Redodo R12V200-100-LOW-TEMP-8-A160

Redodo 12.8V 200Ah Low Temp Cutoff LiFePO4 Battery and 12V 20A Charger User Manual

Model: R12V200-100-LOW-TEMP-8-A160 | Brand: Redodo

1. Introduction

Thank you for choosing the Redodo 12.8V 200Ah Low Temperature Cutoff LiFePO4 Battery and 12V 20A Charger. This manual provides essential information for the safe and efficient operation, installation, and maintenance of your battery system. Please read this manual thoroughly before use and retain it for future reference.
This LiFePO4 battery is designed for deep cycle applications, offering high energy density, stable performance, and a long cycle life. It features a built-in Battery Management System (BMS) with low temperature cutoff protection, making it suitable for various applications including RVs, solar energy systems, off-grid setups, and trolling motors.

2. Safety Information

WARNING: Failure to follow these safety instructions may result in electric shock, fire, serious injury, or death.

- Always wear appropriate personal protective equipment (PPE) including safety glasses and insulated gloves when handling batteries.
- Do not short-circuit the battery terminals.
- Do not expose the battery to fire, excessive heat, or direct sunlight.
- Do not immerse the battery in water or other liquids.
- Do not disassemble, crush, puncture, or modify the battery.
- Keep the battery away from children and pets.
- Use only the specified Redodo 12V 20A charger or a compatible LiFePO4 charger.
- Ensure proper ventilation during charging and discharging.
- In case of fire, use a Class D fire extinguisher. Water can be ineffective and may worsen the situation.
- Do not use the battery as a starting battery for vehicles or in golf carts unless specifically designed for that purpose. This model is suitable for trolling motors with 30-70lbs thrust.

3. What's in the Box

Upon opening the package, verify that all items are present and undamaged:

- 1 x Redodo 12.8V 200Ah Low-Temp LiFePO4 Battery
- 1 x Redodo 12V 20A LiFePO4 Battery Charger (if purchased as a kit)
- 2 x M8 Terminal Bolts
- 2 x Insulating Caps
- 1 x Product Manual
- 1 x Guide Card

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Video: Unboxing the Redodo 12V 280Ah lithium battery. This video demonstrates the contents of the package, including the battery, product manual, guide card, M8 terminal bolts, and insulating caps.

Image: The Redodo 12.8V 200Ah LiFePO4 battery, showcasing its overall design and branding.

Image: Detailed view of the battery's M8 terminal specifications, including dimensions for the 9/16 inch bolt length and 5/16 inch diameter.

4. Product Features

- **Low Temperature Cut-Off Protection:** The integrated BMS prevents charging below 0°C (32°F) and resumes at 5°C (41°F). Discharging is cut off below -20°C (-4°F).
- **Automotive Grade Cells:** Constructed with prismatic LiFePO4 cells for higher energy density, stable performance, excellent high-temperature performance, low self-discharge, and high power output.
- **Fast Charging Speed:** The accompanying 14.6V 20A charger can charge a 12V 100Ah LiFePO4 battery to 50% in 2.5 hours, twice as fast as a standard 10A charger.
- **Space Efficient Charger Design:** The 14.6V 20A charger features fixing hole positions for easy installation and an AC end control switch for convenient operation.
- **Exceptional Longevity:** Offers 4000-15000 cycles, providing a service life of up to 10 years, making it a durable alternative to lead-acid batteries.
- **Expandable Energy:** Provides a maximum load power of 1280W and 2560Wh energy. Supports up to 4P4S configuration for a 51.2V 800Ah battery bank, yielding up to 40.96kWh energy and 20.48kW continuous load power.
- **Trolling Motor Compatibility:** Suitable for trolling motors with 30-70lbs thrust.

Image: Illustration of the battery's low temperature cut-off feature, showing charging cut-off at 0°C/32°F and discharging cut-off at -20°C/-4°F, ensuring battery safety in cold conditions.

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Video: Demonstrates the Redodo 12V 280Ah LiFePO4 Battery's low temperature protection feature, showing how it safeguards the battery in cold environments.

Image: Diagram illustrating the six intelligent BMS protections: Low Temp Cut Off, Over-charge, Over-discharge, High Temp Cut Off, Short Circuit, and Over-current protection.

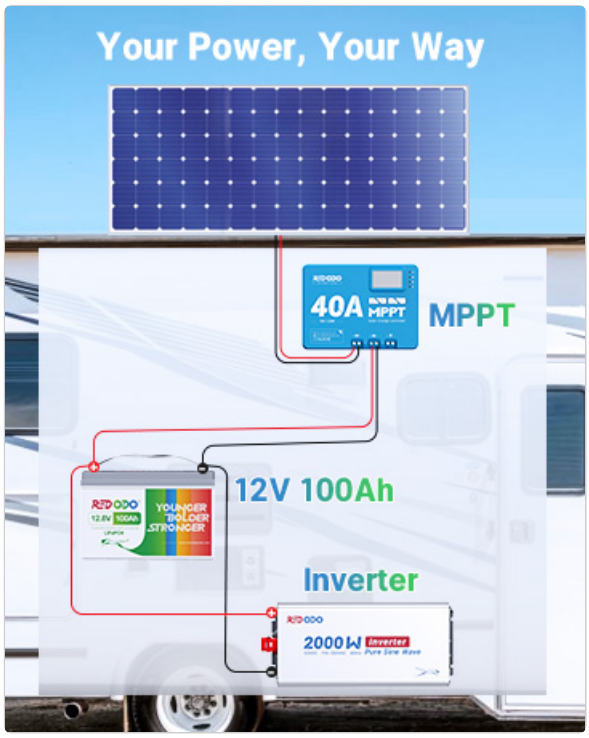

Image: Visual representation of the battery's Grade A cells, highlighting anti-moisture, anti-dust, and anti-salt fog properties, suitable for trolling motors (30-70lbs).

5. Setup

5.1 Initial Inspection

Before installation, inspect the battery for any visible damage. Ensure terminals are clean and free of corrosion. Confirm all components listed in "What's in the Box" are present.

5.2 Battery Placement

Place the battery in a clean, dry, and well-ventilated area. Ensure it is secured to prevent movement or damage during operation, especially in mobile applications like RVs or boats. Avoid locations with extreme temperatures or direct exposure to water.

5.3 Connecting the Battery

1. Ensure all loads are disconnected and the charger is off before making any connections.
2. Connect the positive (+) terminal of the battery to the positive (+) terminal of your system (e.g., inverter, charge controller).
3. Connect the negative (-) terminal of the battery to the negative (-) terminal of your system.
4. Use the provided M8 terminal bolts and insulating caps to ensure secure and safe connections.
5. For multiple batteries in series or parallel, refer to the "System Expansion" section for specific wiring diagrams and precautions. This battery supports up to 4P4S configuration.

Image: Diagram illustrating a typical solar power system setup with the Redodo LiFePO4 battery bank, solar panels, MPPT controller, and inverter, demonstrating how to connect for home energy storage.

5.4 Initial Charging

It is recommended to fully charge the battery before its first use. Connect the Redodo 12V 20A charger to the battery terminals, ensuring correct polarity. Plug the charger into an AC power source. The charger's indicator lights will show the charging status. Allow the battery to charge until the charger indicates a full charge.

Image: Close-up view of the Redodo 14.6V 20A LiFePO4 battery charger, highlighting its pluggable connection and indicator light colors for charging status.

Image: The Redodo 14.6V 20A battery charger, emphasizing its aluminum casing and built-in cooling fan for excellent heat dissipation.

Image: Visual detailing the comprehensive safety protections of the Redodo charger, including output short-circuit, temperature, output over-voltage, and reverse polarity connection protection.

6. Operating Instructions

6.1 General Use

Once installed and fully charged, the battery is ready for use. Connect your desired loads to the battery system. The integrated BMS will manage the battery's performance, protecting against over-charge, over-discharge, over-current, short circuits, and temperature extremes.

6.2 Charging

- Always use a LiFePO4 compatible charger.
- Ensure the charging voltage is within the specified range (typically 14.4V - 14.6V).
- The BMS will automatically stop charging if the battery temperature drops below 0°C (32°F) and resume when it rises above 5°C (41°F).
- Multiple charging methods are supported, including dedicated LiFePO4 chargers, solar panels with MPPT controllers, and generators with DC-DC chargers.

Image: Illustration showing various charging methods for the Redodo LiFePO4 battery, including a dedicated charger, solar panel with MPPT, and a generator with a DC-DC charger.

6.3 Discharging

- The battery is designed for deep cycle applications.
- The BMS will automatically cut off discharge if the battery temperature drops below -20°C (-4°F) to protect the cells.
- Avoid exceeding the maximum continuous discharge current specified in the product specifications.

7. Maintenance

7.1 Cleaning

Keep the battery terminals and casing clean. Use a dry cloth to wipe away dust and dirt. If necessary, use a slightly damp cloth, ensuring no moisture enters the battery or charger. Do not use solvents or harsh chemicals.

7.2 Storage

- For long-term storage, charge the battery to approximately 50-70% State of Charge (SoC).
- Store the battery in a cool, dry place, away from direct sunlight and extreme temperatures.
- Disconnect all loads and the charger when storing the battery.
- Periodically check the battery's voltage during long-term storage and recharge if necessary to prevent deep discharge.

7.3 Regular Checks

- Regularly inspect the battery and connections for any signs of damage, loose connections, or corrosion.
- Ensure proper ventilation around the battery, especially during charging and heavy use.

8. Troubleshooting

Problem	Possible Cause	Solution
Battery not charging	• Charger not connected or faulty • Battery temperature too low (below 0°C/32°F) • Charger not compatible with LiFePO4 • BMS protection activated (e.g., over-voltage)	• Check charger connections and power supply. • Move battery to a warmer environment (above 5°C/41°F). • Ensure charger is specifically for LiFePO4 batteries. • Disconnect and reconnect the charger; if issue persists, consult support.
Battery not discharging/no power output	• Battery temperature too low (below -20°C/-4°F) • Over-discharge protection activated • Short circuit or over-current protection activated • Loose connections	• Move battery to a warmer environment. • Recharge the battery to reset over-discharge protection. • Identify and remove the short circuit/over-current condition. The BMS has auto-recovery for over-load protection (30s). • Check and tighten all terminal connections.
Reduced capacity or runtime	• Battery not fully charged • Aging battery (after many cycles) • High power draw from loads	• Ensure battery is fully charged before use. • This is normal wear over the battery's lifespan. • Reduce load or consider adding more battery capacity.

9. Specifications

Feature	Detail
Brand	Redodo
Model	R12V200-100-LOW-TEMP-8-A160
Voltage	12.8 Volts
Capacity	200 Ah
Battery Cell Composition	Lithium-Phosphate (LiFePO4)
Max. Load Power	1280W
Max. Energy	2560Wh
Low Temp Charging Cut-off	0°C (32°F)

Feature	Detail
Charging Recovery Temp	5°C (41°F)
Low Temp Discharging Cut-off	-20°C (-4°F)
Cycle Life	4000-15000 cycles (depending on DoD)
Item Weight	44 Pounds (approx. 20 kg)
Product Dimensions (D x W x H)	8.15" x 20.94" x 8.5" (20.7cm x 53.2cm x 21.6cm)
Charger Voltage (Included)	14.6V
Charger Current (Included)	20A

Image: The Redodo 12.8V 200Ah LiFePO4 battery with its dimensions clearly labeled: Height 8.58 in (218 mm), Width 9.45 in (245 mm), Length 20.55 in (522 mm).

10. Warranty and Support

Redodo LiFePO4 batteries are designed for exceptional longevity, with a typical lifespan of up to 10 years and 4000+ cycles. This product comes with a 5-year guarantee.

For technical support, warranty claims, or any questions regarding your Redodo product, please contact Redodo customer service. Please have your model number (R12V200-100-LOW-TEMP-8-A160) and purchase date available when contacting support.

You can find more information and contact details on the official Redodo website or through your purchase platform.