

CLG-100 Series

100W Single Output Switching LED Power Supply



Features

- Universal AC input / Full range (Up to 295VAC)
- Built-in active PFC function
- High Efficiency up to 88.5%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- IP67 design for indoor or outdoor installations
- Class 2 power unit
- Pass LPS
- 100% full load burn-in test
- High reliability
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 3 years warranty



Specification

INPUT	Voltage Range	90 ~ 295VAC 127 ~ 417VDC						
	Frequency	47 ~ 63 Hz						
	Power Factor	PF _≥ 0.95/115VAC, PF _≥ 0.95/230VAC, PF _≥ 0.92/277VAC at full load (Please refer to 'Power Factor Characteristic')						
	Total Harmonic Distortion	THD <20% when output loading > 75% at 115VAC/230VAC input and output loading >75% at 277VAC input						
	AC Current	12V: 0.8A/115VAC 0.4A/230VAC 0.3A/277VAC 15V: 0.9A/115VAC 0.45A/230VAC 0.35A/277VAC 20V ~ 48V: 1.1A/115VAC 0.55A/230VAC 0.45A/277VAC						
	Inrush Current (Typ.)	Cold start 40A (twidth=1030µs measured at 50% I _{peak}) at 230VAC						
	Max. No. of PSUs on a 16A Circuit Breaker	3 units (circuit breaker of type B)/5 units (circuit breaker of type C) at 230VAC						
	Leakage Current	<0.75mA/240VAC						
OUTPUT	MODEL No.	CLG-100-12	CLG-100-15	CLG-100-20	CLG-100-24	CLG-100-27	CLG-100-36	CLG-100-48
	DC Voltage	12V	15V	20V	24V	27V	36V	48V
	Constant Current Region	9 ~ 12V	11.25 ~ 15V	15 ~ 20V	18 ~ 24V	20.25 ~ 27V	27 ~ 36V	36 ~ 48V
	Rated Current	5A	5A	4.8A	4A	3.55A	2.65A	2A
	Rated Power	60W	75W	96W	96W	95.85W	95.4W	96W
	Ripple & Noise	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p
	Efficiency	83%	85%	88.5%	88.5%	88%	88%	88.5%
	Voltage Adj. Range	Fixed. Can be modified between 0% ~ -15% rated output voltage						
	Current Adj. Range	Fixed. Can be modified between 3% ~ -25% rated output current						
	Voltage Tolerance	±3.0%	±3.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%
	Line Regulation	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	Load Regulation	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%
PROTECTION	Setup Time	500ms, 80ms/230VAC 1200ms, 80ms/115VAC at full load						
	Hold up Time	60ms/230VAC 30ms/115VAC at full load						
	Over Current	95 ~ 102% Constant Current Limiting, recovers automatically after fault condition is removed						
	Short Circuit	Hiccup mode, recovers automatically after fault condition is removed						
ENVIRONMENT	Over Voltage	13 ~ 16V 16.5 ~ 20V 22 ~ 27V 27 ~ 34V 30 ~ 36V 39 ~ 48V 52 ~ 64V Shut down and latch off O/P voltage, re-power on to recover						
	Over Temperature	Shut down O/P voltage, re-power on to recover						
	Working Temperature	-30 ~ +70°C (Please refer to 'Derating Curve' section)						
SAFETY & EMC	Working Humidity	20 ~ 95% RH non-condensing						
	Storage Temperature	-40 ~ +80°C, 10 ~ 95% RH non-condensing						
	Temp Coefficient	±0.03%/°C (0 ~ 50°C)						
	Vibration	10 ~ 500Hz, 5G 12 min./1cycle, period for 72 min. each along X, Y, Z axes						
OTHERS	Safety Standards	UL879, UL1310, UL8750, CSA C22.2 No. 207-M89, TUV EN61347-1, EN61347-2-13 independent, TUV EN60950-1, CAN/CSA C22.2 No.223-M91 (except for 48V), CAN/CSA C22.2 No. 250.13-12, GB19510.1, GB19510.14, IP67, J61347-1, J61347-2-13 approved ; design refer to UL60950.						
	Withstand Voltage	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC						
	Isolation Resistance	I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH						
	EMC Emission	Compliance to EN55015, EN55032 Class B, EN61000-3-2 Class C (≥75% load) ; EN61000-3-3, GB17743 and GB17625.1						
OTHERS	EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge 4KV)						
	M.T.B.F.	495.7K hrs min. MIL-HDBK-217F (25°C)						
	Packing	1.0Kg; 12pcs/13Kg/0.58CUFT						

1. All parameters NOT specifically mentioned are measured at 230VAC input, rated load 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair terminated with a 0.1µf & 47µf capacitor.
3. Tolerance: Includes set up tolerance, line regulation and load regulation.
4. Derating maybe needed under low input voltages. Please check the derating curve for more details.
5. Three years warranty is guaranteed for operating ambient temperature no higher than 68°C.
6. Safety and EMC design refer to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part18.
7. This is the maximum possible output current and power, over load protection may be activated slightly below this level to comply with the requirement of UL1310 class 2.
8. 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-quality EMC Directive on the complete installation again.
9. To fulfill requirements of the latest ERP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanent connection to the mains.

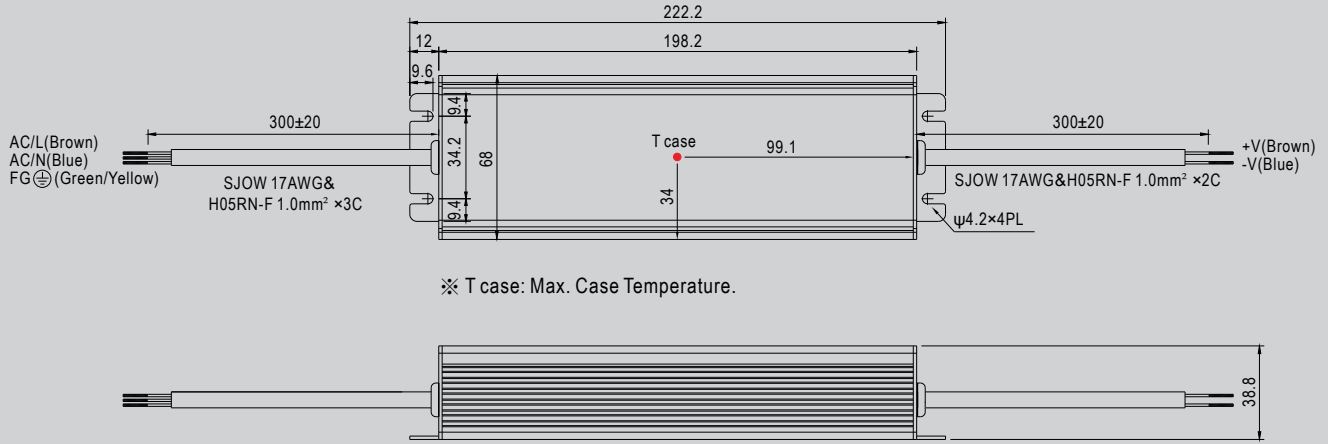
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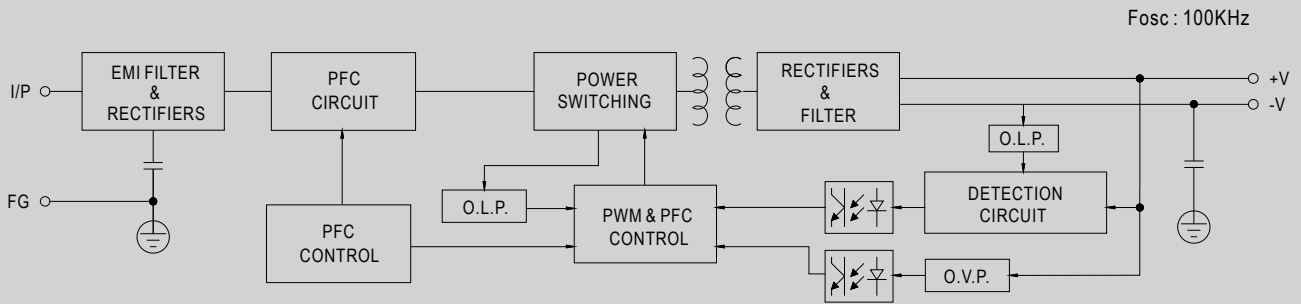


Mechanical Diagram

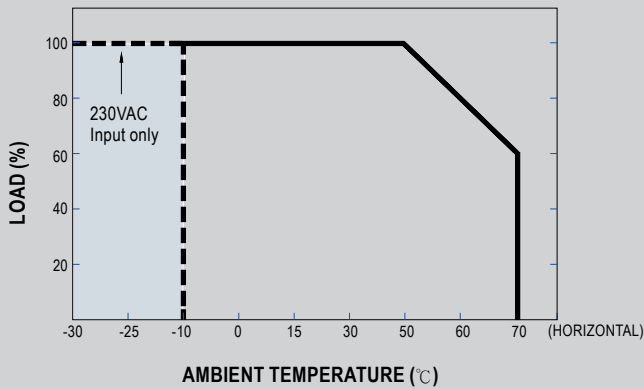
Case No. 954A Unit:mm



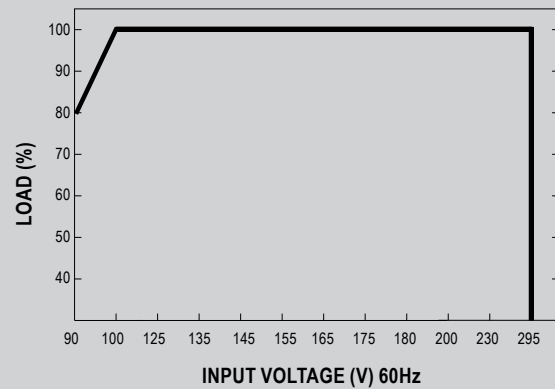
Block Diagram



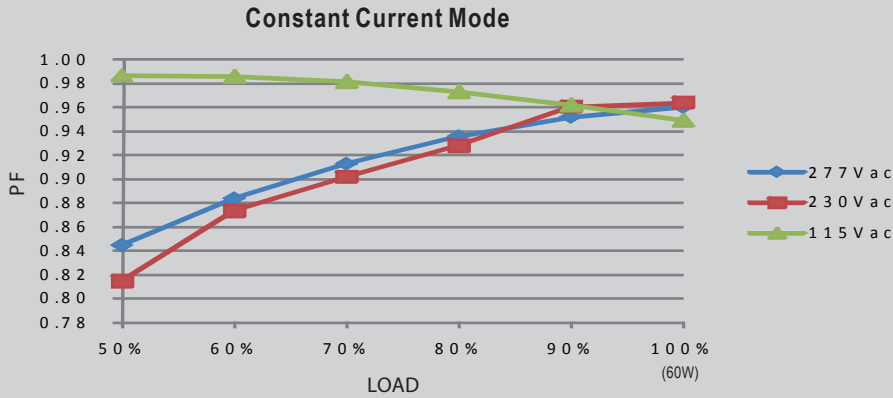
Derating Curve



Static Characteristic

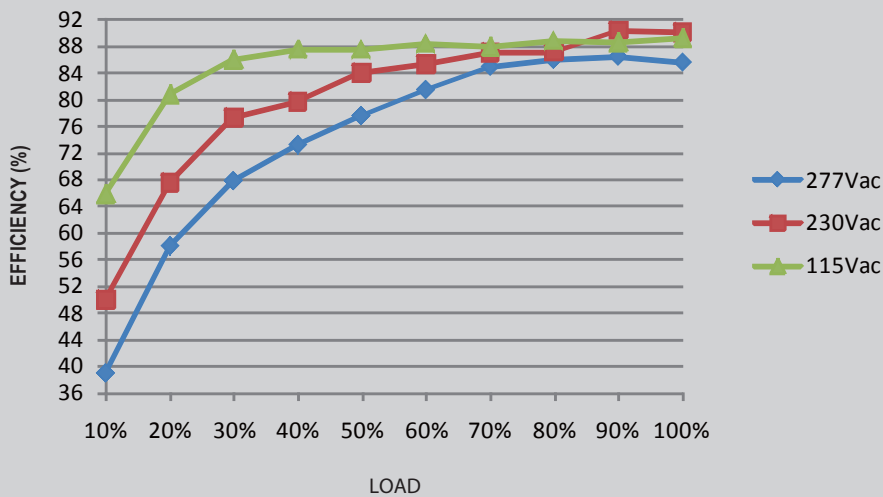


Power Factor Characteristic



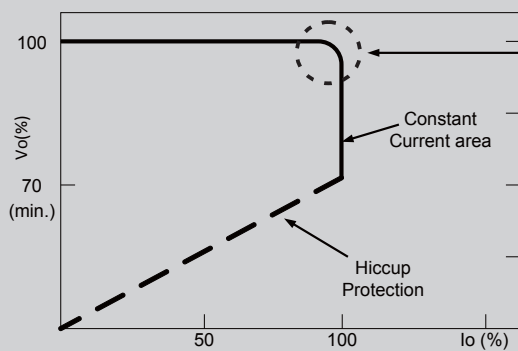
Efficiency vs Load (48V Model)

CLG-60 series possess superior working efficiency that up to 89% can be reached in field applications.



Driving Methods of LED Module

This LED power supply is suggested to work in constant current mode area (CC) to drive the LEDs.



In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Typical LED power supply I-V curve