



SUNPOWER TECHNOLOGY CORP.  
 33485 Western Ave., Union City, CA 94587, United States of America  
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 http://www.sunpower-usa.com  
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# SPS-230P-xx Series

230W, Single Output  
 Active P.F.C Function



198 x 99 x 45 mm  
 7.8 x 3.9 x 1.77 inch

## Features:

- \* Universal AC input with active PFC circuit, P.F.>0.95
- \* Power ON with LED indicator
- \* Built in EMI filter, low ripple noise
- \* Over voltage protection
- \* Over load & short circuit protection
- \* Over temperature protection (Optional)
- \* Output voltage  $\pm 10\%$  adjustment
- \* Remote control ON/OFF (Optional)
- \* 100% full load burn-in test
- \* UL, cUL, TUV, CB, CE approved
- \* 3 years warranty

## Specification:

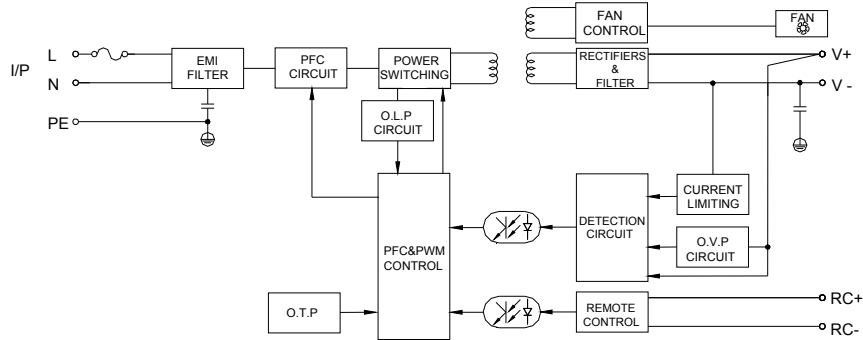
INPUT	Voltage	85V ~ 264VAC universal full range or 120V ~ 375VDC.									
	Frequency	47 ---- 63 Hz									
	Current	<3.2A @100V AC input, full load condition									
	Inrush Current	<35A@115V , <70A@230V AC input. Cold start at 25°C ambient									
	Leakage Current	<1.5mA@264V AC input									
	Power Factor	PF > 0.95									
OUTPUT	MODEL No.	SPS-230P-3.3	SPS-230P-05	SPS-230P-7.5	SPS-230P-12	SPS-230P-15	SPS-230P-24	SPS-230P-27	SPS-230P-30	SPS-230P-48	
	Voltage	3.3V	5V	7.5V	12V	15V	24V	27V	30V	48V	
	Min Load	0A	0A	0A	0A	0A	0A	0A	0A	0A	
	Max Load	40A	40A	30.7A	19.2A	15.4A	9.6A	8.6A	7.7A	4.8A	
	Output Tolerance ②	$\pm 3\%$	$\pm 2\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	
	Ripple Noise MAX. ③	70mV	70mV	80mV	120mV	120mV	200mV	200mV	200mV	200mV	
	Efficiency (TYP.)	72%	76%	80%	83%	83%	85%	85%	85%	86%	
Output MAX.	132W	200W	230W	230W	230W	230W	230W	230W	230W		
PROTECTION	Over Voltage	3.8~4.6V	5.8~7.0V	8.6~10.5V	13.8~16.8V	17.3~21V	27.6~33.6V	31.1~37.8V	34.5~42.0V	55.2~67.2V	
		Hiccup and recovers automatically after the fault is removed.									
	Over Load & Short Circuit	When power supply over 105%~ 150% max load or short circuit acted, power supply will be constant current limiting and recover automatically after the fault is removed.									
ELEC. CHAR.	Over Temperature	Optional, Over 95°C $\pm 5^\circ\text{C}$ Shutdown, recovers automatically after fault condition has been removed.									
	Rise time	<20mS									
	Hold up time	>20mS@230V, full load condition									
	Setup time	<2.0S@100 ~ 240V AC									
ENVIRONMENT	Remote Control	Option. RC+/RC-: 0~0.7V= Power On; 3~5V= Power Off. Sink Current: 3~10 mA									
	Temperature ④	Operating: -20 ~ +70°C ; De-rating: 50 ~ 70°C: 2.5%/°C ; Storage: -40 ~ +85°C									
	Humidity	Operating: 20% ~ 90% RH (non condensing) ; Storage: 10% ~ 95% RH (non condensing)									
SAFETY	Withstand voltage	I/P-O/P:3KVAC, I/P-PE:1.5KVAC, O/P-PE:0.5KVDC, 1minute									
	Isolation resistance	I/P-O/P, I/P-PE, O/P-PE >100MΩ/500VDC at 25°C/ 70% RH									
	Safety standard	UL 60950-1 2 <sup>nd</sup> , CSA C22.2 No. 60950-1- 07 1 <sup>st</sup> , TUV EN 60950-1:2006, IEC 60950-1:2005, approved									
EMC	EMI	EN 55022 CLASS B, FCC CFR 47 PART 15 CLASS B, CNS 13438 CLASS B.									
		Compliance to EN61000-3-2 CLASS D, EN61000-3-3									
	EMS	EN 55024 : EN 61000-4-2,3,4,5,6,8,11									
OTHERS	Cooling	Forced airflow cooling with DC fan.									
	M.T.B.F.	214.6 K hours									
	Dimension	198 x 99 x 50 mm (L*W*H)									
	Packing	N.W.:0.88 Kg / 1pc; 20pcs / 1.38 CUFT / 1 CTN									
NOTE		① All measurements which not mentioned are based on 230VAC input, <b>output Max</b> 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 100VAC..									
		⑤ The power supply is considered a component of end-equipment. The end-equipment must be re-confirmed whether comply with EMC directives.									



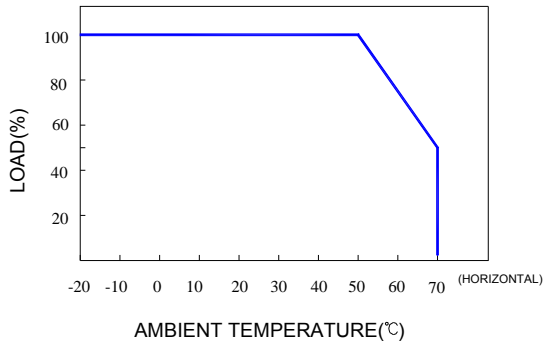
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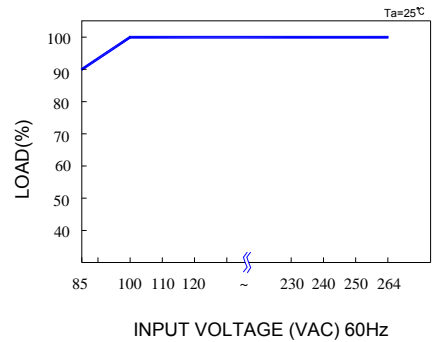
## Block Diagram : PS5



## De-rating Curve :

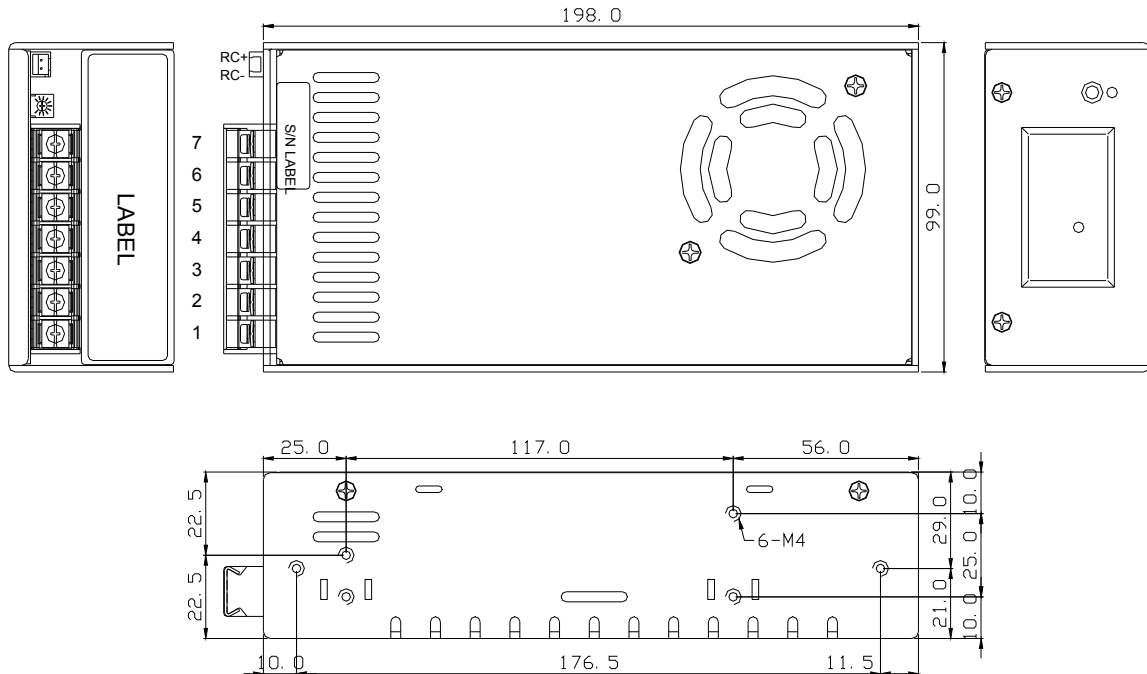


## Output De-rating Vs Input Voltage :



## Dimension:

(Unit: mm)



## NOTES:

TERMINAL BLOCK: 7P, PITCH 9.5mm WITH PC COVER.

MODEL No.	1	2	3	4	5	6	7
SPS-230P-xx	L	N	PE	-V	-V	+V	+V