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PowMr POW-HVM10.2M

PowMr 10200W Solar Inverter User Manual

Model: POW-HVM10.2M | Brand: PowMr

1. Introduction

The PowMr 10200W Solar Inverter is a high-quality, all-in-one hybrid inverter designed for home, RV, and off-grid systems. It efficiently converts 48V DC power to 220V/230V AC pure sine wave output, making it compatible with a wide range of household and office appliances. Featuring a built-in 180A MPPT controller, dual PV inputs, and dual AC outputs, this inverter ensures a stable and uninterrupted power supply. Its robust design includes multiple protection features for enhanced safety and reliability.

2. Package Contents

Upon opening the package, please verify that all items listed below are present and in good condition:

- One (1) PowMr 10200W Solar Inverter (POW-HVM10.2M)
- One (1) User Manual
- One (1) pair of MC4 connectors
- One (1) ring terminal
- Other necessary accessories for installation.

Your browser does not support the video tag.

Video: Unboxing and initial overview of the PowMr 10200W Solar Inverter.

3. Key Features

- **High Power Output:** Provides 220V-230V AC output with a maximum PV array power of 10200W.
- **Advanced MPPT Controller:** Built-in 180A MPPT controller with a wide PV input VOC range of 90-500V DC for efficient solar charging.
- **Dual PV Input & Dual AC Output:** Features dual PV inputs for uninterrupted power supply and dual AC outputs (up to 10200W) for various loads.
- **Versatile Battery Compatibility:** Compatible with 48V Lead-Acid (Seal, AGM, Gel, Flooded) and Lithium battery.
- **RGB Light Mode:** Innovative RGB lighting indicates different working modes (Purple-PV, Red-Battery, Blue-Utility).

- **User-Friendly LCD Screen:** Backlit LCD screen allows for easy browsing and parameter settings. One-click restore to default settings is available.
- **Multiple Charging Modes:** Offers Solar First (CSO), Solar and Utility (SNU - default), and Only Solar (OSO) charging modes.
- **Multiple Output Modes:** Includes Solar First, Mains First, and SBU Priority output modes to meet diverse application needs.
- **Comprehensive Protection:** Equipped with Overload, Over temperature, Short circuit, Over voltage, Under voltage, Over current, and Backfill protection.
- **Enhanced Durability:** Features a built-in Anti-dust Kit and three cooling fans for efficient heat dissipation and extended product life.
- **Cold Start Function:** Supports cold start with a voltage of 46VDC.



Image: Overview of the PowMr 10200W Solar Inverter highlighting its dimensions and core capabilities.



Image: Diagram illustrating the comprehensive 360-degree protection features of the inverter.

4. Setup and Installation

Proper installation is crucial for the safe and efficient operation of your solar inverter. Please follow these steps carefully. It is recommended that installation be performed by a qualified professional.

4.1 Mounting the Inverter

Choose a suitable location for mounting the inverter, ensuring it is well-ventilated, protected from direct sunlight and moisture, and has sufficient clearance for air circulation around the cooling fans. Securely mount the inverter to a sturdy wall or surface using appropriate hardware.

4.2 Wiring Connections

Before making any electrical connections, ensure the inverter's power switch is in the OFF position and all power sources (solar panels, battery, AC input) are disconnected. Follow the wiring diagram provided in the manual and on the unit itself for correct connections.

1. **Battery Connection:** Connect the 48V battery bank to the designated battery terminals on the inverter. Ensure correct polarity (positive to positive, negative to negative).
2. **AC Input Connection:** Connect the AC grid or generator input to the AC input terminals.
3. **Main AC Output Connection:** Connect your primary AC loads to the main AC output terminals.
4. **Second AC Output Connection (if applicable):** Connect secondary or non-essential loads to the second AC output terminals.
5. **PV Input Connection:** Connect your solar panel arrays to the dual PV input terminals. Ensure the PV input voltage is within the specified range (90-500VDC).
6. **Grounding:** Ensure the inverter is properly grounded according to local electrical codes.

Your browser does not support the video tag.

Video: Detailed installation guide for the PowMr 10.2KW Solar Inverter, including wiring steps.

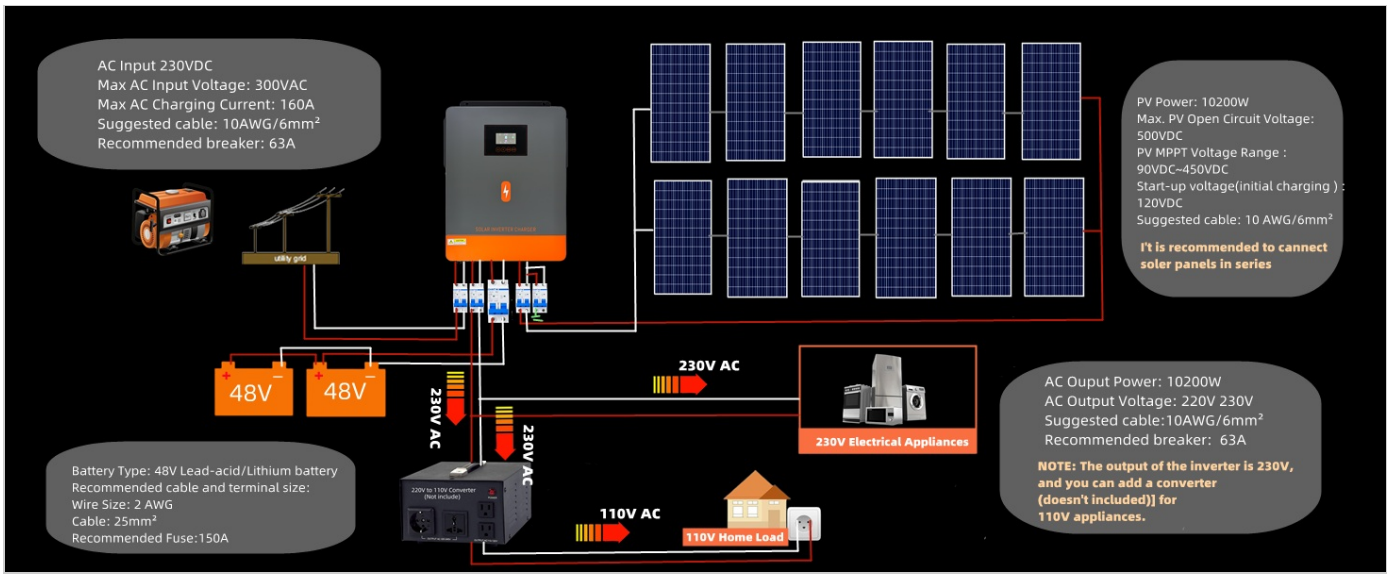


Image: Comprehensive wiring diagram showing connections for solar panels, battery, AC input, and AC outputs.

5. Operating Instructions

Once installed, the inverter can be powered on and configured via its LCD display and control buttons.

5.1 Powering On

After all connections are secure, switch on the battery breaker, then the AC input breaker (if connected), and finally the PV array breaker. Press the power on/off switch on the inverter to start the unit.

5.2 LCD Display and Button Functions

The inverter features a backlit LCD screen and touch function buttons (ESC, UP, DOWN, ENTER) for monitoring and setting parameters.

- **ESC:** Exits the current menu or setting.
- **UP:** Navigates up through menu options or increases a value.
- **DOWN:** Navigates down through menu options or decreases a value.
- **ENTER:** Confirms a selection or enters a submenu.

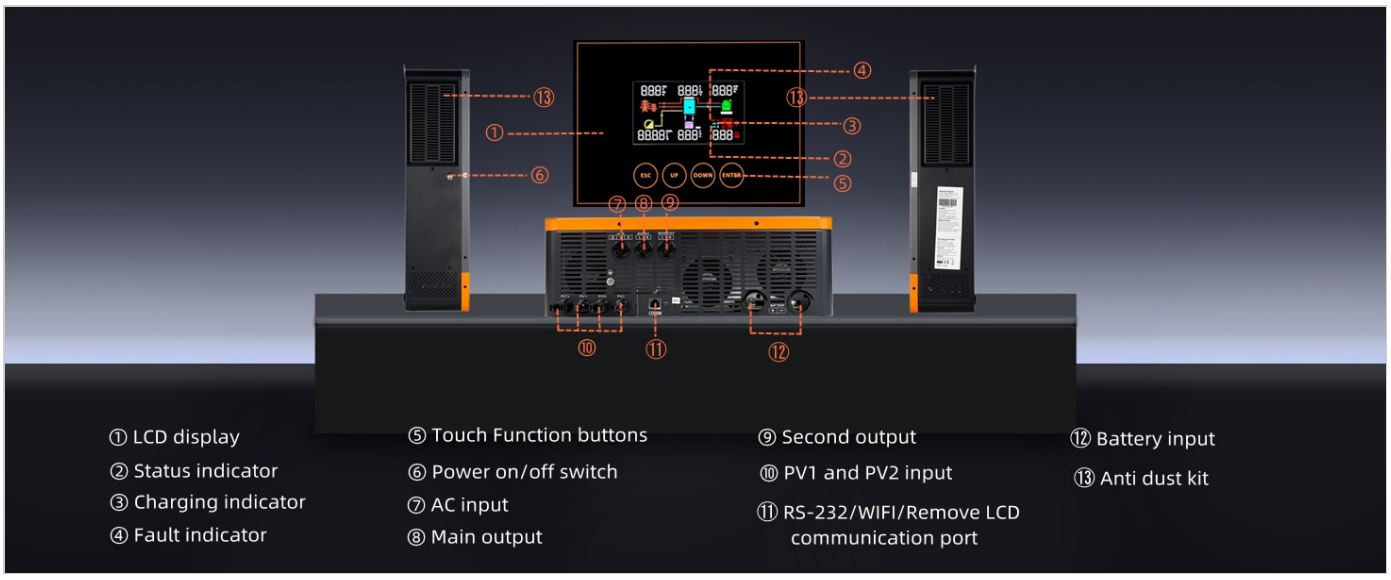


Image: Diagram showing the LCD display, touch buttons, and various connection ports on the inverter.

5.3 Parameter Setup

Access the settings menu by pressing the ENTER button. Use UP/DOWN to navigate through parameters such as output voltage, charging current, battery type, and operating modes. Press ENTER to select a parameter and UP/DOWN to adjust its value, then ENTER again to confirm.

- **Battery Type Setting:** Configure the inverter for your specific battery type (Lead-Acid, Lithium, etc.) to ensure optimal charging and discharge cycles.
- **Charging Mode Selection:** Choose from Solar First (CSO), Solar and Utility (SNU), or Only Solar (OSO) based on your energy priorities.
- **Output Priority Setting:** Select between Solar First, Mains First, or SBU Priority to define how power is supplied to your loads.

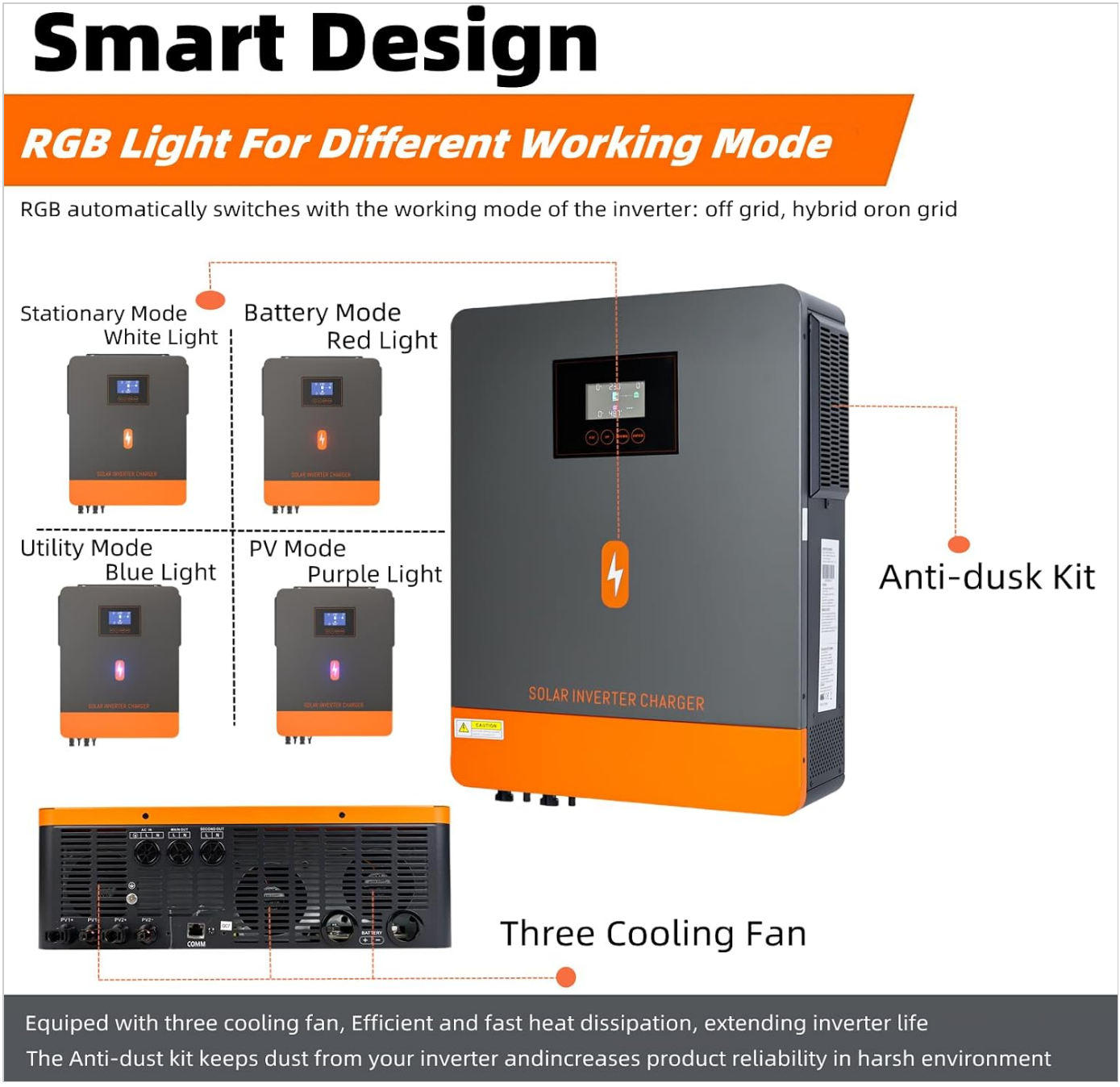


Image: Visual representation of the smart design features, including RGB light modes indicating operational status, the anti-dust kit, and the three cooling fans.

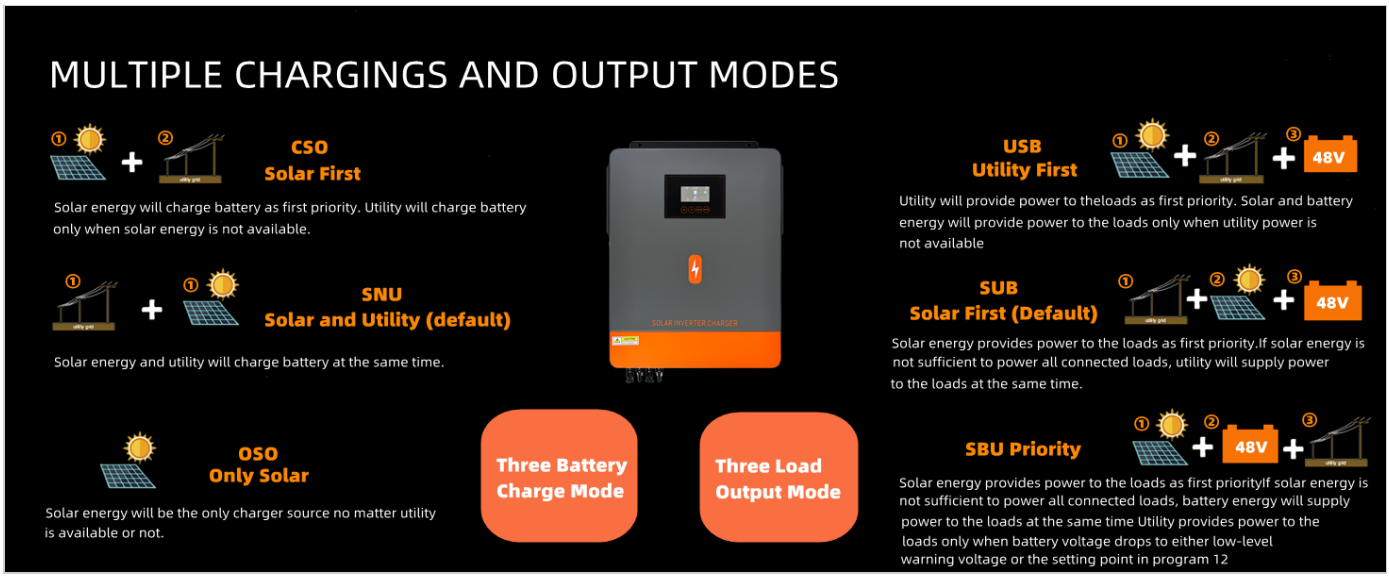


Image: Flowchart illustrating the various charging and output priority modes available for configuration.

6. Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your PowMr Solar Inverter.

- **Cleaning:** Periodically clean the exterior of the inverter and ensure the cooling vents are free from dust and debris. The built-in anti-dust kit helps, but regular checks are recommended.
- **Connections Check:** Annually inspect all electrical connections (battery, AC input/output, PV) for tightness and signs of corrosion. Tighten any loose connections.
- **Fan Inspection:** Ensure the cooling fans are operating correctly and are not obstructed.
- **Environment:** Maintain a clean, dry, and well-ventilated environment around the inverter.

7. Troubleshooting

This section provides solutions to common issues you might encounter with your inverter. For more complex problems, please contact customer support.

Problem	Possible Cause	Solution
Inverter not turning on	No battery connection; Battery voltage too low; Power switch off; Loose wiring.	Check battery connections and voltage; Ensure power switch is ON; Verify all wiring is secure.
No AC output	Overload; Short circuit; Over-temperature; Incorrect output mode setting.	Reduce load; Check for short circuits; Allow inverter to cool down; Verify output mode settings on LCD.
No solar charging	PV input voltage too low/high; PV connections incorrect; Shading on solar panels; MPPT controller fault.	Check PV voltage range; Verify PV wiring; Clear any shading; Consult manual for MPPT status.
Unusual noises or smells	Internal component issue; Overheating.	Immediately disconnect power from all sources. Do not attempt to repair. Contact customer support.

8. Specifications

Parameter	Value
Model Name	POW-HVM10.2M
Wattage	10200 watts
Power Source	Solar Powered
Recommended Uses For Product	Home, RV, Off-Grid System
Brand	PowMr
Country of Origin	China
Manufacturer	PowMr
Product Dimensions	15.3 x 15.21 x 21.1 inches
Item Weight	36.4 pounds
Max. PV Array Power	10200W
Max. PV Input VOC	500V DC
PV Input Voltage Range	90-450VDC
Starting Voltage	120VDC
Max Charging Current (AC charger plus solar charger)	180A
Max AC Charging Current	160A
Max AC Input Voltage	300V
Output Voltage	220V-230V AC
Battery Voltage	48V

9. Warranty and Support

PowMr products are designed for reliability and performance. For specific warranty details, please refer to the warranty card included with your product or visit the official PowMr website. For technical support, troubleshooting assistance, or to inquire about replacement parts, please contact PowMr customer service.
You can find more information and contact details on thePowMr Store on Amazon.

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