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> [LiTime 1000W Pure Sine Wave Inverter \(Model L12V1KW-M\) Instruction Manual](#)

Litime L12V1KW-M

LiTime 1000W Pure Sine Wave Inverter (Model L12V1KW-M) Instruction Manual

12V DC to 120V AC Converter with LCD Display

1. INTRODUCTION

The LiTime 1000W Pure Sine Wave Inverter is designed to convert 12V DC power from batteries into stable 110-120V AC power, suitable for various applications including home, RV, truck, camping, and off-grid solar systems. This inverter provides 1000W continuous power and a 2000W peak surge capacity, ensuring reliable operation for a wide range of appliances. Its pure sine wave output minimizes interference, making it safe for sensitive electronics. The integrated LCD display offers real-time status monitoring and comprehensive protection features to safeguard your equipment.

2. IMPORTANT SAFETY INSTRUCTIONS

Please read and follow these safety instructions carefully to ensure proper installation and operation. Failure to comply may result in serious injury or damage to the product.

- Read all instructions and cautions in this manual before using the inverter.
- There are no user-serviceable parts inside this product. DO NOT disassemble or attempt to repair the inverter.
- ONLY 12V battery banks are suitable for this inverter.
- The product is used with a permanent power source (battery). Input and/or output terminals may still be dangerously energized, even when the product is switched off. ALWAYS make sure the inverter is in the OFF position and disconnect all AC and DC connections before carrying out maintenance or servicing the product.
- Consult the battery manufacturer's information to ensure that the product is intended for use with the battery. Check the specific requirements of the batteries used in the system and always follow the battery manufacturer's safety instructions.
- Never use the product where there is a risk of gas or dust explosions.

Installation Safety

- It is recommended that the DC and AC input cables be fused and fitted with circuit breakers.
- Before applying power, ensure that the available power source matches the product configuration settings described in the manual.
- The product should be installed in a well-ventilated, cool, and dry environment. Make sure there is adequate ventilation space around the product and check that the ventilation holes are not blocked.
- After installation, check whether all wiring connections are tight and reliable to avoid the danger of heat accumulation due to loose connections.

3. PRODUCT OVERVIEW

Key Features

- **High Conversion Efficiency:** Achieves 91% conversion efficiency, providing 1000W continuous DC to AC power and 2000W peak surge for reliable energy supply.
- **Comprehensive Protection:** Built-in safeguards include low voltage protection, over voltage protection, inverter overheat prevention, output overload protection, and output short circuit protection.
- **Real-time Monitoring:** An integrated LCD display shows real-time status, including output power, load ratio, DC input voltage, fault prompts, frequency, and AC output voltage.
- **Efficient Cooling:** Equipped with two cooling fans that operate effectively in temperatures ranging from -20°C to 40°C, ensuring stable performance even in harsh conditions.
- **Clean Power Output:** Pure sine wave technology delivers stable, low-interference power, making it safe for all appliances.

Components

The LiTime 1000W Pure Sine Wave Inverter includes the following components:

- LiTime 1000W Pure Sine Wave Inverter unit
- 2 AC outlets (110-120V AC)
- ON/OFF switch
- LCD Monitoring Screen
- Negative Terminal (DC Side)
- Positive Terminal (DC Side)
- 2 Cooling Fans
- 2 x 1.97FT Battery to Inverter Cables (Red and Black)
- 4 Mounting Screws
- 4 Plastic Anchors

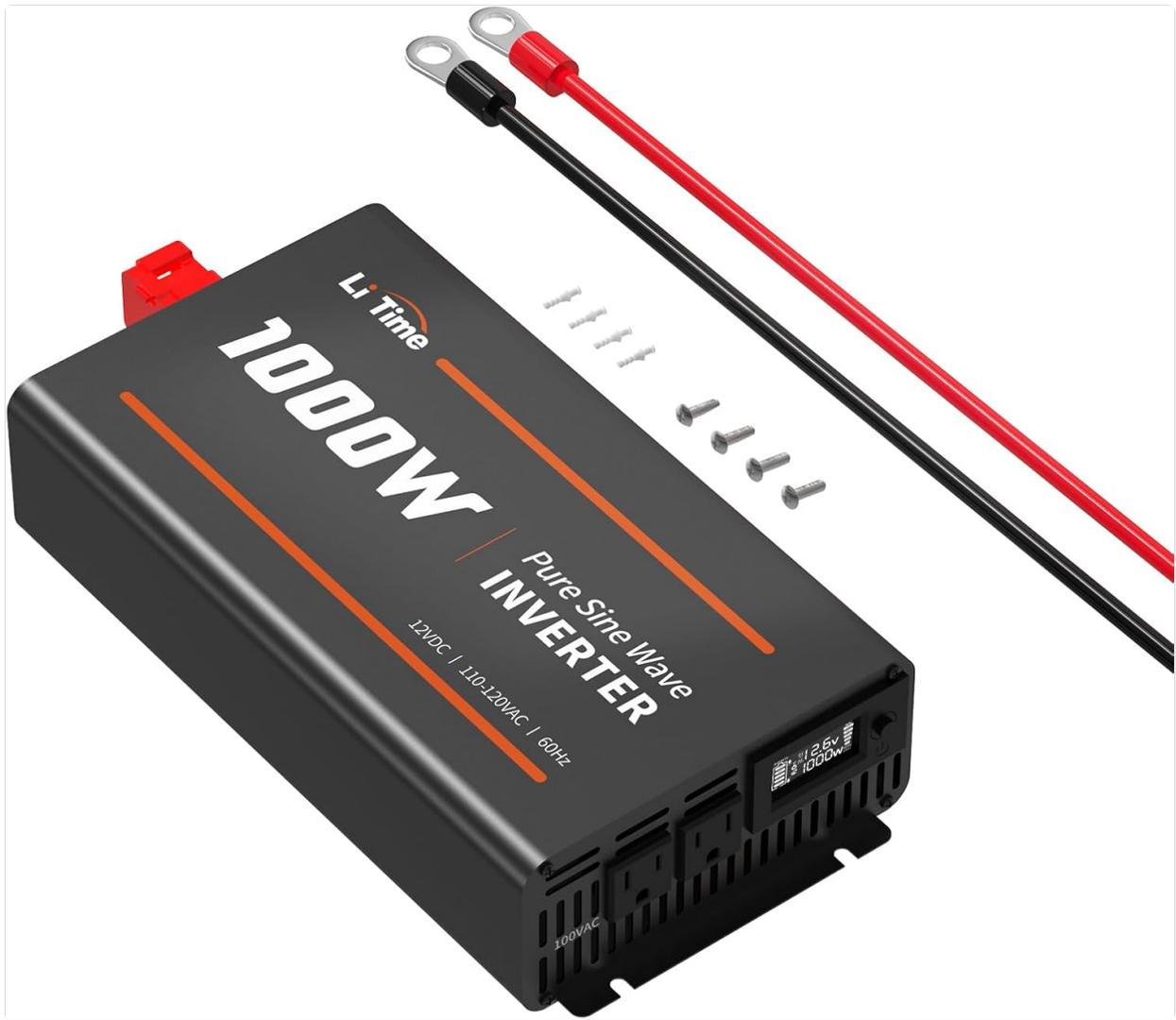


Figure 1: LiTime 1000W Pure Sine Wave Inverter with included accessories. The image shows the inverter unit, red and black battery cables, and small bags containing mounting screws and plastic anchors.



Figure 2: Detailed view of the inverter's AC and DC sides. The AC side features two outlets, an ON/OFF switch, and the monitoring screen. The DC side shows the positive and negative terminals and cooling fans.

4. SPECIFICATIONS

Specification	Value
Model Name	1000W 12V Pure Sine Wave Inverter
Wattage	1000 watts
Power Source	Battery Powered
Recommended Uses	Home, Off-grid Cabin, RV
Brand	Litime
Manufacturer	Litime
Product Dimensions	9.54 x 6.24 x 3.93 inches
Item Weight	6.38 pounds
Item Model Number	L12V1KW-M

5. SETUP & INSTALLATION

Follow these steps to properly set up and install your LiTime 1000W Pure Sine Wave Inverter.

5.1. Connection Procedure

1. Ensure the inverter's ON/OFF switch is in the OFF position.
2. Connect the provided red battery cable to the positive (+) terminal of the inverter and the positive (+) terminal of your 12V battery.
3. Connect the provided black battery cable to the negative (-) terminal of the inverter and the negative (-) terminal of your 12V battery.
4. Ensure all connections are tight and secure to prevent loose connections and potential hazards.
5. Once the inverter is connected to the battery, you can connect your AC loads to the inverter's AC outlets.



Figure 3: Connection and Disconnection Steps. Always connect the inverter to the battery first, then the load. Disconnect the load first, then the battery.

5.2. Disconnection Procedure

1. Ensure the inverter's ON/OFF switch is in the OFF position.
2. Disconnect all AC loads from the inverter's outlets.
3. Disconnect the black battery cable from the negative (-) terminal of the inverter and the battery.
4. Disconnect the red battery cable from the positive (+) terminal of the inverter and the battery.

5.3. Important Considerations

- **Matching Voltage:** Ensure your battery system voltage matches the inverter's 12V DC input. Mismatched voltages can cause system damage.
- **Ventilation:** Install the inverter in a well-ventilated area to prevent overheating.
- **Overloading:** Do not exceed the inverter's continuous or peak wattage ratings.

Avoid Mismatched Voltages To Prevent System Damage

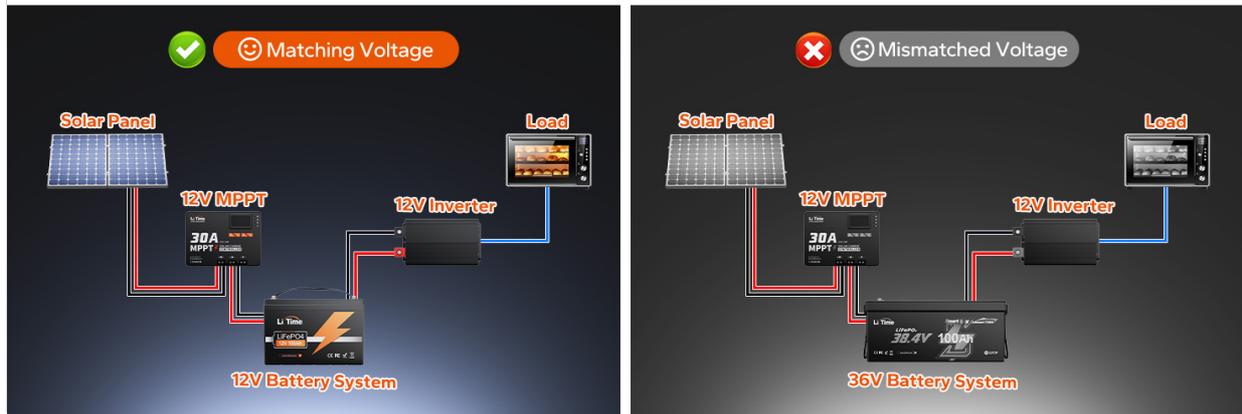


Figure 4: Visual guide for avoiding mismatched voltages in a solar power system. Ensure the inverter's input voltage matches the battery system voltage.

5.4. Mounting

The inverter can be mounted horizontally or vertically using the provided screws and anchors. Horizontal mounting is generally recommended for optimal heat dissipation.



Figure 5: Recommended mounting orientation. Horizontal mounting is generally preferred for better heat dissipation.

6. OPERATING INSTRUCTIONS

Once properly installed, operating the inverter is straightforward.

6.1. Powering On/Off

- To power on, ensure the inverter is connected to a 12V battery, then press the ON/OFF switch. The LCD display will illuminate, showing real-time status.
- To power off, press the ON/OFF switch. The LCD display will turn off.

6.2. LCD Display

The LCD display provides critical information for monitoring the inverter's performance and status:

- **Output Power:** Displays the current wattage being drawn by connected AC loads.
- **Load Ratio:** Indicates the percentage of the inverter's capacity currently in use.
- **DC Input Voltage:** Shows the current voltage of the connected 12V battery.
- **Fault Prompts:** Alerts to any protection activations (e.g., low voltage, overload).
- **Frequency:** Displays the output AC frequency (60Hz).

- **AC Output Voltage:** Shows the output AC voltage (110-120V).



Figure 6: The LCD display provides real-time status updates, including output power, load ratio, and various protection indicators.

6.3. Cooling Fans

The inverter features two intelligent cooling fans that automatically activate when the internal temperature rises, ensuring optimal operating conditions and preventing overheating. The fans operate with low noise.



Figure 7: The inverter's dual cooling fans ensure efficient heat dissipation, allowing operation in a wide temperature range.

7. MAINTENANCE

To ensure the longevity and optimal performance of your LiTime 1000W Pure Sine Wave Inverter, follow these maintenance guidelines:

- Keep the inverter in a dry, well-ventilated area, away from direct sunlight and moisture.
- Regularly inspect all cable connections to ensure they are tight and free from corrosion.
- Keep the ventilation openings clear of dust and debris to allow proper airflow.
- Do not attempt to open or repair the inverter yourself. Refer to qualified personnel for service.

8. TROUBLESHOOTING

The LCD display will provide fault prompts if any protection features are activated. Refer to the specific error message on the display to identify and resolve the issue.

- **Low Voltage Protection:** The inverter will shut down if the input DC voltage drops below a safe level to protect the battery. Recharge your battery.
- **Over Voltage Protection:** The inverter will shut down if the input DC voltage exceeds a safe level. Check your battery charging system.
- **Overheat Protection:** The inverter will shut down if its internal temperature becomes too high. Ensure adequate

ventilation and reduce load if necessary.

- **Output Overload Protection:** The inverter will shut down if the connected AC load exceeds its continuous or peak wattage rating. Reduce the connected load.
- **Output Short Circuit Protection:** The inverter will shut down if a short circuit is detected at the AC output. Disconnect all loads and check for faults.



Figure 8: The inverter is equipped with multiple safety protections to ensure reliable and safe operation.

9. WARRANTY & SUPPORT

LiTime products are CE/FCC/RoHS certified, guaranteeing both safety and quality assurance. The inverter comes with the same excellent after-sales service as LiTime's LiFePO4 batteries.

- **Customer Service:** Professional technical support and customer service are available via phone or online services, with quick feedback within 24 hours.
- **Service Period:** Enjoy up to 5-year service.

10. APPLICATIONS

The LiTime 1000W Pure Sine Wave Inverter is versatile and suitable for a wide range of applications, providing clean and low-interference power wherever you need it.

- **Home Use:** Power essential appliances during outages or in areas without grid access.

- **RV & Camping:** Run electronics, small appliances, and charging devices while on the go.
- **Trucks:** Provide AC power for tools and electronics in commercial or recreational vehicles.
- **Off-Grid Solar Systems:** Integrate with solar panels and batteries for independent power solutions.

LITIME 1000W

Pure Sine Wave Power Inverter

Clean and Low Interference Power



* The rated power (W) of the loads should be less than the continuous power supported by the inverter (1000W)

Figure 9: The inverter can power a variety of devices, including laptops, smartphones, refrigerators, electric drills, kettles, and coffee machines, provided their combined rated power is within 1000W.



Figure 10: The LiTime Inverter supports diverse applications such as powering devices for parties, camping, making coffee, mowing the lawn, during travel, and for home lighting.



Figure 11: The LiTime 1000W Pure Sine Wave Inverter is an excellent option for camping, emergency work, off-grid solar systems, and RV trips, providing clean and low-interference power.

Video 1: LiTime Pure Sine Wave Inverter. This video provides an overview of the LiTime Pure Sine Wave Inverter, highlighting its features and benefits for various power needs.

Video 2: LiTime Inverter Selection. This video showcases the range of LiTime inverters, helping users understand the different models and their

applications.