HumsiENK HS12V314AH100MINIBT

HumsiENK 12V 314Ah LiFePO4 Lithium Battery with Bluetooth

Model: HS12V314AH100MINIBT

1. Introduction

This manual provides essential information for the safe and efficient use of your HumsiENK 12V 314Ah LiFePO4 Lithium Battery with Bluetooth. Please read this manual thoroughly before installation and operation. Retain this manual for future reference.

Figure 1: HumsiENK 12V 314Ah LiFePO4 Lithium Battery

2. Safety Information

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 or extreme heat.
- Do not immerse the battery in water or other liquids.
- Do not disassemble, puncture, or modify the battery.
- Use only compatible chargers designed for LiFePO4 batteries.
- Ensure proper ventilation during charging and discharging.
- Keep the battery away from children and pets.
- The integrated Battery Management System (BMS) provides protection against over-charge, over-discharge, over-current, over-voltage, short-circuit, and high/low temperature conditions.

Figure 2: Extreme Temperature Protection for HumsiENK LiFePO4 Battery. Discharge temperature range: -4°F to 158°F (-20°C to 70°C). Charge temperature range: 32°F to 158°F (0°C to 70°C).

3. Product Overview

The HumsiENK 12V 314Ah LiFePO4 Lithium Battery is designed for various applications requiring reliable and long-lasting power. It features a high-capacity design, advanced BMS, and Bluetooth connectivity for smart monitoring.

Key Features:

- **High Capacity:** 4.01 kWh (4019Wh) energy, suitable for demanding applications.
- **Long Cycle Life:** Up to 15,000+ cycles, providing a long operational lifespan.
- **Integrated BMS:** Provides comprehensive protection against common electrical faults and temperature extremes.
- **Low-Temperature Protection:** Automatic cut-off for charging in low-temperature conditions to prevent damage.
- **Bluetooth 5.0 Monitoring:** Real-time data access via the HumsiENK App for voltage, current, capacity, and temperature.
- **Expandable:** Supports up to 4S4P configurations for a maximum capacity of 64.30 kWh.
- **Compact & Lightweight:** Weighs 27.99 kg with dimensions of 24.7D x 38.6W x 19.3H cm, offering high

energy density compared to lead-acid batteries.

Figure 3: Overview of HumsiENK LiFePO4 Battery features, including A+ cells, wide operating temperature, remote control via Bluetooth, extended cycle life, and multiple charging options.

Figure 4: HumsiENK LiFePO4 Battery showcasing its compact size and dimensions (38.7cm length, 19.3cm width, 24.69cm height) and weight (28kg).

4. Setup & Installation

4.1 Unboxing and Inspection

Upon receiving your battery, carefully unbox it and inspect for any visible damage. Ensure all components are present:

- HumsiENK 12V 314Ah LiFePO4 Battery
- User Manual
- Battery bolt caps
- M8 terminals

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Video 1: Unboxing the HumsiENK 12V 314Ah LiFePO4 Battery. This video demonstrates the unboxing process, showing the included user manual, battery bolt caps, and M8 terminals. It also highlights the battery's low-temperature cut-off protection, Grade A+ cells, deep discharge cycles, and the built-in 100A BMS.

4.2 Battery Placement

Place the battery in a dry, well-ventilated area, away from direct sunlight, heat sources, and flammable materials.

Ensure the battery is secured to prevent movement, especially in mobile applications like RVs or marine vessels.

4.3 Connecting the Battery

Use appropriate M8 terminals and ensure all connections are tight and secure to prevent arcing and overheating. Connect the positive (+) terminal to the positive load/charger and the negative (-) terminal to the negative load/charger. For multiple battery configurations (up to 4S4P), refer to specialized wiring diagrams and ensure proper balancing for optimal performance and safety.

Figure 5: Example of a 4S4P configuration for HumsiENK LiFePO4 batteries, illustrating how multiple units can be combined to achieve higher energy capacity for off-grid applications.

5. Operating Instructions

5.1 Charging

The battery can be charged using a LiFePO4 charger, solar panel with an MPPT controller, or a generator. Ensure the charging voltage and current are within the battery's specifications. The BMS will manage the charging process and protect against overcharging.

5.2 Discharging

The battery is designed to power various loads, including RV appliances, marine electronics, solar systems, and

home backup solutions. The 100A BMS ensures stable power delivery and protects against over-discharge and over-current conditions.

Figure 6: The HumsiENK LiFePO4 battery providing power to various appliances, including a TV (100W for 40H), Bread Maker (200W for 20H), Microwave (500W for 8H), and Air Conditioner (1000W for 4H).

6. Bluetooth App Usage

The HumsiENK battery features Bluetooth 5.0 connectivity, allowing you to monitor its status in real-time using the HumsiENK App (available for iOS and Android).

6.1 App Installation

Download the HumsiENK App from the App Store (iOS) or scan the QR code provided on the battery or in the user manual for Android devices.

6.2 Connecting to the Battery

- Ensure Bluetooth is enabled on your mobile device.
- Open the HumsiENK App.
- The app will scan for nearby HumsiENK batteries. Select your battery from the list (identified by its unique ID).

- Once connected, you can view real-time data such as voltage, current, remaining capacity, and internal temperature. The Bluetooth range is approximately 15 meters.

Figure 7: A user monitoring the HumsiENK battery status wirelessly via the dedicated smartphone application, highlighting the convenience of Bluetooth connectivity.

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Video 2: Bluetooth 5.0 Connection and Battery Status Monitoring. This video demonstrates how to connect the battery to the HumsiENK app via Bluetooth and monitor various parameters like voltage, current, capacity, and temperature.

7. Maintenance

LiFePO4 batteries require minimal maintenance compared to lead-acid batteries. However, regular checks ensure optimal performance and longevity:

- **Terminal Inspection:** Periodically check battery terminals for corrosion or loose connections. Clean as necessary and ensure they are securely tightened.
- **Cleaning:** Keep the battery surface clean and dry. Use a soft, damp cloth to wipe away dust or dirt. Do not use harsh chemicals.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50-70% capacity. Store in a cool, dry place.
- **Monitoring:** Use the HumsiENK App to regularly monitor battery health, especially if it's part of a critical

system.

8. Troubleshooting

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

Problem	Possible Cause	Solution
Battery not charging	Loose connections, charger fault, BMS protection activated (e.g., low temp cut-off)	Check all connections. Verify charger functionality. Ensure ambient temperature is within charging range (0°C to 70°C).
Battery not discharging/no power output	BMS protection activated (e.g., over-discharge, over-current, short-circuit), low battery voltage	Check battery voltage via app. Recharge if low. Disconnect load to reset BMS if over-current/short-circuit occurred.
Bluetooth app not connecting	Bluetooth off, out of range, app issue	Ensure Bluetooth is on. Move closer to the battery (within 15m). Restart the app or your phone.
Battery overheating	Excessive load, poor ventilation, high ambient temperature	Reduce load. Ensure adequate ventilation around the battery. Move to a cooler environment if possible. The BMS will cut off at 65°C.

If the problem persists, contact HumsiENK customer support for assistance.

9. Specifications

Feature	Specification
Model Number	HS12V314AH100MINIBT
Voltage	12 Volts
Battery Capacity	314 Amp Hours (Ah)
Energy Capacity	4.01 kWh (4019 Wh)
Battery Cell Composition	Lithium Iron Phosphate (LiFePO4)
BMS	100A (Built-in)
Cycle Life	5,000 to 15,000+ cycles
Dimensions (L x W x H)	38.61 x 24.69 x 19.30 cm (15.24 x 9.72 x 7.6 inches)
Item Weight	27.99 kg (61.73 lbs)
Terminal Type	M8
Bluetooth Version	5.0
Operating Temperature (Discharge)	-20°C to 70°C (-4°F to 158°F)
Operating Temperature (Charge)	0°C to 70°C (32°F to 158°F)
Max Configuration	4S4P (up to 64.30 kWh)

Feature	Specification
Applications	RV, Marine, Solar, Off-Grid, Home Backup, UPS, Golf Carts, Trolling Motors

10. Warranty & Support

HumsiENK provides a **5-year warranty** for this battery. For any questions, technical assistance, or warranty claims, please contact HumsiENK customer service. Our support team is available 24 hours to provide professional assistance.
Contact Information: Refer to the contact details provided in the product packaging or on the official HumsiENK website.