MOSEWORTH M12100BT

MOSEWORTH 12V 100Ah LiFePO4 Lithium Battery with Bluetooth User Manual

Model: M12100BT

1. Introduction

This manual provides essential information for the safe and efficient use of your MOSEWORTH 12V 100Ah LiFePO4 Lithium Battery with Bluetooth. This high-performance battery is designed for various applications including RVs, marine vessels, trolling motors, and solar energy storage systems. Please read this manual thoroughly before installation and operation.

Image 1.1: MOSEWORTH 12V 100Ah LiFePO4 Lithium Battery. This image displays the overall design of the battery unit.

2. Safety Information

Always prioritize safety when handling and operating batteries. Failure to follow these instructions can result in serious injury or damage to the battery and connected equipment.

- **Do Not Short Circuit:** Ensure positive and negative terminals do not come into contact with each other or with conductive materials.
- **Do Not Disassemble:** Attempting to open or modify the battery can be dangerous and voids the warranty.
- **Avoid High Temperatures:** Do not expose the battery to temperatures exceeding 140°F (60°C).
- **Avoid Low Temperatures:** Do not attempt to discharge the battery below -4°F (-20°C) or charge below 32°F (0°C).
- **Proper Connections:** Always ensure connections are secure and correct polarity is observed.
- **Ventilation:** While LiFePO4 batteries produce minimal gas, ensure adequate ventilation in enclosed spaces.
- **Water Protection:** For wet or marine environments, use a waterproof battery compartment to protect the

battery.

3. Product Features

The MOSEWORTH 12V 100Ah LiFePO4 battery incorporates advanced features for reliable and safe power delivery.

3.1 Bluetooth Real-Time Data Monitoring

The battery features integrated Bluetooth connectivity, allowing users to monitor real-time data such as voltage, current, and capacity directly from a smartphone application. This provides immediate insight into the battery's operational status and remaining charge.

Image 3.1: Bluetooth App Interface. This image shows a smartphone displaying real-time battery data, including State of Charge (SOC), voltage, current, and temperature, with an RV in the background.

3.2 Integrated 100A Battery Management System (BMS)

An advanced 100A BMS provides comprehensive protection for the battery. This includes:

- Overcharge Protection

- Over-discharge Protection
- Short Circuit Protection
- Overheating Protection
- Low-Temperature Cutoff (-4°F / -20°C)
- High-Temperature Protection (140°F / 60°C)

Image 3.2: Internal BMS Components. This image illustrates the internal structure of the battery with the 100A Smart BMS and its various protection features highlighted.

3.3 Wide Working Temperature Range

The battery is designed to operate safely across a broad temperature spectrum, with built-in protection mechanisms to prevent damage in extreme conditions.

- Discharging stops at -4°F (-20°C).
- Charging stops at 32°F (0°C).
- Charging resumes at 41°F (5°C).

Image 3.3: Temperature Protection Diagram. This image visually represents the battery's low-temperature cutoff for discharging and charging, and high-temperature protection.

3.4 Long Lifespan and Cycle Life

Constructed with Grade A LiFePO4 cells, this battery offers a lifespan of over 10 years with more than 5000 deep charge cycles, significantly outperforming traditional lead-acid batteries.

3.5 Expandable and Versatile Power

The battery can be connected in series for higher voltage (up to 4 batteries for 48V) or in parallel for increased capacity (unlimited parallel connections). This flexibility makes it suitable for various power needs, including trolling motors (30-70 lb thrust), solar storage, RVs, and emergency backup systems. *Note: This battery is not designed for golf cart applications.*

Image 3.4: Diverse Applications. This image showcases the battery's suitability for RVs, trolling motors, boats, and off-grid solar systems.

4. Setup and Installation

Before connecting the battery, ensure all components are present and undamaged. Always wear appropriate personal protective equipment (PPE) such as gloves and eye protection.

4.1 Initial Inspection

- Unpack the battery and inspect for any physical damage.
- Verify that the package includes the battery and M8 bolts for connection.

4.2 Connecting the Battery

Connect the battery using the provided M8 bolts. Ensure all connections are tight and secure to prevent arcing and ensure optimal performance.

- **Single Battery Connection:** Connect the positive terminal to the positive load/charger and the negative terminal to the negative load/charger.

- **Series Connection (for higher voltage):** Up to 4 batteries can be connected in series to achieve a 48V system. Connect the positive terminal of one battery to the negative terminal of the next.
- **Parallel Connection (for higher capacity):** An unlimited number of batteries can be connected in parallel. Connect positive terminals together and negative terminals together.

For marine applications, it is highly recommended to install the battery within a waterproof battery box to protect it from moisture and environmental elements.

5. Operating Instructions

5.1 Bluetooth App Usage

Download the MOSEWORTH Bluetooth application from your smartphone's app store (available on App Store and Google Play). Once installed, open the app and allow it to connect to your battery. The app will display real-time data including:

- Battery Voltage
- Current (charge/discharge)
- State of Charge (SOC) percentage
- Battery Temperature
- Cycle Count
- BMS Protection Status

This allows for convenient monitoring of battery health and performance.

Image 5.1: Bluetooth App Connection. This image shows a couple using a smartphone app to monitor the battery, with the app interface visible.

6. Charging Methods

The MOSEWORTH LiFePO4 battery can be charged using several methods. For optimal performance and longevity, it is recommended to charge the 12V LiFePO4 battery at a voltage of 14.6V.

6.1 Recommended Charging Sources

- **LiFePO4 Charger:** Use a dedicated 14.6V LiFePO4 charger (recommended 20A-50A). This method offers the fastest charging, achieving a full charge in approximately 2 hours with a 600W solar setup or equivalent charger.
- **Solar Panel:** Connect to a solar panel system (recommended >300W) with a compatible MPPT or PWM solar charge controller.
- **Generator/Alternator:** Can be charged via a generator or vehicle alternator with an appropriate DC-DC charger or inverter with charging function.

Image 6.1: Charging Options. This image illustrates the three primary methods for charging the battery: a dedicated LiFePO4 charger, solar panels, and a generator/alternator or inverter.

6.2 Charging Precautions

- Ensure the charger is compatible with LiFePO4 batteries. Using a charger designed for lead-acid batteries may damage the LiFePO4 battery.
- Do not charge the battery if its internal temperature is below 32°F (0°C). The BMS will prevent charging in these conditions.

7. Maintenance

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

- **Regular Monitoring:** Use the Bluetooth app to regularly check battery status, especially voltage and temperature.
- **Recharge After Full Discharge:** If the battery is fully discharged, recharge it within 12 hours to maintain optimal performance and prevent potential long-term damage.
- **Terminal Inspection:** Periodically check battery terminals for corrosion or loose connections. Clean as

necessary and ensure connections are tight.

- **Storage:** For long-term storage, store the battery in a cool, dry place with a State of Charge (SOC) between 50% and 80%. Avoid storing in direct sunlight or extreme temperatures.
- **Environmental Protection:** As mentioned, for wet or marine environments, always use a waterproof battery compartment.

8. Troubleshooting

If you encounter issues with your MOSEWORTH LiFePO4 battery, refer to the following common troubleshooting steps:

- **Battery Not Charging:**
  - Check charger compatibility and ensure it's a LiFePO4 specific charger.
  - Verify all connections are secure and correct polarity is observed.
  - Check the battery temperature via the Bluetooth app; charging will stop if too cold (below 32°F / 0°C).
  - Ensure the BMS has not activated a protection mode (check app status).
- **Battery Not Discharging/Providing Power:**
  - Check load connections and ensure they are secure.
  - Verify the battery's State of Charge (SOC) via the Bluetooth app; it may be too low.
  - Check the battery temperature; discharging will stop if too cold (below -4°F / -20°C) or too hot (above 140°F / 60°C).
  - Ensure the BMS has not activated a protection mode (check app status).
- **Bluetooth App Connectivity Issues:**
  - Ensure Bluetooth is enabled on your smartphone.
  - Move closer to the battery to improve signal strength.
  - Restart the app or your phone.
  - Ensure the app is updated to the latest version.

If these steps do not resolve the issue, please contact MOSEWORTH customer support for further assistance.

9. Specifications

Key technical specifications for the MOSEWORTH 12V 100Ah LiFePO4 Lithium Battery (Model: M12100BT).

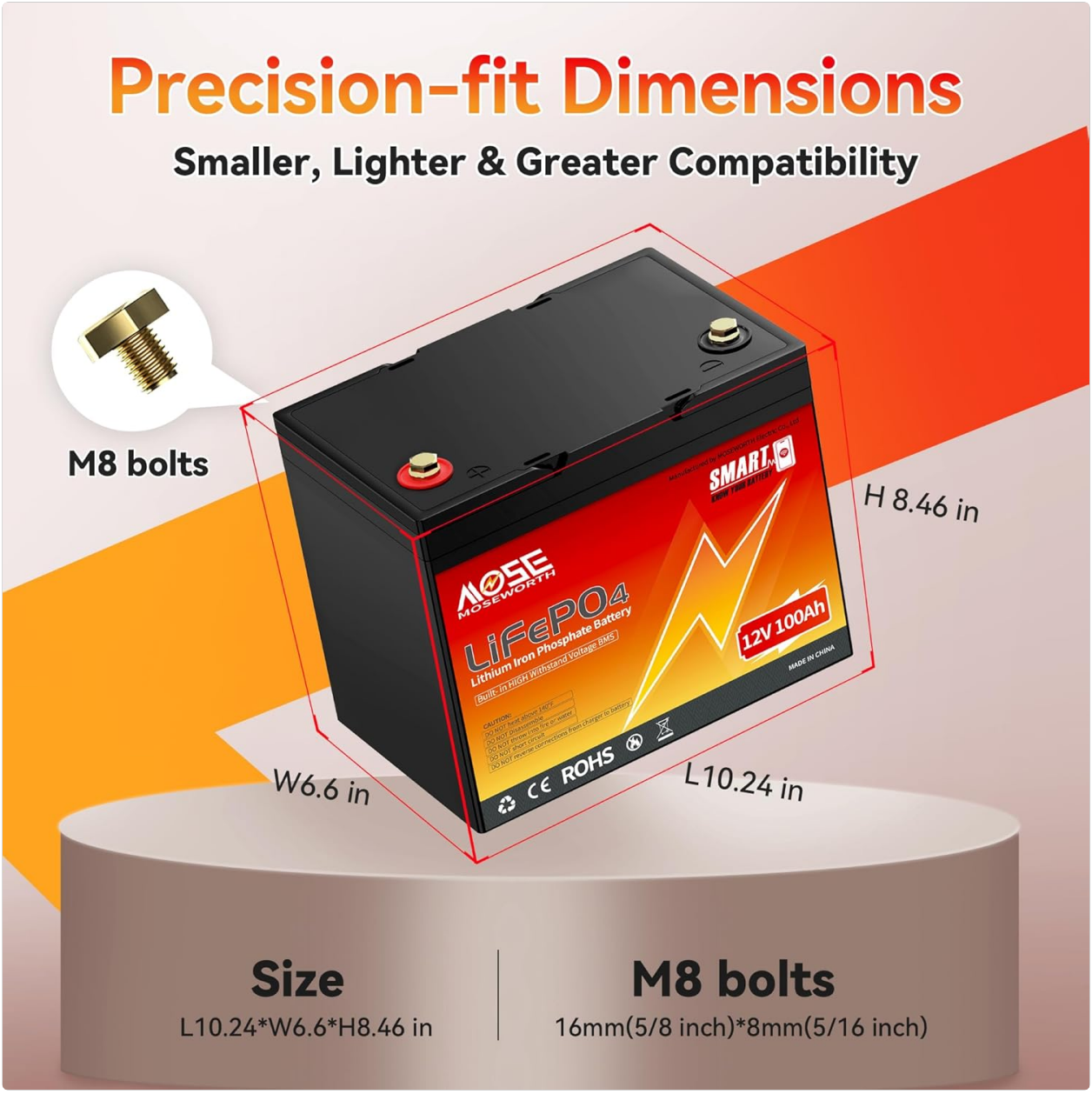

Image 9.1: Precision-fit Dimensions. This image details the length, width, and height of the battery, along with the specifications for the M8 bolts.

Feature	Specification
Model Number	M12100BT
Nominal Voltage	12V
Nominal Capacity	100Ah
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Built-in BMS	100A
Cycle Life	5000+ cycles
Low-Temperature Cutoff (Discharge)	-4°F (-20°C)
Low-Temperature Cutoff (Charge)	32°F (0°C)
High-Temperature Protection	140°F (60°C)
Dimensions (L x W x H)	10.24 x 6.6 x 8.46 inches
Terminal Type	M8 bolts
Connectivity	Bluetooth
Applications	Trolling Motor, RV, Boat/Marine, Solar, Off-Grid

10. Warranty and Support

MOSEWORTH stands behind the quality of its products.

- **Warranty:** This product is backed by a 5-year warranty.
- **Customer Support:** For any questions, technical assistance, or warranty claims, please contact MOSEWORTH customer support via Amazon. Our support team is available 24/7 to provide fast solutions.

11. Product Video Overview

Watch this video for a general overview of the MOSEWORTH LiFePO4 battery and its features.

Your browser does not support the video tag.

Video 11.1: MOSEWORTH LiFePO4 Battery Overview. This video provides a comprehensive look at the battery's design, features, and potential applications.