240W Single Output with PFC Function

SP-240 series



User's Manual

■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC Fan
- Built-in fan ON / OFF control
- LED indicator for power on
- Fixed switching frequency at 90KHz
- 3 years warranty

UL60950-1

SPECIFICATION

MODEL		SP-240-5	SP-240-7.5	SP-240-12	SP-240-15	SP-240-24	SP-240-30	SP-240-48
OUTPUT	DC VOLTAGE	5V	7.5V	12V	15V	24V	30V	48V
	RATED CURRENT	45A	32A	20A	16A	10A	8A	5A
	CURRENT RANGE	0 ~ 45A	0 ~ 32A	0 ~ 20A	0 ~ 16A	0 ~ 10A	0 ~ 8A	0 ~ 5A
	RATED POWER	225W	240W	240W	240W	240W	240W	240W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	4 ~ 6V	6 ~ 9V	10 ~ 14V	12 ~ 18V	20 ~ 28V	27 ~ 33V	41 ~ 56V
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.3%	±0.3%	±0.2%	±0.2%	±0.2%
	LOAD REGULATION	±1.0%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	800ms, 50ms/230VAC 1500ms, 50ms/115VAC at full load						
	HOLD UP TIME (Typ.)	20ms/230VAC 20ms/115VAC at full load						
INPUT	VOLTAGE RANGE Note.5	88 ~ 264VAC 124 ~ 370VDC						
	FREQUENCY RANGE	47 ~ 63Hz						
	POWER FACTOR (Typ.)	PF>0.95/230VAC PF>0.98/115VAC at full load						
	EFFICIENCY (Typ.)	79%	83%	86%	86%	87%	88%	89%
	AC CURRENT (Typ.)	3.6A/115VAC 1.8A/230VAC						
	INRUSH CURRENT (Typ.)	25A/115VAC 40A/230VAC						
	LEAKAGE CURRENT	<2mA / 240VAC						
PROTECTION	OVERLOAD	105 ~ 135% rated output power						
		Protection type : Hiccup mode, recovers automatically after fault condition is removed						
	OVER VOLTAGE	6.3 ~ 7.5V	9.4 ~ 10.9V	14.7 ~ 17.5V	19 ~ 22.5V	29.5 ~ 35V	34.7 ~ 41V	57.6 ~ 67.2V
		Protection type : Shut down o/p voltage, re-power on to recover						
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down						
FUNCTION	FAN CONTROL	RTH2≧40℃ FAN ON, ≦35℃ FAN OFF(Typ.)						
ENVIRONMENT	WORKING TEMP.	-20 ~ +70℃ (Refer to output load derating curve)						
	WORKING HUMIDITY	20 ~ 90% RH non-condensing						
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH						
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)						
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes						
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1 approved						
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC 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℃/ 70% RH						
	EMI CONDUCTION & RADIATION	Compliance to EN55032 (CISPR32) Class B						
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3						
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A						
OTHERS	MTBF	284K hrs min. MIL-HDBK-217F (25℃)						
	DIMENSION	190*93*50mm (L*W*H)						
	PACKING	0.8Kg; 18pcs/15.4Kg/1.05CUFT						

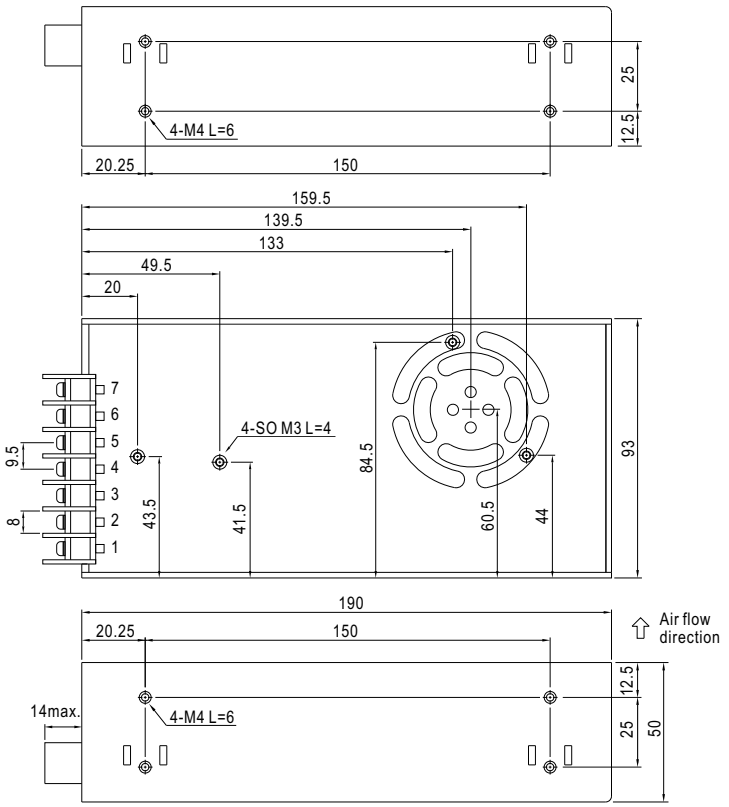
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ 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. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com)
5. Derating may be needed under low input voltages. Please check the derating curve for more details.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Mechanical Specification

Case No.987A Unit:mm

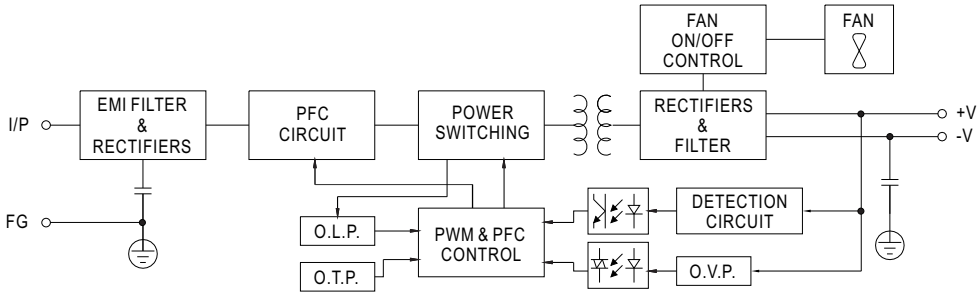


Terminal Pin No. Assignment

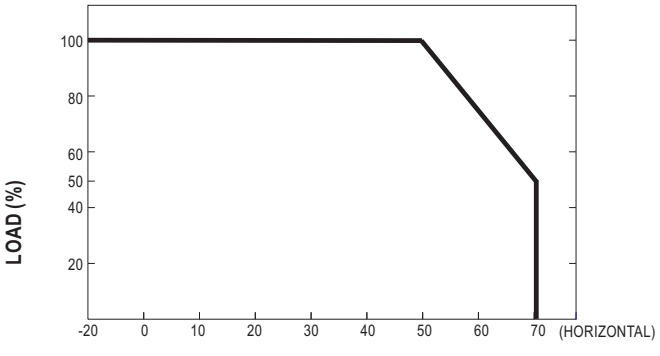
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4,5	DC OUTPUT -V
2	AC/N	6,7	DC OUTPUT +V
3	FG ⏚		

■ Block Diagram

fosc : 90KHz

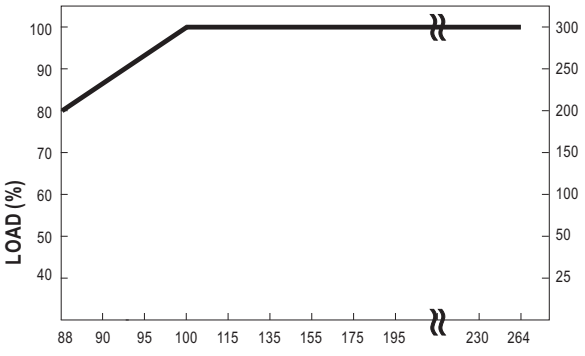


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ Static Characteristics



INPUT VOLTAGE (VAC) 60Hz