				•		•	
XE	•				•										
XEc	•				•									•	
XEO	•				•	•									
XEAc	•				•		•							•	
XEAT	•				•		•					•			
XEATc	•				•		•					•		•	
XEAFc	•				•		•		•					•	
XEAFTc	•				•		•		•			•		•	
XEIw	•				•								•		•
XERc	•				•					•				•	
XEr	•				•						•				

- At 10m distance
- Starts when the battery capacity is ca. 25%
- The light shines when the bike is stopped up to 2 min. (dynamo front lights) / up to 4 min. (dynamo rear lights) and ca. 20 sec. (battery rearlights)
- The light shines during daytime for increased visibility
- Stronger light signal warning when the bike brakes, activated by the brake lever
- Stronger light signal warning when the bike brakes, sensor-based
- With manual switch (hub dynamo)
- With light and motion sensor
- Suitable for use with e-bikes
- 10 An electric horn signal alerts other road users in case of danger or to attract attention
- 11 Wider light beam which is min. 25 times brighter at long distance compared to the normal light beam
- 12 Right & left amber light indicators alert other road users when the biker intends change direction
- 13 Secondary connection (eg rearlight connection, connection to external switch, connection to brake-lever etc)

JAPANESE APPR.

BRITISH APPR.

ECE APPR.

CHINESE APPR.

US APPR.



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