

150W Single Output Switching Power Supply

■ Features :

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



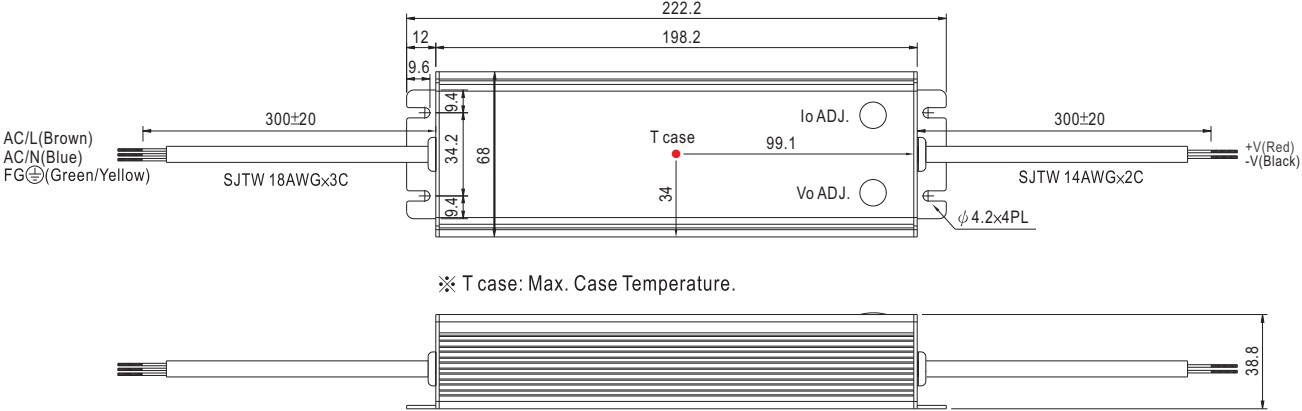
A : IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.

SPECIFICATION

MODEL								150-48		
OUTPUT	DC VOLTAGE							48V		
	CONSTANT CURRENT REGION Note.4							36 ~ 48V		
	RATED CURRENT							3.2A		
	RATED POWER							153.6W		
	RIPPLE & NOISE (max.) Note.2							200mVp-p		
	VOLTAGE ADJ. RANGE Note.6							40 ~ 56V		
	CURRENT ADJ. RANGE	Can be adjusted by internal potentiometer A type and C type only								
	VOLTAGE TOLERANCE Note.3								1.6 ~ 3.2A	
	LINE REGULATION								±1.0%	
	LOAD REGULATION								±0.5%	
INPUT	SETUP, RISE TIME	3000ms, 80ms at full load 230VAC / 115VAC								
	HOLD UP TIME (Typ.)	50ms / 230VAC 16ms / 115VAC at full load								
	VOLTAGE RANGE Note.5	90 ~ 295VAC 127 ~ 417VDC								
	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)								
	EFFICIENCY (Typ.)								91%	
	AC CURRENT (Typ.)	2A / 115VAC 1A / 230VAC 0.68A / 277VAC								
PROTECTION	INRUSH CURRENT(max.)	COLD START 65A(twidth=595μs measured at 50% Ipeak) at 230VAC								
	LEAKAGE CURRENT	<1mA / 240VAC								
	OVER CURRENT (Typ.) 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								
	OVER VOLTAGE	Protection type : Shut down and latch off o/p voltage, re-power on to recover								59-70V
ENVIRONMENT	OVER TEMPERATURE	100°C ±10°C (RTH2) Protection type : Shut down o/p voltage, re-power on to recover								
	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)								
SAFETY & EMC	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, UL1012, CAN/CSA-C22.2 No. 107.1-01, EN61347-1, EN61347-2-13 independent UL60950 1 TUV EN60950 1 IP65 J61347 1 J61347 2 13 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, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (≥ 75% load) ; EN61000-3-3								
OTHERS	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge 4KV), criteria A								
	MTBF	303.7K hrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	222.2*68*38.8mm (L*W*H)(CLG-150-Blank/A/B) 229*68*38.8mm (L*W*H)(CLG-150-C)								
NOTE	PACKING	1.0Kg; 12pcs/13Kg/0.58CUFT(CLG-150-Blank/A/B) 1Kg; 12pcs/13Kg/0.96CUFT(CLG-150-C)								
		<ol style="list-style-type: none"> 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 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Constant current operation region is within 75% ~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. 5. Derating may be needed under low input voltages. Please check the static characteristics for more details. 6. A type and C type only. 7. Safety and EMC design refer to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part18. 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-qualify EMC Directive on the complete installation again. 								

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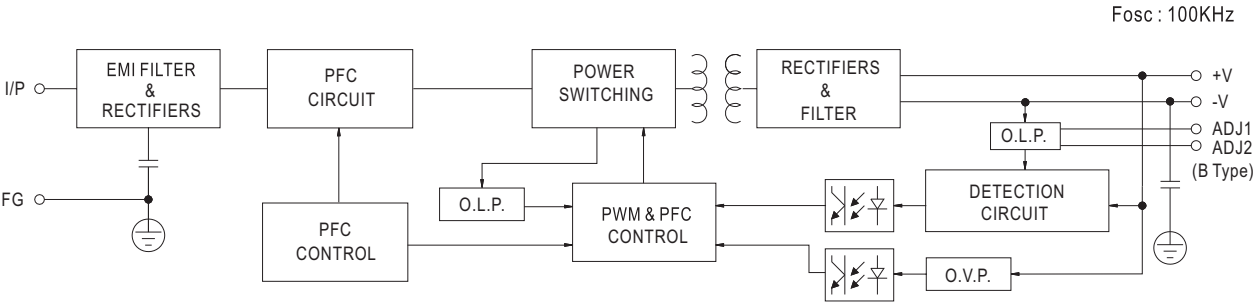
Mechanical Specification



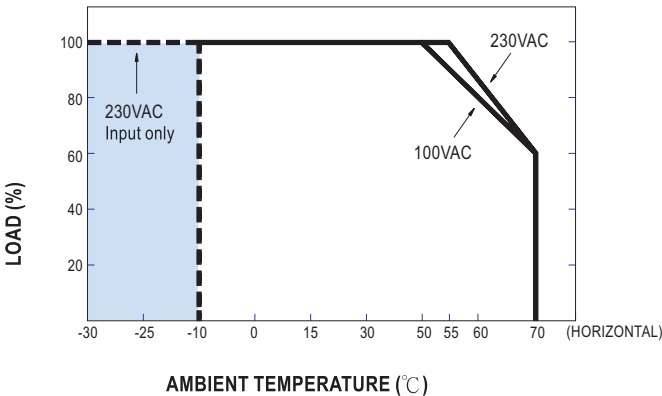
※ IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
(Can access by removing the rubber stopper on the case.)

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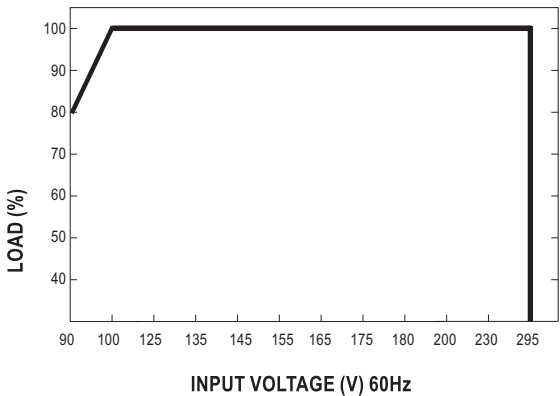
Block Diagram



Derating Curve

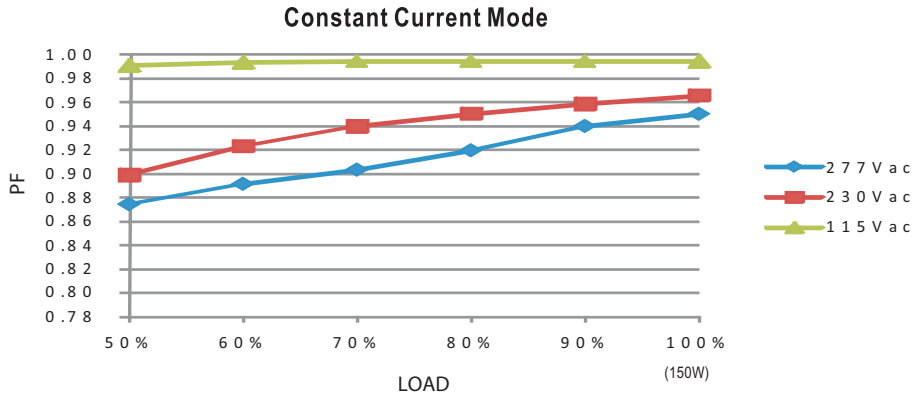


Static Characteristics

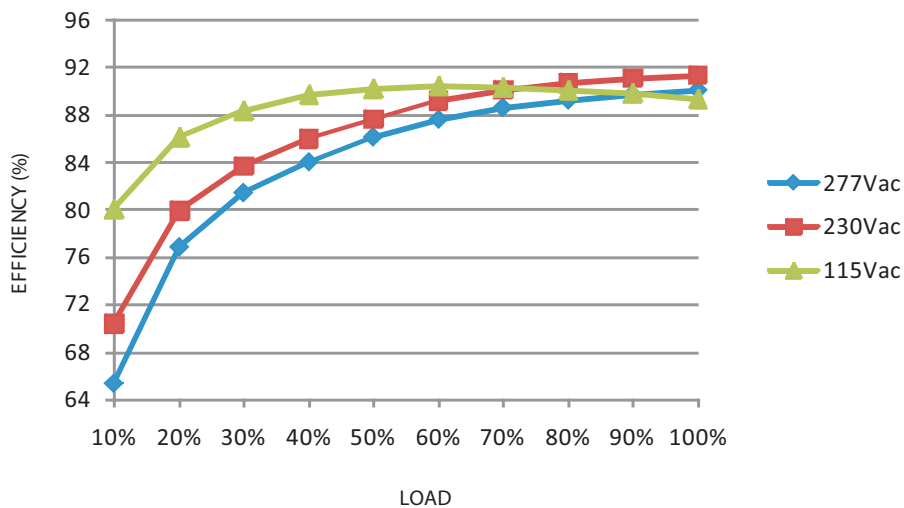


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Power Factor Characteristic



EFFICIENCY vs LOAD (48V Model)

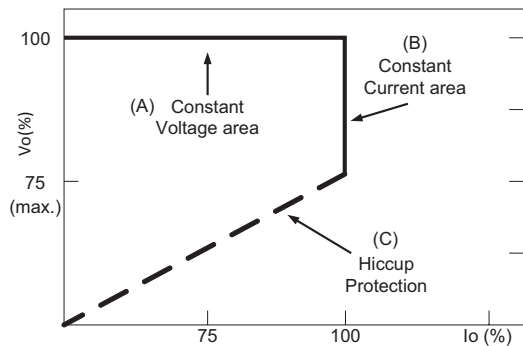


DRIVING METHODS OF LED MODULE

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.

LED & LED'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