

## Paoweric 48V100Ah\*2

# Paoweric 48V 100Ah LiFePO4 Battery User Manual

Model: 48V100Ah\*2

Brand: Paoweric

## 1. INTRODUCTION

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This user manual provides essential information for the safe and efficient operation, installation, and maintenance of your Paoweric 48V 100Ah LiFePO4 Battery. Please read this manual thoroughly before using the product to ensure optimal performance and longevity.

The Paoweric 48V 100Ah LiFePO4 Battery is designed with premium Grade A LiFePO4 cells, offering high reliability and a long cycle life. It features a smart 200A BMS with a touchscreen display and mobile app control for real-time monitoring and enhanced safety.

## 2. SAFETY INFORMATION

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Always adhere to the following safety guidelines to prevent injury or damage to the battery and connected equipment:

- Do not disassemble, puncture, or modify the battery.
- Keep the battery away from fire, heat sources, and direct sunlight.
- Ensure proper ventilation during operation and charging.
- Use only compatible chargers and equipment.
- Avoid short-circuiting the terminals.
- Wear appropriate personal protective equipment (PPE) when handling the battery.
- In case of fire, use a Class D fire extinguisher. Water can exacerbate lithium battery fires.
- Do not immerse the battery in water or other liquids.

## 3. PRODUCT OVERVIEW

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### 3.1 Key Features

- **Premium Grade A LiFePO4 Cells:** Ensures reliability, stable performance, and 10,000+ cycles at 80% DOD.
- **Smart Dual-Mode Management:** Integrated 200A BMS with touchscreen display and mobile app for real-time monitoring (voltage, temperature, SOC) and remote control.
- **Intelligent Protection:** Advanced BMS prevents overcharge, over-discharge, over-current, and short circuit. Features low self-discharge rate and auto-cutoff at  $\leq 32^{\circ}\text{F}$  ( $0^{\circ}\text{C}$ ) for charging, with a high-temp limit at  $158^{\circ}\text{F}$  ( $70^{\circ}\text{C}$ ).
- **Versatile Compatibility:** Optimized for solar storage, off-grid power, golf carts, and marine/RV use. Supports parallel expansion for scalable energy solutions.

### 3.2 Product Components and Dimensions



Figure 3.2.1: Paoweric 48V 100Ah LiFePO4 Battery (Two-Pack)

This image displays two Paoweric 48V 100Ah LiFePO4 batteries, designed for rack mounting. Each battery features a smart LCD display on the front panel, showing real-time status, along with positive (red) and negative (black) terminals and circuit breakers. A mobile phone screen is overlaid, demonstrating the app control interface.

# BATTERY DIMENSIONS

Weight:  
**88 lbs**



**6.1in**



Figure 3.2.2: Battery Dimensions

This diagram illustrates the physical dimensions of a single Paoweric 48V 100Ah LiFePO<sub>4</sub> battery. Key measurements include a length of 14.6 inches (front panel) / 14.96 inches (total depth), a width of 13.0 inches, and a height of 4.8 inches. The battery weighs 88 lbs. An exploded view shows the internal 16-cell structure.

# 16PCS A GRADE BATTERY CELLS

## BMS200A

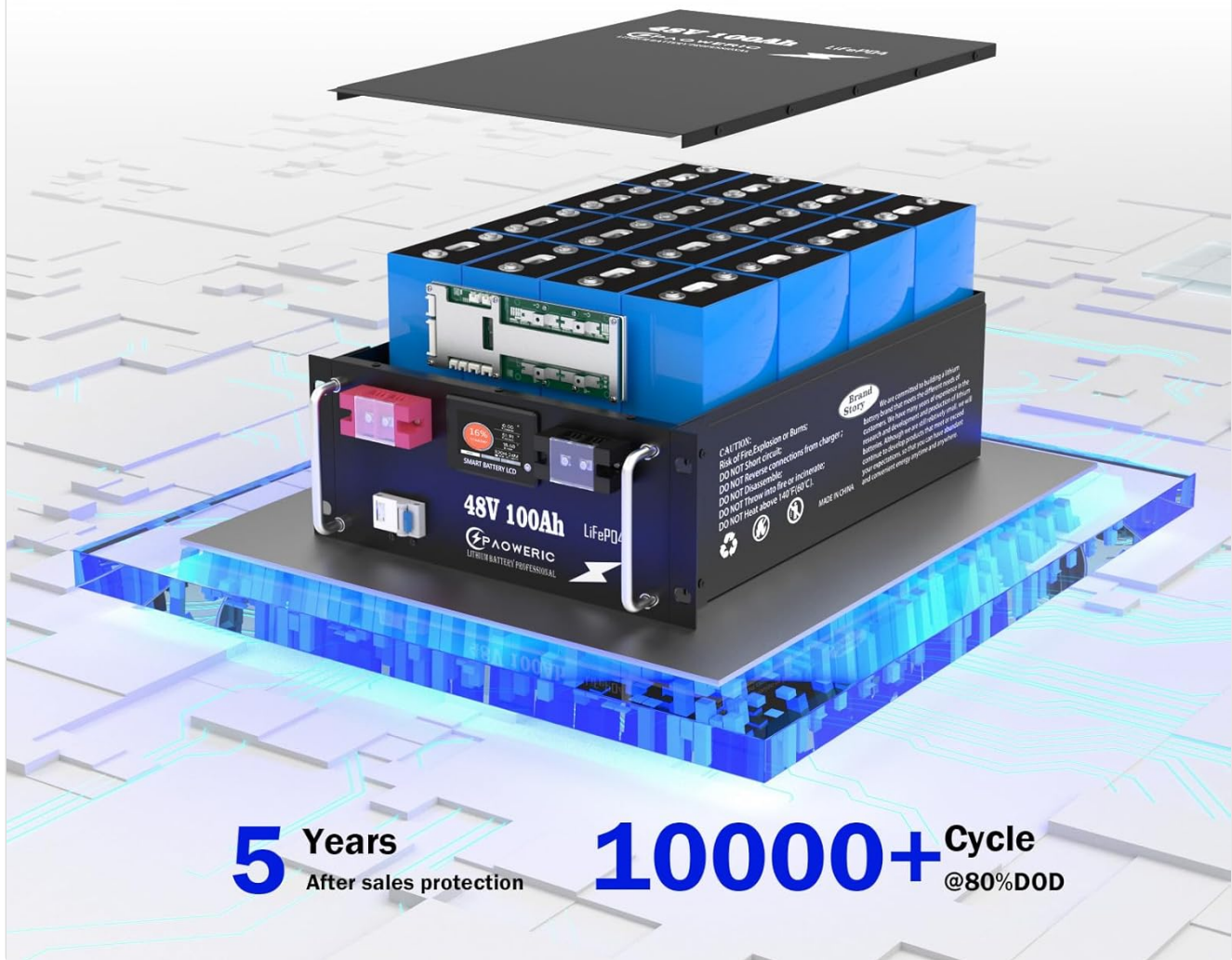


Figure 3.2.3: Internal Structure and BMS

This image provides an internal view of the battery, highlighting its construction with 16 Grade A battery cells and the integrated 200A Battery Management System (BMS). The BMS is crucial for protecting the battery and managing its performance. The image also indicates a 5-year after-sales protection and a lifespan of 10,000+ cycles at 80% Depth of Discharge (DOD).

## 4. SETUP AND INSTALLATION

### 4.1 Unpacking and Inspection

Upon receiving your battery, carefully unpack it and inspect for any signs of damage during transit. Report any damage to the carrier and supplier immediately.

#### What's in the Box:

- Battery Body (as per your order, e.g., 2 units for 48V100Ah\*2)

### 4.2 Parallel Connection (Scalable Energy Solutions)

The Paoweric 48V 100Ah LiFePO4 battery supports parallel expansion for increased capacity. You can connect up to 6 batteries in parallel to achieve a total capacity of 48V 600Ah (30.72KWh).

# STAY CONNECTED VIA WIFI & APP

Maximum allowable 51.2V 100Ah Battery  
Support 6 in parallel

In Parallel (up to 6)

48V 600Ah  
30.72KWh



Figure 4.2.1: Parallel Connection Setup

This image illustrates a setup with multiple Paowerc 48V 100Ah batteries installed in a rack, demonstrating their capability for parallel connection. This configuration allows for scalable energy solutions, supporting up to 6 batteries in parallel to achieve a maximum allowable 51.2V 100Ah battery system, totaling 48V 600Ah or 30.72KWh.

**Important:** When connecting batteries in parallel, ensure all batteries are of the same model and have similar states of charge before connecting. Use appropriate cabling and fusing for the combined current.

## 4.3 App Control Setup

The battery can be monitored and controlled via a mobile application. Refer to the battery's LCD display or included quick start guide for QR codes or instructions to download the official Paowerc app. Ensure your device's Wi-Fi or Bluetooth is enabled for connection.

## 5. OPERATING INSTRUCTIONS

### 5.1 Real-time Monitoring and Control

The integrated smart LCD and mobile app provide comprehensive real-time data and control options.



Figure 5.1.1: Monitoring and Control Interface

This image demonstrates the real-time monitoring and control capabilities of the Paoweric battery via its smart LCD display and mobile app. Page 1 of the LCD shows real-time display of battery voltage, current, and temperature. Page 2 allows for battery charge/discharge switch control. Page 3 displays individual cell voltages, enabling monitoring of differences between cells. The mobile app provides a similar comprehensive overview of battery status.

- **Real-time Display:** View current, voltage, temperature, and State of Charge (SOC) directly on the LCD or via the app.
- **Battery Switch:** Turn on/off charge and discharge functions as needed.
- **Cell Voltage Monitoring:** Monitor individual cell voltages to ensure balanced operation and identify potential issues.

## 5.2 Charging Methods

The Paoweric LiFePO4 battery supports multiple charging methods:

- **Solar Panel Charge Controller:** Ideal for solar energy systems.
- **Dedicated Battery Charger:** Use a LiFePO4 compatible charger.
- **Generator LiFePO4 Charger:** For off-grid charging with a generator.

## 51.2V 100Ah

Meet the needs of your various application!



Figure 5.2.1: Multiple Charging Methods

This image displays the various charging methods compatible with the Paoweric 48V 100Ah LiFePO4 battery. These include charging via a solar panel charge controller, a dedicated battery charger, or a generator equipped with a LiFePO4 charger. It emphasizes the versatility of the battery for different power setups.

### 5.3 Low Temperature Cut-off Protection

The intelligent BMS includes a low-temperature cut-off feature to protect the battery:

- **Charging:** Auto-cutoff at  $\leq 32^{\circ}\text{F}$  ( $0^{\circ}\text{C}$ ) to prevent damage.
- **Discharging:** Auto-cutoff at  $\leq -22^{\circ}\text{F}$  ( $-30^{\circ}\text{C}$ ) to prevent damage.
- **Recovery:** Charging can resume when temperature is  $\geq 32^{\circ}\text{F}$  ( $0^{\circ}\text{C}$ ).

## MULTIPLE CHARGING METHODS



**SOLAR PANEL  
CHARGE  
CONTROLLER**



**BATTERY  
CHARGER**



**GENERATOR  
LIFEPO4  
CHARGER**



**Attention:**

**The product only includes battery!**

Figure 5.3.1: Low Temperature Cut-off

This graphic explains the low-temperature protection features of the Paoweric LiFePO4 battery. It shows that charging stops at temperatures below  $0^{\circ}\text{C}$  ( $32^{\circ}\text{F}$ ), charging recovers at or above  $0^{\circ}\text{C}$  ( $32^{\circ}\text{F}$ ), and discharging stops at temperatures below  $-30^{\circ}\text{C}$  ( $-22^{\circ}\text{F}$ ), safeguarding the battery in cold environments.

## 6. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your battery.

- **Regular Inspection:** Periodically check the battery terminals for corrosion or loose connections. Clean as necessary.
- **Temperature Control:** Operate the battery within its specified temperature range. Avoid extreme heat or cold.

- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50% State of Charge (SOC) and stored in a cool, dry place. Recharge every 3-6 months to prevent deep discharge.
- **Software Updates:** Check for any available firmware or app updates to ensure the BMS is running the latest version.

## 7. TROUBLESHOOTING

This section addresses common issues you might encounter with your battery.

### 7.1 BMS Protection Triggers

The intelligent BMS will activate protection modes under certain conditions to safeguard the battery. These include:

- **Overcharge Protection:** Charging will stop if the voltage exceeds safe limits.
- **Over-discharge Protection:** Discharging will stop if the voltage drops below safe limits.
- **Over-current Protection:** Output will be cut off if the current draw is too high.
- **Short Circuit Protection:** Immediate cut-off in case of a short circuit.
- **Cell Voltage Protection:** Ensures individual cell voltages remain within safe operating parameters.
- **High/Low Temperature Protection:** Charging/discharging will cease if temperatures are outside the safe operating range.

If a protection mode is triggered, the battery may temporarily stop functioning. Check the LCD display or app for error codes or status messages. Often, the battery will automatically recover once the condition returns to normal. If the issue persists, consult the "Professional Service" section.



Figure 7.1.1: BMS Protection Features

This image highlights the comprehensive protection features of the integrated Smart BMS (Battery Management System). These include protection against overcharge, over-current, cell voltage irregularities, over-discharge, and short circuits, ensuring the safety and longevity of the battery.

## 8. SPECIFICATIONS

Specification	Value
Model Number	48V100Ah*2

Specification	Value
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Nominal Voltage	48V
Capacity	100Ah (per unit)
Energy	10240WH (for 2 units)
BMS	Integrated 200A Smart BMS
Cycle Life	10,000+ cycles (@80% DOD)
Control Interface	Touch Screen LCD & Mobile App
Item Weight	180 pounds (for 2 units)
Recommended Uses	Off Grid, Solar System, Golf Carts, Marine/RV
Charging Temperature Cut-off	≤32°F (0°C)
High Temperature Limit	158°F (70°C)

## 9. WARRANTY AND SUPPORT

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Paoweric stands behind the quality of its products. Your 48V 100Ah LiFePO4 Battery comes with **5-year after-sales protection**.

As a professional lithium battery manufacturer, Paoweric offers dedicated customer service. If you have any questions, require technical assistance, or need further product information, please do not hesitate to contact our customer service team. They are available to assist you at any time.

For support, please refer to the contact information provided with your product packaging or visit the official Paoweric website.