

CLG-150 Series

150W Single Output Switching LED Power Supply



Case: 8010AJ
222.2 x 68 x 38.8 mm

Features

- Universal AC input / Full range (Up to 295VAC)
- Built-in active PFC function
- High Efficiency up to 91%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP65/IP67 design for indoor or outdoor installations
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- 3 years warranty

TYPE	IP Level	FUNCTION
Blank	IP67	Cable for I/O connection.
A	IP65	Output voltage and constant current adjustable through internal potentiometer.
B	IP67	Constant current level adjustable through output cable.
C	-	Terminal block for I/O connection. Output voltage and constant current level can be adjusted through internal potentiometer.



Specification

INPUT	Voltage Range	90 ~ 295VAC 127 ~ 417VDC							
	Frequency	47 ~ 63 Hz							
	Power Factor	PF \geq 0.98/115VAC, PF \geq 0.95/230VAC, PF \geq 0.93/277VAC at full load (Please refer to 'Power Factor Characteristic')							
	Total Harmonic Distortion	THD <20% when output loading \geq 75% at 115VAC/230VAC input and output loading \geq 75% at 277VAC input							
	AC Current	2A / 115VAC 1A / 230VAC 0.68A / 277VAC							
	Inrush Current (Typ.)	Cold start 65A (twidh=595 μ s measured at 50% Ipeak) 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	<1mA/240VAC							
OUTPUT	MODEL No.	CLG-150-12	CLG-150-15	CLG-150-20	CLG-150-24	CLG-150-30	CLG-150-36	CLG-150-48	
	DC Voltage	12V	15V	20V	24V	30V	36V	48V	
	Constant Current Region	9 ~ 12V	11.25 ~ 15V	15 ~ 20V	18 ~ 24V	22.5 ~ 30V	27 ~ 36V	36 ~ 48V	
	Rated Current	11A	9.5A	7.5A	6.3A	5A	4.2A	3.2A	
	Rated Power	132W	142.5W	150W	151.2W	150W	151.2W	153.6W	
	Ripple & Noise	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	
	Efficiency	88%	88%	90%	90%	91%	91%	91%	
	Voltage Adj. Range	9 ~ 13V	13 ~ 17V	17 ~ 22V	22 ~ 27V	26 ~ 32V	31 ~ 41V	40 ~ 56V	
	Current Adj. Range	Can be adjusted by internal potentiometer A type and C type only							
		5.5 ~ 11A	4.75 ~ 9.5A	3.75 ~ 7.5A	3.15 ~ 6.3A	2.5 ~ 5A	2.1 ~ 4.2A	1.6 ~ 3.2A	
	Voltage Tolerance	\pm 2.0%	\pm 2.0%	\pm 2.0%	\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%	
	Load Regulation	\pm 1.0%	\pm 1.0%	\pm 1.0%	\pm 0.5%	\pm 0.5%	\pm 0.5%	\pm 0.5%	
Setup Time	3000ms, 80ms/115VAC 500ms, 80ms/230VAC at full load								
Hold up Time	50ms/230VAC 16ms/115VAC at full load								
PROTECTION	Over Current	95 ~ 108% Constant Current Limiting, recovers automatically after fault condition is removed							
	Short Circuit	Hiccup mode, recovers automatically after fault condition is removed							
	Over Voltage	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							
ENVIRONMENT	Working Temperature	-30 ~ +70°C (Please refer to 'Derating Curve' section)							
	Working Humidity	20 ~ 95% RH non-condensing							
	Storage Temperature	-40 ~ +80°C, 10 ~ 95% RH non-condensing							
	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, UL1012, CAN/CSA-C22.2 No. 107.1-01, UL879, CSA C22.2 No.207-M89, EN61347-1, EN61347-2-13 independent (except for CLG-150 C type),UL60950-1, TUV EN60950-1,GB19510.1,GB19510.14(for Blank & A type only), IP65 or IP67, J61347-1, J61347-2-13(except for CLG-150 C type) approved							
	Withstand Voltage	I/P-O/P:3.75KVAC 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, EN55032 Class B, EN61000-3-2 Class C (\geq 75% load) ; EN61000-3-3,GB17743 and GB17625.1							
	EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge 4KV)							
OTHERS	M.T.B.F.	303.7K hrs min. MIL-HDBK-217F (25°C)							
	Packing	1.0Kg; 12pcs/13Kg/0.58CUFT (CLG-150-Blank/A/B) 1Kg; 12pcs/13Kg/0.96CUFT (CLG-150-C)							

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 0.1 μ f & 47 μ f 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. 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.
8. 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.

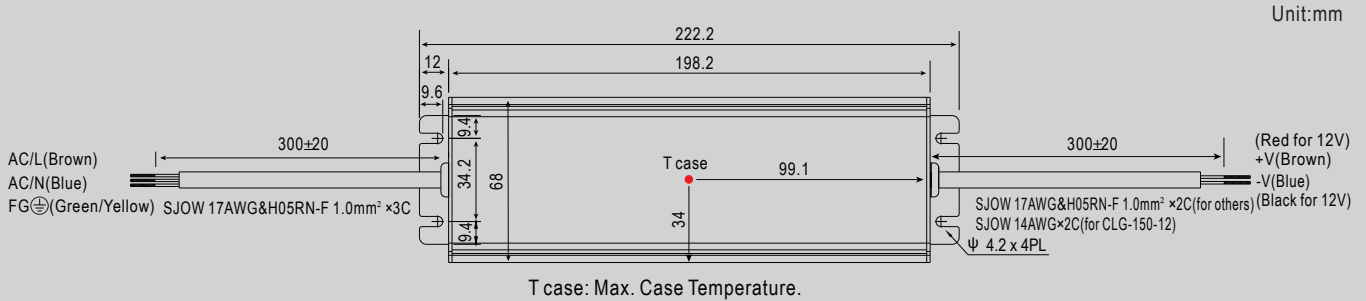
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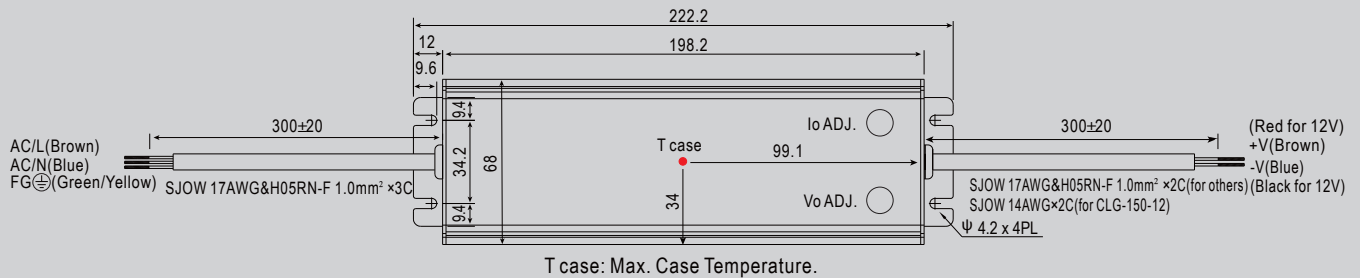
Mechanical Diagrams

Blank:(CLG-150)



IP67 rated. Cable for I/O connection.

A Type:(CLG-150-A)



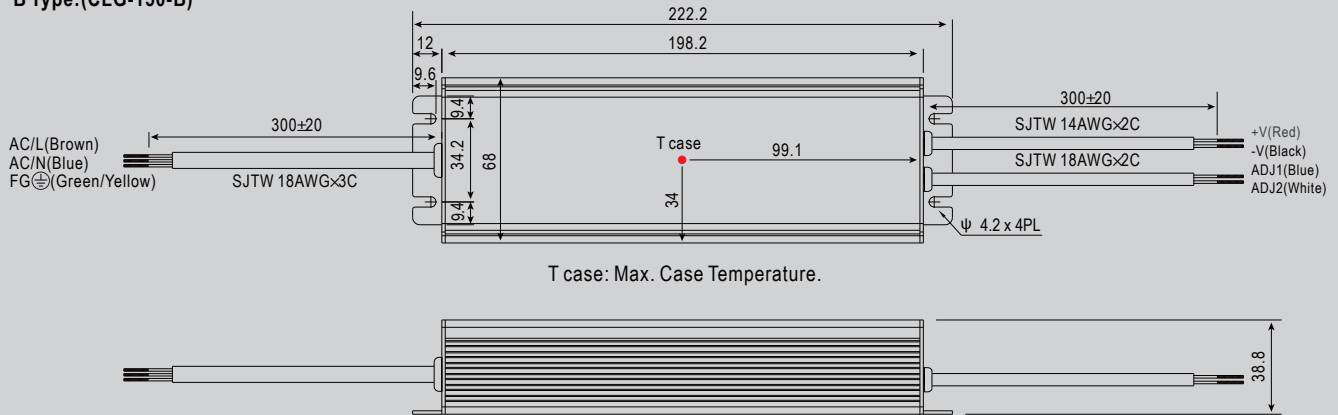
IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
(Can access by removing the rubber stopper on the case.)

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B Type:(CLG-150-B)

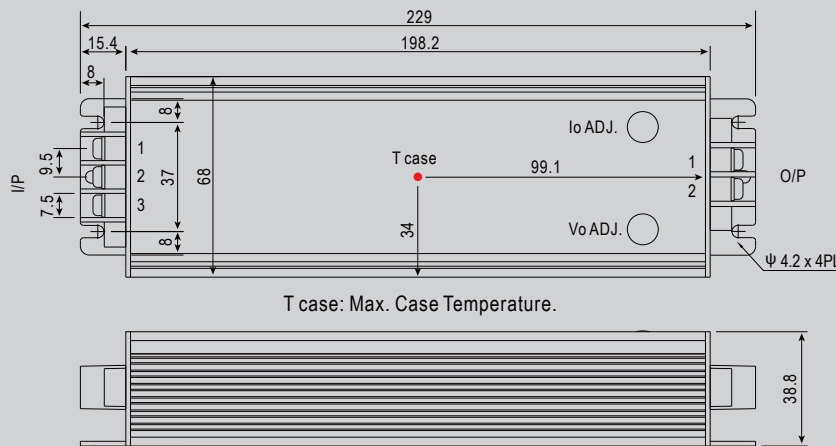


T case: Max. Case Temperature.

IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistor between ADJ1 and ADJ2. Reference resistance value for output current adjustment (Typical)

Resistance	Percentage of rated current
Open	Slightly > 100%
4.7KΩ	100%
620Ω	75%
82Ω	50%
Short	Slightly < 50%

C Type:(CLG-150-C)



T case: Max. Case Temperature.

AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	FG \perp
2	AC/N
3	AC/L

DC Output Terminal Pin No. Assignment

Pin No.	Assignment
1	+V
2	-V

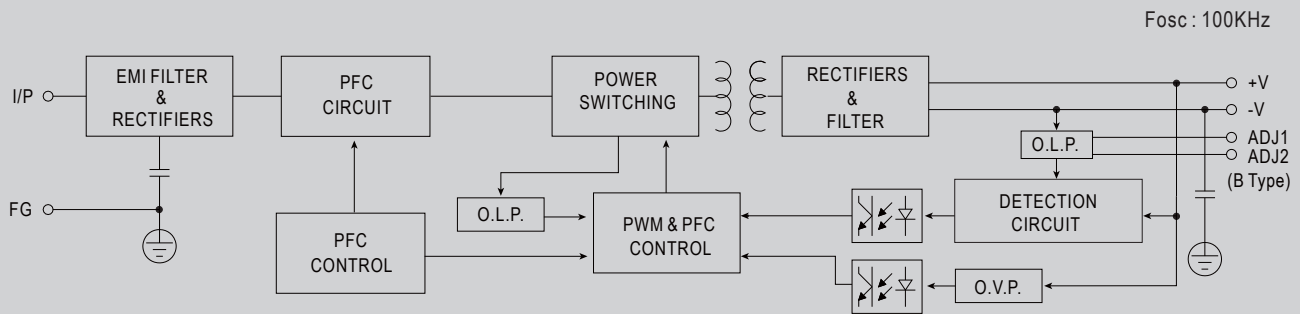
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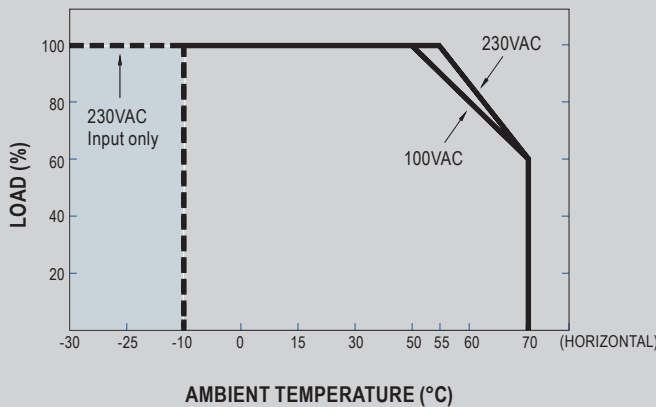
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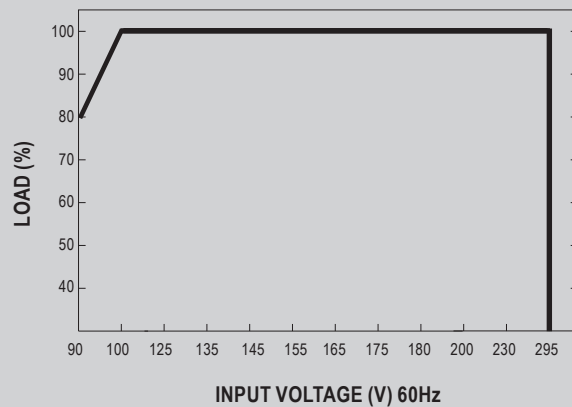
Block Diagram



Derating Curve



Static Characteristic

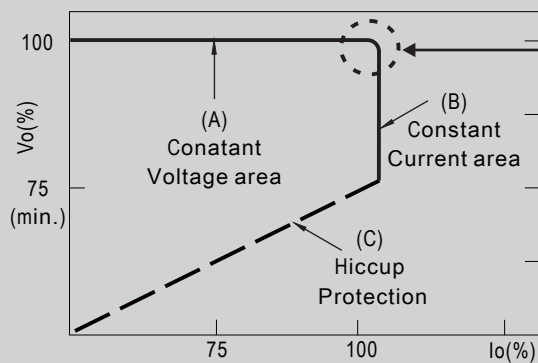


Driving Methods of LED Module

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

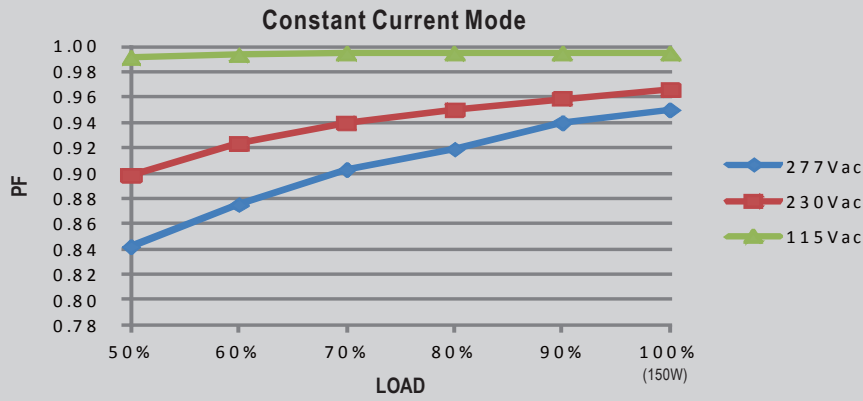
In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

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Power Factor Characteristic



Efficiency vs Load (48V Model)

CLG-150 series possess superior working efficiency that up to 91% can be reached in field applications.

