Saved from manuals.plus.
Open the live page for links to other documents and user manuals.

PowMr POW-100AH-12.8V-NA

PowMr 12V 100Ah LiFePO4 Battery User Manual

Model: POW-100AH-12.8V-NA | Brand: PowMr

1. Introduction

This manual provides essential information for the safe and efficient use of your PowMr 12V 100Ah LiFePO4 Battery. Please read this manual thoroughly before installation and operation to ensure optimal performance and longevity of your battery.

1.1 What's in the Box

- 12V 100Ah LiFePO4 Battery
- 2 x M8 Terminals
- 2 x Screws

Video 1.1: Unboxing and overview of the PowMr 12V 100Ah LiFePO4 Battery, showing the battery, terminals, and screws included in the package.

The PowMr 12V 100Ah LiFePO4 battery is designed with a similar form factor to traditional lead-acid batteries, allowing for seamless replacement. It offers significantly higher capacity and longer cycle life compared to lead-acid alternatives.

2. Key Features

2.1 Compact Design and Easy Installation

The PowMr 12V 100Ah battery is engineered to fit the widely recognized BCI Group 24 size standard, ensuring compatibility with Group 24 battery boxes and various vehicles. Its compact dimensions simplify installation and allow for a direct replacement of Group 24 AGM batteries without complex modifications.

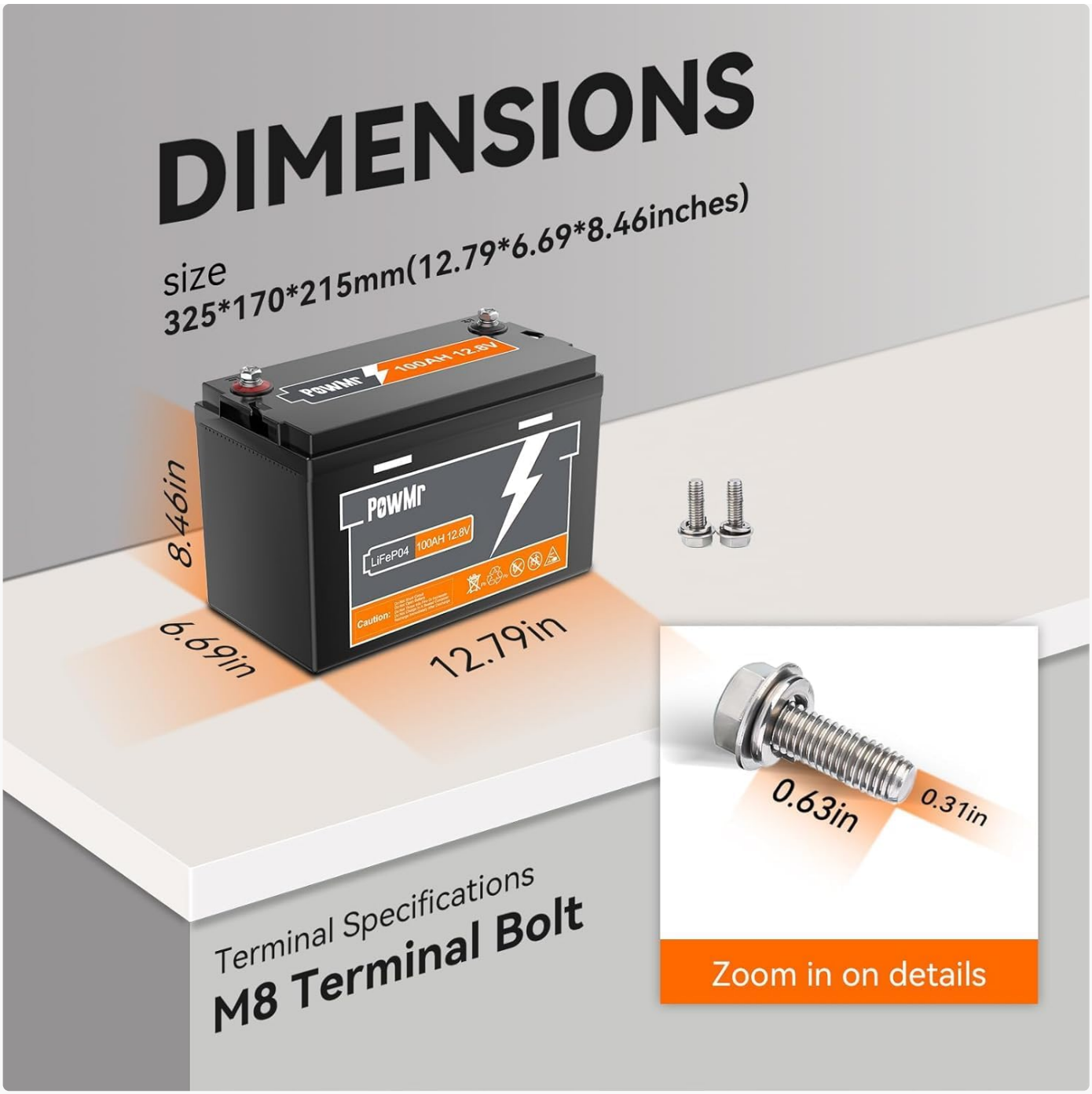


Figure 2.1: Detailed dimensions of the PowMr 12V 100Ah LiFePO4 Battery, measuring 12.79 x 6.69 x 8.46 inches (325x170x215mm), and showing M8 terminal specifications.

2.2 Superior Lifespan and Performance

This LiFePO4 battery offers over 4500+ deep cycles at 100% Depth of Discharge (DOD), significantly outperforming traditional lead-acid batteries (typically 300-600 cycles). With a design lifespan exceeding 10 years, it provides reliable, long-term energy storage.



Figure 2.2: Illustration of the battery's impressive cycle life: 4000+ cycles at 100% DOD, 6000 cycles at 80% DOD, and 15000 cycles at 60% DOD, highlighting its Grade A cells.

2.3 Integrated 100A BMS Protection

Equipped with a built-in 100A Battery Management System (BMS), the battery is protected against overcharging, over-discharging, over-current, short-circuiting, and extreme temperatures. This enhances safety, performance, and extends the battery's operational life.



Figure 2.3: Visual representation of the updated 100A BMS built into the PowMr battery, providing comprehensive protection against various electrical faults and temperature extremes.

2.4 Expandable Capacity

The battery supports expansion up to 4 units in series and 4 units in parallel (4S4P configuration), allowing for a maximum system capacity of 48V 400Ah, providing up to 20.48kWh of energy. This flexibility makes it ideal for various applications, including RVs, solar energy systems, and home energy storage.



Figure 2.4: Diagram illustrating the expandable capacity of the PowMr battery, showing how it can be integrated into a solar system with solar panels, MPPT controller, and inverter to power various loads.

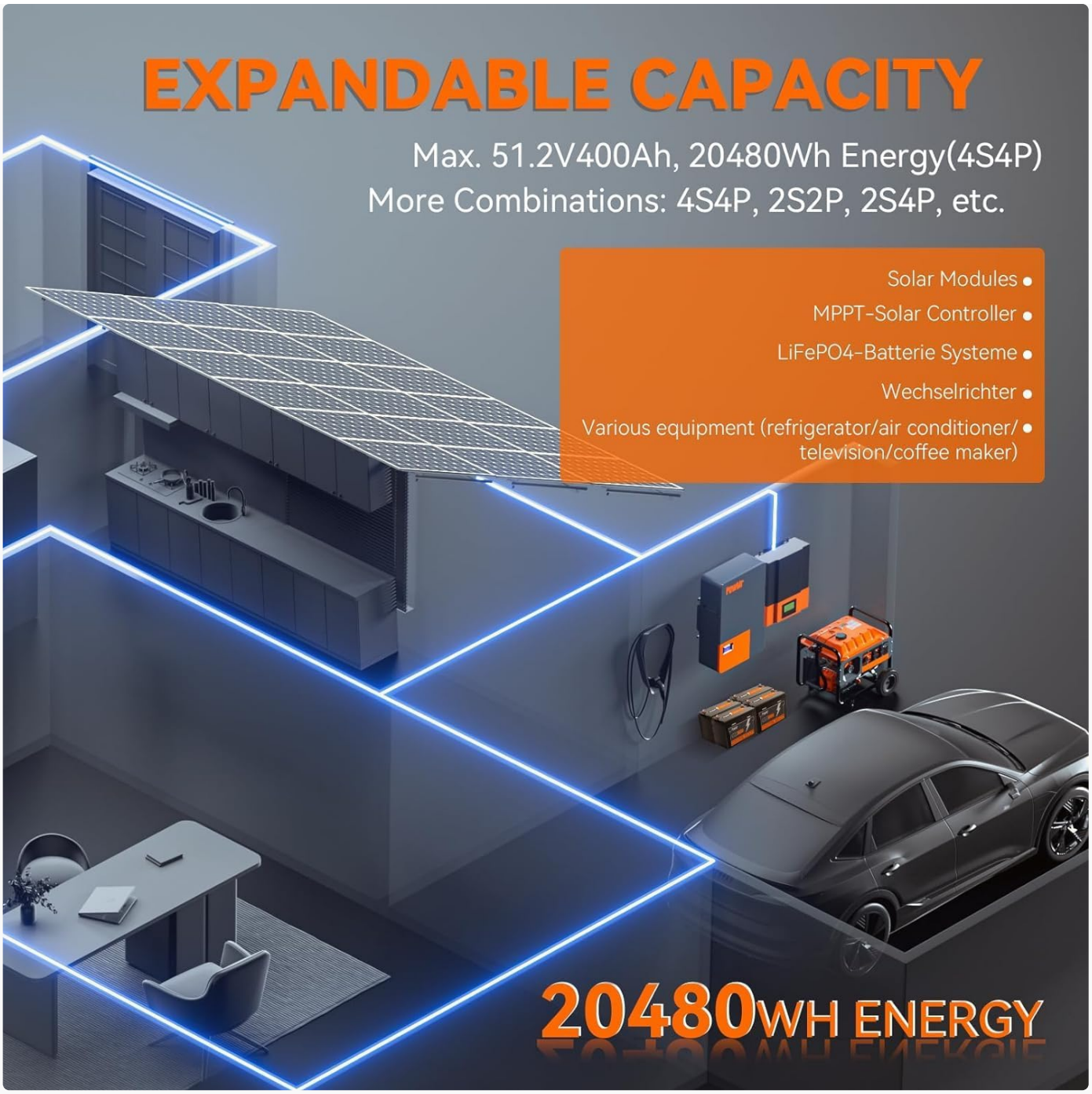


Figure 2.5: An artistic rendering showcasing the versatility of the PowMr battery system, capable of powering homes, vehicles, and various appliances with up to 20480Wh of energy.

2.5 Lead-Acid Battery Replacement

The PowMr LiFePO4 battery is a perfect replacement for traditional lead-acid batteries, offering superior performance, lighter weight, and a significantly longer lifespan in a comparable size.



Figure 2.6: A comparative chart highlighting the advantages of the PowMr 12.8V 100Ah LiFePO4 battery over a 12V 100Ah lead-acid battery, including weight, size, lifespan, cycle times, and depth of discharge.

3. Specifications

Parameter	Value
Model	POW-100AH-12.8V-NA
Capacity	100Ah (0.2C / 25°C)
Nominal Voltage	12.8V
Operating Voltage Range	10V - 14.6V (Typical: 12.8V)
Charging Voltage	14.6V

Parameter	Value
Discharge Cut-off Voltage	10V
Max. Charging Current	100A
Max. Discharge Current	100A
Expansion in Series	Support up to 4 batteries connected in series
Expansion in Parallel	Support up to 4 batteries connected in parallel
Item Weight	23.1 pounds
Product Dimensions	6.69 x 8.46 x 12.8 inches
Terminal Type	M8

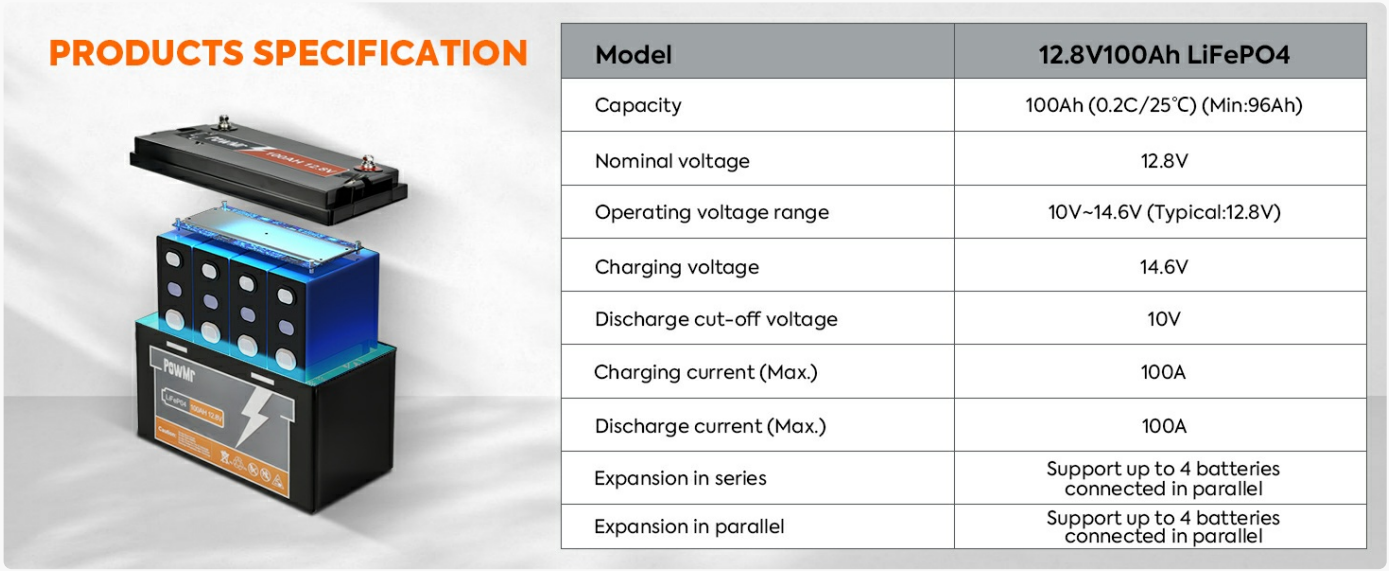


Figure 3.1: A detailed table of product specifications for the PowMr 12.8V 100Ah LiFePO4 battery, including capacity, voltage, current ratings, and expansion capabilities.

4. Setup and Installation

4.1 Pre-Installation Checklist

- Ensure all components listed in 'What's in the Box' are present.
- Verify the battery voltage is compatible with your system (Nominal 12.8V).
- Ensure the installation environment is dry, well-ventilated, and within recommended temperature ranges.

4.2 Connecting the Battery

Connect the battery to your system using appropriate M8 terminals and cables. Ensure all connections are secure and properly tightened to prevent loose connections and potential hazards.

4.3 Series and Parallel Connection

The PowMr 12V 100Ah battery can be connected in series for higher voltage systems (up to 4S) and in parallel for

increased capacity (up to 4P). When connecting multiple batteries, ensure all batteries are of the same model and have similar states of charge before connecting. Always follow proper wiring diagrams and safety precautions for series and parallel configurations.

5. Operation Guidelines

5.1 Charging the Battery

The battery supports a maximum charging current of 100A. It can be recharged using various methods:

- **Battery Charger:** Use a compatible 12V battery charger.
- **Solar Panel:** Connect to a solar panel system with an appropriate charge controller.
- **Generator:** Utilize a generator with a suitable charger.

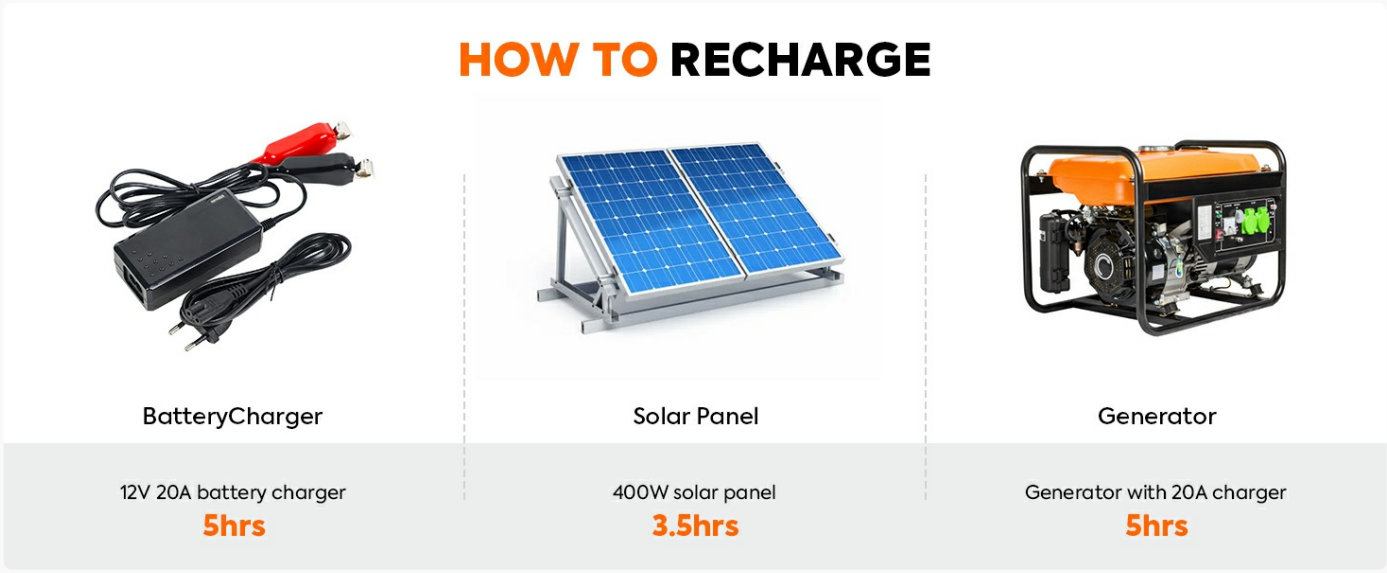


Figure 5.1: Visual guide on various methods to recharge the PowMr LiFePO4 battery, including a dedicated battery charger, solar panels, and a generator.

5.2 Discharging the Battery

The battery has a maximum discharge current of 100A. It is designed for energy storage applications and is suitable for powering various devices and systems.



Figure 5.2: Examples of energy saving applications for the PowMr battery, demonstrating its capacity to power common household appliances like light bulbs, refrigerators, coffee makers, and air conditioners.

5.3 Suitable Applications

The PowMr 12V 100Ah LiFePO4 Battery is ideal for:

- RVs and Campers
- Solar Energy Systems
- Home Energy Storage
- Marine Applications (Boats, Kayaks)
- Vans and Trailers



Figure 5.3: A collage of images showcasing various applications where the PowMr battery can power your journey, including vans, trailers, motorhomes, and kayaks.

5.4 Important Notice

This battery is designed for energy storage purposes. It is **not suitable** for use as a starter battery or to power golf carts.

6. Maintenance

LiFePO4 batteries require minimal maintenance compared to lead-acid batteries. However, following these guidelines will help ensure maximum lifespan:

- **Regular Inspection:** Periodically check battery terminals for corrosion or loose connections. Clean terminals if necessary.
- **Charge Level:** Avoid leaving the battery in a fully discharged state for extended periods. Recharge immediately after discharge.
- **Storage:** If storing the battery for a long time, ensure it is charged to approximately 50% State of Charge (SOC) and stored in a cool, dry place away from direct sunlight and extreme temperatures.
- **Temperature:** Operate and store the battery within its specified temperature range to prevent damage and ensure optimal performance.

7. Troubleshooting

If you encounter issues with your PowMr LiFePO4 battery, consider the following common troubleshooting steps:

- **Battery Not Charging:** Check all connections from the charger to the battery. Ensure the charger is compatible and functioning correctly. Verify the charging voltage is within the specified range (14.6V).
- **No Power Output:** Check battery voltage with a multimeter. Ensure terminals are clean and connections are secure. Verify that the load is not exceeding the maximum discharge current (100A). The BMS may have activated a protection mode (e.g., over-discharge, over-current).
- **Unusual Odor or Swelling:** Immediately disconnect the battery from all loads and chargers. This indicates a serious issue. Do not attempt to use or repair the battery.

For further troubleshooting assistance or complex issues, please do not hesitate to contact our support team for detailed guidance.

8. Safety Information

Always adhere to these safety precautions to prevent injury or damage to the battery and surrounding equipment:

- **Do Not Short Circuit:** Avoid connecting the positive and negative terminals directly.
- **Do Not Open Battery:** The battery case should not be opened or tampered with. There are no user-serviceable parts inside.
- **Avoid Extreme Temperatures:** Do not expose the battery to fire, excessive heat, or extreme cold.
- **Proper Ventilation:** Ensure adequate ventilation around the battery during operation and charging.
- **Secure Installation:** Install the battery in a stable location to prevent accidental drops or movement.
- **Children and Pets:** Keep the battery out of reach of children and pets.
- **Disposal:** Dispose of the battery according to local regulations. Do not dispose of it with household waste.

9. Warranty and Support

PowMr is committed to providing high-quality products and customer satisfaction. For any questions, technical support, or warranty inquiries, please contact the PowMr support team through the official channels or your point of purchase. Please have your model number (POW-100AH-12.8V-NA) and purchase details ready when contacting support.

© 2024 PowMr. All rights reserved.

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/B0D817YTMR

More documents and user manuals: **https://manuals.plus/**