



■ Features :

- Universal AC input / Full range
- Built in active PFC circuit compliance to EN61000-3-2
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Free air convection for 400W and 500W with 23.5CFM forced air
- High power density 6.2w/in³
- AC input active surge current limiting
- U-bracket low profile:41mm
- Current sharing(1+1) for 24V and 48V models (Optional)
- Built-in remote ON-OFF control
- Built-in remote sense function
- Built in DC OK active signal
- 3 years warranty

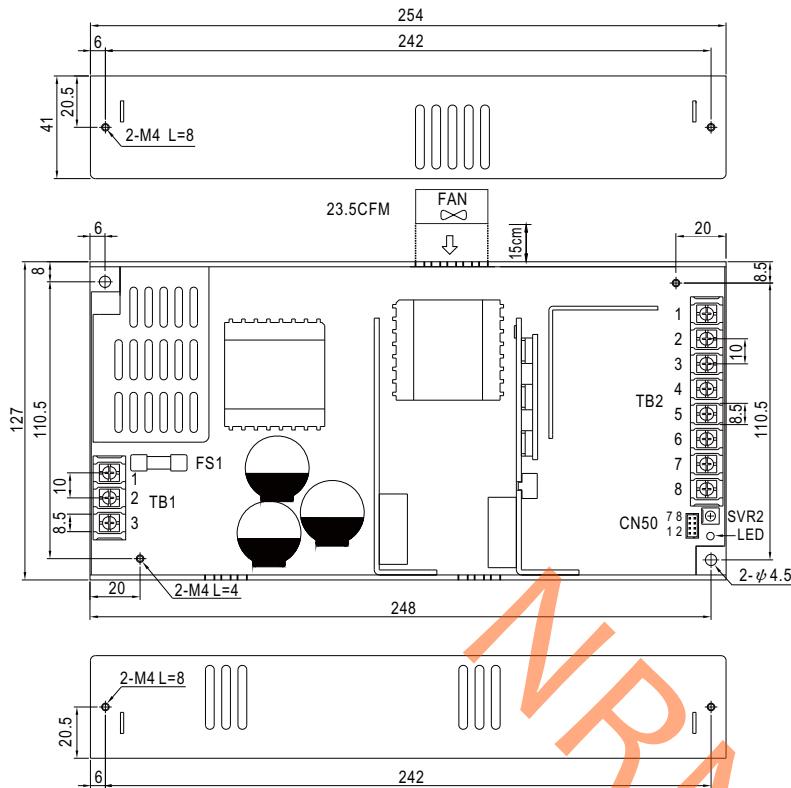


SPECIFICATION

MODEL	USP-500-5	USP-500-12	USP-500-15	USP-500-24	USP-500-48			
OUTPUT	DC VOLTAGE	5V	12V	15V	24V			
	RATED CURRENT	80A	42A	33.5A	21A			
	CURRENT RANGE (convection)	0 ~ 60A	0 ~ 33A	0 ~ 27A	0 ~ 17A			
	CURRENT RANGE (23.5CFM FAN)	0 ~ 80A	0 ~ 42A	0 ~ 33.5A	0 ~ 21A			
	RATED POWER (convection)	300W	396W	405W	408W			
	RATED POWER (23.5CFM FAN)	400W	504W	502.5W	504W			
	RIPLPE & NOISE (max.) Note.2	80mVp-p	100mVp-p	100mVp-p	150mVp-p			
	VOLTAGE ADJ. RANGE	4.5 ~ 5.5V	10.8 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 27V			
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±2.0%	±2.0%			
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%			
	LOAD REGULATION	±2.0%	±1.0%	±1.0%	±1.0%			
INPUT	SETUP, RISE TIME	1500ms, 80ms/230VAC	3100ms, 80ms/115VAC at full load					
	HOLD UP TIME (Typ.)	20ms/230VAC	20ms/115VAC at full load					
PROTECTION	VOLTAGE RANGE Note.5	90 ~ 264VAC	127 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz						
	POWER FACTOR (Typ.)	0.95/230VAC	0.98/115VAC at full load					
	EFFICIENCY (Typ.)	85%	90%	90%	89%			
	AC CURRENT (Typ.)	6A/115VAC	2.6A/230VAC					
	INRUSH CURRENT (Typ.)	30A/115VAC	50A/230VAC					
FUNCTION	LEAKAGE CURRENT	<2mA / 240VAC						
	OVERLOAD	105 ~ 130% rated output power Protection type : Constant current limiting, unit will shut down after 3 sec., re-power on to recover						
	OVER VOLTAGE	5.7 ~ 7V	13.5 ~ 16V	17 ~ 21V	27.8 ~ 32.4V			
ENVIRONMENT	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power to recover						
	REMOTE ON/OFF CONTROL	Shut down o/p voltage with auto-recovery						
	DC-OK SIGNAL	RC+/RC-: 0~0.8V power on ; 4~10V power off PSU turn on : 3.3V ~ 5.6V ; PSU turn off: 0 ~ 1V						
SAFETY & EMC (Note 4)	WORKING TEMP.	-20 ~ +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						
OTHERS	SAFETY STANDARDS	UL60950-1, TUV EN60950-1, EAC TP TC 004 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 EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020						
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61000-6-2, heavy industry level, criteria A, EAC TP TC 020						
NOTE	MTBF	129.8K hrs min. MIL-HDBK-217F (25°C)						
	DIMENSION	254*127*41mm (L*W*H)						
	PACKING	1.6Kg; 6pcs/10.6Kg/0.7CUFT						
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. 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. 6. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).								

■ Mechanical Specification

Case No. 963A-D Unit:mm


 AC Input Terminal
Pin No. Assignment

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

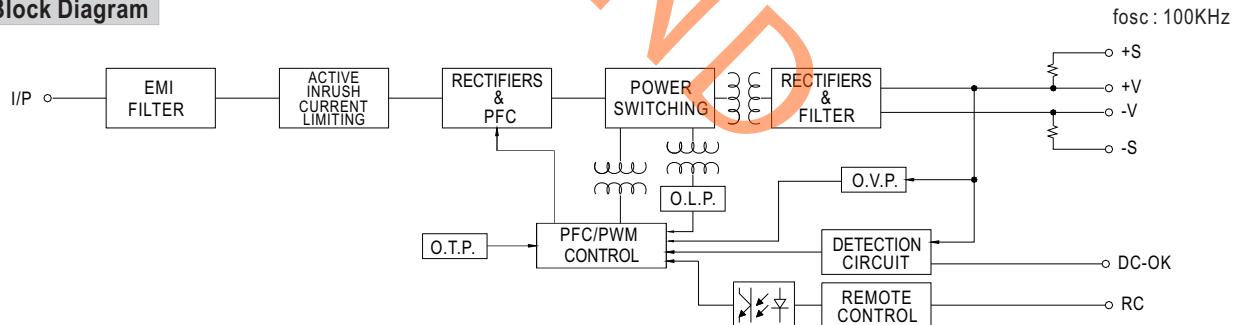
 DC Output Terminal
Pin No. Assignment

Pin No.	Assignment
1~4	DC OUTPUT -V
5~8	DC OUTPUT +V

 Connector Pin No. Assignment (CN50) :
JST B8B-PHDSS or equivalent

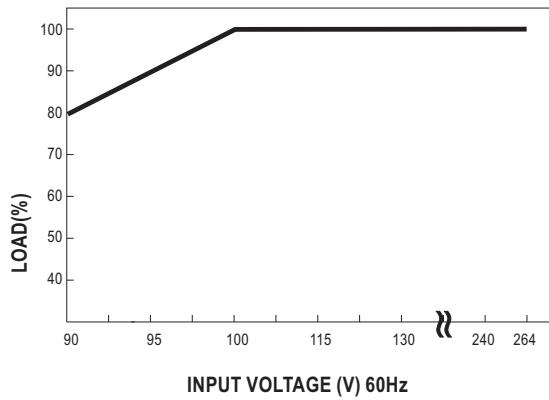
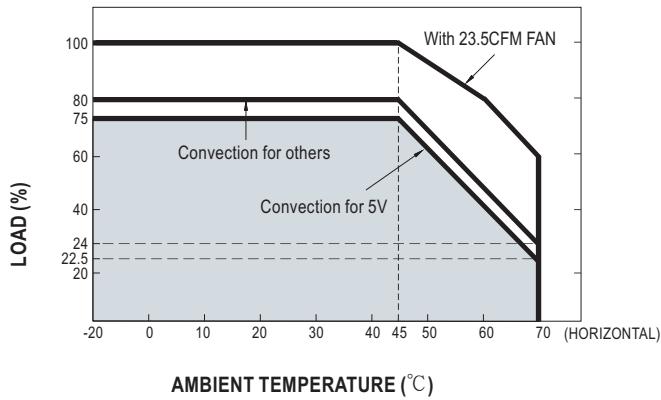
Pin No.	Assignment	Mating Housing	Terminal
1	CS(Optional)		
2,8	-S		
3	RC-		
4	RC+		
5	GND	JST PHD-08VS or equivalent	JST SPHD-002T-P0.5 or equivalent
6	DC-OK		
7	+S		

■ Block Diagram



■ Derating Curve

■ Static Characteristics



■ Function Description of CN50

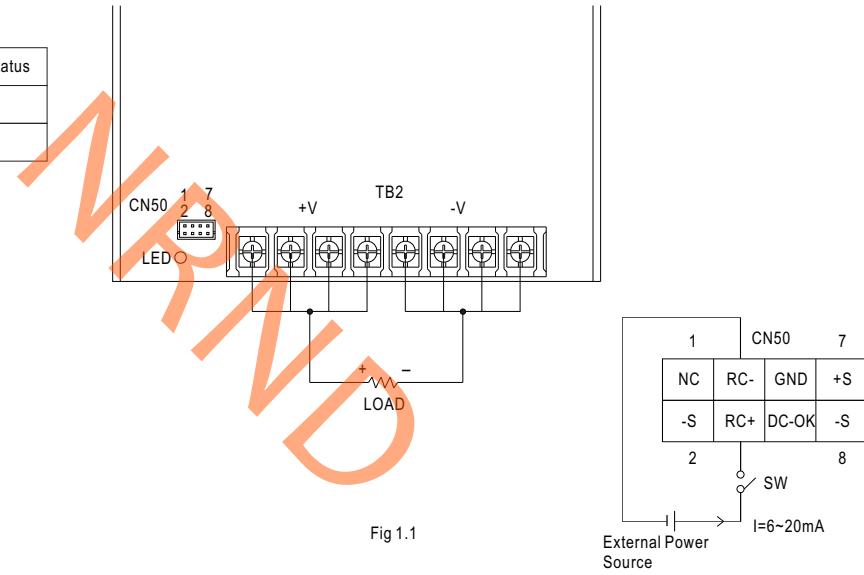
Pin No.	Function	Description
1	CS (Optional)	Current sharing signal. When units are connected in parallel, the CS pins of the units must be connected to allow current balance between units.
2,8	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect. The maximum line drop compensation is 0.5V.
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-). 0~0.8V: Power ON, 4~10V: Power OFF.
5	GND	This pin connects to the negative terminal (-V). Return for DC_OK signal output.
6	DC-OK	DC-OK signal is a TTL level signal, referenced to pin6(DC-OK GND). High when PSU turns on.
7	+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 0.5V.

■ Function Manual

1. Remote Control

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

Between RC+(pin4) and RC-(pin3)	Output Status
SW OFF (0 ~ 0.8V)	ON
SW ON (4 ~ 10V)	OFF



2. DC-OK Signal

DC-OK signal is a TTL level signal. High when PSU turns on.

Between DC-OK(pin6) and GND(pin5)	Output Status
3.3 ~ 5.6V	ON
0 ~ 1V	OFF

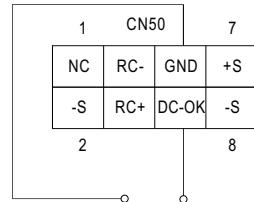
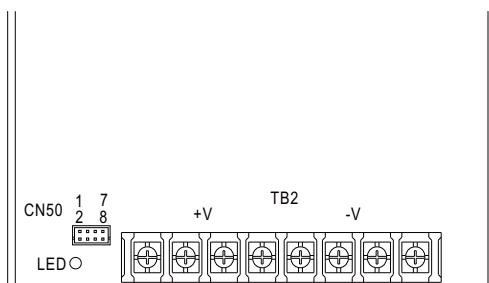


Fig 2.1

3. Remote Sense

The remote sensing compensates voltage drop on the load wiring up to 0.5V.

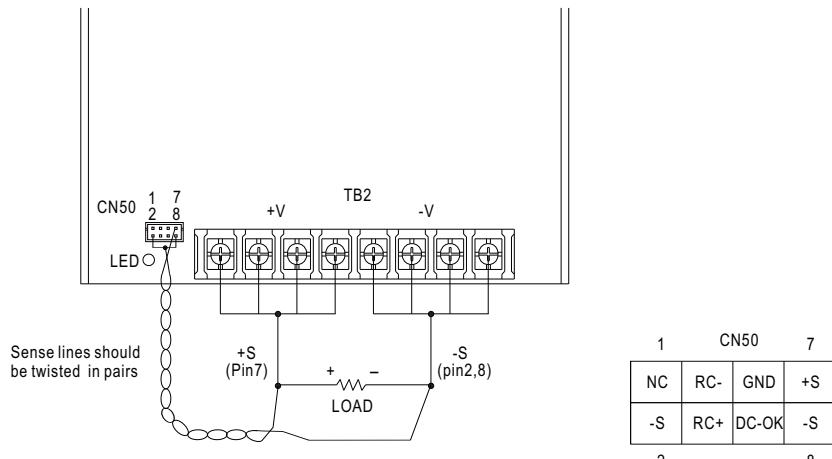


Fig 3.1

4. Current Sharing with Remote Sensing (Optional for 24V & 48V)

USP-500 has the built-in active current sharing function and can be connected in parallel to provide higher output power :

(1) Parallel operation is available by connecting the units shown as below.

(+S, -S, CS and GND are connected mutually in parallel).

(2) Difference of output voltages among parallel units should be less than 2%.

(3) The total output current must not exceed the value determined by the following equation.

(output current at parallel operation) = (Rated current per unit) \times (Number of unit) \times 0.9

(4) In parallel operation 2 units is the maximum, please consult the manufacturer for applications of more connecting in parallel.

(5) The power supplies should be paralleled using short and large diameter wiring and then connected to the load.

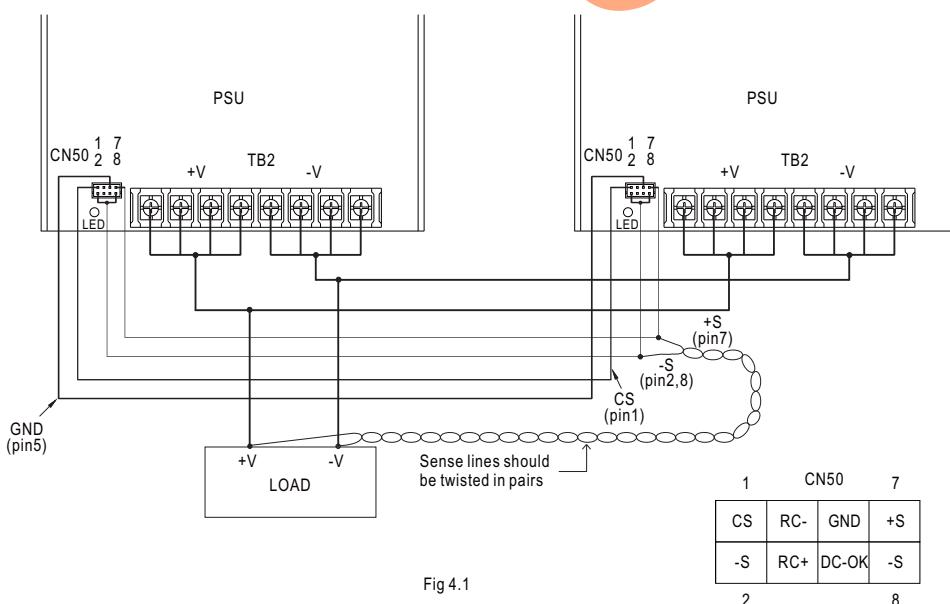


Fig 4.1

Note : 1. In parallel connection, maybe only one unit (master) operate if the total output load is less than 2% of rated load condition.

The other PSU (slave) may go into standby mode and its output LED and relay will not turn on.

2.2% min. of dummy load is required.