Giandel PS-2000SDR

GIANDEL PS-2000SDR 2000W Pure Sine Wave Power Inverter Instruction Manual

Model: PS-2000SDR

1. Introduction

This manual provides essential information for the safe and efficient operation of your GIANDEL PS-2000SDR 2000W Pure Sine Wave Power Inverter. Please read this manual thoroughly before installation and use, and retain it for future reference. This inverter converts 12V DC power from a battery into 120V AC pure sine wave power, suitable for a wide range of applications.

Image 1.1: GIANDEL PS-2000SDR 2000W Pure Sine Wave Power Inverter with included battery cables, remote control, earth wire, and shockproof pads.

2. Safety Information

Your safety is paramount. This inverter incorporates multiple protection features. Adhere to all safety warnings and instructions to prevent injury or damage.

2.1 General Safety Precautions

- Ensure the battery is 12V and fully charged before connecting to the inverter.
- Do not expose the inverter to rain, moisture, or extreme temperatures outside its operating range.
- Ensure proper ventilation around the inverter to prevent overheating.
- Do not open the inverter casing. Refer servicing to qualified personnel.
- Always connect the inverter to a properly grounded system.

2.2 Integrated Protection Features

The GIANDEL PS-2000SDR is equipped with comprehensive electronic protections:

- **Over Voltage Protection:** Safeguards against excessive input voltage.

- **Low Voltage Protection:** Prevents battery over-discharge.
- **Overload Protection:** Shuts down if connected loads exceed the inverter's capacity.
- **Short Circuit Protection:** Protects against short circuits in the output.
- **Over Heat Protection:** Activates cooling fans and shuts down if internal temperature is too high.
- **Reverse Polarity Protection:** (Fuse blown) Protects against incorrect battery terminal connection.
- **Isolated Input/Output Design:** Meets UL458 standards for enhanced reliability.

Image 2.1: Visual representation of the inverter's seven electronic safety protections, including low voltage, over heat, reverse polarity, short circuit, overload, over-voltage, and isolated input/output design.

3. Product Overview and Features

The GIANDEL PS-2000SDR is a 2000W continuous power pure sine wave inverter designed for various applications, from RVs and off-grid solar systems to emergency power. It features a robust design and multiple output options.

3.1 Key Features

- **Pure Sine Wave Output:** Provides clean, stable AC power, ideal for sensitive electronics and inductive loads, reducing noise and extending appliance lifespan.
- **High Efficiency:** Conversion efficiency up to 90%.
- **Multiple Outputs:** Two standard AC outlets, one AC terminal block for hardwiring, one USB-C PD30W port, and two QC3.0 USB ports.
- **Advanced Cooling System:** Intelligent high-speed cooling fan activates when the inverter temperature reaches 35°C or load exceeds 800W, ensuring optimal performance and reducing power consumption.
- **Durable Construction:** Aluminum alloy housing provides protection from impacts and aids in heat dissipation.
- **Remote Control:** Includes a 15ft wired remote control with battery status display for convenient operation.

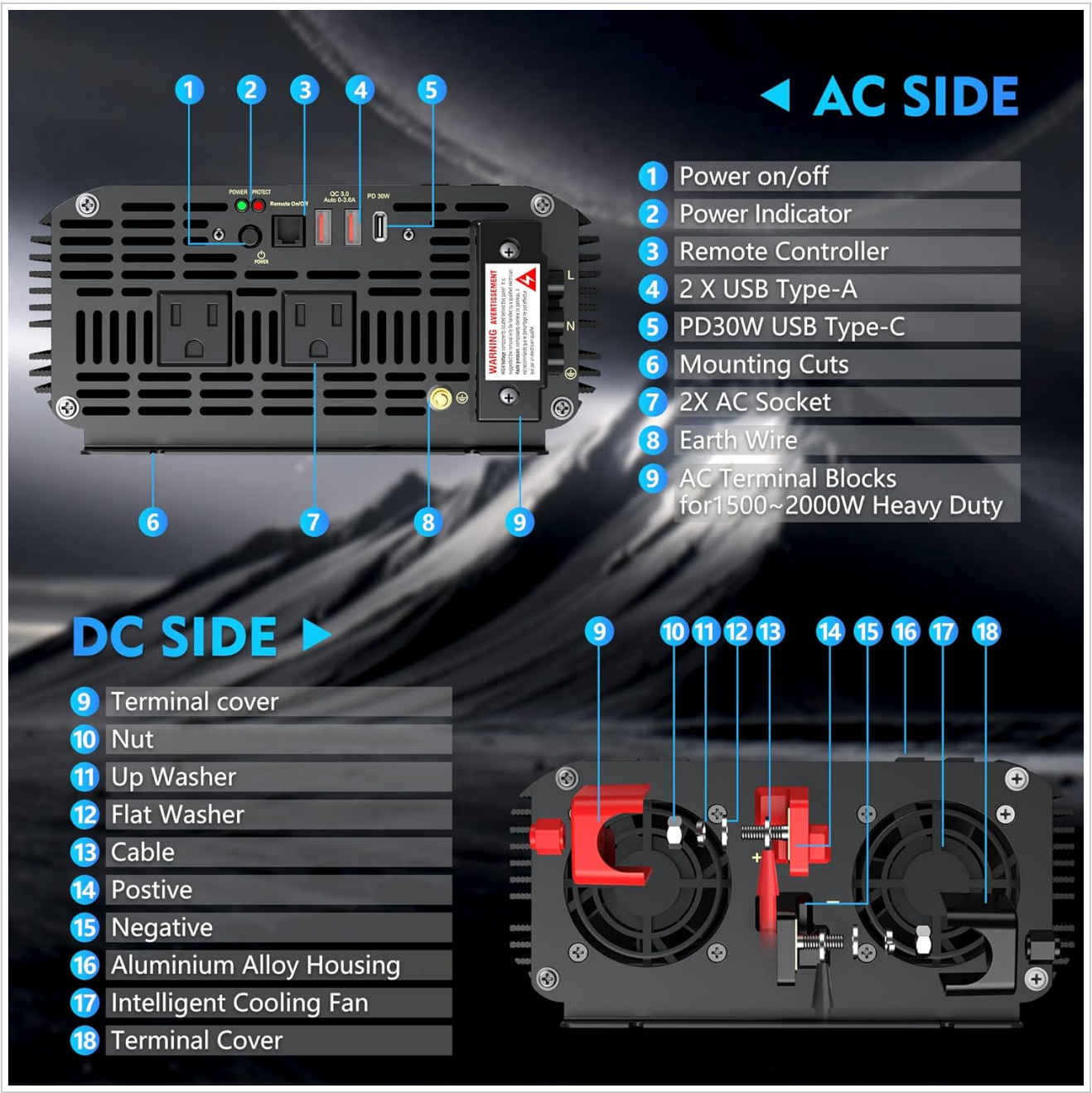


Image 3.1: Front and side view of the inverter, detailing AC side components (Power on/off, Power Indicator, Remote Controller port, PD30W USB Type-C, 2X USB Type-A, Mounting Cuts, 2X AC Socket, Earth Wire, AC Terminal Blocks) and DC side components (Terminal cover, Nut, Up Washer, Flat Washer, Cable, Positive, Negative, Aluminum Alloy Housing, Intelligent Cooling Fan).

Image 3.2: Smart Cooling Fan system.

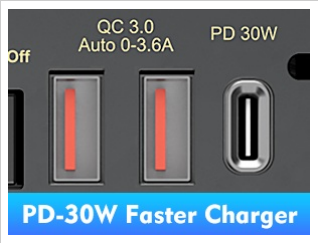


Image 3.3: PD-30W USB-C and QC 3.0 USB ports for fast charging.

4. Setup and Installation

Proper installation is crucial for the inverter's performance and safety. Follow these steps carefully.

4.1 What's in the Box

- GIANDEL 2000W Pure Sine Wave Inverter
- Battery Cables (2 pairs of 5 AWG, totaling 2 AWG equivalent)
- Wired Remote Control
- Earth Wire
- Shockproof Pads (4 pieces)

Image 4.1: Package contents and product dimensions.

4.2 Mounting the Inverter

The inverter features a hanging fixed design for secure installation.

- Choose a dry, well-ventilated location away from direct sunlight, heat sources, and flammable materials.
- Ensure sufficient clearance around the inverter for airflow, especially around the cooling fans.
- Use the provided mounting cuts to securely fasten the inverter to a stable surface.
- Attach the shockproof pads to the bottom of the inverter to reduce vibration and protect surfaces.

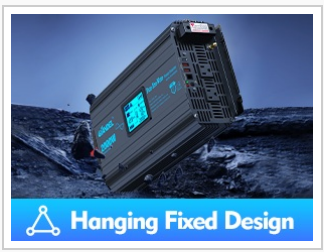


Image 4.2: Hanging Fixed Design for secure mounting.

Image 4.3: Shockproof pads for stability and vibration reduction.

4.3 Battery Connections (DC Side)

Warning: This is a 12V inverter. Ensure your battery is 12V and fully charged. Incorrect voltage can damage the inverter and connected devices. Always connect the negative terminal first, then the positive. Disconnect in reverse order.

1. Ensure the inverter is turned OFF.
2. Connect the **red** battery cable to the **positive (+)** terminal of the inverter.
3. Connect the other end of the **red** cable to the **positive (+)** terminal of your 12V battery.
4. Connect the **black** battery cable to the **negative (-)** terminal of the inverter.
5. Connect the other end of the **black** cable to the **negative (-)** terminal of your 12V battery.
6. Tighten all connections securely. Loose connections can cause overheating and power loss.

The included 5 AWG cables are designed to reduce resistance and heat. For optimal performance and safety, ensure a tight connection between the ring terminal of the input cable and the battery terminal.

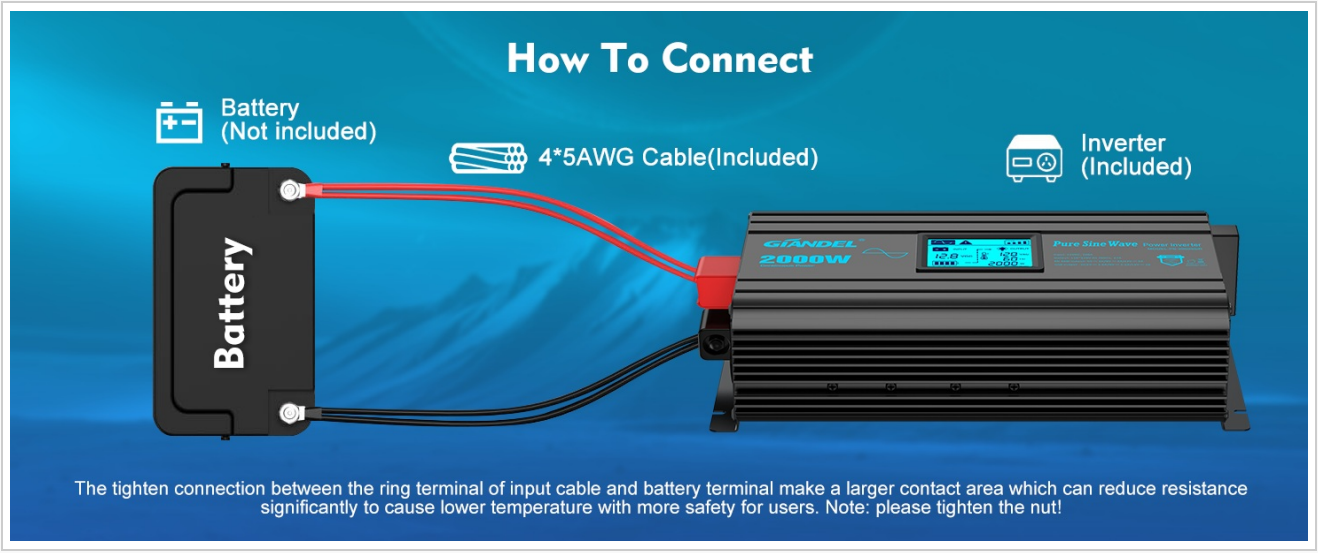


Image 4.4: Step-by-step guide for connecting the inverter to a 12V battery.

Image 4.5: Detailed view of 12V DC connections, emphasizing proper tightening of nuts and washers.

4.4 Grounding the Inverter

Connect the earth wire (green/yellow) from the inverter's grounding terminal to a proper earth ground point in your system (e.g., vehicle chassis, solar panel frame, or dedicated ground rod).

4.5 AC Terminal Block Connection

For high-power appliances between 1500W and 2000W, use the AC terminal block for a direct hardwire connection. Consult a qualified electrician for hardwiring installations.

Image 4.6: AC hardwire terminal block for achieving full 2000W power.

4.6 System Connection Diagram (Example)

Image 4.7: Example system connection diagram for a solar setup, illustrating the flow from solar panels to charge controller, battery, inverter, and finally to AC appliances.

5. Operating Instructions

Once the inverter is properly installed and connected, follow these steps to operate it.

5.1 Powering On/Off

1. Ensure all AC loads are disconnected or turned off before powering on the inverter.
2. Press the Power On/Off button on the inverter's front panel or the remote control. The power indicator light will illuminate.
3. Connect your AC appliances to the inverter's AC outlets or hardwire terminal.
4. To power off, first turn off all connected AC appliances, then press the Power On/Off button on the inverter or remote.

5.2 Using the Remote Control

The included 15ft wired remote control allows for convenient operation from a distance.

- Connect the remote control cable to the 'Remote Controller' port on the inverter's AC side.
- Use the ON/OFF button on the remote to power the inverter on or off.
- The remote display shows the battery status, providing an overview of your power source.

Image 5.1: The 15ft wired remote controller for convenient inverter operation.

5.3 Understanding the LCD Display

The inverter's LCD display provides real-time information about its operational status.

- **Pure Sine Wave Symbol:** Indicates pure sine wave output.
- **Input Voltage:** Displays the DC input voltage from the battery.
- **Battery Status Level:** Shows the current charge level of the connected battery.
- **Load Status Level:** Indicates the current load on the inverter.
- **AC Output Voltage:** Displays the AC output voltage (e.g., 120 VAC).
- **Inverter Frequency:** Shows the output frequency (e.g., 60 Hz).
- **Loads Power:** Displays the current power consumption in watts.
- **Warning Indicators:**
  - **LO:** Undervoltage protection activated.
  - **HI:** Overvoltage protection activated.
  - **OL:** Output overload or short-circuit protection activated.
  - **Thermometer Symbol:** Over heat protection activated.

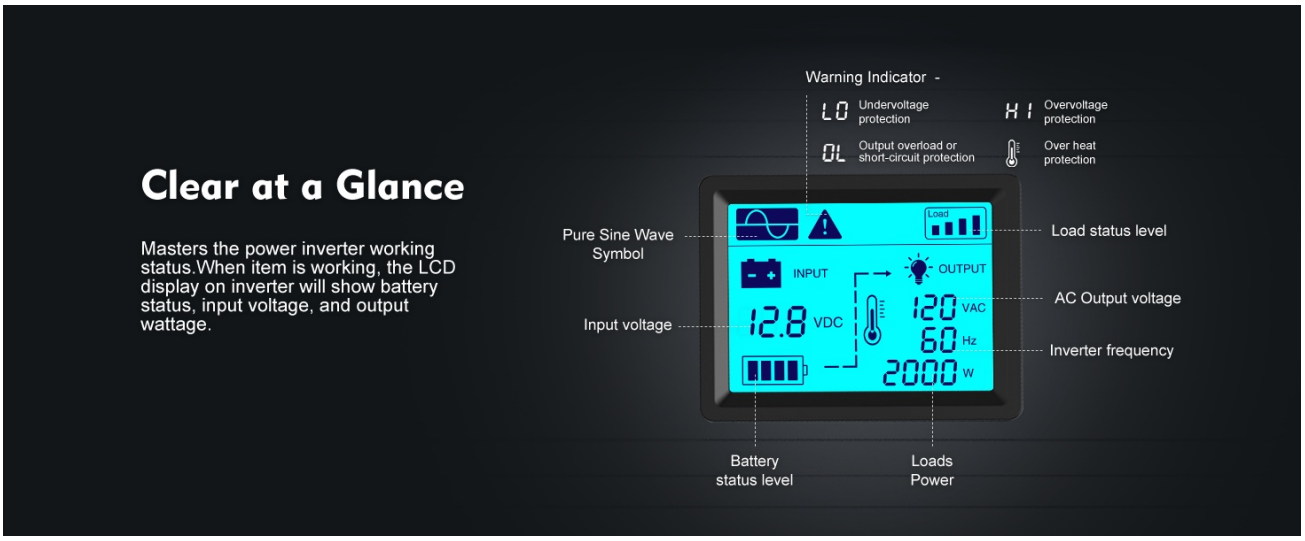


Image 5.2: Clear at a Glance - LCD display details and warning indicators.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your inverter.

- Keep the inverter clean and free from dust and debris. Use a dry cloth for cleaning.
- Ensure ventilation openings are not blocked.
- Periodically check battery cable connections for tightness and corrosion. Clean if necessary.
- Store the inverter in a cool, dry place when not in use for extended periods.

7. Troubleshooting

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

Problem	Possible Cause	Solution
No AC output, inverter off	Low battery voltage, loose connections, inverter switch off.	Check battery charge, tighten connections, turn inverter on.
Inverter shuts down with 'LO' warning	Battery voltage too low.	Recharge or replace battery. Reduce load.
Inverter shuts down with 'HI' warning	Battery voltage too high.	Check charging system. Ensure correct battery type.
Inverter shuts down with 'OL' warning	Overload or short circuit.	Reduce connected load. Check for short circuits in appliances or wiring.
Inverter shuts down with thermometer symbol	Overheating.	Ensure proper ventilation. Reduce load. Allow inverter to cool.
No USB output	Inverter not powered on, USB device incompatible.	Ensure inverter is on. Check USB device requirements.

8. Specifications

Feature	Specification
Model Name	PS-2000SDR
Continuous Power	2000 Watts
Input Voltage	12V DC
Output Voltage	120V AC
Output Waveform	Pure Sine Wave
Conversion Efficiency	Up to 90%
USB-C Output	PD30W
USB-A Output	Dual QC3.0
AC Outlets	2

Feature	Specification
AC Terminal Block	Yes (for 1500W-2000W appliances)
Product Dimensions	15.6 x 8 x 3.72 inches
Item Weight	12.38 pounds
Recommended Uses	Home, Office, Vehicle, Solar Setup, Off-Grid Solar System, Outdoor Camping, Hurricane Emergency
Power Source	Solar and Battery Powered

9. Warranty and Support

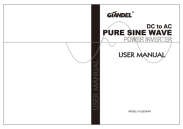
GIANDEL is committed to providing reliable products and customer satisfaction.

- **Warranty:** This product comes with an 18-Month Hassle-Free Warranty.
- **Customer Service:** Online support and service phone lines are available. GIANDEL has 3 service centers located in IL, TN, and TX to provide after-sales service.
- **Insurance:** AIG covers the insurance for this product.

Image 9.1: GIANDEL's commitment to customer support and warranty.

Related Documents - PS-2000SDR

	GIANDEL 1200W Pure Sine Wave Power Inverter User Manual User manual for the GIANDEL 1200W Pure Sine Wave Power Inverter (Model PS-1200JCR), covering features, safety guidelines, installation, usage instructions, operational principles, and troubleshooting tips.
	GIANDEL PS-5000QAR Pure Sine Wave Power Inverter User Manual This user manual provides comprehensive instructions for the GIANDEL PS-5000QAR Pure Sine Wave Power Inverter, covering its introduction, safety precautions, parts list, installation, battery connection, AC appliance connection, features, protections, troubleshooting, and warranty information.

	GIANDEL 1200W Pure Sine Wave Power Inverter PS-1200JCR User Manual Comprehensive user manual for the GIANDEL 1200W Pure Sine Wave Power Inverter (Model PS-1200JCR). Learn about specifications, safety warnings, installation, connection, usage, protection features, troubleshooting, and warranty.
	Giandel Inverter Quick Knowledge and Troubleshooting Guide A concise guide from Giandel covering essential information on correctly connecting your inverter and troubleshooting common issues, including output voltage, overload, and temperature problems.
	GIANDEL PS-2200KAR Pure Sine Wave Power Inverter User Manual Comprehensive user manual for the GIANDEL PS-2200KAR Pure Sine Wave Power Inverter. Covers specifications, installation, operation, safety guidelines, protection features, troubleshooting, and warranty information for reliable DC to AC power conversion.
	GIANDEL PS-3000PBR Pure Sine Wave Power Inverter User Manual Comprehensive user manual for the GIANDEL PS-3000PBR Pure Sine Wave Power Inverter. This guide covers specifications, introduction, safety warnings, parts list, assembly, battery usage, connection, usage instructions, protection functions, troubleshooting, and warranty information.