

Renogy 2000W Inverter & 50A DC-DC Charger Bundle

Renogy 2000W Pure Sine Wave Inverter & 50A DC-DC Charger with MPPT Bundle

USER MANUAL

1. Introduction

This manual provides essential instructions for the safe and efficient operation of your Renogy 2000W Pure Sine Wave Inverter and 50A DC-DC Charger with MPPT Bundle. This integrated system is designed to provide reliable AC power and efficient battery charging from both solar panels and your vehicle's alternator, making it ideal for RVs, vans, and off-grid applications. Please read this manual thoroughly before installation and use to ensure proper functionality and safety.

2. Safety Instructions

Always observe the following safety precautions to prevent personal injury or damage to the equipment.

- **General Safety:** Keep the units away from water, heat sources, and flammable materials. Ensure adequate ventilation around both the inverter and charger.
- **Electrical Safety:** Only qualified personnel should perform electrical installations. Disconnect all power sources before making or breaking electrical connections. Use appropriate wire gauges and fuses/breakers as specified.
- **Battery Safety:** Work in a well-ventilated area when handling batteries. Wear eye protection and gloves. Avoid short-circuiting battery terminals. Refer to your battery manufacturer's safety guidelines.
- **Inverter Specific:** Do not open the inverter casing. There are no user-serviceable parts inside. Ensure the inverter is properly grounded.
- **Charger Specific:** Ensure the charger is connected to a compatible battery type. Incorrect battery type settings can lead to damage or unsafe conditions.

3. Product Overview

3.1 Renogy 2000W Pure Sine Wave Inverter

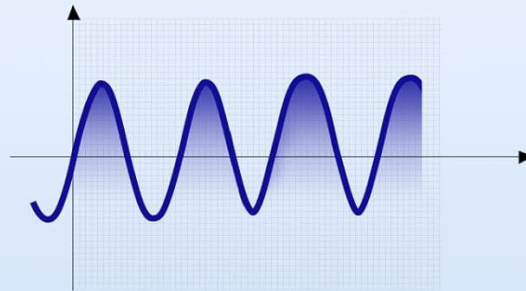
The 2000W Pure Sine Wave Inverter converts 12V DC battery power into 120V AC household power, suitable for sensitive electronics. It provides 2000W of continuous power and a 4000W surge capacity.



Image 3.1.1: The Renogy 2000W Pure Sine Wave Inverter shown connected to a deep cycle lithium iron phosphate battery. This inverter is compatible with various battery types including Lithium (LI), Sealed Lead Acid (SLD), Gel, Flooded (FLD), and AGM batteries. The unit weighs approximately 11.7 lbs.

Transforming Battery Management

Efficient and Stable, Safe for Appliances






| |  Renogy Pure Sine Wave Inverter |  Other Pure Sine Wave Inverter |  Modified Sine Wave Inverter |
|------------------------------------|---|--|--|
| Type | Renogy Pure Sine Wave Inverter | Other Pure Sine Wave Inverter | Modified Sine Wave Inverter |
| THD (Total Harmonic Distortion) | less than 3% (The THD of the grid is less than 5%, more stable than the grid) | 5-8% | 20%-40% |
| Remote Control | ✓ | ✗ | ✗ |
| GFCI | ✓ | ✗ | ✗ |
| Noise | <60dB (fan on); <20dB (fan off) | < 65 dB | < 65 dB |
| Inverter Efficiency | > 90% | 80%-85% | 80%-85% |

Image 3.1.2: This image illustrates the superior performance of the Renogy Pure Sine Wave Inverter compared to other pure sine wave inverters and modified sine wave inverters. Key metrics include Total Harmonic Distortion (THD) less than 3%, inclusion of remote control and GFCI, noise levels below 60dB (fan on) and 20dB (fan off), and an inverter efficiency greater than 90%.

Efficient Cooling in Enclosed Spaces

Designs for Reliable Inverter Temperature Control



Image 3.1.3: The Renogy 2000W Pure Sine Wave Inverter features efficient cooling fans designed for reliable temperature control, even in enclosed spaces. The fans operate quietly, with noise levels below 60dB when active and below 20dB when inactive.

3.2 Renogy 50A DC-DC Charger with MPPT

The 50A DC-DC Charger with MPPT is a multi-stage battery charger that efficiently charges your house battery from both solar panels and your vehicle's alternator. It features Maximum Power Point Tracking (MPPT) technology for solar charging, ensuring maximum efficiency.

Multi-Input for Battery Charging

Dual charging options can be charged at any condition and ensuring your battery stay fully charged at any time

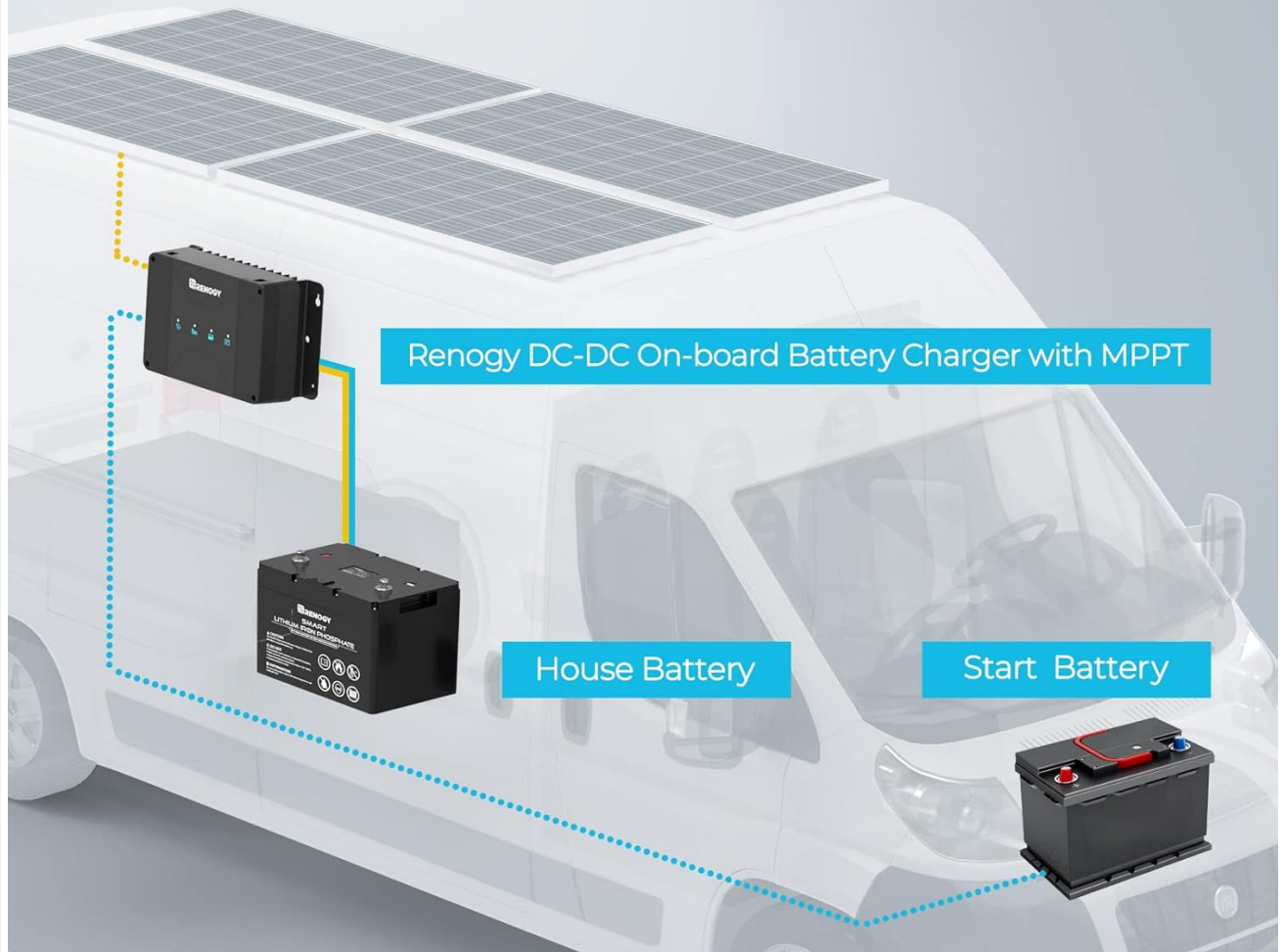


Image 3.2.1: This diagram illustrates the multi-input capability of the Renogy DC-DC On-board Battery Charger with MPPT. It shows connections from solar panels and the vehicle's start battery to charge the house battery, ensuring continuous power availability.

Every Nuance and Detail Matters

All the ingenious designs aim for the simplest installation and the most stable performance

Removable Side Covers

Anti-static electricity design, ensure product stability and safety

Integrated Terminal Design

Integrate the terminals for Solar Panel, Array Starter Battery, and House Battery all-in-one

Die-cast Aluminum Bottom

Realize efficient and ZERO dB noiseless heat dissipation



Image 3.2.2: Detailed view of the Renogy DC-DC Charger highlighting its design features. It includes removable side covers for anti-static electricity design and product stability, integrated terminal design for solar panel, array starter battery, and house battery connections, and a die-cast aluminum bottom for efficient and silent heat dissipation.

3.3 System Monitoring

The system offers various monitoring options to keep track of your power usage and battery status.

Take Control of Your Energy Easily

Elevate real-time monitoring experience with Renogy One M1 & DC Home App

Monitor By Bluetooth Module



Monitor By Renogy One M1



*The BT-2 and Renogy One M1 are available to purchase separately

Image 3.3.1: This image displays two methods for monitoring your Renogy power system: via a Bluetooth Module (BT-2, sold separately) connected to a smartphone app, and via the Renogy One M1 (sold separately). Both options provide real-time data such as battery voltage, charging amps, and total kWh generated.

4. Setup

4.1 Pre-Installation Checklist

- Verify all components are present and undamaged.
- Ensure you have the necessary tools and wiring (not included).
- Confirm battery compatibility and voltage (12V system).
- Choose a dry, well-ventilated mounting location for both units, away from direct sunlight and heat.

4.2 Mounting

Mount both the inverter and charger securely to a solid surface using appropriate fasteners. Ensure there is sufficient clearance around the units for airflow, especially around the inverter's cooling fans.

4.3 Wiring the Inverter

1. Connect the DC input cables from your 12V battery bank to the inverter's DC terminals. Ensure correct polarity (positive to positive, negative to negative).
2. Connect the inverter's chassis ground to a reliable ground point.
3. Plug your AC appliances into the inverter's AC outlets.

4.4 Wiring the DC-DC Charger

1. Connect the solar panel input to the charger's designated solar terminals.
2. Connect the vehicle's start battery to the charger's alternator input terminals.
3. Connect the house battery to the charger's house battery output terminals.
4. Ensure all connections are tight and secure.

5. Operating Instructions

5.1 Inverter Operation

- **Powering On:** After all connections are secure, switch on the inverter using its power button or the remote control. The indicator light will illuminate.
- **Connecting Appliances:** Plug your AC appliances into the inverter's outlets. Ensure the total wattage of your appliances does not exceed the inverter's continuous power rating (2000W).
- **Powering Off:** Disconnect appliances, then switch off the inverter.

5.2 DC-DC Charger Operation

- **Automatic Charging:** The charger will automatically detect input from solar panels and/or the alternator and begin charging the house battery.
- **Battery Type Selection:** Ensure the correct battery type is selected on the charger (refer to the charger's specific manual for detailed instructions on setting battery type).
- **Monitoring:** Use the optional Bluetooth module (BT-2) and smartphone app or the Renogy One M1 to monitor charging status and battery health.

6. Maintenance

- **Cleaning:** Periodically clean the exterior of both units with a dry cloth. Ensure ventilation openings are free from dust and debris. Do not use liquid cleaners.
- **Connection Checks:** Regularly inspect all electrical connections for tightness and corrosion. Tighten any loose connections.
- **Battery Health:** Monitor your battery's state of charge and overall health. Follow your battery manufacturer's maintenance recommendations.

7. Troubleshooting

If you encounter issues, refer to the following common problems and solutions:

7.1 Inverter Troubleshooting

- **No AC Output:** Check DC input connections, battery voltage (must be above minimum operating voltage), and ensure the inverter is powered on. Check for overload or short-circuit protection activation.
- **Overload Indication:** Reduce the load connected to the inverter. The inverter will automatically reset after the overload is removed.

- **Low Battery Alarm:** Recharge your battery bank. The inverter will shut down to protect the battery from over-discharge.

7.2 DC-DC Charger Troubleshooting

- **No Charging:** Verify solar panel connections and ensure sufficient sunlight. Check alternator input connections and ensure the vehicle engine is running. Confirm battery type setting is correct.
- **Low Charging Current:** Check for shading on solar panels. Ensure alternator is functioning correctly. Verify wire gauges are adequate for the current.
- **Error Codes:** Refer to the specific DC-DC charger manual for interpretation of any displayed error codes.

If problems persist, contact Renogy customer support.

8. Specifications

8.1 Renogy 2000W Pure Sine Wave Inverter

| Parameter | Value |
|---------------------------------|---|
| Continuous Power | 2000W |
| Surge Power | 4000W |
| DC Input Voltage | 12V |
| AC Output Voltage | 120V AC |
| Output Waveform | Pure Sine Wave |
| Total Harmonic Distortion (THD) | < 3% |
| Efficiency | > 90% |
| Protection | GFCI, Overload, Over-temperature, Short-circuit, Low/Over Voltage |

8.2 Renogy 50A DC-DC Charger with MPPT

| Parameter | Value |
|----------------------|--|
| Max Charging Current | 50A |
| System Voltage | 12V |
| MPPT Efficiency | 99% |
| Input Sources | Solar, Alternator |
| Protection | Over-voltage, Over-temperature, Reverse Polarity |

9. Warranty and Support

Renogy products come with a limited warranty. For detailed warranty information, product registration, or technical support, please visit the official Renogy website or contact their customer service department. Keep your purchase receipt for warranty claims.

Renogy Customer Support: Refer to your product packaging or the official Renogy website for the most current contact information.

