Renogy RBT12104LFP-SB-US

Renogy 12V 104Ah Lithium LiFePO4 Solid State Battery User Manual

Model: RBT12104LFP-SB-US

Introduction

This manual provides essential information for the safe and efficient use of your Renogy 12V 104Ah Lithium LiFePO4 Solid State Battery. This battery is designed for various applications including RVs, marine vessels, solar energy systems, off-grid setups, and home energy storage. It features an ultra-slim design, high cycle life, and advanced safety protections.
Please read this manual thoroughly before installation and operation to ensure proper handling and to maximize the battery's lifespan and performance.

Package Contents

- 1 x Renogy 12V 104Ah Lithium LiFePO4 Solid State Battery
- 1 x User Manual (this document)
- 2 x Insulation Sleeves
- 2 x Long Terminal Bolts (M8 x 1.25 x 16 mm)
- 2 x Terminal Bolts (M8 x 1.25 x 12 mm)

Setup and Installation

The Renogy 12V 104Ah Solid State Battery features an ultra-slim profile and lightweight design, making it suitable for installations in confined spaces. Ensure proper ventilation and secure mounting for optimal performance and safety.

Mounting Considerations

The battery is designed to be stable even on unstable terrain. For secure installation in RVs, boats, or other mobile applications, consider using optional mounting brackets and stacking accessory kits (sold separately).

Image: The Renogy Solid State Battery shown with optional mounting brackets and stacking accessory kits. These accessories help secure the battery in various environments.

Space Efficiency

The battery's slim design allows for flexible installation options, such as mounting in canopies, securing under seats, or installing under floors. This significantly reduces the space required compared to traditional batteries.

Image: A visual comparison demonstrating how the slim Renogy Solid State Battery (right) fits into tighter spaces compared to a conventional battery (left).

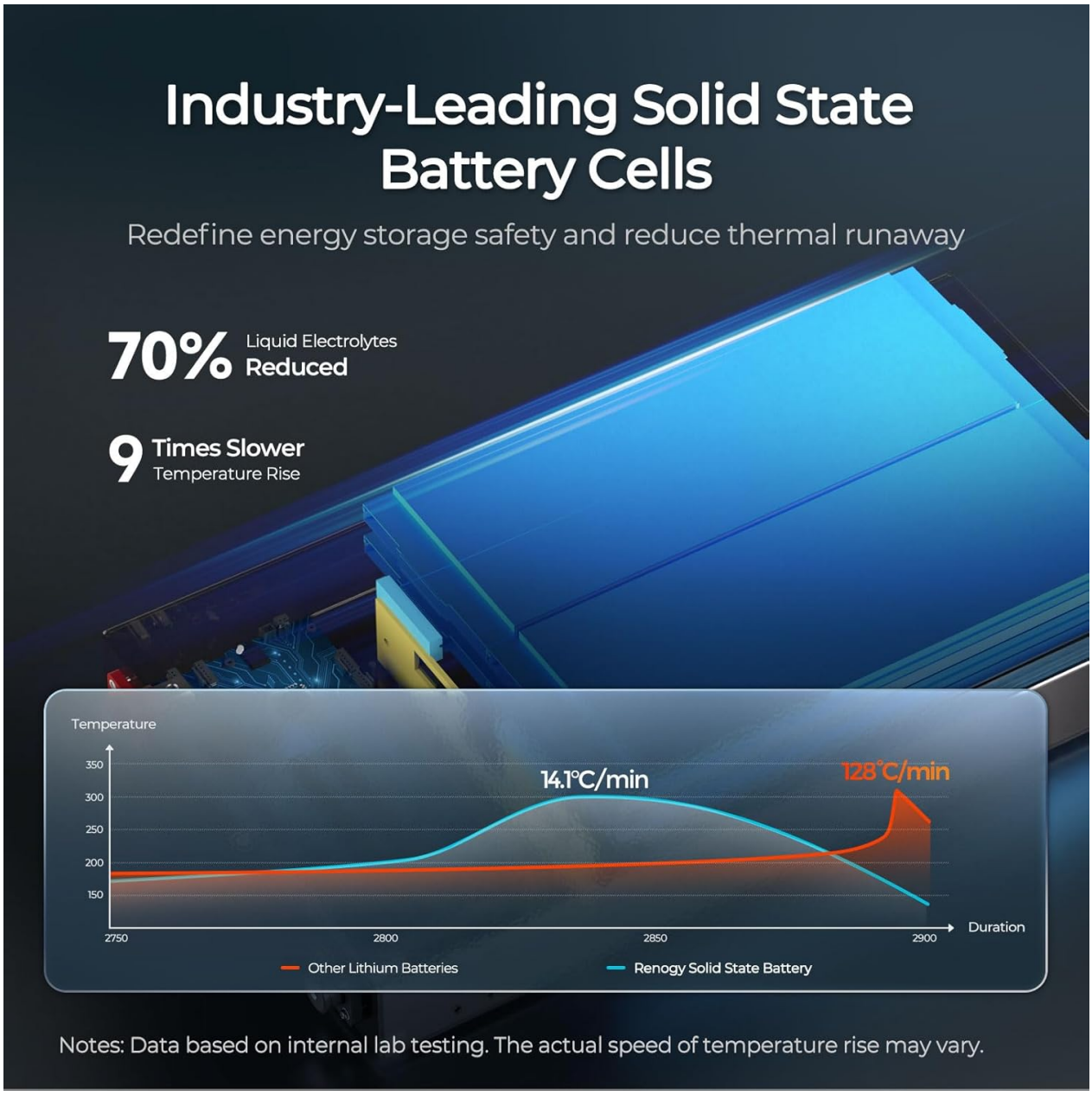


Image: Multiple installation examples showing the battery mounted in vehicle canopies, installed under a floor compartment, and secured under vehicle seats.

Wiring and Connections

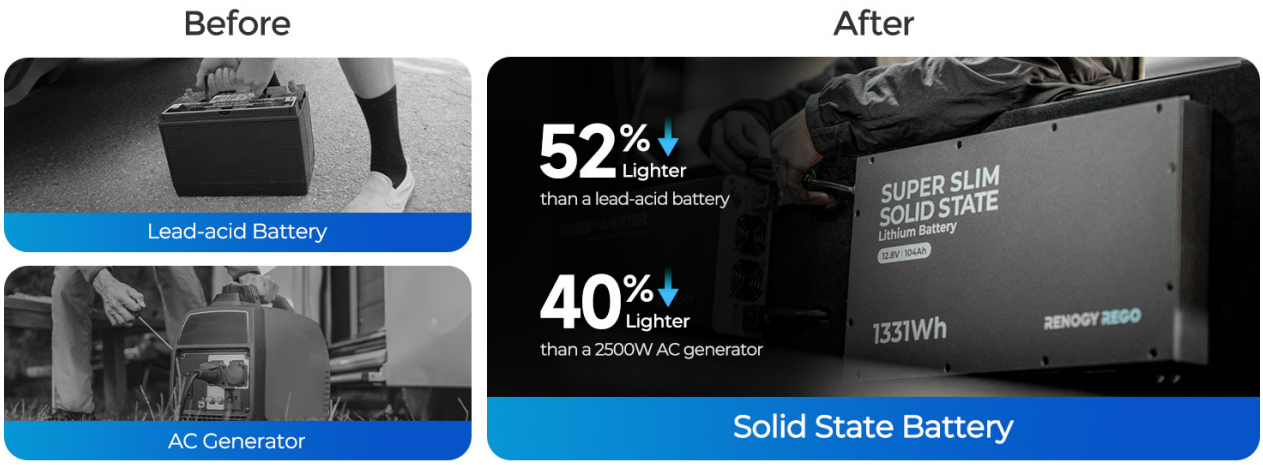
Connect the battery terminals using the provided M8 terminal bolts and insulation sleeves. Ensure all connections are tight and secure to prevent arcing and ensure efficient power transfer. The battery supports up to 16 units in parallel for larger energy storage systems (48V 416Ah).

Operating Instructions

The Renogy Solid State Battery is designed for reliable performance across a wide range of temperatures and applications.

Charging and Discharging

This battery offers a high capacity of 104Ah and supports 6000+ cycles at 80% Depth of Discharge (DOD). It can handle a maximum charging current of 100A and a maximum discharging current of 200A.



*Results are based on internal lab testing and may differ across devices.

Image: The battery is depicted operating in both snowy, cold conditions (left) and sunny, hot conditions (right), highlighting its all-year-round reliability.

Image: The battery shown with specifications for maximum charging (10A at 14°F/-10°C) and maximum discharging (200A at 140°F/60°C).

Battery Management System (BMS)

The integrated Smart BMS provides over 60 protections, including overcharge, over-discharge, overcurrent, short circuit, and low/high-temperature protection. It also features active backup protection where self-control fuses break the circuit faster than traditional fuses.

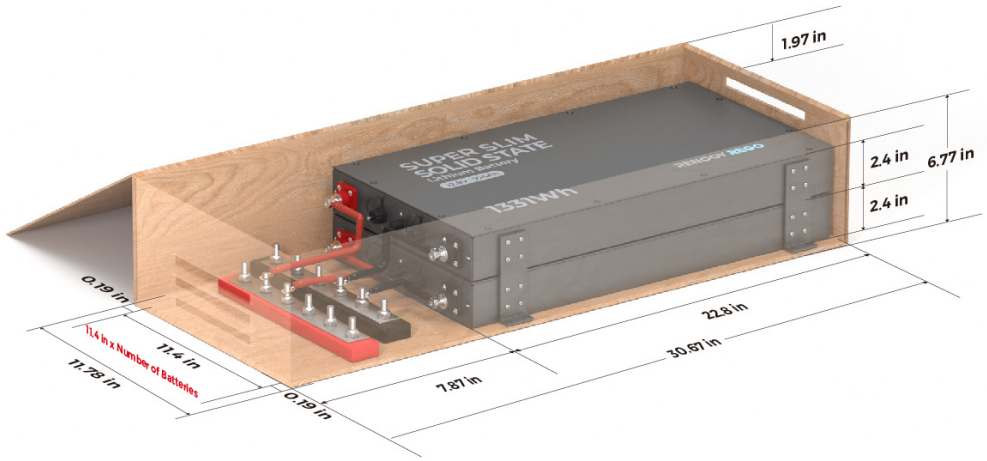


Image: A detailed diagram showcasing the various BMS protections such as low/high-temperature, overvoltage, and overcurrent, along with the active backup protection mechanism.

The BMS supports CAN communication and remote monitoring via the DC Home App, allowing for real-time control and status checks.

Maintenance

The Renogy Solid State Battery is designed for minimal maintenance due to its robust construction and advanced technology.

Durability and Safety

The battery boasts military-grade safety and durability with an IP67 rating, making it resistant to water and dust. It is also fire-resistant (UL94 V-0) and corrosion-resistant, ensuring reliable operation in extreme conditions.

Image: The battery is shown amidst flames and water splashes, illustrating its fire-resistant (UL94 V-0) and water/dust-proof (IP67) properties.

Solid State Technology

The solid-state design reduces liquid electrolytes by 70% compared to traditional lithium batteries, leading to improved stability, longer lifespan, and reduced risk of thermal runaway. This design allows the battery to pass rigorous safety tests including puncture, bullet, impact, thermal runaway, and vibration tests.

Image: An illustration highlighting the 70% reduction in liquid electrolytes and the achievement of 6000+ cycles at 80% DOD for the Renogy Solid State Battery.

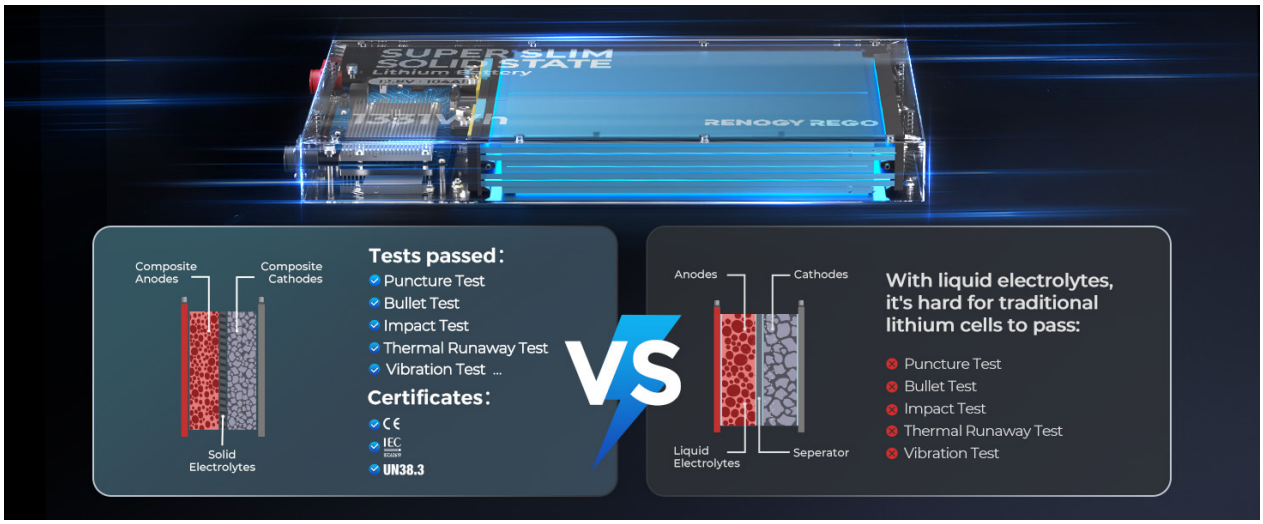


Image: A comparison graphic showing that solid electrolyte batteries (left) pass various safety tests (puncture, bullet, impact, thermal runaway, vibration) while traditional liquid electrolyte batteries (right) struggle to pass these tests.

Regularly inspect terminals for corrosion and ensure connections remain tight. Keep the battery clean and free from debris.

Troubleshooting

If you encounter issues with your Renogy Solid State Battery, refer to the following common troubleshooting steps:

- **Battery Not Charging/Working:** If the battery shows a voltage below 1 volt or does not charge, first verify all connections are secure and correctly wired. Ensure your charging source is compatible and functioning correctly. The BMS may have activated a protection mode due to extreme conditions or an internal fault.
- **Low Voltage Output:** Check the battery's state of charge via the DC Home App or a voltmeter. Ensure the load is within the battery's discharge limits (Max 200A).
- **Overheating:** The BMS includes high-temperature protection. If the battery feels excessively hot, disconnect it from all loads and charging sources immediately. Ensure adequate ventilation around the battery.
- **App Connectivity Issues:** Ensure your device's Bluetooth is enabled and you are within range of the battery. Restart the DC Home App and try reconnecting.

For persistent issues, contact Renogy customer support for assistance.

Specifications

Detailed technical specifications for the Renogy 12V 104Ah Lithium LiFePO4 Solid State Battery:

Image: The battery is shown with its dimensions (L) 22.8 x (W) 11.4 x (H) 2.4 inches, highlighting its super slim profile, solid-state battery cells, and vibration-resistant design.

Image: A detailed technical drawing providing precise measurements and dimensions of the battery, including its height, width, and length.

Feature	Specification
Brand	Renogy
Model Number	RBT12104LFP-SB-US
Capacity	12V 104Ah (1331Wh)
Battery Type	Lithium Iron Phosphate (LiFePO4) Solid State
Cycle Life	6000+ cycles at 80% DOD
Max Charging Current	100A
Max Discharging Current	200A
Operating Temperature Range	14°F to 140°F (-10°C to 60°C)
Dimensions (L x W x H)	22.8 x 11.4 x 2.4 inches (57.9 x 28.9 x 6.1 cm)

Feature	Specification
Weight	12.8 kg (28.2 lbs)
Terminal Type	M8
Protection	Smart BMS with 60+ protections (overcharge, short circuit, etc.)
Ingress Protection (IP) Rating	IP67 (Water & Dust Proof)
Certifications	UL, CE, RoHS, UN38.3
Compatibility	RV, Marine, Solar, Off-Grid, Home Energy Storage

Warranty Information

The Renogy 12V 104Ah Lithium LiFePO4 Solid State Battery comes with an**8-year material and workmanship warranty**. This warranty covers defects in materials and manufacturing under normal use and service conditions. Please retain your proof of purchase for warranty claims.
For detailed warranty terms and conditions, please refer to the official Renogy website or contact customer support.

Support

For technical assistance, product inquiries, or warranty claims, please contact Renogy customer support. Renogy offers:

- Prompt 24-hour response
- Professional technical guidance
- Support from local warehouses in the US

Visit the official Renogy website for contact information and additional resources.