EVE HUAEORNO 48V 200ah

EVE HUAEORNO 48V 200Ah LiFePO4 Lithium Battery User Manual

Model: 48V 200ah

1. Introduction

This manual provides essential information for the safe and efficient operation of your EVE HUAEORNO 48V 200Ah LiFePO4 Lithium Battery. This high-capacity, rack-mounted battery is designed for various applications including home energy storage, solar power systems, off-grid installations, and RV power supply. It features advanced prismatic cell technology, a built-in Battery Management System (BMS), and a touch screen monitor for convenient control and monitoring.

Image 1.1: EVE HUAEORNO Rack-Mounted Lithium Iron Phosphate Battery. This image illustrates the robust, rack-mountable design of the battery unit, highlighting its suitability for integrated power systems.

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 property damage.

- **General Safety:** Keep the battery away from water, heat sources, and flammable materials. Do not open, disassemble, or modify the battery.
- **Handling:** The battery is heavy. Use appropriate lifting techniques and equipment during installation.
- **Electrical Connections:** Ensure all connections are secure and correctly polarized. Use appropriate cables and fuses. Disconnect power before making or breaking connections.

- **Ventilation:** Ensure adequate ventilation around the battery to prevent overheating.
- **BMS Protection:** The built-in BMS protects against overcharge, deep discharge, overloading, overheating, short circuits, and low temperatures. Do not attempt to bypass these safety features.
- **Emergency:** In case of fire, use a Class D fire extinguisher. For electrolyte contact, flush with water and seek medical attention.

Image 2.1: Battery with Power Indicators. This image highlights the power indicators and robust design features that contribute to the safe operation of the battery system, emphasizing protection strategies and fault isolation.

3. Product Overview

3.1 Components

The EVE HUAEORNO 48V 200Ah LiFePO4 Lithium Battery is housed in a durable metal case, designed for server rack mounting. Key components include:

- **Battery Cells:** Grade A+ prismatic LiFePO4 cells.
- **Battery Management System (BMS):** Integrated for comprehensive protection and cell balancing.
- **Touch Screen Monitor:** For real-time data display and control.
- **Power Terminals:** Positive (+) and Negative (-) terminals for electrical connections.
- **Communication Ports:** CAN and RS485 interfaces for external communication.
- **DIP Switches:** For setting communication addresses and baud rates.

Image 3.1: Front view of the EVE HUAEORNO 48V 200Ah LiFePO4 Lithium Battery. This image displays the main unit, including its front panel, handles, and overall rack-mountable form factor.

3.2 Key Features

- **Prismatic Cell Technology:** Utilizes 16 Pcs of Grade A+ prismatic cells, offering superior safety, efficiency, and a longer lifespan compared to cylindrical cells.
- **Extended Lifespan:** Provides 8000+ cycles with an expected lifetime of 10 years.
- **Scalability:** Supports parallel expansion of up to 30 battery units.
- **Integrated BMS:** Offers comprehensive protection against overcharge, deep discharge, overloading, overheating, short circuits, and low-temperature conditions.
- **Touch Screen Monitoring:** A user-friendly smart display shows real-time voltage, current, energy, and inverter model information.
- **Environmental Safety:** Constructed without heavy metals or rare metals, making it an eco-friendly power solution.

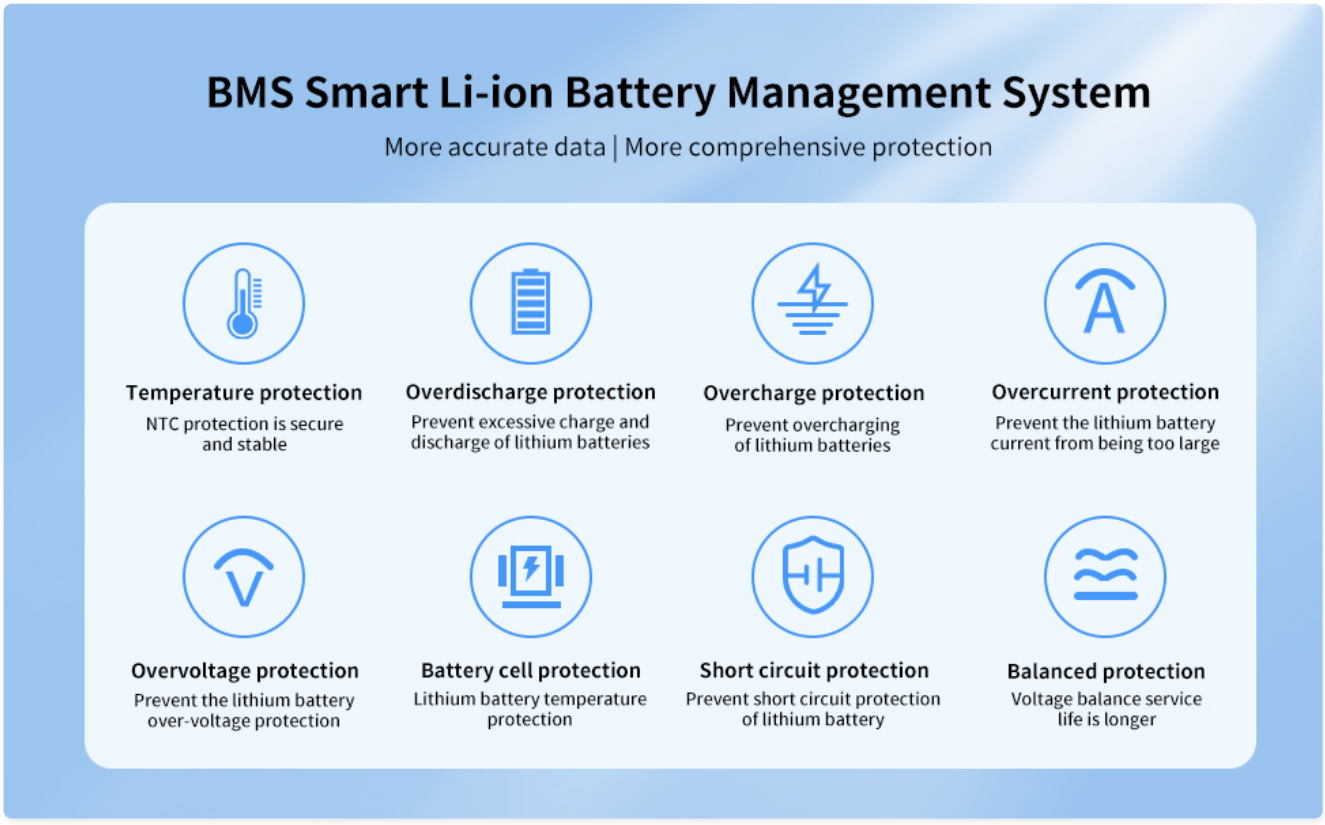

Image 3.2: BMS Smart Li-ion Battery Management System Features. This graphic illustrates the eight key protections provided by the integrated BMS, including temperature, overdischarge, overcharge, overcurrent, overvoltage, cell, short circuit, and balanced protection.

4. Setup and Installation

4.1 Unpacking and Inspection

Carefully unpack the battery and inspect it for any signs of damage. The package should include:

- EVE HUAEORNO 48V 200Ah LiFePO4 Lithium Battery
- Mounting brackets
- Fixing screws
- Power cables

4.2 Physical Installation

The battery is designed for rack mounting. Ensure the installation location is dry, well-ventilated, and within the recommended operating temperature range. Secure the battery using the provided mounting brackets and screws into a standard server rack.

4.3 Electrical Connections

Connect the battery to your inverter or power system using the provided power cables. Ensure correct polarity (+ to + and - to -). For parallel connections of multiple batteries, follow the diagram below. It is crucial to connect all batteries in parallel before connecting to the inverter to ensure balanced charging and discharging.

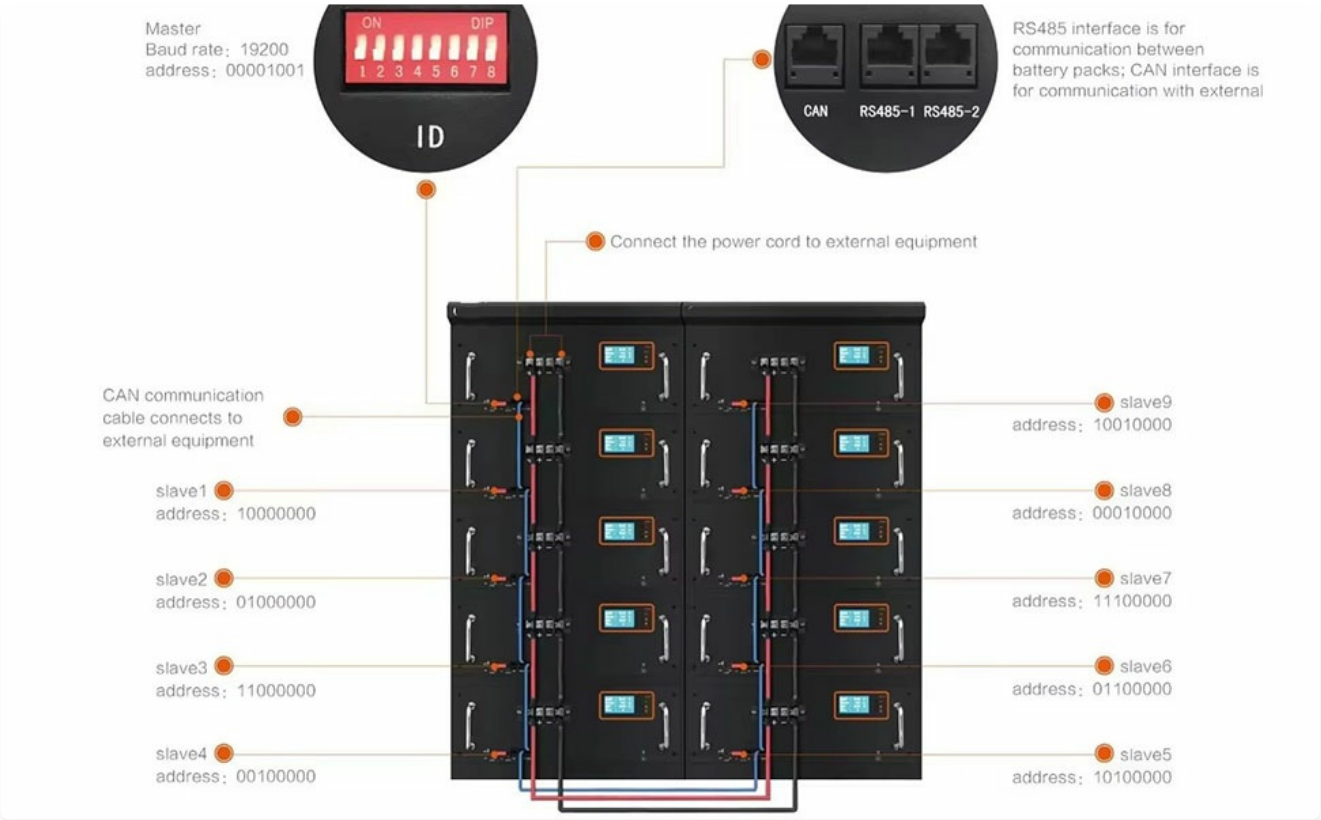

Image 4.1: Parallel Connection Diagram for Multiple Batteries. This diagram illustrates how to connect multiple battery units in parallel, including the use of DIP switches for addressing and communication cables for external equipment via CAN and RS485 interfaces.

4.4 Communication Setup (CAN/RS485)

The battery supports CAN and RS485 communication protocols for integration with compatible inverters and monitoring systems. Use the DIP switches on the battery to set the unique address for each battery unit in a multi-battery setup. Refer to your inverter's manual for specific communication settings and cable requirements.

5. Operating Instructions

5.1 Initial Power-Up

After all electrical and communication connections are securely made, switch on the battery. The touch screen monitor will illuminate, displaying initial system information.

5.2 Touch Screen Monitor

The integrated touch screen provides real-time monitoring of key battery parameters:

- **Voltage:** Displays the current battery voltage.
- **Current:** Shows the charging or discharging current.
- **Energy:** Indicates the remaining battery capacity.
- **Inverter Model:** May display information about the connected inverter, if compatible.

Navigate the touch screen interface to view detailed information and adjust settings as needed. Consult the on-screen menu for specific functions.

Image 5.1: Battery Front Panel with Touch Screen Monitor. This close-up view shows the battery's front panel, including the touch screen display, power terminals, and communication ports, providing a clear interface for monitoring and control.

5.3 Inverter Compatibility

The EVE HUAEORNO battery is designed to be compatible with a wide range of inverters. For optimal performance and communication, ensure your inverter supports LiFePO4 battery types and the CAN/RS485 protocols. Refer to the compatibility list or contact technical support for specific inverter models.

Image 5.2: Compatible Inverter Brands. This image displays logos of various leading inverter manufacturers, indicating the broad compatibility of the EVE HUAEORNO battery with different solar and energy storage systems.

6. Maintenance

The EVE HUAEORNO LiFePO4 battery requires minimal maintenance due to its robust design and integrated BMS. However, regular checks can ensure optimal performance and longevity:

- **Visual Inspection:** Periodically check the battery for any physical damage, loose connections, or signs of corrosion.
- **Cleaning:** Keep the battery and its terminals clean and free of dust. Use a dry cloth for cleaning. Do not use liquids or abrasive cleaners.
- **Ventilation:** Ensure that the ventilation openings are not obstructed to allow for proper heat dissipation.
- **Software Updates:** If available, check for firmware updates for the BMS or touch screen monitor to ensure the latest features and optimizations.
- **Environmental Conditions:** Maintain the battery within its specified operating temperature and humidity ranges.

7. Troubleshooting

If you encounter issues with your EVE HUAEORNO battery, refer to the following general troubleshooting steps. For complex problems, contact technical support.

- **Battery Not Powering On:** Check all power cable connections, ensure they are secure and correctly polarized. Verify the main power switch (if present) is in the ON position.
- **No Display on Touch Screen:** Ensure the battery is powered on. If the issue persists, a soft reset (power cycle) may be required.
- **Low Voltage/Capacity:** Ensure the battery is adequately charged. Check for any error codes on the touch screen or connected inverter.

- **Communication Errors:** Verify CAN/RS485 cable connections. Check DIP switch settings for correct addressing. Ensure the inverter's communication settings match the battery.
- **Overheating:** Ensure adequate ventilation around the battery. Check for any obstructions to airflow. Reduce load if necessary.

8. Specifications

Feature	Specification
Brand	EVE HUAEORNO
Model	Rack mounted (48V 200ah)
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Nominal Voltage	48V
Nominal Capacity	200Ah
Energy Capacity	10kWh
Cycle Life	8000+ cycles
Expected Lifetime	10 years
Cell Type	Grade A+ Prismatic Cells
BMS	Built-in, with overcharge, deep discharge, overloading, overheating, short circuit, low-temperature protection
Monitoring	Touch Screen Display (Voltage, Current, Energy, Inverter Model)
Communication	CAN, RS485
Parallel Expansion	Up to 30 units
Case Material	Metal
Manufacturer Part Number	EVE-48V 200ah
Date First Available	November 15, 2024

9. Warranty and Support

The EVE HUAEORNO 48V 200Ah LiFePO4 Lithium Battery is covered by a 5-year solution, ensuring peace of mind regarding product quality and performance. This solution typically covers manufacturing defects and significant performance degradation under normal operating conditions.

For technical assistance, warranty claims, or any inquiries regarding your battery, please contact EVE HUAEORNO customer support. Keep your purchase receipt and product serial number readily available when contacting support.

Contact Information: Please refer to the product packaging or the official EVE HUAEORNO website for the most current customer support contact details.

10. Applications

The EVE HUAEORNO 48V 200Ah LiFePO4 Lithium Battery is versatile and suitable for a wide range of applications requiring reliable and efficient power storage:

- **Home Energy Storage:** Integrate with solar panels for residential backup power or self-consumption.
- **Solar Power Systems:** Ideal for off-grid or grid-tied solar installations.
- **Off-Grid Systems:** Provides stable power for remote cabins, workshops, or other off-grid setups.
- **RV and Marine:** A reliable power source for recreational vehicles and boats.
- **Commercial and Industrial:** Suitable for backup power in offices, base stations, and other commercial applications.

Image 10.1: Various Applications for the LiFePO4 Battery. This image showcases diverse use cases for the battery, including RV power supply, home lighting, grassland pastoral areas, mountain power supply, commercial offices, base stations, night market lighting, and camping.