

# User Manual

## 3000W 48Vdc Outdoor Power Supply

### 1. Overview

This compact outdoor rated AC to DC power supply offers flexible installation options for pole or wall mounting applications. It accepts AC input voltage range of 90-280VAC (AC) with an output voltage of 54VDC, up to 3000W maximum output power.

#### Key Features

- Scalability: flexible expansion capabilities to meet total output load requirements.
- Wide Input Voltage Range: high output efficiency with high voltage regulation accuracy and low ripple noise.
- Electrical Protection Features: comprehensive protection functions (including input undervoltage, over-temperature, output overvoltage, current limiting protection, and short circuit). Includes integral fuses for overcurrent protection and complies with relevant communication industry standards.
- Compact Design: small size, lightweight, strong heat dissipation, anti-interference shielding, and convenient for various installation scenarios.
- Robust Environmental Protection: environmental protection rating of IP65 supports installation and operation in harsh outdoor conditions.

### 2. Power Supply Technical Specifications

#### Input Specifications

- Input voltage range: 90~280VAC
- Nominal input voltage: 220VAC
- Input undervoltage protection:  $\leq 80$ VAC

#### Output Specifications

- Rated output voltage: 54VDC $\pm 1\%$
- Output power: 3000W (MAX)
- Conversion efficiency

Rated input voltage 220VAC	100% rated load efficiency: $\geq 96.00\%$
	75% rated load efficiency: $\geq 96.50\%$
	50% rated load efficiency: $\geq 96.50\%$
	30% rated load efficiency: $\geq 95.50\%$

- Electrical protection functions: Input undervoltage, output overvoltage, overcurrent, short circuit and overtemperature
- Cooling method: Natural cooling
- Environmental Protection Rating: IP65

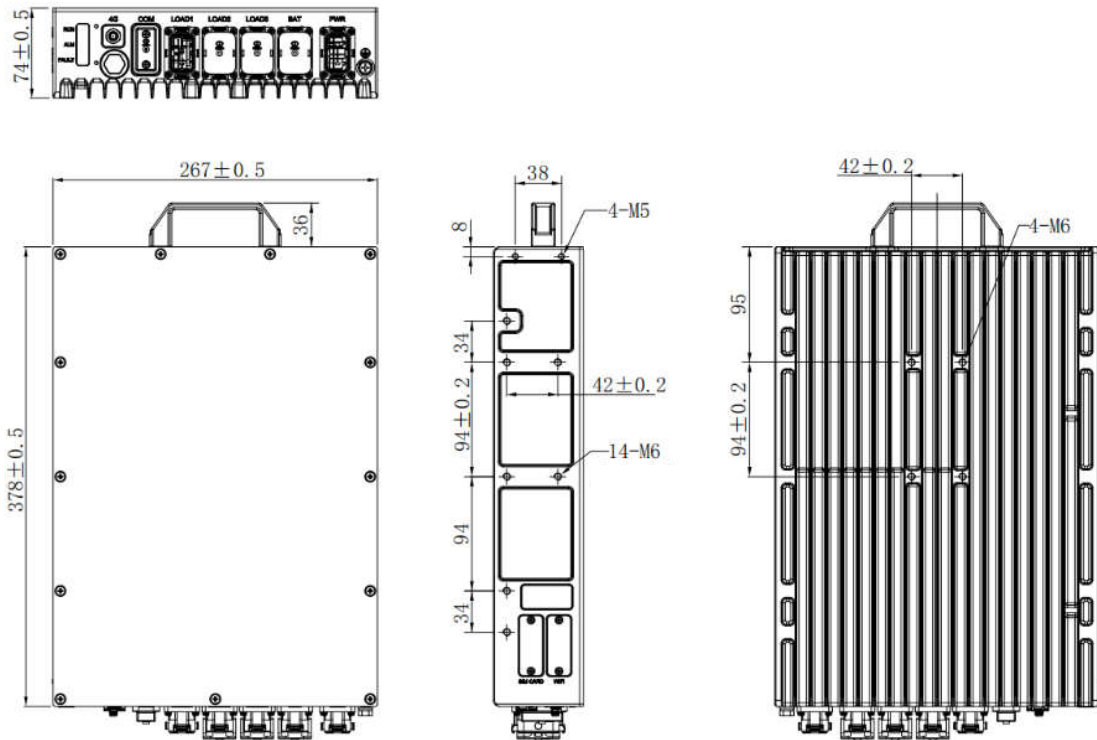
### Environmental Requirements

- Operating temperature: -40°C~+55°C (long-term operation)
- Storage temperature: -40°C~+80°C
- Relative humidity: 10-95% (non-condensing)
- Atmospheric pressure: 70~106kPa

### Equipment Dimensions and Weight

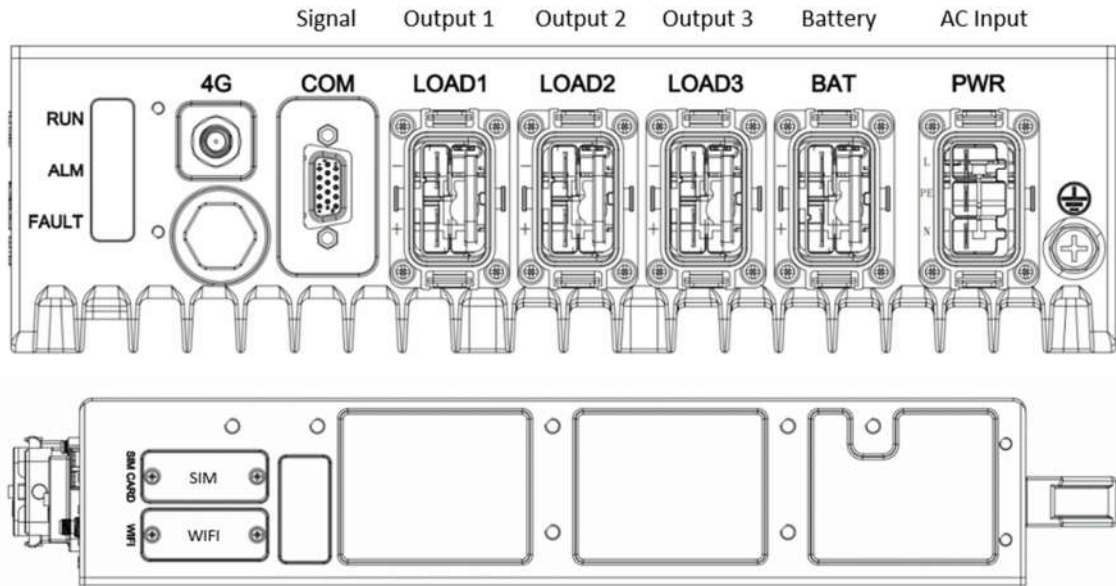
Dimensions: Waterproof enclosure 378\*267\*74 (mm)

Weight: ≤8kg



### 3. Wiring Pinouts

#### Power Terminal Definitions



#### Power Wiring Pinout

Pin		Pin	Signal Name	Signal Description
PWR	AC Input	L	L Line	Power
		PE	Ground Line	
		N	N Line	
BAT	Battery	-	Battery negative	
		+	battery positive	
LOAD3	DC Output3	-	Output negative	
		+	Output positive	
LOAD2	DC Output2	-	Output negative	
		+	Output positive	
LOAD1	DC Output1	-	Output negative	
		+	Output positive	

#### Signal Wiring Pinout

Signal port		Pin	Signal Name	Signal Description
COM	DB15	1	BX_RS485+	485+
		2	BX_RS485-	485-
		3	ALM1 +	Input fault dry contact
		4	ALM1 -	
		5	ALM2 +	Output fault dry contact

		6	ALM2 -	
		7	ALM3 +	Reserved
		8	ALM3 -	
		9	ALM4 +	Lightning protection failure dry contact
		10	ALM4 -	
		11	/	Reserved
		12	BAT_485+	Battery 485+
		13	BAT_485-	Battery 485-
		14	CAN+	Power bus CAN bus+
		15	CAN-	Power bus CAN bus-
4G	/	/	/	4G antenna
WIFI	/	/	/	WIFI antenna
SIM CARD	/	/	/	SIM card slot

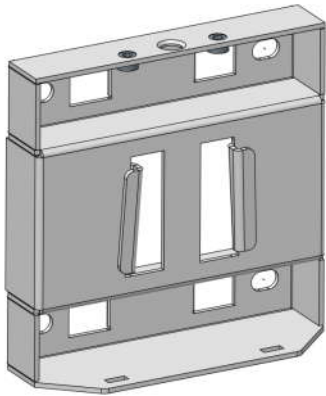
#### 4. Power Equipment Maintenance

- Install the power equipment in a well-ventilated, heat-dissipating location
- Keep a certain distance between the power equipment and other devices for heat dissipation
- Ensure no foreign objects are hanging or wrapping around the power equipment
- Regularly clean the dust on the power equipment's enclosure to avoid affecting heat dissipation
- Regularly check if the power equipment's fixing screws and installation screws are loose to maintain the equipment's sealing and installation safety
- Regularly check if the power equipment's waterproof caps on the inlet and outlet wires are loose to prevent water damage

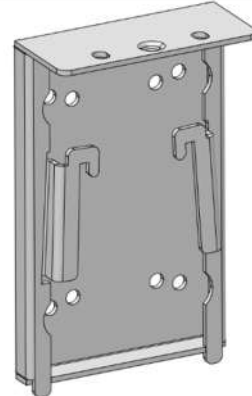
#### 5. Mounting Installation Instructions

##### Accessory List

No.	Part	Specification	Quantity
1	Pole & Wall Mounting Bracket	Pole & Wall Accessories	1
2	Power Installation Bracket	Pole & Wall Accessories	1
3	M6 Combination Screws	M6X14 Phillips Hex Stainless Steel Combination Screws	6
4	Expansion Screws	M8×80 Expansion Screws	4
5	Hose Clamp	Pole Accessories	2
6	Input Three-core Connector	A9903040-B-01-R/P ( 40A Taihua )	1
7	Output Two-core Connector	A9902050-B-01-R/P ( 50A Taihua )	3
8	Battery Two-core Connector	A9902063-B-01-R/P ( 60A Taihua )	1
9	Communication Connection Cable	DB Wire Harness Assembly	1
10	4G Antenna	4G Antenna	1

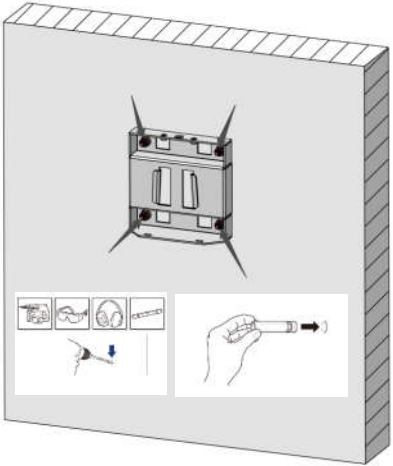
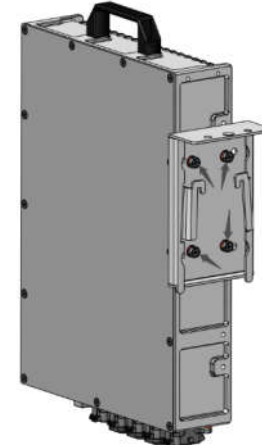
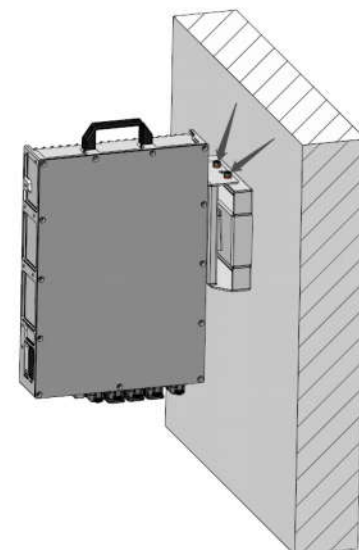
**Mounting bracket accessories**

(1) Pole &amp; wall mounting bracket

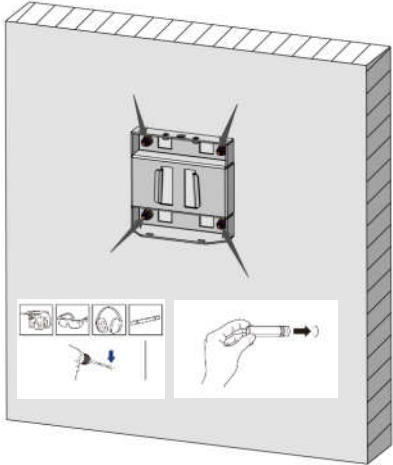

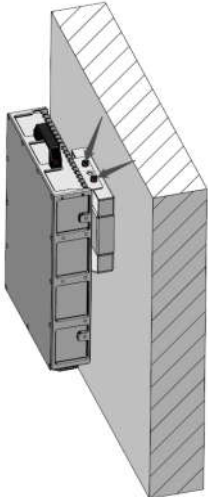
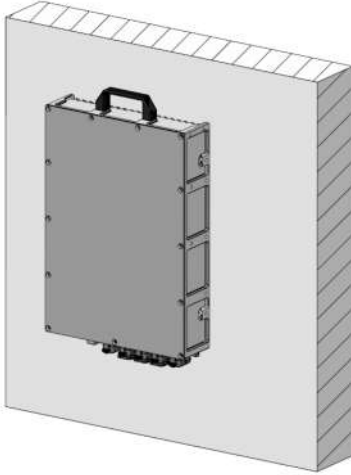


(2) Power supply mounting bracket

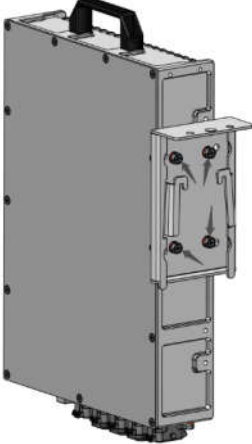
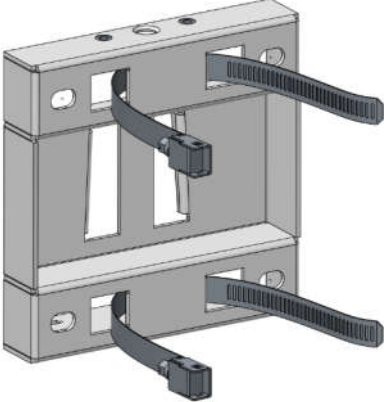

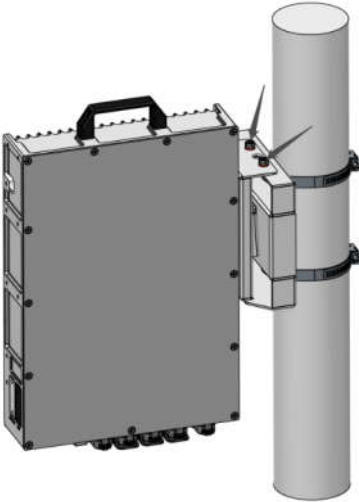
### Perpendicular Wall-Mount Perpendicular Installation Procedure

	<p>(1) Drill holes in the wall and fix four M8 expansion screws, then fix the pole &amp; wall mounting bracket to the wall.</p>
	<p>(2) Fix the power installation bracket to the side of the power supply using four M6X14 Phillips hex stainless steel combination screws.</p>
	<p>(3) Hang the power supply with the power installation bracket on the pole &amp; wall mounting bracket using the sliding rail, then secure it with two M6X14 Phillips hex stainless steel combination screws on top.</p>

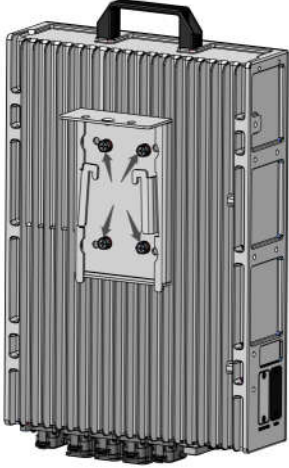
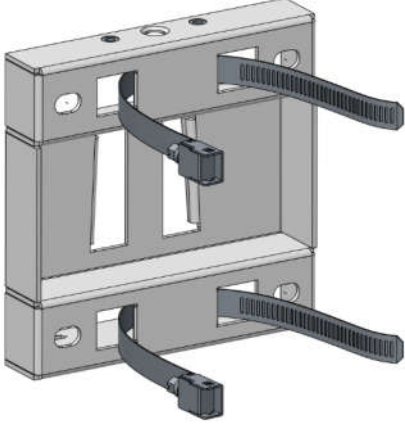

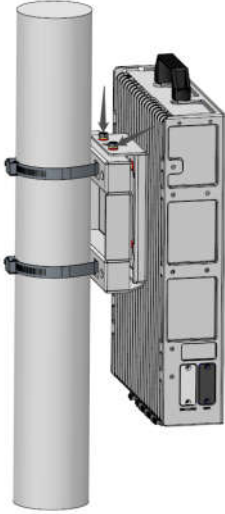
### Flat Wall-Mount Installation Procedure

	
<p>(1) Drill holes in the wall and fix four M8 expansion screws, then fix the pole &amp; wall mounting bracket to the wall.</p>	<p>(2) Fix the power installation bracket to the back of the power supply using four M6X14 Phillips hex stainless steel combination screws.</p>
	
<p>(3) Hang the power supply with the power installation bracket on the pole &amp; wall mounting bracket using the sliding rail, then secure it with two M6X14 Phillips hex stainless steel combination screws on top.</p>	

### Perpendicular Pole-Mount Installation Procedure


	
<p>(1) Fix the power installation bracket to the side of the power supply using four M6X14 Phillips hex stainless steel combination screws.</p>	<p>(2) Insert two hose clamps into the square holes of the pole &amp; wall mounting bracket.</p>
	
<p>(3) Fix the pole &amp; wall mounting bracket with hose clamps to the pole, and tighten the hose clamp screws.</p>	<p>(4) Hang the power supply with the power installation bracket on the pole &amp; wall mounting bracket using the sliding rail, then secure it with two M6X14 Phillips hex stainless steel combination screws on top.</p>

### Flat Pole-Mount Installation Procedure

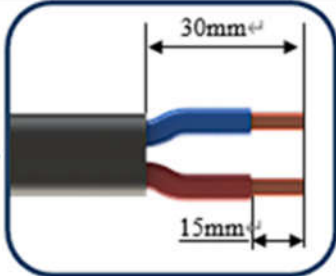

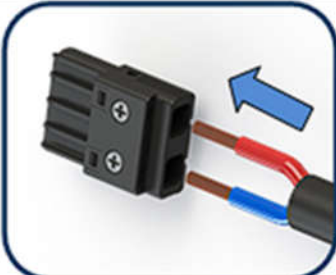
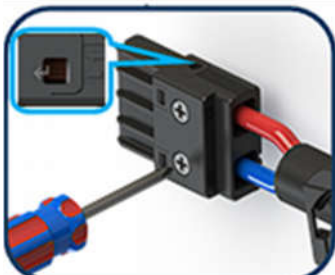
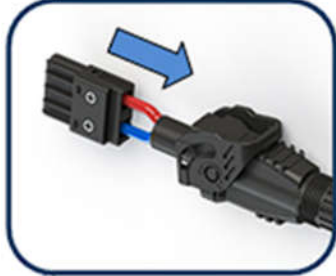


	
<p>(1) Fix the power installation bracket to the back of the power supply using four M6X14 Phillips hex stainless steel combination screws.</p>	<p>(2) Insert two hose clamps into the square holes of the pole &amp; wall mounting bracket.</p>
	
<p>(3) Fix the pole &amp; wall mounting bracket with hose clamps to the pole, and tighten the hose clamp screws.</p>	<p>(4) Hang the power supply with the power installation bracket on the pole &amp; wall mounting bracket using the sliding rail, then secure it with two M6X14 Phillips hex stainless steel combination screws on top.</p>

## Wiring Procedures

### AC service input three-core connector wiring

	
<p>(1) Strip the wire insulation according to the specified image dimensions.</p>	<p>(2) Pass the cable through the plug housing.</p>
	
<p>(3) Use a flathead screwdriver to push out the sliding shell.</p>	<p>(4) Connect the cable to the wiring module, verify the copper wires through the window, and slide the shell back to secure the cable.</p>
	
<p>(5) Insert the wiring module into the plug housing.</p>	<p>(6) Tighten the nut clockwise.</p>
	
<p>(7) Insert the cable plug into the socket, and snap the handle into place.</p>	

## Output load, battery two-core connector wiring

	
<p>(1) Strip the wire insulation according to the specified image dimensions.</p>	<p>(2) Pass the cable through the plug housing.</p>
	
<p>(3) Insert the wires into the positive and negative terminals of the wiring module.</p>	<p>(4) Connect the cable to the wiring module and tighten the screws.</p>
	
<p>(5) Insert the wiring module into the plug housing.</p>	<p>(6) Tighten the nut clockwise.</p>
	
<p>(7) Insert the cable plug into the socket, and snap the handle into place.</p>	

## Fuse Replacement

	
<p>(1) Press 'PRESS' to unlock.</p>	<p>(2) Open the handle.</p>
	
<p>(3) Unplug the connector, and pull out the fuse holder.</p>	<p>(4) Pull out the fuse holder.</p>
	
<p>(5) Follow the direction indicated by the arrows on the fuse holder, and remove the damaged fuse.</p>	<p>(6) Install the new fuse.</p>