





UNIT CODE	DESCRIPTION
HLG600-H 12	480 Watt, 12 Volt, Single Output, Waterproof, LED Power Supply with Adjustable Output Voltage and Current*

SPECIFICATIONS		
Input	Output	Agency Approvals
Full Range 90 ~ 305VAC	+12VDC @ 0 ~ 40A	IP65 IP67   US   CBCE

Features at a Glance:

- 90-305VAC full range input
- Efficient - 92%
- Active PFC function (PF>0.98/115V)
- CV + CC design
- A-Type IP65, Type-B IP67 approved
- Protections: Short circuit / Overload /
Over voltage / Over temperature
- Setup time <500ms
- Built-in 5V/0.5A standby power
- Working temperature: -40 ~ +70°C
- No load power consumption <0.5W at remote OFF
- Withstands 5G vibration test
- Meet 4KV surge immunity level (IEC61000-4-5)
- Certificates: UL / CUL / ENEC / CB / CE
- MBTF: 76.9K hours min. *MIL-HDBK-217F (25°C)*
- Weight: 8.6 lbs. (3.9 Kgs.)
- Dimensions: 11.0L x 5.6W x 1.9H inches
(case 228) 280L x 144W x 48.5H mm
- 5 year warranty



The HLG-600H series are highly efficient (with active PFC), waterproof, AC-to-DC LED power supplies, primarily for heavy duty lighting applications. With a 90-305VAC wide AC input range the HLG-600H series will naturally operate with general 115VAC or 230VAC main input, but can also be operated with 277VAC.

The HLG-600H are able to operate in ambient temperatures from a chilly -40°C (-40°F) up to +70°C (158°F). They are also able to withstand vibration up to 5 Gs, and have industrial-level immunity against instantaneous surges up to 4kV. HLG600-H will work reliably in a wide variety of indoor and outdoor, dusty, moist, and vibrating environments. The "A-Type" will work with many thermoelectric applications.

HLG-600H is available in two models (*A & B Types):

- A- Type allows manual adjustment of DC output voltage (from 85-105%) and/or the output current (between 50-100%). IP 65 approved.
- B- Type is equipped with a three-in-one dimming function. Input/Output by cable. IP 67 approved.

Suitable for any indoor or outdoor high power LED lighting application and ideal in installations with moisture and/or dust requiring exceptional reliability.

Pricing: 1+ \$ 249.50
10+ 225.00
25+ 199.00

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toll-free 1-866-665-5434 (603) 888-2467 power@electracool.com



Features

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- No load power consumption <0.5W at remote OFF
- High efficiency up to 96%
- -40°C ~ +70°C wide operating range
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Fanless design, cooling by free air convection
- IP67 / IP65 design for indoor or outdoor installations
- Withstand 5G vibration test
- Three in one dimming function (0~10Vdc or PWM signal or resistance)
- LED indicator for power on (A-Type)
- Suitable for dry / damp / wet location
- 5 years warranty (Note.10)

Applications

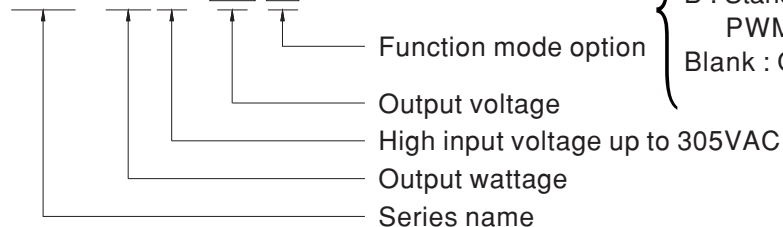
- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED searchlight
- LED fishing lamp

Description

HLG-600H series is a high performance dustproof and waterproof AC-to-DC LED power supply up to 600W. The fully-potted silicone and the aluminum case facilitate the heat dissipation. Above all, it delivers the efficiency up to 96% that tops the LED power supply field. Other features include the wide working temperature range between -40°C and +70°C, the fan-less design, the adjustable output voltage and current, the surge susceptibility up to 4KV (EN61000-4-5), low no-load power consumption (<0.5W) at remote OFF and workable for 277VAC input. These attributes all make HLG-600H the fit for the indoor/outdoor LED lighting application requiring remarkable reliability.

Model Encoding

HLG - 600H - 12 A



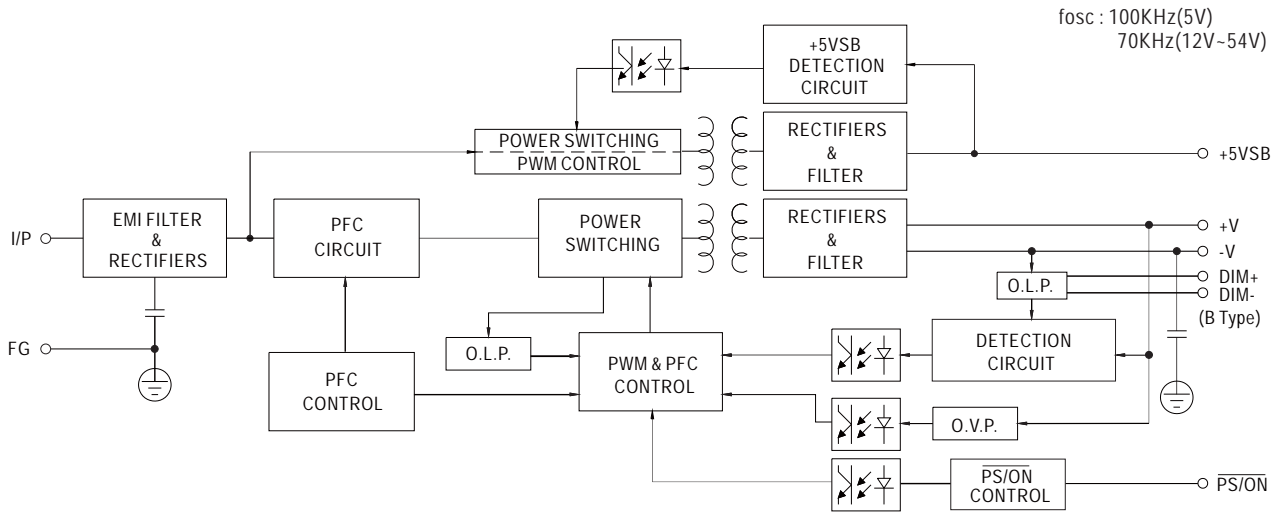
- A : Standard model, IP65, Vo and Io level can be adjusted through internal potentiometer.
- B : Standard model, IP67, Io adjustable with 0~10Vdc, PWM signal or resistance.
- Blank : Optional model, IP67, with fixed Vo and Io level.



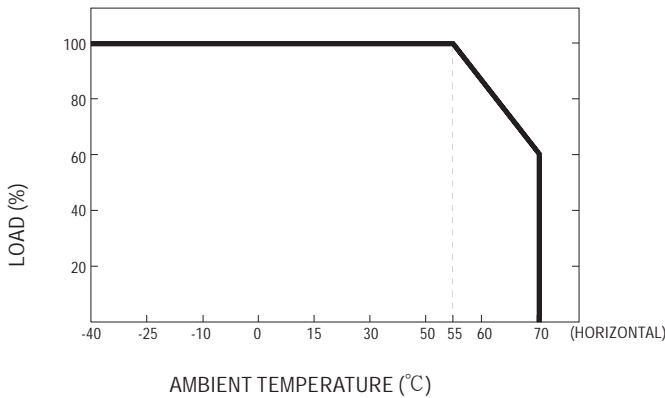
SPECIFICATION

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 Note.6	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	Can be adjusted by internal potentiometer A type only									
		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%	
	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.8	500ms, 80ms at full load 230VAC /115VAC									
HOLD UP TIME (Typ.)	15ms at full load 230VAC /115VAC										
INPUT	VOLTAGE RANGE Note.5	90 - 305VAC		127 - 431VDC							
	FREQUENCY RANGE	47 - 63Hz									
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC, PF>0.93/277VAC at full load (Please refer to "Power Factor Characteristic" curve)									
	TOTAL HARMONIC DISTORTION	THD< 20% when output loading ≥ 50% at 115VAC/230VAC input and output loading ≥ 75% at 277VAC input									
	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									
	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										
PROTECTION	OVER CURRENT Note.4	95 - 108% Protection type : 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									
FUNCTION	REMOTE ON/OFF CONTROL	Power on : "Hi" >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.)									
ENVIRONMENT	WORKING TEMP.	-40 - +70°C (Refer to "Derating Curve")									
	WORKING HUMIDITY	20 - 95% RH non-condensing									
	STORAGE TEMP., HUMIDITY	-40 - +85°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 Note.7	UL60950-1, UL8750, CSA C22.2 No. 250.13-12, ENEC EN61347-1, EN61347-2-13 independent, EN62384, IP65 or IP67, J61347-1, J61347-2-13 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									
	EMC EMISSION	Compliance to EN55015, EN55022(CISPR22) Class B, EN61000-3-2 Class C (≥50% load) ; EN61000-3-3									
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge 4KV), criteria A									
OTHERS	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	<ol style="list-style-type: none"> All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. Tolerance : includes set up tolerance, line regulation and load regulation. Constant current operation region is within 50%~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design. Derating may be needed under low input voltages. Please check the static characteristics for more details. A type only. Safety and EMC design refer to EN60598-1, subject CNS15233, GB7000.1, FCC part18. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time. The power supply 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. Refer to warranty statement 										

■ Block Diagram

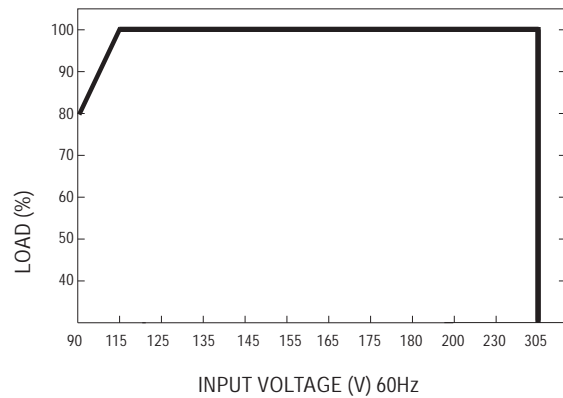


■ Derating Curve

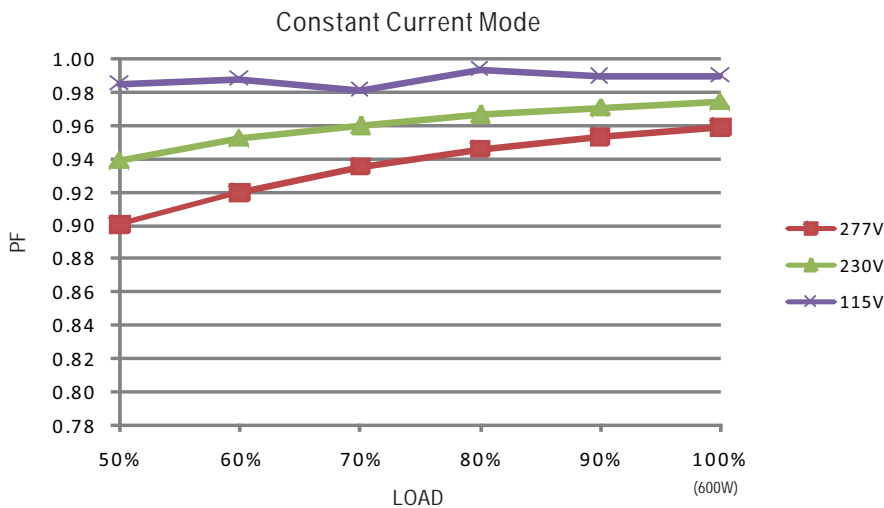


Note : At high ambient temperature $T_a=70^{\circ}\text{C}$, if HLG-600H operates in C.C mode, the maximal current must not be greater than 60% of the rated current.

■ Static Characteristics

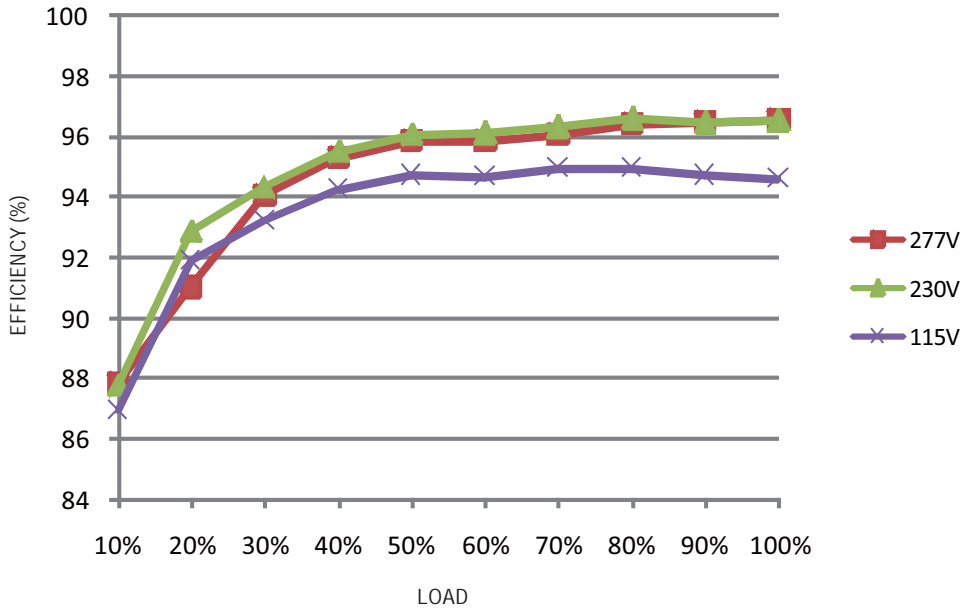


■ Power Factor Characteristic



EFFICIENCY vs LOAD (54V Model)

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

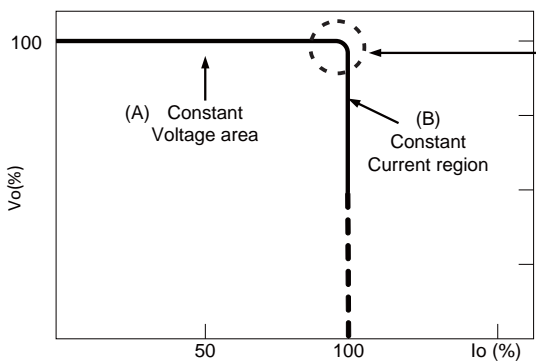


DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (C.V) or constant current mode (C.C)" to drive the LEDs.

Mean Well's LED power supply with C.V+ C.C characteristic can be operated at both C.V mode (with LED driver, at area (A) and C.C mode (direct drive, at area (B)).

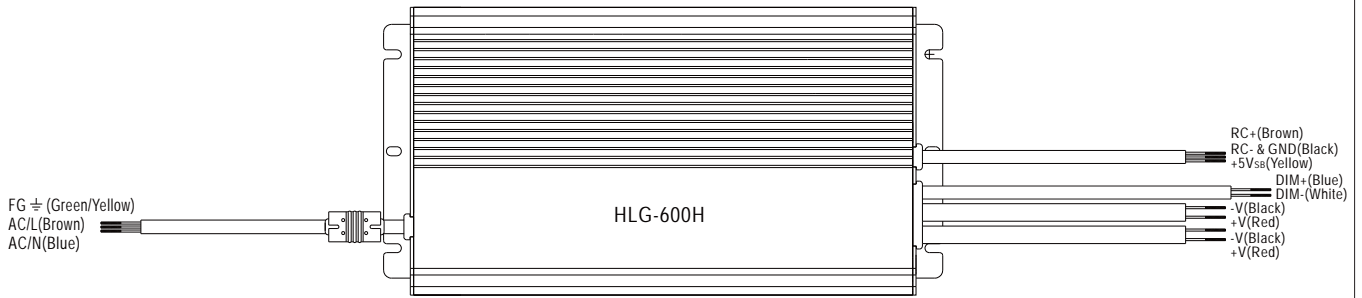


Typical LED power supply I-V curve

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 (for B Type only)



※ Built-in 3 in 1 dimming function, IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 0 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-.

※ Please DO NOT connect "DIM-" to "-V".

※ Reference resistance value for output current adjustment (Typical)

Resistance value	Single driver	Short	10K Ω	20K Ω	30K Ω	40K Ω	50K Ω	60K Ω	70K Ω	80K Ω	90K Ω	100K Ω	OPEN
	Multiple drivers (N=driver quantity for synchronized dimming operation)	Short	10K Ω/N	20K Ω/N	30K Ω/N	40K Ω/N	50K Ω/N	60K Ω/N	70K Ω/N	80K Ω/N	90K Ω/N	100K Ω/N	-----
Percentage of rated current		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ 0 ~ 10V dimming function for output current adjustment (Typical)

Dimming value	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz

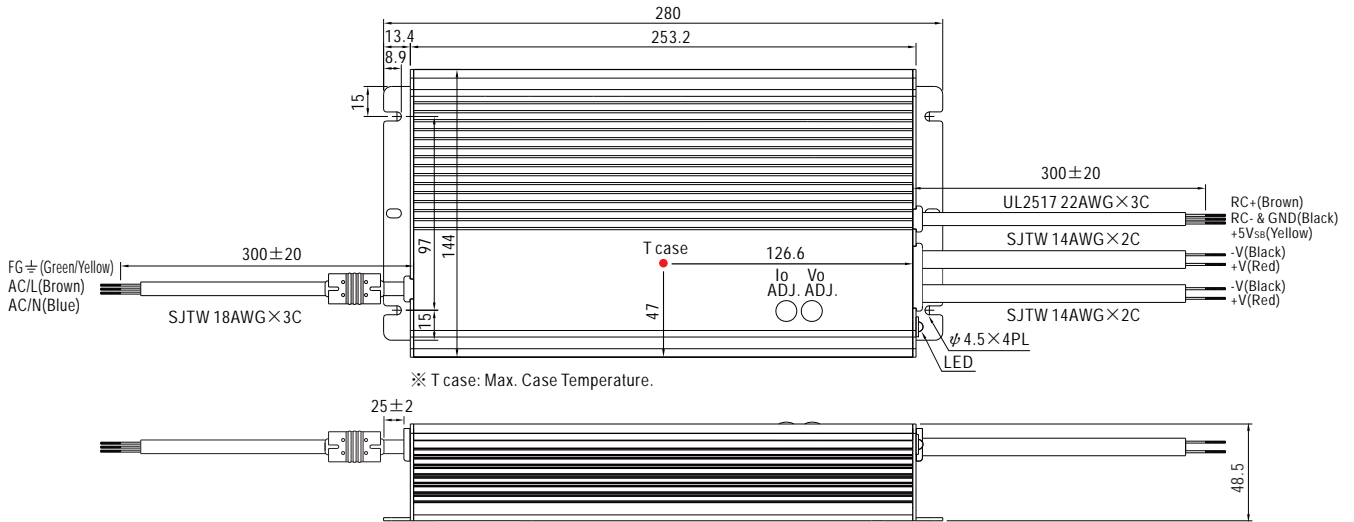
Duty value	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

■ Mechanical Specification

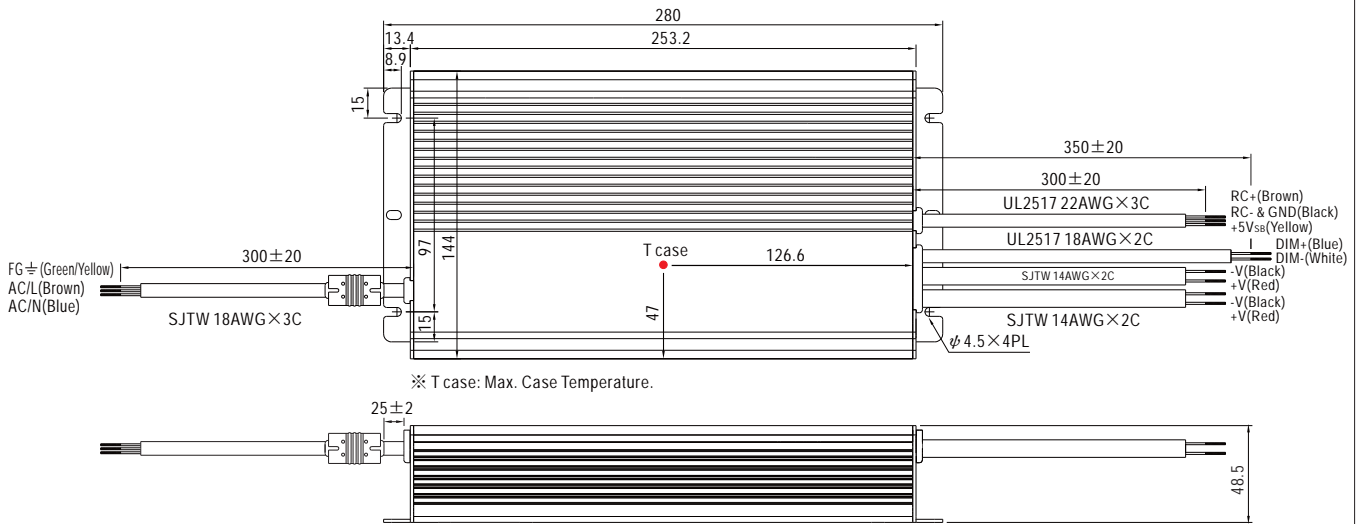
Case No. 228 Unit:mm

A Type:(HLG-600H-_A)

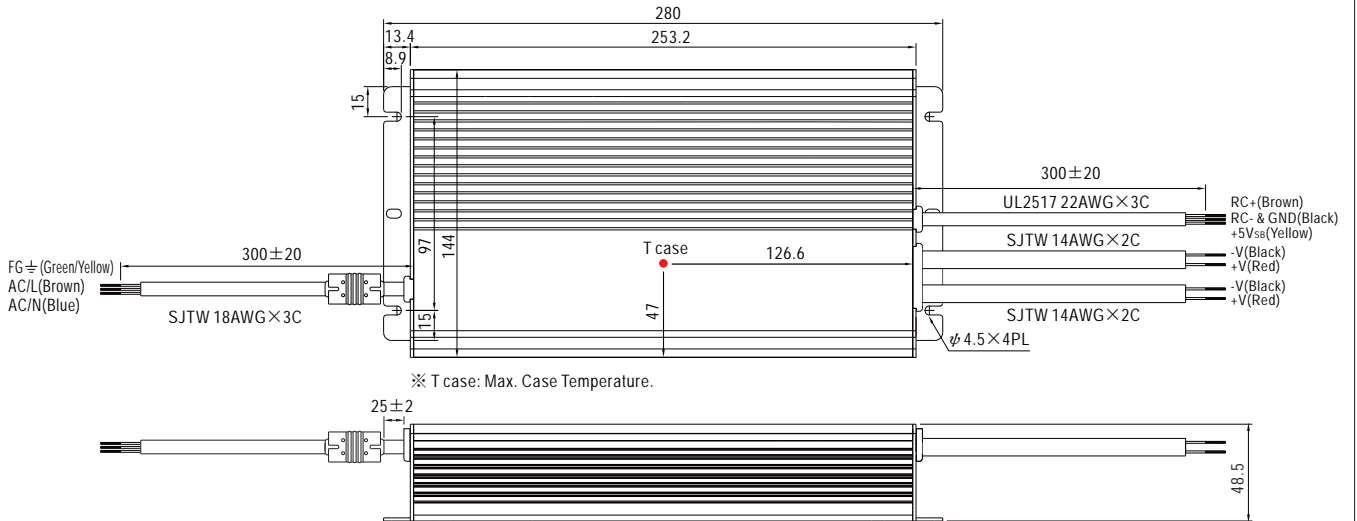


※ IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
(Can access by removing the rubber stopper on the case.)

B Type:(HLG-600H-_B)



Blank Type(option):(HLG-600H-_)



■ Installation Manual

Please refer to : <http://www.meanwell.com/webnet/search/InstallationSearch.html>