NOVOPAL LCD2500W 12V

NOVOPAL 2500W Pure Sine Wave Inverter (Model LCD2500W 12V) User Manual

Your guide to safe and efficient operation of your NOVOPAL Pure Sine Wave Inverter.

1. Introduction

The NOVOPAL 2500W Pure Sine Wave Inverter converts 12V DC power from a battery into 220V/230V AC household power. This device is designed for compatibility with most electronic devices and is suitable for various applications, including home, office, and mobile use. It provides a continuous output of 2500 watts and a peak surge capacity of 5000 watts, ensuring stable power for sensitive electronics.
Key features include two AC outlets, a 2.1A USB port, high current DC terminals, and a wired remote control for convenient operation. The inverter incorporates advanced protection features to ensure safety and longevity of both the unit and connected appliances.

2. Safety Instructions

Please read and understand all safety instructions before installing or operating the inverter. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Ventilation:** Ensure the inverter is installed in a well-ventilated area. Do not block the ventilation openings.
- **Dry Environment:** Do not expose the inverter to water, rain, snow, or spray. Keep it away from flammable materials.
- **Correct Polarity:** Always connect the battery cables with correct polarity (positive to positive, negative to negative). Reversing polarity will damage the inverter and void the warranty. Refer to the image below for correct DC input connection.
- **Secure Connections:** Ensure all DC and AC connections are tight and secure to prevent overheating and arcing.
- **Grounding:** The inverter must be properly grounded.
- **Load Capacity:** Do not exceed the inverter's continuous power rating (2500W) or peak power rating (5000W). Overloading can cause damage to the inverter and connected devices.
- **Children and Pets:** Keep the inverter out of reach of children and pets.
- **Maintenance:** Only qualified personnel should service the inverter. There are no user-serviceable parts inside.

Image: Rear view of the NOVOPAL inverter showing the DC 12V input terminals. The red terminal is for positive (+) connection, and the black terminal is for negative (-) connection. Two cooling fans are visible, along with a warning against reverse polarity.

3. Product Overview and Features

The NOVOPAL Pure Sine Wave Inverter is equipped with several features designed for performance and safety.

- **Pure Sine Wave Output:** Provides clean and stable AC power, suitable for sensitive electronics like laptops, medical equipment, and audio systems.
- **High Efficiency:** Achieves ≥ 90% efficiency, minimizing power loss during conversion.
- **LCD Display:** Shows real-time operational status, including battery voltage, output voltage, load power, and error codes.
- **Multiple AC Outlets:** Features two 220V/230V AC outlets for connecting various appliances.

- **USB Charging Port:** Includes a 2.1A USB port for charging mobile devices.
- **Remote Control:** A wired remote control (5-meter cable) allows for convenient power management from a distance.
- **Advanced Protection:** Integrated multi-security protection against overvoltage, undervoltage, overload, overheating, short-circuit, and overcurrent.
- **Intelligent Cooling Fan:** Temperature and load-controlled fans ensure optimal operating temperature and quiet operation.

3.1. Multi-Security Protection

Image: Diagram illustrating the multi-security protection features of the NOVOPAL inverter, including overvoltage, undervoltage, short-circuit, high temperature, overload, and overcurrent protection.

3.2. Pure Sine Wave Output

Image: Illustration highlighting the stable and damage-free output of the Pure Sine Wave Inverter, showing a smooth sine wave compared to a modified wave. It also indicates 92% efficiency and 4 testing certifications.

3.3. Remote Control

Image: The wired remote control for the NOVOPAL inverter, model NPL-01. It features a battery status indicator, fault indicator, power indicator, and a power switch. A note advises to switch off the inverter's power before connecting the remote control.

3.4. Versatile Applications

Image: Examples of applications for the NOVOPAL Pure Sine Wave Inverter, including household items (printer, sweeper, fan), consumer electronics (laptop, camera, drone), and tools (angle grinder, chainsaw, drill). *Note: The image contains a warning stating "The maximum operating power of this equipment must not exceed 1500W." Users should always adhere to the inverter's specified continuous power rating, which is 2500W for this model, and ensure connected loads do not exceed this limit.*

4. Setup and Installation

Follow these steps to properly set up your NOVOPAL Pure Sine Wave Inverter.

1. **Choose a Location:** Select a dry, cool, and well-ventilated area for the inverter. Avoid direct sunlight and heat sources. Ensure there is sufficient space around the inverter for airflow.
2. **Mounting:** The inverter can be mounted horizontally or vertically. Use appropriate screws and ensure it is securely fastened.
3. **DC Input Connection:**
    - Ensure the inverter's power switch is in the "OFF" position.
    - Connect the supplied red battery cable to the positive (+) terminal of your 12V DC battery.
    - Connect the other end of the red cable to the positive (+) terminal on the inverter.

- Connect the supplied black battery cable to the negative (-) terminal of your 12V DC battery.
- Connect the other end of the black cable to the negative (-) terminal on the inverter.
- Tighten all connections securely. Loose connections can cause overheating.

WARNING: Always connect positive to positive and negative to negative. Reversing polarity will cause severe damage to the inverter and battery.

4. **Grounding:** Connect a grounding wire from the inverter's grounding terminal to a suitable ground point (e.g., vehicle chassis or earth ground).
5. **Remote Control Connection (Optional):** If using the remote control, ensure the inverter is OFF, then plug the RJ45 cable from the remote into the designated port on the inverter.

5. Operating Instructions

Once the inverter is properly installed, follow these steps for operation.

1. **Power On:** Switch the inverter's main power switch to the "ON" position. The LCD screen will illuminate, displaying current battery voltage and other parameters.
2. **Connect Appliances:** Plug your AC appliances into the inverter's AC outlets. For USB charging, connect your device to the USB port.
3. **Monitor Display:** Observe the LCD screen for real-time information on input voltage, output voltage, and load power. This helps in managing power consumption.
4. **Fan Operation:** The inverter features an intelligent cooling system:
   - If the connected load is below 500W, the fans will activate only when the internal temperature reaches 45°C.
   - If the connected load is greater than 500W, the fans will start immediately upon power-on to ensure adequate cooling.
5. **Using the Remote Control:** If connected, the remote control can be used to turn the inverter ON/OFF and monitor basic status (battery level, fault, power indicator).
6. **Power Off:** Before disconnecting any appliances or the inverter from the battery, switch the inverter's main power switch to the "OFF" position.

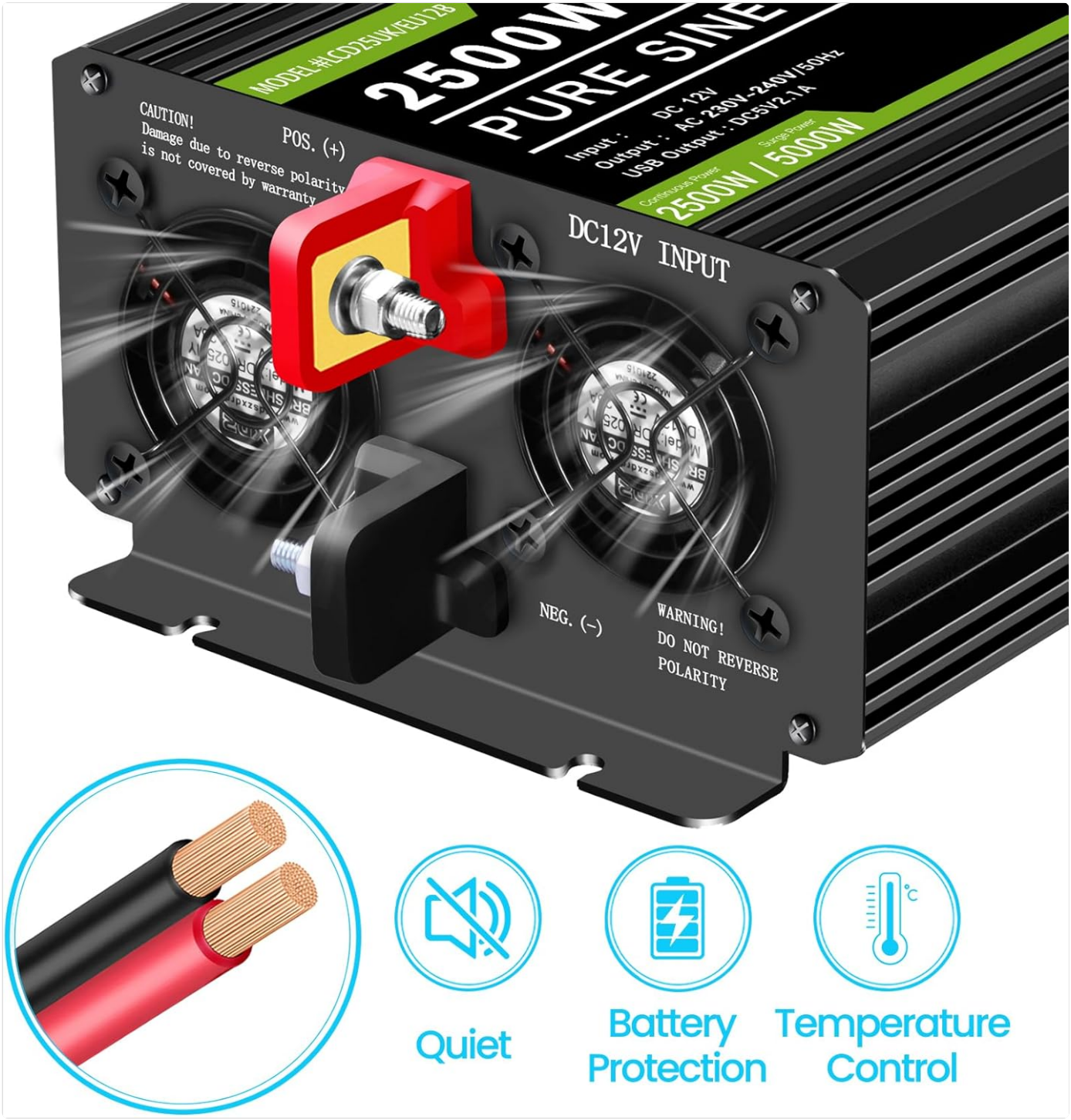

Image: Front panel of the NOVOPAL inverter, showing the LCD display, two AC output sockets, a USB charging port, and the main power switch.

6. Maintenance

Proper maintenance ensures the longevity and reliable operation of your inverter.

- **Cleaning:** Periodically clean the exterior of the inverter with a dry, soft cloth. Do not use liquid cleaners or solvents.
- **Ventilation:** Ensure the cooling vents are free from dust and debris. Use compressed air to clear any blockages if necessary.
- **Connections:** Regularly check all DC and AC connections to ensure they remain 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 Maintenance:** Ensure your 12V DC battery is properly maintained and charged according to its manufacturer's instructions.

7. Troubleshooting

This section addresses common issues you might encounter with your inverter.

Problem	Possible Cause	Solution
No output voltage / Inverter not turning on	• Low battery voltage • Loose DC connections • Blown fuse • Inverter in protection mode (e.g., undervoltage)	• Charge or replace battery • Check and tighten all DC cables • Check and replace internal fuses (consult support if unsure) • Check battery voltage; if below 10.5V, inverter will shut down
Low output power / Inverter shuts down under load	• Overload (connected appliance exceeds 2500W continuous) • Overheating • Battery voltage drop under load	• Reduce the total load connected to the inverter • Ensure proper ventilation; allow inverter to cool down • Check battery condition and capacity
Inverter beeps continuously	• Low battery voltage warning • Overload warning • Overheating warning	• Check battery voltage and charge if low • Reduce connected load • Ensure proper ventilation; allow inverter to cool
Remote control not working	• Loose cable connection • Inverter not powered on	• Check RJ45 cable connection at both ends • Ensure the main inverter switch is ON

8. Specifications

Technical specifications for the NOVOPAL 2500W Pure Sine Wave Inverter (Model LCD2500W 12V).

Parameter	Value
Model Number	LCD2500W 12V
Continuous Output Power	2500W
Peak Output Power (Surge)	5000W (less than one second)
Input DC Voltage	12V DC
Output AC Voltage	220V AC / 230V AC (±3V AC)
Output Frequency	50Hz (±1Hz)
Output Waveform	Pure Sine Wave (<3% THD)

Parameter	Value
Efficiency	≥ 90%
No-Load Current Consumption (DC side)	<1A
USB Output	2.1A
Cooling	Temperature and Load Controlled Fans
Weight	4.15 Kilograms

9. Warranty and Support

For warranty information and technical support, please refer to the documentation included with your purchase or contact NOVOPAL customer service.
You can often find support resources and contact details on the official NOVOPAL website or through your retailer.