PowMr 5600W 48V

PowMr 5600W Solar Inverter Off Grid Charger User Manual

Model: 5600W 48V

Brand: PowMr

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the PowMr 5600W Solar Inverter Off Grid Charger. This all-in-one hybrid inverter integrates solar energy storage, charging, and AC sine wave output, featuring DSP control and an advanced MPPT charging algorithm. It is designed to convert DC power from solar panels and batteries into stable AC power for various loads.



Figure 1.1: Front view of the PowMr 5600W Solar Inverter.

2. Product Features

- **All-in-One Hybrid Design:** Integrates solar energy storage, charging, and AC sine wave output with DSP control and advanced MPPT charging algorithm.
- **High Power Output:** 5600W 220Vac Off-Grid Solar Inverter, capable of handling up to 6000W 500V solar power input.
- **Efficient MPPT Charging:** Advanced MPPT charging technology ensures charging efficiency of 99.9%.
- **Flexible AC Output:** Single-phase 220VAC output. Supports split-phase operation for 380V AC output when three units are used.
- **Intelligent Cooling:** Features an intelligent variable speed fan for efficient heat dissipation, extending system life.
- **Battery Compatibility:** Supports 48V Lead-acid and Lithium batteries. Includes Battery Management System (BMS) communication for protection.
- **Configurable Battery Parameters:** 8 types of battery charging parameters are preset (SLd, FLd, GEL, Ternary lithium, LFP battery). All battery parameters can be customized by the user.
- **Parallel Functionality:** Supports parallel connection of up to six units, allowing for a maximum solar input of 6000W * 6 and AC power output of 5600W * 6.
- **Multiple Charging Modes:** Offers 4 charging modes: Solar Power Priority, Utility Power Priority, AC Power Priority, and Only Solar.
- **Load Output Priority:** Provides 3 output modes to prioritize power sources: Solar First, Utility First, or Battery First.

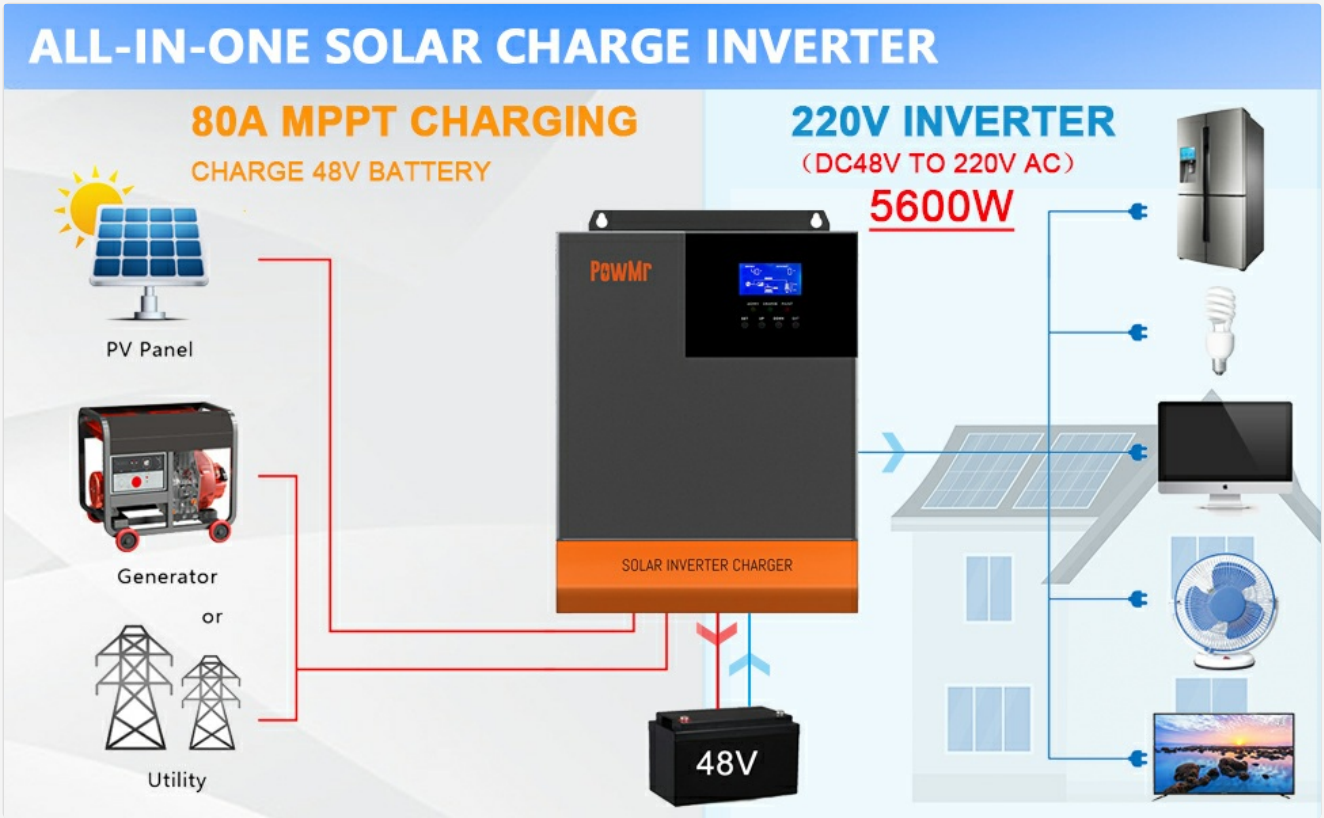


Figure 2.1: Overview of key product specifications and features.

3. What's in the Box

Upon unpacking, please verify that all items listed below are included and undamaged:

- PowMr 5600W Solar Inverter Unit
- User Manual (this document)

If any items are missing or damaged, please contact your vendor immediately.

4. Setup and Installation

4.1 Safety Precautions

Before installation, ensure the inverter is disconnected from all power sources. All wiring must be performed by qualified personnel in accordance with local electrical codes. Ensure proper grounding.

4.2 Physical Overview and Dimensions

The inverter features an LCD display, LED indicators, and control buttons on the front panel. The rear panel includes various connection ports for AC input/output, solar panels, and batteries.



Figure 4.1: Inverter dimensions and control panel layout.

4.3 System Connection Diagram

The inverter can be integrated into a solar power system with or without a utility grid connection, and can also utilize a generator as an AC input source. Ensure all connections are secure and correctly polarized.

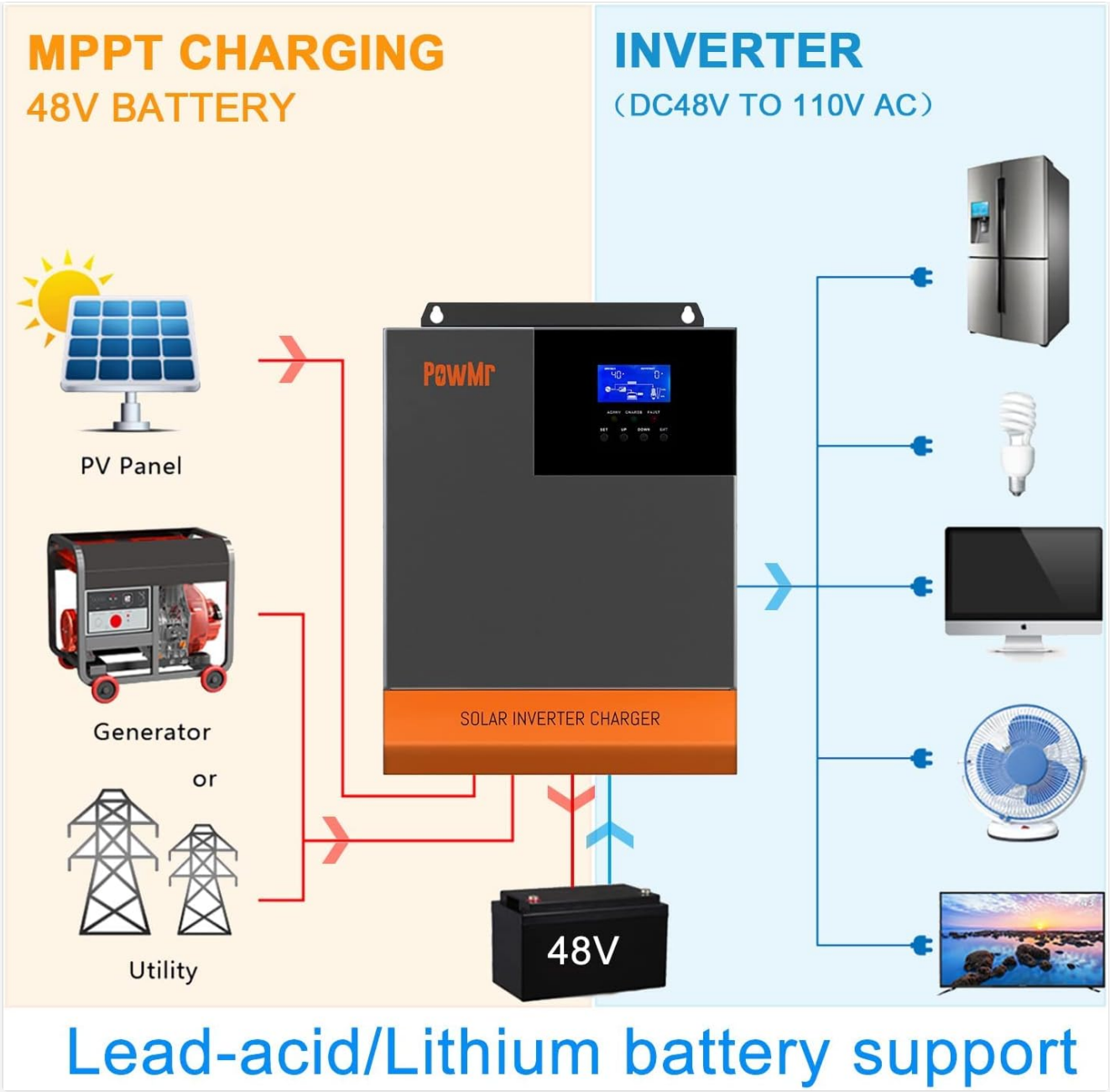


Figure 4.2: Basic system connection overview.

4.4 Detailed Wiring Instructions

Follow the detailed wiring diagram for connecting solar panels, batteries, AC input (utility or generator), and AC output to your loads. Use recommended cable sizes and circuit breakers for safety and optimal performance.

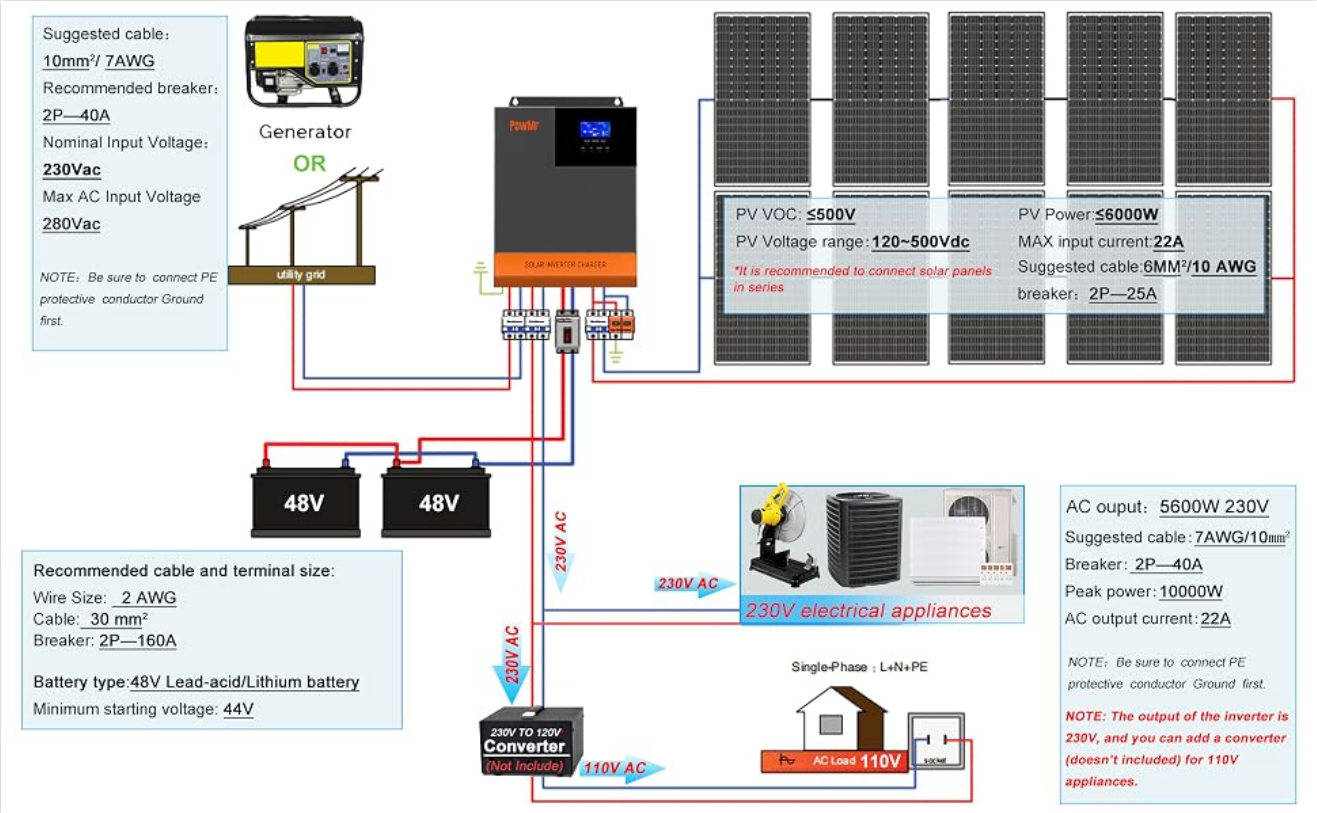


Figure 4.3: Comprehensive wiring diagram for the 5600W inverter.

4.5 Parallel Connection

For increased power output, up to six PowMr 5600W inverters can be connected in parallel. Ensure each inverter connects to separate PV modules and that communication connections are properly established between units.

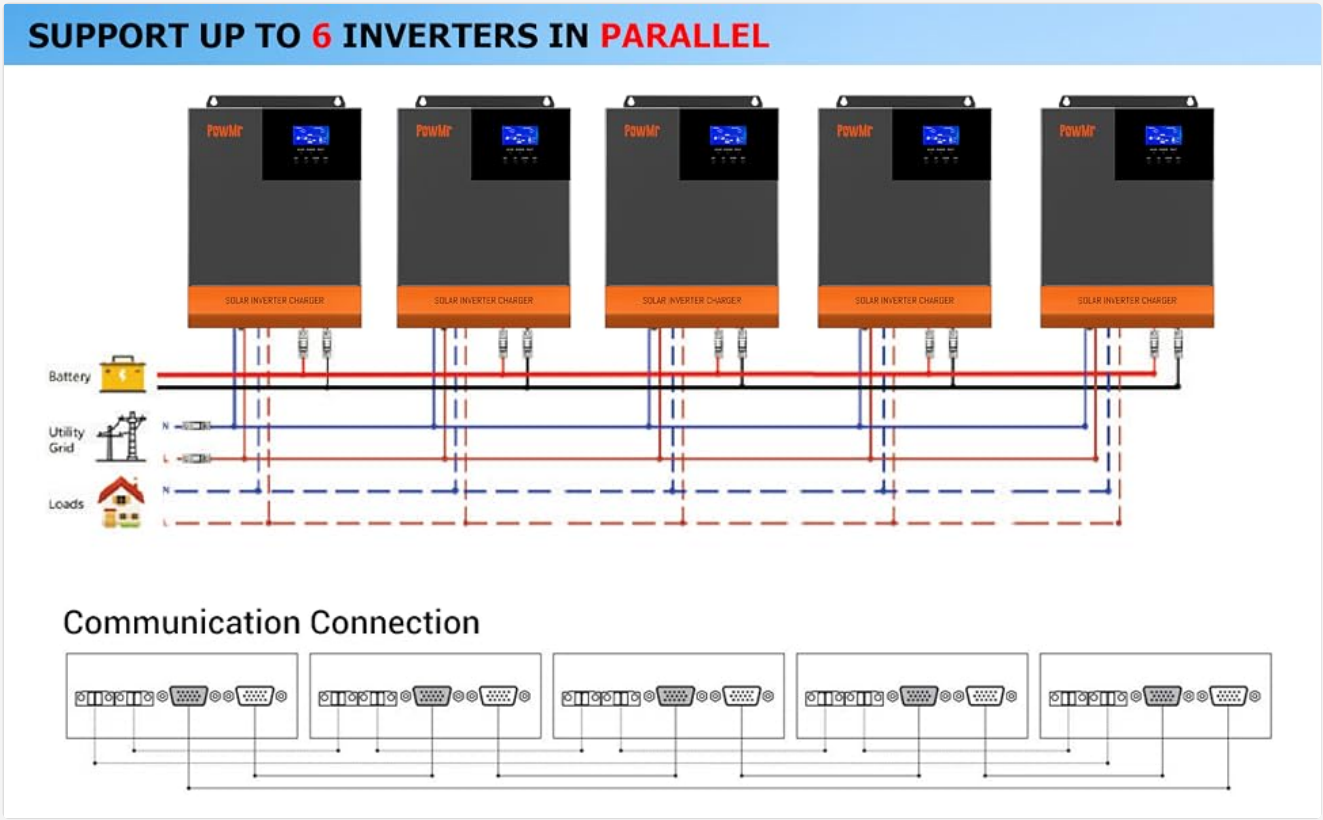


Figure 4.4: Parallel connection setup for multiple inverters.

5. Operating Instructions

5.1 LCD Display and Buttons

The LCD display provides real-time system status, input/output voltages, battery levels, and operational modes. Use the 'SET', 'UP', 'DOWN', and 'ENT' buttons to navigate menus and adjust settings.

5.2 Charging Modes

The inverter supports four distinct charging modes to optimize battery charging based on available power sources:

1. **Solar First:** Prioritizes solar power for charging.
2. **Solar and Utility:** Uses solar power primarily, supplementing with utility power if solar is insufficient.
3. **Utility First:** Prioritizes utility power for charging.
4. **Only Solar:** Charges batteries exclusively from solar power.

5.3 Output Priority Modes

The inverter offers three load output working modes to determine the primary power source for your connected appliances:

1. **Solar > Battery > Utility:** Prioritizes solar, then battery, then utility.
2. **Utility > Solar > Battery:** Prioritizes utility, then solar, then battery.
3. **Solar > Utility > Battery:** Prioritizes solar, then utility, then battery.

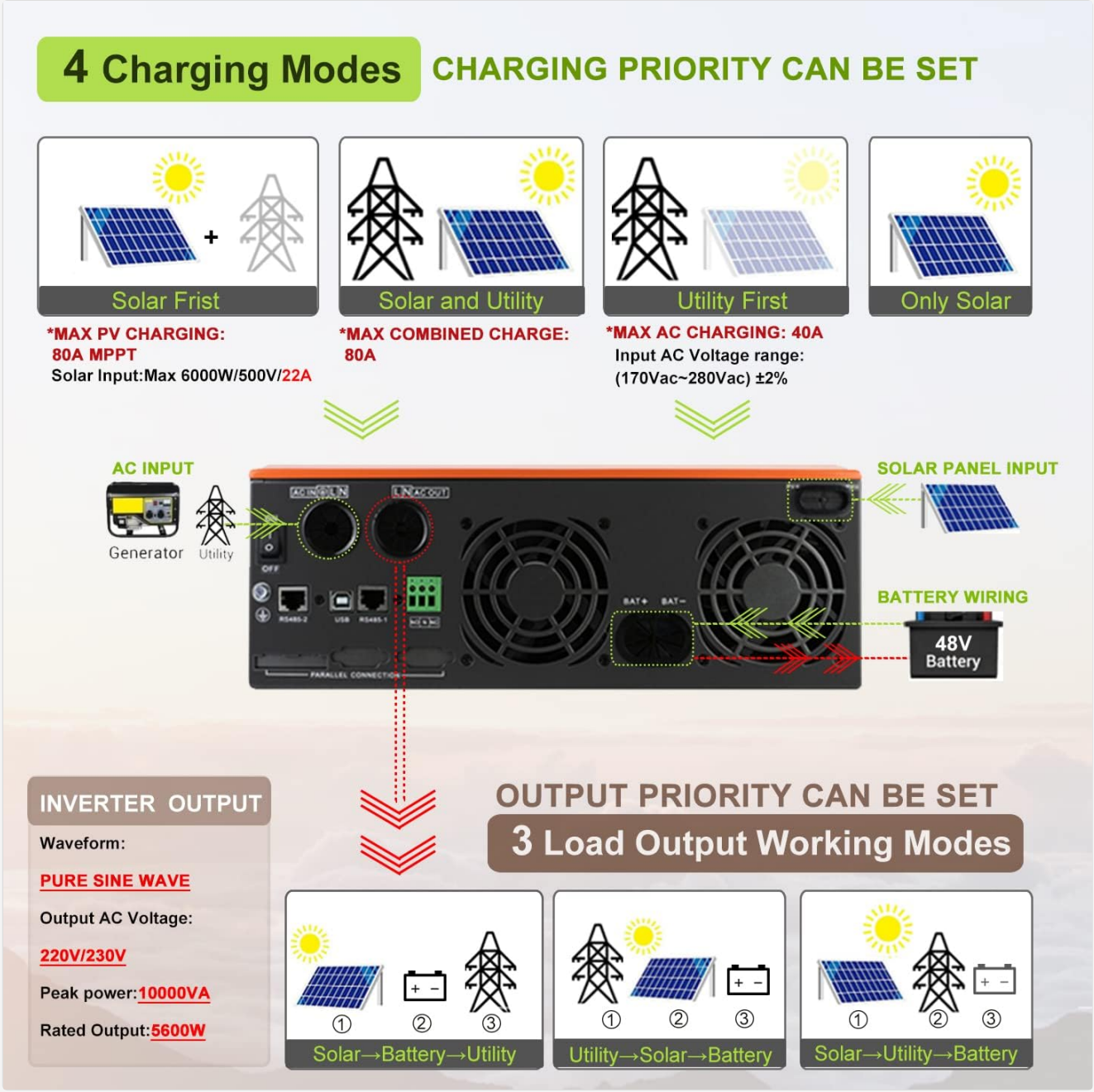


Figure 5.1: Charging and output priority settings.

5.4 Battery Settings

The inverter supports various 48V battery types, including Lead-acid (SLd, FLd, GEL) and Lithium (Ternary lithium, LFP). Users can select from preset parameters or customize settings to match their specific battery requirements.

6. Maintenance

6.1 Cooling System

The inverter is equipped with dual intelligent cooling fans to ensure efficient heat dissipation. Regularly check the ventilation openings for any obstructions (dust, debris) and clean as necessary to maintain optimal airflow.

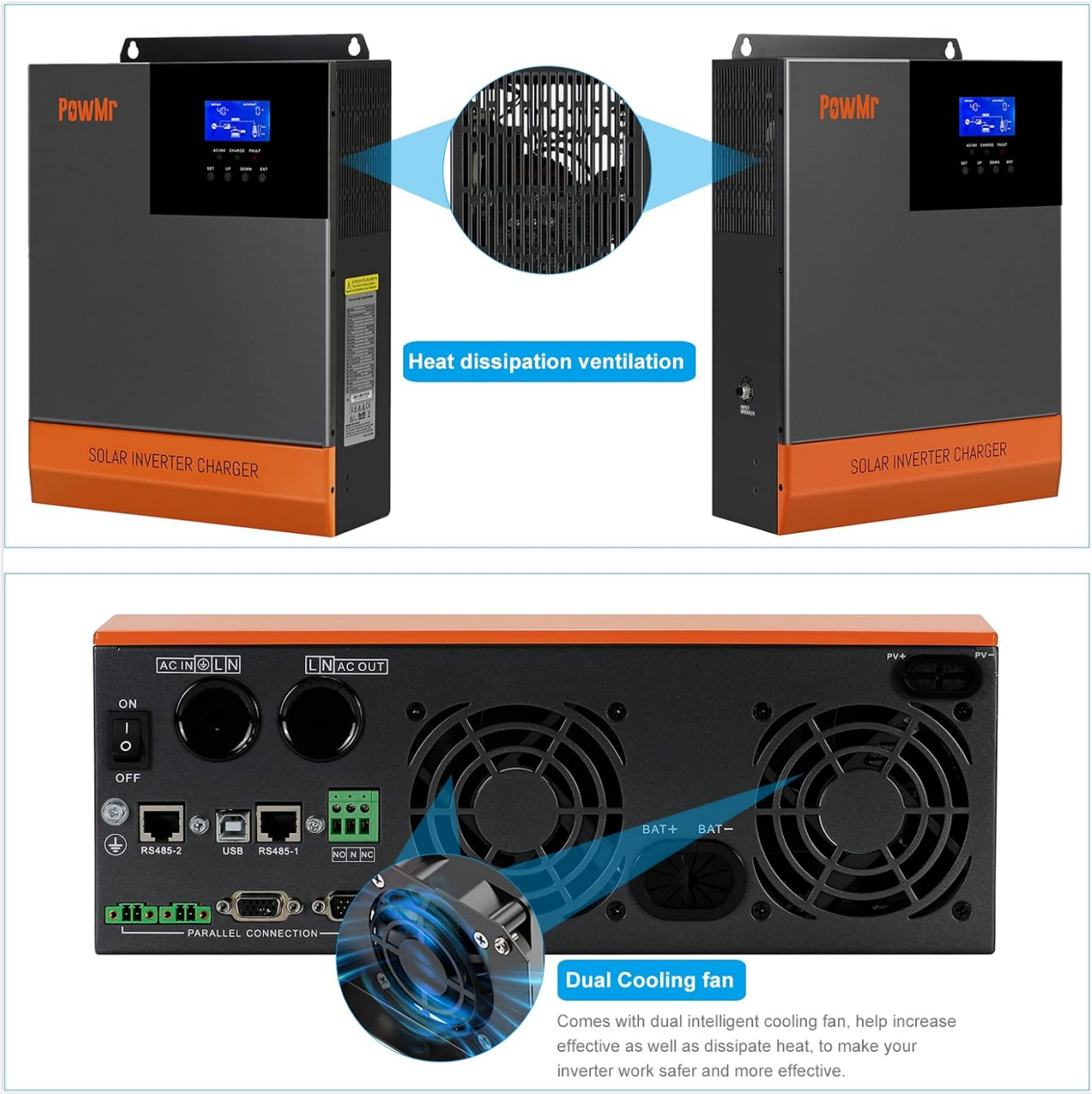


Figure 6.1: Inverter cooling system details.

6.2 General Care

Keep the inverter in a clean, dry, and well-ventilated area. Avoid exposure to direct sunlight, moisture, and corrosive substances. Periodically inspect all wiring connections for tightness and signs of wear or damage.

7. Troubleshooting

If the inverter is not operating as expected, perform the following basic checks before contacting support:

- **No Power Output:** Check all input power sources (solar, utility, battery) and ensure they are connected and providing adequate voltage. Verify circuit breakers are not tripped.
- **Overload Fault:** Reduce the connected load. Ensure the total wattage of appliances does not exceed the inverter's rated output.
- **Battery Not Charging:** Check solar panel connections and output. Verify utility input if applicable. Ensure battery parameters are correctly set.
- **Unusual Noises/Smells:** Immediately disconnect all power and contact technical support.

Refer to the LCD display for error codes or warning messages, which can provide more specific diagnostic information.

8. Specifications

The following table details the technical specifications of the PowMr 5600W Solar Inverter:



Figure 8.1: Inverter back panel and specifications label.

Parameter	Value
Model Name	5.6HPM Solar Inverter
Rated Power	5600 watts

Parameter	Value
Input Voltage (AC)	220V
Battery Voltage	48V
MPPT Charge Controller Current	80A
Max. PV Array Power	6000W
Max. PV Array Open Circuit Voltage	500VDC
AC Charge Current	40A
Product Dimensions	12.6 x 4.72 x 16.54 inches
Item Weight	24.2 pounds
Power Source	220v, Battery Powered, DC
Recommended Uses	Home

9. Warranty and Support

PowMr products are designed for reliability and performance. For warranty information, technical support, or service inquiries, please refer to the contact details provided with your purchase documentation or visit the official PowMr website. Please have your model number and purchase date available when contacting support.

© 2024 PowMr. All rights reserved.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question