

Redodo 12.8V12AH

Redodo 12V 12Ah LiFePO4 Battery User Manual

Model: 12.8V12AH | Brand: Redodo

1. INTRODUCTION

Thank you for choosing the Redodo 12V 12Ah LiFePO4 Battery. This manual provides important information regarding the safe installation, operation, and maintenance of your battery. Please read this manual thoroughly before using the product to ensure optimal performance and longevity.

The Redodo 12V 12Ah LiFePO4 battery is a lightweight, high-performance lithium iron phosphate battery designed as an efficient alternative to traditional lead-acid batteries. It features a built-in Battery Management System (BMS) for enhanced safety and offers a long cycle life, making it suitable for various applications including solar energy storage, ride-on toys, home alarm systems, and emergency power.

2. SAFETY INFORMATION

Always observe the following safety precautions when handling and operating the battery:

- Do not short-circuit the battery terminals.
- Do not expose the battery to fire or extreme heat.
- Do not immerse the battery in water or other liquids.
- Use only compatible chargers designed for LiFePO4 batteries.
- Ensure proper ventilation during charging and operation.
- Keep the battery away from children and pets.
- Do not disassemble or modify the battery.
- The built-in BMS provides protection against overcharging, over-discharging, overloads, over-currents, overheating, and short circuits. However, proper handling is still essential.

Powerful BMS Protection to Ensure Safty



Over-Discharge
Protection



Over Current
Protection



Short Circuit
Protection



Overcharge
Protection



Thermal
Protection



Image: Internal components of the Redodo LiFePO4 battery, highlighting the integrated BMS for safety.

3. PRODUCT FEATURES

- **Lightweight Design:** Weighs only 3.2 lbs, approximately half the weight of a comparable lead-acid battery.
- **Long Lifespan:** Offers over 4,000 deep cycles and a lifespan of up to 10 years.
- **Built-in BMS:** Provides comprehensive protection against overcharging, over-discharging, overloads, over-currents, overheating, and short circuits.
- **High Energy Density:** Constructed from automotive-grade cells for exceptional performance.
- **Flat Discharge Curve:** Allows approximately 80% of its capacity to be utilized efficiently.
- **Versatile Applications:** Suitable for ride-on toys, fish finders, power wheels, LED lights, fans, home alarm systems, security cameras, gaming machines, outdoor camping, ham radios, solar homes, and off-grid applications.
- **IP65 Rated:** Provides waterproof and dustproof performance.

SUPERIOR PERFORMANCE REPLACEMENT AGM BATTERY

Specification	Redodo LiFePO4	Lead-acid Battery
Life Time	10 Years	3 Years
Cycles	4000+ times	200+ times
Cost per cycle	\$0.1	\$0.7
Weight	3.2lbs	3.56lbs

Image: Performance comparison between Redodo LiFePO4 and traditional lead-acid batteries.

4. SPECIFICATIONS

Brand	Redodo
Model	12.8V12AH
Nominal Voltage	12.8 Volts
Battery Capacity	12 Amp Hours
Amperage	12 Amps
Battery Cell Composition	Lithium Iron Phosphate (LiFePO4)
Item Weight	3.2 pounds
Product Dimensions (L x W x H)	5.95 x 3.86 x 3.74 inches
Cycle Life	4000+ cycles

Protection	Built-in 12A BMS (Overcharge, Over-discharge, Overload, Over-current, Overheat, Short Circuit)
Waterproof Rating	IP65



Image: Product dimensions and terminal specifications.

5. SETUP AND INSTALLATION

5.1 Initial Charging

Before first use, it is recommended to fully charge the battery using a compatible LiFePO4 charger. Ensure the charger's voltage and current settings match the battery's requirements (typically 14.6V for a 12.8V LiFePO4 battery).

5.2 Connection Guidelines

- Connect the positive (+) terminal of the battery to the positive terminal of your device or system.
- Connect the negative (-) terminal of the battery to the negative terminal of your device or system.
- Ensure all connections are secure and free from corrosion.
- This battery supports series and parallel configurations, up to a maximum of 2 parallel strings and 4 series

connections (2P4S). When connecting in series or parallel, ensure all batteries are of the same voltage, capacity, and state of charge.

- **Important:** This 12V lithium battery is specifically designed for energy storage and should not be used as a car starting battery, or for golf carts.



Image: Example of connecting batteries in series and parallel for a larger energy system.

6. OPERATING INSTRUCTIONS

The Redodo LiFePO4 battery is designed for deep cycle applications, providing consistent power output throughout its discharge cycle. The built-in BMS actively monitors the battery's state to ensure safe operation.

- **Discharge:** The battery features a flat discharge curve, allowing approximately 80% of its rated capacity to be used before the voltage drops significantly. The BMS will cut off power if the voltage drops below a safe threshold to prevent over-discharge.
- **Charging:** Always use a charger specifically designed for LiFePO4 batteries. Avoid using lead-acid chargers unless they have a dedicated LiFePO4 mode.
- **Temperature:** Operate the battery within its specified temperature range. Extreme temperatures can affect performance and lifespan.



Kid electric car

Emergency Light

IP Camera

**BRING INFINITE POWER
WITH 12.8V 12Ah BATTERY**



Camper

Solar System

Image: Examples of common applications for the Redodo 12V 12Ah LiFePO4 battery.

7. MAINTENANCE

LiFePO4 batteries require minimal maintenance compared to lead-acid batteries. Follow these guidelines to maximize battery life:

- **Regular Charging:** While LiFePO4 batteries have a low self-discharge rate, it is good practice to charge them periodically if stored for extended periods.
- **Cleaning:** Keep the battery terminals clean and free from dirt and corrosion. Use a dry cloth to wipe the battery casing.
- **Storage:** Store the battery in a cool, dry place, away from direct sunlight and extreme temperatures. For long-term storage, it is recommended to store the battery at approximately 50% state of charge.
- **Environmental Protection:** The IP65 rating provides protection against dust and water splashes, but avoid prolonged exposure to harsh weather conditions or submersion.

8. TROUBLESHOOTING

If you encounter issues with your Redodo LiFePO4 battery, consider the following common solutions:

- **Battery Not Charging:**

- Check all connections to ensure they are secure.
 - Verify that the charger is compatible with LiFePO4 batteries and is functioning correctly.
 - Ensure the charger's output voltage and current are appropriate for the battery.
- **No Power Output:**
 - The BMS may have activated a protection mode (e.g., over-discharge, short circuit). Disconnect the load, wait a few minutes, and then try to reconnect or charge the battery.
 - Check the battery's voltage. If it's too low, the BMS might have cut off power to protect the cells.
 - Ensure the load is not exceeding the battery's maximum continuous discharge current.
 - **Reduced Performance:**
 - Extreme temperatures can temporarily reduce battery performance. Allow the battery to return to a moderate temperature.
 - Ensure the battery is fully charged before use.

If these steps do not resolve the issue, please contact Redodo customer support for further assistance.

9. WARRANTY AND SUPPORT

Redodo is committed to providing high-quality products and excellent customer service.

- **Lifespan:** This LiFePO4 battery is designed for a lifespan of up to 10 years.
- **Guarantee:** The product comes with a 5-year guarantee.
- **Customer Service:** Redodo offers 24/7 customer service and lifetime technical support.

For any questions, technical assistance, or warranty claims, please reach out to Redodo customer support through the contact information provided with your purchase or on the official Redodo website.



Image: Redodo's commitment to product lifespan, guarantee, and customer support.