Litime LiTime 3000W Pure Sine Wave Inverter Charger

LiTime 3000W Pure Sine Wave Inverter Charger User Manual

Model: 3000W Pure Sine Wave Inverter Charger

1. Introduction

The LiTime 3000W Pure Sine Wave Inverter Charger is a versatile device combining a 3000W power inverter and a 5A to 45A battery charger. It is designed to provide reliable AC power from a 12V DC source and efficiently charge various battery types. This manual provides essential information for safe installation, operation, and maintenance of your inverter charger.

Image: The LiTime 3000W Pure Sine Wave Inverter Charger unit with its remote control panel and connecting cables.

2. Safety Instructions

WARNING: Improper installation or operation can result in serious injury or death. Always consult with a qualified electrician if you are unsure about any part of the installation process.

- Read all instructions carefully before installation and operation.
- Ensure all wiring connections are secure and use the correct gauge wire (1/0 AWG recommended for DC input) to prevent overheating and fire hazards.
- Do not expose the inverter charger to rain, moisture, or extreme temperatures.
- Ensure adequate ventilation around the unit to prevent overheating.
- Do not disassemble or attempt to repair the unit yourself. Refer all servicing to qualified personnel.
- Keep children away from the inverter charger and its connections.
- Always disconnect power before performing any maintenance or wiring.

3. Product Features

- **Pure Sine Wave Output:** Provides clean and stable AC power suitable for sensitive electronics.
- **High Efficiency:** Peak conversion efficiency of more than 88%.
- **Powerful Performance:** 3000W rated power with a 9000W surge capacity for 10 seconds.
- **Integrated Charger:** Built-in battery charger with adjustable current from 5A to 45A.
- **Wide Battery Compatibility:** Compatible with 12V Lithium (LiFePO4), AGM, GEL, SLA, and CA batteries, including lithium battery activation.
- **UPS Functionality:** Automatic transfer switch (approx. 10ms) between grid power and battery power for uninterrupted supply.
- **LCD Remote Panel:** Provides real-time status monitoring and control from up to 23 feet away.
- **Multiple Protections:** Includes low voltage, over voltage, over heat, output overload, and output short circuit protection.
- **User-Friendly Design:** Selectable input terminal voltage range (100-127V/90-135V) via DIP switch.

Image: The inverter charger offers comprehensive protection against overload, high voltage, low voltage, high temperature, and load output short circuit.

4. Package Contents

Verify that all items listed below are included in your package:

- LiTime 3000W Pure Sine Wave Inverter Charger Unit x1
- LCD Remote Control Panel x1
- Remote Control Cable (23FT) x1
- Remote Control Mounting Screws x4
- Inverter Mounting Screws x6
- Plastic Anchors x4
- Slotted Screwdriver x1
- Copper Wire Connector x6
- Heat Shrink Tubing x6

Image: All components included in the package: the inverter charger, remote control panel, cables, mounting hardware, screwdriver, wire connectors, and heat shrink tubing.

5. Setup and Installation

5.1 Mounting the Inverter Charger

The inverter charger can be mounted horizontally or vertically. Horizontal mounting is preferred for optimal cooling and heat dissipation. Ensure the mounting surface is sturdy enough to support the unit's weight (approximately 51.7 pounds).

Image: Recommended mounting orientations, with horizontal mounting preferred for cooling.

5.2 Connection Overview

Familiarize yourself with the connection points on the inverter charger:

Image: Rear and front views of the inverter charger highlighting the Battery Negative Terminal, Battery Positive Terminal, Charger Input Protection Circuit Breaker, Inverter Output Protection Circuit Breaker, Remote Control Port, Cooling Fan, Setting Dip Switch, Ground Terminal, AC Outlet, AC Input Terminal Block, and AC Output Terminal Block.

5.3 Wiring Connections

1. **Battery Connection:** Connect the 12V DC battery bank to the Battery Positive Terminal (red) and Battery Negative Terminal (black) using appropriate 1/0 AWG cables. Ensure polarity is correct.
2. **Grounding:** Connect the Ground Terminal to a reliable earth ground.
3. **AC Input:** Connect your grid power or generator AC input to the AC Input Terminal Block.
4. **AC Output:** Connect your AC loads (appliances) to the AC Output Terminal Block. The AC outlet provides continuous output power up to 1000W, while the DIY AC port can reach 3000W.
5. **Remote Control:** Plug the remote control cable into the Remote Control Port.

5.4 System Integration Examples

The LiTime inverter charger can be integrated into various power systems, including home and RV setups.

Image: Example of a home power system integrating the inverter charger with solar panels, MPPT controller, 12V battery system, grid, generator, and household loads.

Image: Example of an RV power system integrating the inverter charger with solar panels, MPPT controller, generator, LiFePO4 battery, DC-DC charger, and starting battery.

6. Operation

6.1 Powering On/Off

Once all connections are secure, turn on the main power switch on the inverter charger unit. The remote panel can then be used to control the unit.

6.2 LCD Remote Panel

The LCD remote panel provides real-time monitoring and allows for setting adjustments.

Image: The LCD Remote Panel displays input information, timer, output information, and various status indicators. Indicators include: Grid power connection, Load supplied by grid power (Bypass), Grid power circuit working, Inverter (battery) circuit working, Battery capacity percentage, and Load level.

6.3 Charging Current Adjustment

Use the current adjusting knob on the unit or settings via the remote panel to select the charging current from 5A to 45A, based on your battery's specifications and charging needs.

6.4 Input Voltage Range Selection

The input terminal voltage range can be selected via the DIP switch on the unit: 100-127V or 90-135V. Choose the range appropriate for your AC input source.

6.5 Operating Modes (Normal/Eco)

The remote panel allows you to switch between Normal mode and Eco mode. Eco mode conserves energy by reducing power consumption when loads are low.

6.6 UPS Functionality

When connected to both grid power and a battery, the inverter charger provides an Uninterruptible Power Supply (UPS) function. In case of grid power failure, it automatically switches to battery power within approximately 10 milliseconds, ensuring continuous operation of connected devices.

Image: The inverter charger provides UPS protection, completing the switch between mains power and battery power supply in about 10ms.

7. Maintenance

- **Regular Cleaning:** Keep the inverter charger clean and free from dust and debris. Use a dry cloth for cleaning.
- **Ventilation:** Ensure the cooling fans and vents are not obstructed to maintain proper airflow. The high-efficiency cooling fan is crucial for stable performance and extended lifespan.
- **Connection Checks:** Periodically inspect all electrical connections (DC and AC) to ensure they are tight and free from corrosion. Loose connections can cause overheating and poor performance.
- **Battery Health:** Monitor your battery's health and charge level regularly, especially if using lead-acid batteries.

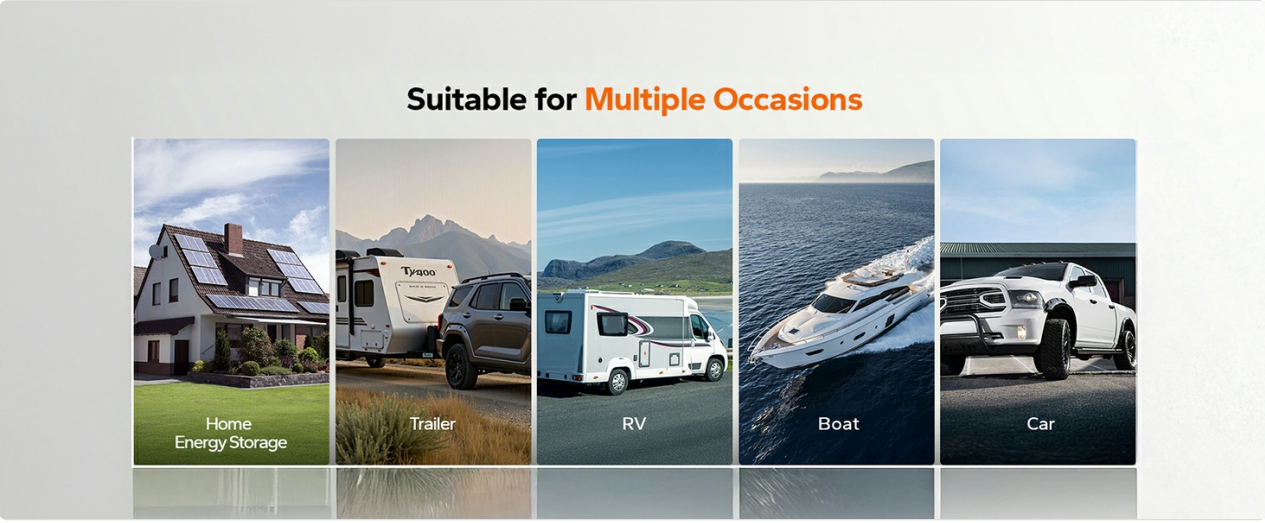

Image: The high-efficiency cooling fan ensures stable performance and extends the lifespan of the inverter charger.

8. Troubleshooting

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

Problem	Possible Cause	Solution
Inverter not turning on	Loose battery connections, low battery voltage, main power switch off.	Check battery cable connections, ensure battery voltage is above minimum operating level, turn on main power switch.
No AC output	Overload, short circuit, high temperature, fault indicator on.	Reduce load, check for short circuits in AC wiring, allow unit to cool down, reset unit.
Battery not charging	AC input not connected, charging current too low, battery fault.	Verify AC input connection, increase charging current setting, check battery health.
Remote panel not working	Loose cable connection, faulty cable.	Ensure remote cable is securely plugged in at both ends. Try replacing the cable if issue persists.
Unit shuts down frequently	Overload, insufficient ventilation, high ambient temperature.	Reduce connected load, ensure clear airflow around the unit, operate in a cooler environment.

9. Specifications

Feature	Specification
Model Name	3000W Pure Sine Wave Inverter Charger

Feature	Specification
Rated Power	3000W
Surge Power	9000W (for 10 seconds)
DC Input Voltage	12V DC
AC Output Voltage	120V AC
AC Output Frequency	60Hz
Charging Current	5A to 45A (Adjustable)
Transfer Time (UPS)	Approx. 10ms
Product Dimensions	7.28 x 7.09 x 16.54 inches
Item Weight	51.7 pounds
Certifications	CE/FCC/ROHS
Recommended Uses	Office, Vehicle (RV, Boat), Home

10. Warranty and Support

LiTime products are backed by comprehensive after-sales service. For warranty information, technical support, or any inquiries, please contact LiTime customer service through their official website or the platform where you purchased the product. Please have your model number and purchase details ready when contacting support.