

HLG-320HB Series

320W Single Output Switching Power Supplies



Features

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High Efficiency up to 95%
- Protections: Short circuit: OC / OV / OT
- Cooling by free air convection
- OCP point adjustable through internal potentiometer
- IP67 Design for indoor or outdoor installations
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- Suitable for LED lighting and street lighting applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 5 years warranty



Specification

INPUT	Voltage	90 ~ 305VAC 127 ~ 431VDC									
	Frequency	47 ~ 63 Hz									
	Power Factor	PF>0.98/115VAC, PF>0.95/230VAC, PF>0.94/277VAC at full load (please refer to "Power Factor Characteristic" curve)									
	Total Harmonic Distortion	Total harmonic distortion <20% when output loading \geq 50% at 115VAC/230VAC input and output loading \geq 75% at 277VAC input									
	Efficiency (230VAC)	91%	92.5%	93.5%	94%	94%	94.5%	95%	95%	95%	
	Efficiency (277VAC)	91.5%	93%	94%	94.5%	94.5%	95%	95%	95%	95%	
	AC Current	3.5A/115VAC	1.65A/230VAC	1.45A/277VAC							
	Inrush Current (Typ.)	Cold start 70A (twidth=1010 μ S measured at 50% Ipeak) at 230VAC									
Leakage Current	<0.75mA/277VAC										
OUTPUT	MODEL No.	HLG-320H-12B	HLG-320H-15B	HLG-320H-20B	HLG-320H-24B	HLG-320H-30B	HLG-320H-36B	HLG-320H-42B	HLG-320H-48B	HLG-320H-54B	
	DC Voltage	12V	15V	20V	24V	30V	36V	42V	48V	54V	
	Constant Current Region	6 ~ 12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V	
	Rated Current	22A	19A	15A	13.34A	10.7A	8.9A	7.65A	6.7A	5.95A	
	Rated Power	264W	285W	300W	320.16W	321W	320.4W	321.3W	321.6W	321.3W	
	R&N	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p	
	Voltage Adj. Range	10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	21 ~ 26V	26 ~ 32V	32 ~ 39V	38 ~ 45V	43 ~ 52V	49 ~ 58V	
	Current Adj. Range	Can be adjusted by internal potentiometer									
		11 ~ 22A	9.5 ~ 19A	7.5 ~ 15A	6.67 ~ 13.3A	5.35 ~ 10.7A	4.45 ~ 8.9A	3.8 ~ 7.65	3.35 ~ 6.7A	2.97 ~ 5.95A	
	Voltage Tolerance	\pm 3.0%	\pm 2.0%	\pm 1.5%	\pm 1.0%	\pm 1.0%	\pm 1.0%	\pm 1.0%	\pm 1.0%	\pm 1.0%	
	Line Regulation	\pm 0.5%	\pm 0.5%	\pm 0.5%	\pm 0.5%	\pm 0.5%	\pm 0.5%	\pm 0.5%	\pm 0.5%	\pm 0.5%	
	Load Regulation	\pm 2.0%	\pm 1.5%	\pm 1.0%	\pm 0.5%	\pm 0.5%	\pm 0.5%	\pm 0.5%	\pm 0.5%	\pm 0.5%	
	Setup Rise Time	2500ms, 80ms at full load 230VAC/115VAC									
Hold Up Time	15ms at full load 230VAC/115VAC										
PROTECTION	Over Current	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									
	Over Voltage	14 ~ 17V	17.5 ~ 21V	22.5 ~ 27V	27 ~ 33V	33 ~ 37V	40 ~ 46V	46.5 ~ 53V	53.5 ~ 60V	59 ~ 65V	
	Over Temperature	Shut down and latch off o/p voltage, re-power on to recover									
ENVIRONMENT	Working Temperature	-40 ~ +70 °C (Refer to "Derating Curve")									
	Working Humidity	20 ~ 95% RH non-condensing									
	Storage Temp., Humidity	-40 ~ +80 °C, 10 ~ 95%RH									
	Temp Coefficient	\pm 0.03%/°C (0 ~ 50°C)									
	Vibration	10 ~ 500Hz, 5G 12 min./1cycle, period for 72 min. each along X, Y, Z axes									
SAFETY & EMC	Safety Standards	UL8750, CSA C22.2 No. 250.0-08, EN61347-1, EN61347-2-13, independent IP65 or IP67, J61347-1, J61347-2-13 approved									
	Withstand Voltage	I/P-O: P:3.75VAC	I/P-FG: 2KVAC	O/P-FG: 0.5KVAC							
	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 (\geq 50% load); EN61000-3-3									
	EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (Surge4KV), criteria B									
OTHERS	M.T.B.F.	157.1Khrs min. MIL-HDBK-217F (25°C)									
	Packing	1.88Kg; 8pcs/16Kg/0.92CUFT									

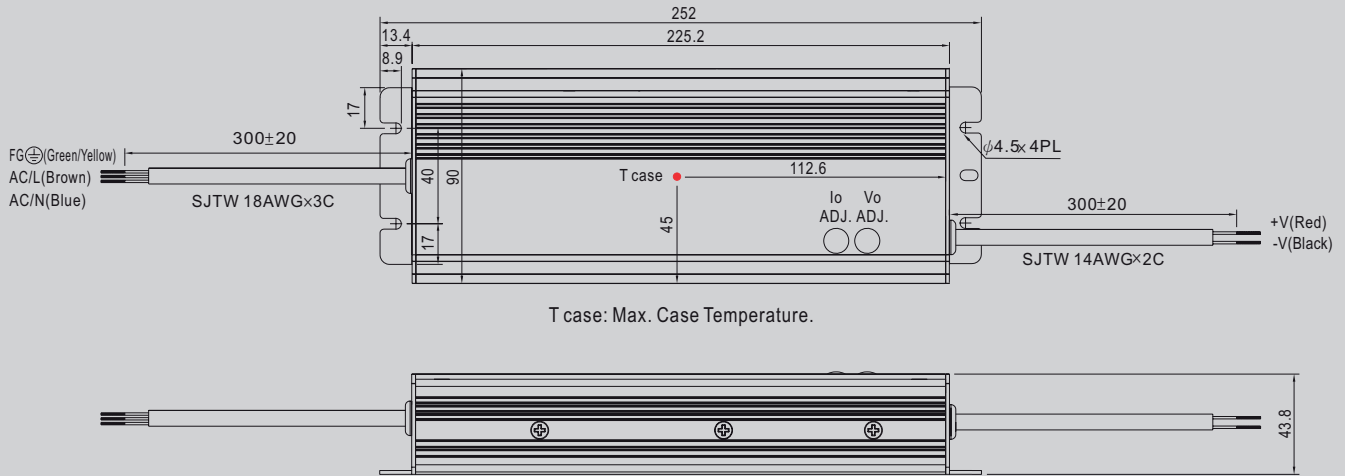
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 °C of ambient temperature.
 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ f & 47 μ f parallel capacitor.
 3. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.
 4. 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.
 5. Tolerance: includes set up tolerance, line regulation and load regulation.
 6. 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.

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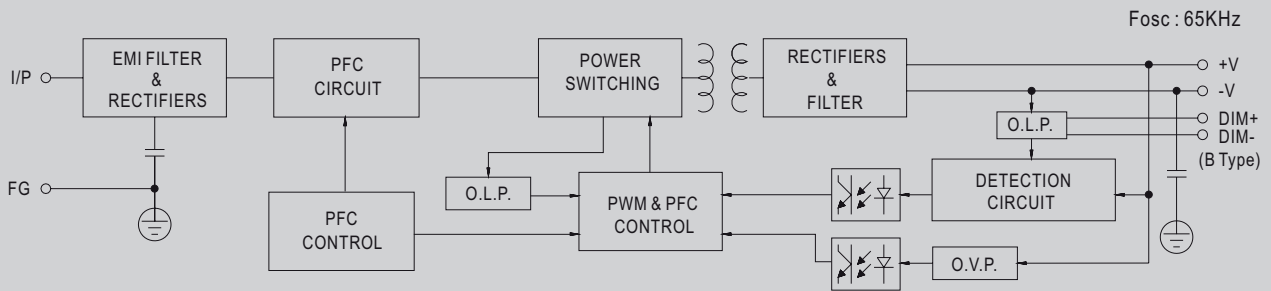


Mechanical Specification

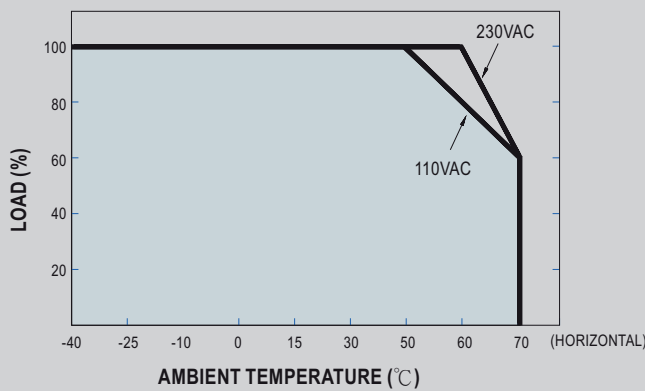


IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer. (Can access by removing the rubber stopper on the case.)

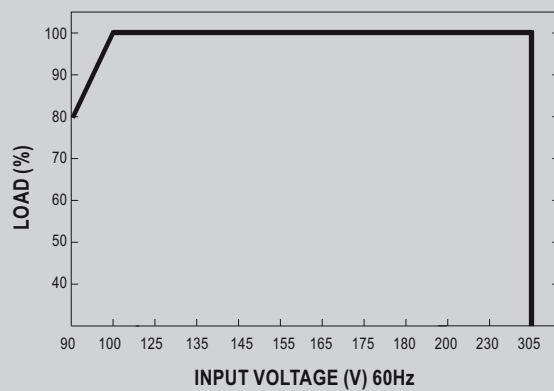
Block Diagram



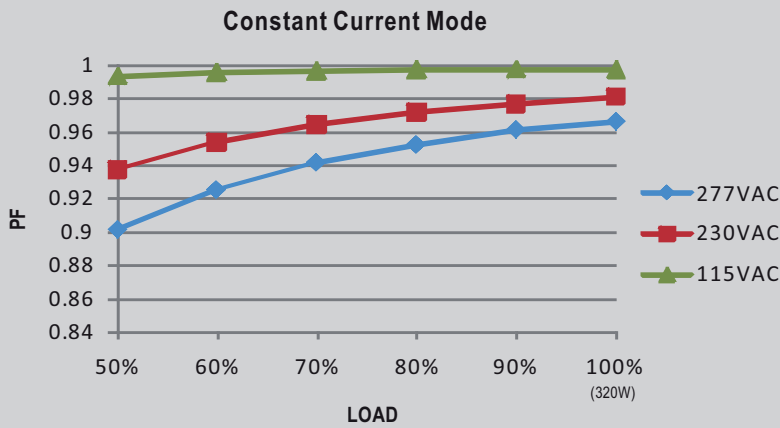
Derating Curve



Static Characteristics

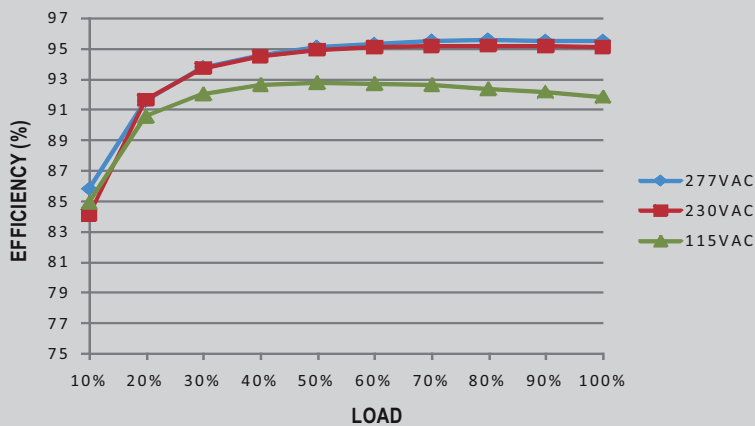


Power Factor Characteristic



Efficiency vs Load (48V Model)

HLG-320H series possess superior working efficiency that up to 95% can be reached in field applications.

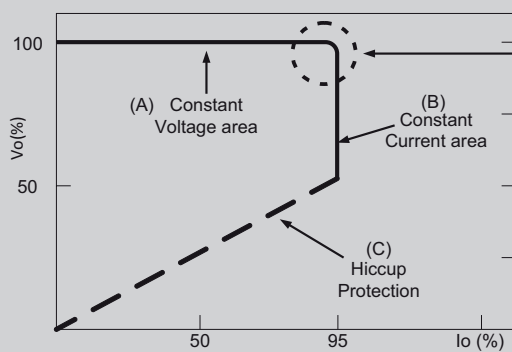


Driving Methods of LED Module

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)).

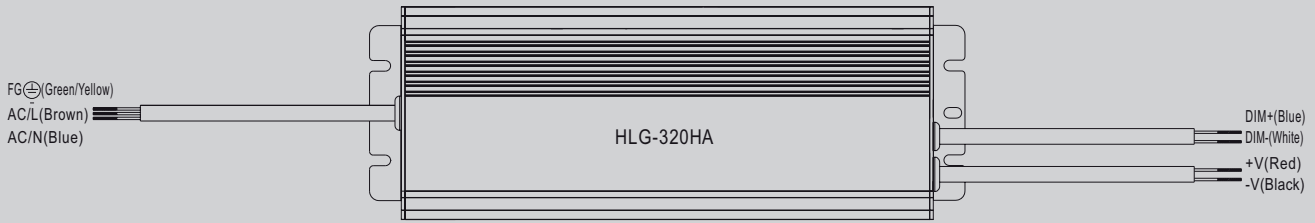


Typical LED power supply I-V curve

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



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-.

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

Reference resistance value for output current adjustment (Typical)

Resistance value	Single driver	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)	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		10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

1 ~ 10V dimming function for output current adjustment (Typical)

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%~108%

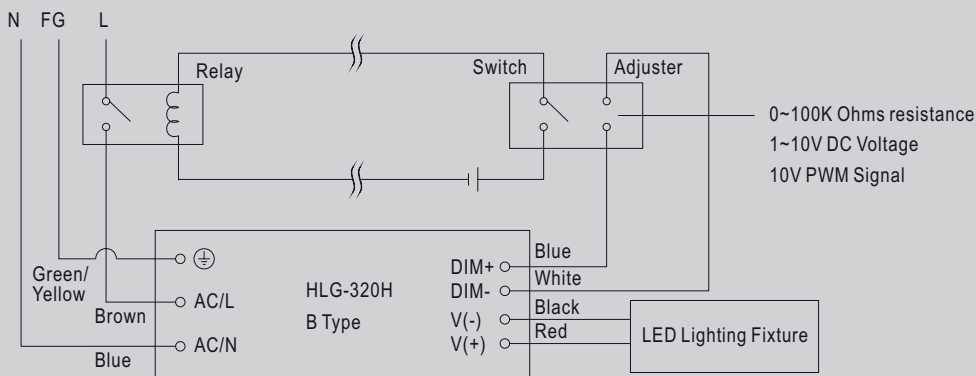
10V PWM signal for output current adjustment (Typical): Frequency range : 100HZ ~ 3KHz

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%~108%

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.

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

Dimming connection diagram for turning the lighting fixture 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.

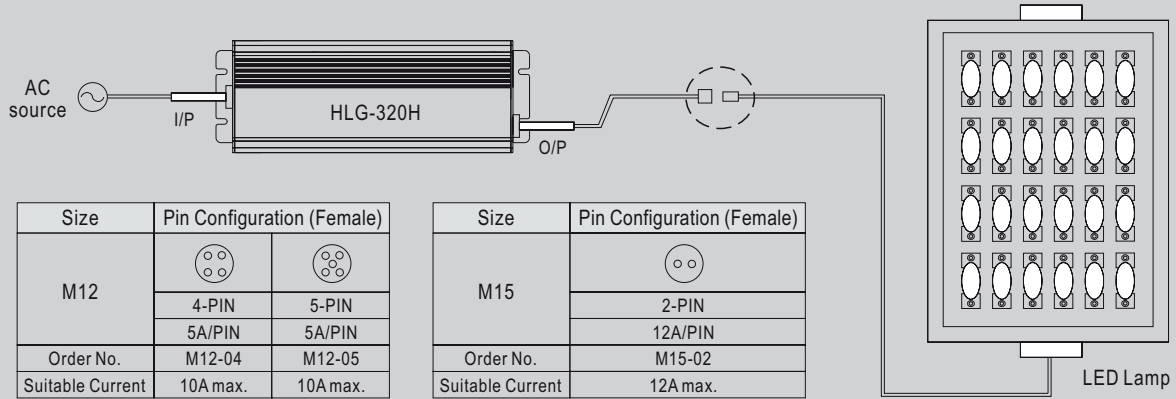
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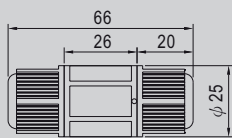


Waterproof Connection

Waterproof connector can be assembled on the output cable of HLG-320H to operate in dry/wet/damp or outdoor environment.



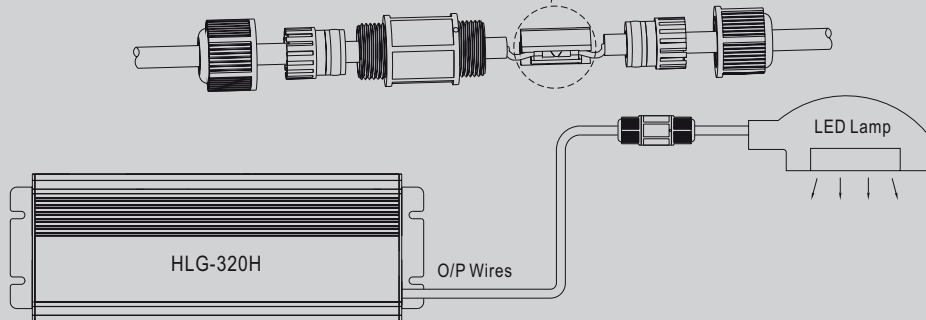
◎ Cable Joiner



CJ04-1 suitable for 14AWG~16AWG
CJ04-2 suitable for 18AWG~22AWG



Up to four wires can be connected through this cable joiner by soldering or clamping by tools.



CJ04 cable joiner can be purchased independently for user's own assembly.

Junction Box (optional)

