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> OUBOTEK 2000W Pure Sine Wave Power Inverter (Model TP2000W) User Manual

OUBOTEK TP2000W

OUBOTEK 2000W Pure Sine Wave Power Inverter User Manual

Model: TP2000W

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your OUBOTEK 2000W Pure Sine Wave Power Inverter. This device converts 12V DC battery power into 120V AC household power, suitable for various applications including RVs, trucks, boats, and off-grid solar systems. Please read this manual thoroughly before installation and use.

2. SAFETY INSTRUCTIONS

WARNING: Failure to follow these safety instructions may result in injury, damage to the inverter, or damage to connected devices.

- Ensure the inverter is connected to a 12V DC power source only. Connecting to a 24V or higher DC source will damage the unit.
- Do not expose the inverter to rain, moisture, or extreme temperatures.
- Operate the inverter in a well-ventilated area to prevent overheating. Maintain clear space around the cooling fans.
- Do not open the inverter casing. There are no user-serviceable parts inside. Refer all servicing to qualified personnel.
- Ensure proper grounding of the inverter before operation.
- Keep children away from the inverter and its connections.
- Disconnect the inverter from the battery before performing any maintenance or cleaning.
- Avoid connecting loads that exceed the inverter's continuous power rating (2000W) or peak power rating (4000W).

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- 1 x OUBOTEK 2000W Pure Sine Wave Inverter
- 1 x Wireless Remote Controller
- 1 x Wireless Remote Module

- 1 x Wired Remote Wire (9.8ft)
- 1 x White Charging Wire for Remote Controller
- 1 x Adhesive Pad for Remote Controller
- 1 x 4AWG Battery Cable Set (1.64ft, red & black)
- 1 x Grounding Wire
- 6 x 50A Spare Fuses
- 1 x Wrench
- 1 x User Manual (this document)



Figure 3.1: OUBOTEK 2000W Pure Sine Wave Power Inverter with all included accessories.

4. PRODUCT OVERVIEW

The OUBOTEK 2000W Pure Sine Wave Power Inverter features multiple output ports, an intuitive LCD display, and flexible remote control options.

4.1. Inverter Components

Smart LCD

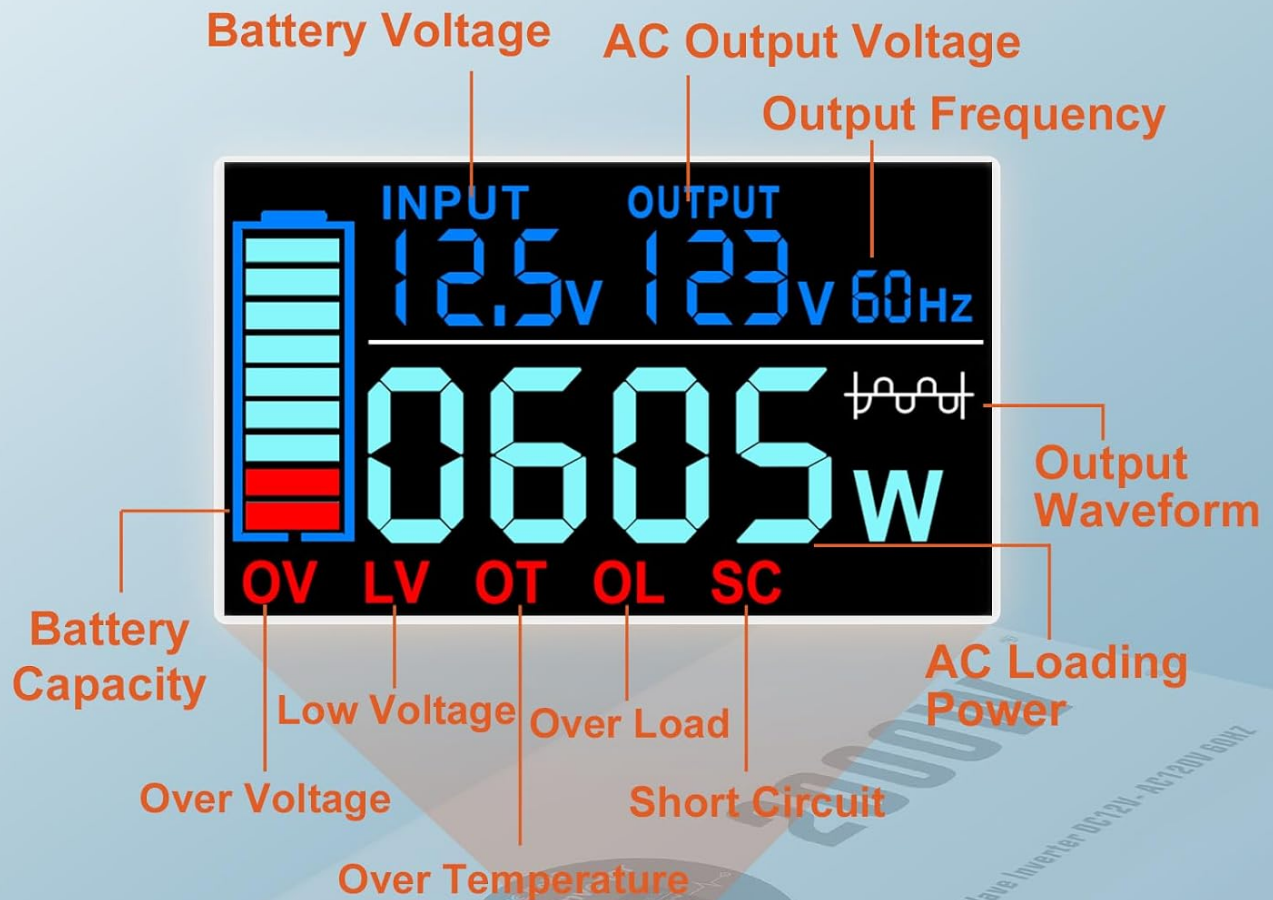


Figure 4.1: Front and rear panel components of the OUBOTEK 2000W Inverter.

- **US Sockets (x4):** Standard AC 120V outlets for connecting appliances.
- **Type-C Port:** USB-C PD30W for fast charging compatible devices.
- **USB Ports (x2):** USB-A QC3.0 quick charging ports.
- **AC Terminal Block:** For hardwiring AC loads directly to the inverter.
- **Remote Port:** Connects the wired remote control or wireless remote module.
- **Positive Terminal (DC+):** Connects to the positive terminal of the 12V DC battery.
- **Negative Terminal (DC-):** Connects to the negative terminal of the 12V DC battery.
- **Cooling Fans:** Automatically activate to dissipate heat and maintain optimal operating temperature.

4.2. LCD Digital Display

The integrated LCD provides real-time operational status and error codes.

Multiple Protection Functions



**OVERLOAD
PROTECTION**



**SHORT CIRCUIT
PROTECTION**



**OVERHEAT
PROTECTION**



**OVERCURRENT
PROTECTION**



**LOW VOLTAGE
PROTECTION**



**OVER VOLTAGE
PROTECTION**



Figure 4.2: Detailed view of the Smart LCD display indicators.

- **Battery Capacity:** Indicates the remaining battery charge level.
- **Battery Voltage (Input):** Displays the current DC input voltage from the battery.
- **AC Output Voltage:** Shows the AC voltage being supplied to connected devices.
- **Output Frequency:** Displays the AC output frequency (e.g., 60Hz).
- **Output Waveform:** Confirms the pure sine wave output.
- **AC Loading Power:** Shows the current power consumption of connected AC devices.
- **Protection Error Codes:** Displays codes for various protection states (OV, LV, OT, OL, SC).

5. SETUP AND INSTALLATION

Proper installation is crucial for safety and performance.

5.1. Placement

- Choose a dry, cool, and well-ventilated location.

- Avoid direct sunlight, heat sources, and flammable materials.
- Ensure sufficient clearance around the inverter for airflow, especially near the cooling fans.
- Mount the inverter securely to a stable surface.

5.2. Battery Connection

CAUTION: Always connect the grounding wire first, then the negative battery cable, and finally the positive battery cable. Ensure the inverter is OFF before making any connections.

1. **Grounding:** Connect one end of the grounding wire to the inverter's grounding terminal and the other end to a reliable earth ground (e.g., vehicle chassis, ground rod).
2. **Negative Connection:** Connect the black 4AWG battery cable to the inverter's negative (DC-) terminal. Connect the other end to the negative terminal of your 12V DC battery.
3. **Positive Connection:** Connect the red 4AWG battery cable to the inverter's positive (DC+) terminal. Connect the other end to the positive terminal of your 12V DC battery.
4. **Secure Connections:** Ensure all connections are tight to prevent loose contacts, which can cause overheating and damage.

5.3. AC Hardwire Terminal (Optional)

For permanent installations, you can use the AC hardwire terminal. Consult a qualified electrician for this type of installation to ensure compliance with local electrical codes.

6. OPERATING INSTRUCTIONS

6.1. Powering On/Off

1. After all connections are secure, press the power button on the inverter. The LCD display will illuminate, indicating the inverter is active.
2. To power off, press the power button again. The LCD display will turn off.

6.2. Connecting AC Devices

- Plug your AC devices into the 120V AC outlets on the inverter.
- Ensure the total power consumption of all connected devices does not exceed 2000W continuously or 4000W peak.
- For sensitive electronics, the pure sine wave output ensures stable and clean power.

6.3. USB Charging

- Connect your USB-compatible devices to the USB-A QC3.0 ports or the USB-C PD30W port for charging.

7. REMOTE CONTROL OPERATION

The inverter includes both wireless and wired remote control options for convenience.

7.1. Wireless Remote Control



Figure 7.1: Wireless remote control setup and range.

- Plug the Wireless Remote Module into the inverter's remote port.
- Ensure the inverter's main switch is in the OFF position when using the remote.
- The wireless remote controller allows you to turn the inverter ON/OFF and monitor its status from a distance of 164-328 feet.
- The remote LCD display mirrors the inverter's main display, showing battery voltage, output power, and other parameters.

7.2. Wired Remote Control

Wired Remote Controller



Figure 7.2: Wired remote control connection.

- Connect the wired remote control handpiece to the inverter's remote port using the provided 9.8ft wired remote cable.
- Ensure the inverter's main switch is in the OFF position when using the remote.
- The wired remote provides direct control and monitoring of the inverter's status.

8. PROTECTION FEATURES

The OUBOTEK 2000W inverter incorporates multiple protection mechanisms to ensure safe and reliable operation for both the inverter and your connected devices.

Product Size



Figure 8.1: Overview of inverter protection functions.

- **Overload Protection (OL):** Shuts down the inverter if the connected load exceeds its rated capacity.
- **Short Circuit Protection (SC):** Protects against damage from short circuits in the output.
- **Overheat Protection (OT):** Activates if the internal temperature exceeds safe limits, often accompanied by increased fan speed.
- **Overcurrent Protection:** Prevents excessive current draw.
- **Low Voltage Protection (LV):** Shuts down the inverter if the input DC voltage drops too low, protecting the battery from deep discharge.
- **Over Voltage Protection (OV):** Shuts down the inverter if the input DC voltage exceeds safe limits.

In case of a protection event, the inverter will typically shut down and display an error code on the LCD. Disconnect the load, resolve the issue, and then restart the inverter.

9. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your inverter.

- **Cleaning:** Periodically clean the exterior of the inverter with a dry, soft cloth. Ensure ventilation openings and cooling fans are free from dust and debris.
- **Connections:** Regularly check all DC and AC connections for tightness. Loose connections can cause resistance, heat, and power loss.
- **Battery Health:** Monitor your battery's health and charge level. A healthy battery is essential for inverter performance.

- **Fuse Replacement:** The inverter includes spare 50A fuses. If a fuse blows, replace it with an identical type and rating. Always disconnect the battery before replacing fuses.

10. TROUBLESHOOTING

Refer to the following table for common issues and their solutions. The LCD display will often show an error code to assist in diagnosis.

Problem	Possible Cause	Solution
No power output / Inverter not turning on	Loose battery connections, low battery voltage, blown fuse, inverter switch off.	Check battery cables and terminals. Charge battery. Replace blown fuses. Ensure inverter switch is ON.
Overload (OL) error	Connected load exceeds 2000W continuous or 4000W peak.	Reduce the total wattage of connected devices. Disconnect high-power appliances.
Low Voltage (LV) error	Battery voltage is too low (below 10.5V-11V).	Recharge or replace the battery. Check battery connections for resistance.
Over Voltage (OV) error	Input DC voltage is too high (above 15V).	Check the charging system or battery source. Ensure it's a 12V system.
Overheat (OT) error	Inverter is too hot.	Ensure adequate ventilation. Clear obstructions from cooling fans. Reduce load. Allow inverter to cool down.
Short Circuit (SC) error	Short circuit detected in AC output.	Disconnect all AC loads. Check AC wiring and appliances for faults.

11. SPECIFICATIONS

Detailed technical specifications for the OUBOTEK 2000W Pure Sine Wave Power Inverter (Model TP2000W).

Structural Analysis

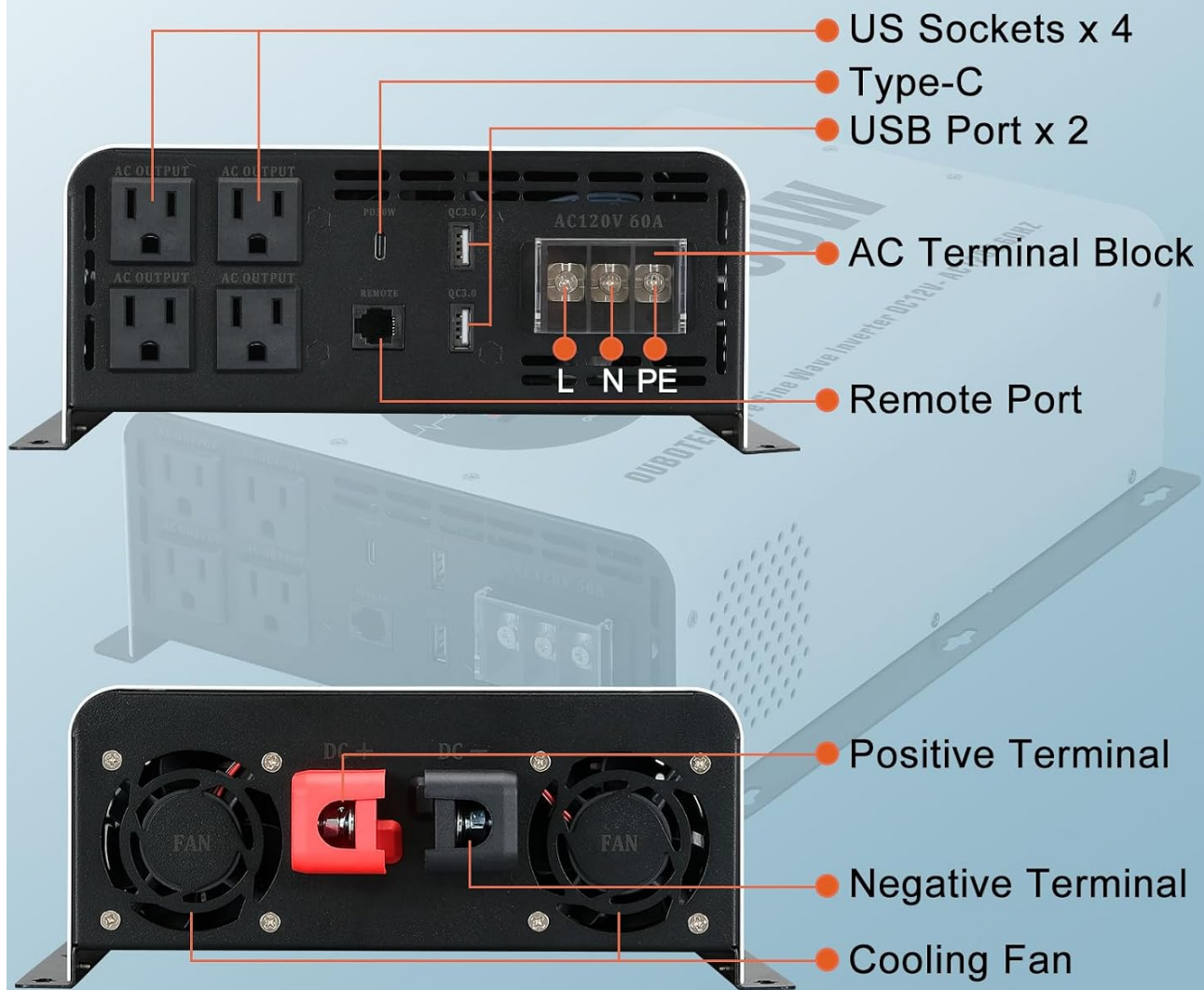


Figure 11.1: Product dimensions.

- **Model Number:** TP2000W
- **Continuous Power:** 2000 Watts
- **Peak Power:** 4000 Watts
- **Input DC Voltage:** 12V DC
- **Output AC Voltage:** 120V AC
- **Output Frequency:** 60Hz
- **Output Waveform:** Pure Sine Wave
- **AC Outlets:** 4
- **USB-A Ports:** 2 (QC3.0)
- **USB-C Port:** 1 (PD30W)
- **Remote Control:** Wireless (164-328ft) & Wired (9.8ft)
- **Product Dimensions:** 14.37 x 9.72 x 3.74 inches (365 x 247 x 95 mm)
- **Item Weight:** 12.43 pounds

- **Batteries:** 1 Lithium Polymer battery required (included for remote)

12. WARRANTY AND SUPPORT

OUBOTEK provides customer service support. For any questions, technical assistance, or warranty claims, please contact OUBOTEK customer service through the retailer's platform or the official OUBOTEK website. Please have your product model number (TP2000W) and purchase information ready when contacting support.

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