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**Mehrpow MP-36V105Ah-200A-EVE**

# Mehrpow 36V 105Ah LiFePO4 Battery User Manual

Model: MP-36V105Ah-200A-EVE

## 1. Introduction

This manual provides essential information for the safe and efficient use of your Mehrpow 36V 105Ah LiFePO4 Battery. This advanced lithium iron phosphate battery features a built-in 200A Battery Management System (BMS), Bluetooth connectivity, an LCD display, and an included 25A charger. Designed for durability with an IP65 rating for water and dust resistance, it offers over 10,000 charge cycles and a long service life.

The Mehrpow 36V 105Ah LiFePO4 battery is significantly lighter than traditional lead-acid batteries, enhancing vehicle performance with improved acceleration and hill-climbing capabilities. With a 3.84 kWh energy capacity, it provides an estimated range of up to 50 miles for 36V golf carts. Its versatile design makes it suitable for various applications beyond golf carts, including trolling motors, boats, RVs, marine equipment, lawn mowers, home energy storage, off-grid systems, and camping equipment.




Image 1.1: Mehrpow 36V 105Ah LiFePO4 Battery, Charger, LCD Display, and Bluetooth App.

## 2. Safety Information

Please read and understand all safety instructions before installing or operating the battery. Failure to follow these instructions may result in serious injury, property damage, or voiding of the warranty.

### General Safety Precautions:

- Always wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves, when handling batteries.
- Do not short-circuit the battery terminals.
- Do not expose the battery to fire, extreme heat, or direct sunlight for prolonged periods.
- Do not puncture, drop, crush, or disassemble the battery.
- Keep the battery away from children and pets.
- Ensure proper ventilation when charging the battery.
- Use only the Mehrpow 25A charger provided with the battery or a charger specifically approved for LiFePO4 batteries with compatible voltage and current specifications.
- Do not connect batteries in series. This battery is designed for single-unit operation.

### Integrated BMS Protection:

The built-in 200A intelligent Battery Management System (BMS) provides comprehensive protection:

- **Overcharge Protection:** Prevents the battery from being charged beyond its safe voltage limit.
- **Over-discharge Protection:** Prevents the battery from being discharged below its safe voltage limit.
- **Overcurrent Protection:** Safeguards against excessive current draw.
- **Short Circuit Protection:** Automatically disconnects the battery in case of a short circuit.
- **Extreme Temperature Protection:**
    - Charging automatically stops when the battery temperature is below 0°C (32°F).
    - Discharging automatically stops when the battery temperature is below -20°C (-4°F).




Image 2.1: Smart BMS Protection Features.

## 3. Setup and Installation

## Unpacking and Inspection:

- Carefully unpack the battery and included accessories.
- Inspect the battery for any visible damage. If damage is found, do not proceed with installation and contact customer support immediately.
- Verify that all components listed in the 'What's in the Box' section are present.

## Installation Steps (Golf Cart Example):

The Mehrpow 36V 105Ah LiFePO4 battery is designed for easy conversion from traditional lead-acid battery setups. It is significantly lighter, reducing the overall weight of your vehicle.




Image 3.1: Weight Comparison: LiFePO4 vs. Lead-Acid Batteries.

1. **Preparation:** Ensure the vehicle's power is completely off. Disconnect the old battery system following the manufacturer's guidelines.
2. **Mounting:** The battery dimensions are 10.51"D x 20.47"W x 8.66"H. It can often fit under the seat of many golf carts. A plywood platform may be necessary to securely hold the battery over the frame rails, ensuring it is stable and does not move during operation.
3. **Wiring:** Connect the positive (+) terminal of the LiFePO4 battery to the vehicle's positive system and the negative (-) terminal to the vehicle's negative system. Ensure all connections are tight and secure.
4. **Ignition Wire (if applicable):** Some older golf carts may have a small ignition wire that needs to be connected to the negative terminal to complete the circuit. This wire was often connected to the charge port in lead-acid setups. If your vehicle has a negative-wired key switch, it may need to be rewired to a positive configuration for compatibility. Consult a qualified technician if unsure.
5. **Charger Connection:** Connect the Mehrpow 25A charger to the battery's charging port.

## Initial Charging:

Your battery typically arrives with approximately 50% charge. For optimal performance and to calibrate the BMS, it is recommended to fully charge the battery before its first use. A full charge from 0% to 100% with the included 25A charger takes approximately 4.2 hours.

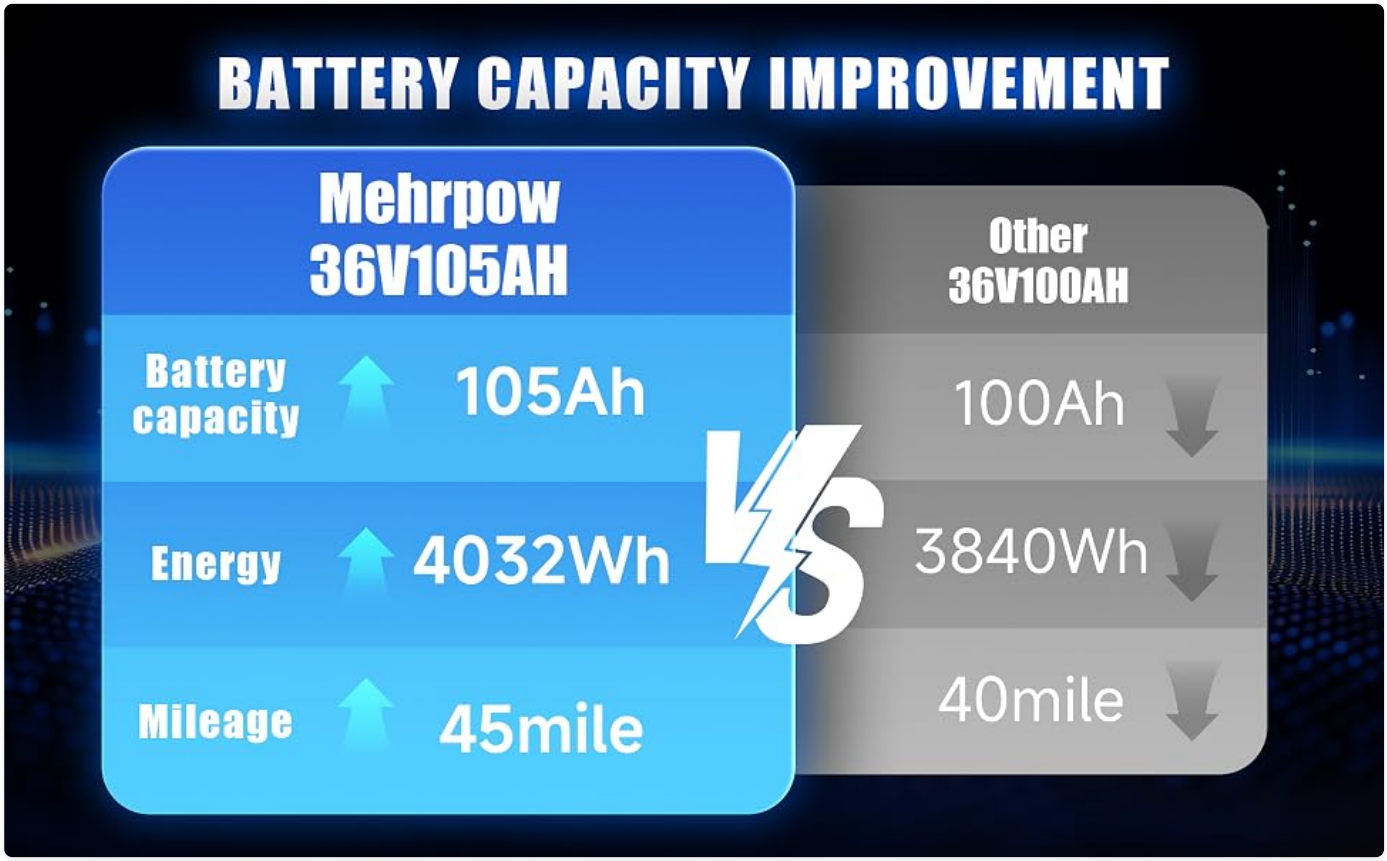



Image 3.2: Charging the Mehrpow LiFePO4 Battery.

## 4. Operating Instructions

### Monitoring Battery Status:

The Mehrpow battery offers two convenient ways to monitor its status in real-time:

- **Bluetooth App:** Connect your smartphone via Bluetooth 5.0 to the battery to view voltage, current, State of Charge (SOC), and other parameters within a 20-meter range.
- **LCD Display:** The included LCD display provides a clear visual of the battery's status.

**Important Note:**
The Bluetooth app and the LCD display cannot be used simultaneously. If the LCD display is connected and active, the app will not display data. Disconnect the LCD display to use the Bluetooth app for monitoring.




Image 4.1: Two Ways to Monitor Battery Capacity.

## Vehicle Operation (Golf Carts):

When converting from a multi-battery lead-acid system to a single LiFePO4 battery, be aware of potential changes in vehicle behavior, especially concerning reverse speed. Some older golf carts were wired to reduce power in reverse for safety. With a single LiFePO4 battery, your vehicle may operate at full power in reverse, similar to forward speed. Exercise caution when operating in reverse.




Image 4.2: Performance Comparison on Uphills.

## 5. Maintenance

The Mehrpow 36V 105Ah LiFePO4 battery is designed for minimal maintenance. Unlike lead-acid batteries, it requires no watering or terminal cleaning.

### Charging Practices:

- It is recommended to recharge the battery weekly, rather than daily, depending on usage.
- Always use the provided 25A charger or a compatible LiFePO4 charger.
- Ensure the battery is charged within its safe temperature range (above 0°C / 32°F). The BMS will automatically prevent charging below this temperature.

### Storage:

- If storing the battery for an extended period, ensure it is charged to approximately 50-70% State of Charge (SOC).

- Store the battery in a cool, dry place, away from direct sunlight and extreme temperatures.

### Environmental Protection:

The battery has an IP65 rating, providing protection against dust ingress and low-pressure water jets from any direction. This makes it suitable for various outdoor and demanding environments.

## 6. Troubleshooting

The intelligent BMS in your Mehrpow battery is designed to prevent most issues. If you encounter problems, consider the following:

- **No Power Output:**
  - Check all cable connections to ensure they are secure and free from corrosion.
  - Verify the battery's State of Charge (SOC) using the LCD display or Bluetooth app. If the battery is fully discharged, the BMS may have activated over-discharge protection.
  - If the battery was subjected to a short circuit or excessive current, the BMS may have activated protection. Disconnect the load, wait a few minutes, and reconnect.
- **Battery Not Charging:**
  - Ensure the charger is properly connected and receiving power.
  - Check the battery temperature. If it is below 0°C (32°F), the BMS will prevent charging. Move the battery to a warmer environment.
  - Confirm you are using the correct charger (Mehrpow 25A charger or compatible LiFePO4 charger).
- **Battery Not Discharging in Cold Conditions:**
  - Check the battery temperature. If it is below -20°C (-4°F), the BMS will prevent discharging. Move the battery to a warmer environment.




Image 6.1: Low Temperature Cut-Off Protection.

- **Bluetooth App Not Connecting / LCD Not Displaying:**
  - Remember that the Bluetooth app and LCD display cannot be used simultaneously. Ensure only one is active at a time.
  - For Bluetooth, ensure your device's Bluetooth is enabled and you are within the 20-meter range.

If troubleshooting steps do not resolve the issue, please contact Mehrpow customer support.

## 7. Specifications

| Feature | Specification |
|---|---|
| Brand | Mehrpow |
| Model | MP-36V105Ah-200A-EVE |
| Battery Type | LiFePO4 (Lithium Iron Phosphate) |

| | |
|---|---|
| Nominal Voltage | 36V |
| Capacity | 105Ah |
| Energy | 4032Wh |
| BMS | Built-in 200A Intelligent BMS (Relay Type) |
| Peak Current | 1000A (4-second bursts) |
| Cycle Life | 10,000+ cycles @ 100% DOD |
| Expected Lifespan | 10 years |
| Charging Temperature Range | 0°C to 45°C (32°F to 113°F) |
| Discharging Temperature Range | -20°C to 60°C (-4°F to 140°F) |
| Protection Grade | IP65 (Water & Dust Resistant) |
| Dimensions (L x W x H) | 20.47" x 10.51" x 8.66" (52cm x 26.7cm x 22cm) |
| Weight | 67 lbs (30.4 kg) |
| Terminal Type | M8 Terminal |
| Charger Included | 25A Charger |
| Charging Time (0-100%) | Under 4.2 hours |
| Connectivity | Bluetooth 5.0, LCD Display |
| UPC | 717690263850 |




Image 7.1: Key Features and Specifications.

## 8. Warranty and Support

Mehrpow is committed to providing high-quality products and excellent customer service.

### Warranty:

Your Mehrpow 36V 105Ah LiFePO4 Battery comes with a**5-year worry-free after-sales service**.

### Returns and Exchanges:

We offer a **30-day free return and exchange policy** from the date of purchase.

### Technical Support:

For any technical questions, installation assistance, or troubleshooting, Mehrpow provides**24-hour technical support**.
Our team is dedicated to providing you with prompt and effective solutions.
Please refer to your purchase documentation or the official Mehrpow website for contact information.

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**Details**

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