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LiitoKala 12V 200AH

LiitoKala 12V 200AH LiFePO4 Lithium Battery User Manual

Model: 12V 200AH

1. Introduction

This manual provides essential information for the safe and efficient use of your LiitoKala 12V 200AH LiFePO4 Lithium Battery. Please read this manual thoroughly before installation and operation to ensure proper handling and to maximize the battery's lifespan and performance. This battery is designed for various applications including electric propulsion systems, energy storage, and power tools.

2. Safety Information

Lithium Iron Phosphate (LiFePO4) batteries are generally safe, but improper handling can lead to hazards. Adhere to the following safety guidelines:

- **Do Not Disassemble:** Attempting to disassemble the battery can lead to severe injury, electric shock, or fire. The battery contains no user-serviceable parts.
- **Avoid Short Circuits:** Ensure that positive and negative terminals do not come into contact with each other or with conductive materials. This can cause sparks, heat, and potential fire.
- **Use Approved Chargers:** Only use chargers specifically designed for LiFePO4 batteries with appropriate voltage and current ratings. Incorrect chargers can cause overcharging and damage.
- **Observe Temperature Limits:** Operate and store the battery within the specified temperature ranges. Extreme temperatures can degrade performance and safety.
- **Handle with Care:** The battery is heavy (approximately 20kg). Use proper lifting techniques to avoid injury. Avoid dropping or subjecting the battery to severe impacts.
- **Ventilation:** Ensure adequate ventilation around the battery, especially during charging and discharging, to prevent heat buildup.
- **Water and Moisture:** Keep the battery away from water, moisture, and corrosive substances.
- **Children and Pets:** Keep the battery out of reach of children and pets.



Image 2.1: Side view of the LiitoKala 12V 200AH LiFePO4 battery, showing a warning label that states "Warning: Do not disassemble! In case of danger! Made in China."

3. Product Overview

3.1 Components

The LiitoKala 12V 200AH LiFePO4 battery features robust construction with clearly marked terminals and an integrated voltage display for easy monitoring.



Image 3.1: Front view of the LiitoKala 12V 200AH LiFePO4 battery, showcasing its black casing and a prominent yellow label detailing specifications and safety symbols.



Image 3.2: A close-up view of the battery's top surface, highlighting the positive (red) and negative (blue) terminals, along with a digital display labeled "SUPNOVA Battery capacity/Voltage" for real-time monitoring.

3.2 Key Features

- High Capacity: 200AH at 12.8V (nominal).
- Long Cycle Life: Rated for 4000 cycles or more.
- Integrated Voltage Display: For convenient monitoring of battery status.
- Robust Design: Suitable for various demanding applications.
- Wide Application Range: Ideal for electric propulsion, energy storage, and portable power needs.

3.3 Specifications

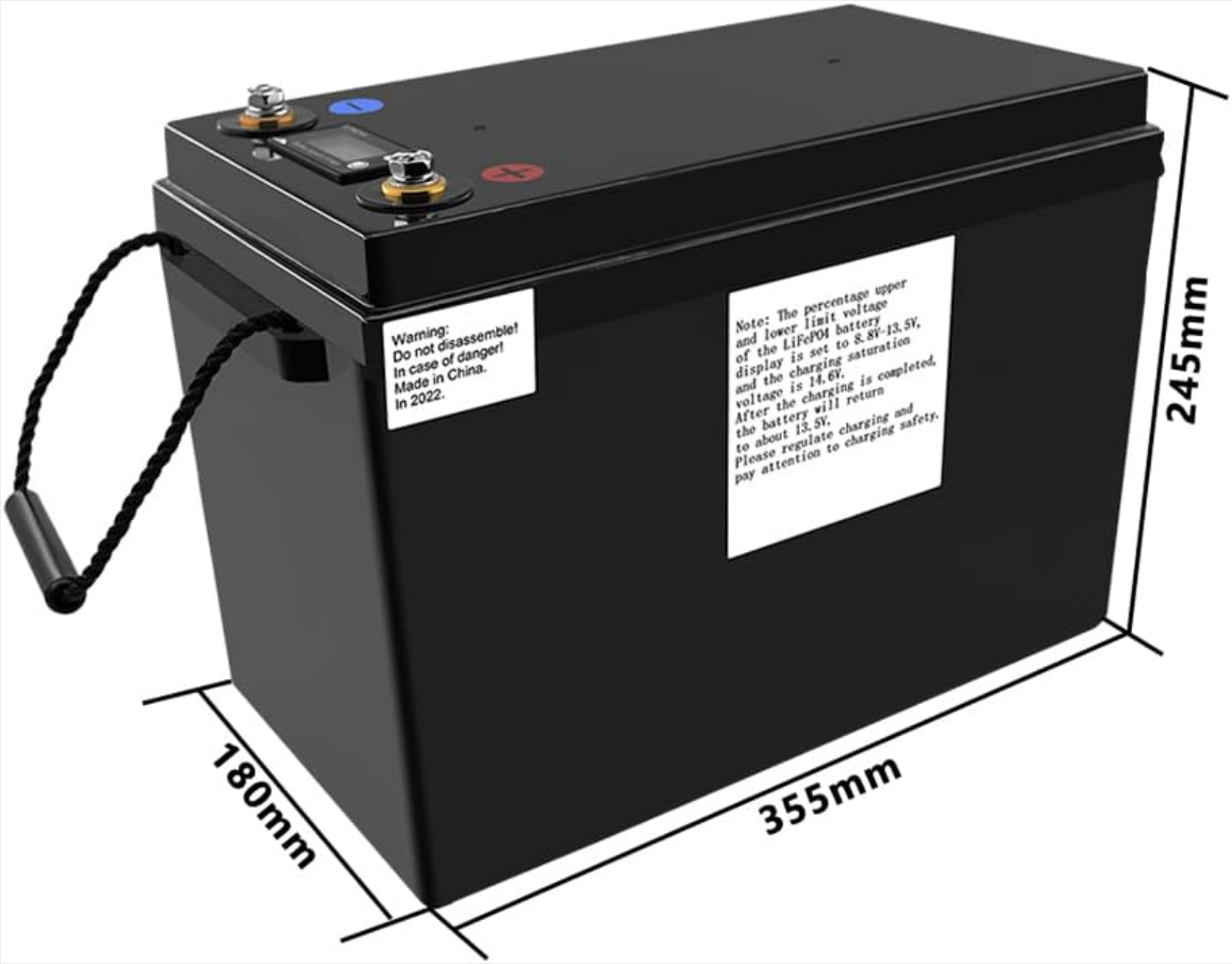


Image 3.3: A diagram illustrating the physical dimensions of the LiitoKala 12V 200AH LiFePO4 battery, with measurements of 355mm (length), 245mm (width), and 180mm (height).

Parameter	Value
Model	12V 200AH Battery Pack
Nominal Voltage	12.8V
Nominal Capacity	200Ah
Maximum Charging Current	20A
Instantaneous Discharge Current	200A
Continuous Discharge Current	100A
Cycle Life	4000 cycles or more
Charging Temperature	0°C to 45°C
Discharge Temperature	-20°C to 60°C
Storage Temperature	-20°C to 65°C
Weight	Approximately 20kg
Dimensions (L x W x H)	355mm x 245mm x 180mm

Parameter	Value
Operating Voltage Range	10V to 14.6V
Overcharge Protection Voltage	14.6V ± 0.05V
Over-discharge Protection Voltage	10V ± 0.05V
Battery Temperature Protection	60°C ± 5°C
UPC	635408464613

3.4 Applications

This LiFePO4 battery is suitable for a wide range of applications, including:

- **Electric Propulsion:** Engine starting, electric cars, buses, golf carts, electric bikes, scooters, RVs, AGVs, boats, coaches, caravans, wheelchairs, electric trucks, sweepers, electric walkers.
- **Intelligent Robotics:** Powering smart robots.
- **Power Tools:** Electric drills, toys.
- **Energy Storage:** Solar and wind energy systems.

4. Setup

4.1 Initial Inspection

Upon receiving the battery, inspect it for any visible damage. If damage is found, do not attempt to use the battery and contact your supplier immediately.

4.2 Connecting the Battery

1. Identify the positive (+) and negative (-) terminals on the battery. The positive terminal is typically marked with a red indicator or a '+' symbol, and the negative with a blue indicator or a '-' symbol.
2. Ensure all connections are clean and free of corrosion.
3. Connect the positive cable from your load/charger to the positive terminal of the battery.
4. Connect the negative cable from your load/charger to the negative terminal of the battery.
5. Secure all connections tightly to prevent loose contacts, which can cause overheating or power loss.
6. Always connect the load/charger to the battery before activating the power source.

4.3 Initial Charging

It is recommended to fully charge the battery before its first use. Use a compatible LiFePO4 charger. The maximum charging current is 20A. The battery's overcharge protection voltage is 14.6V ± 0.05V. Ensure your charger does not exceed this voltage. The percentage upper and lower limit voltage of the LiFePO4 battery display is set to 10V-12.5V, and the charging saturation voltage is 14.6V. After the charging is completed, the battery will return to about 13.5V. Please regulate charging safety.

5. Operating Instructions

5.1 Monitoring Battery Status

The integrated digital display shows the battery's current voltage and capacity percentage. Monitor this display to understand the battery's charge level and operational status.

- **Operating Voltage Range:** 10V to 14.6V.
- **Full Charge Voltage:** Approximately 14.6V.

- **Low Voltage Cut-off:** Approximately 10V (Over-discharge protection).

5.2 Discharge Guidelines

- **Continuous Discharge Current:** Do not exceed 100A for continuous operation.
- **Instantaneous Discharge Current:** The battery can handle up to 200A for short bursts. Avoid prolonged high current discharge.
- **Over-discharge Protection:** The battery will automatically cut off power if the voltage drops below 10V ± 0.05V to protect the cells. Recharge immediately after an over-discharge event.
- **Discharge Temperature:** Operate the battery within -20°C to 60°C. Discharging outside this range can reduce performance and lifespan.

5.3 Charging Guidelines

- **Maximum Charging Current:** Do not exceed 20A.
- **Overcharge Protection:** The battery will stop charging when it reaches 14.6V ± 0.05V.
- **Charging Temperature:** Charge the battery within 0°C to 45°C. Charging outside this range can damage the battery.

6. Maintenance

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

- **Regular Inspection:** Periodically check the battery casing for any physical damage, swelling, or leaks. Inspect terminals for corrosion and ensure connections are tight.
- **Cleaning:** Keep the battery clean and dry. Use a soft, dry cloth to wipe down the casing. Do not use solvents or abrasive cleaners.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50-70% of its capacity (around 13.2V). Store in a cool, dry place within the specified storage temperature range of -20°C to 65°C. Avoid direct sunlight or extreme heat/cold.
- **Recharge During Storage:** For very long storage periods, it is advisable to check the voltage every 3-6 months and recharge if necessary to prevent deep discharge.

7. Troubleshooting

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

Problem	Possible Cause	Solution
Battery not charging	Charger not connected, faulty charger, battery voltage too low (deeply discharged), charging temperature outside range.	Check charger connections. Ensure charger is compatible and functional. If deeply discharged, a specialized charger might be needed to initiate charging. Move battery to an environment within 0°C to 45°C.
Battery not discharging / No power output	Battery is deeply discharged (below 10V), over-discharge protection activated, loose connections, load current too high.	Recharge the battery. Check all cable connections for tightness. Reduce the load to stay within continuous/instantaneous discharge limits.
Battery display is off or erratic	Battery is completely discharged, internal fault.	Attempt to charge the battery. If the display remains off or erratic after charging, contact support.

Problem	Possible Cause	Solution
Battery gets excessively hot during use/charging	Overcurrent, short circuit, internal fault, charging/discharging outside temperature limits.	Immediately disconnect the battery from the load/charger. Allow it to cool down. Check for short circuits or excessive load. Ensure operation within specified temperature ranges. If overheating persists, discontinue use and contact support.

For issues not covered here, or if troubleshooting steps do not resolve the problem, please contact the manufacturer or your supplier for assistance.

8. Warranty and Support

Specific warranty terms and conditions for the LiitoKala 12V 200AH LiFePO4 Lithium Battery are provided by the seller or manufacturer at the time of purchase. Please retain your proof of purchase for warranty claims.
For technical support, service, or warranty inquiries, please contact your point of purchase or the manufacturer, YIZHIHUA. Refer to the contact information provided with your purchase documentation.

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