

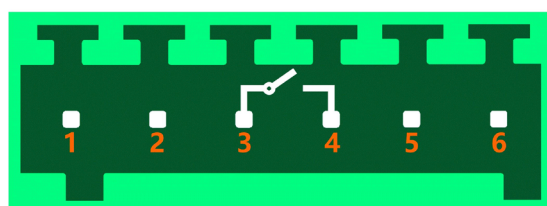
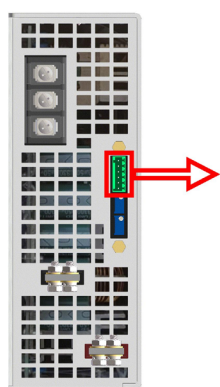
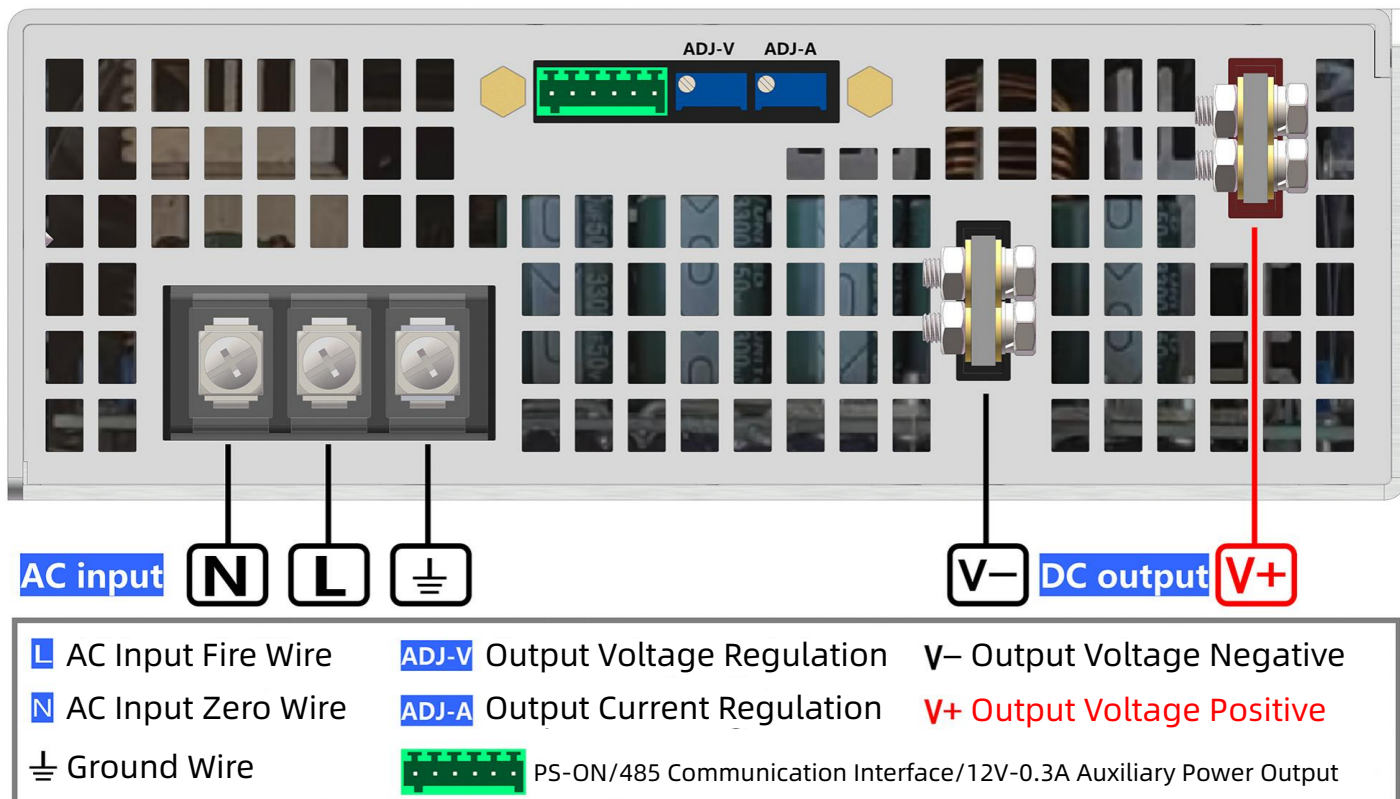
SA-PFC-3000 3000W With Active PFC Series Switching Power Supply



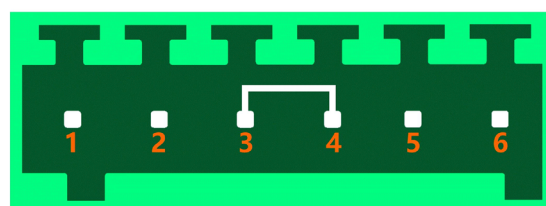
- ◆ With active PFC power factor correction function
- ◆ AC 110-260v wide voltage input
- ◆ Constant pressure and current function
- ◆ Control function of the ps-On output voltage
- ◆ Multilayer board process (4-layer PCB)

Model			SA-PFC 3000-24	SA-PFC 3000-36	SA-PFC 3000-48	SA-PFC 3000-60	SA-PFC 3000-72	SA-PFC 3000-110	
Output Parameters	DC Output Voltage		24V	36V	48V	60V	72V	110V	
	AC 220V Input	Rated Output Current	125A	83.3A	62.5A	50A	41.6A	27.3A	
		Rated Output Power	3000W	3000W	3000W	3000W	3000W	3000W	
		Efficiency	89%	91.2%	91.6%	92%	92.3%	93.2%	
	AC 110V Input	Rated Output Current	91.7A	61.1A	45.8A	36.7A	30.6A	20A	
		Rated Output Power	2200W	2200W	2200W	2200W	2200W	2200W	
		Efficiency	87.2%	88.5%	89.5%	90%	90.6%	91.3%	
		Tip: When using AC110V input, the output will automatically limit current and the power will automatically decrease to 2200W							
	Voltage Regulation Range		14-24.5V	21-36.5V	27-48.5V	34-60.5V	41-72.5V	62-111V	
			The voltage is lowered, the maximum current remains the same, and the output power will decrease						
	Output Overvoltage Protection Value		32V	48V	64V	80V	94V	156V	
			After overvoltage protection, the output is turned off and will not automatically recover Disconnect the input power supply, wait for 5 seconds, and then power on again to recover						
	Ripple (full load)		170mv	180mv	200mv	220mv	230mv	300mv	
	Maximum Capacitive Load		40000uF	30000uF	20000uF	15000uF	10000uF	5000uF	
	Load adjustment rate		±1%	±1%	±1%	±1%	±1%	±1%	
	Voltage Accuracy		±3%	±3%	±3%	±3%	±3%	±3%	
	Start up, Rise time		3S/60ms (AC220V input, at full load) 8S/60ms (AC110V input, at full load)						
	Hold up time		8ms (at full load)						
	Output wiring Method		Copper strip terminal, M5 nut seat , Need to use a power supporting copper terminal wiring						
	1. Efficiency This parameter is measured under 100% full load conditions, the efficiency is not a constant value (refer to the following efficiency VS load graph)								
	2. Wave and noise measurement Method: Use 12 "twisted pair, output terminal parallel 0.1uf and 47uf capacitors, the oscilloscope bandwidth is limited to 20 Mhz.								
Input Parameters	Input Voltage		AC 100-264V (When the input voltage is low, the output will automatically limit the current and reduce the power)						
	Frequency Range		47-63Hz						
	Input Current (maximum value)		Full load 3000W output, use 220VAC input 16A Full load 2200W output, use 110VAC input 22A (AC 110V input, the maximum power is limited to 2200W)						
	Leakage current		≤ 2.5MA/AC230V						
	Power factor (PF value)		Use the AC220V input and power 100% full load,Power factor ≥ 0.97 (refer to PF value in the figure below) Use the AC110V input and power 100% full load,Power factor ≥ 0.98 (refer to PF value in the figure below)						
	Input Wiring Method		3PIN KF78 spacing 14mm PCB fence type wiring terminal with protective cover						
	Surge Current		Cold start 220VAC/60A 110VAC/33A						
Function	PS-ON		PS-ON Terminal short circuit: power off output voltage PS-ON Terminal open: turn on the output voltage (Default is open) Note: When the output voltage is turned off, the power is in low power standby state (standby power 17 watts), only only the auxiliary power supply circuit is working, the heat dissipation fan is working properly. It is not disconnected from the 220V input.						
	Output Voltage Regulation		Output voltage adjustable, Adj-V potentiometer manually adjustment						
	Output Current Adjustment		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)						
	Auxiliary Voltage Output		This machine provides a 12V-0.3A auxiliary voltage output						
	485 Communication		This machine has 485 communication function						

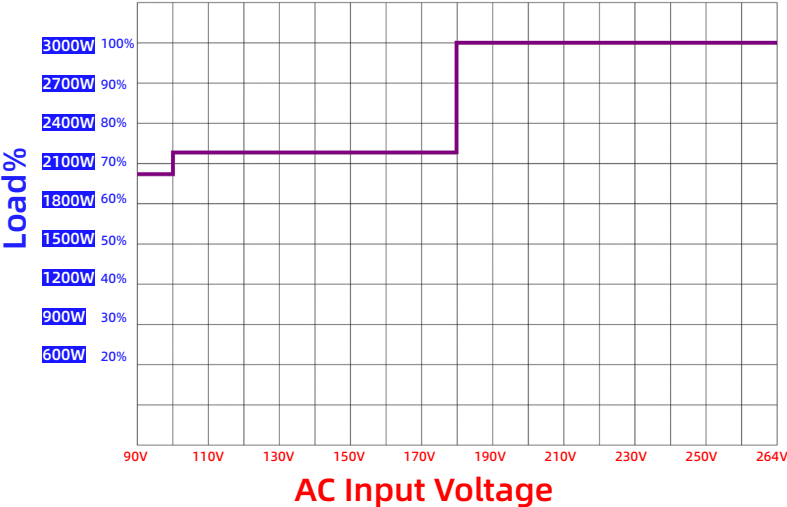
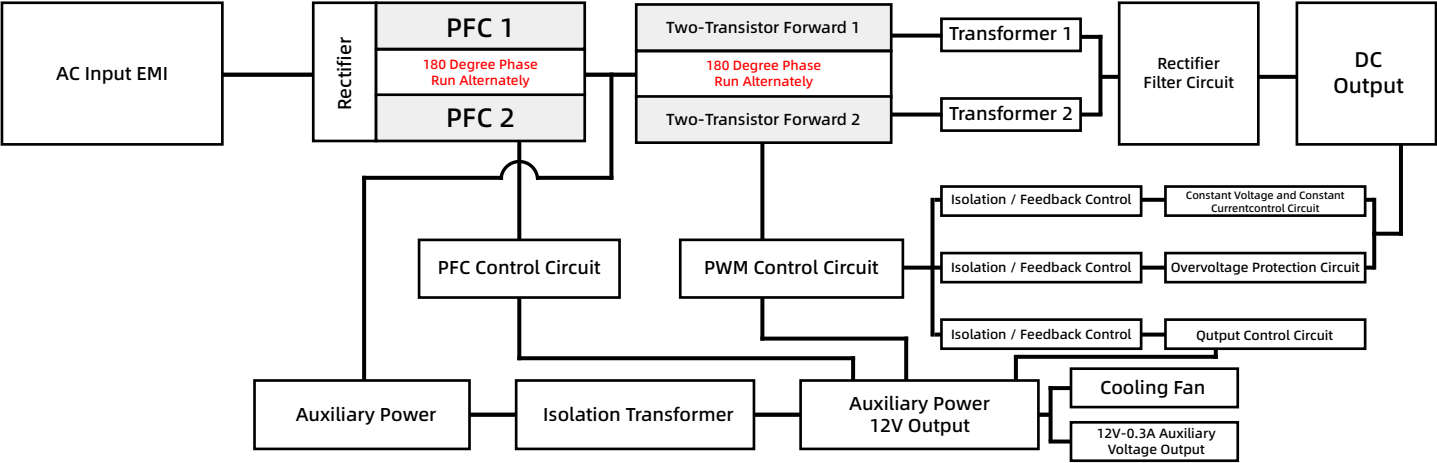
Protection Function	Output Overvoltage Protection	When there is a voltage at the output end that is higher than the overvoltage protection point of the power supply (refer to the overvoltage point parameters in the table above), the overvoltage protection function is triggered. The power supply shuts off the output voltage and will not automatically recover. To disconnect the input power supply, wait for at least 5 seconds and then power on again to recover		
	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℃ , the temperature derating function will not be activated The ambient temperature is 50-60℃ , and the output is automatically limited to 80% power The ambient temperature is 60-70℃ , and the output is automatically limited to 50% power The ambient temperature exceeds 70℃ and there is no output. When the temperature drops below 50℃ degrees Celsius, it will automatically recover		
	Fan Failure Protection	Either of the two cooling fans does not rotate or the fan is not detected,power supply has no output voltage		
	Input Undervoltage Protection	Input voltage below AC178V , output automatic current limiting (reduce output power to 2200W) Input voltage below AC100V , output automatic current limiting (reduce output power to 2000W) Input voltage below AC88V , power supply cannot start		
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 60cm, and thickness of 2mm for testing. The power supply should cooperate with the load equipment to conduct overall electromagnetic compatibility related tests.			
Safety Standard	Insulation resistance	I/P-O/P,I/P-FG,0/P-FG:100M Ohms /500VDC /25℃ /70%RH		
	Withstand Voltage	Input and output: 2500VAC Input and ground: 1500VAC Between output end and housing: 500VAC EN IEC 62368-1:2020+A11:2020		
Environment	Operating Temperature	-30-45° C can be used in 100% full power, more than this temperature range to reduce the output power (refer to the temperature drop curve below)		
	Storage Temperature, Humidity	-40~+55℃, 20-90%RH		
	Altitude	Only used in 2500m altitude		
Other	Heat Dissipation Mode	Fan heat dissipation (temperature control automatic speed regulating, 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 50 decibels is made at a distance of 1 meter from the power supply		
	Shell Size	294mm long (45mm extension outside the terminal) * Width 185mm * height 65mm		
	Install Fixing Hole	(Horizontal installation) length spacing: 236mm width spacing: 205mm (reference dimension)		
	Weight	Weight 3.4kg		
Warning	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. When the altitude exceeds 2000 meters (6500 feet), the ambient temperature decreases proportionally every 5℃ /1000m 4. Multiple power sources cannot be used in parallel			



1	RS-485-A	485 Communication Interface
2	RS-485-B	
3	PS-ON	PS-ON Open Circuit: No Voltage Output
4		
5	GND	12V-0.3A Auxiliary Voltage Output
6	+12V	



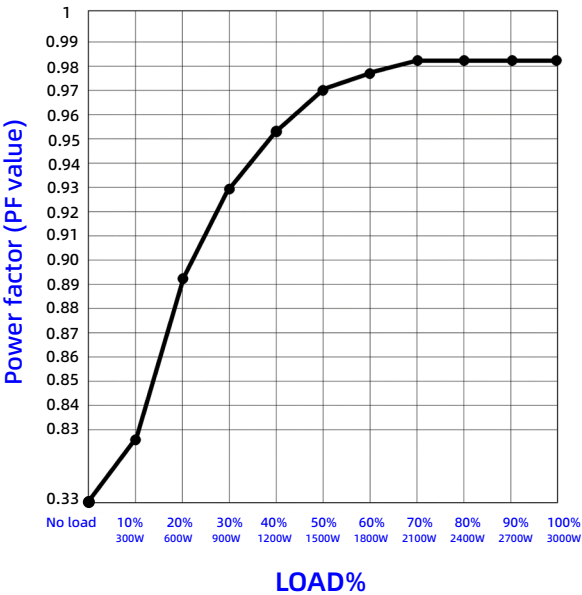
1	RS-485-A	485 Communication Interface
2	RS-485-B	
3	PS-ON	PS-ON Short Circuit: There is Voltage Output
4		
5	GND	12V-0.3A Auxiliary Voltage Output
6	+12V	



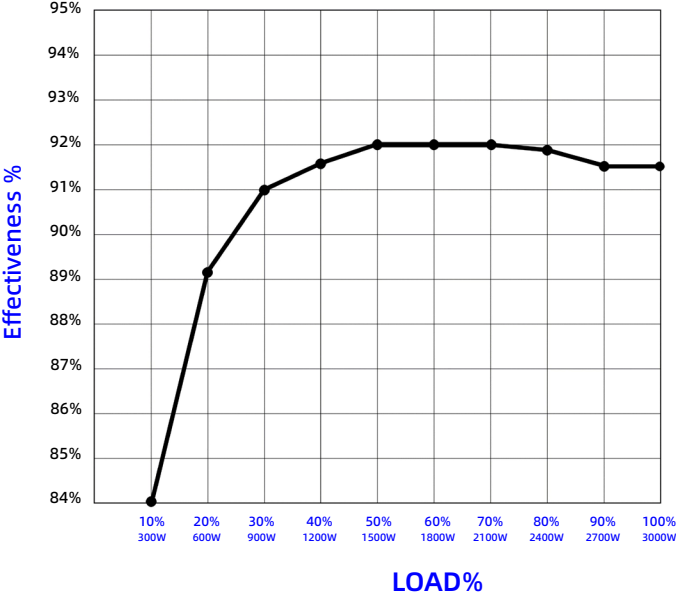
Input Voltage \ Model		24V	36V	48V	60V	72V	110V
		Output Power	Output Current	Output Power	Output Current	Output Power	Output Current
AC 180-264V INPUT	Output Power	3000W	3000W	3000W	3000W	3000W	3000W
	Output Current	125A	83.3A	62.5A	50A	41.6A	27.3A
AC 100-179V INPUT	Output Power	2200W	2200W	2200W	2200W	2200W	2200W
	Output Current	91.7A	61.1A	45.8A	36.7A	30.6A	20A
AC 90-99V INPUT	Output Power	2000W	2000W	2000W	2000W	2000W	2000W
	Output Current	83.3A	55.5A	41.6A	20.8A	33.3A	18.2A

Tip: When using low-voltage AC110V input, the output current will automatically decrease (refer to the current parameters in the table above)

Power factor vs load



Efficiency vs Load (48V model)



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

Environmental temperature power reduction curve

