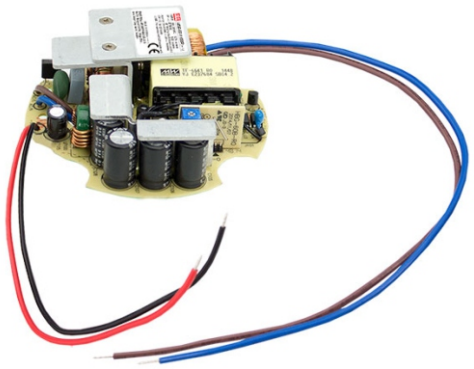
HBG-60-P series

60W Constant Current Mode LED Driver

User's Manual



Features

- Constant Current mode output
- Circular shape PCB type design 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

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

HBG-60-P series is a 60W AC/DC PCB type LED driver featuring the circular shape design. 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℃ ~ +70℃ ambinent temperature under free air convection.

Model Encoding

HBG - 60 - 1050 P

- PCB type
- Rated output current(1050mA/1400mA/2100mA)
- Rated wattage
- Series name

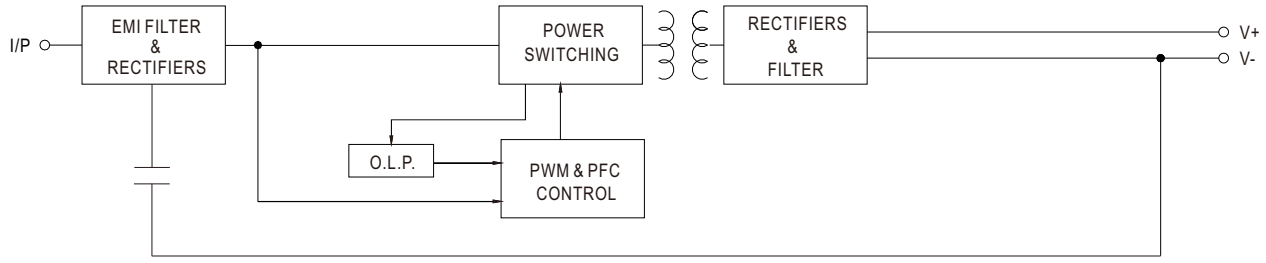
60W Constant Current Mode LED Driver HBG-60-P series

SPECIFICATION

MODEL		HBG-60-1050P	HBG-60-1400P	HBG-60-2100P
OUTPUT	RATED CURRENT	1050mA	1400mA	2100mA
	RATED POWER	57.75W	60.2W	60.9W
	CONSTANT CURRENT REGION Note.2	37 ~ 55V	28 ~ 43V	19 ~ 29V
	OPEN CIRCUIT VOLTAGE(max.)	60V	50V	35V
	CURRENT ADJ. RANGE	680 ~ 1050mA	910 ~ 1400mA	1360mA ~ 2100mA
	CURRENT RIPPLE	25% max. @rated current		
	CURRENT TOLERANCE	±5.0%		
	SET UP TIME Note.4	500ms / 230VAC 1200ms / 115VAC		
INPUT	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%/115VC,230VAC; @load≧75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)		
	EFFICIENCY (Typ.)	90%	89%	89%
	AC CURRENT (Typ.)	0.7A/115VAC 0.4A/230VAC 0.3A/277VAC		
	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.	Ta=-40 ~ +70℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)		
	WORKING HUMIDITY	20 ~ 95% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH		
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)		
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes		
SAFETY & EMC	SAFETY STANDARDS	UI8750, CSA C22.2 No. 250.13-12, ENEC BS EN/EN61347-1 & BS EN/EN61347-2-13, BS EN/EN62384, GB/T19510.1, GB/T19510.213 independent,EAC TP TC 004 approved		
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC		
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH		
	EMC EMISSION Note.8	Compliance to BS EN/EN55015, GB/T 17743, 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	4523.2K hrs min. Telcordia SR-332 (Bellcore) ; 455.5Khrs min. MIL-HDBK-217F (25℃)		
	DIMENSION	φ99mm *26mm (D * H)		
	PACKING	0.21Kg; 45pcs/ 10.4Kg/ 1.03CUFT		
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf) 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. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx		

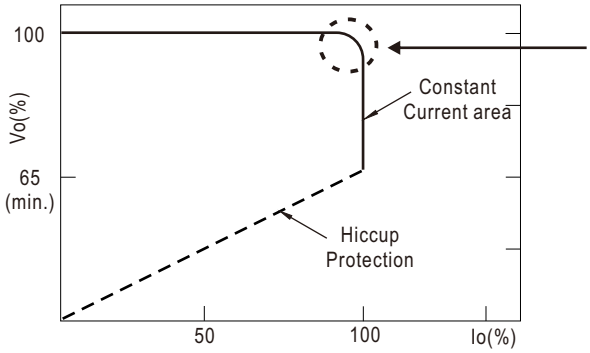
■ BLOCK DIAGRAM

fosc : 50KHz



■ DRIVING METHODS OF LED MODULE

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

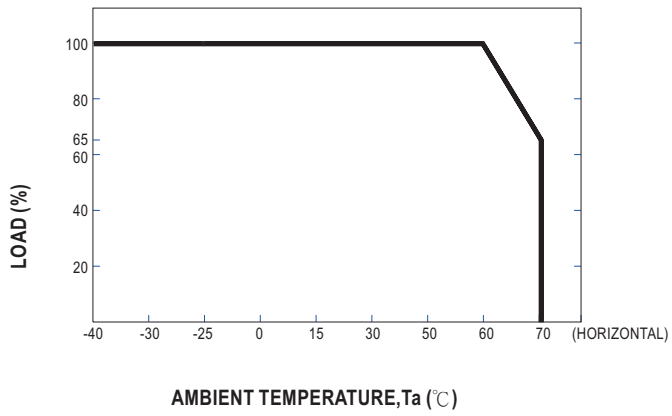


Typical output current normalized by rated current (%)

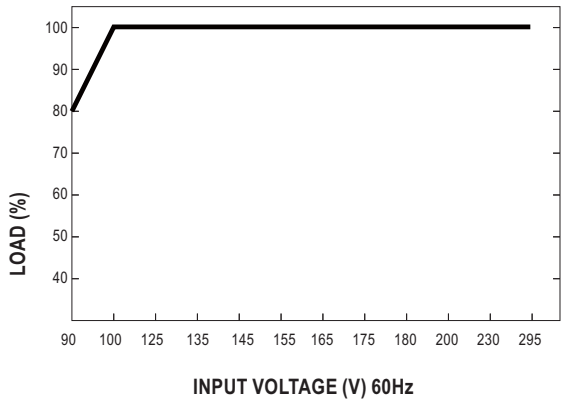
In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

■ OUTPUT LOAD vs TEMPERATURE

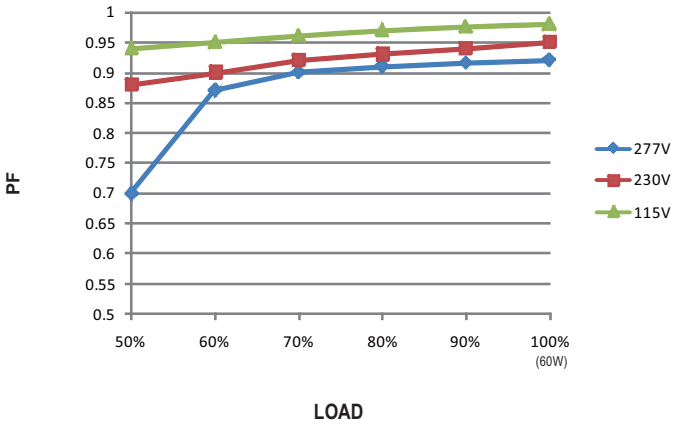


■ STATIC CHARACTERISTIC

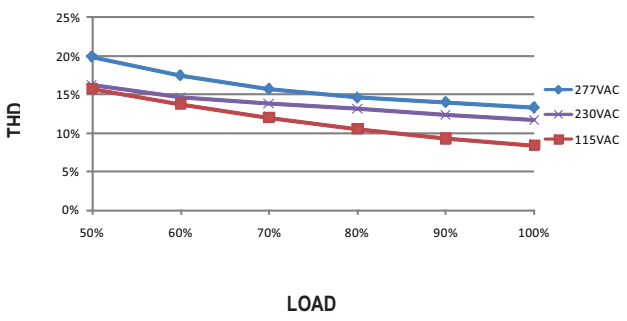


※De-rating is needed under low input voltage.

■ POWER FACTOR (PF) CHARACTERISTIC

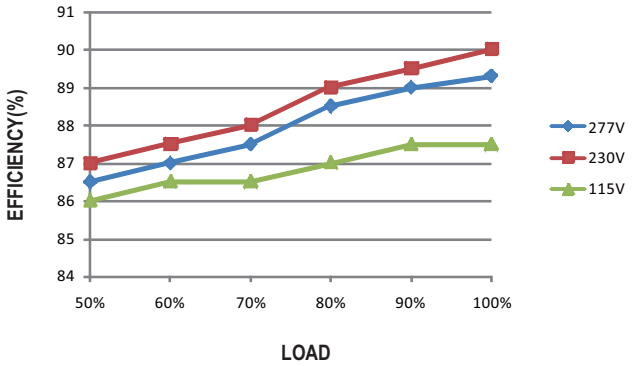


■ TOTAL HARMONIC DISTORTION (THD)



■ EFFICIENCY vs LOAD

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



■ MECHANICAL SPECIFICATION

Unit:mm Tolerance:±1