



500W Single Output with PFC Function

RSP-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 with fan ON-OFF control function
- 1U low profile 40.5mm
- High efficiency up to 90.5%
- Built-in remote ON-OFF control
- Built-in remote sense function
- LED indicator for power on
- 3 years warranty



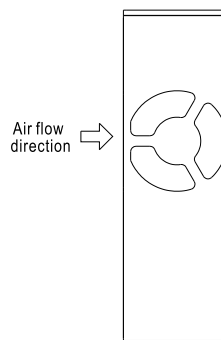
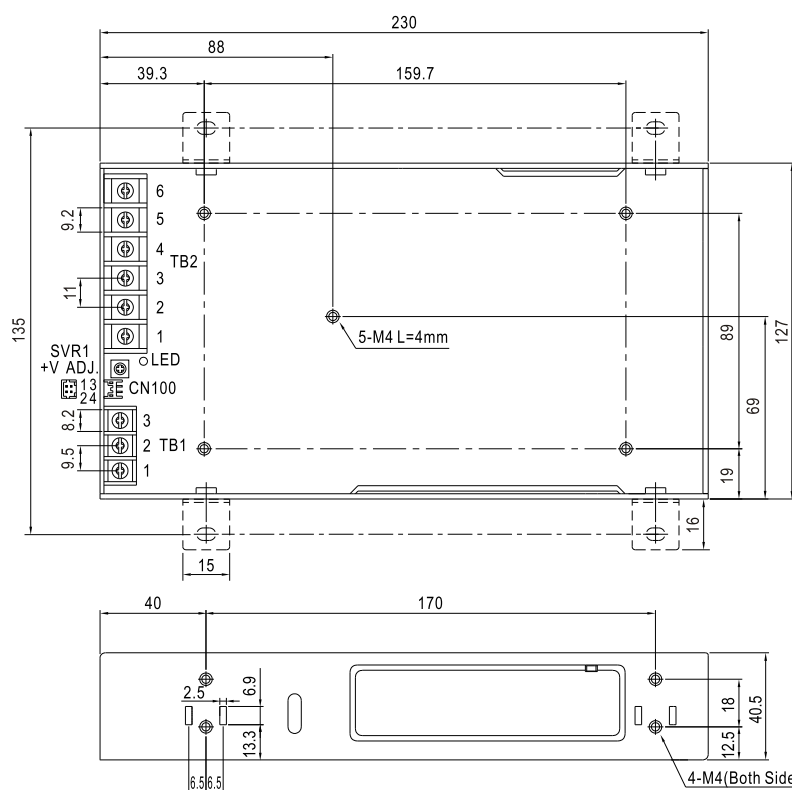
SPECIFICATION

MODEL		RSP-500-3.3	RSP-500-4	RSP-500-5	RSP-500-12	RSP-500-15	RSP-500-24	RSP-500-27	RSP-500-48
OUTPUT	DC VOLTAGE	3.3V	4V	5V	12V	15V	24V	27V	48V
	RATED CURRENT	90A	90A	90A	41.7A	33.4A	21A	18.6A	10.5A
	CURRENT RANGE	0 ~ 90A	0 ~ 90A	0 ~ 90A	0 ~ 41.7A	0 ~ 33.4A	0 ~ 21A	0 ~ 18.6A	0 ~ 10.5A
	RATED POWER	297W	360W	450W	500.4W	501W	504W	502.2W	504W
	RIPPLE & NOISE (max.) Note.2	120mVp-p	120mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	2.8 ~ 3.6V	3.6 ~ 4.3V	4.5 ~ 5.5V	10 ~ 13.2V	13.5 ~ 18V	20 ~ 26.4V	26 ~ 30V	41 ~ 56V
	VOLTAGE TOLERANCE Note.3	± 2.0%	± 2.0%	± 2.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%
	LINE REGULATION	± 0.5%	± 0.5%	± 0.5%	± 0.3%	± 0.3%	± 0.2%	± 0.2%	± 0.2%
	LOAD REGULATION	± 1.0%	± 1.0%	± 1.0%	± 0.5%	± 0.5%	± 0.5%	± 0.5%	± 0.5%
	SETUP, RISE TIME	1500ms, 80ms/230VAC 3000ms, 80ms/115VAC at full load							
HOLD UP TIME (Typ.)	18ms/230VAC 14ms/115VAC at full load								
INPUT	VOLTAGE RANGE Note.4	85 ~ 264VAC 120 ~ 370VDC							
	FREQUENCY RANGE	47 ~ 63Hz							
	POWER FACTOR (Typ.)	PF>0.95/230VAC PF>0.98/115VAC at full load							
	EFFICIENCY (Typ.)	81%	83%	83%	89%	88%	89%	89.5%	90.5%
	AC CURRENT (Typ.)	4.2A/115VAC	2.1 A/230VAC	5.3A/115VAC	2.65 A/230VAC				
	INRUSH CURRENT (Typ.)	20A/115VAC	40A/230VAC						
	LEAKAGE CURRENT	<2mA / 240VAC							
PROTECTION	OVERLOAD	105 ~ 130% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed							
	OVER VOLTAGE	3.8 ~ 4.5V	4.5 ~ 5.3V	5.75 ~ 6.75V	13.8 ~ 16.2V	18.8 ~ 21.8V	27.6 ~ 32.4V	32.9 ~ 38.3V	58.4 ~ 68V
		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	REMOTE CONTROL	POWER ON:open or 0~0.8VDC between RC+(Pin 4)&RC-(Pin3) on CN100 POWER OFF: 4~10VDC between RC+(Pin 4)&RC-(Pin3) on CN100							
	REMOTE SENSE	Compensate voltage drop on the load wiring up to 0.3V							
	FAN CONTROL (Typ.)	RTH2 ≥ 50°C ± 10°C Fan on ; RTH2 ≤ 40°C ± 10°C Fan off							
ENVIRONMENT	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")							
	WORKING HUMIDITY	20 ~ 90% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH							
	TEMP. COEFFICIENT	± 0.03%/°C (0 ~ 50°C)							
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 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: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 EN55022 (CISPR22) Class B, EN61000-3-2,-3							
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61000-6-2, EN61204-3 heavy industry level, criteria A							
OTHERS	MTBF	187.7K hrs min. MIL-HDBK-217F (25°C)							
	DIMENSION	230*127*40.5mm (L*W*H)							
	PACKING	1.3Kg; 9pcs/12.7Kg/0.7CUFT							
NOTE	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. Derating may be needed under low input voltages. Please check the derating curve for more details. 5. 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.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)								



RSP-500 series

Case No.226A Unit:mm



Pin No.	Assignment
1	AC/L
2	AC/N
3	FG $\underline{\underline{\text{E}}}$

Pin No.	Assignment
1~3	DC OUTPUT -V
4~6	DC OUTPUT +V

Pin No.	Assignment	Mating Housing	Terminal
1	-S	HRS DF11-4DS or equivalent	HRS DF11-**SC or equivalent
2	+S		
3	RC-		
4	RC+		

Block Diagram

The block diagram illustrates the power supply architecture. It begins with an **I/P** (Input) and **FG** (Ground Fault) input connected to an **EMI FILTER**. The signal then passes through **ACTIVE INRUSH CURRENT LIMITING** and **RECTIFIERS & PFC** stages. The **POWER SWITCHING** stage is connected to the rectifiers and a transformer. The output of the transformer goes to another **RECTIFIERS & FILTER** stage. This stage is also connected to a **FAN ON/OFF CONTROL** block and a **FAN** (represented by a fan symbol). The **POWER SWITCHING** stage is controlled by a **PWM & PFC CONTROL** block, which receives feedback from **O.L.P.** (Over Load Protection) and **O.T.P.** (Over Temperature Protection) blocks. The **PWM & PFC CONTROL** block is also connected to a **DETECTION CIRCUIT** block. The **DETECTION CIRCUIT** block provides feedback to the **PWM & PFC CONTROL** block and also outputs **O.T.P.** and **O.V.P.** (Over Voltage Protection) signals. The output of the **RECTIFIERS & FILTER** stage is split into four rails: **+S**, **+V**, **-V**, and **-S**. The **+V** and **-V** rails are connected to a **RC+** and **RC-** terminal. The **fosc : 70KHz** is indicated at the top right.

Graph of Load (%) vs Ambient Temperature (°C) for a 100% duty cycle. The load is constant at 100% from -30°C to 50°C, then decreases linearly to 50% at 70°C, and drops vertically to 0% at 70°C.

Ambient Temperature (°C)	Load (%)
-30	100
50	100
70	50
70	0

The graph shows the relationship between input voltage and load percentage. The load starts at 80% for 85V, reaches 100% at 100V, and then remains constant at 100% for higher voltages up to 264V. A break symbol is present on the x-axis between 195V and 230V.

Input Voltage (VAC) 60Hz	Load (%)
85	80
100	100
195	100
230	100
264	100



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■ Function Description of CN100

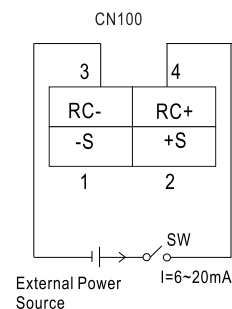
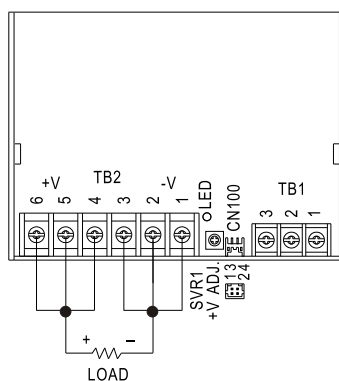
Pin No.	Function	Description
1	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.3V.
2	+S	Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.3V.
3	RC-	Return for RC+ signal input.
4	RC+	Turns the output on and off by electrical or dry contact between pin 4 (RC+) and pin 3 (RC-). 0~0.8VDC or open: Power ON, 4~10VDC: Power OFF.

■ Function Manual

1.Remote Control

The PSU can be turned ON/OFF by using the "Remote Control" function.

Between RC-(pin3) and RC+(pin4) on CN100	PSU Status
SW OFF (0 ~ 0.8VDC) or open	ON
SW ON (4 ~ 10V)	OFF



2.Remote Sense

The remote sensing compensates voltage drop on the load wiring up to 0.3V

