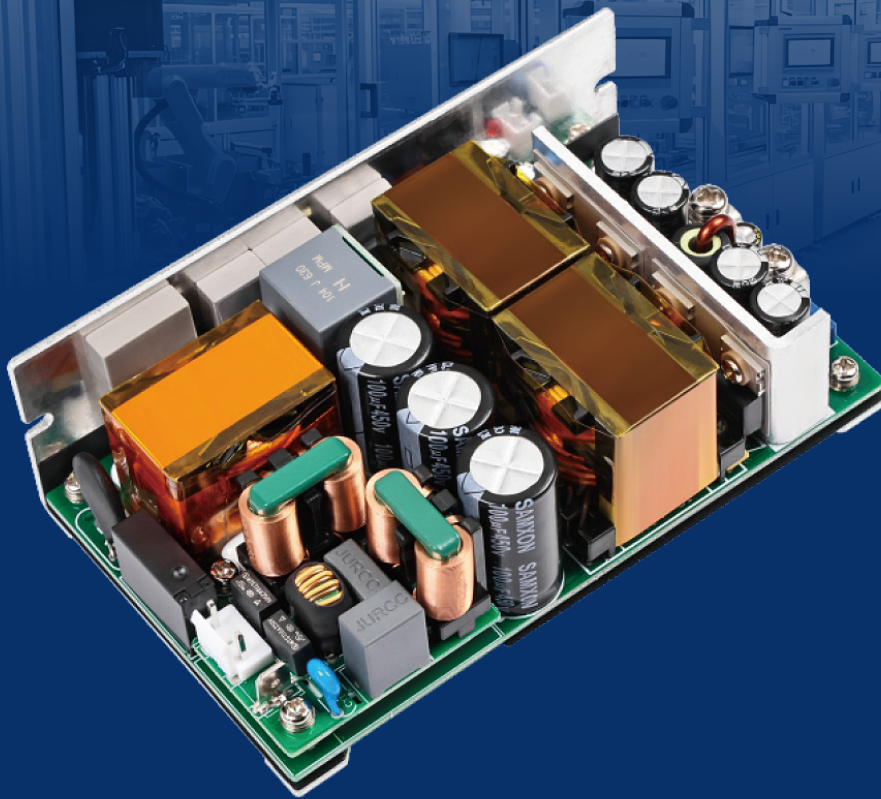


# TPS-GSH750S Series

Single Output Open Frame Power Supply





### Features

- Aluminum enclosure LxWxH: 127X76.2X40mm
- Natural cooling: 500W
- Forced convection: 750W(12V 25CFM)
- Wide input voltage range: 85-277VAC/120-390VDC
- Compact size: 5"x3" inches
- Constant current+constant voltage output
- Active PFC function
- LED indicator light
- Output voltage adjustment
- -25°C~+70°C Operating temperature
- Isolation voltage: 3750VAC
- High liability, long lifespan, 3-year warranty
- Input undervoltage protection, output short circuit protection, overcurrent/overvoltage protection, overtemperature protection

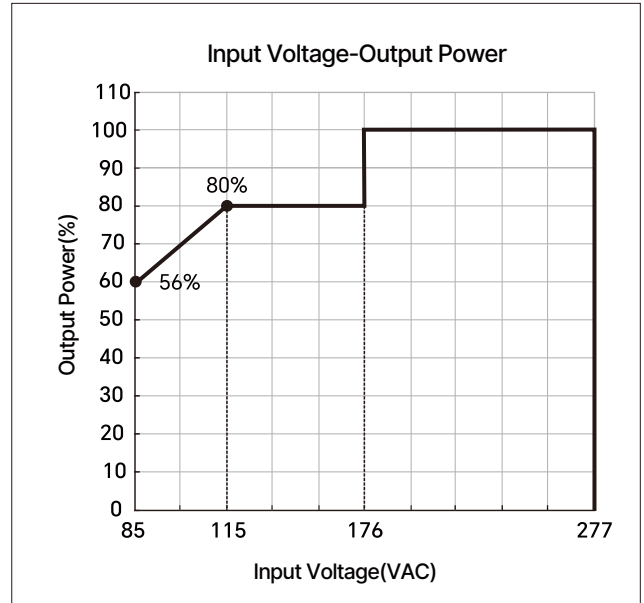
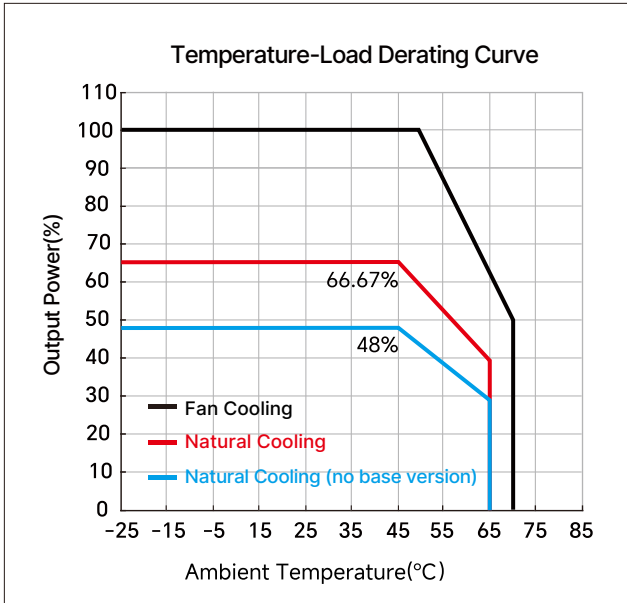
This series is a 750W output power AC-DC switching power supply with an input voltage range of 85-277VAC or 120-390VDC, it offers both constant current and constant voltage output modes, available in 12V, 19V, 24V, 27V, 36V, and 48V output voltages. With efficiency up to 95%, it operates reliably in environments ranging from -25°C to +70°C. This series features comprehensive protection functions, complies with international safety regulations, and is suitable for applications in industrial automation machinery, industrial control systems, communication equipment, LED systems, smart home technology, electronic instruments, and medical equipment.

### Specifications

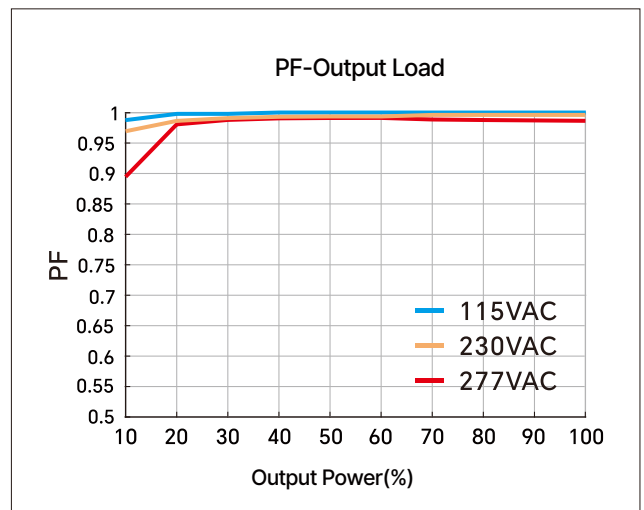
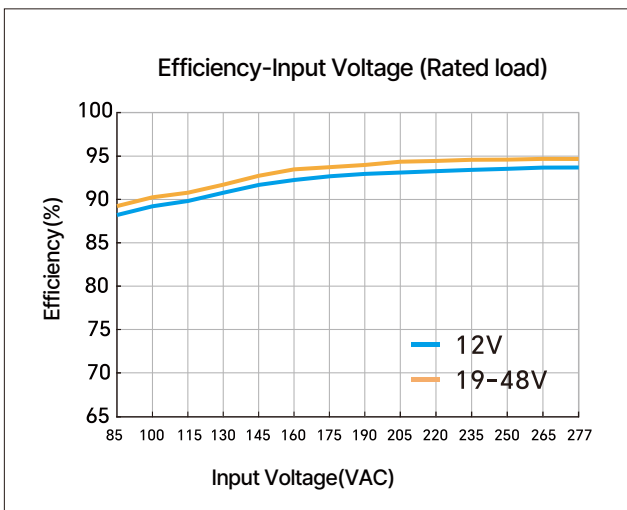
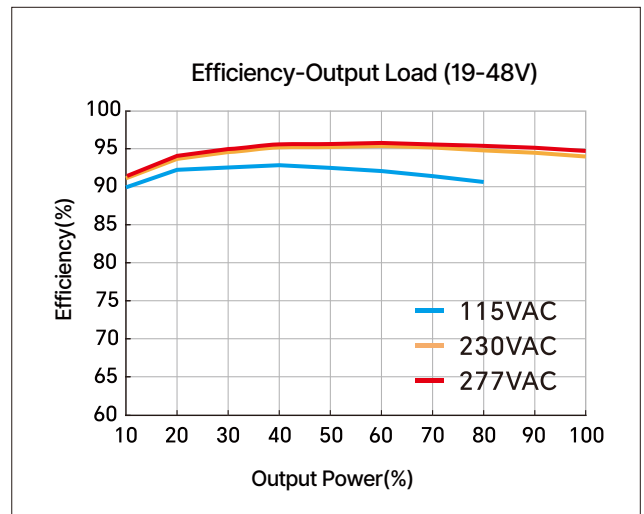
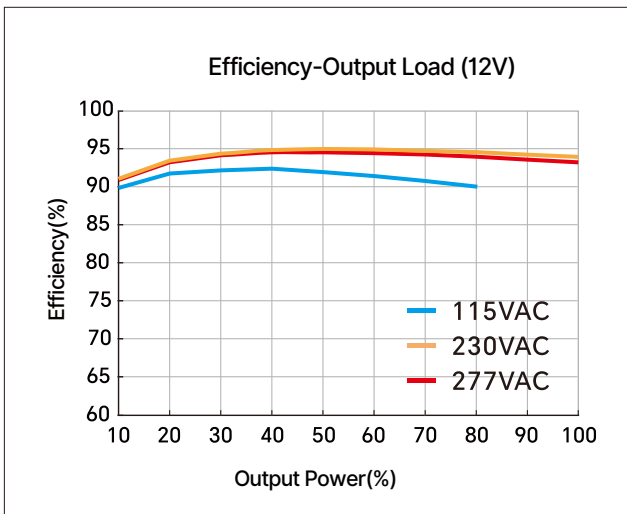
Model	Cooling Method	Output Power*	Rated Output Voltage/Current(Vo/Io)	Input Voltage Range	Efficiency (Typ.)*	Output Voltage Adjustable Range	Output Current Adjustable Range	Max Capacitive Load at Room Temperature
TPS-GSH750S-12V	Natural cooling	360W	12V30A	85~176VAC/ 120~250VDC	91%	11.4~12.8V	20~80A	10000µF
	25CFM	600W	12V50A		90%			
	Air cooling	500W	12V41.67A	176~277VAC/ 250~390VDC	94%			
	25CFM	750W	12V62.5A		93%			
TPS-GSH750S-19V	Natural cooling	360W	19V18.95A	85~176VAC/ 120~250VDC	92%	18~20.5V	10~48A	8000µF
	25CFM	600W	19V31.58A		91%			
	Air cooling	500W	19V26.32A	176~277VAC/ 250~390VDC	94.5%			
	25CFM	750W	19V39.48A		93.5%			
TPS-GSH750S-24V	Natural cooling	360W	24V15A	85~176VAC/ 120~250VDC	92%	22.8~27V	8~40A	6000µF
	25CFM	600W	24V25A		91%			
	Air cooling	500W	24V20.84A	176~277VAC/ 250~390VDC	95%			
	25CFM	750W	24V31.25A		94%			
TPS-GSH750S-27V	Natural cooling	360W	27V13.33A	85~176VAC/ 120~250VDC	92%	26~30V	8~40A	6000µF
	25CFM	600W	27V22.22A		91%			
	Air cooling	500W	27V18.52A	176~277VAC/ 250~390VDC	95%			
	25CFM	750W	27V27.78A		94%			
TPS-GSH750S-36V	Natural cooling	360W	36V10A	85~176VAC/ 120~250VDC	92%	34.2~39.6V	5~28A	5000µF
	25CFM	600W	36V16.67A		91%			
	Air cooling	500W	36V13.89A	176~277VAC/ 250~390VDC	95%			
	25CFM	750W	36V20.84A		94%			
TPS-GSH750S-48V	Natural cooling	360W	48V7.5A	85~176VAC/ 120~250VDC	92%	45.6~54V	4~20A	3000µF
	25CFM	600W	48V12.5A		91%			
	Air cooling	500W	48V10.42A	176~277VAC/ 250~390VDC	95%			
	25CFM	750W	48V15.63A		94%			
Notes	<p>1.* Under any steady-state conditions, the total output power of the product shall not exceed the rated total power. When the output voltage is increased, the total output power must not exceed the rated output power; furthermore, when the output voltage is increased by more than 5% of the rated voltage, the output power must be reduced to 80% of the rated power. When the output voltage is decreased, the output current must not exceed the rated output current.</p> <p>2.* Efficiency test conditions: 25°C ambient temperature, 230 VAC input; when testing full-load efficiency, the fan must be powered by an external power source, meaning the fan's power loss is not included in the input power.</p> <p>3.* Voltage regulation: Measured under rated load conditions as the input voltage varies from low to high.</p> <p>6.* For AC input, the L and N terminals are not polarized; for DC input, L is the positive terminal and N is the negative terminal.</p> <p>4.* Load Regulation: Measured as the output varies from 1% load to 100% load.</p> <p>5.* Accuracy: Includes setting error, voltage regulation, and load regulation.</p>							
Notes	<p>*This product does not support inductive loads such as motors, power amplifiers, or audio systems. For bulk orders, please contact customer service to request a custom solution. This product involves high-voltage electricity; please exercise caution to ensure electrical safety.</p>							

Electrical Specifications							
Model		TPS-GSH750S-12V	TPS-GSH750S-19V	TPS-GSH750S-24V	TPS-GSH750S-27V	TPS-GSH750S-36V	TPS-GSH750S-48V
Output	Rated voltage	12V	19V	24V	27V	36V	48V
	Current range (Natural cooling)	0-41.67A	0-26.32A	0-20.84A	0-18.52A	0-13.89A	0-10.42A
	Current range (25CFM Fan cooling)	0-62.5A	0-39.48A	0-31.25A	0-27.78A	0-20.84A	0-15.63A
	Output power (Natural cooling)	500W	500W	500W	500W	500W	500W
	Output power (25CFM Fan cooling)	750W	750W	750W	750W	750W	750W
	115 VAC at full load	90%	91%	91%	91%	91%	91%
	230 VAC at full load	93%	93.5%	94%	94%	94%	94%
	Ripple voltage	<100mVp-p	<100mVp-p	<150mVp-p	<150mVp-p	<200mVp-p	<200mVp-p
	Voltage adjustment range (Adjustable resistor)	11.4-12.8V	18-20.5V	22.8-27V	26-30V	34.2-39.6V	45.6-54V
	Adjustable current range (Adjustable resistor)	20-80A	10-48A	8-40A	8-40A	5-28A	4-20A
	Voltage accuracy	±1%					
	Voltage overshoot	<10%					
	Line regulations	±0.5%					
	Load regulation	±1%					
	Start-up time	1S (typ.)					
	Rise time	12ms (typ.)					
	Hold time	>10ms, 15ms (typ.) 115/230VAC, full load					
Input	Rated voltage	100-277VAC					
	Voltage range	85-277VAC (Refer to the input voltage derating curve)					
	Input frequency	Rated frequency 50/60Hz, operating range 47-63Hz					
	Power factor	>0.98 (full load 115/230Vac)					
	Input current(Max)	6.5A/115VAC, 4A/230VAC					
	No-load power consumption (Max)	≤2W (Minor low frequency noise at no/light load. Silent version customizable, no-load power ≤4W.)					
	Inrush current (Max)	Cold start: 20A/120VAC, 40A/240VAC					
	Touch current (Max)	0.1mA/240VAC					
Protection	Input undervoltage protection	60-85VAC ±10%					
	Output overcurrent protection	110%-180% of the rated output current, hiccup mode, auto-recovery					
	Output overvoltage protection	110%-125% of rated output voltage, output shut down, auto-recovery after restart					
	Output short-circuit protection	Hiccup mode, auto-recovery after short is removed					
	Overtemperature protection	Primary	Output shuts off, automatic recovery after temperature decreases				
Secondary		turn off output, when the temperature decreases, restart to restore operation					
Environment	Operating temperature & Humidity	-25~+70°C, 20%~90%RH non-condensing (Refer to temperature derating curve for use)					
	Storage temperature & Humidity	-40~+85°C, 10%-95%RH					
	Temperature coefficient	±0.03%/°C					
Safety EMC	Safety standards	MEET IEC/EN62368-1, GB4943.1, EN/ES60601-1, EN60335-1					
	EMC	CISPR32/EN55032 CLASS B, EN61000-4-2/3/4/6 CLASS B					
	Lightning surge protection	IEC/EN61000-4-5, line to line ±2kv, line to ground ±2KV					
	Withstand voltage	I/P-O/P: 3750VAC, I/P-FG: 1500VAC, O/P-FG: 1500V					
	Insulation resistance	I/P-O/P, I/P-FG, O/P-FG: >100M Ohm/500VDC					
Other	Fan Auxiliary Power	Voltage 12V+15%, current 0.5A (Voltage changes proportionally with output voltage adjustment)					
	Remote sense	When RS+ and RS- are connected to the client, they provide remote voltage compensation. If remote voltage compensation is not required, RS+ and RS- should be left floating and must not be shorted, don't connect a load directly.					
	Dimensions	LXWXH: 127X76.2X40mm (±1mm)					
	Weight	570±20g					
Notes	<ol style="list-style-type: none"> <li>Ripple &amp; Noise Test Method: Connect a 0.1µF ceramic capacitor in parallel with a 47µF electrolytic capacitor at the output terminal; set the oscilloscope bandwidth to 20 MHz.</li> <li>Unless otherwise specified, all values listed are typical values measured under 230 VAC input and an ambient temperature of 25°C.</li> <li>Output derating is required under low input voltage conditions; refer to the derating curve for details.</li> <li>The power supply shall be regarded as a component of the complete system. All EMC tests shall be performed with the test unit mounted on a 1 mm-thick metal plate measuring 360 mm × 360 mm. Electromagnetic compatibility verification of the power supply shall be conducted together with the end equipment.</li> </ol>						

### Product Characteristic Curve

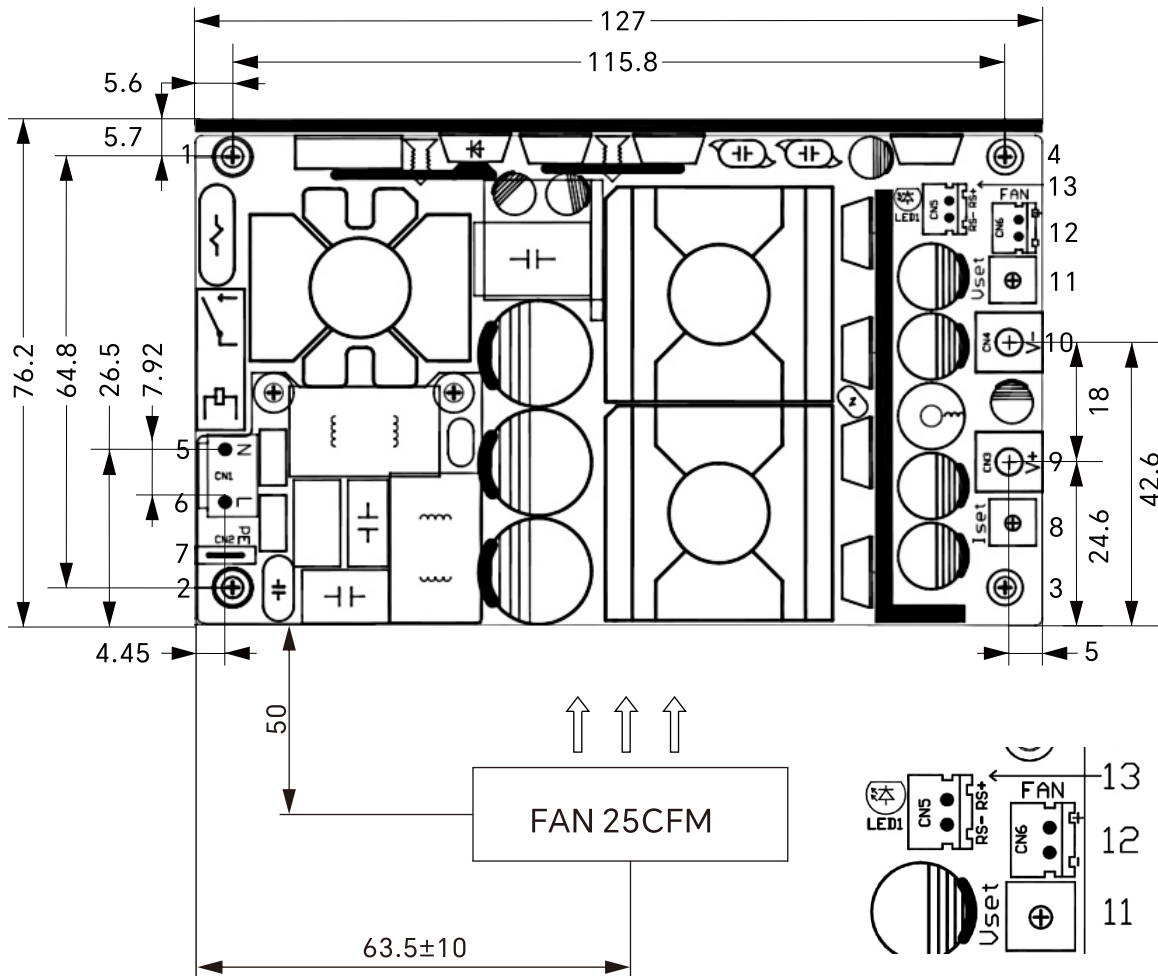


Note: For input voltages of 85~115VAC/120~162VDC, it is necessary to perform input voltage derating on the basis of temperature derating.



## Mechanical Dimensions

Unit: mm(±1mm)



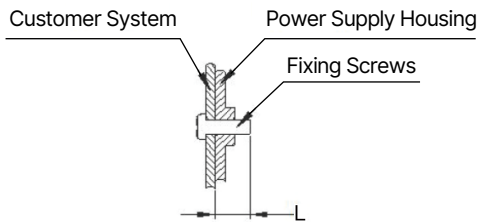
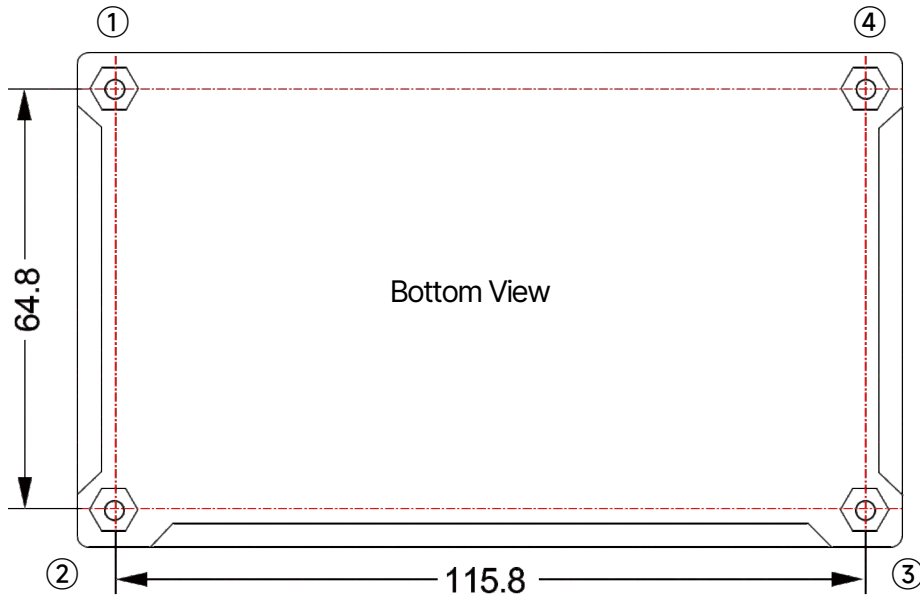
The cooling fan blows current directly from the side or top as shown in the picture

No.	Function	Client-side Connector
1,2,3,4	Mounting Holes	M3 screw, bottom mounting
5	Input Neutral / DC Negative	JST SVH-21T-P1.1 or VH3.96-3P hollow 1P wire harness
6	Input Live / DC Positive	
7	Ground Terminal	JST SPS-21T-250 or equivalent
8	Variable Resistor	Output current adjustment
9	Output Positive	
10	Output Negative	
11	Variable Resistor	Output voltage adjustment
12	Fan Terminal	XH2.54-2P male terminal or equivalent
13	Remote Sensing Terminal	XH2.54-2P male terminal or equivalent

1. Unit of dimension: mm
2. Dimensional tolerance: ±1 mm
3. Component layout for reference only; subject to actual product.
4. Keep a safety clearance between PCB edge and customer components; 10 mm recommended.

## External Dimensions

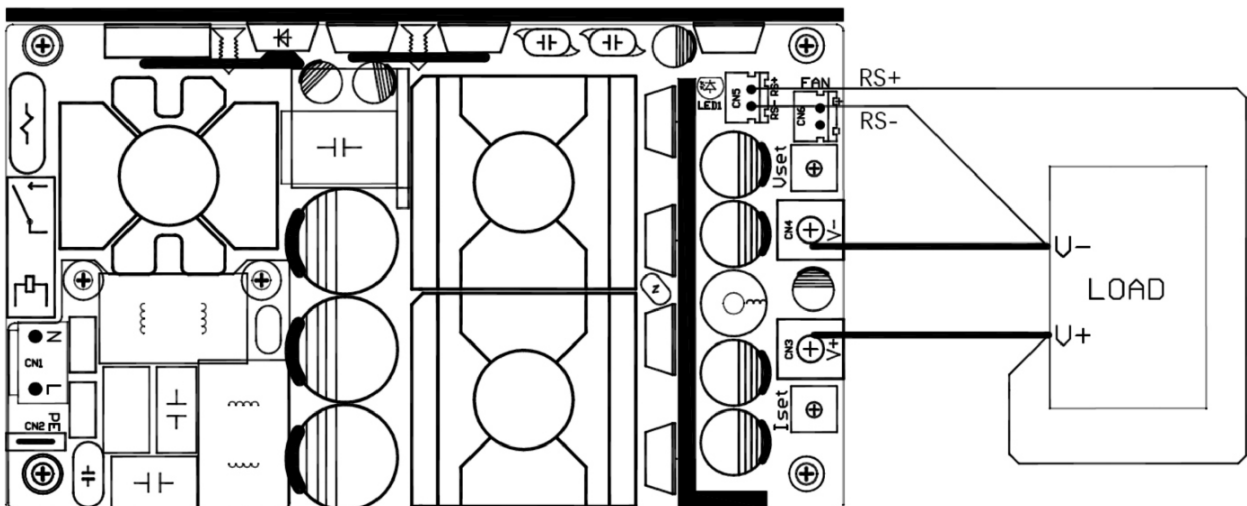
Unit: mm(±1mm)



Mounting Position	Screw Specification	L (Recommended)	Torque (Max.)
①~④	M3	2MM	0.4N.m

For bottom mounting, M3 screws are recommended for mounting holes No.1~4 on the base. Reserve space for a 2 mm screw penetration to ensure secure installation.

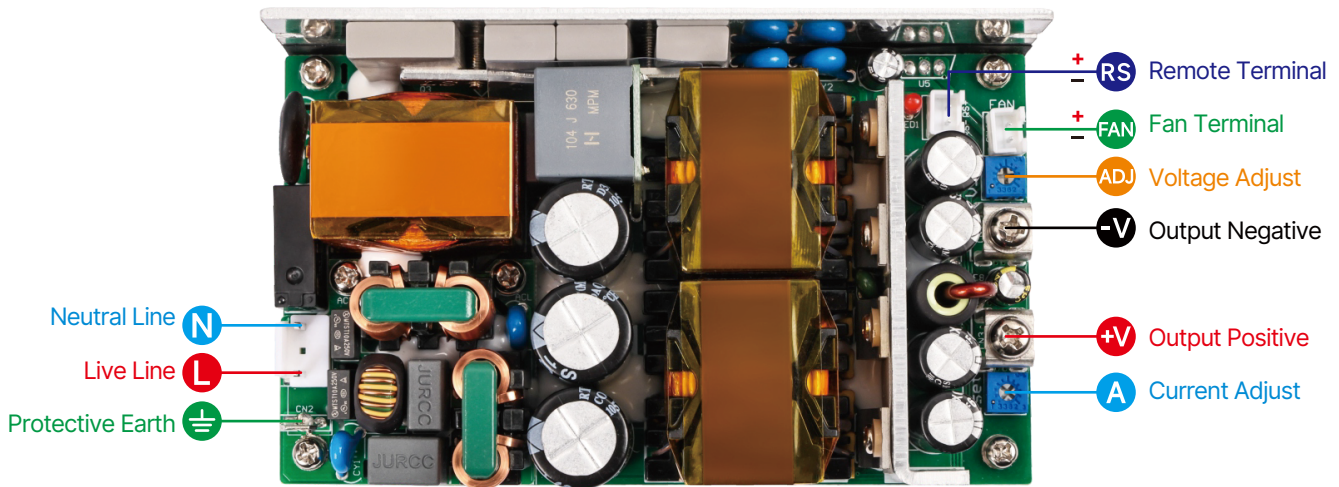
## Remote Sensing Function Wiring Diagram



### Notes:

- Do not short-circuit, reverse connect, or connect load independently to RS+ and RS-. Otherwise, the power supply will be damaged. If remote voltage compensation is not required, leave RS+ and RS- open-circuited.
- The remote sensing compensation function compensates for voltage drop on output cables, which equals the total voltage drop of the positive and negative output cables. The compensated voltage drop is recommended not to exceed 1V. Use thicker wires or shorten cable length to reduce voltage drop.
- Twisted pair wires shall be used for connections between signal terminals and load terminals when the remote sensing compensation function is activated.

### Wiring Schematic



Notes 1: Fan port specifications: Compatible with 12V 0.5A fan.

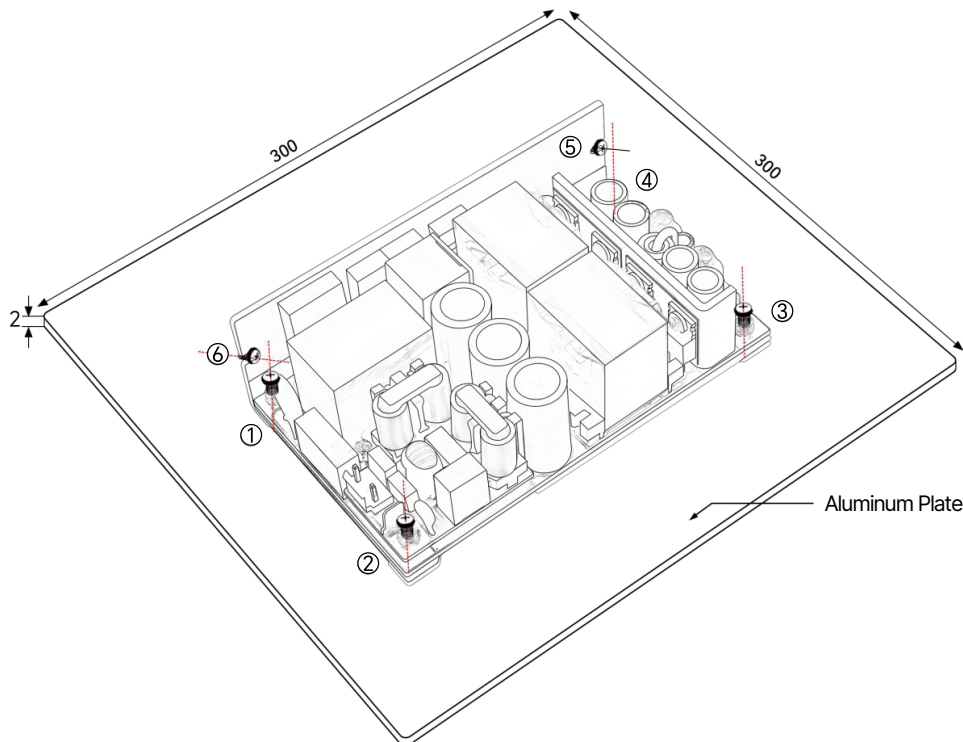
Notes 2: Do not short-circuit fan wiring. Confirm positive and negative terminals before wiring.

### Mounting Schematic

Unit: mm( $\pm 1$ mm)

#### External Aluminum Plate Installation

To comply with the derating curve, the unit must be mounted on a smooth aluminum plate with an equal or larger metal surface area. The recommended aluminum plate dimensions are shown in the figure below. For optimal heat dissipation, secure the power supply tightly at the center of the aluminum plate. If a fan is equipped, arrange it according to actual application conditions.



#### Bottom Mounting:

M3 screws are recommended for mounting holes No.1 to 4 on the bottom. Allow a 2 mm screw penetration within the reserved clearance to guarantee firm installation.

#### Front Mounting:

If the power module needs to be mounted from the front, remove the diagonally symmetric screws first, then use longer screws to fasten from the front. M3 screws are recommended. Select screw length according to actual application requirements to achieve stable installation of the power module.