MFUZOP MY5-DT12-100

MFUZOP 12V 100Ah LiFePO4 Battery User Manual

Model: MY5-DT12-100

1. Introduction

This manual provides essential information for the safe and efficient use of your MFUZOP 12V 100Ah LiFePO4 Battery. Please read this manual thoroughly before installation, operation, or maintenance to ensure optimal performance and longevity of your battery. Keep this manual for future reference.

2. Safety Information

Always prioritize safety when handling batteries. Failure to follow these instructions may result in injury, damage to the battery, or other property damage.

- **Do not short-circuit:** Avoid connecting the positive and negative terminals directly.
- **No modification or disassembly:** Do not attempt to modify, disassemble, or open the battery casing without authorization. This can lead to severe damage and void the warranty.
- **Use appropriate charger:** Always use a standard charger that matches the output voltage requirements of the lithium battery.
- **Installation position:** It is strongly recommended to install the battery in an upright position. Installing it on its side is permissible only if specific reasons necessitate it. Never install the battery face down.
- **Temperature range:** Operate the battery within the specified temperature range of -20°C to 65°C (-4°F to 150°F).
- **Discharge limits:** To prolong battery life, avoid discharging the battery below 50% capacity.
- **Storage:** When not in use for extended periods, charge the battery to 100% before storage and recharge it every three months.

The integrated Battery Management System (BMS) provides multiple safety protections:

- Overvoltage protection
- Overcurrent protection
- Overload protection
- Short circuit protection
- Over-discharge protection

- Overcharge protection
- Temperature protection

Image 2.1: The MFUZOP LiFePO4 battery features a built-in BMS for comprehensive protection against overvoltage, overcurrent, overload, short circuit, over-discharge, overcharge, and temperature fluctuations, ensuring safe and stable operation.

3. Product Overview

The MFUZOP 12V 100Ah LiFePO4 Battery is a high-performance, deep-cycle lithium iron phosphate battery designed for various applications requiring reliable and long-lasting power.

3.1 Key Features

- **Integrated BMS:** Advanced Battery Management System for multiple safety protections and stable performance.
- **Automotive Grade Cells:** Constructed with high-quality lithium iron phosphate cells for higher energy density and stability.
- **Long Cycle Life:** Offers 4,000 to 5,000 charge cycles, providing a significantly longer lifespan compared to

traditional lead-acid batteries.

- **Lightweight and Durable:** Features an ABS plastic casing, making it wear-resistant, IP65 waterproof, and approximately one-third the weight of equivalent lead-acid batteries.
- **Wide Operating Temperature:** Capable of excellent continuous discharge performance from -20°C to 65°C (-4°F to 150°F).
- **Expandable Capacity:** Supports both parallel and series connections to meet higher capacity or voltage requirements.
- **Eco-Friendly:** Non-toxic and non-polluting.

Image 3.1: This image illustrates the advantages of the MFUZOP LiFePO4 battery over traditional flooded batteries, highlighting its longer life, lighter design, greater security, higher energy density, faster charging, wider application range, lower self-discharge rate, lower maintenance costs, and better performance stability.

3.2 Components

- MFUZOP 12V 100Ah LiFePO4 Battery
- Integrated Battery Management System (BMS)
- ABS Plastic Casing

- M8 Terminal Bolts (for connection)

4. Setup

4.1 Unpacking and Inspection

Upon receiving your battery, carefully unpack it and inspect for any visible damage. If any damage is found, contact customer support immediately.

4.2 Installation

1. **Positioning:** Install the battery in a stable, well-ventilated area. As noted in the safety section, an upright position is highly recommended.
2. **Terminal Connections:** Use the provided M8 terminal bolts to connect your system. Ensure all connections are tight and secure to prevent arcing and ensure efficient power transfer. Connect the positive terminal (+) to the positive lead of your system and the negative terminal (-) to the negative lead.
3. **Parallel/Series Connection (Optional):** The battery supports connection in parallel or series to achieve higher capacity or voltage. Consult a qualified technician for complex configurations to ensure proper balancing and safety.

Image 4.1: This image displays the physical dimensions of the MFUZOP LiFePO4 battery (33 x 17 x 21.5 cm or 13 x 6.69 x 8.46 inches) and details of the M8 terminal bolts, which are 12mm (0.47 inches) in length and 0.8cm (0.31 inches) in diameter.

5. Operating Instructions

5.1 Charging

The MFUZOP LiFePO4 battery can be charged using various methods:

- **Dedicated LiFePO4 Charger:** Use a charger specifically designed for LiFePO4 batteries with the correct voltage and current output.
- **Solar Panel + MPPT Controller:** Connect to a solar panel system with an MPPT (Maximum Power Point Tracking) charge controller for efficient solar charging.
- **Generator Mode:** Can be charged via a generator, ensuring the output matches the battery's charging requirements.

Always ensure the charging voltage does not exceed the charge cut-off voltage of 14.6V.

5.2 Discharge

The battery is designed for deep cycle applications, providing stable power output. It supports a continuous operating current of 120A/200A and an instantaneous starting current of 400A/600A, making it suitable for high-power equipment.

5.3 Operating Environment

The battery is designed to operate effectively in a wide temperature range, from -20°C to 65°C (-4°F to 150°F), making it suitable for diverse outdoor and indoor applications.

Image 5.1: The MFUZOP LiFePO4 battery is engineered to perform reliably across extreme temperature variations, offering excellent continuous discharge capabilities from -4°F (-20°C) to 150°F (65°C).

5.4 Applications

This LiFePO4 battery is versatile and ideal for a wide range of uses, including:

- Off-grid solar systems
- Recreational Vehicles (RVs)
- Marine propulsion (boats)

- Outdoor camping and live streaming
- Home energy storage
- Powering common household appliances (microwaves, computers, refrigerators)
- Various high-power equipment

Note: This battery is not designed for starting power applications.

Image 5.2: This image showcases the MFUZOP LiFePO4 battery being used in diverse applications such as RVs, marine vessels, outdoor camping, and solar power systems, demonstrating its versatility for various power needs.

6. Maintenance

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

- **Regular Inspection:** Periodically check the battery terminals for corrosion or loose connections. Clean as necessary.
- **Charge Level:** Avoid deep discharges below 50% to maximize cycle life.
- **Long-Term Storage:** If the battery will not be used for an extended period, charge it to 100% before storing.

Recharge the battery every three months to prevent self-discharge and maintain cell health.

- **Cleaning:** The IP65 waterproof ABS casing allows for easy cleaning. Use a damp cloth to wipe the exterior. Do not use harsh chemicals.
- **Environmental Conditions:** Store the battery in a cool, dry place, away from direct sunlight and extreme temperatures.

7. Troubleshooting

The integrated BMS is designed to prevent most common issues. If you encounter problems, consider the following general troubleshooting steps:

- **No Power Output:** Check all cable connections to ensure they are secure and correctly polarized. Verify that the battery is sufficiently charged. The BMS may have activated a protection mode (e.g., over-discharge, short circuit); remove the load and attempt to recharge.
- **Battery Not Charging:** Ensure the charger is correctly connected and functioning. Verify the charger's specifications match the battery's requirements. The BMS may have activated an overvoltage or over-temperature protection; allow the battery to cool down or check the charger output.
- **Unusual Odor or Heat:** Immediately disconnect the battery from all loads and chargers. Contact customer support.

For persistent issues, refer to the warranty and support section for assistance.

8. Specifications

Specification	Value
Brand	MFUZOP
Model Number	MY5-DT12-100 (12V 100Ah)
Nominal Voltage	12.8 V
Capacity	1280 Wh
Charge Cut-off Voltage	14.6 V
Discharge Cut-off Voltage	10 V
Operating Temperature	-20°C to 65°C (-4°F to 150°F)
Continuous Operating Current	120 A / 200 A (depending on variant)
Instantaneous Starting Current	400 A / 600 A (depending on variant)
Battery Dimensions (L x W x H)	33 x 17 x 21.5 cm (13 x 6.69 x 8.46 inches)
Battery Weight	10.6 kg (23.37 lbs)
Case Material	ABS Plastic
Terminal Type	M8 Stud Terminal
Battery Composition	Lithium Iron Phosphate (LiFePO4)
UPC	763967709439

9. Warranty and Support

The MFUZOP 12V 100Ah LiFePO4 Battery comes with a**one-year warranty** from the date of purchase.
If you encounter any issues during the use of your battery, please contact our professional after-sales service team immediately via email. We are committed to resolving your problem within 24 hours.
For support, please refer to the contact information provided with your purchase or on the official MFUZOP website.