

## HumsienK 12V 100Ah

# Humsienk 12V 100Ah LiFePO4 Battery User Manual

Model: 12V 100Ah

## 1. INTRODUCTION

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Thank you for choosing the Humsienk 12V 100Ah LiFePO4 Battery. This manual provides essential information for the safe and efficient use of your battery. Please read it thoroughly before installation and operation.

This high-performance lithium iron phosphate battery offers a lightweight design, extended cycle life, and robust protection features, making it suitable for various applications including RVs, solar systems, marine use, and off-grid power solutions.

## 2. SAFETY INFORMATION

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

- Do not short-circuit the battery terminals.
- Do not expose the battery to fire or extreme heat.
- Do not immerse the battery in water unless specifically designed for such conditions (this model is IP67 rated, but avoid intentional submersion).
- Use only compatible chargers designed for LiFePO4 batteries.
- Ensure proper ventilation during charging and discharge.
- Keep out of reach of children.
- Wear appropriate personal protective equipment (PPE) such as gloves and eye protection when handling.
- Do not disassemble, puncture, or modify the battery.
- In case of leakage, contact with skin or eyes, rinse immediately with plenty of water and seek medical attention.

## 3. PACKAGE CONTENTS

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Verify that all items are present in the package:

- 1 x Humsienk 12V 100Ah LiFePO4 Battery
- 1 x Instruction Manual

- 2 x Insulation Caps
- 4 x M6 Screws



Image: Humsienk 12V 100Ah LiFePO4 Battery with its dimensions (26x17x21cm), weight (8.95kg), and included M8 screws and insulation caps.

## 4. SETUP AND INSTALLATION

Follow these steps for proper setup and installation:

1. **Inspection:** Before installation, inspect the battery for any physical damage. Ensure the terminals are clean and free from corrosion.
2. **Mounting:** Place the battery in a secure, well-ventilated location. The compact design (26x17x21cm) allows for flexible placement. Ensure it is protected from direct sunlight and excessive heat.
3. **Connections:**
  - Connect the positive (+) terminal of the battery to the positive (+) terminal of your system using appropriate

cables.

- Connect the negative (-) terminal of the battery to the negative (-) terminal of your system.
- Use the provided M6 screws to secure the cable lugs to the battery terminals.
- Apply the insulation caps over the terminals to prevent accidental short circuits.
- For series or parallel connections (e.g., 24V/36V/48V systems or increased capacity), ensure all batteries are of the same type and capacity, and follow proper wiring diagrams to avoid damage. Consult a qualified electrician for complex setups.

4. **Initial Charge:** It is recommended to fully charge the battery before its first use. Use a LiFePO4 compatible charger.



Image: Examples of battery applications, such as marine, off-grid, and home energy storage, demonstrating its versatility.

## 5. OPERATING INSTRUCTIONS

The Humsienk LiFePO4 battery is designed for reliable performance. Observe the following guidelines:

- **Charging:**

- Use a dedicated LiFePO4 battery charger with a voltage range appropriate for 12V LiFePO4 batteries (typically 14.4V - 14.6V).
- The built-in 100A Battery Management System (BMS) protects against overcharge, over-discharge, overcurrent, and short circuits.
- The battery features low-temperature protection, automatically stopping charging below  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) to prevent damage.

- **Discharging:**

- The 100A BMS allows for stable high-current discharge, supporting high-power inverters.
- The battery can be discharged up to 100% Depth of Discharge (DoD) without significant impact on its lifespan, offering 15,000+ cycles at 60% DoD.
- Avoid continuous discharge beyond the maximum rated current of 100A.

- **Environmental Conditions:** The IP67 waterproof and dustproof rating ensures durability in various environments. It can withstand submersion in 1 meter of water for 30 minutes.

堅牢な **BMS** 設計で、**100%** あらゆる  
面での保護



過電流保護  
(かでんりゅうほご)



高温保護  
(こうおんほご)



短絡保護  
(たんらくほご)



過充電保護  
(かじゅうでんほご)



過放電保護  
(かほうでんほご)

Image: The robust BMS design provides comprehensive protection for the battery.

# 低温保護

充電と放電をインテリジェントに遮断

❄️ 最低放電温度  
-4°F (-20°C)

☀️ 最高放電温度  
158°(70°C)



HUMSIENK  
12V 100Ah  
1280Wh BMS 100A  
LiFePO4  
FC CE IEC ♻️

Image: Low temperature protection ensures safe operation in cold climates, intelligently blocking charging and discharging outside optimal ranges.

# IP67 防水

## トローリングモーターLiFePO4バッテリー用設計



防湿



衝突防止



Image: The IP67 waterproof design makes the battery suitable for trolling motors and other marine applications, offering moisture and impact resistance.

## 6. MAINTENANCE

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

- **Regular Inspection:** Periodically check the battery terminals for cleanliness and tightness. Ensure there are no signs of damage or swelling.
- **Cleaning:** Keep the battery surface clean and dry. Use a soft, dry cloth to wipe away dust or dirt. 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% of its capacity. Store in a cool, dry place, away from direct sunlight and extreme temperatures. Recharge every 3-6 months to prevent deep discharge.
- **Temperature:** While the battery has low-temperature protection, operating and storing it within its recommended temperature range (typically -20°C to 60°C for discharge, 0°C to 45°C for charge) will maximize its lifespan.

## 7. TROUBLESHOOTING

If you encounter issues with your Humsienk LiFePO4 battery, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Battery not charging	<ul style="list-style-type: none"><li>Charger not compatible with LiFePO4.</li><li>Charger faulty.</li><li>Connections are loose or incorrect.</li><li>Battery temperature is too low (below -20°C).</li><li>BMS has activated protection mode (e.g., over-discharge).</li></ul>	<ul style="list-style-type: none"><li>Use a LiFePO4 compatible charger.</li><li>Test charger with another battery or replace.</li><li>Check all cable connections for tightness and correct polarity.</li><li>Move battery to a warmer environment.</li><li>Disconnect load, wait for BMS to reset, then attempt charging.</li></ul>
Battery not discharging / No power output	<ul style="list-style-type: none"><li>Battery is deeply discharged.</li><li>Overload protection activated (current draw too high).</li><li>Short circuit protection activated.</li><li>Connections are loose or incorrect.</li></ul>	<ul style="list-style-type: none"><li>Charge the battery immediately.</li><li>Reduce the load or use a higher capacity inverter. Disconnect load, wait for BMS to reset.</li><li>Check for short circuits in the system. Disconnect load, wait for BMS to reset.</li><li>Check all cable connections for tightness and correct polarity.</li></ul>
Reduced capacity or runtime	<ul style="list-style-type: none"><li>Battery not fully charged.</li><li>Aging of the battery (though LiFePO4 has long life).</li><li>Operating in extreme temperatures.</li></ul>	<ul style="list-style-type: none"><li>Ensure the battery is fully charged with a compatible charger.</li><li>This is normal over many years of use.</li><li>Operate the battery within recommended temperature ranges.</li></ul>

If the problem persists after trying these solutions, please contact Humsienk customer support.

## 8. SPECIFICATIONS

Feature	Detail
Brand	HumsiENK
Model	12V 100Ah
Battery Type	Lithium Iron Phosphate (LiFePO4)
Nominal Voltage	12.8 Volts
Capacity	100Ah
Energy	1280Wh
Built-in BMS	100A
Cycle Life	15,000+ cycles (at 60% DoD)
Weight	8.95 Kilograms

Feature	Detail
Dimensions (L x W x H)	26 cm x 17 cm x 21 cm
Waterproof Rating	IP67
Low Temperature Protection	Charging stops below -20°C (-4°F)
Terminal Type	M6
Certifications	PSE Certified

## 鉛蓄電池の完璧な代替品

3年	寿命	10年
300-500	サイクルタイム	15000+
×	BMS	✓
80%	放電深度	100%
29.5kg	重量	10.4kg
IP65	防水性能	IP67

Image: Comparison of Humsienk LiFePO4 battery with lead-acid batteries, highlighting superior lifespan, cycle life, and protection.



Image: The 1280Wh energy capacity of the battery can power a refrigerator for 8.5 hours, a TV for 12.8 hours, a toaster for 1.82 hours, or a coffee maker for 2.56 hours.

## 9. WARRANTY AND SUPPORT

**Warranty:** The Humsienk 12V 100Ah LiFePO4 Battery comes with a 5-year warranty from the date of purchase, covering manufacturing defects. Please retain your proof of purchase for warranty claims.

**Customer Support:** For any questions, technical assistance, or warranty claims, please contact Humsienk customer service through the retailer where you purchased the product or visit the official Humsienk website for contact information. We are committed to providing high-quality products and excellent customer service.

