

MOSEWORTH M48135

MOSEWORTH 48V 135Ah LiFePO4 Lithium Battery User Manual

Model: M48135

1. INTRODUCTION

Thank you for choosing the MOSEWORTH 48V 135Ah LiFePO4 Lithium Battery. This manual provides essential information for the safe and efficient operation, installation, and maintenance of your battery. The MOSEWORTH LiFePO4 battery is designed for various applications, offering a long cycle life, built-in Battery Management System (BMS), and low-temperature protection for reliable performance. Please read this manual thoroughly before using the battery and retain it for future reference.

2. SAFETY INFORMATION

WARNING: Failure to follow these safety instructions may result in fire, electric shock, serious injury, or property damage.

- **Do Not Short Circuit:** Ensure positive and negative terminals do not come into contact with each other or with conductive materials.
- **Correct Polarity:** Always connect the battery with correct polarity. Reverse polarity can cause severe damage to the battery and connected equipment.
- **Avoid Puncture:** Do not puncture, drop, crush, or disassemble the battery.
- **Temperature Limits:** Do not expose the battery to extreme temperatures outside its operating range. Avoid direct sunlight or heat sources.
- **Ventilation:** Ensure adequate ventilation around the battery during operation and charging.
- **Water Exposure:** While the battery is IP65 rated for dust and water resistance, avoid submerging it in water.
- **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 in household waste.

3. PRODUCT OVERVIEW

The MOSEWORTH 48V 135Ah LiFePO4 Lithium Battery is a high-performance power solution featuring advanced technology for durability and safety.

Key Features:

- **48V 135Ah Capacity:** Provides substantial power for demanding applications.
- **LiFePO4 Chemistry:** Offers superior safety, stability, and a longer cycle life compared to traditional lead-acid batteries.
- **Built-in 200A BMS:** Integrated Battery Management System protects against over-charge, over-discharge, over-current, short circuit, and high/low temperature.
- **Low-Temperature Protection:** Automatically stops charging below 32°F (0°C) and discharging below -4°F (-20°C) to prevent damage. Resumes charging at 41°F (5°C).
- **Grade A Lithium Iron Phosphate Cells:** Ensures high quality, stable chemistry, and enhanced thermal stability.
- **Extended Cycle Life:** Designed for 5000+ charge/discharge cycles, offering long-term value.
- **IP65 Waterproof & Dust-proof:** Provides protection against environmental elements.

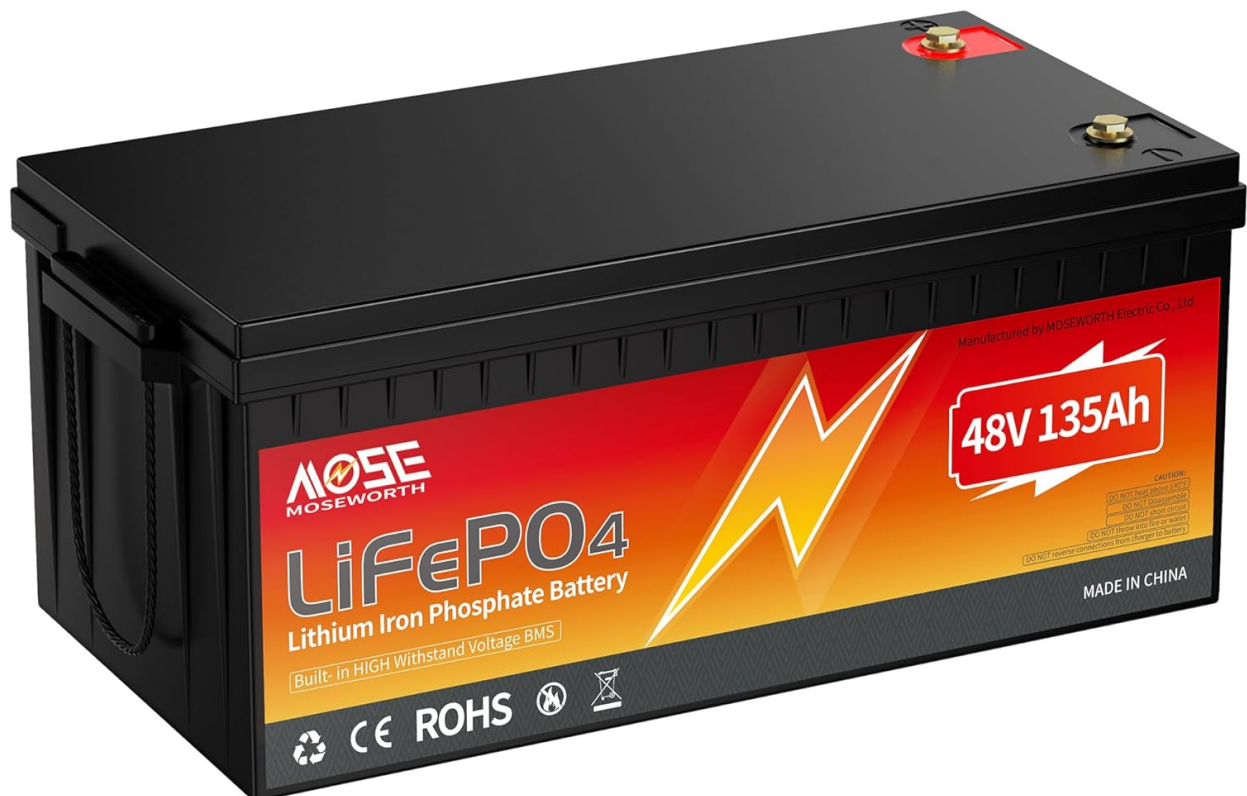


Figure 3.1: MOSEWORTH 48V 135Ah LiFePO4 Lithium Battery. This image displays the main product unit, showcasing its robust black casing and clear labeling of its 48V 135Ah capacity and LiFePO4 technology.

High Performance Lithium Battery



Figure 3.2: Internal view of the MOSEWORTH LiFePO₄ battery, highlighting the integrated Battery Management System (BMS) and Grade A cells. This illustration provides insight into the internal construction and quality components.

Built in 200A BMS



Figure 3.3: Diagram illustrating the protective functions of the 200A Built-in BMS, including over-discharge, over-current, shunt circuit, over-charge, and high/low temperature protection. These features ensure the battery's longevity and safe operation.



Figure 3.4: Visual representation of the battery's low-temperature protection thresholds: stops discharging below -4°F (-20°C), stops charging below 32°F (0°C), and resumes charging at or above 41°F (5°C). This feature safeguards the battery in cold environments.

Dimensions and Components:

Precision-fit Dimensions

Smaller, Lighter & Greater Compatibility



M8 bolts



Figure 3.5: Diagram showing the precision-fit dimensions of the MOSEWORTH 48V 135Ah LiFePO4 battery: Length 20.47 inches, Width 10.59 inches, Height 8.66 inches, with M8 bolts for terminals. These dimensions are crucial for installation planning.

The battery features robust M8 bolt terminals for secure electrical connections.

4. SETUP AND INSTALLATION

Unpacking and Inspection:

1. Carefully remove the battery from its packaging.
2. Inspect the battery for any visible damage. If damage is found, do not use the battery and contact customer support.
3. Verify that all included accessories, such as M8 bolts for terminals, are present.

Connection Guidelines:

- **Preparation:** Ensure all connected equipment is turned off before making any connections.

- **Polarity:** Connect the positive (+) terminal of the battery to the positive (+) input of your system, and the negative (-) terminal to the negative (-) input. Double-check polarity before tightening connections.
- **Secure Connections:** Use the provided M8 bolts to securely fasten all cable lugs to the battery terminals. Loose connections can cause overheating and damage.
- **Cable Sizing:** Use appropriately sized cables for your application to handle the expected current draw.
- **Ventilation:** Install the battery in a well-ventilated area to prevent heat buildup.
- **Environment:** Avoid installing the battery in direct sunlight, near heat sources, or in areas prone to excessive moisture or dust.

5. OPERATING INSTRUCTIONS

Charging the Battery:

The MOSEWORTH LiFePO4 battery can be charged using several methods. Always use a charger compatible with LiFePO4 batteries.

3 Ways to Charge

LiFePO4 Charge
5 Hours
(14.6V 20A 0.2C)

Solar Panel
1 Sunny day
(≥400W)

Generator
5 Hours
(20A DC-DC Charger)

MOSE
MADE IN CHINA

MOSE
MADE IN CHINA

Figure 5.1: Illustration of three charging methods for the LiFePO₄ battery: dedicated LiFePO₄ charger (14.6V 20A, 5 hours), solar panel (≥400W, 1 sunny day), and generator (20A DC-DC charger, 5 hours). These options provide flexibility for various power setups.

- **Dedicated LiFePO₄ Charger:** Use a 14.6V 20A charger for optimal charging. A full charge typically takes approximately 5 hours.
- **Solar Panel:** Connect to a solar panel system with a compatible charge controller. A solar array of 400W or more can fully charge the battery in approximately one sunny day.
- **Generator:** Utilize a generator with a 20A DC-DC charger. Charging time is approximately 5 hours.

Important: Ensure your charging source and controller are specifically designed for LiFePO₄ batteries to prevent damage and ensure safety.

Typical Applications:

This battery is suitable for a wide range of applications due to its robust design and high performance.



Figure 5.2: Examples of common applications for the MOSEWORTH LiFePO₄ battery, including RVs, boats/marine vessels, camping setups, and trolling motors. Its versatility makes it ideal for off-grid and mobile power needs.

- **RV (Recreational Vehicle):** Provides reliable power for onboard appliances and systems.

- **Boat/Marine:** Ideal for marine applications, including house banks and auxiliary power.
- **Camping:** Powers portable devices and lighting for extended outdoor adventures.
- **Trolling Motor:** Offers consistent and long-lasting power for electric trolling motors.
- **Solar Energy Storage:** Functions as an efficient energy storage solution for off-grid solar systems.

6. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your MOSEWORTH LiFePO4 battery.

- **Regular Inspection:** Periodically check the battery for any signs of physical damage, swelling, or corrosion on the terminals.
- **Clean Terminals:** Keep the battery terminals clean and free of dirt or corrosion. Use a dry cloth to wipe them if necessary. Ensure connections remain tight.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50-70% of its capacity. Store in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Avoid Deep Discharge:** While LiFePO4 batteries tolerate deep discharge well, it is recommended to avoid consistently discharging below 20% to maximize lifespan. The built-in BMS will protect against over-discharge.
- **Charging Frequency:** For optimal health, avoid leaving the battery in a fully discharged state for prolonged periods. Recharge as soon as possible after use.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your battery. For problems not listed here, please contact MOSEWORTH customer support.

Problem	Possible Cause	Solution
Battery not charging	<ul style="list-style-type: none"> • Charger not connected or faulty • Charger incompatible with LiFePO4 • Battery in low-temperature protection mode • BMS activated due to over-discharge 	<ul style="list-style-type: none"> • Check charger connection and functionality • Ensure charger is LiFePO4 compatible (14.6V) • Move battery to a warmer environment (above 32°F / 0°C) • Attempt to wake up BMS with a compatible charger or by applying a small load/charge
No power output from battery	<ul style="list-style-type: none"> • Battery fully discharged (BMS protection) • Loose or corroded terminals • Over-current or short circuit (BMS protection) • Battery in low-temperature protection mode 	<ul style="list-style-type: none"> • Recharge the battery • Inspect and clean terminals, tighten connections • Disconnect load, check for short circuits, then reconnect • Move battery to a warmer environment (above -4°F / -20°C)
Battery appears swollen or damaged	<ul style="list-style-type: none"> • Internal cell damage • Overheating 	<ul style="list-style-type: none"> • Immediately discontinue use. Do not attempt to charge or discharge. Contact MOSEWORTH customer support for assistance.

8. SPECIFICATIONS

Detailed technical specifications for the MOSEWORTH 48V 135Ah LiFePO4 Lithium Battery.

Feature	Specification
Model Number	M48135
Nominal Voltage	48V
Nominal Capacity	135Ah
Battery Chemistry	LiFePO4 (Lithium Iron Phosphate)
Built-in BMS	Yes (200A)
Low-Temperature Protection	<ul style="list-style-type: none"> • Stops discharging below -4°F (-20°C) • Stops charging below 32°F (0°C) • Resumes charging at 41°F (5°C)
Cycle Life	5000+ cycles
Dimensions (L x W x H)	20.47 x 10.59 x 8.66 inches
Terminal Type	M8 bolts
Water/Dust Resistance	IP65
Manufacturer	MOSEWORTH
ASIN	B0FM71J94C
What's in the Box	1x MOSEWORTH 48V 135Ah LiFePO4 Battery

9. WARRANTY AND SUPPORT

MOSEWORTH is committed to providing high-quality products and customer satisfaction.

- **Warranty Information:** For specific warranty terms and conditions, please refer to the warranty card included with your product or contact MOSEWORTH customer support directly.
- **Customer Support:** If you have any questions, concerns, or require technical assistance, please contact MOSEWORTH customer support through the official website or your purchase platform.