

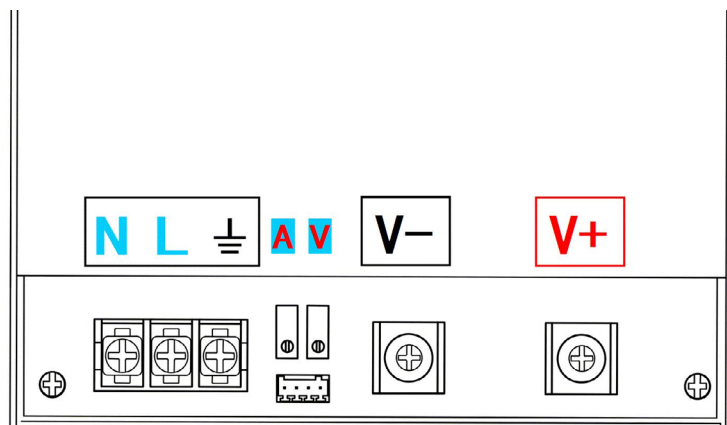
SA-PFC-2000 2000W With Active PFC Series Switching Power Supply



- ◆ With active PFC power factor correction function
- ◆ AC 110-260v wide voltage input
- ◆ Constant pressure and current function
- ◆ Control function of the ps-on output voltage
- ◆ Multilayer board process (4-layer PCB)

Model			SA-PFC 2000-24	SA-PFC 2000-36	SA-PFC 2000-42	SA-PFC 2000-48	SA-PFC 2000-60	SA-PFC 2000-72	SA-PFC 2000-110	SA-PFC 2000-150
Output Parameters	DC Output Voltage		24VDC	36VDC	42VDC	48VDC	60VDC	72VDC	110VDC	150VDC
	AC 220V Input	Rated Output Current	83.3A	55.5A	47.6A	41.6A	33.3A	27.8A	18.2A	13.3A
		Rated Output Power	2000W	2000W	2000W	2000W	2000W	2000W	2000W	2000W
	AC 110V Input	Rated Output Current	62.5A	41.7A	35.7A	31.2A	25A	20.8A	13.6A	10A
		Rated Output Power	1500W	1500W	1500W	1500W	1500W	1500W	1500W	1500W
	Note: When using AC110V input, the output is automatically current limited, and the maximum output power is 1500W									
	Voltage Regulation Range		14-24.5V	21-36.5V	24-42.5V	27-48.5V	34-60.5V	41-72.5V	62-111V	84-151V
			Note: If the output voltage is lowered, the maximum output current remains unchanged, and the power will decrease							
	Efficiency (100% load)	AC 220V input	88.5%	89.6%	91%	91%	91.3%	91.3%	91.6%	92%
		AC 110V input	86%	87%	88.5%	88.5%	89%	89%	89.2%	89.5%
	Output Overvoltage Protection Value		32V	48V	64V	64V	80V	94V	156V	195V
			Protection method: Turn off the output voltage and it will not automatically recover Wait for 5 seconds after powering off, then power on again to recover							
	Ripple (full load)		220mv	230mv	210mv	220mv	230mv	260mv	250mv	280mv
			Note: Ripple and noise test method: connect 47uf Electrolytic capacitor and 0.1UF Ceramic capacitor in parallel at the load end (in order to reduce the impact of new external series interference on the test). The Bandwidth throttling of the oscilloscope is limited to 20MHZ, which should be measured from the load end							
	Maximum Capacitive Load		30000uF	20000uF	15000uF	12000uF	8000uF	5000uF	3500uF	1500uF
	Load adjustment rate		±1%	±1%	±1%	±1%	±1%	±1%	±1%	±1%
	Voltage Accuracy		±3%	±3%	±3%	±3%	±3%	±3%	±3%	±3%
Start up, Rise time		3S,20ms/230VAC(at full load) 8S,20ms/110VAC(at full load)								
Hold up time		8ms/230VAC(At full load)								
Input Parameters	Input Voltage		AC 100-240V (wide voltage adaptive, no conversion required)							
	AC Input Frequency		47-63Hz							
	Standby Power		14 watts							
	Input Current (maximum)		Full load 2000W output, using 220VAC input, input current 10A Full load 1500W output, 15A when using 110VAC input (when using 110V input, the maximum power is limited to 1500W)							
	Power Factor		At 100% full load, power factor PF value ≥ 0.98 (refer to the PF value curve in the figure below)							
	Surge Current		220VAC/45A 110VAC/22A							
Function	PS-ON		PS-on terminal short circuit: no output voltage of power supply PS-on terminal open circuit : The power supply has an output voltage Note: PS-ON can control the opening and closing of the power output voltage. When the output voltage is turned off, the power supply is in a low-power standby state (14 watts) and the fan rotates normally. This function is not to turn off the 220V input power.							
	Output Voltage Adjust		The output voltage is adjustable, and the potentiometer V is manually adjusted. See the parameters in the above table for the adjustment range							
	Output Current Adjust		The output current can be adjusted, the ADJ-A potentiometer manually adjusts, when the load reaches the current setting value, the constant current output (output current remains unchanged, the output voltage is reduced with the load							
	485 Communication		This machine has 485 communication function							

Protection Function	Output Overvoltage Protection	About 130% of the rated output voltage, the output is turned off and will not recover. To disconnect the input power supply, wait for 5 seconds before re energizing to restore	
	Output Short Circuit Protection	1. Short time instantaneous short circuit: Close the output and automatically recover after 3 seconds 2. Long lasting short circuit: Turn off the output and attempt to restart every 3 seconds (burp mode)	
	Output Overload Protection	1. The overload protection method is constant current limiting. When the output is overloaded, the power supply enters constant current mode, keeping the maximum output current constant. The output voltage decreases with the increase of load (note: this power supply does not have short-term peak current OPP, nor does it output overcurrent) 2. When a load of about 3 times the power is connected, it will exceed the range of the overload constant current limit of the power supply. At this time, it is judged as a short circuit, the power supply is turned off, and it will restart every 3 seconds (burp mode)	
	Overheat Protection	1. Overheating protection shutdown (when the temperature detection point reaches the high temperature protection setting value, the power is turned off, the temperature drops, and it automatically recovers) 2. Automatic current limiting in high temperature environments (the power supply monitors the ambient temperature in real-time, and when the ambient temperature is too high, the output will automatically limit the current and reduce the output power) The ambient temperature is below 50°C , the temperature derating function will not be activated The ambient temperature is 50-60°C , and the output is automatically limited to 80% power The ambient temperature is 60-70°C , and the output is automatically limited to 50% power The ambient temperature exceeds 70°C and there is no output. When the temperature drops below 50°C degrees Celsius, it will automatically recover	
	Fan Failure Protection	When either of the two cooling fans does not rotate or the speed is abnormal, the power supply has no output voltage	
	Input Undervoltage Protection	AC input voltage below 178V, output automatic current limiting, power limiting 1500W AC input voltage below 100V, output automatic current limiting, power limiting 1200W AC input voltage below 85V, power undervoltage protection, no output	
EMI	Conducted		CISPR32/EN55032 CLASS A
	Radiated		CISPR32/EN55032 CLASS A
	Harmonic Current		EN61000-3-2 CLASS A
	Voltage Flicker		IEC/EN61000-3-3
EMS	ESD		IEC/EN61000-4-2 Contact ±4KV/Air ±8KV perf. Criteria A
	Radiated Susceptibility		IEC/EN61000-4-3 3V/m perf. Criteria A
	EFT/Bures		IEC/EN61000-4-4 ±2KV perf. Criteria A
	Surge		IEC/EN61000-4-5 line to line ±2KV/line to ground ±4KV perf. Criteria A
	Conducted Susceptibility		IEC/EN61000-4-6 10Vr.m.s perf. Criteria A
	Voltage Dips and Interruptions		IEC/EN61000-4-11 0%, 70% perf. Criteria B
	1. The power supply should be considered as a part of the components within the electrical equipment, belonging to accessories, rather than an independent device 2. When conducting radiation testing, the test sample should be placed on a metal plate with a length of 80cm, width of 50cm, and thickness of 2mm for testing. The power supply should cooperate with the load equipment to conduct overall electromagnetic compatibility related tests. 3. When conducting conduction/radiation related tests, pure resistive loads should be used		
Insulation Impedance		I/P-O/P,I/P-FG,O/P-FG:100M Ohms /500VDC /25°C /70%RH	
Leakage Current		≤ 2.5MA/AC240V	
Withstand Voltage		Input and output: 2500VAC Input and ground: 1500VAC Between output end and housing: 500VAC EN IEC 62368-1:2020+A11:2020	
Other	Heat Dissipation Mode	Fan heat dissipation (temperature control automatic speed regulating fan,double fan, internal air blowing mode)	
	Cooling Fan Noise Value	In an indoor environment of around 20-25 decibels, when the two fans rotate at full speed, a measurement of around 35 decibels is made at a distance of 1 meter from the power supply	
	Working Temperature	-30°C - 40°C . Overheating can cause a decrease in power, please refer to the temperature load reduction curve in the following text	
	Working Humidity	20~90% RH non condensing	
	Size	Length 280mm * width 140mm * height 65mm	
	Weight	2.3kg (excluding package and accessories)	
	Installation Hole Position	Length spacing: 228mm Width spacing: 158mm Use matching mounting brackets (can only be installed parallel, not side mounted)	
Tips	1. Pay attention to ventilation and heat dissipation during use. Do not install the power supply in a fully sealed box. The heat dissipation outlet of the power supply and the fan inlet cannot be blocked by objects. 2. For indoor use only. This type of power supply is not rainproof, waterproof, or dustproof, and is not suitable for outdoor use 3. Reduce output power when using AC110V low voltage power supply 4. When the altitude exceeds 2000 meters (6500 feet), the ambient temperature decreases proportionally every 5°C /1000m 5. Multiple power sources cannot be used in parallel		



L Live wire of AC input

N Zero line of AC input

⏏ Ground wire

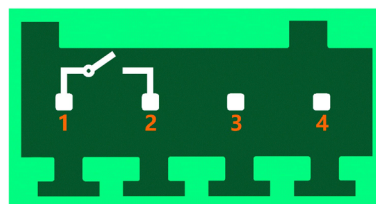
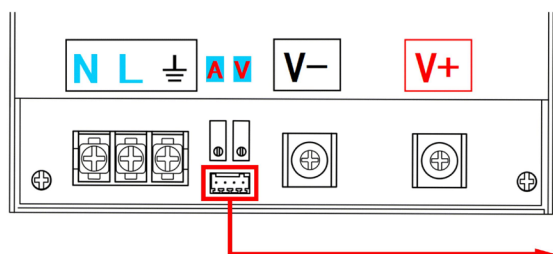
V- Negative pole of DC output voltage

V+ Positive pole of DC output voltage

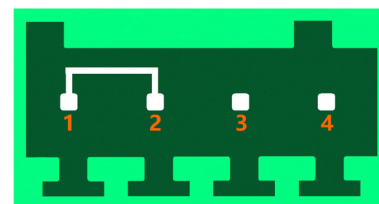
Adjustable resistance V: Output voltage regulation

Adjustable resistance A: Output current regulation

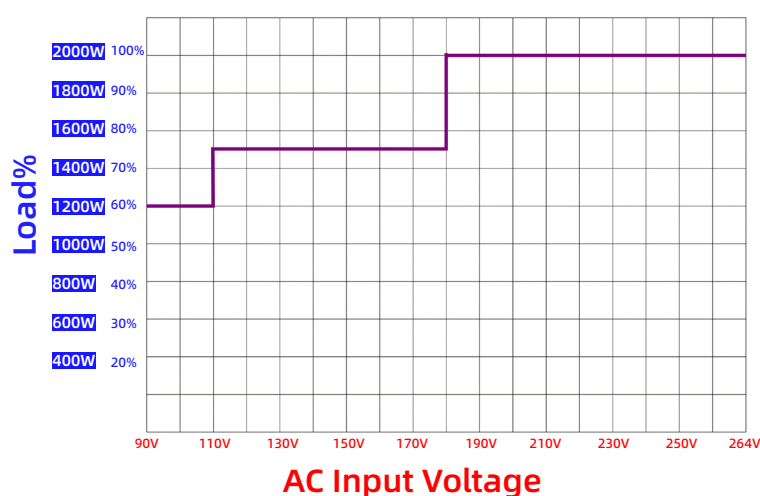
 PS-ON and 485 communication interface



1	PS-ON	PS-ON open circuit: The power supply has voltage output
2	PS-ON	
3	RS-485-B	485 communication interface
4	RS-485-A	

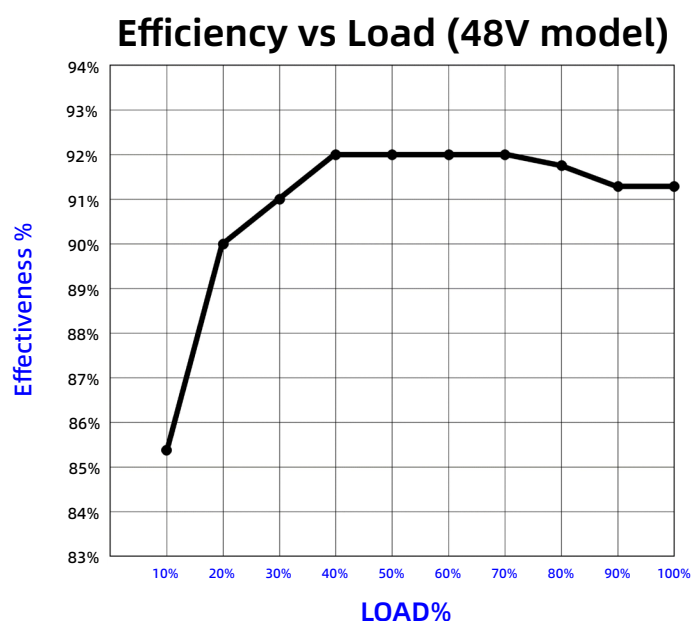
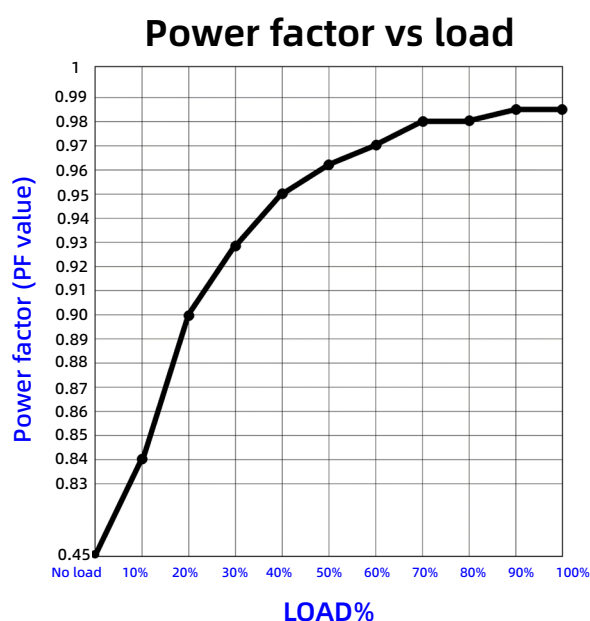
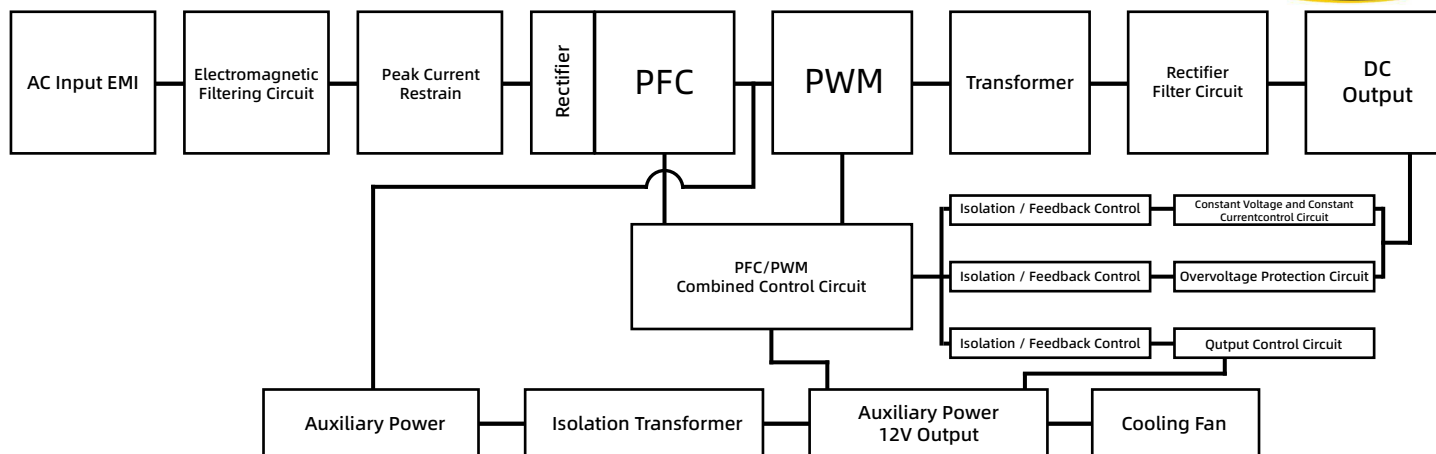


1	PS-ON	PS-ON short circuit: No voltage output from the power supply
2	PS-ON	
3	RS-485-B	485 communication interface
4	RS-485-A	



Model		24V	36V	42V	48V	60V	72V	110V	150V
AC 180-240V INPUT	Output Power	2000W	2000W	2000W	2000W	2000W	2000W	2000W	2000W
	Output Current	83.3A	55.5A	47.6A	41.7A	33.3A	27.8A	18.2A	13.3A
AC 100-179V INPUT	Output Power	1500W	1500W	1500W	1500W	1500W	1500W	1500W	1500W
	Output Current	62.5A	41.6A	35.7A	31.2A	25A	20.8A	13.6A	10A
AC 88-109V INPUT	Output Power	1200W	1200W	1200W	1200W	1200W	1200W	1200W	1200W
	Output Current	50A	33.3A	28.6A	25A	20A	16.7A	10.9A	8A

Tip: Use AC110V power supply and output automatic current limiting (Refer to the parameters in the table above)



The above parameters were measured at an AC 230V input voltage.

