

MPE-600SAR

600W Enclosed AC/DC Power Supplies



Key Features:

- 600W Output Power
- Universal Input
- 3,000 VAC Isolation
- Efficiency to 93%
- -25°C to +70°C Temp
- Remote On/Off
- Meets EN 55032 B
- >100 kHour MBTF
- UL60950 Approval

Electrical Specifications

Specifications typical @ +25°C, nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Range	AC Input	90		264	VAC
	DC Input	120		370	VDC
Input Frequency		47		63	Hz
Input Current	Full Load	115 VAC		8.0	A
		230 VAC		3.5	
Inrush Current (<2ms)		115 VAC		15	A
		230 VAC		30	
Leakage Current		240 VAC 63Hz		3.5	mA
Power Factor	Full Load	115 VAC	PF > 0.99		
		230 VAC	PF > 0.95		

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±2		%
Line Regulation	Vin = Min to Max		±1		%
Load Regulation	5% to 100% Load		±1		%
Minimum Load		1			%
Trim			±5		%
Ripple & Noise, See Note 1			1.0		%VOUT
Hold-Up Time		12			ms
Temperature Coefficient	0°C to +50°C		±0.03		%/°C
Short Circuit Protection				Latch Off	
Over Voltage Protection				Autorecovery	
Over Temperature Protection				Continuous	

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage, See Note 2	Input - Output	3,000			VAC
	Input - Ground	1,500			
	Output - Ground	500			

EMI Characteristics

Parameter	Standard	Criteria	Level
Radiated Emissions	CISPR32/EN 55032		Class A
Conducted Emissions	CISPR32/EN 55032		Class B
EMS (Noise Immunity)	EN 55024		
Surge			±1KV line to line ±2KV line to ground

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	With Derating	-25		+70	°C
Storage Temperature Range		-25		+85	°C
Operating Altitude				5000	M
Cooling	Forced Air Cooling				
Operating Humidity	Non-condensing			95	%RH
Vibration	10 - 500Hz, 2G 10 min./1 cycle, 60 min. each along X, Y, Z axis				
Physical					
Case Size	9.0 x 4.13 x 1.72 in (See Mechanical Drawing on Page 4)				

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	100			kHours
Safety Standards	UL/cUL 60950-1 Recognition (UL Certificate)				
Safety Class	Class I				



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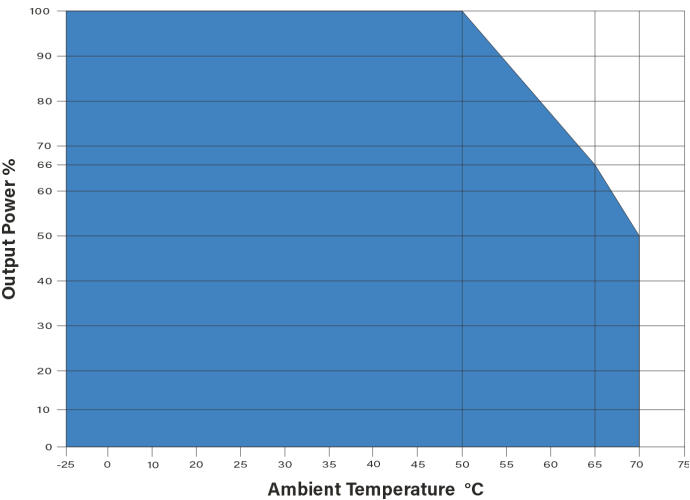
Model Selection Guide

Model Number	Input		Output			Output Capacitive Load (μF Max)	Efficiency (% Typ)
	Current (mA) (Max)		Voltage (VDC)	Current (A, Max)	Power (W)		
	115 VAC	230 VAC					
MPE-600SAR-12	8.0	3.5	12	45	540	60000	90
MPE-600SAR-24	8.0	3.5	24	25	600	50000	92
MPE-600SAR-48	8.0	3.5	48	12.5	600	20000	92
MPE-600SAR-54	8.0	3.5	54	11.1	600	10000	93

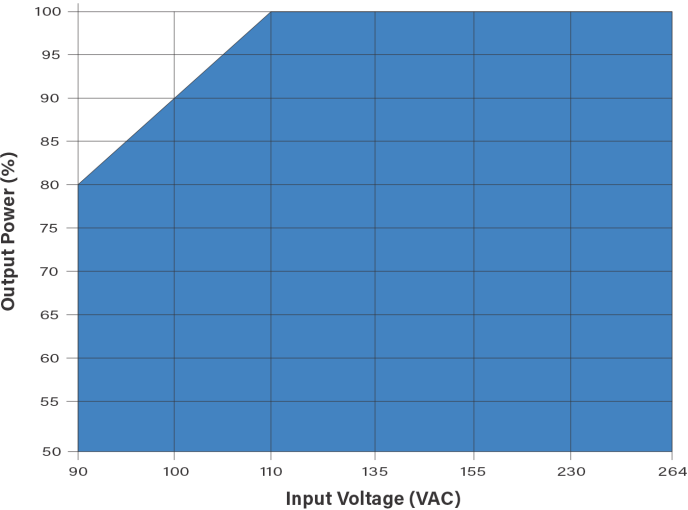
- Notes:
1. The "tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.

2. It is highly recommended that this test be conducted using a DC voltage. If an AC voltage is used, all Y capacitors must be disconnected from the power supply. For more information, please contact the factory.

Temperature Derating



Input Voltage Derating

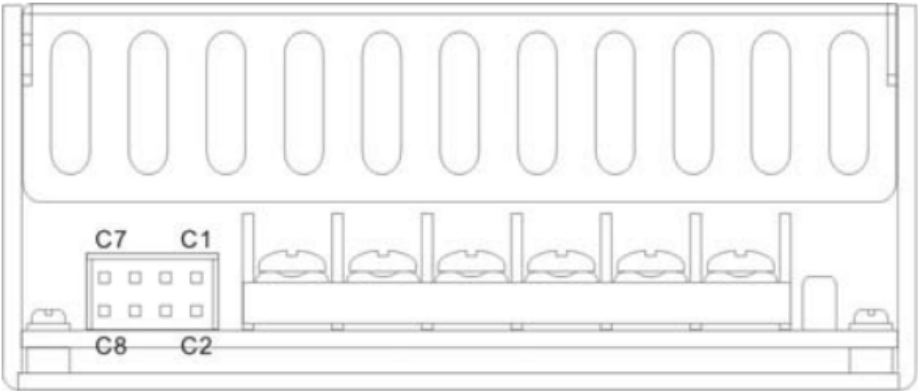
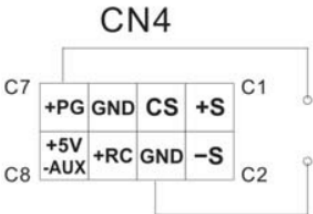


Function Description of CN4

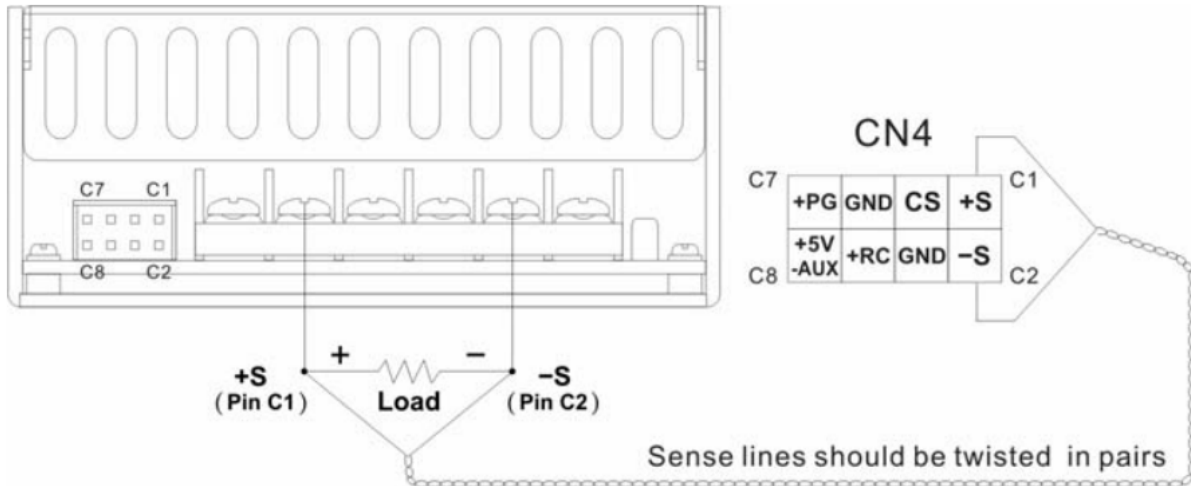
Pin	Function	Description
C1	+S	Current share function pin.
C2	-S	
C3	CS	
C4	GND	Connects to the nehesive terminal (-V). Return for DC OK signal output.
C5	GND	Connects to the negative terminal (-V). Return for DC OK signal output.
C6	+RC	Turns the output on and off by electrical or dry contact between pin C4 (-RC). Short: Power OFF, Open: Power ON
C7	+PG	DC OK signal is a DC output, referenced to pin C6 (DC OK GND).
C8	+5V-AUX	Standby voltage output ground 4.5 - 5.5V, referenced to pin C4 or C5 (GND). The maximum load current is 0.6A.

DC OK Signal

Between DC OK (Pin C5) and GND (Pin C6)	Output Status
3.7 - 5.7V	ON
0 - 1V	OFF



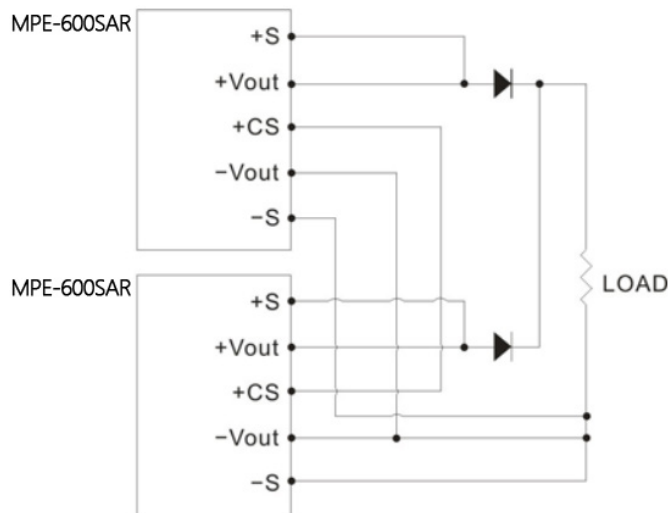
Current Share



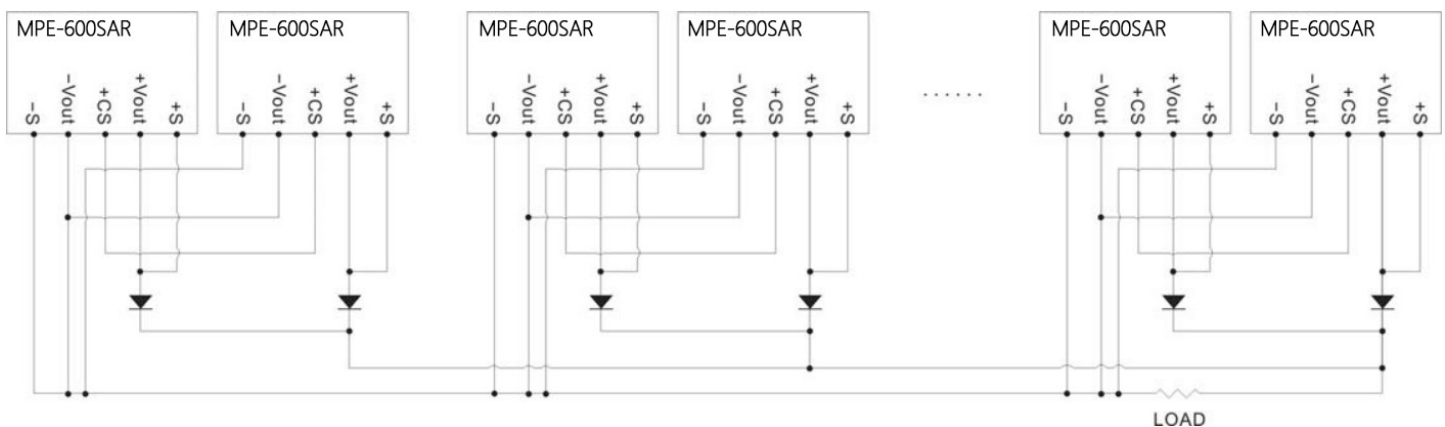
Notes:

1. Difference in Vout among paralleled units should be less than $\pm 1\%$.
2. Output power at parallel operation = rated power per unit $\cdot$ number of unit $\cdot$ 80%
3. Connect in parallel no more than 2 units. Please contact the factory for advice if more than 2 are needed.
4. Shorter wiring to each unit is recommended, as well as twisting +S and -S in pairs, as shown above.
5. The remote sensing compensates voltage drop on the load wiring up to 5V.

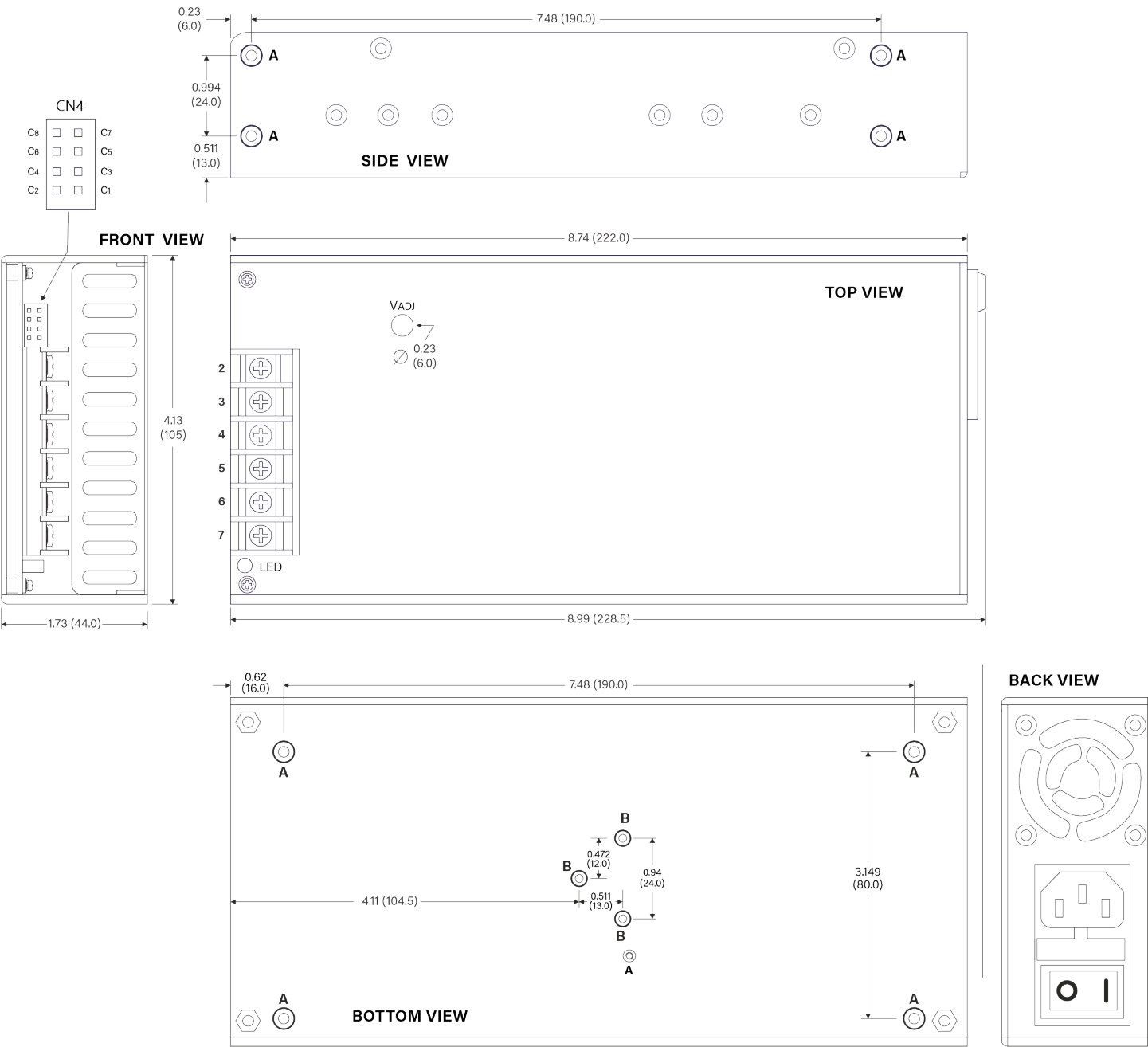
1+1 Redundancy: Using 1 More MPE-600SAR as the Redundant Unit



1+N Redundancy: Using Multiple MPE-600SAR as the Redundant Units to Increase Reliability



Mechanical Diagrams



Pin	Single	Terminal
1	AC IN	--
2 - 4	+DC OUT	DINKLE DT-49-B01W-06
5 - 7	-DC OUT	

Pin	Single	Mating Housing	Terminal
C1	+S	JST PHDR-08VS	JST SPHD-001T-P0.5
C2	-S		
C3	CS		
C4	GND		
C5	GND		
C6	+RC		
C7	+PG		
C8	+5V-AUX		

- Notes:**
- All dimensions are typical in inches (mm)
 - General tolerances: ± 0.02 (± 0.5)
- Weight:**
- 36.12 oz (1024g)