Redodo B0FGD77SBD

Redodo 14.6V 20A LiFePO4 Battery Charger, 2000W Pure Sine Wave Inverter, and 12V/24V 40A MPPT Solar Charge Controller User Manual

Introduction

This manual provides detailed instructions for the safe and efficient operation of your Redodo power system, which includes a 14.6V 20A LiFePO4 Battery Charger, a 2000W Pure Sine Wave Inverter, and a 12V/24V 40A MPPT Solar Charge Controller. Please read this manual thoroughly before installation and use to ensure proper function and longevity of the products.

Important Safety Information

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

- Read all instructions before using the product.
- Do not expose the units to rain, moisture, or extreme temperatures.
- Ensure proper ventilation around all components to prevent overheating.
- Connect components only to compatible voltage and current sources.
- Avoid short-circuiting terminals.
- Do not disassemble or attempt to repair the units yourself. Refer to qualified service personnel.
- Wear appropriate personal protective equipment, such as safety glasses and gloves, when handling batteries and electrical connections.
- Keep children away from the equipment.

Package Contents

Verify that all items are present in your package:

- 1 x Redodo 14.6V 20A LiFePO4 Battery Charger
- 1 x Redodo 2000W Pure Sine Wave Inverter
- 1 x Redodo 12V/24V 40 Amp MPPT Solar Charge Controller
- User Manual (this document)

Product Features

14.6V 20A LiFePO4 Battery Charger

- **Fast Charging Speed:** Delivers up to 14.6V and 20A, capable of charging a 12V 100Ah LiFePO4 battery to 50% in approximately 2.5 hours.
- **Safe Charging:** Features full automatic transition of Constant Current (CC), Constant Voltage (CV), and Cut-off.
- **Safety Protections:** Includes multiple safety features to protect the battery and charger.
- **LiFePO4 Specific:** Designed specifically for LiFePO4 batteries, capable of reactivating a 0V LiFePO4 battery.
- **Durable Construction:** Housed in an aluminum case with a built-in cooling fan for efficient heat dissipation.

Image: The Redodo 14.6V 20A LiFePO4 Battery Charger connected to a 12.8V 100Ah LiFePO4 battery, demonstrating its compatibility and charging function.

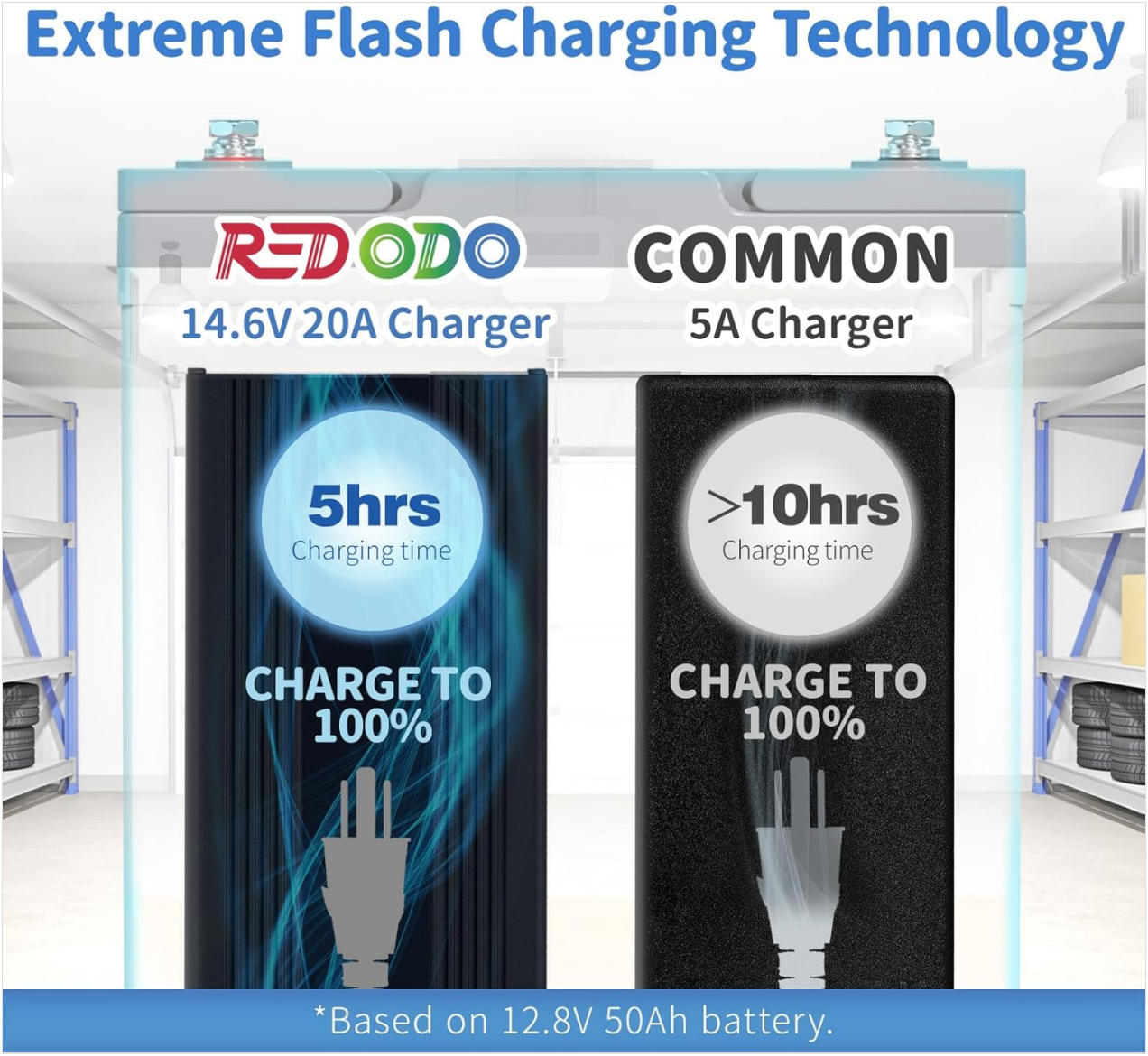

Image: A visual comparison illustrating the faster charging time of the Redodo 14.6V 20A charger (5 hours for 100% charge) compared to a common 5A charger (over 10 hours) for a 12.8V 50Ah battery.

Image: Close-up view of the Redodo 14.6V 20A LiFePO4 Battery Charger, highlighting its aluminum casing and built-in cooling fan for enhanced durability and heat dissipation.

2000W Pure Sine Wave Inverter

- **Reliable Power Efficiency:** Converts 12V DC to 120V AC power with a continuous output of 2000W and a peak surge power of 4000W.
- **Stable Output:** Provides a pure sine wave output with low interference and a distortion rate of less than or equal to 4%, suitable for sensitive electronics.
- **Wide Operating Temperature:** Functions reliably within a temperature range of -20°C to 40°C.
- **Easy Installation:** Designed for straightforward setup.

Image: The Redodo 2000W Pure Sine Wave Inverter, emphasizing its 4000W maximum surge capability and efficient DC to AC power conversion.

Image: A diagram illustrating the efficient cooling system of the Redodo 2000W Pure Sine Wave Inverter, designed to maintain stable temperatures during prolonged operation within -20°C to 40°C.

12V/24V 40 Amp MPPT Solar Charge Controller

- **Advanced MPPT Technology:** Features 99% tracking efficiency and up to 98% peak conversion efficiency to maximize power harvest from solar panels.
- **Built-in Bluetooth:** Convenient built-in Bluetooth module for monitoring and parameter adjustment.
- **Battery Compatibility:** Supports multiple types of battery usage.
- **Safety Protections:** Includes short-circuit, overvoltage, overpower, over-temperature, reverse connect, and reverse charging protection.

Image: The Redodo 40A MPPT Solar Charge Controller, highlighting its comprehensive safety features including protection against short-circuit, overvoltage, overpower, over-temperature, reverse connection, and reverse charging.

Image: A detailed view of the Redodo 40A MPPT Solar Charge Controller's interface, showing indicators for PV (solar panel), BAT (battery), LOAD, and FAULT for intuitive monitoring.

Setup and Installation

Proper installation is crucial for the safe and efficient operation of your Redodo power system. Follow these guidelines for each component.

General Connection Diagram

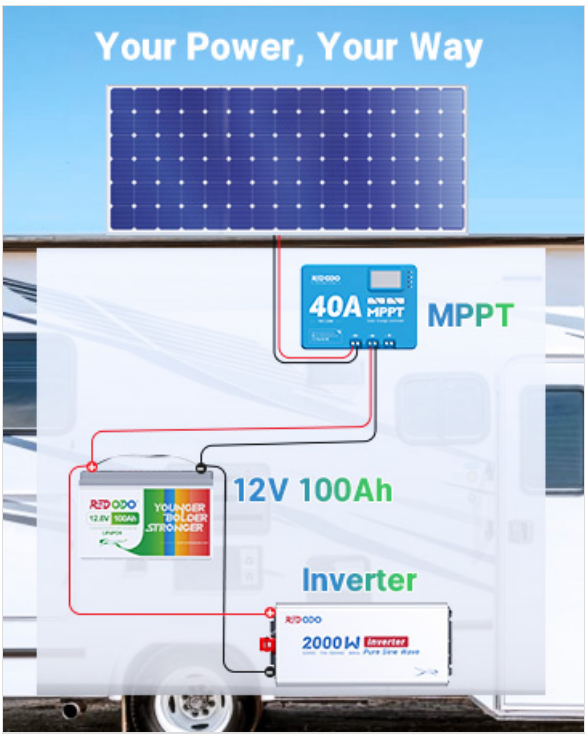

Image: A simplified wiring diagram illustrating the connection sequence: Solar Panel to MPPT Controller, MPPT Controller to 12V 100Ah Battery, and Battery to 2000W Inverter. This represents a typical off-grid power system setup.

1. 14.6V 20A LiFePO4 Battery Charger Setup

1. Ensure the charger is placed in a well-ventilated area, away from direct sunlight or heat sources.
2. Connect the charger's output cables (red for positive, black for negative) to the corresponding terminals of your LiFePO4 battery. Ensure a secure connection.
3. Plug the charger's AC input cord into a standard wall outlet (100-240V AC).
4. The charger will automatically begin the charging process. Monitor the LED indicators for charging status.

2. 2000W Pure Sine Wave Inverter Setup

1. Mount the inverter in a dry, cool, and well-ventilated location. Avoid mounting near flammable materials.
2. Connect the inverter's DC input terminals (red for positive, black for negative) to your 12V battery bank. Use appropriate gauge cables and ensure connections are tight.
3. Connect the ground terminal of the inverter to a reliable earth ground.
4. Turn on the inverter using its power switch.
5. Plug your AC appliances into the inverter's AC outlets. Do not exceed the inverter's continuous power rating.

3. 12V/24V 40 Amp MPPT Solar Charge Controller Setup

1. Mount the MPPT controller vertically on a wall or panel, ensuring good airflow.
2. **Connect the Battery:** First, connect the battery to the MPPT controller's battery terminals (positive to positive, negative to negative). The controller will detect the battery voltage (12V or 24V).
3. **Connect the Solar Panel:** Next, connect your solar panel(s) to the MPPT controller's PV input terminals. Ensure correct polarity.
4. **Connect the Load (Optional):** If using, connect your DC load to the controller's load terminals.
5. **Bluetooth Connection:** Use the built-in Bluetooth module to connect to the Redodo app for monitoring and configuration.

Image: An illustration demonstrating a solar charging setup, where a 600W solar panel is connected to a Redodo 40A MPPT controller, which then charges a Redodo 12V 100Ah battery, achieving a full charge in approximately 2.13 hours.

Operating Instructions

1. Using the 14.6V 20A LiFePO4 Battery Charger

- Once connected as per the setup instructions, the charger will automatically detect the battery and begin charging.
- **LED Indicators:** Observe the LED indicators on the charger. Typically, a red light indicates charging, and a green light indicates a full charge or standby. Consult the specific charger's label for exact indicator meanings.
- Disconnect the charger from the AC outlet and then from the battery once charging is complete.

2. Using the 2000W Pure Sine Wave Inverter

- Ensure the inverter is properly connected to a 12V battery bank.

- Turn on the inverter using its main power switch. The LCD display (if available) will show real-time monitoring data.
- Plug your AC devices into the inverter's outlets. Start with smaller loads and gradually add larger ones.
- Monitor the inverter's display for output voltage, power consumption, and any error codes.
- When finished, turn off the inverter before disconnecting any loads or the battery.

3. Using the 12V/24V 40 Amp MPPT Solar Charge Controller

- After connecting the battery and solar panels, the controller will automatically begin charging the battery from the solar input.
- The built-in display will show real-time information such as battery voltage, charging current, and solar panel voltage.
- Use the integrated Bluetooth module to connect to the Redodo mobile application. This allows for remote monitoring of system performance and adjustment of charging parameters (e.g., battery type, charge limits).
- The controller's indicators (PV, BAT, LOAD, FAULT) provide quick status updates.

Maintenance

- **Regular Inspection:** Periodically check all cables and connections for tightness and signs of wear or corrosion.
- **Cleaning:** Keep the units clean and free from dust and debris. Use a dry cloth for cleaning. Do not use liquid cleaners.
- **Ventilation:** Ensure that ventilation openings on the charger and inverter are not blocked to prevent overheating.
- **Battery Health:** Monitor your LiFePO4 battery's health and charge levels regularly.
- **Firmware Updates:** Check the Redodo website or app for any available firmware updates for the MPPT controller.

Troubleshooting

Problem	Possible Cause	Solution
Charger not charging / No indicator light	No AC power; Incorrect battery connection; Battery voltage too low for detection.	Check AC power supply; Verify battery connections and polarity; For 0V LiFePO4 batteries, ensure the charger is designed for reactivation (this model supports it).
Inverter not providing AC power	Low battery voltage; Overload; Overheating; Loose DC connections.	Charge battery; Reduce connected load; Ensure proper ventilation; Check and tighten DC input cables.

Problem	Possible Cause	Solution
MPPT Controller not charging from solar	No solar input; Incorrect solar panel connection/polarity; Shaded panels; Faulty panel.	Check solar panel connections and ensure they are in direct sunlight; Verify panel voltage; Inspect panels for damage.
MPPT Controller showing a fault indicator	Overcurrent, overvoltage, reverse polarity, or other system errors.	Refer to the controller's display or app for specific error codes. Disconnect and re-connect components in the correct order (battery first, then solar).

Specifications

14.6V 20A LiFePO4 Battery Charger

- **Output Voltage:** 14.6V
- **Output Current:** 20A
- **Battery Type:** LiFePO4 (Lithium Iron Phosphate)
- **Charging Modes:** CC/CV/Cut-off
- **Certifications:** CE & RoHS
- **Housing:** Aluminum Case with Cooling Fan

2000W Pure Sine Wave Inverter

- **Continuous Power:** 2000W
- **Peak Surge Power:** 4000W
- **Input Voltage:** 12V DC
- **Output Voltage:** 120V AC
- **Output Waveform:** Pure Sine Wave
- **Operating Temperature:** -20°C to 40°C
- **Output Waveform Distortion:** ≤ 4%

12V/24V 40 Amp MPPT Solar Charge Controller

- **System Voltage:** 12V/24V Auto-detection
- **Max Charging Current:** 40A
- **Tracking Efficiency:** Up to 99%
- **Peak Conversion Efficiency:** Up to 98%
- **Communication:** Built-in Bluetooth Module
- **Protections:** Short-Circuit, Overvoltage, Overpower, Over-Temperature, Reverse Connect, Reverse Charging

Warranty and Support

Redodo products are designed for reliability and performance. We stand by the quality of our products.

- **Warranty:** This product comes with a 5-year guarantee. Please retain your proof of purchase for warranty claims.
- **Customer Support:** For technical assistance, troubleshooting, or warranty inquiries, please contact Redodo customer service. We offer 24-hour response support.
- **Contact Information:** Refer to the Redodo official website or your purchase documentation for the most current contact details.

Image: Icons depicting key customer benefits: 10 Years Lifespan, 5 Years Guarantee, 24 Hrs Response for support, and Local Warehouses for service.