



**HLG-600H Series  
Constant  
Voltage  
Constant Current  
LED Driver**



# MEAN WELL HLG-600H Series Constant Voltage Constant Current LED Driver User Guide

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**MEAN WELL HLG-600H Series Constant Voltage Constant Current LED Driver**



## FAQs

- **Q: What is the difference between IP65 and IP67 ratings?**
  - **A:** The IP65 rating protects against dust and low-pressure water jets, while the IP67 rating offers protection against immersion in water up to 1 meter depth for a limited time.
- **Q: Can the HLG-600H driver be used with AB-type LEDs?**
  - **A:** The HLG-600H driver is compatible with all LED types except for AB-type LEDs. For AB-type LEDs, a different driver is recommended.

## FEATURE

- Constant Voltage + Constant Current mode output
- Metal housing with class 1 design
- Standby power consumption <0.5W at remote off
- 1P67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming (dim-to-off)
- Typical lifetime > 62000 hours
- 7 years warranty

## Applications

- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type “HL” for use in Class I , Division 2 hazardous (Classified) location.

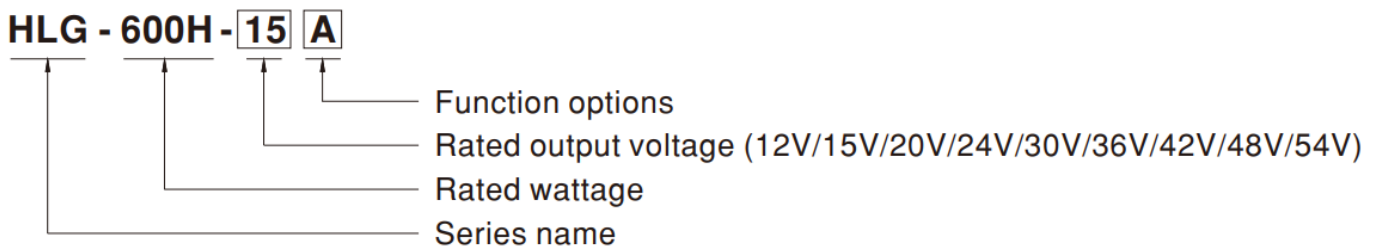
## GTIN CODE

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

## Description

- HLG-600H series is a 600W AC/DC LED driver featuring the dual mode constant voltage and constant current output.
- HLG-600H operates from 90 ~ 305VAC and offers models with different rated voltages ranging between 12V and 54V.
- Thanks to the high efficiency of up to 96%, with the fanless design, the entire series can operate for -40°C ~ +90°C case temperature under free air convection.
- The design of metal housing and IP67/1P65 ingress protection level allows this series to fit both indoor and outdoor applications.
- HLG-600H is equipped with various function options, such as dimming methodologies, to provide the optimal design flexibility for LED lighting systems.

## MODEL ENCODING



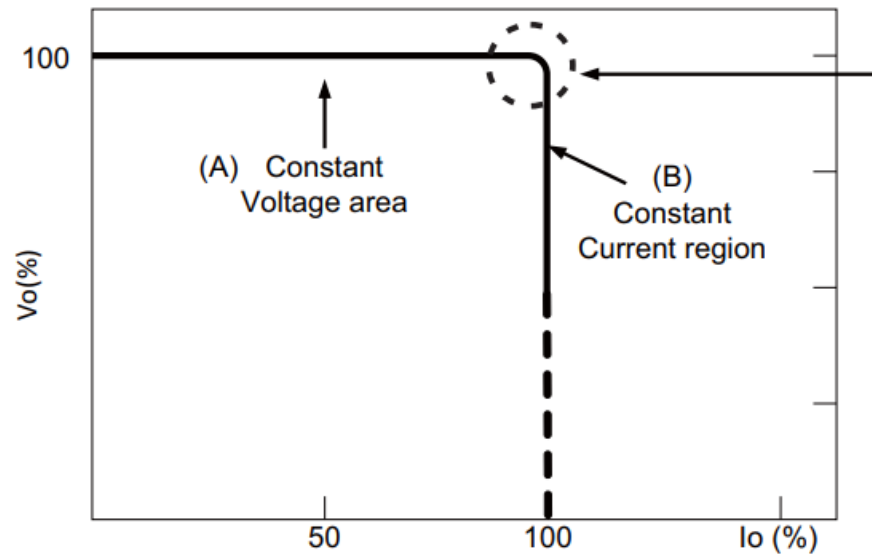
Type	IP Level	Function	Note
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (0~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (0~10VDC, 10V PWM signal and resistance)	In Stock
Blank	IP67	Io and Vo fixed	In Stock

## SPECIFICATION

MODEL		HLG-600H-12	HLG-600H-15	HLG-600H-20	HLG-600H-24	HLG-600H-30	HLG-600H-36	HLG-600H-42	HLG-600H-48	HLG-600H-54	
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V	
	CONSTANT CURRENT REGION <small>Note.4</small>	6 ~ 12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V	
	RATED CURRENT	40A	36A	28A	25A	20A	16.7A	14.3A	12.5A	11.2A	
	RATED POWER	480W	540W	560W	600W	600W	601.2W	600.6W	600W	604.8W	
	RIPPLE & NOISE (max.) <small>Note.2</small>	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p	
	VOLTAGE ADJ. RANGE	Adjustable for A-Type only (via built-in potentiometer) 10.2 ~ 12.6V    12.7 ~ 15.8V    17 ~ 21V    20.4 ~ 25.2V    25.5 ~ 31.5V    30.6 ~ 37.8V    35.7 ~ 44.1V    40.8 ~ 50.4V    45.9 ~ 56.7V									
	CURRENT ADJ. RANGE	Adjustable for A-Type only (via built-in potentiometer) 20 ~ 40A    18 ~ 36A    14 ~ 28A    12.5 ~ 25A    10 ~ 20A    8.3 ~ 16.7A    7.1 ~ 14.3A    6.2 ~ 12.5A    5.6 ~ 11.2A									
	VOLTAGE TOLERANCE <small>Note.3</small>	± 3.0%	± 2.0%	± 1.5%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	
	LINE REGULATION	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	
	LOAD REGULATION	± 2.0%	± 1.5%	± 1.0%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	
SETUP, RISE TIME <small>Note.6</small>	500ms, 80ms/ 115VAC, 230VAC										
HOLD UP TIME (Typ.)	15ms / 115VAC, 230VAC										
INPUT	VOLTAGE RANGE <small>Note.5</small>	90 ~ 305VAC    127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)									
	FREQUENCY RANGE	47 ~ 63Hz									
	POWER FACTOR (Typ.)	PF ≥ 0.98/115VAC, PF ≥ 0.95/230VAC, PF ≥ 0.93/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)									
	TOTAL HARMONIC DISTORTION	THD < 20% (@ load ≥ 50% / 115VAC, 230VAC; @ load ≥ 75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)									
	EFFICIENCY (Typ.)	230VAC	92%	93.5%	94.5%	95%	95%	95.5%	96%	96%	96%
		277VAC	92.5%	93.5%	94.5%	95%	95%	95.5%	96%	96%	96%
	AC CURRENT (Typ.)	7A / 115VAC    3.3A / 230VAC    2.9A / 277VAC									
	INRUSH CURRENT(Typ.)	COLD START 70A(twidth=1000μs measured at 50% Ipeak) at 230VAC; Per NEMA 410									
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	1 unit (circuit breaker of type B) / 2 units (circuit breaker of type C) at 230VAC									
	LEAKAGE CURRENT	<0.75mA / 277VAC									
STANDBY POWER CONSUMPTION	<0.5W at remote off										
PROTECTION	OVER CURRENT <small>Note.4</small>	95 ~ 108% Constant current limiting, recovers automatically after fault condition is removed									
	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed									
	OVER VOLTAGE	13 ~ 16V	16.5 ~ 20.5V	22 ~ 26V	26 ~ 30V	32.5 ~ 36.5V	39.5 ~ 43.5V	46 ~ 50V	52.5 ~ 56.5V	59 ~ 63V	
		Shut down o/p voltage, re-power on to recover									
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover									
FUNCTION	REMOTE ON/OFF CONTROL	Power on : "High" >2 ~ 5V or Open circuit    Power off : "Low" <0 ~ 0.5V or Short circuit									
	5V STANDBY	5VSB : 5V@0.5A; tolerance ±5%, ripple : 100mVp-p(max.)									

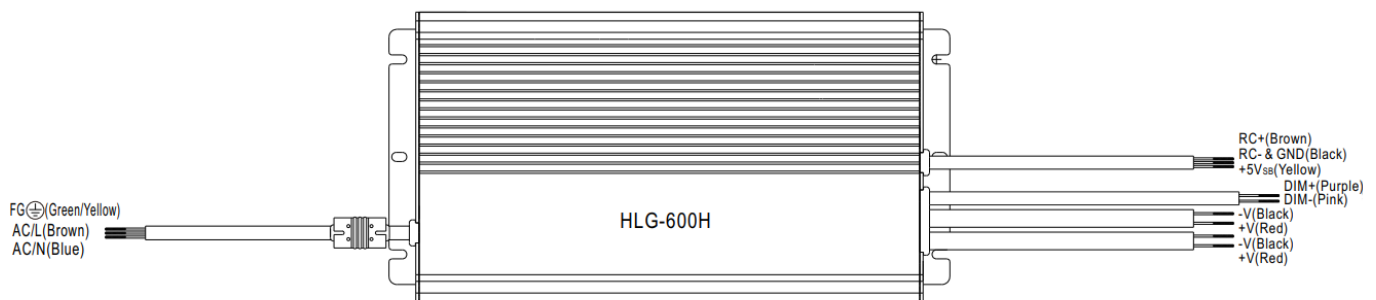






- In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.
- Should there be any compatibility issues, please contact MEAN WELL.
- Typical output current normalized by rated current (%)

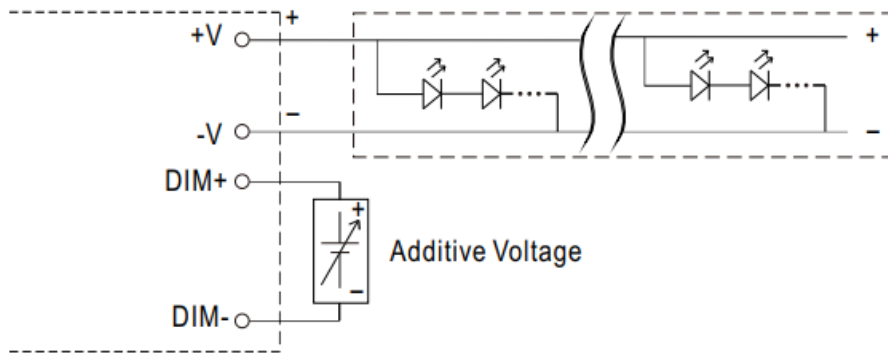
## DIMMING OPERATION



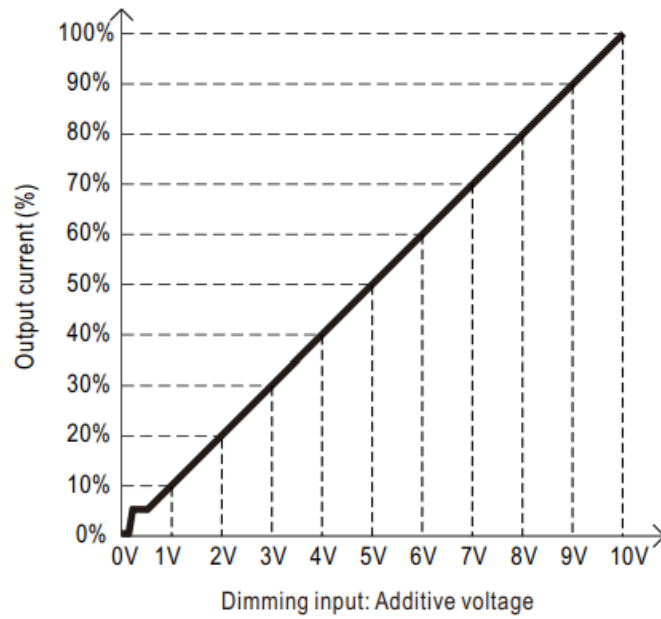
### 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-:
- ~ 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.)

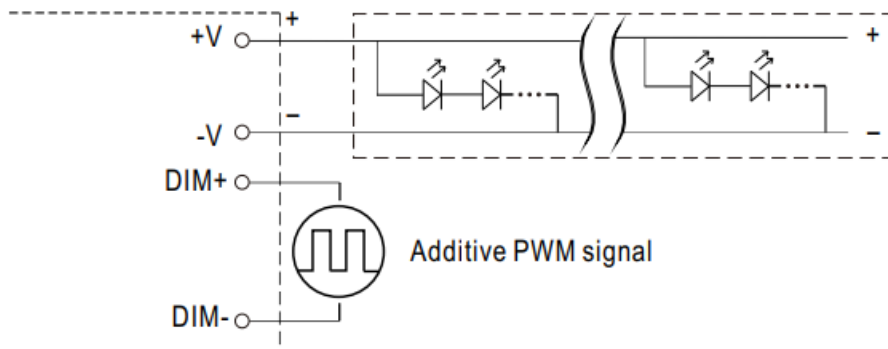
### Applying additive 0 ~ 10VDC



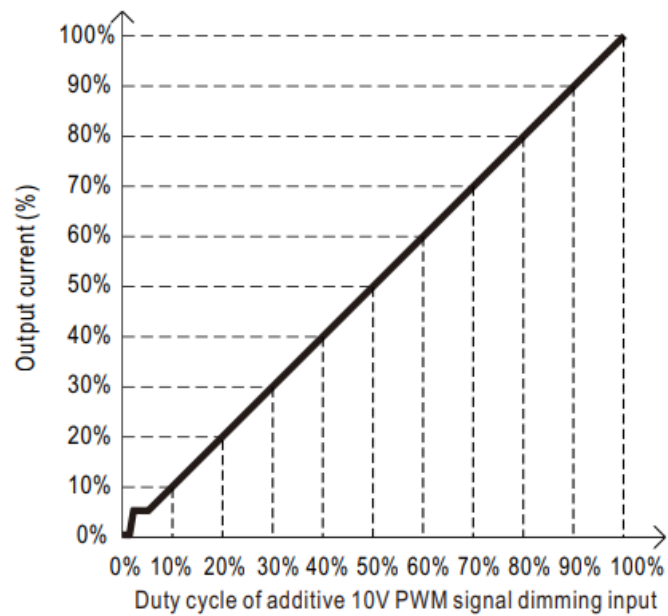
"DO NOT connect "DIM- to -V"



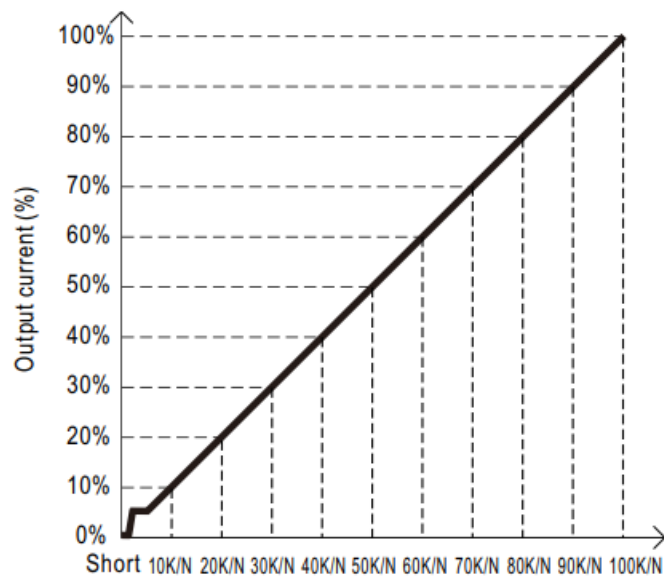
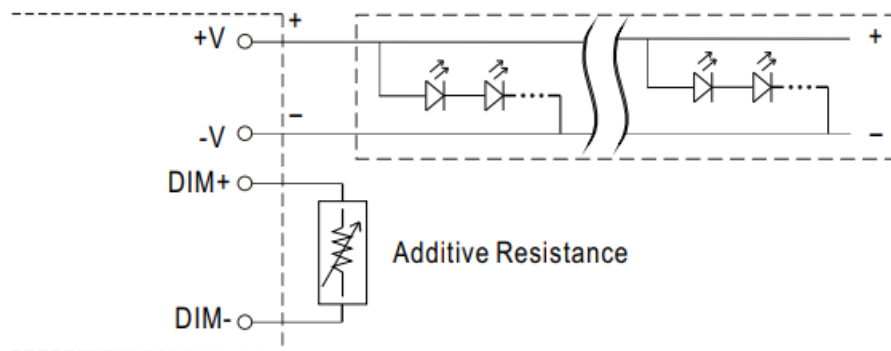
**Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):**



"DO NOT connect "DIM- to -V"



Applying additive resistance:



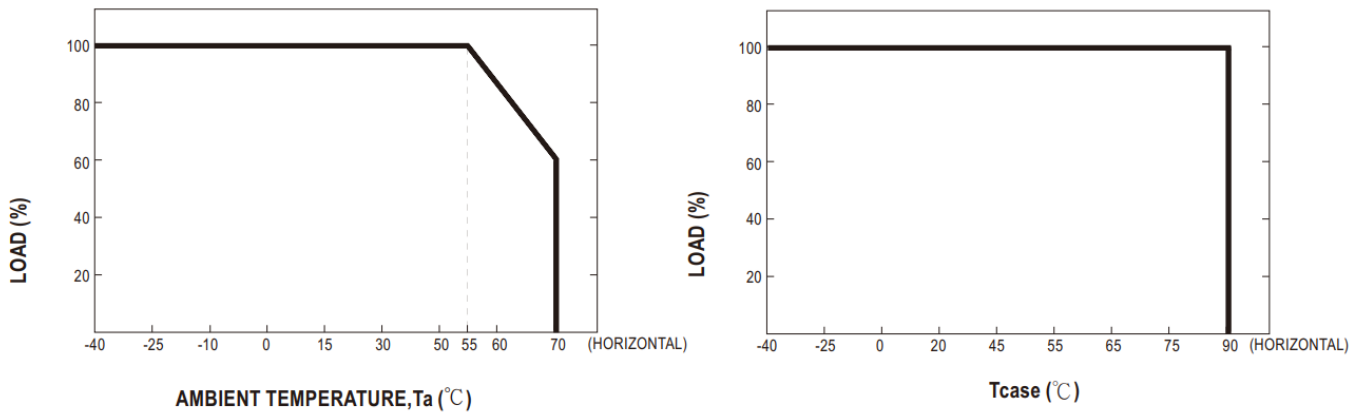
- (N=driver quantity for synchronized dimming operation)
- **Dimming input:** Additive resistance

Note:



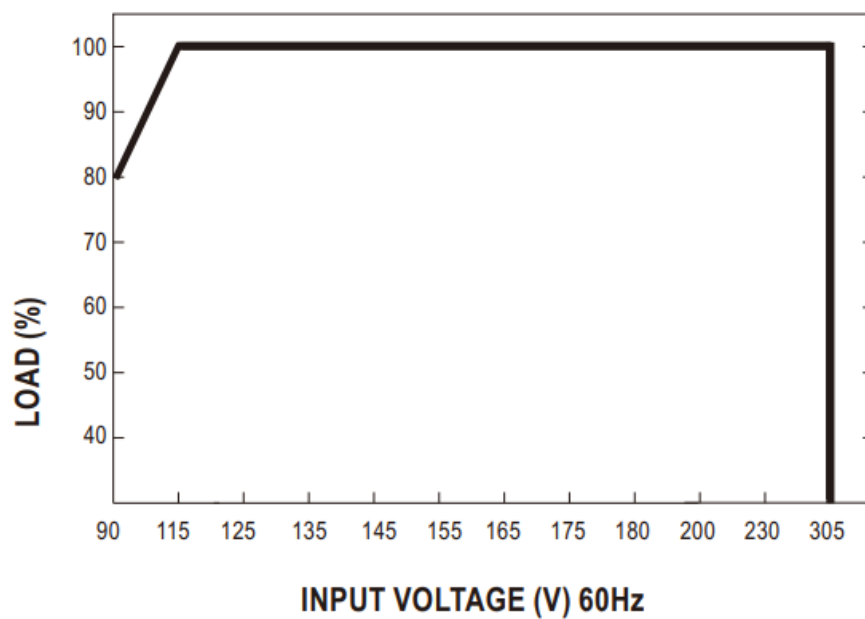
1. Min. dimming level is about 6% and the output current is not defined when  $0\% < I_{out} < 6\%$ .
2. The output current could drop down to 0% when dimming input is about 0k2 or 0Vdc, or 10V PWM signal with 0% duty cycle.

## OUTPUT LOAD vs TEMPERATURE



If HLG-600H operates in constant current mode with the rated current, the maximum workable  $T_a$  is 55°C.

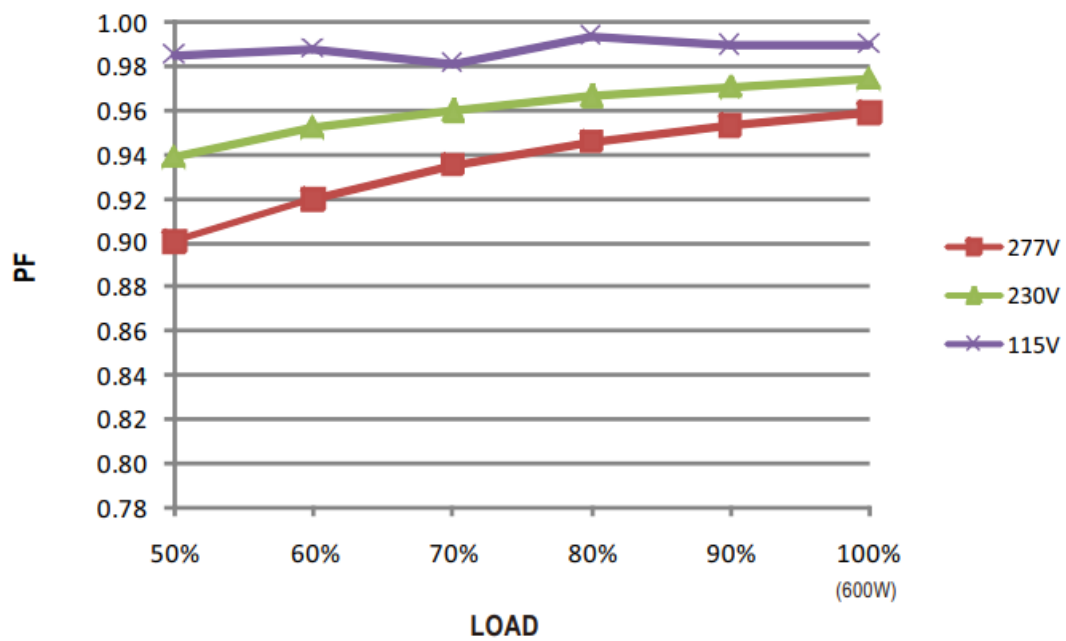
## STATIC CHARACTERISTICS



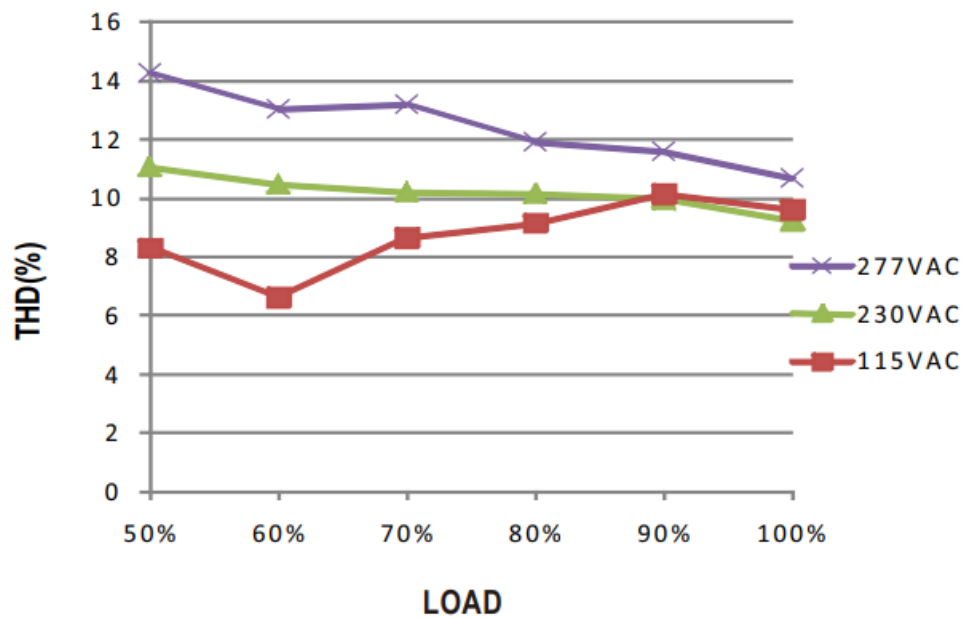
- De-rating is needed under low input voltage.

## POWER FACTOR(PF) CHARACTERISTIC

$T_{case}$  at 80°C Constant Current Mode

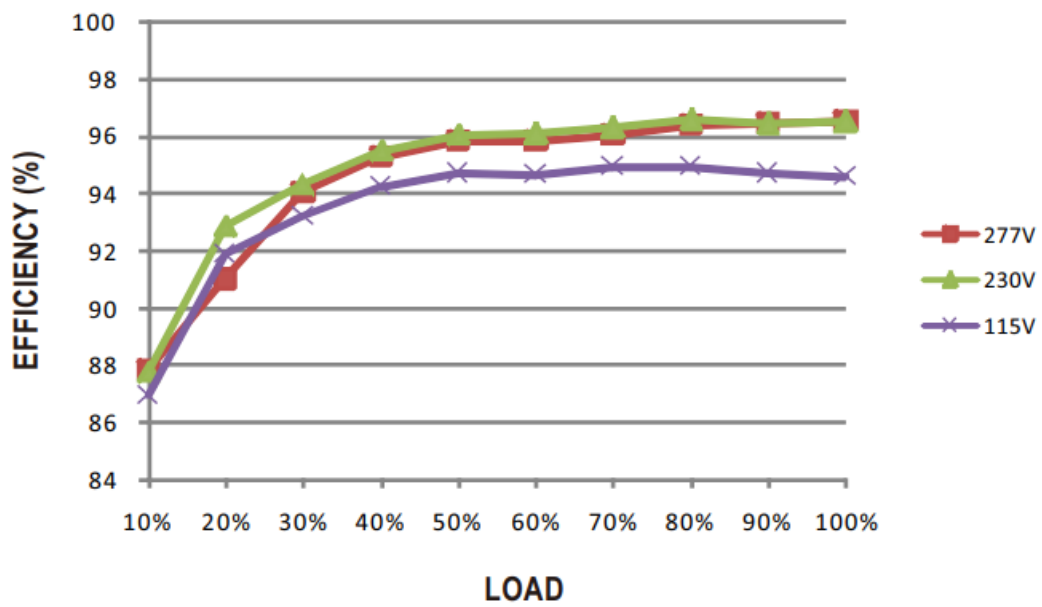


#### TOTAL HARMONIC DISTORTION (THD) 48V Model, Tcase at 80°C

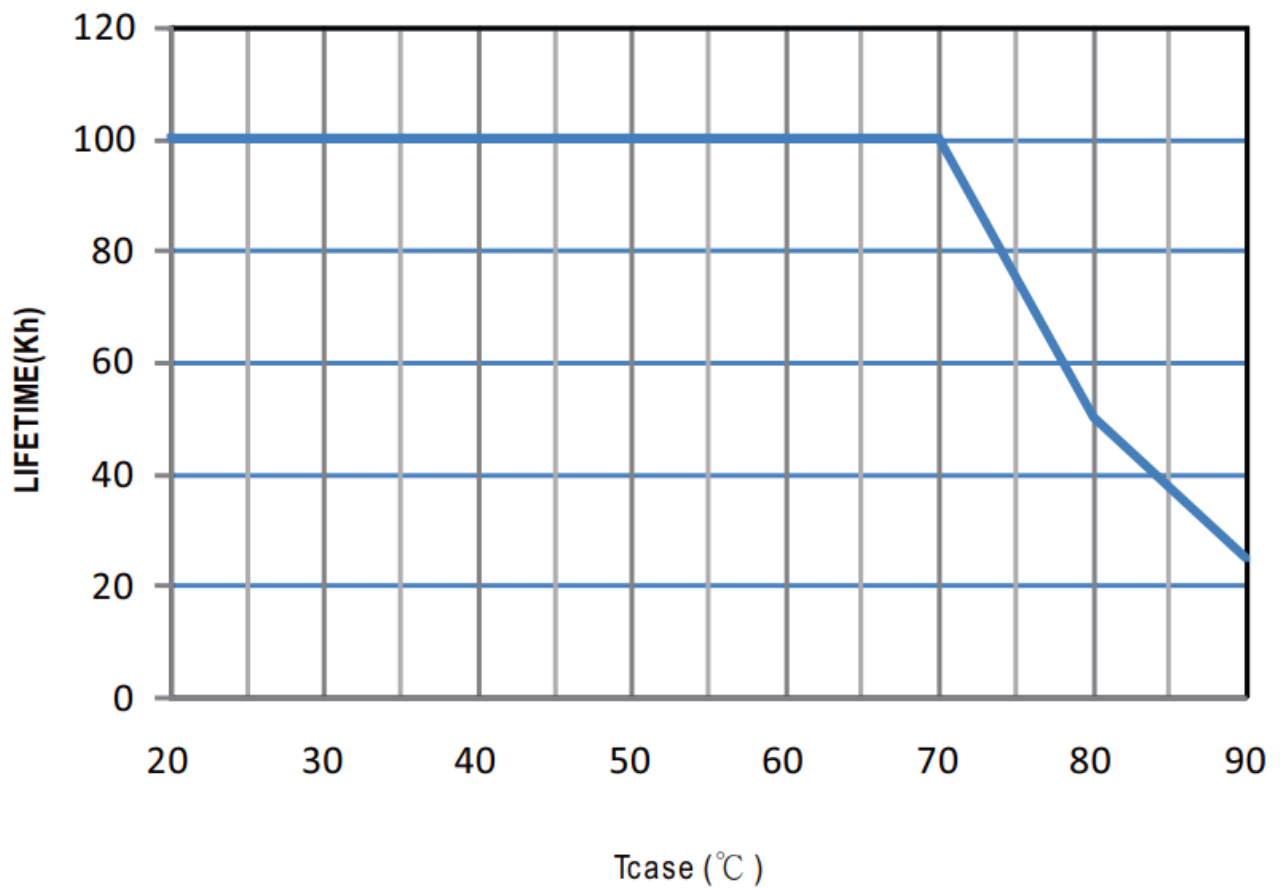


#### EFFICIENCY vs LOAD

HLG-600H series possess superior working efficiency that up to 96% can be reached in field applications. 48V Model, Tcase at 80°C

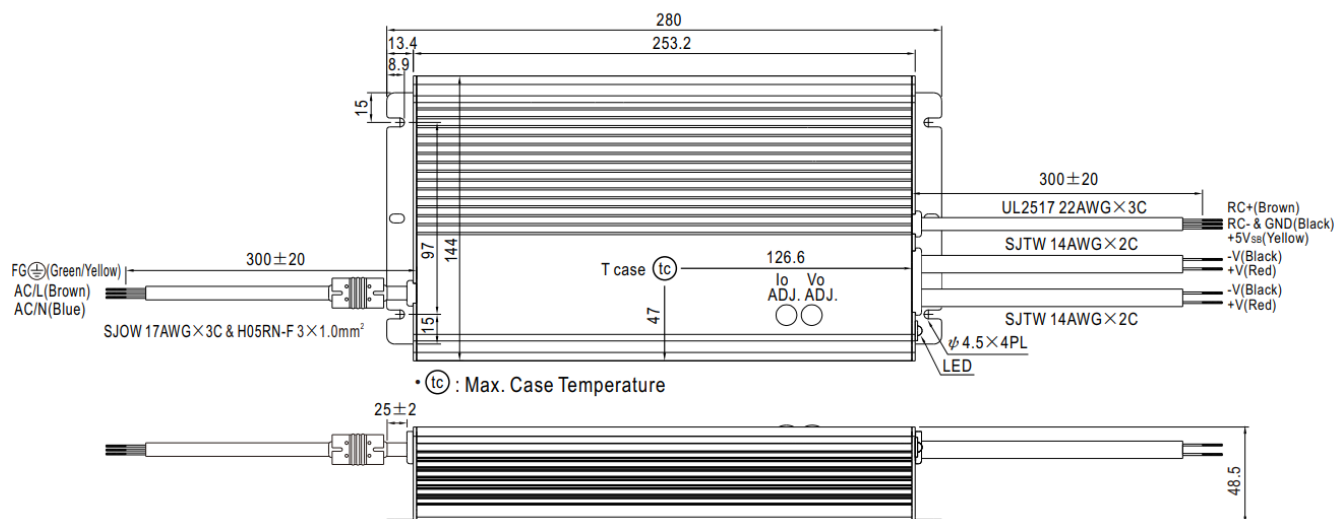


## LIFETIME

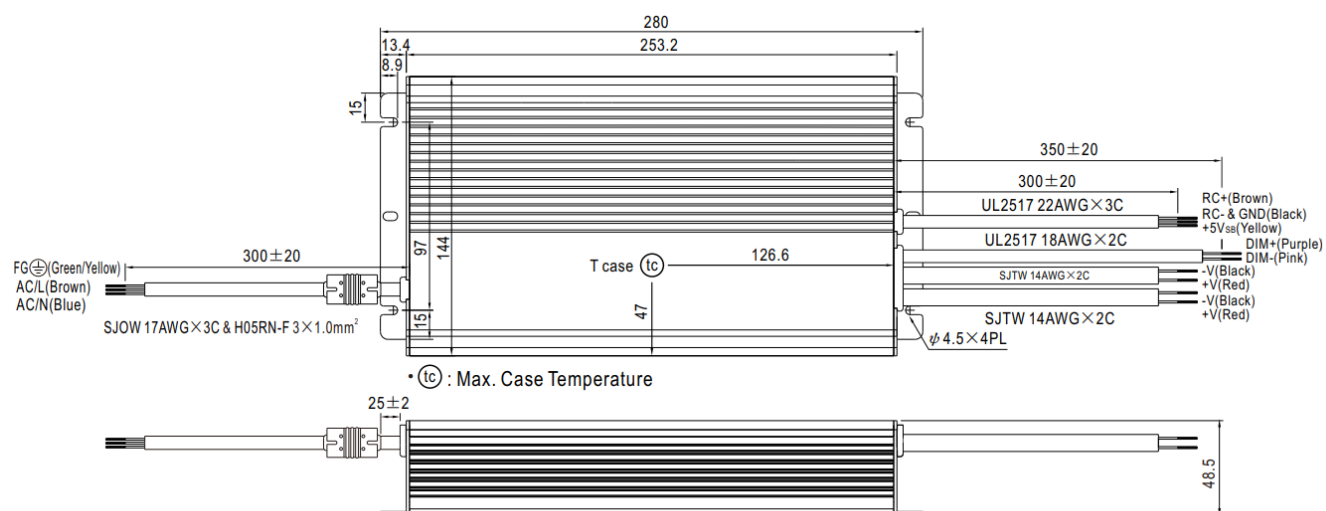


## MECHANICAL SPECIFICATION

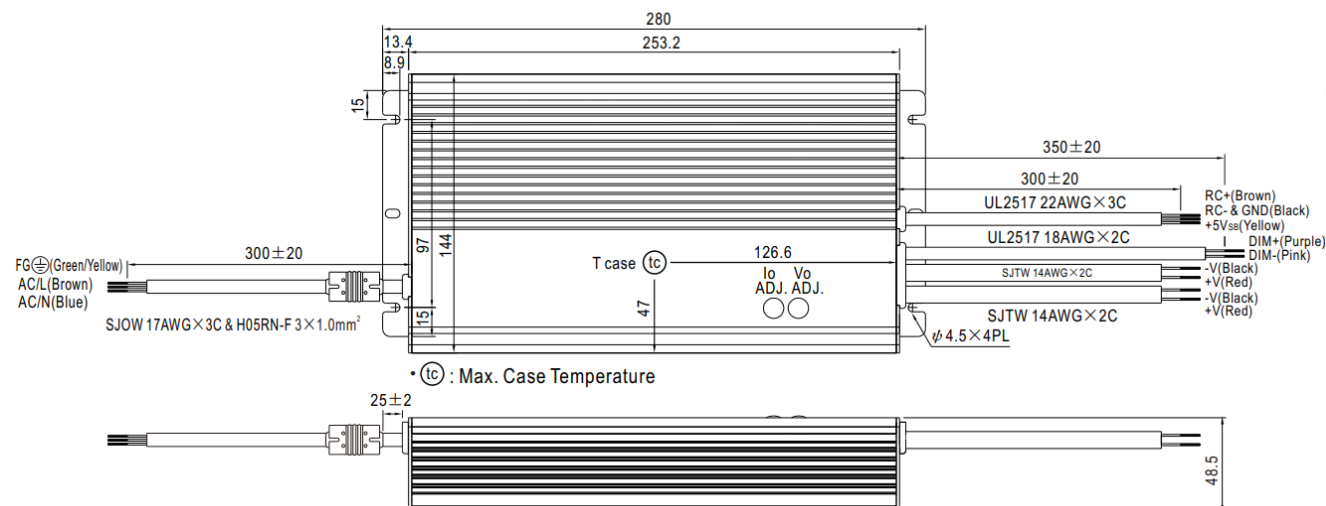
- A-Type



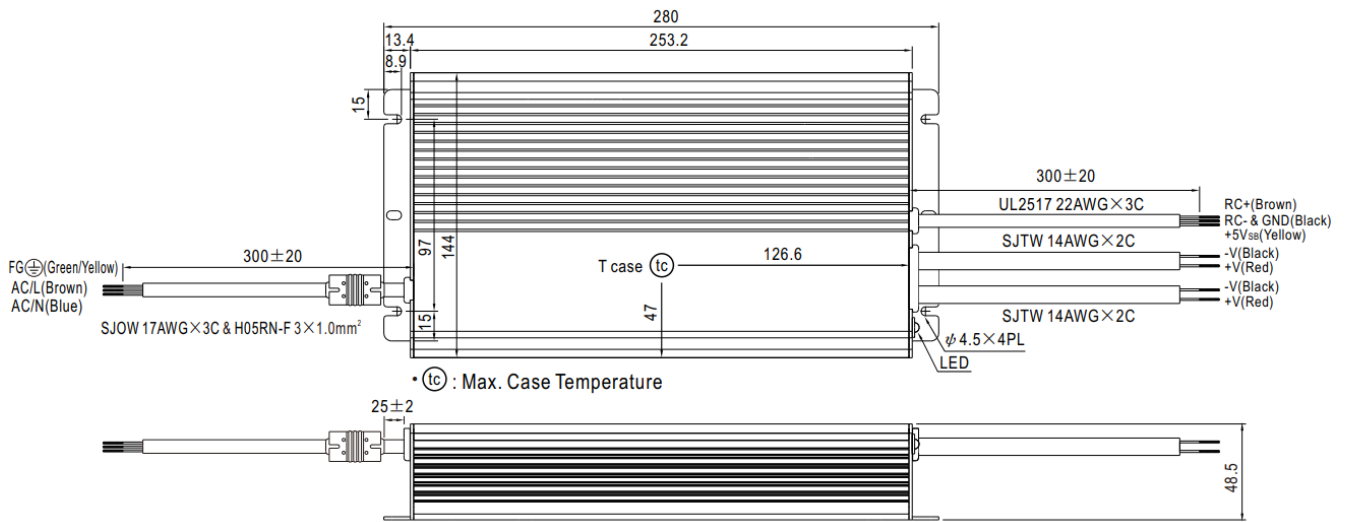
## • B-Type



## • AB-Type



## • Blank-Type



## INSTALLATION MANUAL

- Please refer to: <http://www.meanwell.com/manual.html>.
- Downloaded from [Arrow.com](http://www.arrow.com).
- File Name: HLG-600H-SPEC 2024-05-20



## Documents / Resources

	<p><b><a href="#">MEAN WELL HLG-600H Series Constant Voltage Constant Current LED Driver</a></b> [pdf] User Guide</p> <p>HLG-600H Series Constant Voltage Constant Current LED Driver, HLG-600H Series, Constant Voltage Constant Current LED Driver, Voltage Constant Current LED Driver, Constant Current LED Driver, Current LED Driver, LED Driver, Driver</p>
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## References

- [User Manual](#)

