

PowMr 3600W

PowMr 3600W Hybrid Solar Inverter User Manual

Model: POW-HVM3.6M-24V

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your PowMr 3600W Hybrid Solar Inverter. This all-in-one inverter integrates solar energy storage, battery charging, and AC sine wave output, making it suitable for various applications including solar power systems, vehicle systems, RV power supplies, and home power systems. Please read this manual thoroughly before installation and use, and keep it for future reference.



Figure 1: PowMr 3600W Hybrid Solar Inverter. This image shows the front of the inverter with its dimensions and highlights key features such as 120A MPPT, 6200W max PV array power, and 500VDC max PV input.

2. SAFETY INFORMATION

Please observe all warnings and instructions in this manual. Improper operation may cause damage to the unit, personal

injury, or death. Only qualified personnel should install and maintain this device.

- Ensure the inverter is disconnected from all power sources (solar, utility, battery) before performing any maintenance or wiring.
- Do not attempt to disassemble or repair the inverter yourself. Contact qualified service personnel.
- Install the inverter in a well-ventilated area, away from flammable materials and moisture.
- Ensure proper grounding of the unit.
- Do not connect the AC output to an energy-saving transformer.
- Avoid selecting grid priority as output priority in inverter mode when connected to a 220V/230V two-phase system to prevent safety risks.

3. PRODUCT OVERVIEW

3.1 Key Features

- Integrated 120A MPPT solar charge controller.
- Pure sine wave output for stable and high-quality AC power.
- Compatible with 24V lead-acid (Sealed, AGM, Gel, Flooded) and lithium batteries.
- LCD display for real-time system data and operating status.
- LED indicators for quick status checks.
- Four selectable charging modes: Solar, Utility Priority, Solar Priority, Hybrid Grid Charge.
- Intelligent heat dissipation system.
- Multiple protections: Overload, Over-temperature, Short-circuit, Low Voltage, Over Current.
- Cold start function.

3.2 Components and Display

The inverter features an intuitive LCD display and function buttons for configuration and monitoring.



Figure 2: LCD Display and Function Buttons. This image details the LCD screen, function buttons (ESC, UP, DOWN, ENTER), and RGB light settings indicating different working modes.

The RGB lights indicate different operating modes:

- **Stationary Mode:** No specific color.
- **Battery Mode:** Red Light.
- **Utility Mode:** Blue Light.
- **PV Mode:** Purple Light.

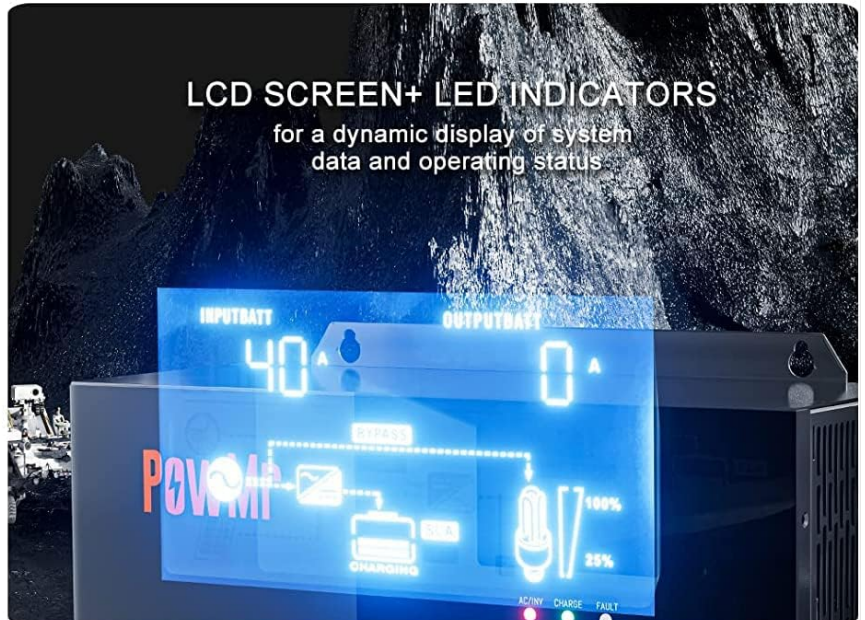
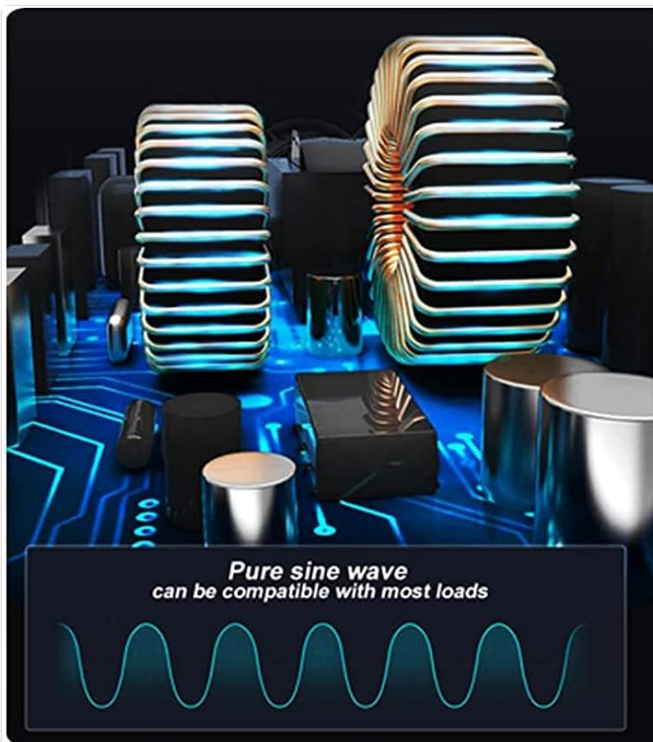


Figure 3: Internal Features and Protection. This image illustrates the pure sine wave technology, intelligent temperature control with fans, multiple protection circuits (low voltage, overheat, short circuit, overload, over current), and the LCD screen with LED indicators.

4. SETUP AND INSTALLATION

Before installation, ensure you have all necessary components and tools. The inverter should be installed in a dry, cool, and well-ventilated environment.

4.1 System Diagram

The PowMr 3600W Hybrid Solar Inverter can be integrated into a hybrid power system as shown below:

Figure 1 Hybrid Power System

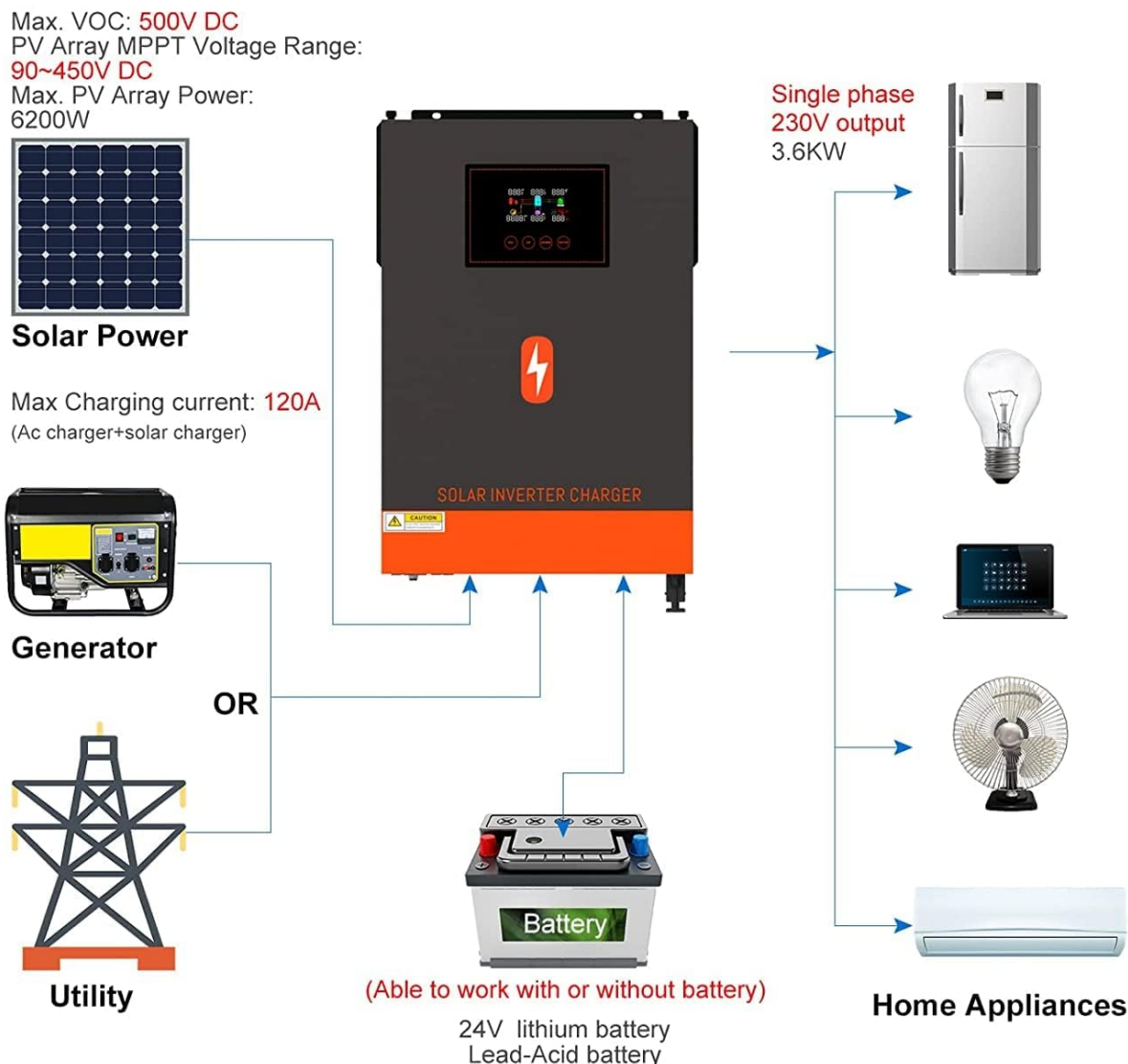
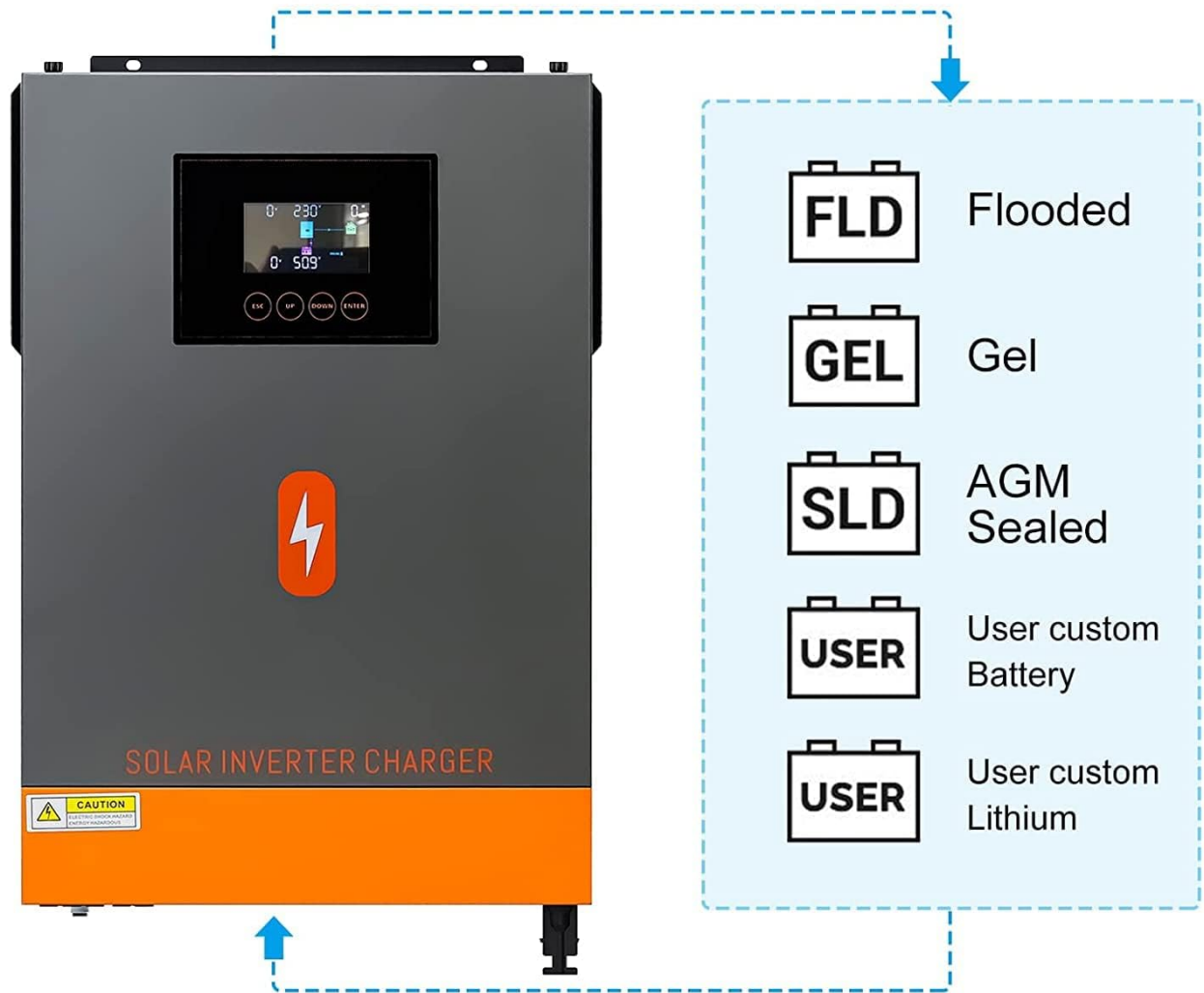


Figure 4: Hybrid Power System. This diagram illustrates how the inverter connects solar panels, a generator or utility grid, a battery (optional), and various home appliances.

4.2 Wiring Connections

1. **Battery Connection:** Connect the 24V battery bank to the inverter's battery terminals. Ensure correct polarity. The inverter supports various 24V battery types including lead-acid (Sealed, AGM, Gel, Flooded) and lithium batteries. Lithium battery settings must be configured via the 'custom' option on the LCD.

Compatible with Multiple Type of Batteries



Take Solar Power/Utility Power charge 24V battery

Figure 5: Battery Compatibility. This image shows the inverter's compatibility with Flooded, Gel, AGM Sealed, and user-customizable battery types, including lithium.

2. **PV Array Connection:** Connect your solar panels to the PV input terminals. The maximum PV input voltage is 500V DC. Ensure the starting voltage for the inverter to operate is above 120V DC. Connecting solar modules in series can help achieve this and reduce cabling costs.
3. **AC Input Connection:** Connect the utility grid or a generator to the AC input terminals.
4. **AC Output Connection:** Connect your home or office appliances to the AC output terminals.

Important: Always ensure all connections are secure and correct before powering on the inverter. Incorrect wiring can cause severe damage or safety hazards.

5. OPERATING INSTRUCTIONS

The inverter's operation can be monitored and configured via the LCD display and function buttons.

5.1 Powering On/Off

1. **Power On:** Ensure all connections are correct. Turn on the battery breaker first, then the PV array breaker (if

applicable), and finally the AC input breaker (if applicable). The inverter will perform a self-test and the LCD will light up.

- 2. **Power Off:** Reverse the power-on sequence. Turn off the AC input breaker, then the PV array breaker, and finally the battery breaker.

5.2 LCD Display and Settings

The LCD displays real-time system data such as input voltage, output voltage, battery status, and load percentage. Use the function buttons (ESC, UP, DOWN, ENTER) to navigate through menus and adjust settings.

- **Configurable Parameters:** Battery charge current, AC/solar charge priority, load charge priority, and output source priority.
- **One-click Factory Reset:** The inverter includes a feature to restore original settings.

5.3 Charging Modes

The inverter offers four charging modes to suit different energy management needs:

- **Solar First:** Solar energy is the primary source for loads. If solar is insufficient, battery power supplements.
- **Utility First (Standard):** The utility grid is the primary source for loads. Solar and battery power loads only when grid power is unavailable.
- **SBU Priority:** Solar energy is the primary source for loads. When solar is insufficient, battery power supplements. If both solar and battery are insufficient, the utility grid provides power.
- **Hybrid Grid Charge:** This mode allows for a combination of solar and utility charging for the battery.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your inverter.

- **Cleaning:** Periodically clean the inverter's exterior and ventilation openings to prevent dust accumulation, which can hinder heat dissipation. Use a dry cloth.
- **Connections:** Regularly check all electrical connections for tightness and signs of corrosion.
- **Environment:** Ensure the installation environment remains within the recommended temperature and humidity ranges.
- **Battery Health:** Monitor battery voltage and health according to the battery manufacturer's guidelines.

Warning: Always disconnect all power sources before performing any maintenance.

7. TROUBLESHOOTING

The LCD display will show error codes if a problem occurs. Refer to the following common issues and their solutions:

Problem/Error Code	Possible Cause	Solution
Inverter not turning on	No battery connection or low battery voltage.	Check battery connections and ensure battery voltage is above the minimum operating threshold.
No AC output	Overload, short circuit, or inverter fault.	Reduce load, check for short circuits, or restart the inverter. If the problem persists, contact support.

Problem/Error Code	Possible Cause	Solution
PV input not charging	PV voltage too low (below 120V) or incorrect PV connection.	Check PV array voltage and connections. Ensure sufficient sunlight.
Over-temperature warning	Poor ventilation or excessive ambient temperature.	Ensure adequate airflow around the inverter. Reduce load if necessary.

For specific error codes not listed, please refer to the detailed error code section in the full PDF manual available on the product page or contact PowMr customer support.

8. SPECIFICATIONS

Feature	Specification
Model	3600W (POW-HVM3.6M-24V)
Rated Power	3600W
Input Voltage (DC)	24V
Output Voltage (AC)	220V/230V
Output Waveform	Pure Sine Wave
Frequency	50 Hz
Max PV Input Voltage	500V DC
Max PV Array Power	6200W
MPPT Solar Charge Controller	120A
Max AC Charge Current	100A
Max Combined Charge Current (AC+PV)	120A
Battery Compatibility	24V Lead-Acid (Sealed, AGM, Gel, Flooded), 24V Lithium (User-configurable)
Display Type	LCD
Dimensions (L x W x H)	59 x 39 x 34.8 cm
Color	Black, Orange
Certifications	CE

9. WARRANTY AND SUPPORT

For warranty information, please refer to the documentation included with your product or visit the official PowMr website. For technical support, troubleshooting assistance, or spare parts inquiries, please contact PowMr customer service. Contact details can typically be found on the product packaging or the manufacturer's website.

Note: Information regarding spare parts availability and software update guarantees is not explicitly provided in the product details. Please contact the manufacturer directly for the most current information.

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