

ROARBATT 2500W

ROARBATT Pure Sine Wave Power Inverter 2500W User Manual

Model: 2500W

1. INTRODUCTION

The ROARBATT Pure Sine Wave Power Inverter converts 12V DC battery power into 110V/120V AC household power. This device is designed to power various electronic appliances and tools, providing clean and stable electricity suitable for sensitive electronics. It is ideal for use in RVs, cars, solar systems, and emergency backup power situations.

2. SAFETY INSTRUCTIONS

- **Ventilation:** Ensure the inverter is installed in a well-ventilated area. Do not block the cooling fans or vents.
- **Dry Environment:** Keep the inverter away from water, rain, and moisture.
- **Temperature:** Avoid operating the inverter in direct sunlight or near heat sources. The operating temperature range is 0~40°C.
- **Flammable Materials:** Do not install the inverter near flammable materials or in areas where flammable fumes or gases may accumulate.
- **Proper Connection:** Always connect the inverter to a 12V DC battery. Ensure correct polarity (red to positive, black to negative). Incorrect connection can damage the inverter and battery.
- **Grounding:** Properly ground the inverter to prevent electrical shock.
- **Load Capacity:** Do not exceed the inverter's rated continuous power output (2500W). Overloading can cause damage and trigger protection features.
- **Children and Pets:** Keep the inverter out of reach of children and pets.
- **Servicing:** Do not attempt to disassemble or repair the inverter yourself. Refer all servicing to qualified personnel.

3. PRODUCT OVERVIEW

3.1 Components and Features

The ROARBATT Pure Sine Wave Power Inverter includes the following key components and features:

- **Pure Sine Wave Output:** Provides clean power suitable for sensitive electronics.
- **Multiple AC Outlets:** Equipped with 4 AC outlets for connecting various devices.
- **Dual USB Ports:** Two 5VDC, Max. 3.4A USB ports for charging mobile devices.

- **Intelligent Cooling Fans:** Temperature-controlled fans activate when the internal temperature exceeds 104°F (40°C) or when the load exceeds approximately half of the rated power.
- **LED Display:** Digital display shows input voltage, output voltage, power consumption, battery level, and working temperature.
- **Remote Control:** A 15ft wired remote controller with an RJ10 plug for convenient operation.
- **Comprehensive Protections:** Includes input undervoltage alarm/shutdown, input overvoltage shutdown, low voltage protection, thermal protection, overload protection, short-circuit protection, and front board overload protection.
- **Soft Start Technology:** Gradually increases output voltage upon startup to reduce high inrush currents for large inductive loads.

3.2 Front and Rear Panel



Image: Front and rear view of the ROARBATT Pure Sine Wave Power Inverter. The front panel features the LED display, power indicator, and AC outlets. The rear panel shows the DC input terminals (positive and negative), cooling fans, and the remote control port.

3.3 LED Display Information

INTELLIGENT LCD DISPLAY

BT: Input voltage data

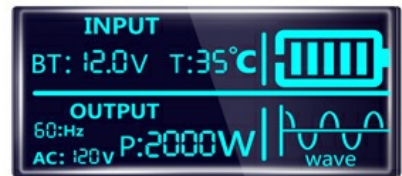
AC: Output voltage

 : Battery power

T: Working temperature

P: Appliance's power using power

Wave: Pure sine wave



2000W PURE SINE WAVE INVERTER



Working



Camping



Power failure



yacht

Image: The intelligent LCD display provides real-time information including input voltage (BT), working temperature (T), output AC voltage, current battery power level, and confirms pure sine wave output.

4. SETUP

4.1 Unboxing and Contents

Upon opening the package, verify that all components are present and undamaged.

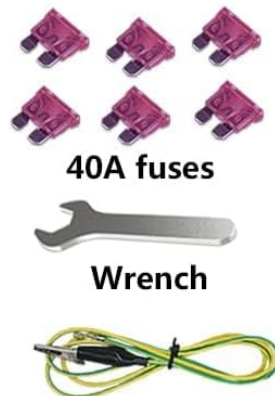


Remote Control



The cable is a 4.5-meter -long standard network cable

Accessories



Earth Wire

Battery Cables



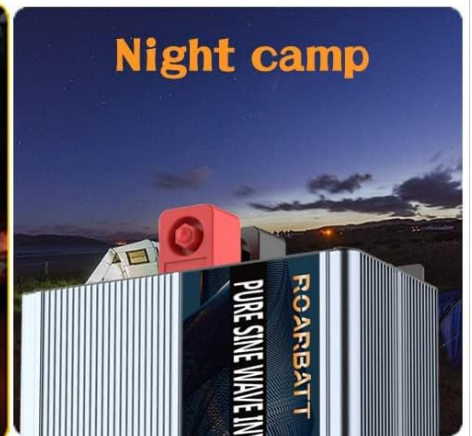
31.5 in(80 cm)

Image: The package contents include the inverter, a 15ft remote controller, one pair of battery cables (red and black, 2.62 ft long), an earth wire, 6 x 40A fuses, and a wrench.

4.2 Battery Connection

Connect the inverter to a 12V DC battery using the provided cables. Ensure the red cable connects to the positive (+) terminal of both the inverter and the battery, and the black cable connects to the negative (-) terminal of both. Secure all connections tightly to prevent arcing and ensure efficient power transfer.

Available for most household appliances!



The diagram illustrates the power flow in a solar system. On the left, solar panels are shown with the text "Solar panel power generation" and a red arrow pointing to a solar charge controller. The controller is connected to a battery, with the text "Charge the battery" above it. A red arrow points from the battery to an inverter, with the text "The battery powers the inverter" above it. The inverter is labeled "Continuous Power 2000W" and "Peak Power 4000W". A red arrow points from the inverter to a rice cooker, with the text "Provide electricity for home appliances" above it. A red plug icon is also shown near the inverter.

4.3 Grounding

4.4 Remote Control Connection

Plug the 15ft remote control cable into the RJ10 port on the inverter. This allows for convenient power control from a distance.



Image: The remote control unit connected to the inverter, demonstrating its use for turning the inverter on and off remotely.

5. OPERATION

5.1 Powering On/Off

After ensuring all connections are secure, press the power button on the inverter or the remote control to turn the unit on. The LED display will illuminate, showing operational status. To turn off, press the power button again.

5.2 Connecting Appliances

Plug your AC appliances into the inverter's AC outlets. For high-power loads, it is recommended to use the dedicated AC output terminal blocks if available and properly wired. For large inductive or capacitive loads, such as electric tools, it is suggested to turn on the appliance first, then turn on the inverter to allow the soft-start feature to function effectively.

PURE SINE WAVE INVERTER

Ideal for sensitive loads



Cell Phone



Tablet



TV



Iron



Electric Drill



Electric Oven



Fridge



Sound

Image: The inverter is suitable for powering a wide range of sensitive electronic devices and household appliances.

5.3 Monitoring Performance

The LED display provides real-time feedback on input voltage, output power, and temperature. Monitor these readings to ensure the inverter is operating within safe parameters and to manage your power consumption effectively.

5.4 Demonstration Video

Video: This video demonstrates the unboxing, setup, and operation of a ROARBATT Pure Sine Wave Inverter, including connecting it to a battery and powering various appliances like an induction cooker and microwave. It also shows the remote control functionality and instrument measurements.

6. MAINTENANCE

- **Cleaning:** Regularly clean the exterior of the inverter with a dry, soft cloth. Ensure vents and cooling fans are free from dust and debris to maintain optimal airflow.
- **Connections:** Periodically check all electrical connections (battery terminals, AC outlets, grounding wire) to ensure they are

tight and free from corrosion.

- **Storage:** If storing the inverter for an extended period, disconnect it from the battery and store it in a cool, dry place.
- **Battery Health:** Maintain your 12V DC battery according to its manufacturer's guidelines to ensure optimal performance and longevity of the inverter system.

7. TROUBLESHOOTING

7.1 Common Issues and Solutions

- **No Output:**
 - Check if the red and black battery cables are correctly linked to the inverter and battery terminals.
 - Ensure the inverter is turned on and the display screen is functioning.
 - Verify that the DC input voltage and AC output voltage values are normal on the display.
- **Overload Protection Triggered:**
 - The inverter's power output should not exceed its rated continuous power (2500W).
 - Some electrical appliances have a high instantaneous startup power. It is recommended to operate the inverter below approximately 200W of its rated power to avoid overload.
 - Reduce the total wattage of connected appliances.
- **Over-temperature Protection:**
 - Ensure adequate ventilation around the inverter. Clear any obstructions from the cooling fans.
 - Reduce the load on the inverter.
 - Allow the inverter to cool down before restarting.
- **Low Voltage Alarm/Shutdown:**
 - This indicates the battery voltage is too low. Recharge the battery.
 - The input under-voltage alarm typically triggers at 10 +/- 0.5V DC, and shutdown at 9.5 +/- 0.5V DC.
- **Over-voltage Shutdown:**
 - The input over-voltage shutdown triggers at 16 +/- 0.5V DC.
 - Ensure your charging source (e.g., solar charge controller) is regulated and not providing excessive voltage to the battery.

8. SPECIFICATIONS

Please note: While the product title specifies 2500W, the detailed specifications provided are for a 2000W model. Performance characteristics for the 2500W model are expected to be proportionally similar or higher.

Feature	Specification
Rated Power (Continuous)	2000W (Note: Product title states 2500W)
Peak Power	4000W
DC Input Voltage	12V
AC Output Voltage	110V/120V AC +/-5%
Output Waveform	Pure Sine Wave (THD≤3%)

Feature	Specification
Max Efficiency	90%
USB Output	5VDC, Max. 3.4A
Input Over-voltage Shutdown	16 +/- 0.5V DC
Input Under-voltage Shutdown	9.5 +/- 0.5V DC
Input Under-voltage Alarm	10 +/- 0.5V DC
Over Temperature Protection	65 +/- 5°C (149 +/- 9°F)
Working Temperature	0~40°C (32~104°F)
Storage Temperature	-10~45°C (14~113°F)
No-load Current	0.6 A
Battery Cables	1 pair (black, red), 2.62 ft length
Cooling Fan Activation	Temperature control (near 113°F/45°C) & Power control (up to 1/2 rated power)
Remote Controller	15ft cable, RJ10 Plug
Package Dimensions	18.3 x 10.4 x 7.4 inches
Item Weight	11.77 pounds

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact ROARBATT customer service through the retailer where the product was purchased. Keep your purchase receipt as proof of purchase.

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.

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Anonymous

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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

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