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Mehrpow MP-48V105Ah-200A-EVE

Mehrpow 48V 105Ah LiFePO4 Battery and Charger User Manual

Model: MP-48V105Ah-200A-EVE

1. Introduction

This manual provides essential information for the safe and efficient use of your Mehrpow 48V 105Ah LiFePO4 battery and its accompanying 51.2V 18A charger. This system is designed for various applications, including golf carts, RVs, marine equipment, and off-grid systems. Please read this manual thoroughly before installation and operation to ensure optimal performance and longevity of your product.



Image 1.1: The Mehrpow 48V 105Ah LiFePO4 battery system, including the battery unit, charger, LCD display, and a smartphone displaying the monitoring application.

2. Safety Information

Always observe the following safety precautions to prevent injury or damage to the battery and connected equipment:

- Do not short-circuit the battery terminals.
- Do not expose the battery to fire, excessive heat, or direct sunlight.
- Do not immerse the battery in water or other liquids.
- Use only the specified charger provided with the battery.
- Ensure proper ventilation during charging and operation.
- Keep out of reach of children.
- Wear appropriate personal protective equipment (PPE) such as gloves and eye protection when handling the battery.
- Do not attempt to open, disassemble, or repair the battery. Contact support if service is required.

3. What's in the Box

Verify that all components are present upon unpacking:

- 1 x Mehrpow 48V 105Ah EVE LiFePO4 Battery
- 1 x 51.2V 18A Lithium Battery Charger
- 1 x Smart Battery LCD Monitor
- 1 x Screw Set for installation

4. Product Features

The Mehrpow 48V 105Ah LiFePO4 battery system incorporates advanced technology for reliable and efficient power delivery.

- **A+ Premium Cells:** Utilizes automotive-grade LiFePO4 cells for stable performance, low self-discharge, and minimal capacity loss.
- **Powerful 200A Intelligent BMS:** Features an upgraded 200A Battery Management System (BMS) with relay technology, supporting 3C discharge and a peak current of up to 1000A (1-second burst). Provides protection against overcharge/over-discharge, overcurrent, short circuit, and extreme temperatures.
- **Dual Monitoring Modes:** Real-time tracking of voltage, current, and State of Charge (SOC) via a Bluetooth app (within 20 meters) and an integrated LCD display.
- **Durable Construction:** Housing made of high-strength cold-rolled metal sheet, offering fireproof, shockproof, and IP65 waterproof protection.
- **Long Lifespan:** Designed for over 10,000 cycles at 100% Depth of Discharge (DOD), providing a lifespan of approximately 10 years.
- **Low-Temperature Cut-Off Protection:** Enhances safety and battery life in cold environments.



Image 4.1: Internal components of the Mehrpow battery, highlighting the A+ grade cells, 200A BMS, and robust cold-rolled steel construction.



Image 4.2: Overview of key features such as Bluetooth 5.0 connectivity, extended cycle life, advanced BMS, IP65 protection, and low-temperature cut-off.

5. Specifications

Feature	Specification
Brand	Mehrpow
Model	MP-48V105Ah-200A-EVE
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Nominal Voltage	48V
Nominal Capacity	105Ah
BMS	200A Intelligent Relay BMS

Feature	Specification
Peak Discharge Current	1000A (1-second burst)
Max Motor Power	10.24 kW
Cycle Life	10,000+ cycles @ 100% DOD
Expected Lifespan	10 years
Waterproof Rating	IP65
Product Dimensions (D x W x H)	8.85" x 13" x 21.2"
Item Weight	114 pounds
Terminal Type	M8 Terminal
Internal Resistance	20 Milliohms
Charger Voltage/Current	51.2V 18A



Image 5.1: Physical dimensions of the battery (8.85"D x 13"W x 21.2"H) and M8 terminal bolts, illustrating its fit within a golf cart.

6. Setup and Installation

6.1 Pre-Installation Checks

- Ensure the battery is fully charged before initial use.
- Verify that the vehicle's electrical system is compatible with a 48V LiFePO4 battery.
- Inspect the battery for any visible damage. Do not install if damaged.
- Gather necessary tools: wrenches for M8 terminals, voltmeter, and appropriate safety gear.

6.2 Battery Installation

1. **Disconnect Old Battery:** Safely disconnect and remove the existing battery system from your vehicle, following the manufacturer's instructions. Always disconnect the negative terminal first.
2. **Position Battery:** Place the Mehrpow LiFePO4 battery in a secure, well-ventilated location within the vehicle. Ensure it is firmly mounted to prevent movement during operation. The battery includes handles for easier carrying.
3. **Connect Terminals:** Connect the positive (+) cable from your vehicle to the positive (+) terminal of the battery. Connect the negative (-) cable from your vehicle to the negative (-) terminal of the battery. Use the provided M8 bolts and ensure connections are tight and secure. *(Refer to Image 5.1 for terminal type).*
4. **Install LCD Monitor:** Mount the smart battery LCD monitor in a convenient location using the provided bracket and screws.
5. **Connect LCD Monitor:** Connect the LCD monitor cable to the designated port on the battery.
6. **Final Check:** Double-check all connections for tightness and correct polarity before powering on the system.

7. Operating Instructions

7.1 Powering On/Off

- The battery system typically powers on automatically once connected.
- To power off, disconnect the main load or use any integrated power switch if available on your vehicle's system.

7.2 Monitoring Battery Status (LCD & Bluetooth App)

The Mehrpow battery offers two methods for real-time monitoring:

- **LCD Display:** The included LCD screen provides immediate access to key battery parameters such as State of Charge (SOC), voltage, current, and temperature. The screen can switch between multiple display modes (Page 1, Page 2, Page 3) to show detailed cell information and status.
- **Bluetooth App:** Download the dedicated Mehrpow Bluetooth app on your smartphone. Pair your device with the battery (within 20 meters range) to monitor the same parameters remotely. The app also provides historical data and advanced settings.



Image 7.1: The LCD screen and smartphone app displaying real-time battery data, as seen from the driver's perspective in a golf cart.

8. Charging Instructions

Use only the provided Mehrpow 51.2V 18A lithium battery charger.

1. **Connect Charger to Battery:** Ensure the battery is connected to the vehicle or in a safe, stable location. Connect the charger's output plug to the battery's charging port.
2. **Connect Charger to Power:** Plug the charger's AC input cable into a standard wall outlet (100-240V AC).
3. **Monitor Charging:** The charger will indicate charging status (e.g., LED indicator). The LCD display and Bluetooth app will also show the charging progress.
4. **Charging Time:**
    - From 30% to 100%: Approximately 3 hours.
    - From 0% to 100%: Approximately 4.5 hours.
5. **Disconnect:** Once fully charged, disconnect the charger from the wall outlet first, then from the battery.



Image 8.1: The Mehrpow battery connected to its 51.2V 18A charger, illustrating the charging process.

9. Maintenance

The Mehrpow LiFePO4 battery is designed to be largely maintenance-free. However, following these guidelines can help ensure its long-term performance:

- **Regular Inspection:** Periodically check battery terminals for corrosion or loose connections. Clean terminals with a wire brush if necessary and ensure they are tightened.
- **Cleaning:** Wipe the battery casing with a dry or slightly damp cloth. Do not use harsh chemicals or abrasive cleaners.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50-70% State of Charge (SOC). Store in a cool, dry place away from direct sunlight and extreme temperatures. Recharge every 3-6 months to prevent deep discharge.
- **Temperature:** Avoid operating or charging the battery in temperatures outside its specified range. The built-in BMS includes low-temperature cut-off protection.

10. Troubleshooting

If you encounter issues, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
Battery not powering on/no output	Loose connections, BMS protection activated, deeply discharged	Check all terminal connections. If BMS is in protection mode (check app/LCD), try connecting the charger to reset. Charge the battery.
Battery not charging	Charger not connected properly, faulty charger, BMS protection, extreme temperature	Ensure charger is securely connected to battery and AC outlet. Check charger indicator lights. Move battery to a suitable temperature environment.
Bluetooth app not connecting	Out of range, Bluetooth off on phone, app issue	Ensure phone is within 20 meters of the battery. Verify Bluetooth is enabled on your phone. Restart the app or your phone.
Reduced range/performance	Battery not fully charged, heavy load, cold weather, aging battery	Ensure full charge. Reduce load if possible. Performance may be reduced in cold temperatures. If battery is old, consider replacement.

If the problem persists after attempting these steps, please contact Mehrpow customer support.

11. Warranty and Support

Mehrpow provides a **5-year worry-free after-sales service** for this product. In addition, **24/7 technical support** is available to assist you with any questions or issues. Please refer to your purchase documentation for specific warranty terms and contact information.

For technical assistance or warranty claims, please contact Mehrpow customer service through the channel provided at the point of purchase or on the official Mehrpow website.

12. Applications

The Mehrpow 48V 105Ah LiFePO4 battery is suitable for a wide range of applications requiring robust and reliable power:

- Golf Carts
- Sightseeing Cars
- Lawn Mowers
- Trolling Motors
- Recreational Vehicles (RVs)
- Marine Equipment
- Home Energy Storage
- Off-Grid Systems
- Camping Equipment

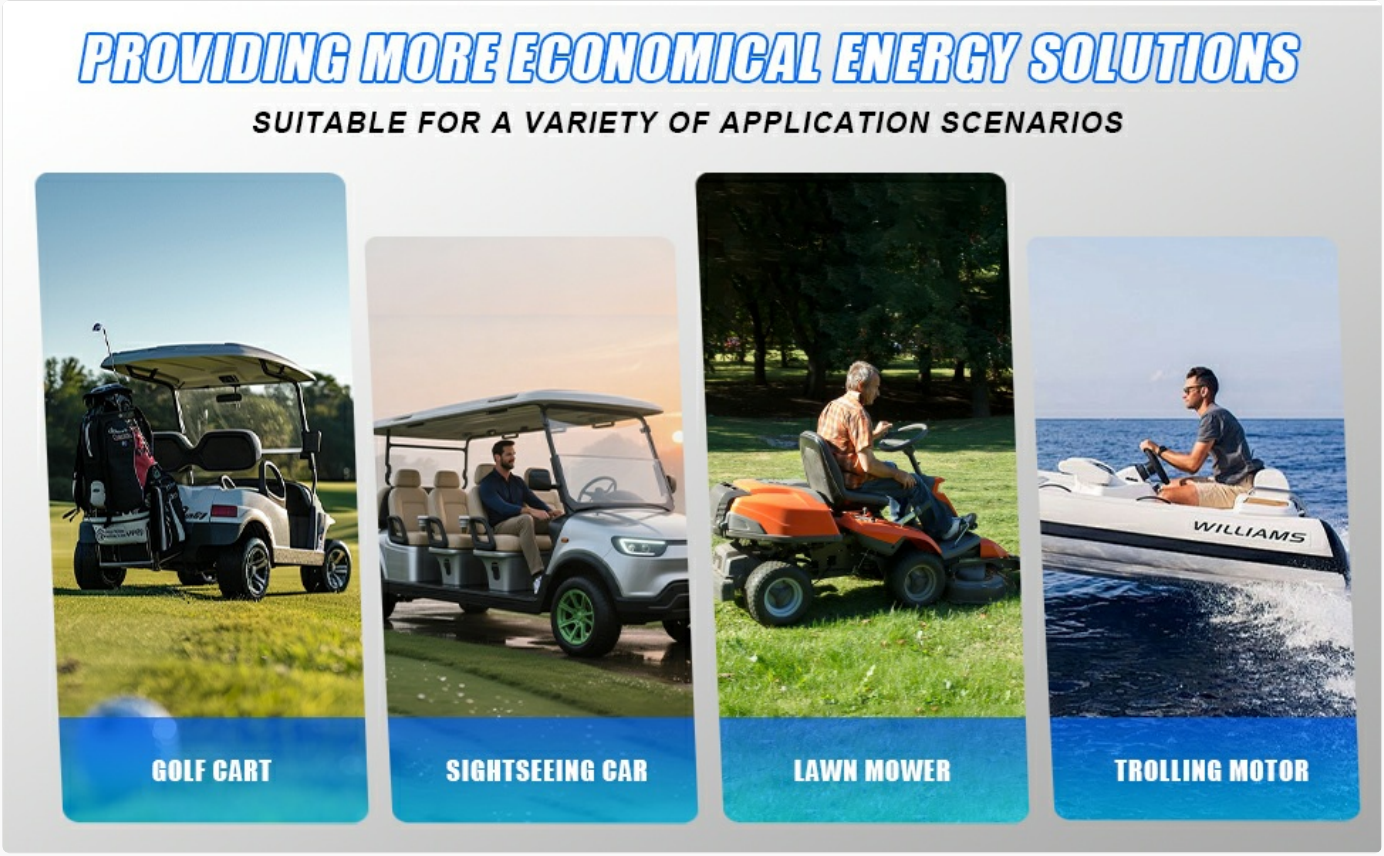


Image 12.1: Examples of diverse applications where the Mehrpow 48V 105Ah LiFePO4 battery can be utilized.

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