



60W Constant Current Mode LED Driver

HBG-60 series

■ Features

- Constant Current mode output
- Circular plastic housing with class II design
- Built-in active PFC function
- Class 2 power unit
- Typical lifetime>50000 hours
- 5 years warranty

■ Applications

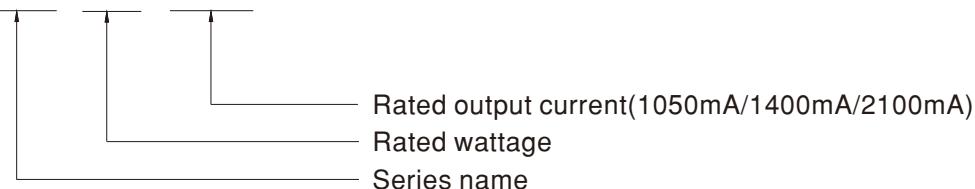
- LED bay lighting
- LED stage lighting
- LED spot lighting
- LED down lighting

■ Description

HBG-60 series is a 60W AC/DC LED driver featuring the circular shape design with the plastic enclosure. It operates from 90~295VAC and offers the constant current output models with different rated current between 1050mA and 2100mA. Thanks to the high efficiency up to 90%, with the fanless design, the entire series is able to operate for -40°C ~ +85°C case temperature under free air convection.

■ Model Encoding

HBG - 60 - 1050





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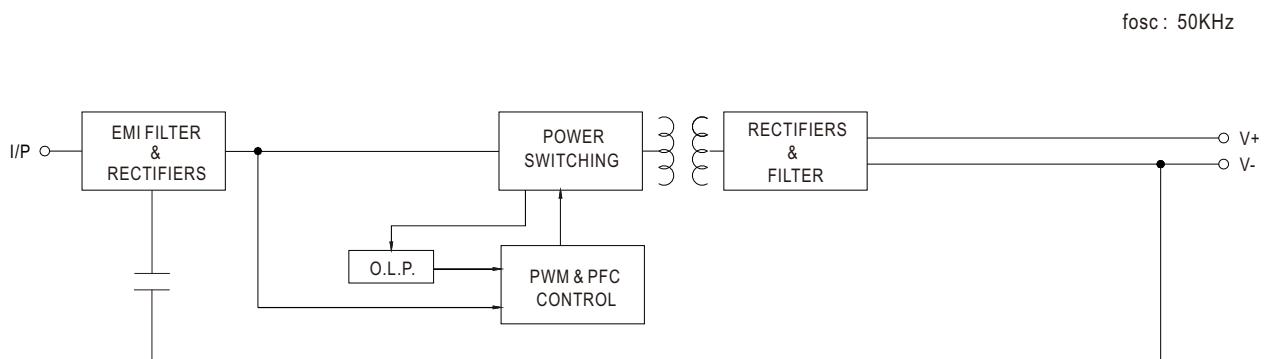
SPECIFICATION

MODEL	HBG-60-1050	HBG-60-1400	HBG-60-2100
OUTPUT	RATED CURRENT	1050mA	1400mA
	RATED POWER	57.75W	60.2W
	CONSTANT CURRENT REGION Note.2	37 ~ 55V	28 ~ 43V
	OPEN CIRCUIT VOLTAGE(max.)	60V	50V
	CURRENT ADJ. RANGE	680 ~ 1050mA	910 ~ 1400mA
	CURRENT RIPPLE	25% max. @rated current	
	CURRENT TOLERANCE	±5.0%	
INPUT	SET UP TIME Note.4	500ms / 230VAC 1200ms / 115VAC	
	VOLTAGE RANGE Note.3	90 ~ 295VAC 127 ~ 417VDC (Please refer to "STATIC CHARACTERISTIC" section)	
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR	PF>0.97/115VAC, PF>0.95/230VAC, PF>0.9/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)	
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≥65%/115V, 230VAC; @load≥75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)	
	EFFICIENCY (Typ.)	90%	89%
	AC CURRENT (Typ.)	0.7A/115VAC 0.4A/230VAC 0.3A/277VAC	89%
	INRUSH CURRENT (Typ.)	COLD START 45A(twidth=100μs measured at 50% Ipeak) at 230VAC; Per NEMA 410	
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	28 units (circuit breaker of type B) / 32 units (circuit breaker of type C) at 230VAC	
	LEAKAGE CURRENT	<0.75mA / 277VAC	
PROTECTION	OVER CURRENT	Hiccup mode, recovers automatically after fault condition is removed	
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover	
ENVIRONMENT	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 ~ 60°C)	
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes	
SAFETY & EMC	SAFETY STANDARDS	UL8750, CSA C22.2 No. 250.13-12, ENEC BS EN/EN61347-1, BS EN/EN61347-2-13 independent, BS EN/EN62384; GB19510.14, GB19510.1, EAC TP TC 004 approved	
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC	
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH	
	EMC EMISSION Note.8	Compliance to BS EN/EN55015, GB17743, GB17625.1, BS EN/EN61000-3-2 Class C (@load≥65%) ; BS EN/EN61000-3-3, EAC TP TC 020	
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11; BS EN/EN61547, BS EN/EN55024, light industry level(surge immunity: Line-Line:2KV), EAC TP TC 020	
OTHERS	MTBF	1504.1K hrs min. Telcordia SR-332 (Bellcore) ; 452Khrs min. MIL-HDBK-217F (25°C)	
	DIMENSION	ø 110mm * 60.5mm (D * H)	
	PACKING	0.5Kg; 20pcs/ 11Kg/ 0.94CUFT	
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. 2. Please refer to "DRIVING METHODS OF LED MODULE". 3. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. 4. Length of set up time is measured at cold first start. Turning ON/OFF the driver may lead to increase of the set up time. 5. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again. 6. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains. 7. This series meets the typical life expectancy of >50,000 hours of operation when Tcase, particularly (Tc) point (or TMP, per DLC), is about 80°C or less. 8. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com 9. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft) 10. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p>		

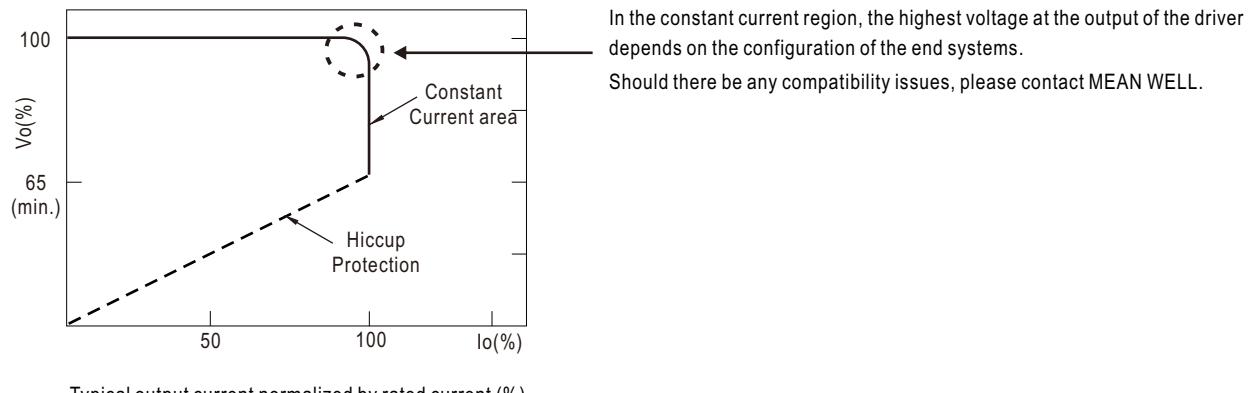


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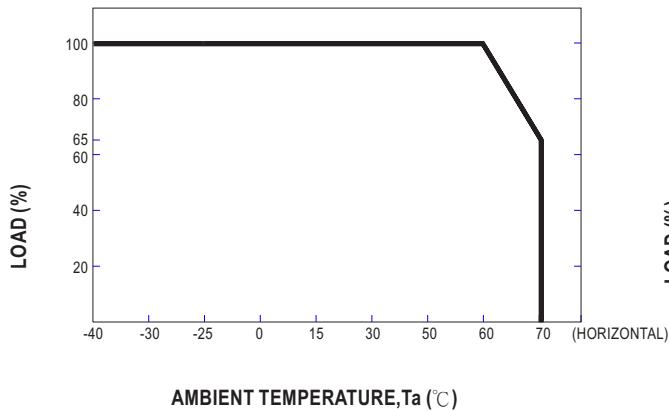
HBG-60 series

■ BLOCK DIAGRAM**■ DRIVING METHODS OF LED MODULE**

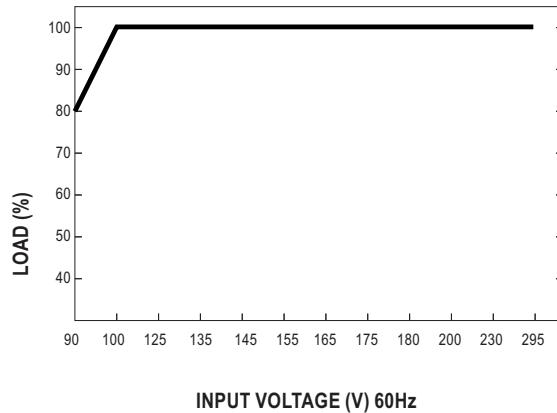
※ This series works in constant current mode to directly drive the LEDs.



■ OUTPUT LOAD vs TEMPERATURE

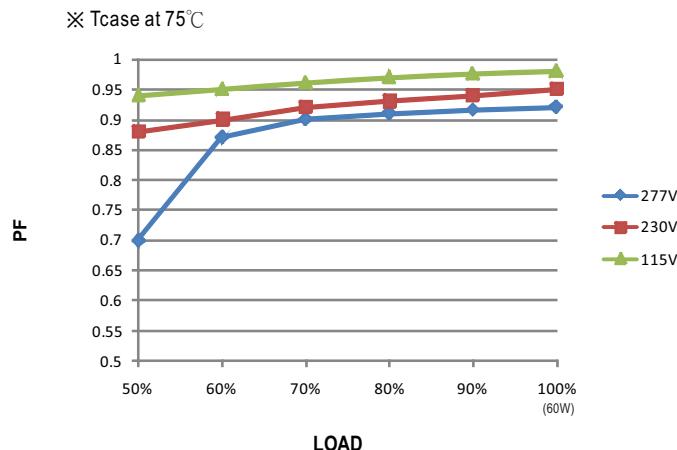


■ STATIC CHARACTERISTIC



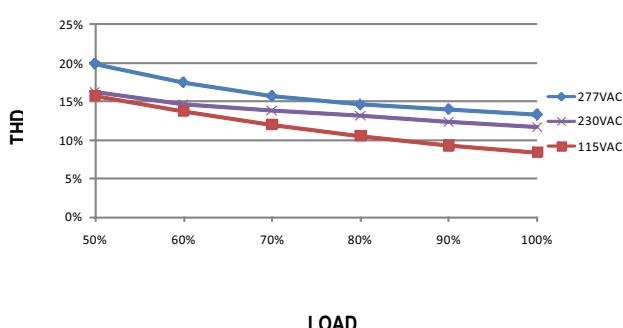
※ De-rating is needed under low input voltage.

■ POWER FACTOR (PF) CHARACTERISTIC



■ TOTAL HARMONIC DISTORTION (THD)

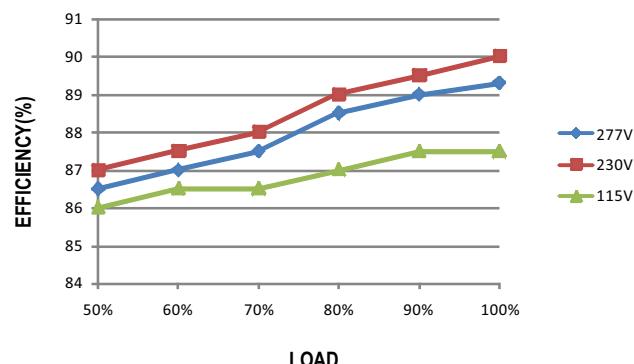
※ 1050mA Model, T_{case} at 75 $^{\circ}\text{C}$



■ EFFICIENCY vs LOAD

HBG-60 series possess superior working efficiency that up to 90% can be reached in field applications.

※ 1050mA Model, T_{case} at 75 $^{\circ}\text{C}$

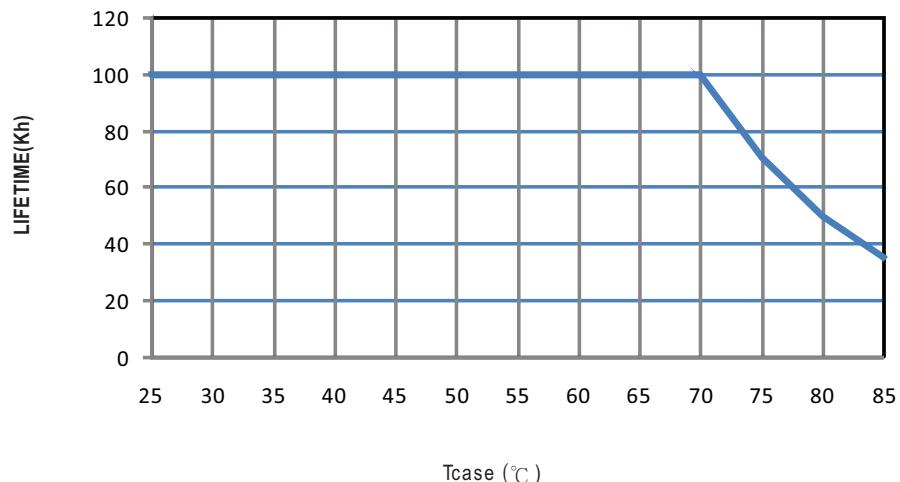




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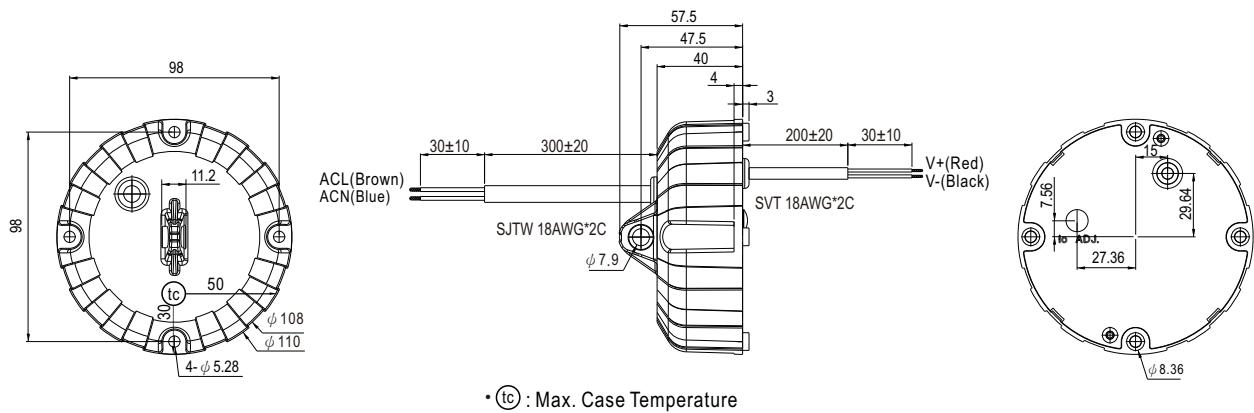
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■ LIFE TIME



■ MECHANICAL SPECIFICATION

Case No.HBG-60 Unit:mm



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 5Kg 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.