Temank 2500W 24V

Temank PowMr 2500W 24V Pure Sine Wave Power Inverter Instruction Manual

Model: 2500W 24V | Brand: Temank

1. Introduction

This manual provides detailed instructions for the safe and efficient operation of your Temank PowMr 2500W 24V Pure Sine Wave Power Inverter. This device converts 24V DC battery power into 110V AC household electricity, suitable for various off-grid applications, including RVs, trucks, solar systems, and remote cabins. Please read this manual thoroughly before installation and use to ensure optimal performance and safety.

2. Important Safety Information

Always observe the following safety precautions to prevent injury or damage to the inverter and connected devices:

- **Proper Ventilation:** Ensure the inverter is installed in a well-ventilated area to prevent overheating.
- **Correct Voltage:** Verify that the DC input voltage matches the inverter's specifications (24V DC).
- **Polarity:** Always connect positive to positive and negative to negative terminals. Incorrect polarity can cause severe damage.
- **Grounding:** The inverter must be properly grounded.
- **Circuit Protection:** Use appropriate DC and AC circuit breakers as specified in the installation section to protect against overcurrents.
- **Avoid Overload:** Do not exceed the inverter's continuous power rating (2500W) or peak power rating (5000W for 10 seconds).
- **Moisture:** Keep the inverter away from water, rain, and excessive humidity.
- **Qualified Personnel:** Installation and maintenance should ideally be performed by qualified personnel.
- **Emergency Shutdown:** Familiarize yourself with the emergency shutdown procedures.

Image: Visual representation of the inverter's built-in safety protections, including overload, low voltage, over voltage, high temperature, and short circuit protection.

3. Product Overview

The Temank PowMr 2500W 24V Pure Sine Wave Power Inverter is designed to provide reliable and clean AC power for sensitive electronics. It features advanced technology and multiple protection mechanisms to ensure stable and safe operation.

3.1 Key Features

- **High-Efficiency Pure Sine Wave Output:** Converts 24V DC to 110V AC, suitable for sensitive electronics.
- **Advanced Safety & Protection:** Includes overload, short-circuit, over-temperature, low/high voltage cut-off, and reverse polarity protection with automatic recovery.
- **Smart Monitoring & Control:** Remote control panel with LCD display for monitoring battery voltage, power output, and fault alerts.

- **Convenient USB Port:** Built-in 5V/2.4A USB port for charging devices.
- **Wide Application Range:** Ideal for sheds, camping, RVs, trucks, solar setups, and off-grid power.
- **Durable Construction:** Features cooling fans for optimal heat dissipation and operates in extreme temperatures (-25°C to 55°C).
- **Compatibility:** Compatible with various battery types including Lead-Acid (SLD, GEL, FLD, AGM) and Lithium batteries.

Image: Overview of the inverter's core features and benefits.

3.2 What's in the Box

Upon unpacking, ensure all components are present and undamaged:

- Temank PowMr 2500W 24V Pure Sine Wave Power Inverter
- Remote Control Panel (with 15ft cable)
- Battery Cables (Red and Black)
- Spare Fuses

- User Manual (this document)
- Mounting Hardware (screws, nuts, washers)

Image: Contents of the inverter package, including the main unit, remote control, cables, and fuses.

4. Setup and Installation

Follow these steps carefully to install your power inverter system. While the video below provides a general visual guide, always refer to the specific wattage and voltage of your Temank PowMr 2500W 24V inverter and associated components.

4.1 Component Mounting

1. **Mount Inverter and Controller:** Securely mount the inverter and the solar charge controller on a stable, vertical surface (e.g., a wall) in a well-ventilated area. Ensure there is sufficient space around both units for airflow.
2. **Install Circuit Breakers:** Install appropriate DC circuit breakers. For this 24V system, you will need:
    - Two DC air circuit breakers (e.g., 63A) for the PV input to the controller and the controller's charging line to the

battery.
    - One molded-case DC breaker (e.g., 250A) for the battery-to-inverter discharge line.

4.2 Wiring Connections

Important: Always ensure all power sources are disconnected before making any wiring connections. Double-check polarity (positive to positive, negative to negative) for all DC connections.

1. **Controller to Battery Breaker:** Connect the controller's battery port to the battery-side DC breaker. Use appropriate gauge wires (e.g., 6AWG or thicker for higher current).
2. **Battery Breaker to Battery:** Connect the other side of the battery-side DC breaker to your 24V battery terminals. Ensure secure connections.
3. **Controller to PV Breaker:** Connect the controller's PV input port to the PV input DC breaker.
4. **PV Breaker to Solar Array:** Connect your solar array (solar panels) to the PV input DC breaker.
5. **Inverter to Battery Breaker:** Connect the inverter's positive and negative DC input terminals to the 250A DC breaker. Use heavy-gauge battery cables provided or suitable alternatives.
6. **AC Output Wiring:** From the inverter's AC output terminals, wire out to the AC loads you intend to power. Ensure proper distinction between live, neutral, and ground wires.

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Video: General guide on setting up an off-grid solar system with a solar charge controller and inverter. Note that the video may feature a different wattage/voltage inverter (e.g., 3500W 12V) than your 2500W 24V model, but the wiring principles are similar.

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Video: A brief visual demonstration of inverter wiring. While the video shows a 3500W inverter, the connection steps are applicable to the 2500W model.

4.3 Power-On Sequence

After all wiring is complete and verified for security and correct polarity:

1. **Activate Controller Battery Breaker:** First, switch on the DC breaker connected between the battery and the solar charge controller.
2. **Activate PV Breaker:** Next, switch on the DC breaker connected to the solar array (PV input).
3. **Activate Inverter Breaker:** Then, switch on the 250A DC breaker connected between the battery and the inverter.
4. **Power On Inverter:** Finally, flip the inverter's rocker switch to the "ON" position. The inverter will start operating, and connected AC loads will receive power.

Note: Always follow this sequence to prevent potential damage to the system components.

5. Operating Instructions

Once the inverter is powered on, you can monitor and control its operation using the remote control panel and the unit's display.

5.1 Remote Control Panel

The remote control panel allows convenient monitoring of key system parameters from a distance (up to 15ft away). The LCD display shows:

- Battery Input Voltage (V)

- AC Output Voltage (V)
- AC Output Power (W)
- AC Output Frequency (Hz)
- Pure Sine Waveform Indicator
- Inverter Operating Status (Normal/Error)

Image: Remote control panel for easy system monitoring.

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Video: Demonstration of the inverter's display, showing real-time operational data.

5.2 Connecting AC Loads

The inverter provides two standard AC outlets and an AC output terminal for hardwiring. Ensure that the total wattage of all connected appliances does not exceed the inverter's continuous power rating (2500W) to prevent overload. For appliances with high startup surge currents (e.g., motors, refrigerators), ensure their surge wattage is within the inverter's

peak power rating (5000W for 10 seconds).

Image: Inverter output ports and battery compatibility.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your inverter. Perform the following checks periodically:

- **Cleanliness:** Keep the inverter's exterior and ventilation openings clean and free from dust and debris. Use a dry cloth for cleaning.
- **Connections:** Periodically check all electrical connections (DC input, AC output, battery, solar panels) to ensure they are tight and free from corrosion.
- **Cables:** Inspect cables for any signs of wear, fraying, or damage. Replace damaged cables immediately.
- **Ventilation:** Ensure that the cooling fans are operating correctly and that the inverter's ventilation is not obstructed.
- **Battery Health:** Monitor your battery's health and charge level regularly, especially in off-grid systems.

7. Troubleshooting

This section addresses common issues you might encounter with your inverter. For problems not listed here, contact customer support.

Problem	Possible Cause	Solution
No AC Output / Inverter Not Turning On	◦ Loose battery connections ◦ Low battery voltage ◦ Blown fuse ◦ Inverter switch off ◦ Overload protection activated	◦ Check and tighten all battery cable connections. ◦ Charge the battery or replace if faulty. ◦ Check and replace fuses (use spare fuses provided). ◦ Ensure the inverter's rocker switch is ON. ◦ Reduce connected load; restart inverter.
Low AC Output Voltage	◦ Low battery voltage ◦ Excessive load ◦ Poor DC connections	◦ Charge or replace battery. ◦ Reduce connected load. ◦ Check and tighten DC input connections.
Inverter Overheating	◦ Poor ventilation ◦ Excessive load ◦ Blocked cooling fans	◦ Ensure adequate airflow around the inverter. ◦ Reduce connected load. ◦ Clean cooling fans and vents.
Remote Control Panel Not Working	◦ Loose cable connection ◦ Damaged cable	◦ Check and secure the remote cable connection. ◦ Replace the remote cable if damaged.

8. Specifications

Feature	Specification
Model Name	PowMr
Brand	Temank
Continuous Output Power	2500 Watts
Peak Power Rating	5000 Watts (for 10 seconds)
Input Voltage	24 Volts (DC)
Output Voltage	110 Volts (AC)
Output Waveform	Pure Sine Wave
USB Output	5V/2.4A

Feature	Specification
Operating Temperature Range	-25°C to 55°C
Item Weight	10.7 pounds
Package Dimensions	15.75 x 10.43 x 6.69 inches
ASIN	B0F7RGLNDG

9. Warranty and Support

For warranty information, please refer to the documentation provided with your purchase or contact the manufacturer directly. For technical support or inquiries, please visit the official Temank website or contact their customer service department.

Manufacturer: Temank

Brand Store: Temank Amazon Store