



6.2KW

User Manual for 6200W Hybrid Solar Inverter

Model: 6.2KW

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the 6200W Hybrid Solar Inverter. This advanced unit intelligently combines a pure sine wave inverter, a solar charge controller, and a smart battery charger into a single, efficient system. It is designed to provide reliable power for various applications, both on-grid and off-grid.



Figure 1: The 6200W Hybrid Solar Inverter, showcasing its design and potential integration with solar panels and various indicator light effects.

HOME ENERGY STORAGE SYSTEM

Intelligent Energy Storage, the Choice for Future Homes



Figure 2: The 6200W Hybrid Solar Inverter integrated into a home energy storage system, emphasizing its role in modern residential power solutions.

2. KEY FEATURES

- **Integrated System:** Combines a 6200W pure sine wave inverter, a 120A solar charge controller, and a 100A smart battery charger.
- **Pure Sine Wave Output:** Provides a stable and clean power supply, consistent with municipal power grids, suitable for sensitive electronics.
- **High Output Power Factor:** Features an output power factor of 1.0.
- **Smart Monitoring:** Equipped with WIFI and GPRS connectivity for iOS and Android applications, enabling remote monitoring.
- **Battery-Less Operation:** Capable of operating without a battery.
- **Factory Reset:** One-click restore to factory settings for convenience.
- **Lithium Battery Activation:** Built-in function for automatic activation of lithium batteries.

- **Wide PV Input Range:** Supports a battery panel input voltage range of 60~450VDC.
- **High MPPT Charging:** Maximum 6500W (6.2KW) solar charging capability.
- **Dual Output:** Provides versatile power distribution.
- **User-Friendly Interface:** High-definition LCD display with feedback buttons for improved human-machine interaction.
- **Efficient Cooling:** Features a fan cooling system and a thickened heat dissipation backplate for stable operation.
- **Comprehensive Protections:** Includes power failure alarm, overload, overcurrent, lightning, low voltage, and short circuit protection.

PURE SINE WAVE OUTPUT

The output pure sine wave of full power, which is basically consistent with the AC waveform of the municipal power grid, can provide a safe, stable and clean power supply for most load devices, and better protect your devices.



Figure 3: Illustration of the pure sine wave output, demonstrating its smooth and stable waveform, ideal for sensitive electronic devices.

Industrial Design Highlight Simplicity and Practicality

LED Large Screen Feedback Button

A large-size high-definition display screen coupled with feedback buttons effectively optimizes human-computer interaction experience.



Fan Cooling System

The thickened heat dissipation backplate enhances heat dissipation, with the MOS tube closely attached to the heat dissipation board for stable operation in a 60°C environment.

Hidden Installation Wiring

The wiring installation adopts a hidden design. When in use, unscrew the screws to open the bottom cover, and after installation, replace the bottom cover.



Figure 4: Detailed view of the inverter's industrial design, highlighting the LED large screen feedback button, fan cooling system, and hidden installation wiring for a clean setup.

3. TECHNICAL SPECIFICATIONS

Parameter	Value
Model	6.2KW
MPPT Voltage	48V
MPPT Current	120A
PV Range	60-450VDC
Dimensions (L x W x H)	440 x 355 x 115 mm (17.32 x 14 x 4.5 inches)
Item Weight	21.3 pounds
Working Temperature	-10~50°C
Manufacturer	YLANMEI

4. SETUP AND INSTALLATION

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

4.1. Installation Location

- Install the inverter in a well-ventilated area to ensure proper heat dissipation.
- Avoid direct sunlight, high temperatures, and humid environments.
- Ensure the mounting surface is sturdy enough to support the inverter's weight.
- Utilize the hidden installation wiring design for a clean and secure setup. Unscrew the bottom cover for wiring access, then replace it after installation.

4.2. System Connection Diagram

The inverter supports various connection configurations for household on/off-grid energy storage systems. Refer to the diagram below for typical system connections.

SYSTEM CONNECTION

HOUSEHOLD ON/OFF GRID ENERGY STORAGE INTEGRATED SYSTEM

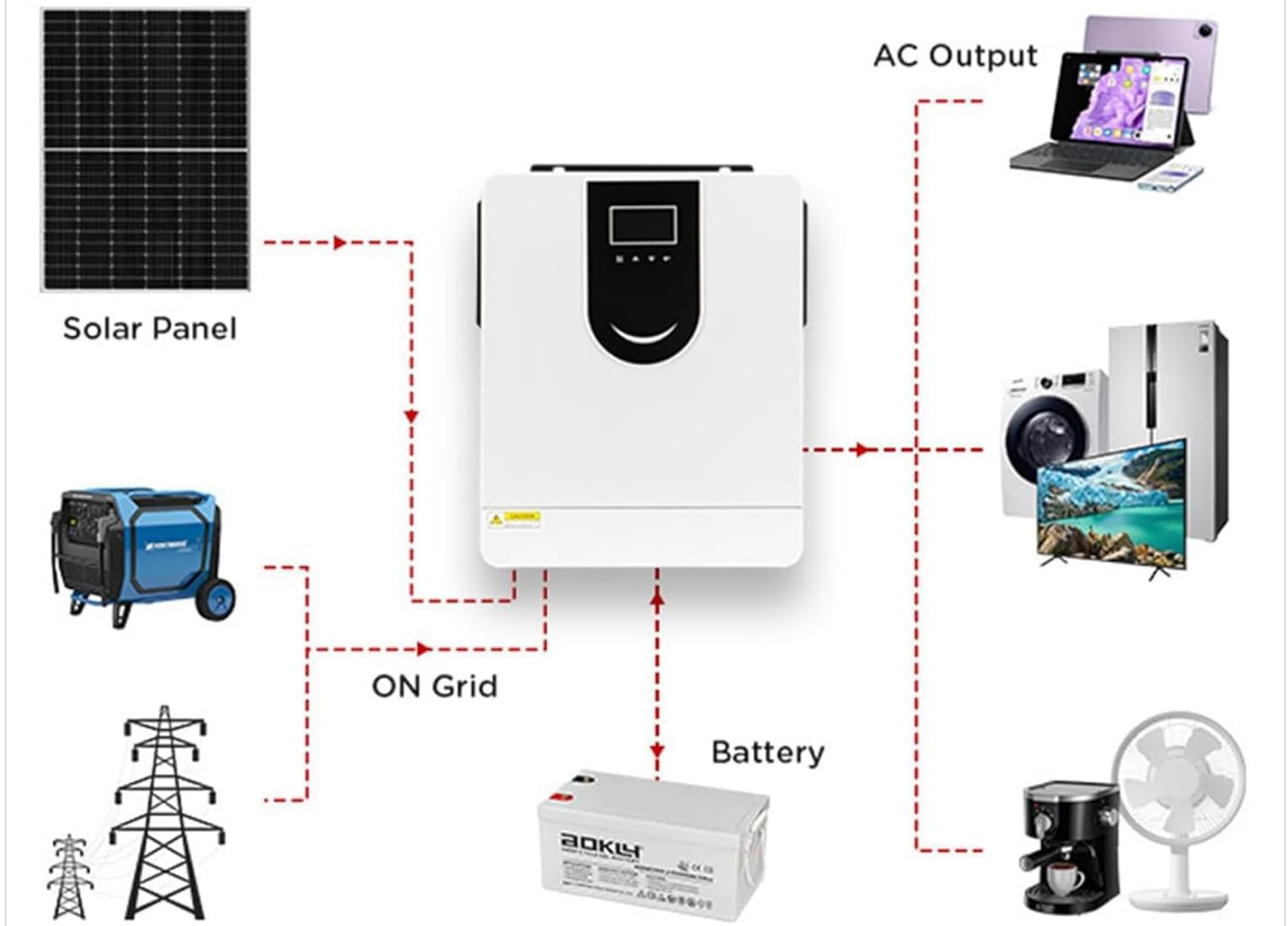


Figure 5: Comprehensive system connection diagram illustrating the integration of solar panels, grid input, battery, and AC output to various household appliances.

Connection Points:

- **Solar Panel Input:** Connect your solar panels to the designated PV input terminals. Ensure correct polarity and voltage within the specified PV range (60-450VDC).
- **Battery Connection:** Connect the 48V battery bank to the inverter's battery terminals. Observe correct polarity. The inverter supports automatic activation of lithium batteries.
- **AC Input (On Grid):** Connect the municipal power grid or a generator to the AC input terminals. This allows the inverter to draw power from the grid or charge batteries when solar power is insufficient.
- **AC Output:** Connect your household appliances (e.g., laptops, washing machines, refrigerators, fans, coffee makers, hair dryers) to the AC output terminals. The inverter provides a stable 220/230/240VAC pure sine wave output.

Important: Ensure all connections are secure and properly insulated. Consult local electrical codes and regulations before installation.

5. OPERATING INSTRUCTIONS

The 6200W Hybrid Solar Inverter is designed for user-friendly operation with its intuitive LCD display and smart monitoring capabilities.

5.1. LCD Display and Indicators

The high-definition LCD display provides real-time information on the inverter's status, mode, voltages, charging power, and current. Use the feedback buttons to navigate menus and adjust settings.



Figure 6: The RGB indicator light on the inverter changes color to reflect different operating modes: Red for Battery Mode, Cyan for Utility Mode, and Purple for PV Mode.

- **RGB Indicator:** The color of the indicator light automatically adjusts to reflect the current working mode:
 - **Red:** Battery Mode (inverter is drawing power from the battery).
 - **Cyan:** Utility Mode (inverter is drawing power from the grid).
 - **Purple:** PV Mode (inverter is primarily using solar power).

- **LED Indicators:** Three additional LED indicators provide quick status updates.

5.2. Smartphone App Monitoring

The inverter supports intelligent monitoring via a smartphone application (available for iOS and Android) using WIFI and GPRS. This allows you to monitor system performance, view data, and receive alerts remotely.



Figure 7: The smartphone app interface for intelligent monitoring, showing real-time data and control options. Also highlights the smart chip's high conversion rate for efficient solar charging.

- Download the official app from your device's app store.
- Follow the in-app instructions to connect your inverter to the network.
- Monitor vital statistics, adjust settings, and receive notifications directly on your smartphone.
- Supports BMS lithium battery communication and RS485/232 communication interface.

5.3. Appliance Compatibility

The inverter is compatible with a wide range of household appliances. Ensure that the total power consumption of connected appliances does not exceed the inverter's 6200W capacity.

COMPATIBLE WITH VARIOUS APPLIANCES

Notice: Different power appliances need to be paired with inverters of different powers



Figure 8: Examples of various household appliances that can be powered by the hybrid solar inverter, including laptops, water pumps, speakers, fans, microwave ovens, air conditioners, refrigerators, and hair dryers.

6. MAINTENANCE

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

- **Cleaning:** Periodically clean the exterior of the inverter with a dry, soft cloth. Ensure ventilation openings are free from dust and debris to maintain efficient fan cooling.
- **Connections:** Routinely check all electrical connections for tightness and signs of corrosion. Loose connections can lead to overheating and poor performance.
- **Environment:** Ensure the operating environment remains within the specified temperature range (-10~50°C) and is free from excessive humidity or corrosive gases.
- **Firmware Updates:** Check for available firmware updates via the smartphone app or manufacturer's website to ensure your inverter has the latest features and bug fixes.

7. TROUBLESHOOTING

This section provides general guidance for common issues. For complex problems, contact customer support.

Problem	Possible Cause	Solution
Inverter not powering on	No input power (PV, battery, or grid); main switch off.	Check all power connections. Ensure main switch is ON. Verify battery voltage.
No AC output	Overload; short circuit; low battery voltage; inverter fault.	Reduce load. Check for short circuits in connected appliances. Charge battery. Check LCD for error codes.
High temperature alarm	Poor ventilation; excessive ambient temperature; fan malfunction.	Ensure adequate airflow around the inverter. Clean vents. Check if cooling fan is operating.
Solar charging not working	PV panels not connected; insufficient sunlight; PV voltage out of range.	Check PV connections and polarity. Ensure panels are clean and in direct sunlight. Verify PV voltage on LCD.

The inverter has comprehensive charging protections including overload, overcurrent, lightning, low voltage, and short circuit protection. If an issue persists after basic troubleshooting, please contact customer support.

8. WARRANTY AND SUPPORT

For any questions or technical assistance regarding your 6200W Hybrid Solar Inverter, please contact our customer support team. We are committed to providing timely assistance and will endeavor to respond to your inquiries within 24 hours.

Please refer to your purchase documentation for specific warranty terms and conditions, as these may vary.