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Renogy RNG-INVT-2000-12V-P2

Renogy 2000W Pure Sine Wave Inverter User Manual

Model: RNG-INVT-2000-12V-P2

Introduction | Safety Instructions | What's in the Box | Setup & Installation | Operation | Maintenance | Troubleshooting | Specifications | Warranty & Support

1. Introduction

The Renogy 2000W Pure Sine Wave Inverter is designed to convert 12V DC power from your battery bank into clean, stable 110V/120V AC power, suitable for a wide range of household appliances and sensitive electronics. This inverter is an essential component for off-grid solar systems, RVs, trucks, and home backup power solutions, providing reliable and efficient energy wherever you need it.



Figure 1: Renogy 2000W Pure Sine Wave Inverter with included accessories.

2. Safety Instructions

Always prioritize safety when installing and operating the inverter. Failure to follow these instructions may result in serious injury or damage to the equipment.

- Ensure the inverter is in the OFF position before making any electrical connections.
- Connect the inverter to a 12V DC battery bank only. Do not connect to a 24V or 48V system.
- Always connect the negative (black) cable first, then the positive (red) cable. When disconnecting, disconnect the positive (red) cable first, then the negative (black) cable.
- Verify correct polarity before connecting to the battery. Incorrect polarity will damage the inverter.
- Install appropriate overcurrent protection (fuses or circuit breakers) between the battery and the inverter.
- Ensure proper ventilation around the inverter to prevent overheating. Do not block cooling fans.
- The inverter must be properly grounded to prevent electrical shock.
- Avoid operating the inverter in wet or damp conditions.

- Do not connect appliances that exceed the inverter's continuous or peak power ratings.
- This inverter is UL 458 & CSA C22.2 No. 107.1 certified, ensuring high safety and quality standards.



Figure 2: Essential Safety Protection with GFCI. Ensure the inverter chassis is well grounded.

3. What's in the Box

Upon opening your Renogy 2000W Pure Sine Wave Inverter package, you should find the following components:

- 1 x Renogy 2000W 12V Pure Sine Wave Inverter
- 2 x 1/0AWG 3ft Inverter Cables (Red and Black)
- 1 x 19.8ft Wired Remote Control



Figure 3: Package Contents. The inverter measures 4.0 x 17.8 x 8.6 inches and weighs 11.7 lbs.

4. Setup & Installation

Proper installation is crucial for the optimal performance and longevity of your inverter. Follow these steps carefully:

4.1 Mounting the Inverter

- Choose a dry, well-ventilated location away from direct sunlight, heat sources, and flammable materials.
- Mount the inverter securely using the integrated mounting brackets. Ensure there is adequate clearance around the unit for airflow, especially around the cooling fans.



Figure 4: Efficient Cooling in Enclosed Spaces. The inverter operates quietly with fans on (<60dB) or off (<20dB).

4.2 Battery Connection

1. Ensure the inverter's power switch is in the OFF position.
2. Connect the negative (black) inverter cable to the negative terminal of your 12V battery. Secure tightly.
3. Connect the positive (red) inverter cable to the positive terminal of your 12V battery. Secure tightly.
4. Connect the other end of the negative (black) cable to the negative DC input terminal on the inverter.
5. Connect the other end of the positive (red) cable to the positive DC input terminal on the inverter.
6. Double-check all connections for tightness and correct polarity.



Figure 5: Multiple Occasions with Battery Adaptability. Compatible with LI, SLD, GEL, FLD, and AGM battery types.

4.3 Remote Control Connection (Optional)

- The wired remote control allows for convenient power management from a distance.
- Plug the remote control cable into the "REMOTE" port on the inverter.
- Ensure the inverter's main switch is set to the "REMOTE" position to enable remote operation.



Figure 6: Remote Control Inverter Switching. Effortless inverter control from a distance.

5. Operation

5.1 Turning On/Off

- To turn on the inverter, flip the main power switch to the "ON" position. The power indicator LED will illuminate.
- If using the remote control, ensure the main switch is in the "REMOTE" position, then use the switch on the remote to turn the inverter ON or OFF.
- To turn off the inverter, flip the main power switch to the "OFF" position or use the remote control.

5.2 Connecting Appliances

- The inverter provides three standard 110V/120V AC outlets and one 5V/2.1A USB port.
- Before connecting any appliance, ensure its power consumption (wattage) does not exceed the inverter's continuous rating (2000W) or surge rating (4000W).
- For sensitive electronics, the pure sine wave output ensures clean and stable power, protecting and extending

their lifespan.

- Plug your AC appliances into the outlets and USB devices into the USB port.

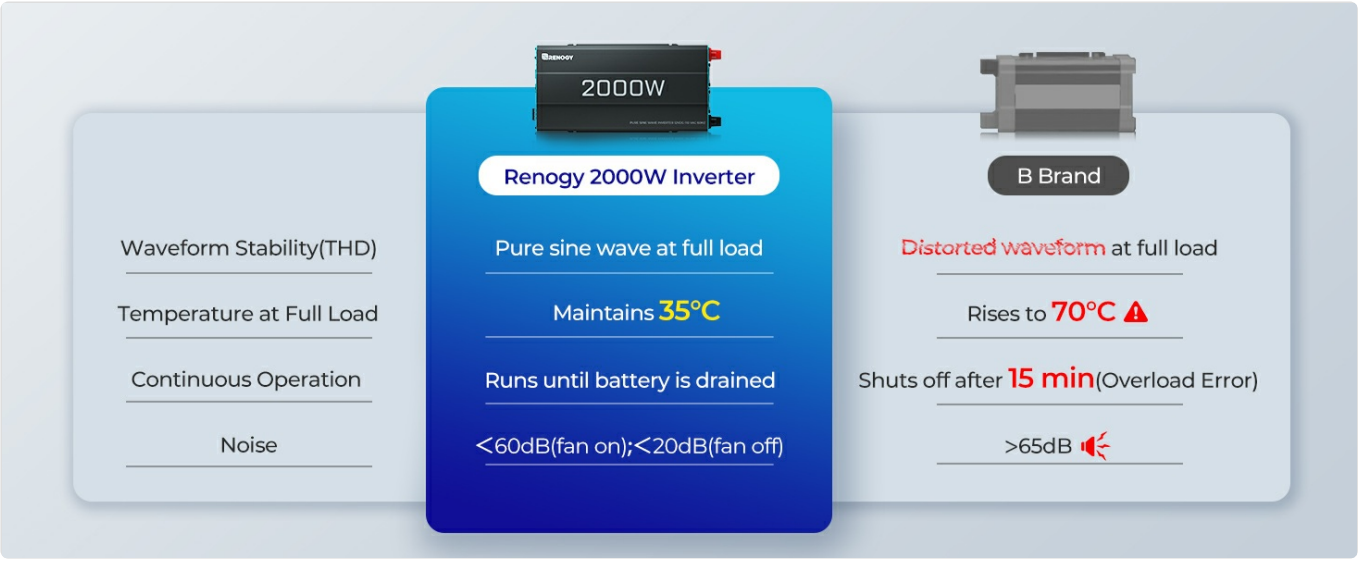

Figure 7: Pure Sine Wave Output. Provides quality AC equivalent to grid power.

5.3 Understanding LED Indicators

The inverter features LED indicators to provide real-time status and alert you to potential issues:

- **Green LED:** Indicates normal operation.
- **Yellow LED (GF):** Ground Fault. Indicates a ground fault circuit interrupter (GFCI) trip.
- **Red LED (Fault):** Indicates a fault condition such as under-voltage, over-voltage, over-temperature, over-load, or short circuit. Refer to the Troubleshooting section for solutions.

6. Maintenance

Regular maintenance ensures the longevity and efficient operation of your Renogy inverter:

- Keep the inverter clean and free from dust and debris. Use a dry cloth for cleaning.
- Periodically check all electrical connections to ensure they are tight and free from corrosion.
- Ensure the cooling fans are not obstructed and are functioning properly.
- Store the inverter in a cool, dry place when not in use for extended periods.

7. Troubleshooting

If you encounter issues with your inverter, refer to the table below for common problems and solutions:

Problem	Possible Cause	Solution
Inverter not turning on	Loose battery connections; Low battery voltage; Inverter switch in OFF/REMOTE position (if not using remote)	Check and tighten all battery connections; Charge or replace battery; Ensure switch is ON or REMOTE (if using remote).
Red Fault LED illuminated	Overload; Short circuit; Over-temperature; Under/Over-voltage	Reduce connected load; Check for short circuits in wiring/appliances; Allow inverter to cool down; Check battery voltage and charge if low.

Problem	Possible Cause	Solution
Yellow GF LED illuminated	Ground Fault detected	Disconnect all loads, reset inverter. If fault persists, consult a qualified electrician.
No AC output	Inverter OFF; Fault condition; Appliance not working	Turn inverter ON; Check LED indicators for fault codes; Test appliance with another power source.

8. Specifications

Feature	Specification
Model Name	2000W Pure Sine Wave Inverter
Continuous Power	2000W
Peak Surge Power	4000W
DC Input Voltage	12V DC
AC Output Voltage	110V/120V AC
Frequency	60Hz
Waveform	Pure Sine Wave
Conversion Efficiency	>90%
USB Output	5V/2.1A
Dimensions (L x W x H)	17.8 x 8.6 x 4 inches
Weight	11.7 pounds
Certifications	UL 458 & CSA C22.2 No. 107.1

9. Warranty & Support

Renogy products are built to last, and this inverter comes with a comprehensive warranty. For detailed warranty information, please refer to the official Warranty PDF. For technical support, troubleshooting assistance, or any questions regarding your Renogy product, please visit the official Renogy website or contact their customer service team.
Additional resources, including the full user manual, can be found at:User Manual (PDF)

10. Official Product Videos

Renogy 12V Pure Sine Wave off grid Solar Power Inverter

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This official Renogy video provides an overview of the 12V Pure Sine Wave Inverter, demonstrating its features and applications in off-grid solar power systems. It highlights the inverter's capabilities and how it integrates into a solar setup.

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