



SUNPOWER TECHNOLOGY CORP.
 16F-1, No.150, Jian Yi Rd., Chung Ho City, Taipei Hsien, Taiwan, R.O.C.
 TEL: 886-2-8226-3100 FAX: 886-2-8226-3111
 http://www.sunpower.com.tw
 E-mail: sunpower@sunpower.com.tw

SPS-1000P Series

1000W, Single Output
 Active P.F.C Function



295 x 127 x 40.6 mm
 11.61 x 5.0 x 1.6 inch



Features:

- * Universal AC input with active power factor correction, P.F.>0.95
- * Inrush current limit soft start function
- * Over voltage , over load & short circuit protection
- * Over temperature protection
- * Output voltage $\pm 10\%$ adjustment
- * Output voltage remote sense & remote control ON/OFF
- * With power good signal output
- * Current sharing function, 3+1 up to 4KW
- * Forced air cooling by built in DC fan
- * Built in 5V/0.5A auxiliary output
- * 1U low profile 40.6 mm
- * UL, cUL, TUV, CB, CE approved
- * 3 years warranty

Specification:

INPUT	Voltage	90V ~ 264VAC universal full range or 127V ~ 375VDC.			
	Frequency	47 ----- 63 Hz			
	Current	<13A@100V AC input, full load condition			
	Inrush Current	<50A@115V , <90A@230V AC input, Cold start at 25°C ambient			
	Leakage Current	<1.5mA@264V AC input			
	PFC Factor	PF > 0.95			
OUTPUT	MODEL No.	SPS-1000P-12	SPS-1000P-24	SPS-1000P-36	SPS-1000P-48
	Voltage	12V	24V	36V	48V
	Min Load	0A	0A	0A	0A
	Max Load	63A	40A	27.8A	21A
	Output Tolerance ②	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$
	Ripple Noise MAX. ③	150mV	150mV	240mV	240mV
	Efficiency (TYP.)	83%	87%	87%	88%
PROTECTION	Output MAX.	756W	960W	1000W	1008W
	Over Voltage	13.8~16.8V	27.6 ~ 33.6V	41.4 ~ 50.4V	55.2~67.2V
	Over Load & ShortCircuit	Shutdown and latch off, recover after re-start up.			
	Over Temperature	When power supply over 105%~ 125% max load or short circuit acted, power supply will be shutdown and recover automatically after the fault is removed.			
ELEC. CHAR	Rise time	<80mS			
	Hold up time	>15mS@230V			
	Remote Control	RC+ / RC- : 0~1V=Power ON, 3.3~5.6V=Power OFF ; Sink Current: 3-10mA. **Close remote ON/OFF function is not used, the connector(CN14) shorting			
	Remote sensing	(RS+, RS-).			
	Power good signal	Power on within 100~500ms, high level TTL signal release.			
ENVIRONMENT	Temperature ④	Operating: -20 ~ 70 °C ; De-rating: 50 ~ 70°C : 2.5%/°C. ; Storage: -20~+85°C			
	Humidity	Operating: 20% ~ 85% RH; Storage: 10% ~ 95% RH (non condensing)			
SAFETY	Withstand voltage	I/P-O/P:3KVAC, I/P-PE:1.5KVAC, O/P-PE:0.5KVAC, 1minute			
	Isolation resistance	I/P-O/P, I/P-PE, O/P-PE > 100MΩ/500VDC at 25°C/ 70% RH			
EMC	Safety standard	UL 60950-1 2 nd , CSA C22.2 No. 60950-1- 07 1 st , TUV EN 60950-1:2006, IEC 60950-1:2005, approved			
	EMI	EN 55022 CLASS B 、 FCC CFR 47 PART 15 CLASS B 、 CNS 13438 CLASS B.			
	EMS	Compliance to EN61000-3-2 CLASS D, EN61000-3-3 EN 55024 : EN 61000-4-2,3,4,5,6,8,11			
OTHERS	Cooling	Forced airflow cooling with DC fan.			
	M.T.B.F.	122.5 K hours			
	Dimension	295 x 127 x 40.6 mm (L*W*H)			
	Packing	N.W.: 1.9 Kg / 1pc; 3pcs / 1.22 CUFT / 1 CTN			

NOTE

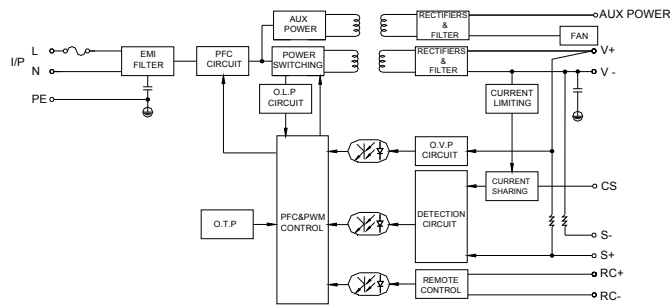
- ① All measurements which not mentioned are based on 230VAC input, **output Max** at ambient 25°C / 70%RH
- ② Output tolerance included set up voltage, line regulation and load regulation.
- ③ Ripple & noise are measured at 100~254VAC input with 0~50°C condition and 20MHz of bandwidth by using a 10" ~15" twisted pair-wire terminated with a 0.1uF & a 47uF parallel capacitor.
- ④ The operating temperature shall follow the de-rating curve in spec
The output load may be requested for decreasing as de-rating curve in spec when low input voltage is under 115VAC..
- ⑤ The power supply is considered a component of end-equipment. The end-equipment must be re-confirmed whether comply with EMC directives.



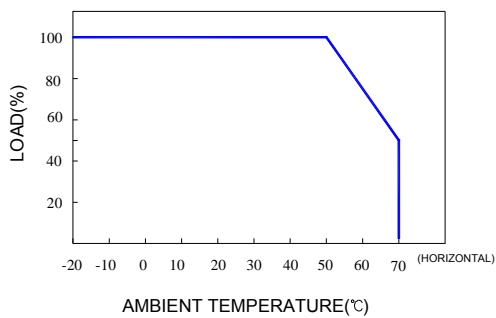
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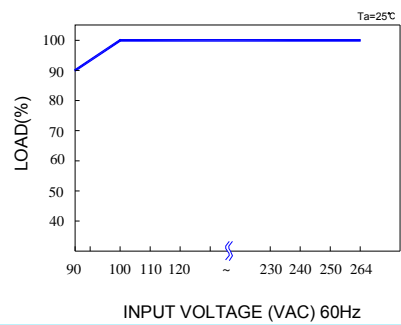
Block Diagram :



De-rating Curve :

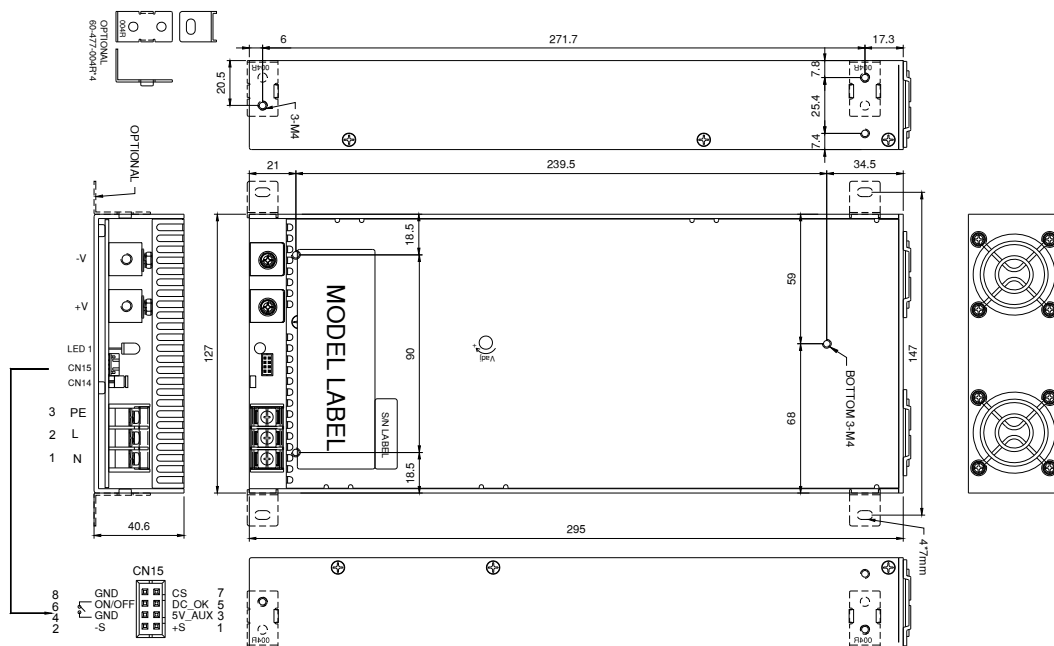


Output De-rating Vs Input Voltage :



Dimension:

(Unit: mm)



NOTES:

TERMINAL BLOCK : 3P, PITCH 9.5mm WITH PC COVER

Pin No.	Assignment	Pin No.	Assignment
1	N	3	PE
2	L		

CN15 TERMINAL BLOCK

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment
1	+S	4	GND	7	CS
2	-S	5	DC OK	8	GND
3	5V AUX	6	ON / OFF		

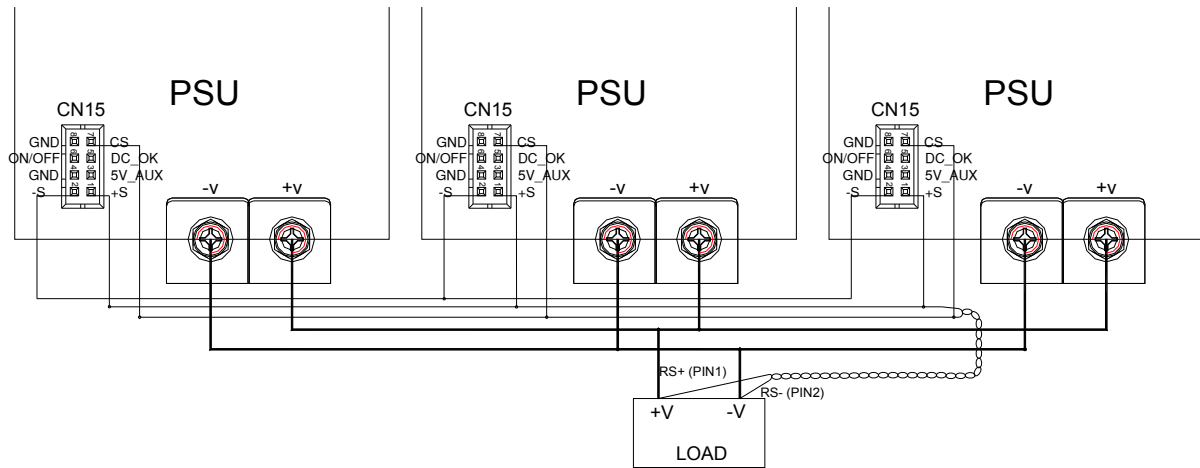
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Application Manual

Current sharing with remote sensing:

- ❶ Parallel operation is available by +S and -S are connected mutually in parallel.
- ❷ Difference of output voltages among parallel units should be less than 100 mV.
- ❸ In parallel operation 4 units is the maximum, please consult the manufacturer for applications of more connecting in parallel.
- ❹ The power supplies should be paralleled using short and large diameter wiring and then connected to the load.
- ❺ Each output could work within **max load** but must under total **output Max.**

$$(\text{Total output Max. at parallel operating}) = (\text{max load per units}) \times (\text{Number of units}) \times 0.9$$
- ❻ In parallel connection, maybe only one unit (master) operate if the total **output Max.** is less than 10% of **max load** condition.
 The other PSUs (slaves) may go into standby mode and their output LEDs will not turn on.



Remote control ON/OFF:

- ❶ Remove the CN14 jumper
- ❷ Operate the power supply on or off by dry contact with pin4 (ON/OFF) and pin6 (GND). Open : Turn on; Short Turn off

