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## Clouenergy CL48V-100Ah-Wall+Rack

# Clouenergy 48V 100Ah LiFePO4 Lithium Battery

Model: CL48V-100Ah-Wall+Rack

Brand: Clouenergy

## 1. INTRODUCTION

Thank you for choosing the Clouenergy 48V 100Ah LiFePO4 Lithium Battery. This advanced battery is designed for a wide range of applications, including RV, solar, marine, overland, and off-grid systems. It features a durable automotive-grade A-prismatic cell construction, an intelligent 100A BMS for comprehensive protection, and a user-friendly interface with a touch screen and mobile app control. This manual provides essential information for the safe and efficient use of your battery.



Figure 1: Cloudenergy 48V 100Ah LiFePO4 Lithium Battery with its smart display and mobile app interface.

Video 1: Overview of the Cloudenergy 48V 100Ah Wall & Rack 2 in 1 Mounted LiFePO4 Battery, highlighting its features and applications in a home energy system.

## 2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the battery. Failure to follow these instructions may result in electric shock, fire, serious injury, or death.

- **Do NOT short circuit:** Ensure proper wiring and connections to prevent short circuits.
- **Do NOT immerse the battery in water or allow it to get wet:** This battery is not waterproof. Exposure to water can cause damage and create a safety hazard.
- **Do NOT heat above 60°C (140°F):** High temperatures can damage the battery and pose a fire risk.
- **Do NOT disassemble:** Tampering with the battery can lead to severe injury or damage and voids the warranty.
- **Use appropriate personal protective equipment (PPE):** Always wear insulated gloves and eye protection when handling batteries.
- **Ensure proper ventilation:** Although LiFePO4 batteries do not off-gas significantly, adequate ventilation is recommended for any battery installation.
- **Keep out of reach of children:** This product is not a toy and contains hazardous components.

# Grade-A CELLS With BMS Board Protection

**Built-in BMS Protection for**

- Overcharge Protection
- Over Discharge Protection
- Overcurrent Protection
- Short Circuit Protection
- Cell Voltage Protection

**16 PCS GRADE-A CELLS**

**U.S. Local Warehouse**   **Respond within 12 Hours**   **Technical Aftersales Service**   **10 years life span**   **Professional & kindly Customer Service**

Figure 2: The battery's advanced 100A BMS provides comprehensive protection against overcharge, overdischarge, overcurrent, short-circuit, and cell voltage imbalances.

## 3. WHAT'S IN THE BOX

Your Cloudenergy 48V 100Ah LiFePO4 Lithium Battery package includes the following components:

- Lifepo4 battery pack
- BMS (Battery Management System)
- LCD Display
- Bluetooth module

## 4. SETUP

The Cloudenergy 48V 100Ah battery offers versatile installation options, supporting both wall and rack mounting

configurations. The rotatable LCD screen allows for flexible viewing angles depending on your chosen setup.

## 4.1 Wall Mounted Installation

For wall mounting, ensure the chosen wall can support the battery's weight (approximately 99 pounds). Use appropriate mounting hardware and follow local electrical codes. The battery's design allows for the LCD screen to be rotated for optimal viewing when wall-mounted.

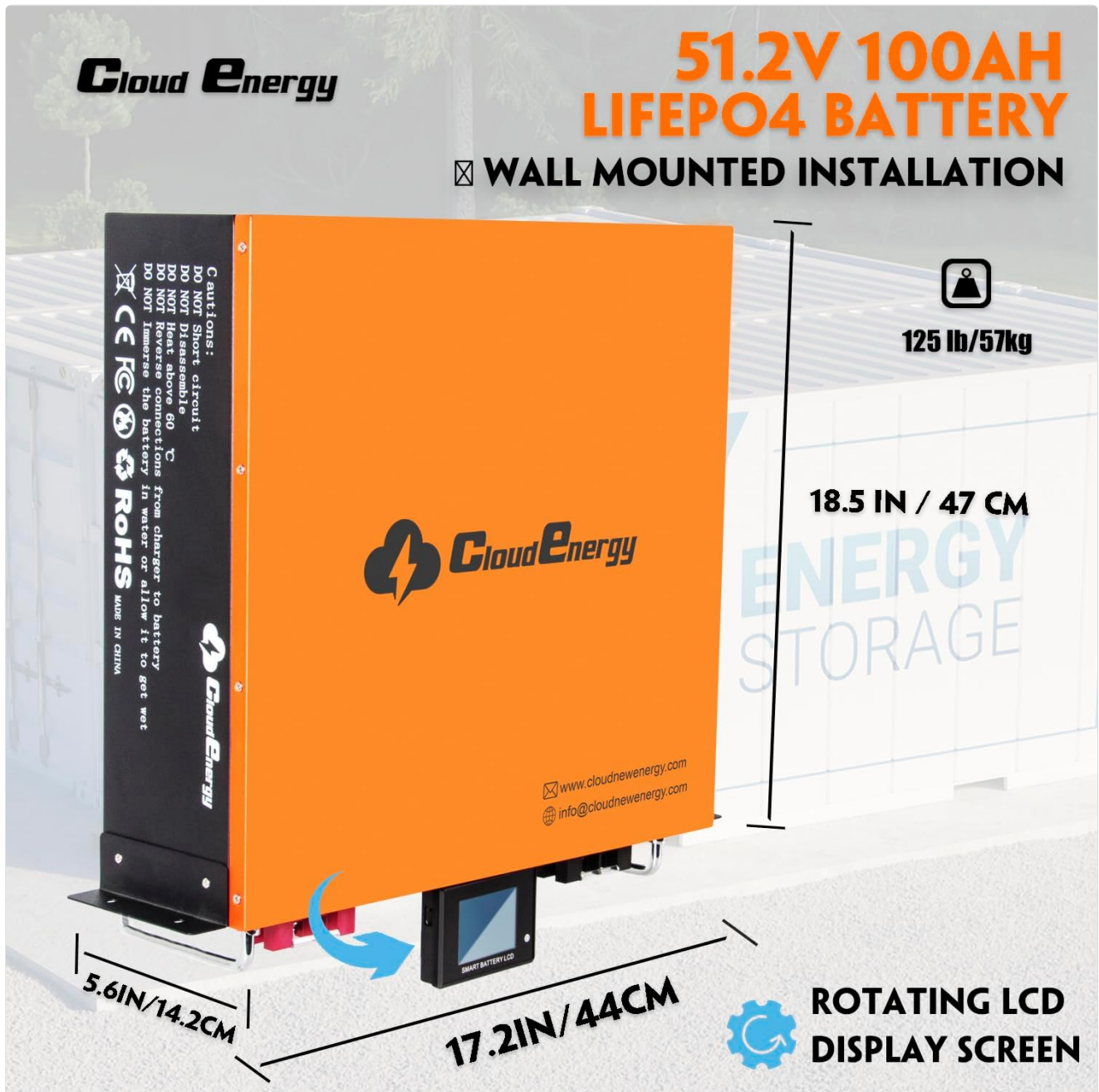


Figure 3: Dimensions for wall-mounted installation, showing the battery's size and weight.

# HOW TO INSTALL CABINET TYPE AS WALL MOUNTED TYPE



Figure 4: Step-by-step illustration of how to convert the battery for wall mounting, including the rotating LCD display screen.

## 4.2 Rack Mounted Installation

For rack mounting, the battery is designed to fit standard rack systems. Ensure the rack is stable and can support the combined weight of multiple batteries if expanding your system. The dual positive and negative terminal design helps distribute current evenly.

**Cloud Energy**

# 51.2V 100AH LIFEPO4 BATTERY

**5120 WH**



Energy Capacity

**100 A**



Max. Continuous  
Charge/Discharge Current

**5120 W**



Max. Load Power

**-20°C~60°C**



Wide Operation  
Temperature Range

**☒ CABINET INSTALLATION**

**6000+ CYCLES LIFE**



Figure 5: Dimensions for cabinet installation, providing details for integrating the battery into a rack system.



Figure 6: A setup showing multiple Cloudeenergy batteries installed in a rack, demonstrating scalability up to 16 units for increased capacity.

### 4.3 Initial Charging

Before first use, it is recommended to fully charge the battery. Connect the battery to a compatible LiFePO4 charger. The smart display will indicate the charging status.

## 5. OPERATING INSTRUCTIONS

Your Cloudeenergy battery is equipped with a smart touch screen display and Bluetooth connectivity for convenient monitoring and control.

### 5.1 Smart Touch Screen Display

The integrated touch screen provides real-time information about the battery's status, including capacity, voltage, temperature, and current. You can also control charge and discharge modes directly from the display.

### 5.2 Mobile App Control

For enhanced user interaction, download the Cloudeenergy mobile app (refer to the user manual included in the box for app download instructions). Connect via Bluetooth to seamlessly manage and monitor your battery from your smartphone.



Figure 7: The Cloudenergy battery shown alongside a smartphone displaying the mobile app interface for remote monitoring.



Figure 8: A closer look at the mobile app and LCD display, illustrating real-time capacity, voltage, temperature, current, and controllable charge/discharge modes.

## 6. PERFORMANCE AND APPLICATIONS

The Cloudeenergy 48V 100Ah LiFePO4 battery delivers robust performance with a 5120Wh energy capacity and a life cycle exceeding 6000+ cycles, significantly outlasting traditional lead-acid batteries. It is ideal for various energy storage needs.

### 6.1 Energy Storage System Integration

This battery is designed to integrate seamlessly into solar energy systems, providing reliable power for your home or off-grid setup. It supports connecting up to 16 units in parallel for a maximum of 81.92 kWh usable battery energy and 81.92 kW load power.



Figure 9: A diagram illustrating the Clouenergy battery integrated into a home energy storage system with solar panels and an inverter.

Video 2: Demonstrates the Clouenergy LiFePO<sub>4</sub> batteries as part of a comprehensive home energy storage system, showcasing their ability to power a household.

## 6.2 Powering Appliances

The 48V 100Ah battery can power various household appliances for extended periods, making it suitable for both daily use and emergency backup. Examples include:

- 48" TV (260W): Approximately 20 hours
- Washer (280W): Approximately 18 hours
- Freezer (200W): Approximately 25 hours
- Air conditioner (735W): Approximately 7 hours
- Oven (1000W): Approximately 5 hours
- Coffee machine (650W): Approximately 8 hours

# Cloud Energy 48V 100Ah LiFePO4 BATTERY



Figure 10: Illustrates the estimated runtimes for various common appliances when powered by the Cloudenergy 48V 100Ah LiFePO4 battery.

# MEET DAILY HOUSEHOLD ELECTRICITY NEEDS

# 5120 WH USABLE ENERGY



Figure 11: The Cloudenergy battery seamlessly integrated into a workshop environment, demonstrating its practical application for meeting daily household electricity needs.

## 7. MAINTENANCE

To ensure the longevity and optimal performance of your Cloudenergy LiFePO<sub>4</sub> battery, follow these maintenance guidelines:

- **Regular Inspection:** Periodically check the battery for any physical damage, loose connections, or signs of corrosion.
- **Clean Terminals:** Keep the battery terminals clean and free of dirt or debris. Use a dry cloth to wipe them if necessary.
- **Temperature Control:** Operate and store the battery within the recommended temperature range (-20°C to 60°C). Avoid extreme heat or cold.
- **Charge Level:** For long-term storage, maintain the battery at approximately 50% state of charge. Avoid leaving the battery fully discharged for extended periods.

- **Software Updates:** If available, ensure your mobile app and battery firmware are updated to the latest versions for optimal performance and features.

## 8. TROUBLESHOOTING

This section addresses common issues you might encounter with your Cloudeenergy battery. For more complex problems, please contact customer support.

Problem	Possible Cause	Solution
Battery not charging	Loose connections, charger malfunction, BMS protection engaged (e.g., low temperature cut-off)	Check all cable connections. Verify charger functionality. Ensure ambient temperature is above 0°C for charging.
No power output	Battery discharged, BMS protection engaged (e.g., over-discharge, overcurrent), faulty inverter/load	Check battery charge level. Reduce load if overcurrent protection is active. Inspect external components.
LCD display not working	Power issue, display malfunction	Ensure battery is powered on. Check connections to the display. If issue persists, contact support.
Mobile app not connecting	Bluetooth off, app not updated, incorrect pairing procedure	Ensure Bluetooth is enabled on your device. Update the app. Follow pairing instructions in the full manual.

Video 3: Illustrates the battery's quick activation and ability to restore power during an outage, emphasizing its reliability for emergency situations.

## 9. SPECIFICATIONS

Feature	Detail
Product Dimensions	18.5 x 17.2 x 5.6 inches
Item Weight	99 pounds
Item Model Number	CL48V-100Ah-Wall+Rack
Batteries Required	16 Lithium Ion batteries (included)
Battery Cell Composition	Lithium-Phosphate (LiFePO4)
Battery Capacity	100 Amp Hours (Ah)
Energy Capacity	5120 Wh
Max. Load Power	5120 W
Life Cycles	6000+ cycles
Operating Temperature Range	-20°C to 60°C
BMS	Advanced 100A BMS with comprehensive protection
Connectivity	Touchable Smart Display & Mobile APP (Bluetooth)
Mounting Options	Wall & Rack 2 in 1 Mounted
Recommended Uses	RV, Solar, Marine, Overland, Off-Grid

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## 10. WARRANTY AND SUPPORT

Cloudenergy is committed to providing excellent customer service and technical support. We offer a 10-year lifetime for our batteries, ensuring long-term reliability.

If you encounter any product-related issues or have questions, please do not hesitate to contact our support team. We provide fast feedback within 24 hours to assist you with any concerns.

For technical assistance or warranty claims, please refer to the contact information provided in your product packaging or visit the official Cloudenergy website.

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