



**HBG-100 Series  
100W Constant  
Current Mode  
LED Driver**



# MEAN WELL HBG-100 Series 100W Constant Current Mode LED Driver User Guide

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**MEAN WELL HBG-100 Series 100W Constant Current Mode LED Driver**



## FAQs

### What is the maximum input voltage range for the HBG-100 series?

The maximum input voltage range is between 90VAC to 305VAC and 127VDC to 431VDC.

### Can the output current be adjusted for all models?

The output current is adjustable for A/AB-Type models via a built-in potentiometer.

## Features

- Constant Current mode output
- Circular metal housing with class I design
- Built-in active PFC function
- 1P67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming; DALI
- Typical lifetime>50000 hours
- 5 years warranty

## Applications

- LED bay lighting
- LED stage lighting
- LED spot lighting
- Type “HL” for use in Class I, Division 2
- hazardous (Classified) location.

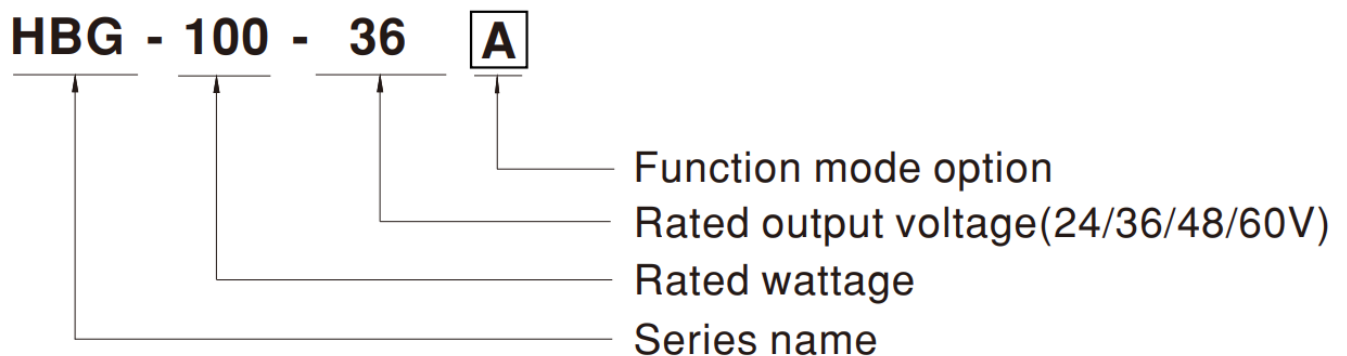
## GTIN CODE

- MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

## Description

HBG-100 series is a 100W AC/DC LED driver featuring a circular shape design. It operates from 90~305VAC and offers constant current output models with different rated voltages between 24V and 60V. Thanks to the high efficiency of up to 91.5%, with the fanless design, the entire series is able to operate for -40°C ~ +85°C case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HBG-100 is equipped with various function options, such as dimming methodologies, so as to provide optimal design flexibility for LED lighting systems.

## Model Encoding



Type	IP Level	Function	Note
Blank	IP67	Io fixed.	In Stock
A	IP65	Io adjustable through built-in potentiometer.	In Stock
B	IP67	3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
AB	IP65	Io adjustable through built-in potentiometer with 3 in 1 dimming function	In Stock
DA	IP67	DALI control technology.	In Stock

## SPECIFICATION

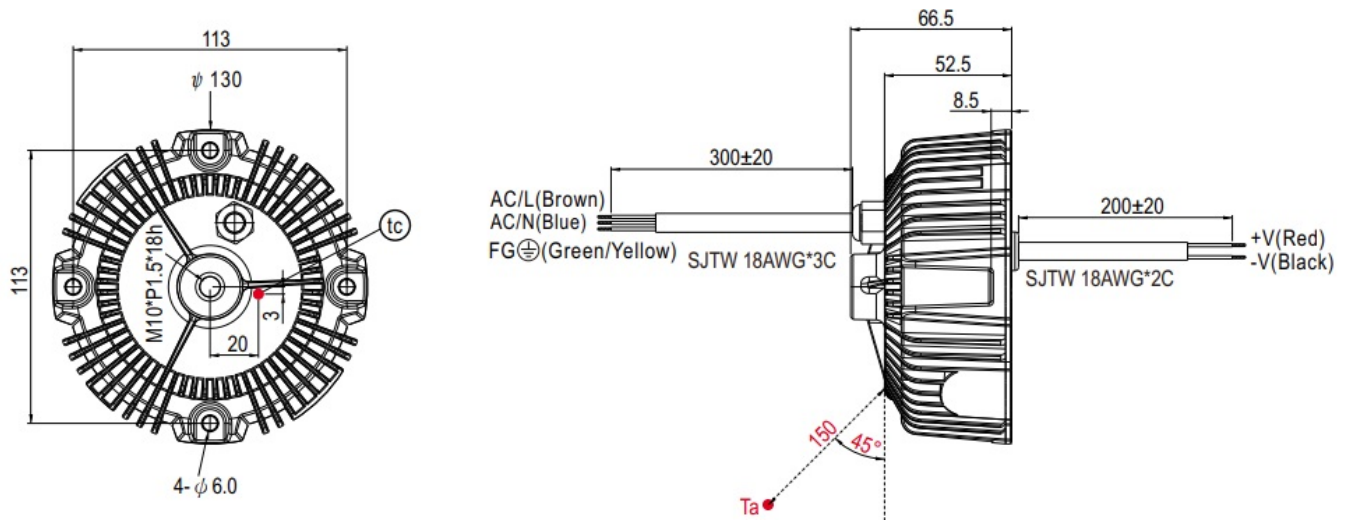
MODEL		HBG-100-24	HBG-100-36	HBG-100-48	HBG-100-60
	RATED CURRENT	4A	2.7A	2A	1.6A
	RATED POWER	96W	97.2W	96W	96W
	CONSTANT CURRENT REGION Note. 2	14.4 ~ 24V	21.6 ~ 36V	28.8 ~ 48V	36 ~ 60V
	OPEN CIRCUIT VOLTAGE(max.)	25V	37V	49V	62V

OUT PUT	CURRENT ADJ. RANGE	Adjustable for A/AB-Type (via built-in potentiometer)			
		2.4 ~ 4A	1.62 ~ 2.7A	1.2 ~ 2A	1.0 ~ 1.6A
	CURRENT RIPPLe	5.0% max. @rated current			
	CURRENT TOLerANCE	±5.0%			
	SETUP TIME Note.4	2000ms / 115VAC      500ms / 230VAC			
INP UT	VOLTAGE RANGE Note.3	90 ~ 305VAC      127 ~ 431VDC (Please refer to the “STATIC CHARACTERISTIC” section)			
	FREQUENCY RANGE	47 ~ 63Hz			
	POWER FACTOR	PF>0.96/115VAC, PF>0.96/230VAC, PF>0.94/277VAC@full load (Please refer to the “POWER FACTOR (PF) CHARACTERISTIC” section)			
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≥60%/115VC,230VAC; @load≥75%/277VAC) (Please refer to the “TOTAL HARMONIC DISTORTION(THD)” section)			
	EFFICIENCY (Typ.) Note.5	90.5%	91%	91%	91.5%
	AC CURRENT (Typ.)	1.1A / 115VAC	0.5A / 230VAC	0.45A / 277VAC	
	INRUSH CURRENT (Typ.)	COLD START 60A(twidth=550μs measured at 50% Ipeak) at 230VAC; Per NEMA 410			
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	4 units (circuit breaker of type B) / 8 units (circuit breaker of type C) at 230VAC			
	LEAKAGE CURRENT	<0.75mA / 277VAC			

PRO TEC TION	OVER CURRENT	95 ~ 108%			
		Constant current limiting			
	OVERVOLTAGE	28 ~ 35V	41 ~ 49V	54 ~ 63V	65 ~ 75V
		Shut down o/p voltage re-power on to recovery			
ENV IRO NM ENT	OVER TEMPERATURE	Shut down o/p voltage re-power on to recovery			
	WORKING TEMP.	Tcase=-40 ~ +85°C (Please refer to “ OUTPUT LOAD vs TEMPERATURE” section)			
	MAX. CASE TEMP.	Tcase=+85°C			
	WORKING HUMIDITY	20 ~ 95% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)			
SAFETY & EMC	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, and Z axes			
	SAFETY STANDARDS	UL8750(type“HL”),CSA C22.2 No.250.13-12, ENEC BS EN/EN61347-1,BS EN/EN61347-2-13 independent, BS EN/EN62384; GB19510.1,GB19510.14, BIS IS15885(for 36A,48A,60A only), EAC TP TC 004,IP65 or IP67 approved			
	DALI STANDARDS	Compliance to IEC62386-101, 102, 207 for DA-Type only			
	WITHSTAND VOLTAGE	I/P-O/P: 3.75KV AC	I/P-FG:2KVAC	O/P-FG:0.5KVAC	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C/ 70% RH			
	EMC EMISSION	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (@load≥60%) ; BS EN/EN61000-3-3, GB/T 17743 ,GB17625.1, EAC TP TC 020			

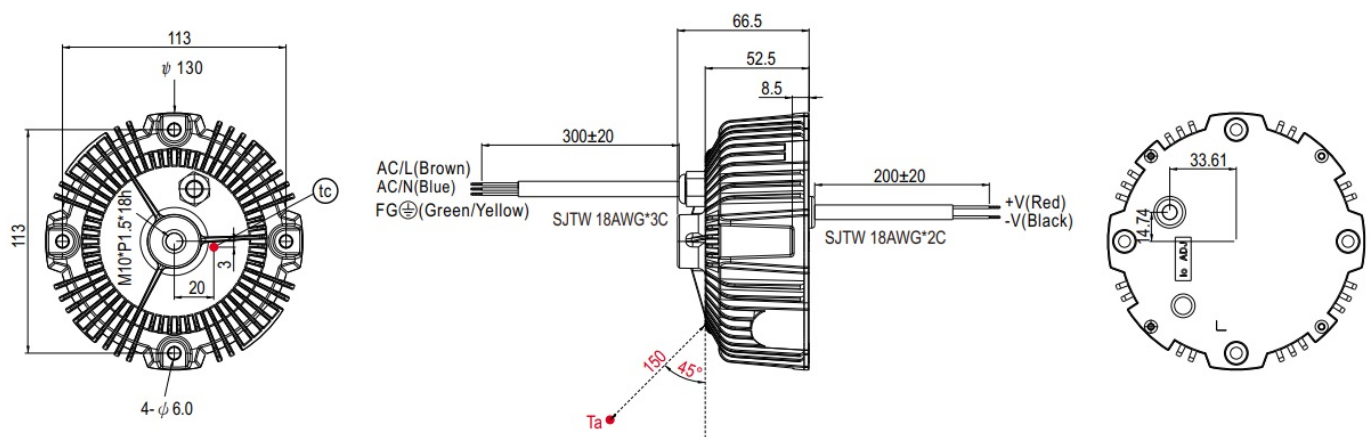
	<b>EMC IMMUNITY</b>	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, light industry level (surge immunity: Line-Earth: 4KV, Line-Line: 2KV), EAC TP TC 020
<b>OTHERS</b>	<b>MTBF</b>	2433.4K hrs min. Telcordia SR-332 (Bellcore) ; 299.3K hrs min. MIL-HDBK-217F (25°C)
	<b>DIMENSION</b>	φ130mm * 66.5mm (D * H)
	<b>PACKING</b>	1.18Kg; 12pcs/15.7Kg/1.43CUFT (Blank/A/B Type), 1.89CUFT (E Type)
<b>NOTE</b>	<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated current, and 25°C of ambient temperature.</p> <p>2. Please refer to "DRIVING METHODS OF LED MODULE".</p> <p>3. De-rating may be needed under low input voltages. Please refer to the "STATIC CHARACTERISTIC" sections for details.</p> <p>4. Length of set up time is measured at cold first start. Turning ON/OFF the driver may lead to an increase of the set-up time.</p> <p>5. The DA-type power supply is less efficient than the typical efficiency in specification by 1%.</p> <p>6. The driver is considered a component that will be operated in combination with the final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify the EMC Directive on the complete installation again.</p> <p>(as available on <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a>)</p> <p>7. This series meets the typical life expectancy of &gt;50,000 hours of operation when Tcase, particularly to point (or TMP, per DLC), is about 75°C or less.</p> <p>8. Please refer to the warranty statement on MEAN WELL's website at <a href="http://www.meanwell.com">http://www.meanwell.com</a></p> <p>9. The ambient temperature derating of 3.5°C/1000m with fanless models and 5°C/1000m with fan models for operating altitudes higher than 2000m (6500ft).</p> <p>10. For any application note and IP waterproof function installation caution, please refer to our user manual before using.</p> <p><a href="https://www.meanwell.com/Upload/PDF/LED_EN.pdf">https://www.meanwell.com/Upload/PDF/LED_EN.pdf</a></p> <p>※ Product Liability Disclaimer For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p>	

**Blank TYPE**



- $t_c$ : Max. Case Temperature. (case temperature measured point)
- $T_a$ : Ambient Temperature measured point

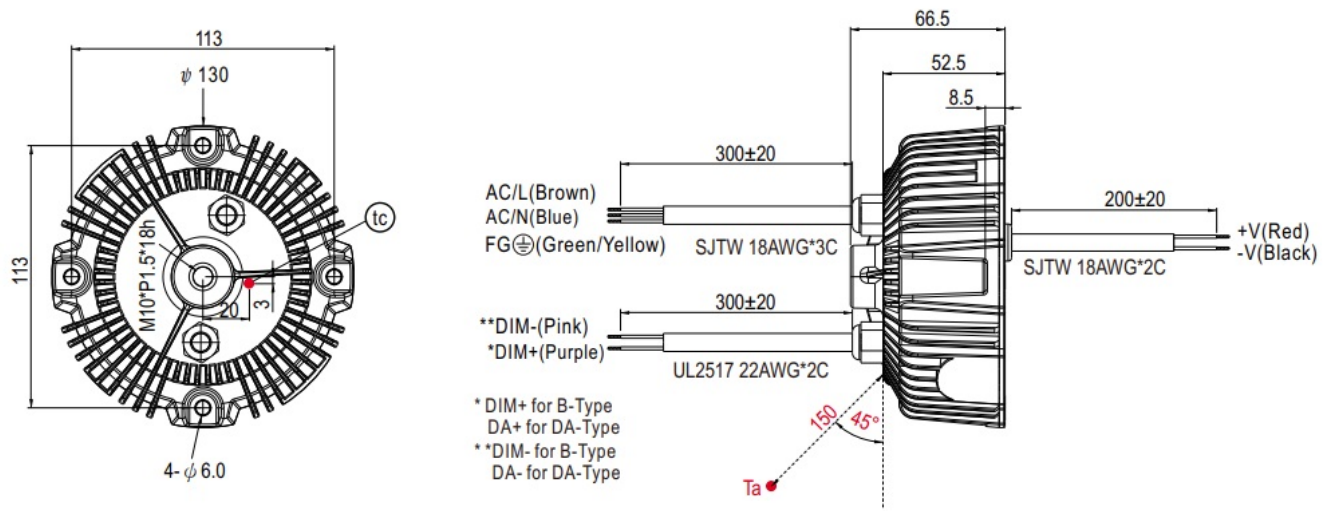
### A-Type



- $t_c$ : Max. Case Temperature. (case temperature measured point)
- $T_a$ : Ambient Temperature measured point

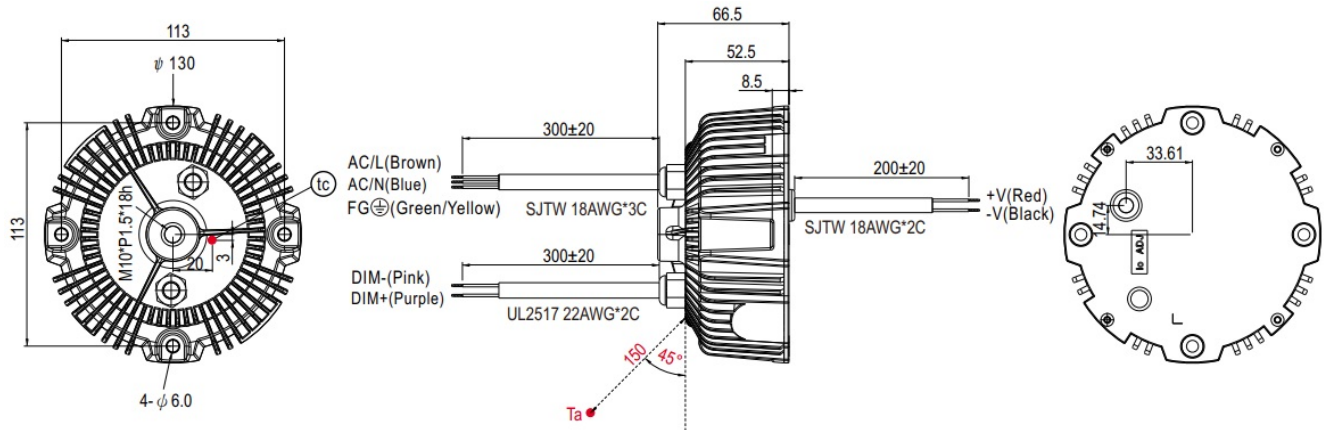
### B/DA-Type

- $t_c$ : Max. Case Temperature. (case temperature measured point)
- $T_a$ : Ambient Temperature measured point

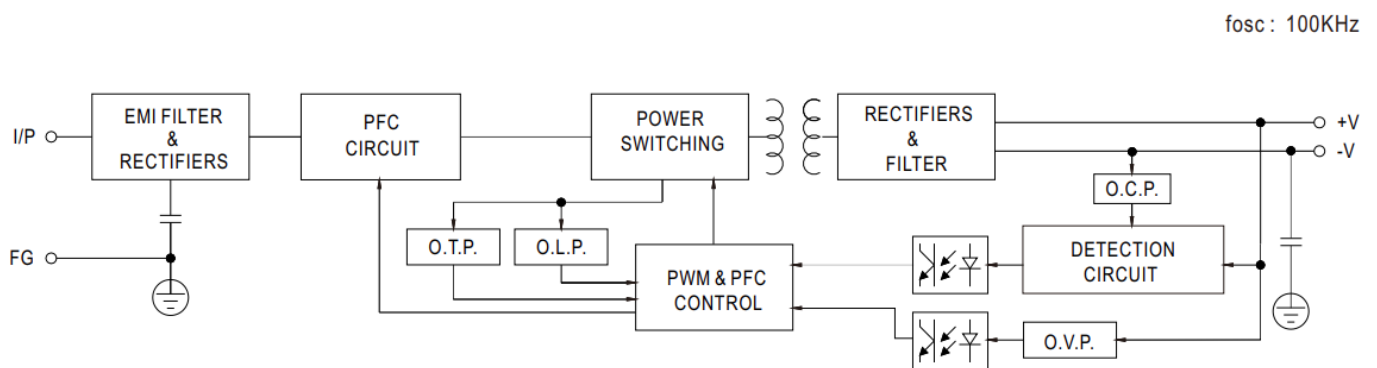


## AB-Type

- Ⓒ: Max. Case Temperature. (case temperature measured point)
- Ta: Ambient Temperature measured point



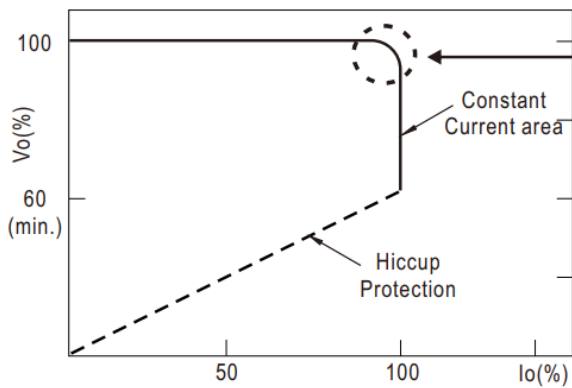
## BLOCK DIAGRAM



## DRIVING METHODS OF LED MODULE

This series works in constant current mode to directly drive the LEDs.

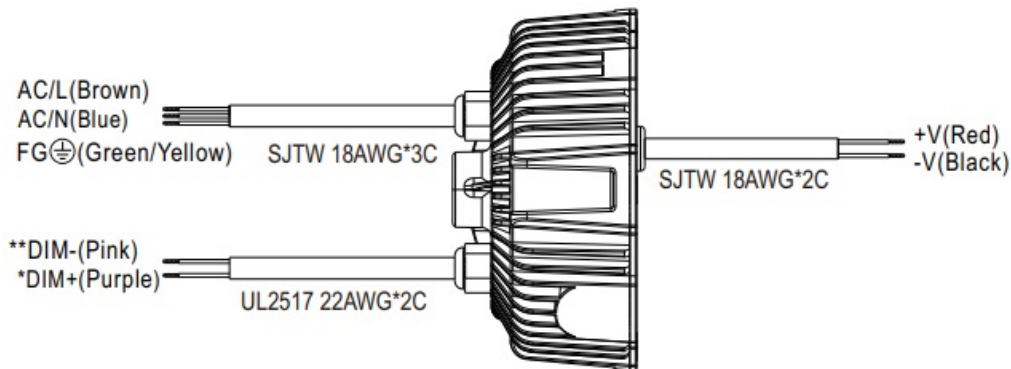




In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.  
Should there be any compatibility issues, please contact MEAN WELL.

Typical output current normalized by rated current (%)

## DIMMING OPERATION

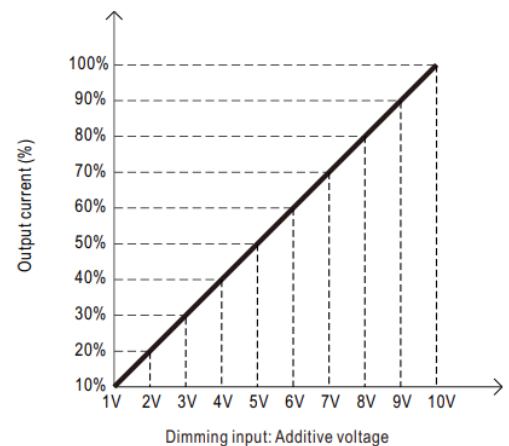
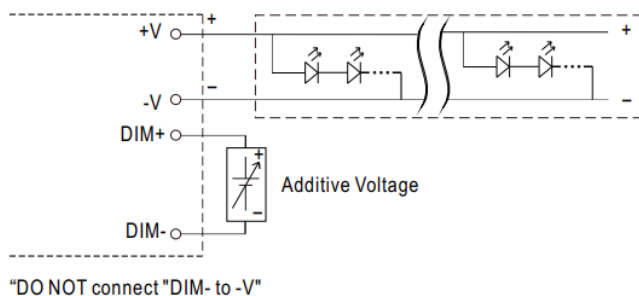


### 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100uA (typ.)

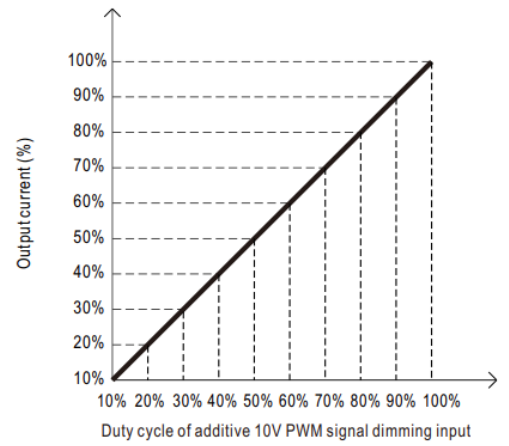
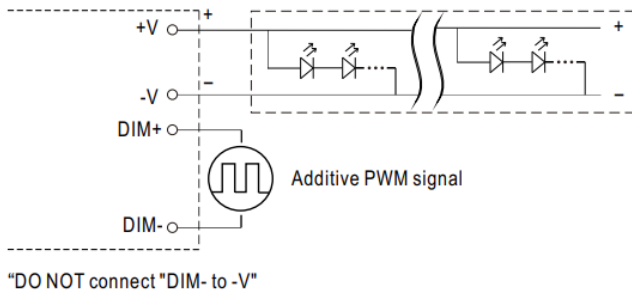
### Applying additive 1 ~ 10VDC

◎ Applying additive 1 ~ 10VDC



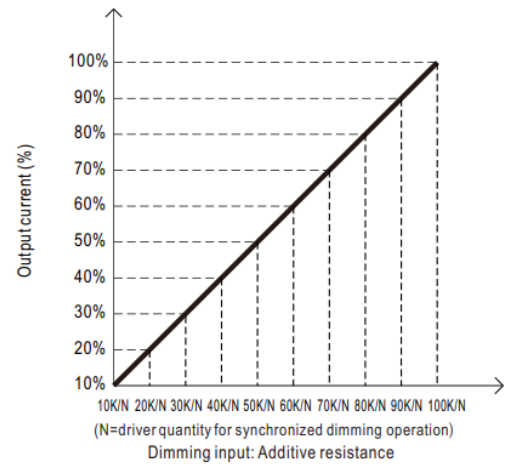
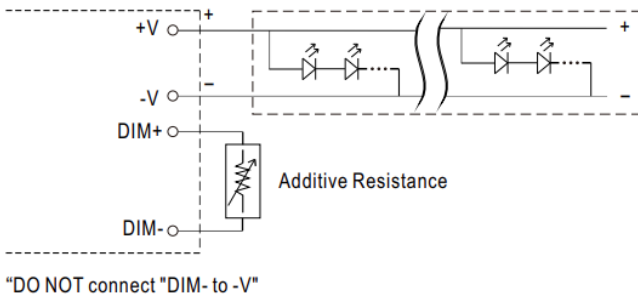
Applvina additive 10V PWM signal (frequency rande 100Hz ~ 3KHz):

◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):

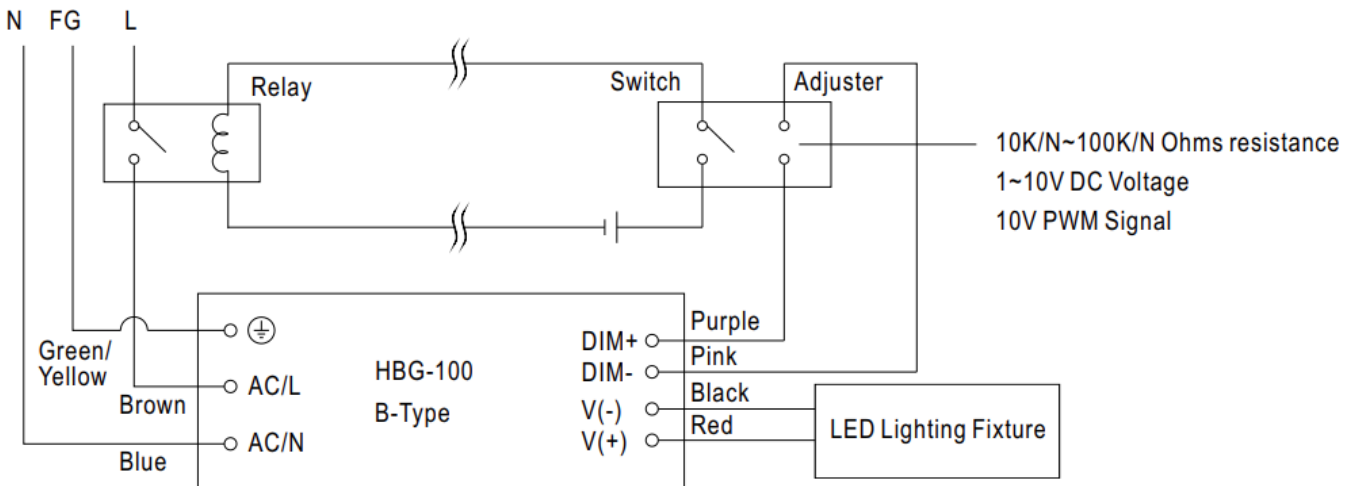


Applying additive resistance:

© Applying additive resistance:



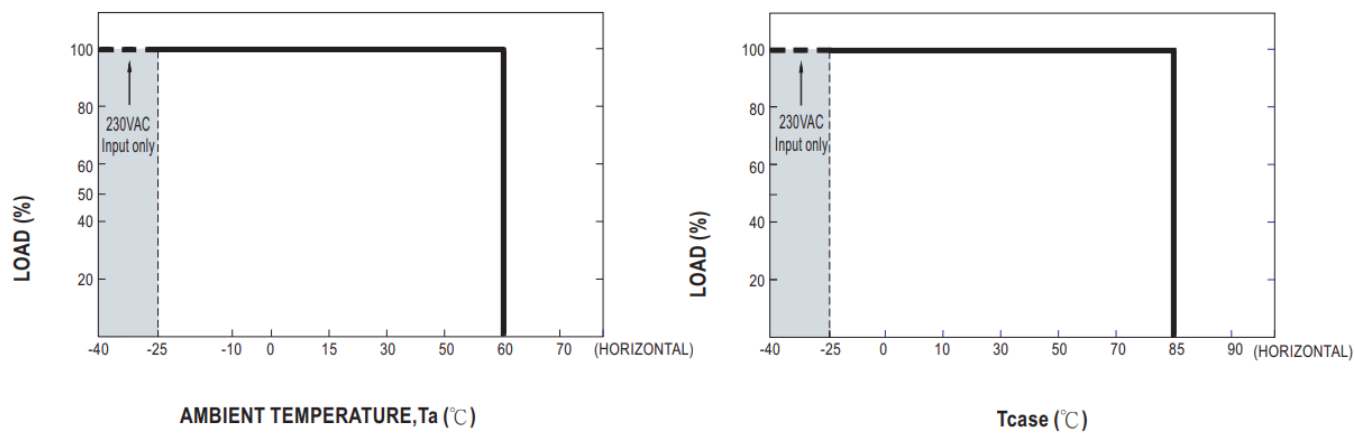
**Note:** In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follows, or please contact MEAN WELL for other options.



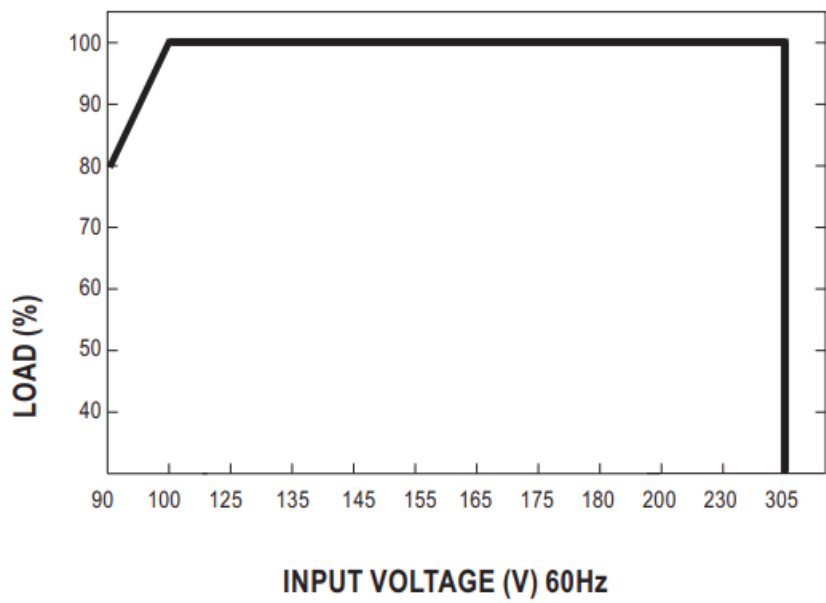
**Using a switch and relay can turn ON/OFF the lighting fixture.**

- DALI Interface (primary side; for DA-Type)
- Apply the DALI signal between DA+ and DA-.
- DALI protocol comprises 16 groups and 64 addresses.
- The first step is fixed at 8% of output.

### OUTPUT LOAD vs TEMPERATURE(Note.8)

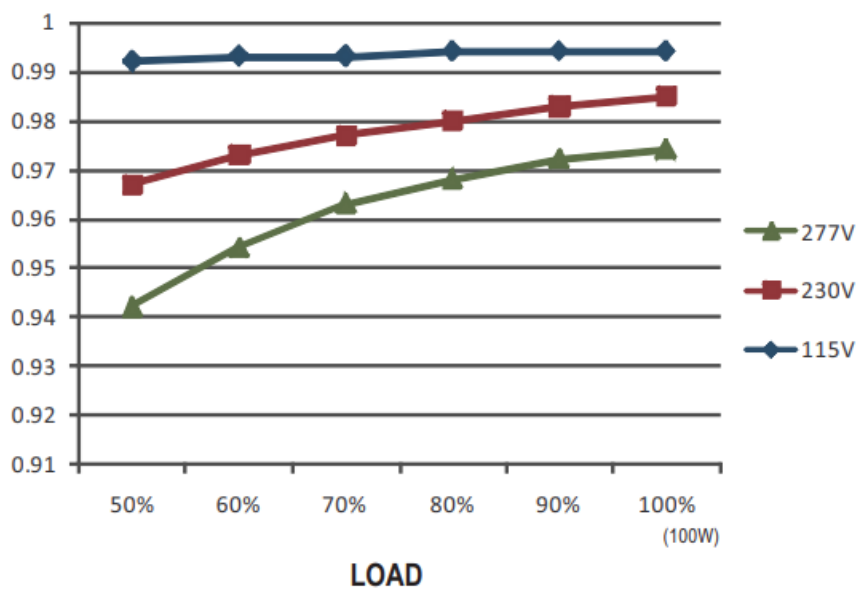


### STATIC CHARACTERISTIC



De-rating is needed under low input voltage

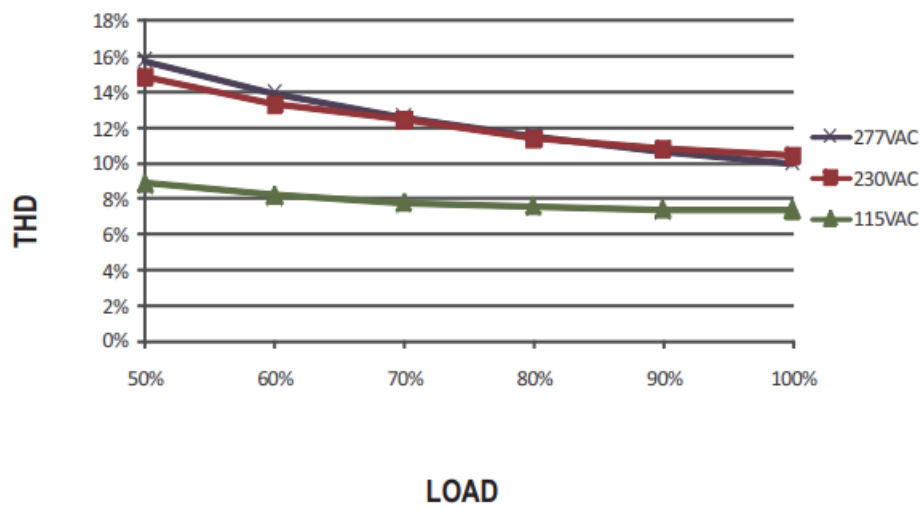
### POWER FACTOR (PF) CHARACTERISTIC



$T_{case}$  at 75°C

### TOTAL HARMONIC DISTORTION (THD)

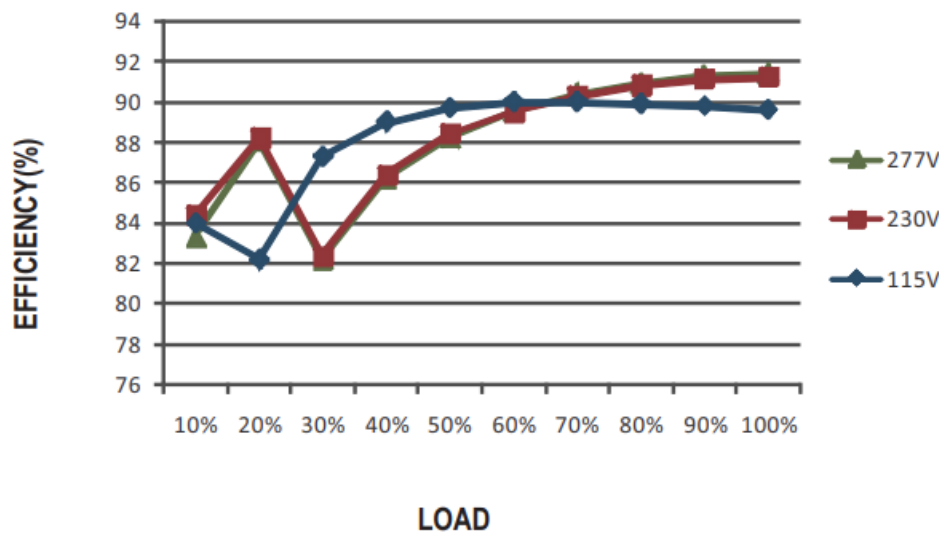
48V Model, Tcase at 75°C



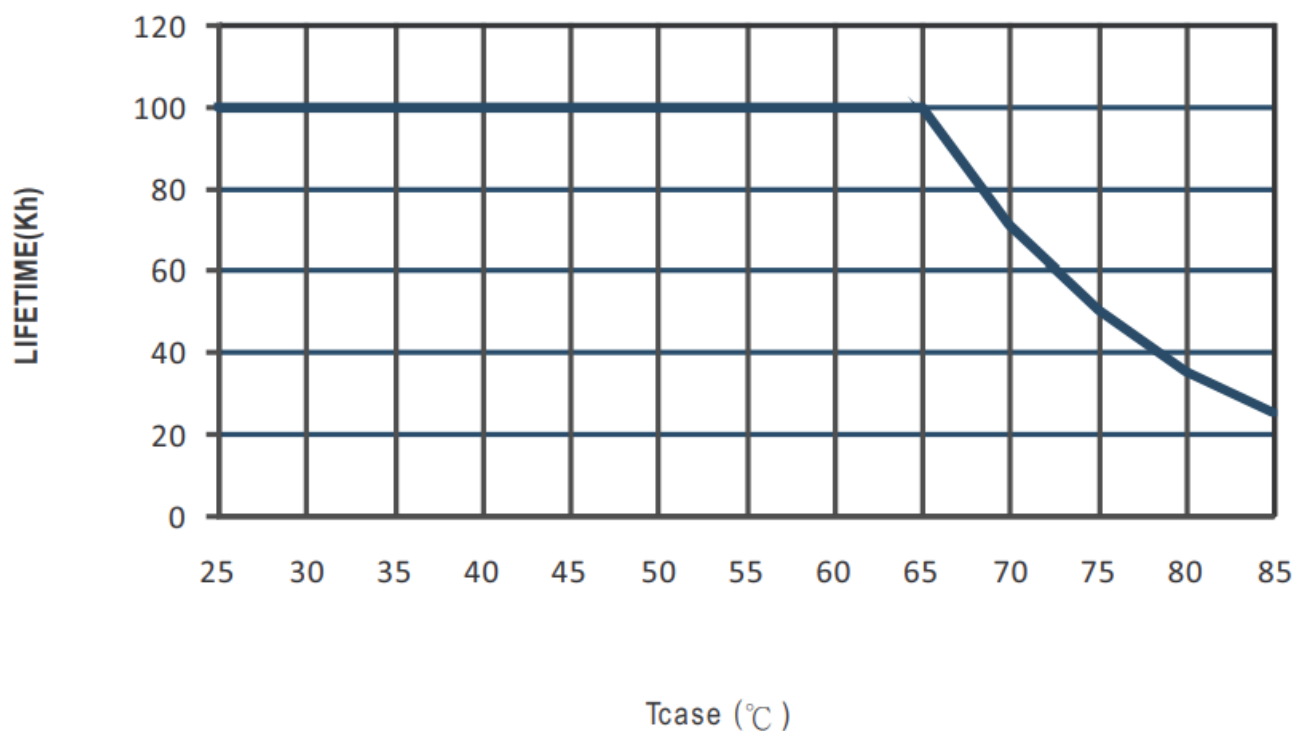
**EFFICIENCY vs LOAD**

HBG-100 series possess superior working efficiency that up to 91% can be reached in field applications.

48V Model, Tcase at 75°C



**LIFETIME**



## INSTALLATIONS


				
Hanger	Chain	Spot Light	High Bay Light	Stage Light

## Caution

- Please inspect the appearance of the driver if the package is damaged. There should not be any cracks.
- Please do not drop or bump the driver.
- All screws including the suspension screw should be paired with a spring washer and locked tight.
- The entire luminaire, including the driver, should be limited to 10 kg or less.
- The luminaire should be cautiously protected from damage due to shock throughout packaging and transportation.
- Please thoroughly follow the preceding cautionary notes to prevent the luminaire from falling, leading to injuries



Documents / Resources



[MEAN WELL HBG-100 Series 100W Constant Current Mode LED Driver](#) [pdf] User Guide  
HBG-100 Series 100W Constant Current Mode LED Driver, HBG-100 Series, 100W Constant C  
urrent Mode LED Driver, Constant Current Mode LED Driver, Current Mode LED Driver, Mode L  
ED Driver, LED Driver, Driver

References

- [User Manual](#)

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