



#### Features:

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- · Class 2 power unit
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- · Suitable for LED lighting and moving sign applications
- · Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 5 years warranty (Note.10)













HLG-60H-12 A Blank: IP67 rated. Cable for I/O connection.

A: IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.

B: IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.

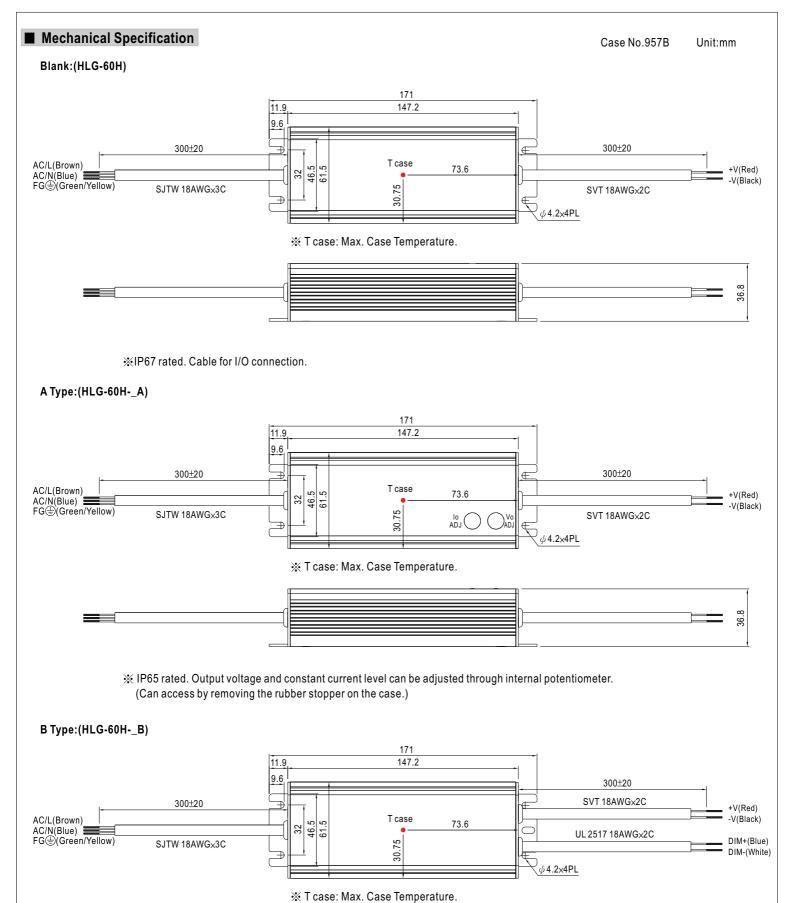
D (option): IP67 rated. Timer dimming function, contact MEAN WELL for details.

#### **SPECIFICATION**

MODEL	Allon	III C COU 45	III C COII 20	III C 60II 24	III C COU 20	III C 6011 26	III C 60II 42	III C COII 40	III C COII 54		
MODEL		HLG-60H-15		_		HLG-60H-36					
	DC VOLTAGE	15V	20V	24V	30V	36V	42V	48V	54V		
	CONSTANT CURRENT REGION Note.4		12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V		
	RATED CURRENT	4A	3A	2.5A	2A	1.7A	1.45A	1.3A	1.15A		
	RATED POWER	60W	60W	60W	60W	61.2W	60.9W	62.4W	62.1W		
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	300mVp-p	300mVp-p	300mVp-p		
	VOLTAGE ADJ. RANGE Note.6	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	40 ~ 46V	44 ~ 53V	49 ~ 58V		
OUTPUT	CURRENT AR L RANGE	Can be adjusted by internal potentiometer or through output cable									
	CURRENT ADJ. RANGE	2.4 ~ 4A	1.8 ~ 3A	1.5 ~ 2.5A	1.2 ~ 2A	1 ~ 1.7A	0.87 ~ 1.45A	0.78 ~ 1.3A	0.69 ~ 1.15A		
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±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%		
	LOAD REGULATION	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%		
		1500ms, 80ms /			s, 80ms / 230VA						
	HOLD UP TIME (Typ.)	16ms/230VAC		/AC at full load	3, 0011137 200 07 (	5 at full load					
		90 ~ 305VAC	127 ~ 431VD	C							
	FREQUENCY RANGE	47 ~ 63Hz	0 55 0 05/000				"D =				
	POWER FACTOR (Typ.)		-		77VAC at full load	,					
INPUT	EFFICIENCY (Typ.)	87.5%	89%	89.5%	90%	90%	90%	90.5%	90.5%		
	AC CURRENT (Typ.)	0.64A / 115VAC									
	INRUSH CURRENT(Typ.)	COLD START 70A/230VAC									
	LEAKAGE CURRENT	<0.75mA / 277VAC									
	OVER CURRENT Note.4	95 ~ 108%									
		Protection type: Constant current limiting, recovers automatically after fault condition is removed									
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed									
PROTECTION		18 ~ 24V	23 ~ 30V	28 ~ 35V	35 ~ 43V	41 ~ 49V	48 ~ 58V	54 ~ 63V	59 ~ 68V		
	OVER VOLTAGE	Protection type: Shut down o/p voltage, re-power on to recover									
		95°C ±10°C (RTH2)									
	OVER TEMPERATURE	Protection type	otection type : Shut down o/p voltage, re-power on to recover								
	WORKING TEMP.		efer to "Derating								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing									
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH									
LITTINONIILITI	TEMP. COEFFICIENT	±0.03%/°C (0~60°C)									
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes									
	SAFETY STANDARDS Note.7	UL8750, CSA C22.2 No. 250.0-08 (except for 48V, 54V), EN61347-1, EN61347-2-13 independent, IP65 or IP67, J61347-1,									
CAFETY	WITHOUTH NO. TA OF	J61347-2-13 approved; design refer to UL60950-1, TUV EN60950-1, EN60335-1									
SAFETY &	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:1.88KVAC O/P-FG:0.5KVAC									
EMC	ISOLATION RESISTANCE		,		C / 25°C / 70% RI						
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (≥60% load) ; EN61000-3-3									
EMC IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, EN55024, light industry level (surge 4KV), crite								riteria A			
	MTBF 338Khrs min. MIL-HDBK-217F (25℃)										
OTHERS	DIMENSION	171*61.5*36.8n	,								
	PACKING	0.73Kg; 20pcs/1									
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated lead and 25°C of ambient temperature										

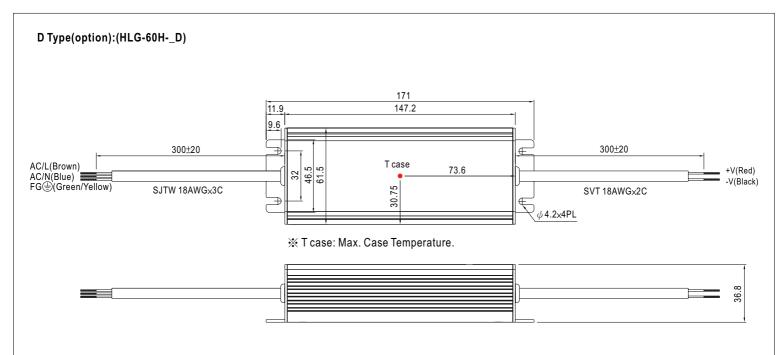
- 7. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.
- Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
  The power supply is considered as a component that will be operated in combination with final 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.
- 10. Refer to warranty statement.



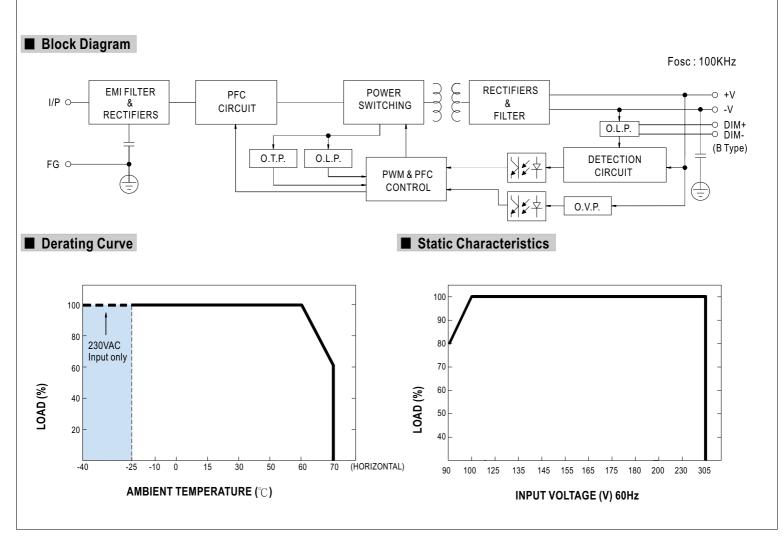


36.8



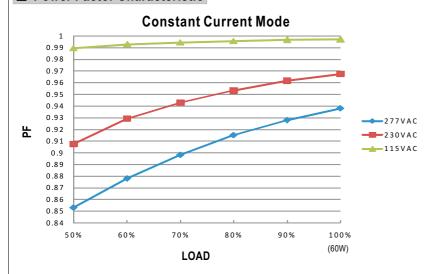


× IP67 rated. Timer dimming function, contact MEAN WELL for details.



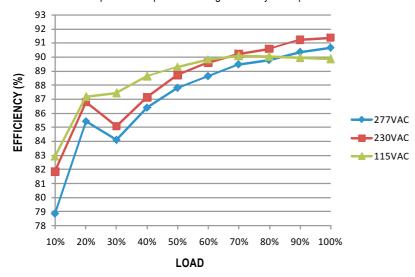


## **■** Power Factor Characteristic



# **■** EFFICIENCY vs LOAD (48V Model)

 $HLG-60H\ series\ possess\ superior\ working\ efficiency\ that\ up\ to\ 90.5\%\ can\ be\ reached\ in\ field\ applications.$ 

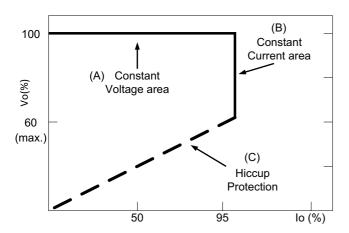


# ■ DRIVING METHODS OF LED MODULE

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 (CV) or constant current mode (CC)" to drive the LEDs.

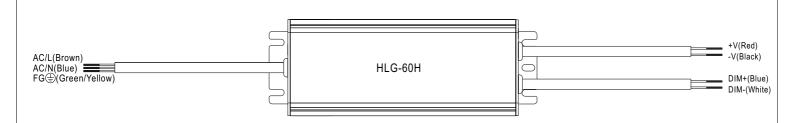
Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve



### **■** DIMMING OPERATION



- Built-in 3 in 1 dimming function, IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 1 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-.
- X Please DO NOT connect "DIM-" to "-V".
- \* Reference resistance value for output current adjustment (Typical)

Resistance	Single driver	<b>10K</b> Ω	<b>20K</b> Ω	<b>30K</b> Ω	<b>40K</b> Ω	50K $Ω$	$60$ K $\Omega$	<b>70K</b> Ω	$80$ K $\Omega$	90K $\Omega$	<b>100K</b> Ω	OPEN
value	Multiple drivers (N=driver quantity for synchronized dimming operation)	10KΩ/N	20K Ω/N	30KΩ/N	40KΩ/N	50KΩ/N	60KΩ/N	70KΩ/N	80KΩ/N	90KΩ/N	100KΩ/N	
Percentage	e of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

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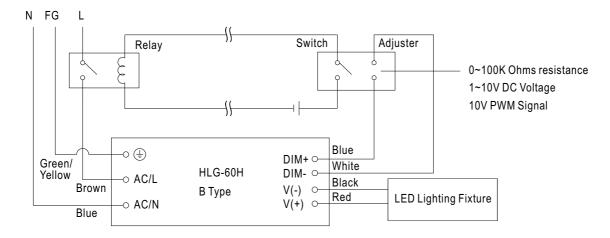
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

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

Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~105%

- \*\*Using the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.
- XDirect connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture  $\mbox{ON/OFF}$ :



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

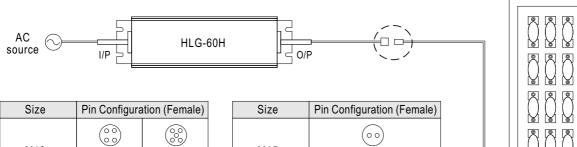
- 1. Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
- 2. The LED lighting fixture can be turned ON/OFF by the switch.



# ■ WATERPROOF CONNECTION

### Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-60H to operate in dry/wet/damp or outdoor environment.



M12	000	000
IVI I Z	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

Size	Pin Configuration (Female)		
M15	00		
IVI 15	2-PIN		
	12A/PIN	L	
Order No.	M15-02		
Suitable Current	12A max.		LED Lamp

### O Cable Joiner

