



Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- Standby power consumption <0.5W at remote off
- IP67 / 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

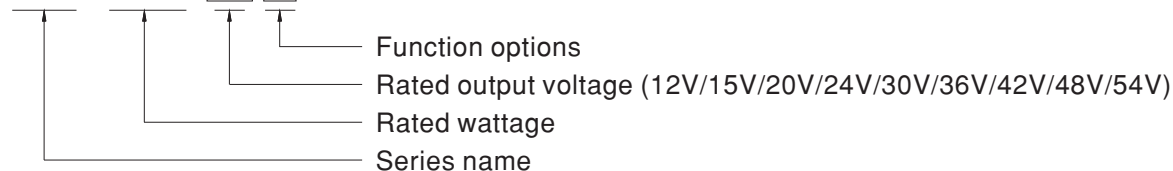
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class I , Division 2 hazardous (Classified) location.

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 voltage ranging between 12V and 54V. Thanks to the high efficiency up to 96%, with the fanless design, the entire series is able to operate for -40°C ~ +90°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. HLG-600H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 600H - 15 A

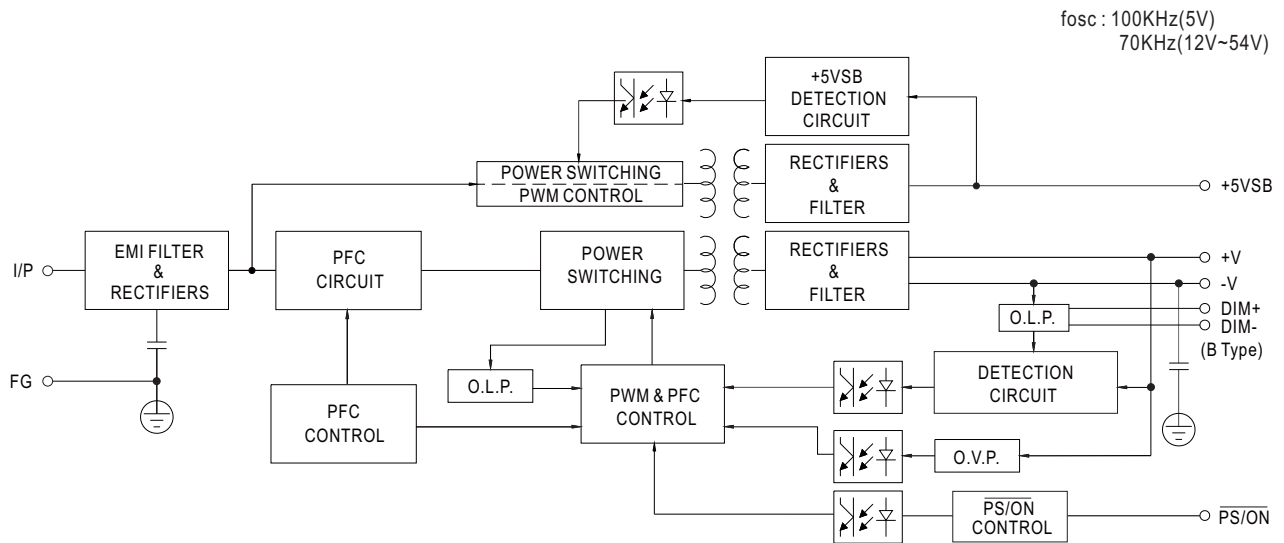


Type	IP Level	Function	Note
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (0~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (0~10VDC, 10V PWM signal and resistance)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

SPECIFICATION

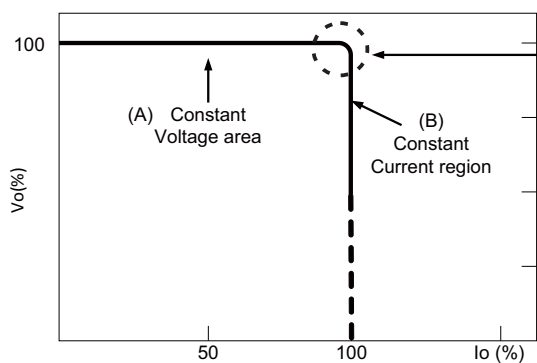
MODEL		HLG-600H-12	HLG-600H-15	HLG-600H-20	HLG-600H-24	HLG-600H-30	HLG-600H-36	HLG-600H-42	HLG-600H-48	HLG-600H-54
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	6 ~ 12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT	40A	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.) Note.2	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 Note.3	±3.0%	±2.0%	±1.5%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
INPUT	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 Note.6	500ms, 80ms/ 115VAC, 230VAC								
	HOLD UP TIME (Typ.)	15ms / 115VAC, 230VAC								
	VOLTAGE RANGE Note.5	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%
		277VAC	92.5%	93.5%	94.5%	95%	95%	95.5%	96%	96%
PROTECTION	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								
	OVER CURRENT Note.4	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
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover								
	REMOTE ON/OFF CONTROL	Power on : "High" >2 ~ 5V or Open circuit Power off : "Low" <0 ~ 0.5V or Short circuit								
FUNCTION	5V STANDBY	5V _{SB} : 5V@0.5A; tolerance ±5%, ripple : 100mVp-p(max.)								
	WORKING TEMP.	Tcase= -40 ~ +90°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)								
	MAX. CASE TEMP.	Tcase= +90°C								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing								
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 55°C)								
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
	SAFETY STANDARDS Note.7	UL60950-1, UL8750(type"HL"), CSA C22.2 No. 250.13-12, ENEC EN61347-1, EN61347-2-13 independent, EN62384, IP65 or IP67, J61347-1, J61347-2-13, CCC GB4943.1, EAC TP TC 004, AS/NZS 60950.1(by CB), KC61347-1, KC61347-2-13(for 24A,36A,48A,54A only) approved								
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC								
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH								
SAFETY & EMC (Note 10)	EMC EMISSION Note.7	Compliance to EN55032 (CISPR32) Class B, EN55015, EN61000-3-2 Class C (@ load ≥ 50%) ; EN61000-3-3, EAC TP TC 020; KC KN15, KN61547(for 24A,36A,48A,54A only)								
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV), EAC TP TC 020; KC KN15, KN61547(for 24A,36A,48A,54A only)								
	MTBF	76.9K hrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	280*144*48.5mm (L*W*H)								
	PACKING	3.9Kg; 4pcs/16.6Kg/0.9CUFT								
	NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Please refer to "DRIVING METHODS OF LED MODULE". 5. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. 6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time. 7. The model certified for CCC(GB19510.14, GB19510.1, GB17743 and GB17625.1) is an optional model . Please contact MEAN WELL for details. 8. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (Tc) point (or TMP, per DLC), is about 75°C or less. 9. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com 10. The driver is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com) 11. 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). 12. 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								

■ BLOCK DIAGRAM



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

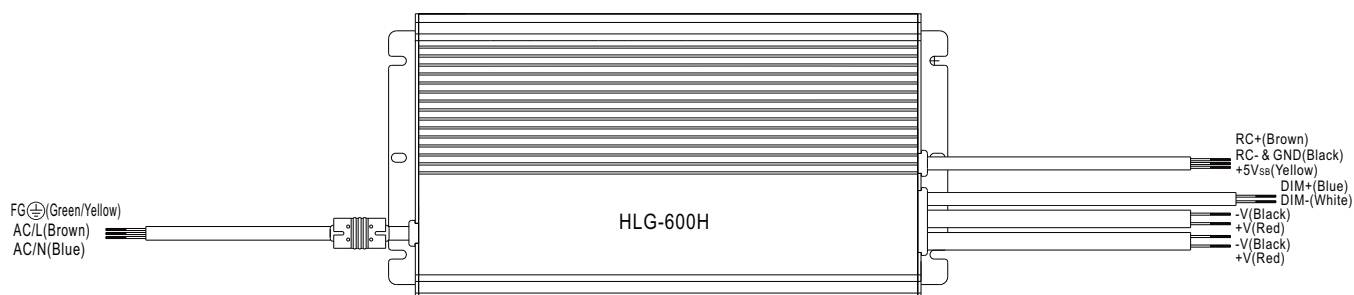


Typical output current normalized by rated current (%)

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.

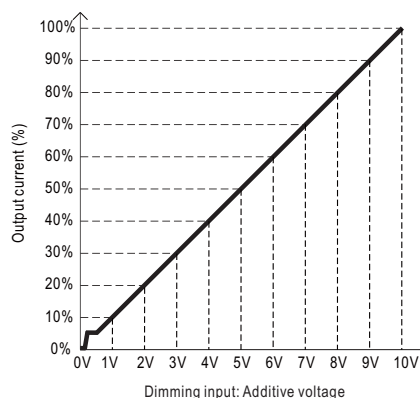
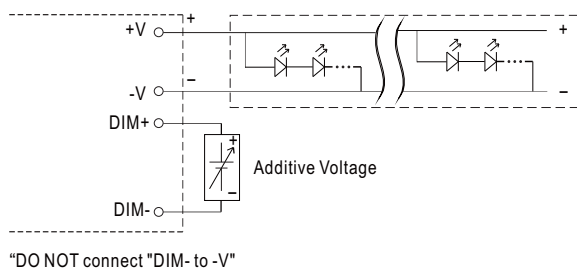
DIMMING OPERATION



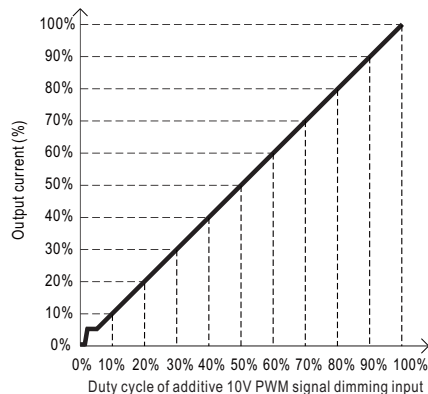
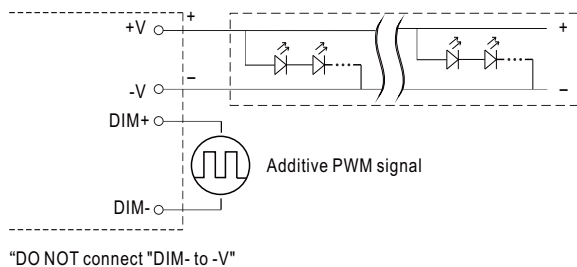
※ 3 in 1 dimming function (for B-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-:
0 ~ 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: 100 μ A (typ.)

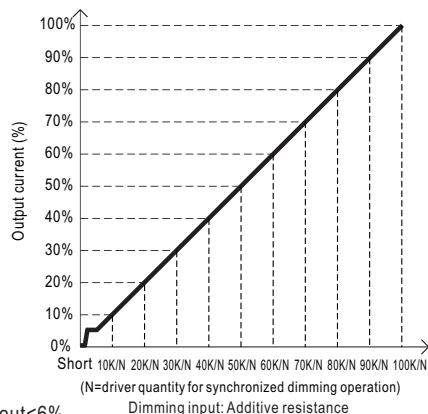
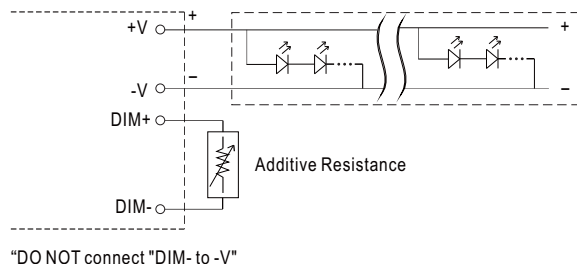
◎ Applying additive 0 ~ 10VDC



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



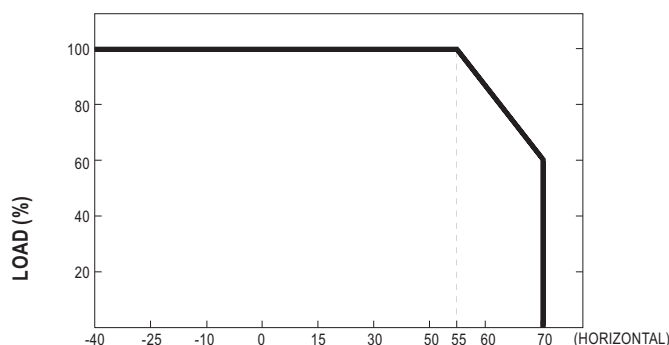
◎ Applying additive resistance:



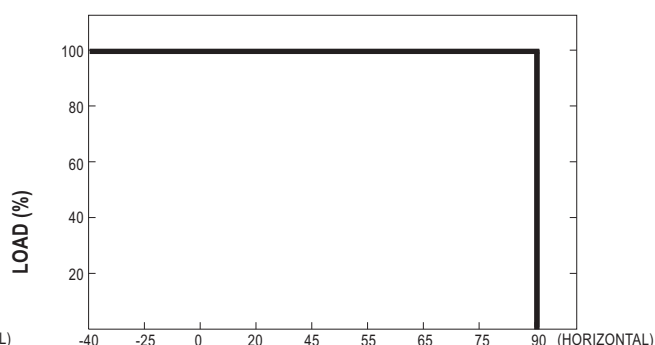
Note : 1. Min. dimming level is about 6% and the output current is not defined when $0\% < I_{out} < 6\%$.

2. The output current could drop down to 0% when dimming input is about $0k\Omega$ or 0Vdc, or 10V PWM signal with 0% duty cycle.

OUTPUT LOAD vs TEMPERATURE



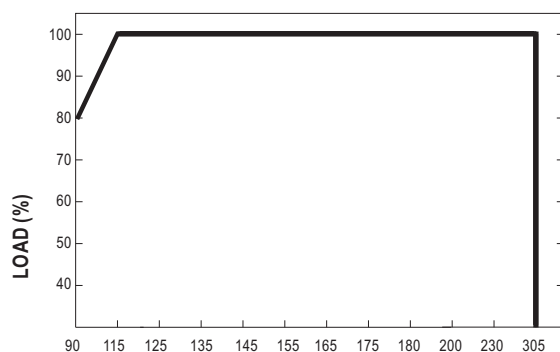
AMBIENT TEMPERATURE, T_a (°C)



T_{case} (°C)

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

STATIC CHARACTERISTICS

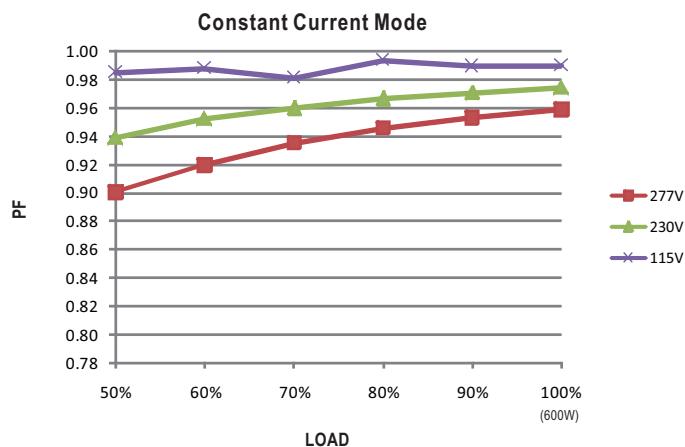


INPUT VOLTAGE (V) 60Hz

※ De-rating is needed under low input voltage.

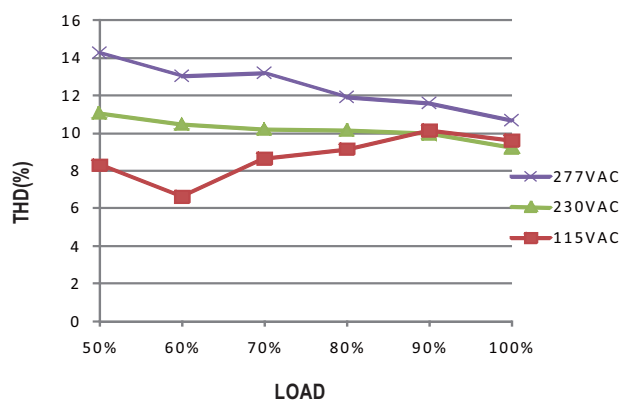
POWER FACTOR(PF) CHARACTERISTIC

※ T_{case} at 80°C



TOTAL HARMONIC DISTORTION (THD)

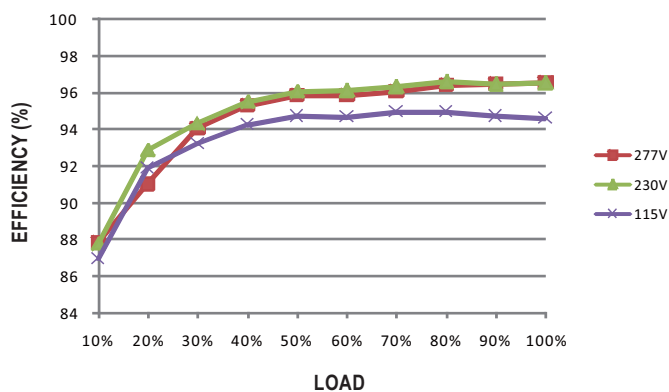
※ 48V Model, T_{case} at 80°C



EFFICIENCY vs LOAD

HLG-600H series possess superior working efficiency that up to 96% can be reached in field applications.

※ 48V Model, T_{case} at 80°C

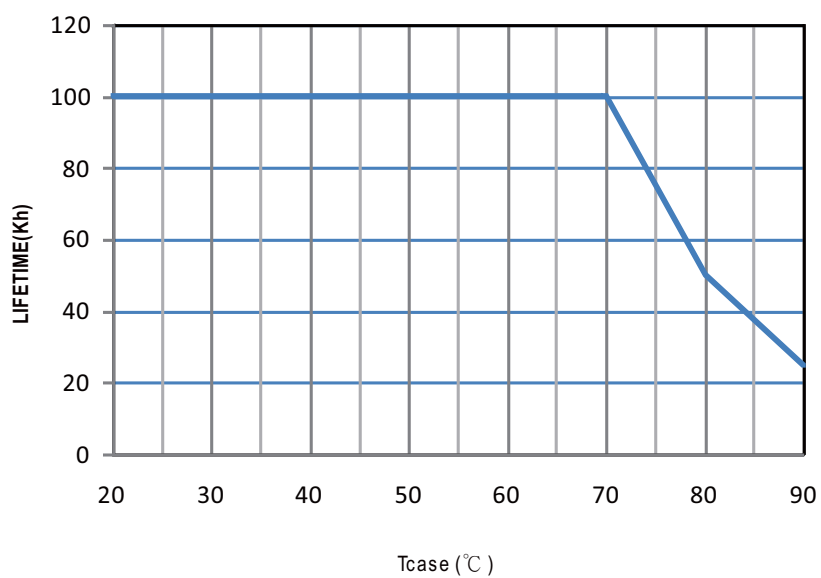




600W Constant Voltage + Constant Current LED Driver

HLG-600H series

■ LIFETIME

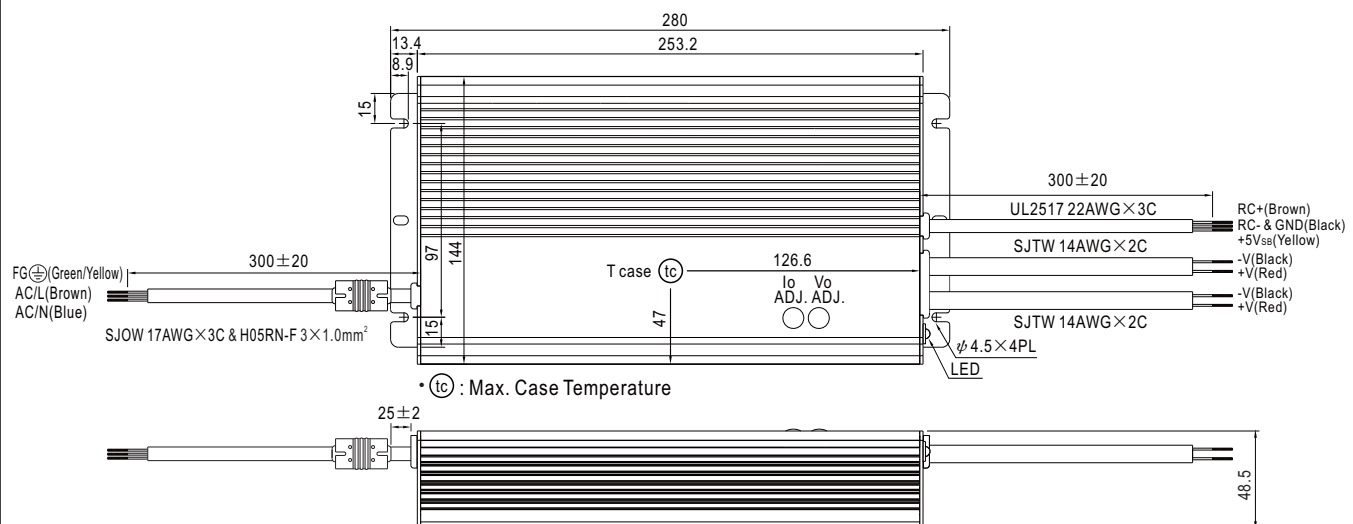


MECHANICAL SPECIFICATION

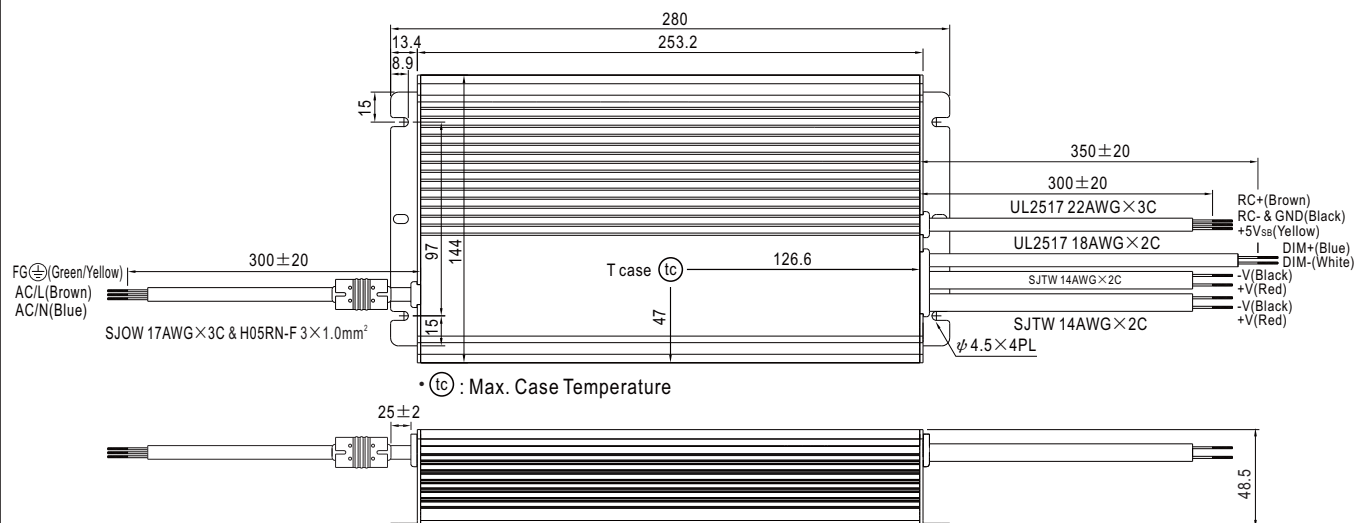
Case No. 228

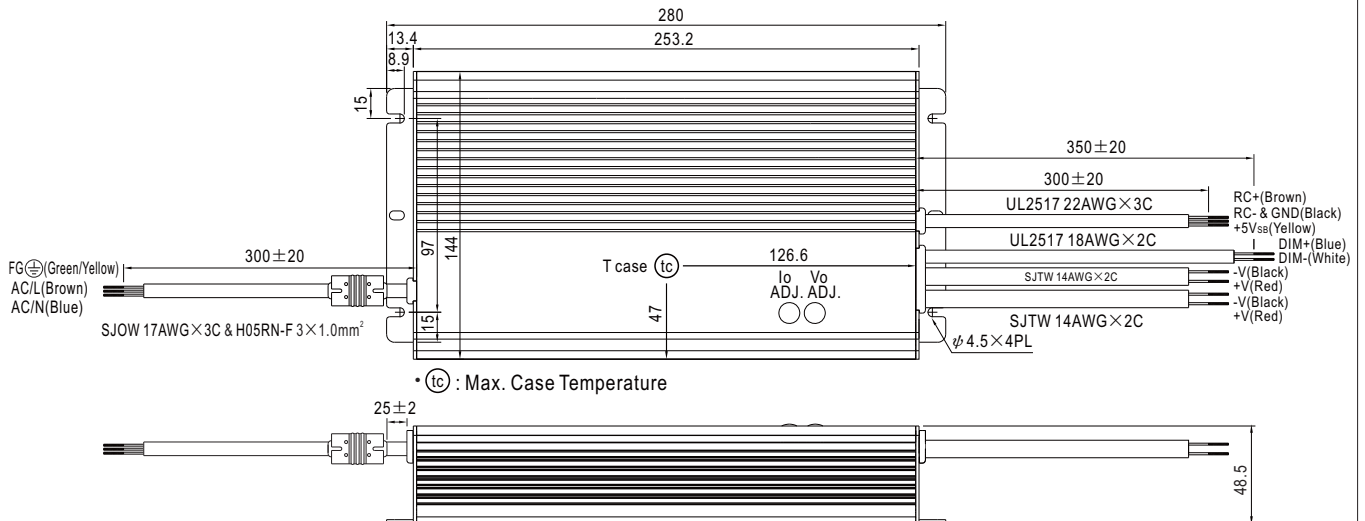
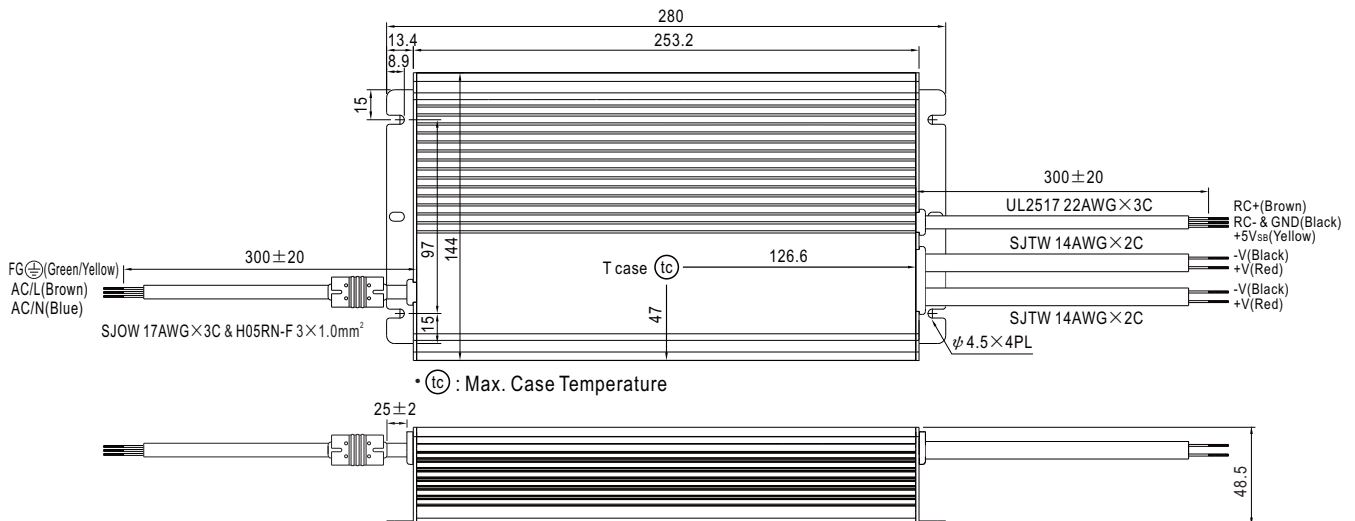
Unit:mm

※A-Type



※B-Type



※AB-Type

※Blank-Type

■ INSTALLATION MANUAL

Please refer to : <http://www.meanwell.com/manual.html>



Declaration of Conformity

For the following equipment :

Product Name: LED Driver

Model Designation: HLG-600H-xy (x=12,15,20,24,30,36,42,48,54 ; y=A, B ,AB or Blank)

is herewith confirmed to comply with the requirements set out in the Council Directive, the following standards were applied :

RoHS Directive (2011/65/EU), (EU)2015/863

Energy-Related Products Directive (2009/125/EC)
Implementing measure COMMISSION REGULATION(EU) No 2019/2020

Low Voltage Directive (2014/35/EU) :

EN 61347-1:2015 ; EN 61347-2-13:2014/A1:2017

ENEC certificate No: 35-106087

Electromagnetic Compatibility Directive (2014/30/EU) :

EMI (Electro-Magnetic Interference)

Conducted emission / Radiated emission

EN IEC 55015:2019+A11:2020

Harmonic current EN IEC 61000-3-2:2019

Class C ($\geq 50\%$ load)

Voltage flicker EN 61000-3-3:2013+A1:2019

EMS (Electro-Magnetic Susceptibility)

EN 61547:2009

ESD air EN 61000-4-2:2009

Level 4

15KV

ESD contact EN 61000-4-2:2009

Level 4

8KV

RF field susceptibility EN 61000-4-3:2006/A2:2010

Level 2

3V/m

EFT bursts EN 61000-4-4:2012

Level 2

1KV/5KHz

Surge susceptibility EN 61000-4-5:2014+A1:2017

Level 4

2KV/Line-Line

Surge susceptibility EN 61000-4-5:2014+A1:2017

Level 4

4KV/Line-Earth

Conducted susceptibility EN 61000-4-6:2014

Level 2

3V

Magnetic field immunity EN 61000-4-8:2010

Level 2

3A/m

Voltage dip, interruption EN IEC 61000-4-11:2020

30% dip 10 periods 100% interruptions 0.5 periods

Note:

Component power supply will be operated with a 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.

Tests above are only to be performed with LEDs.

For guidance on how to perform these EMC tests, please refer to TDF (Technical Documentation File).

To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.

This Declaration is effective from serial number TC1xxxxxxx

Person responsible for marking this declaration :

MEAN WELL Enterprises Co., Ltd.

(Manufacturer Name)

No.28, Wuquan 3rd Rd., Wugu Dist., New Taipei City 24891, Taiwan

(Manufacturer Address)

Aries Jian/Director, Group R & D :

(Name / Position)

(Signature)

Alex Tsai/ Director, Product Strategy Center :

(Name / Position)

(Signature)

Taiwan

(Place)

Aug. 11th, 2021

(Date)