

[Manuals.plus](#) /

› [Renogy](#) /

› Renogy REGO 12V 400Ah LiFePO4 Lithium Battery User Manual

Renogy 12V 400Ah

Renogy REGO 12V 400Ah LiFePO4 Lithium Battery User Manual

Model: 12V 400Ah | Brand: Renogy

1. PRODUCT OVERVIEW

The Renogy REGO 12V 400Ah LiFePO4 Lithium Battery is a high-capacity, advanced power solution designed for RV, home, marine, and outdoor applications. With a 5.12kWh usable capacity, this battery offers significant power and an exceptional lifespan of over 3800 cycles. It features an extruded aluminum housing for durability and superior heat conductivity, along with die-cast lids for extreme temperature tolerance and enhanced electrical properties. The integrated Battery Management System (BMS) provides comprehensive protection and smart functionalities, including a built-in self-heating function for optimal performance in cold environments. This battery is designed to provide reliable and efficient backup power, enhancing your off-grid experiences.

Key Features:

- **High Capacity:** Single 5.12kWh usable capacity, reducing installation footprint compared to multiple smaller batteries.
- **Advanced BMS:** Offers over 60 types of warnings and protections, precise cell balancing, and stores up to 150 event records for enhanced reliability and safety.
- **Intelligent Self-Heating:** Automatic heating function ensures stable charging performance and extends battery lifespan in low-temperature conditions.
- **Mobility Application Design:** Road load tested to EV battery standards, ensuring stable performance under mechanical vibrations. BMS with RV-C protocol for seamless integration with RV systems.
- **Certified Quality:** Road load simulation tested with cells holding IEC62619, UN38.3, IEC82820, UL1973, and other certifications.



Figure 1.1: Renogy REGO 12V 400Ah LiFePO4 Lithium Battery. This image shows the main product unit with its robust casing and power terminals.

2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the Renogy REGO 12V 400Ah LiFePO4 Lithium Battery. Failure to follow these instructions may result in electric shock, fire, serious injury, or death.

General Safety Precautions:

- Always wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves, when working with batteries.
- Do not short-circuit the battery terminals. This can cause severe damage to the battery and pose a fire hazard.
- Ensure all connections are tight and secure to prevent loose connections, which can lead to overheating and damage.
- Do not expose the battery to open flames, excessive heat, or direct sunlight for prolonged periods.
- Keep the battery away from water and other liquids unless specifically designed for submersible use (this product is IP65 rated, but avoid submersion).
- Do not disassemble, puncture, or modify the battery in any way. Internal components are not user-serviceable.
- Store the battery in a cool, dry, and well-ventilated area, away from flammable materials.
- In case of fire, use a Class D fire extinguisher (for lithium-ion fires). Do not use water.

- Dispose of the battery according to local regulations. Do not dispose of with household waste.

Charging and Discharging Safety:

- Only use chargers specifically designed for LiFePO4 batteries.
- Do not overcharge or over-discharge the battery. The built-in BMS provides protection against these conditions.
- Operate the battery within its specified temperature ranges for charging and discharging. The self-heating function assists in cold conditions.

3. PACKAGE CONTENTS

Upon opening the package, please verify that all items are present and undamaged. If any items are missing or damaged, contact Renogy customer support immediately.

- 1x Renogy REGO 12V 400Ah LiFePO4 Lithium Battery
- 1x User Manual (this document)
- *(Cables and other accessories may be sold separately or included depending on the specific kit purchased.)*

4. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of your Renogy REGO battery. It is recommended that installation be performed by a qualified professional.

4.1 Site Selection

- Choose a location that is clean, dry, well-ventilated, and protected from direct sunlight, moisture, and extreme temperatures.
- Ensure the mounting surface is sturdy enough to support the battery's weight (approximately 118 pounds).
- Maintain adequate clearance around the battery for ventilation and ease of access for connections and maintenance.

4.2 Mounting the Battery

The Renogy REGO battery is designed with an extruded aluminum housing and is IP65 waterproof, making it suitable for various applications, including mobile setups. Secure the battery firmly to prevent movement during operation, especially in RV or marine environments where vibrations are common.

IP65 waterproof with aluminum housing

suitable for various applications.



Figure 4.1: The Renogy REGO battery features an IP65 waterproof aluminum housing, suitable for various demanding environments.

4.3 Electrical Connections

The REGO battery system is designed to simplify installation, potentially reducing the number of cables required compared to traditional setups. Refer to the wiring diagram specific to your system configuration (RV, marine, off-grid home) for correct connections.

- Ensure all power sources are disconnected before making any electrical connections.
- Connect the battery to your charge controller, inverter, or other system components using appropriately sized cables and connectors.
- Pay close attention to polarity (positive to positive, negative to negative) to avoid damage to the battery or connected equipment.
- Tighten all terminal connections to the recommended torque specifications to prevent loose connections and potential overheating.
- The battery's BMS supports RV-C protocol, allowing for seamless integration and communication with compatible RV systems.

Not Only **Saving**, But **Also Empowering**

Save Over 30% Installation Footprint and 6 Cables

-30%

Footprint



-75%

6 cables reduced to 1

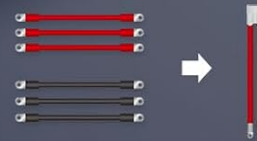


Figure 4.2: The REGO battery offers a compact design, saving over 30% installation footprint and simplifying wiring by reducing the number of required cables.

5. OPERATING INSTRUCTIONS

The Renogy REGO battery is designed for intelligent and reliable operation, featuring a sophisticated Battery Management System (BMS) and self-heating capabilities.

5.1 Initial Activation and Charging

- After installation, ensure all connections are correct and secure.
- Initiate charging using a compatible LiFePO4 charger. The BMS will manage the charging process, ensuring optimal cell balancing and protection.

- The battery's 5.12kWh capacity provides substantial power for various appliances, as illustrated below.

5.12KWH Massive Capacity



Air conditioner
1000W-13H

Microwave oven
750W-5.8H

Heater
500W-8.7H

Fridge
100W-130H

5120Wh

*Appliance runtime assessment considers actual cycles, runtime depends on condition.

Figure 5.1: The 5.12KWH massive capacity (5120Wh) of the REGO battery can power various appliances, such as an air conditioner (1000W-13H), microwave oven (750W-5.8H), heater (500W-8.7H), and fridge (100W-130H). Appliance runtime assessments are based on typical usage and conditions.

5.2 Intelligent Self-Heating Function

The battery is equipped with an intelligent self-heating function that automatically activates in low-temperature environments. This ensures the battery remains within its optimal charging temperature range, preserving performance and extending its lifespan.

- The self-heating function operates automatically when the battery temperature drops below a certain threshold, typically around 32°F (0°C).
- This feature allows for stable charging performance even in cold conditions, down to -4°F (-20°C) for discharge.
- The battery is designed to perform optimally in a wide temperature range, from -4°F to 131°F (-20°C to 55°C) for discharge.

Intelligent **Self-Heating** Function

Optimal performance in both low and high temperatures.

Discharge Temperature -4-131F



Figure 5.2: The intelligent self-heating function ensures optimal performance in both low and high temperatures, with a discharge temperature range of -4°F to 131°F.

5.3 Battery Management System (BMS)

The advanced BMS is the brain of the REGO battery, providing comprehensive protection and smart features:

- **150 Event Records:** The BMS logs up to 150 events, which can be accessed for diagnostics and troubleshooting.
- **Accurate Battery Cell Balance:** Ensures all cells are balanced for optimal performance and extended lifespan.
- **RV-C Protocol:** Enables communication with compatible RV systems for integrated monitoring and control.
- **Thermal Management:** Actively manages battery temperature to prevent overheating or overcooling.
- **60+ Types of Protections:** Includes over-charge, over-discharge, over-current, short-circuit, over-temperature, and under-temperature protections.

New Generation **Smart BMS**

Innovative smart BMS ensures absolute reliability and safety of the battery



150 Event
Records



Accurate Battery
Cell Balance



RV-C
Protocol



Thermal
Management

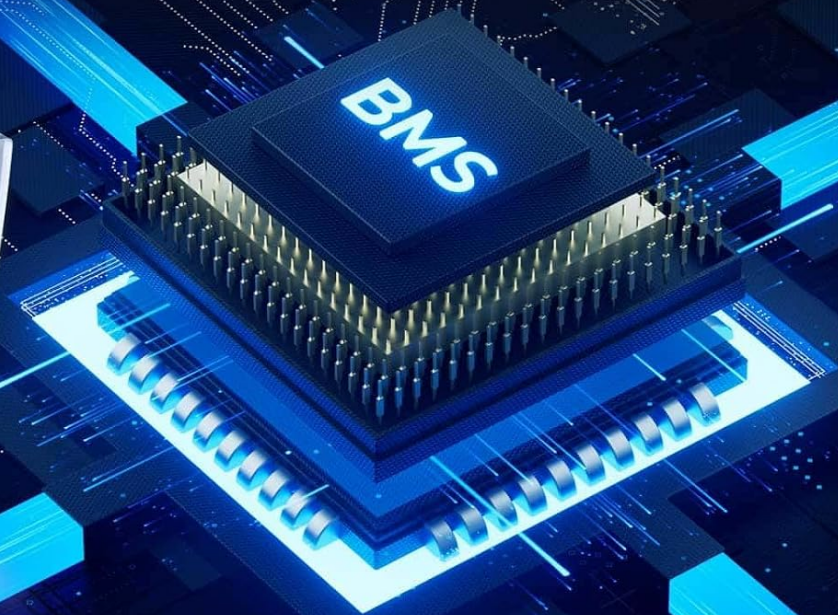


Figure 5.3: The New Generation Smart BMS provides innovative features such as 150 event records, accurate battery cell balance, RV-C protocol support, thermal management, and over 60 types of alerts and protections.

5.4 Monitoring with the Renogy App

The REGO battery includes a built-in Bluetooth module, allowing you to monitor its status conveniently from your smartphone using the Renogy DC Home App. This provides real-time data and control over your battery system.

- Download the Renogy DC Home App from your device's app store.
- Enable Bluetooth on your smartphone and open the app.
- Follow the in-app instructions to pair with your REGO battery.
- Monitor battery voltage, current, state of charge, temperature, and access event records.

Monitor Your Battery With **APP**

Bluetooth equipped for easy and convenient monitoring from your smart phone.



Figure 5.4: Monitor your Renogy REGO battery conveniently via Bluetooth using the Renogy DC Home App on your smartphone, providing real-time data and control.

6. MAINTENANCE

The Renogy REGO LiFePO4 battery is designed for minimal maintenance, but periodic checks can help ensure its longevity and optimal performance.

6.1 Regular Checks

- **Visual Inspection:** Periodically inspect the battery for any signs of physical damage, corrosion on terminals, or loose connections.
- **Connection Integrity:** Ensure all cable connections are clean, tight, and free from debris.

- **Environment:** Verify that the battery's operating environment remains within recommended temperature and humidity ranges.

6.2 Cleaning

- Clean the battery casing with a dry or slightly damp cloth. Do not use harsh chemicals or abrasive cleaners.
- If terminals show signs of corrosion, clean them carefully with a wire brush and apply a thin layer of dielectric grease to prevent future corrosion.

6.3 Storage

- If storing the battery for an extended period, ensure it is charged to approximately 50% State of Charge (SOC).
- Store in a cool, dry place, away from direct sunlight and extreme temperatures.
- Periodically check the battery's SOC during storage and recharge if it drops significantly.

The Renogy REGO battery is built with advanced cells designed for maximum battery life, offering an impressive 6000 life cycles under optimal conditions.

Advanced cells for maximum **battery life**

Lighter weight, larger capacity battery cells provide less internal resistance and improved charge balance



*Cycle Life is Measured Under 0.5 C Charge/Discharge 25°C 80% DOD, 80% EOL

Figure 6.1: The REGO battery utilizes advanced cells to achieve a maximum battery life of 6000 cycles. Cycle life is measured under 0.5 C Charge/Discharge, 25°C, 80% DOD, 80% EOL.

7. TROUBLESHOOTING

This section provides guidance for common issues you might encounter with your Renogy REGO battery. For more complex problems, refer to the Renogy DC Home App for event records or contact customer support.

Problem	Possible Cause	Solution
Battery not charging	Loose connections, charger malfunction, battery in protection mode (e.g., low temperature, over-discharge).	Check all cable connections. Verify charger operation. If temperature is low, allow self-heating to activate. Check BMS event records via app.
Battery not discharging / No power output	Over-discharge protection, over-current protection, short-circuit, loose connections.	Check load for short circuits or excessive current draw. Recharge the battery if it's in over-discharge protection. Verify connections.
Unusual sounds or smells	Internal fault, overheating.	Immediately disconnect the battery from all loads and charging sources. Contact Renogy customer support. Do not attempt to open the battery.
Bluetooth connectivity issues	Bluetooth disabled on device, app issues, battery too far.	Ensure Bluetooth is enabled on your phone. Restart the Renogy DC Home App. Move closer to the battery. Check for app updates.

The BMS records up to 150 events, which can be a valuable tool for diagnosing issues. Access these records through the Renogy DC Home App.

8. SPECIFICATIONS

Detailed technical specifications for the Renogy REGO 12V 400Ah LiFePO4 Lithium Battery.

Attribute	Value
Model	12V 400Ah
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Nominal Voltage	12 Volts
Nominal Capacity	400 Amp Hours (Ah)
Usable Energy	5.12 kWh

Attribute	Value
Life Cycles	6000+ cycles (0.5C Charge/Discharge, 25°C, 80% DOD, 80% EOL)
Item Weight	118 pounds
Product Dimensions (L x W x H)	28 x 15 x 18 inches
Housing Material	Extruded Aluminum
Ingress Protection (IP) Rating	IP65 (Waterproof)
Operating Temperature (Discharge)	-4°F to 131°F (-20°C to 55°C)
Operating Temperature (Charge)	32°F to 113°F (0°C to 45°C) - Self-heating extends lower limit
BMS Features	Cell Balancing, Over/Under Voltage Protection, Over/Under Temperature Protection, Over Current Protection, Short Circuit Protection, RV-C Protocol, Event Records
Connectivity	Bluetooth Module for App Monitoring
Certifications	IEC62619, UN38.3, IEC82820, UL1973, FCC

9. WARRANTY AND SUPPORT

Renogy is committed to providing high-quality products and excellent customer service. Your REGO 12V 400Ah LiFePO4 Lithium Battery comes with a manufacturer's warranty, ensuring peace of mind in its long-term usage.

9.1 Product Certifications

The REGO 12V 400Ah Lithium battery has undergone rigorous testing and obtained various international certifications, including IEC62619, UN38.3, IEC82820, UL1973, and FCC Certificates. These certifications attest to the product's safety, reliability, and performance standards.

International Certifications

Ensuring peace of mind in its long-term usage



IEC62619/62620



UN38.3



UL1973



FCC Certification



Figure 9.1: The Renogy REGO battery holds multiple international certifications, including IEC, UN, UL, and FCC, ensuring its quality and safety.

9.2 Customer Support

For technical assistance, warranty claims, or any questions regarding your Renogy REGO battery, please contact Renogy Customer Support. Have your product model number and purchase date ready when contacting support.

- **Renogy Official Website:** Visit the official Renogy website for FAQs, support resources, and contact information.
- **Online Support:** Many common issues can be resolved by consulting the online knowledge base or community forums.
- **Contact Information:** Refer to the Renogy website or your purchase documentation for the most current contact details (phone, email).

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

<https://manuals.plus/asin/B0C8MKQY9K>

More documents and user manuals: <https://manuals.plus/>