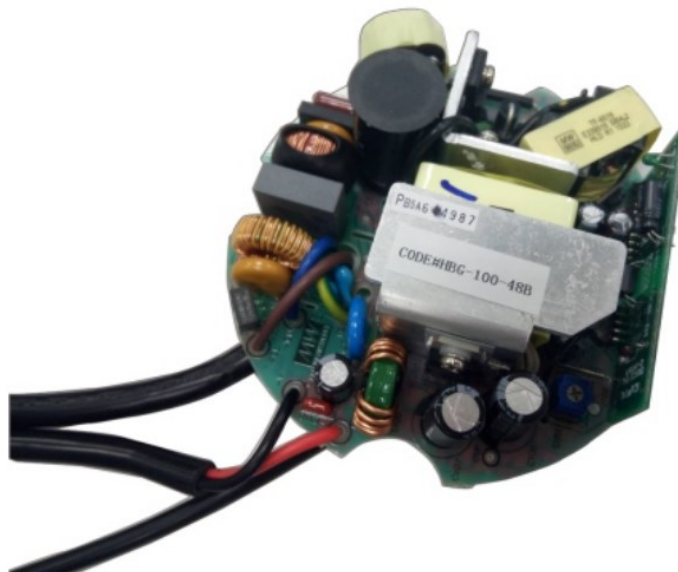


# MEAN WELL HBG-100P Series Constant Current LED Driver User Guide

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MEAN WELL HBG-100P Series Constant Current LED Driver User Guide?



## Features

- Constant Current mode output
- Circular shape PCB type design
- Built-in active PFC function
- Function options: output adjustable via potentiometer; 3 in 1 dimming; DALI
- Typical lifetime>50000 hours
- 5 years warranty

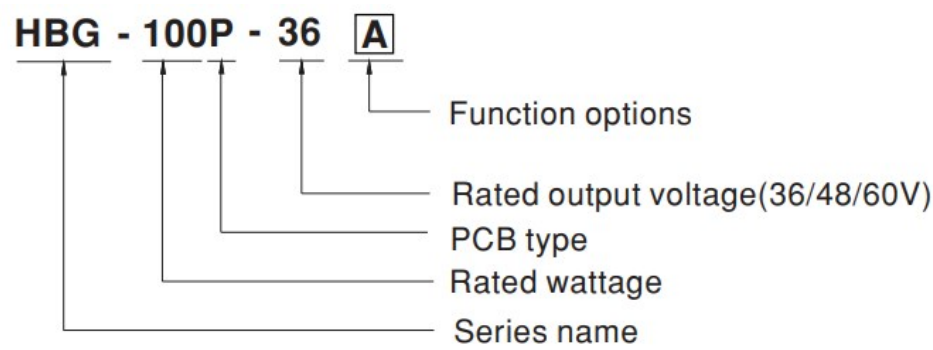
## Applications

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

### Description

HBG-100P seriesis a 100W AC/DC PCB type LED driver featuring the circular shape design. It operates from 90~305VAC and offers constant current output models with different ratedvoltage ranging between 36V and 60V. Thanks to the high efficiency up to 91.5%, with thefanless design, the entire series is able to operate for -40°C ~ +45°C under free air convection. HBG-100P is equipped with various function options, such as dimming methodology, so as to provide the optimal design flexibility for LED lighting system.

### Model Encoding



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

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### SPECIFICATION

MODEL		HBG-100P-36	HBG-100P-48	HBG-100P-60
	RATED CUR RENT	2.7A	2A	1.6A
	RATED POW ER	97.2W	96W	96W

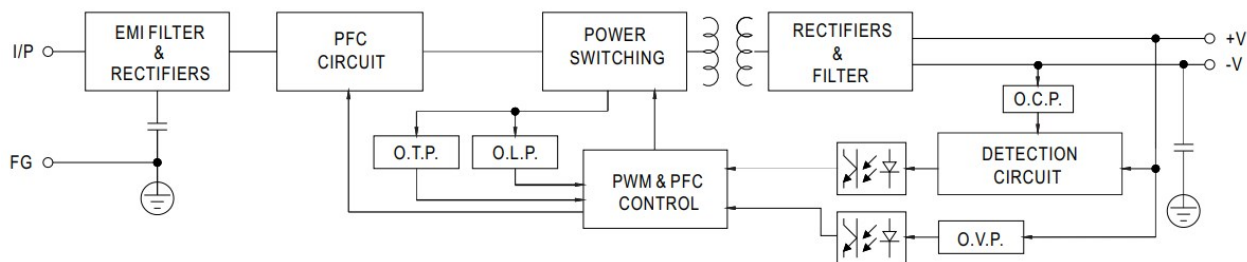
OUTPUT	CONSTANT CURRENT REGION Note. 2	21.6 ~ 36V		28.8 ~ 48V		36 ~ 60V	
	OPEN CIRCUIT VOLTAGE(max.)	37V		49V		62V	
	CURRENT ADJ. RANGE	Adjustable for A-Type only (via built-in potentiometer)					
		1.62 ~ 2.7A		1.2 ~ 2A		1.0 ~ 1.6A	
	CURRENT RIPPLE	5.0% max. @rated current					
	CURRENT TOLERANCE	±5.0%					
	SET UP TIME Note.4	2000ms / 115VAC		500ms / 230VAC			
INPUT	VOLTAGE RANGE Note.3	90 ~ 305VAC		127 ~ 431VDC(Please refer to “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 “POWER FACTOR (PF) CHARACTERISTIC” section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≥60%/115VC,230VAC; @load≥75%/277VAC)(Please refer to “TOTAL HARMONIC DISTORTION(THD)” section)					
	EFFICIENCY (Typ.) Note.5	91%		91%		91.5%	
	AC CURRENT	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					
	NO LOAD / STANDBY POWER CONSUMPTION	Standby power consumption <0.5W for B/DA-Type A-Type please refer to Note. 7					
PROTECTION	OVER CURRENT	95 ~ 108%					
		Constant current limiting, recovers automatically after fault condition is removed					
		41 ~ 49V		54 ~ 63V		65 ~ 75V	

<b>OPTION</b>	<b>OVER VOLTAGE</b>				
		Shut down o/p voltage, re-power on to recovery			
	<b>OVER TEMPERATURE</b> Note.11	Shut down o/p voltage, re-power on to recovery			
<b>ENVIRONMENT</b>	<b>WORKING TEMP.</b>	Ta=-40 ~ +45°C (Please refer to “ OUTPUT LOAD vs TEMPERATURE” section)			
	<b>WORKING HUMIDITY</b>	20 ~ 95% RH non-condensing			
	<b>STORAGE TEMP., HUMIDITY</b>	-40 ~ +80°C, 10 ~ 95% RH			
	<b>TEMP. COEFFICIENT</b>	±0.03%/°C (0 ~ 45°C)			
	<b>VIBRATION</b>	10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes			
<b>SAFETY &amp; EMC</b>	<b>SAFETY STANDARDS</b>	UL8750,CSA C22.2 No.250.13-12; ENEC BS EN/EN61347-1,BS EN/EN61347-2-13,BS EN/EN62384, GB19510.1, GB19510.14,EAC TP TC 004 approved			
	<b>DALI STANDARDS</b>	Compliance to IEC62386-101, 102, 207 for DA-Type only			
	<b>WITHSTAND VOLTAGE</b>	I/P-O/P:3.75KVAC	I/P-FG:2KVAC	O/P-FG:0.5KVAC	
	<b>ISOLATION RESISTANCE</b>	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C/ 70% RH			
	<b>EMC EMISSION</b>	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (@load ≥60%) ; BS EN/EN61000-3-3, GB17743, 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>	346.8Khrs min. MIL-HDBK-217F (25°C)			
	<b>DIMENSION</b>	Refer to mechanical specification			
	<b>PACKING</b>	0.3Kg; 45pcs/14.5Kg/1.60CUFT			

## NOTE

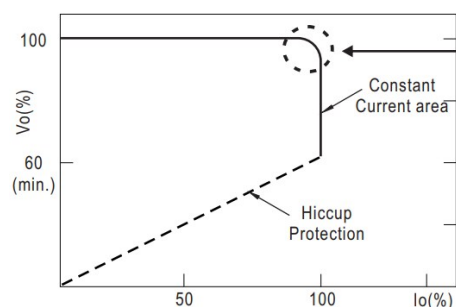
1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature.
2. Please refer to "DRIVING METHODS OF LED MODULE".
3. De-rating may be needed under low input voltages. Please refer to Static Characterless sections for details.
4. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.
5. The DA type power supply is less efficient than the typical efficiency in specification by 1%
6. 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.
7. 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
8. This series meets the typical life expectancy of >50,000 hours of operation when Ta is about 45°C or less.
9. Please refer to the warranty statement on MEAN WELL's website at <http://www.meanwell.com>
10. 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).
11. All functional testing must be filled with potting, including OTP function. \* Product Liability Disclaimer  
For detailed information, please refer to <https://www.meanwell.com/serviceDisclaimer.aspx>

## BLOCK DIAGRAM



## DRIVING METHODS OF LED MODULE

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

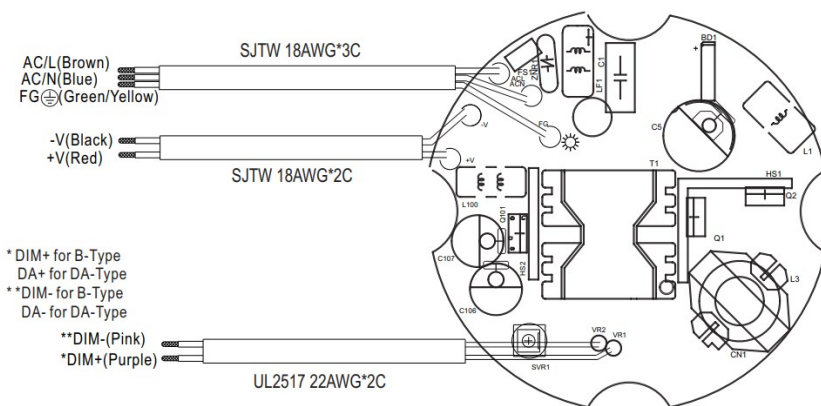


In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

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

Typical output current normalized by rated current (%)

Typical output current normalized by rated current (%)

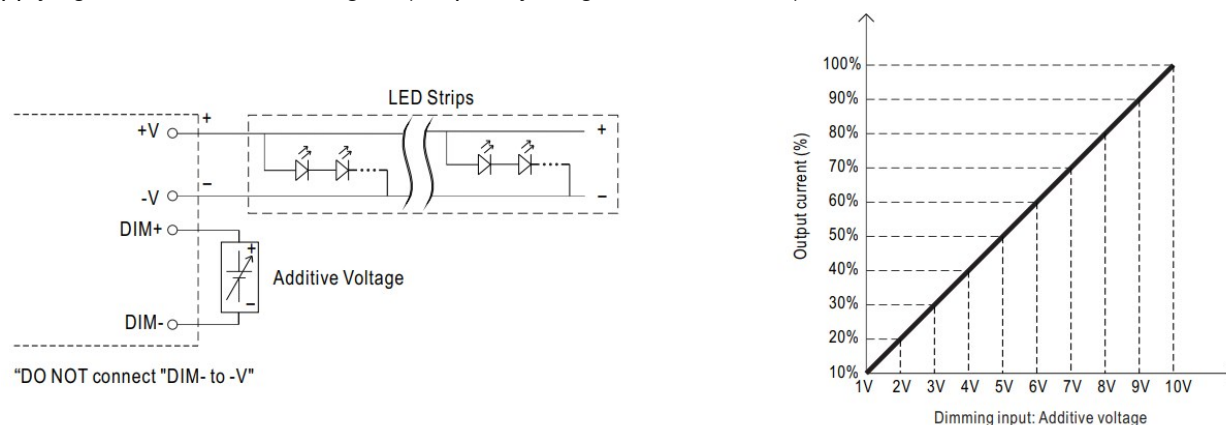


### 3in 1 dimming function (for B-Type)

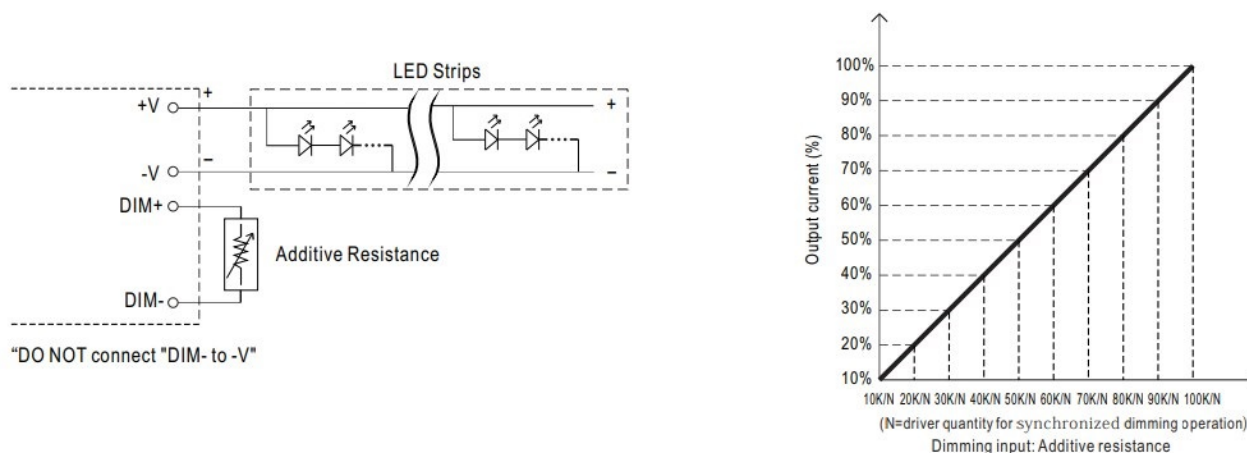
- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1~10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 1004A (typ.)

### Applying additive 1~ 10VDC

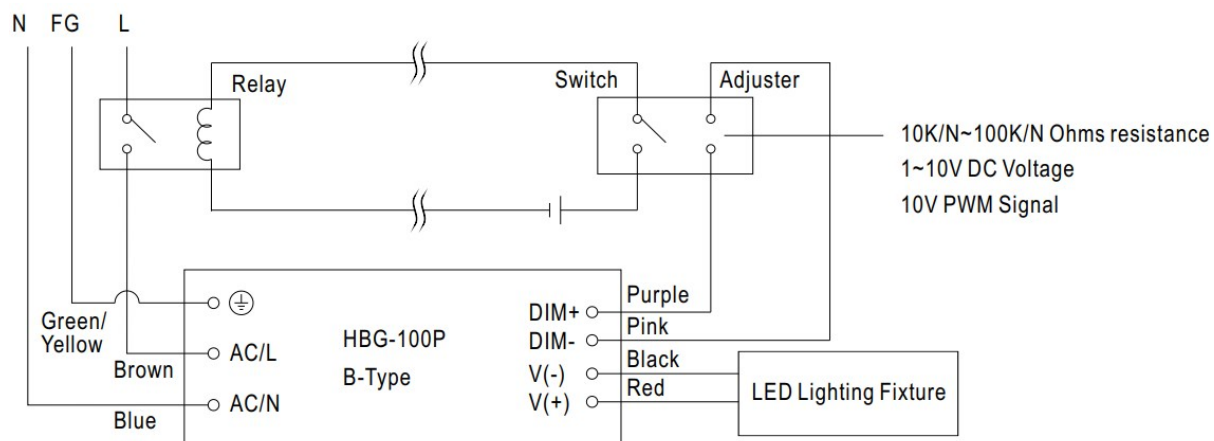
Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



### Applying additive resistance:



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

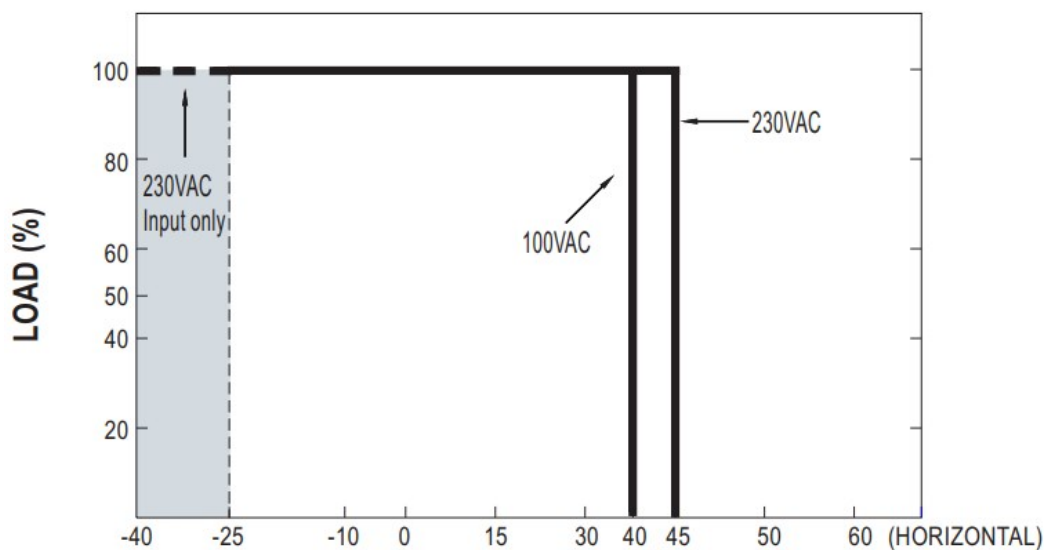


Using a switch and relay can turn ON/OFF the lighting fixture.

### DALI Interface (primary side; for DA-Type) –

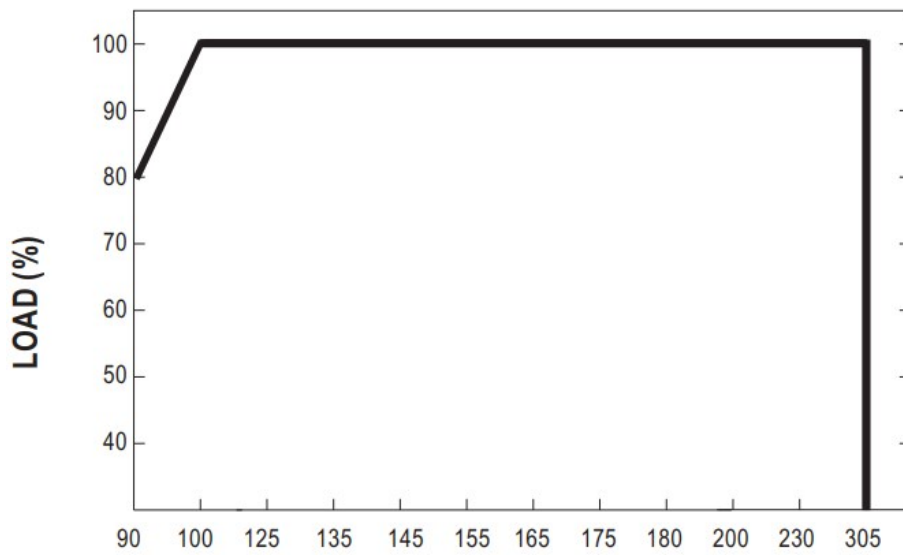
- Apply DALIsignal between DA+ and DA-.
- DALI protocol comprises 16 groups and 64 addresses.
- Firststeps fixed at 8% of output.

### OUTPUT LOAD vs TEMPERATURE



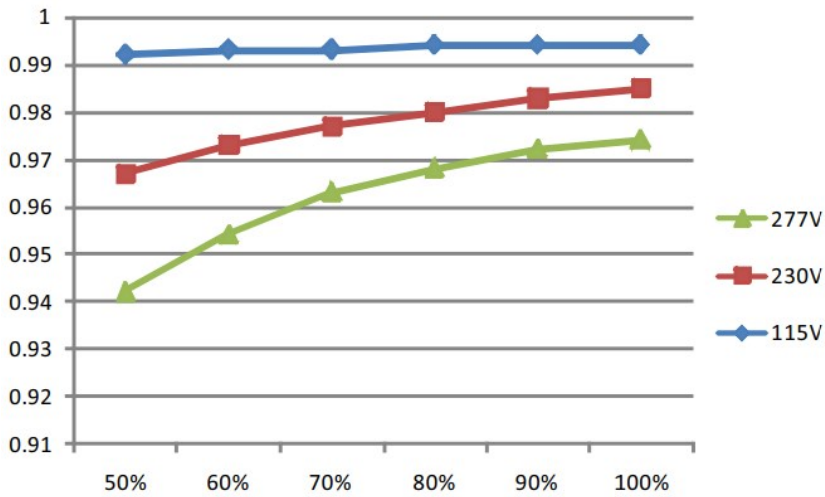
AMBIENT TEMPERATURE, Ta (C)

### STATIC CHARACTERISTIC

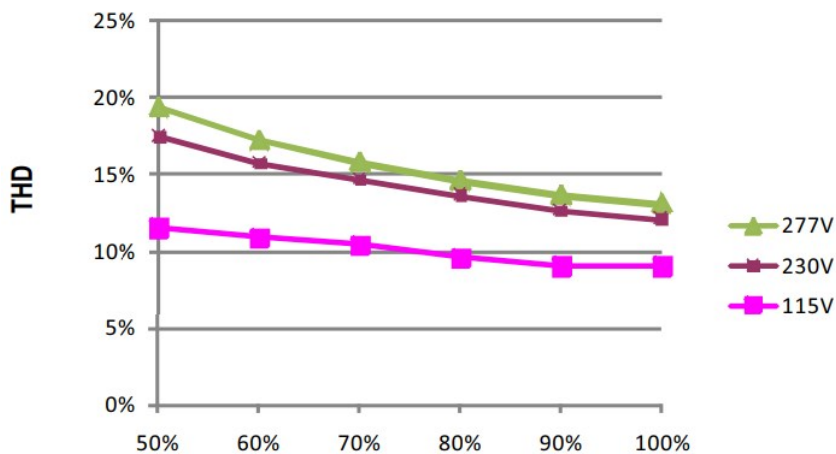


INPUT VOLTAGE (V) 60Hz

### POWER FACTOR (PF) CHARACTERISTIC



### TOTAL HARMONIC DISTORTION (THD)



### EFFICIENCY vs LOAD

HBG-100P series possess superior working efficiency that up to 91.5% can be reached in field applications. X 60V Model



## Documents / Resources



[MEAN WELL HBG-100P Series Constant Current LED Driver](#) [pdf] User Guide  
HBG-100P Series Constant Current LED Driver, HBG-100P, Series Constant Current LED Drive  
r, Constant Current LED Driver, Current LED Driver, LED Driver