MEAN WELL

500W Single Output with PFC Function

SP-500 series

■ Features :

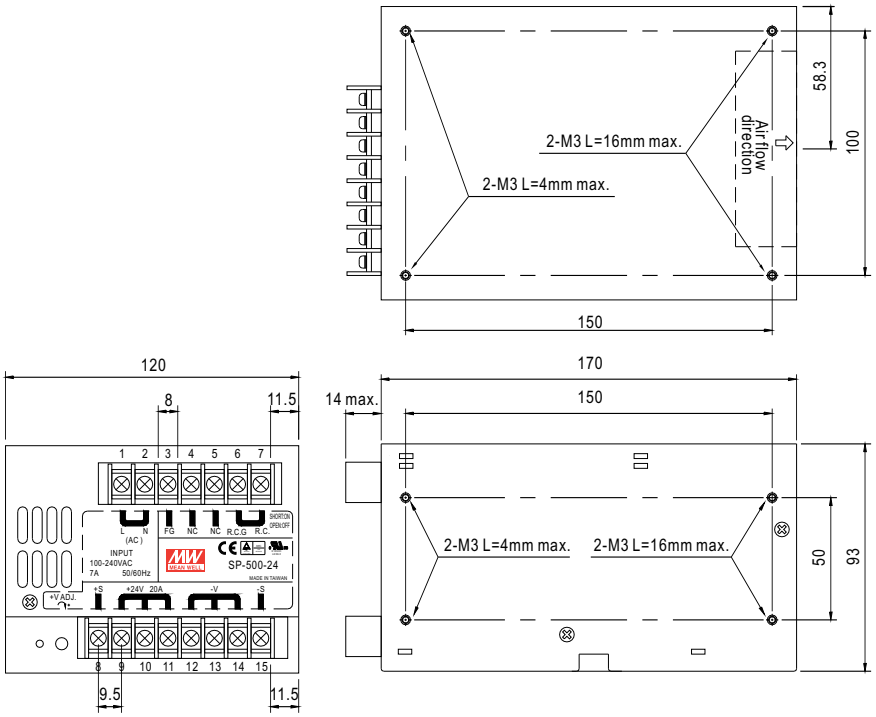
- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload/ Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- Built-in cooling Fan ON-OFF control
- Built-in remote ON-OFF control
- Built-in remote sense function
- Fixed switching frequency at 110KHz
- 3 years warranty

SPECIFICATION

MODEL		SP-500-12	SP-500-13.5	SP-500-15	SP-500-24	SP-500-27	SP-500-48
OUTPUT	DC VOLTAGE	12V	13.5V	15V	24V	27V	48V
	RATED CURRENT	40A	36A	32A	20A	18A	10A
	CURRENT RANGE	0 ~ 40A	0 ~ 36A	0 ~ 32A	0 ~ 20A	0 ~ 18A	0 ~ 10A
	RATED POWER	480W	486W	480W	480W	486W	480W
	RIPPLE & NOISE (max.) Note.2	240mVp-p	240mVp-p	240mVp-p	240mVp-p	200mVp-p	300mVp-p
	VOLTAGE ADJ. RANGE	10 ~ 13.2V	12 ~ 15V	13.5 ~ 18V	20 ~ 26.4V	24 ~ 30V	41 ~ 56V
	VOLTAGE TOLERANCE Note.3	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
	LINE REGULATION	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	LOAD REGULATION	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
	SETUP, RISE TIME	1500ms, 50ms at full load					
	HOLD UP TIME (Typ.)	24ms at full load					
INPUT	VOLTAGE RANGE Note.5	88 ~ 264VAC 124 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF>0.95/230VAC PF>0.95/115VAC at full load					
	EFFICIENCY(Typ.)	84%	84%	83%	85.5%	86.5%	87%
	AC CURRENT (Typ.)	7A/115VAC 3.5A/230VAC					
	INRUSH CURRENT (Typ.)	18A/115VAC 36A/230VAC					
	LEAKAGE CURRENT	<3.5mA/240VAC					
PROTECTION	OVERLOAD	105 ~ 135% rated output power					
		Protection type : Fold back current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	13.8 ~ 16.2V	15.5 ~ 18.2V	18 ~ 21V	27.6 ~ 32.4V	31 ~ 36.5V	57.6 ~ 67.2V
		Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	FAN CONTROL, O.T.P.	RTH1 or RTH2 ≧50℃ FAN ON, ≦45℃ FAN OFF, ≧70℃ output shutdown					
FUNCTION	REMOTE CONTROL	RC+/RC-: Short = power on ; Open = power off					
ENVIRONMENT	WORKING TEMP.	-10 ~ +50℃ (Refer to output load derating curve)					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-20 ~ +85℃, 10 ~ 95% RH					
	TEMP. COEFFICIENT	0.03%/℃ (0 ~ 50℃)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved					
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC					
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC					
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B					
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3					
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, light industry level, criteria A					
OTHERS	MTBF	133.4K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	170*120*93mm (L*W*H)					
	PACKING	1.9Kg; 8pcs/15.5Kg/1.06CUFT					
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. The final equipment must be re-confirmed that it still meets EMC directives. 5. Derating may be needed under low input voltages. Please check the derating curve for more details.						

■ Mechanical Specification

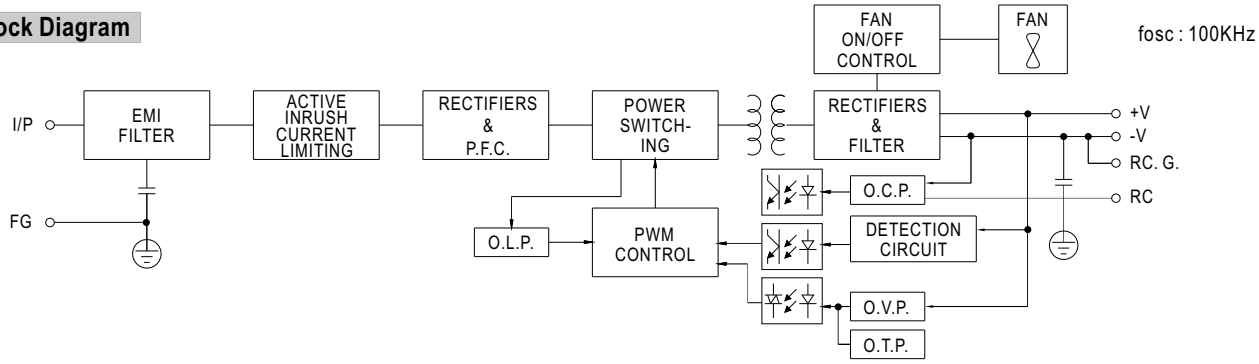
Case No. 910 Unit:mm



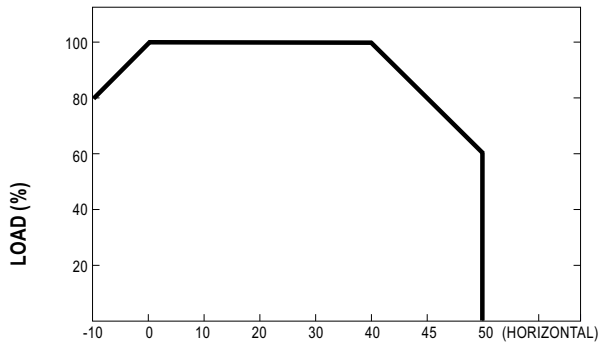
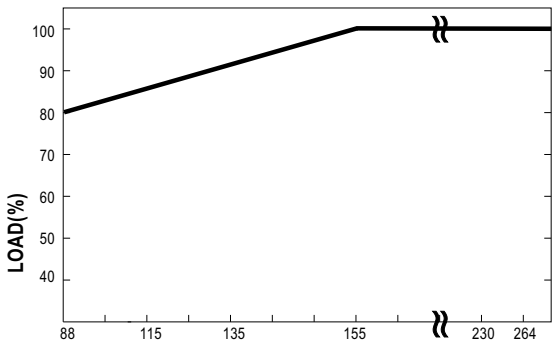
Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	7	R.C.
2	AC/N	8	+S
3	FG ⏚	9~11	DC OUTPUT +V
4,5	NC	12~14	DC OUTPUT -V
6	R.C.G	15	-S

■ Block Diagram



■ Derating Curve



■ Output Derating VS Input Voltage