

Phosphate Iron Lithium (LiFePO4) Battery Pack English User Manual



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English User Manual

I. Product Overview

The 12/24V Household Energy Storage Lead-to-Lithium Battery Pack is specifically designed for household and commercial scenarios, suitable for solar/wind energy storage, UPS backup power, medical equipment, emergency power supplies, and other applications. This product boasts high energy density, long cycle life, and multiple safety protection features, making it an ideal replacement for lead-acid batteries.

Core Features:

- Compatible with lead-acid battery systems for seamless replacement.
 - Optional Bluetooth real-time communication function (not included in the standard version).
 - Multiple protections: overcharge, over-discharge, short circuit, overload, and over-temperature protection.
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II. Safety Rules

- Handle with care and avoid violent shocks.
- Ensure sufficient voltage and power before use.
- Use cables of the correct specification, ensuring good contact, firmness, correct wiring, and preventing reverse connection that may cause short circuits.
- Match the load power range according to product parameters and use within the maximum allowed power range.
- Only use dedicated lithium battery chargers. It is recommended to use a 14.6V charger for 12.8V LiFePO₄ batteries and a 29.2V charger for 25.6V LiFePO₄ batteries.
- Do not use in high temperature (above 55°C), humid (humidity greater than 90%), or hazardous locations with explosive gases or dust.
- Do not short-circuit the positive and negative terminals or install them in reverse.
- Use a dedicated lithium battery charger only. It is recommended to use a 14.6V charger for 12.8V battery packs and a 29.2V charger for 25.6V battery packs.
- 12.8V series battery packs must be fully charged before paralleling, 25.6V series does

- Do not dismantle the battery. If the battery pack is damaged or faulty, immediately stop using it.

III. Product Specifications

Model	12.8V100AH	12.8V150AH	12.8V200AH	12.8V300AH	12.8V400AH	25.6V100AH	25.6V200AH
Nominal Voltage	12.8V	12.8V	12.8V	12.8V	12.8V	25.6V	25.6V
Nominal Capacity	100Ah	150Ah	200Ah	300Ah	400Ah	100Ah	200Ah
Rated Energy	1.28kWh	1.92kWh	2.56kWh	3.84kWh	5.12kWh	2.56kWh	5.12kWh
Charging Voltage	14.6V	14.6V	14.6V	14.6V	14.6V	29.2V	29.2V
Discharge Cut-off Voltage	11.2V	11.2V	11.2V	11.2V	11.2V	22.4V	22.4V
Continuous Charge Current	100A	100A	150A	150A	150A	100A	150A
Continuous Discharge Current	100A	100A	150A	200A	200A	100A	150A

Warning: The 12.8V series supports a maximum of two series and two parallel connections, while the 25.6V series does not support series or parallel connections.

IV. Package Contents

- Battery*1, User Manual*1, Screw Packet*1

V. Recommended Cable Table

AWG	Cross-sectional Area (mm ²)	Adaptation Current (A)
16AWG	1.3	6-8
14AWG	2	12-14
12AWG	3.4	18-21
10AWG	5.3	30-35
8AWG	8.3	42-50
7AWG	12	60-75
6AWG	16	90-98
4AWG	25	130-150
2AWG	35	200-220
4AWG*2	25*2	300

Note: The AWG column indicates the cable specification, with smaller values representing thicker cables and stronger conductivity.

VI. Installation Steps

1. **Environment Check:** Ensure the installation area is dry, well-ventilated, and away from flammable materials. The ambient temperature should be between -20°C to 60°C ; humidity should not exceed 95%; altitude should not exceed 4000 meters.
 2. **Fixing the Battery:** Use a bracket to vertically fix the battery pack to a flat surface. Do not stack unless specifically instructed otherwise.
 3. **Wiring Operations:** Use insulated tools to connect the terminals (follow the rule of “positive to positive +, negative to negative -“). Tighten the terminals.
 4. **Connecting to the Inverter:** Ensure the inverter is turned off before connecting it.
 5. **Charging and Discharging Instructions:** Use a charger that matches the battery’s charging voltage (e.g., 12.8V models correspond to 14.6V). Avoid discharging below the cut-off voltage (e.g., 12.8V models should not drop below 10V).
 6. **Bluetooth Communication Function (Optional):** Pair the battery with a dedicated APP to monitor voltage, temperature, battery level, and other data in real-time. Note: The standard version does not include Bluetooth functionality, which requires an upgrade.
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VII. Common Fault Diagnosis and Troubleshooting

Fault Phenomenon	Possible Causes	Solutions
Battery Cannot Be Charged	1. Battery lacks BMS protection	Check the voltage and recharge.
	2. Loose cables	Re-secure the cables.
	3. Reversed load lines	Adjust the direction of the load lines.
	4. Excessive load power	Adjust the load to an appropriate power level.
	5. BMS issues	Check the BMS and repair or replace it.
	6. Battery is protected	Operate according to BMS specifications.
Battery Malfunction	1. Internal battery structure damage	Replace the battery.
	2. Charger voltage mismatch	Use a compatible charger.
	3. Charger failure	Replace the charger.
	4. Battery charged with reversed polarity	Adjust the charging polarity.
	5. Extreme weather conditions (too cold or too hot)	Use the battery in suitable temperature conditions.

VIII. Application Areas

This battery system can be widely used in solar lighting, electric vehicles, ships, parking power supply, centralized power supply, DC appliances, inverters, and other fields.

IX. Routine Maintenance

- Charge the battery in a timely manner to avoid excessive discharge.
 - Place the product in a clean, dry, and well-ventilated environment, and regularly dust it off.
 - Check every 3 months for loose or corroded connections. If the battery is left idle for a long time, charge it every 3 months to prevent self-discharge loss.
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X. Quality Assurance

Warranty Service Description

During the warranty period, if your product encounters a malfunction, please contact our professional personnel for repair to ensure the issue is properly resolved. Additionally, to safeguard your warranty rights, please keep the product's nameplate intact, as any damage or loss will render the warranty service invalid.

Situations Not Covered by the Warranty

The following situations are not covered by the warranty:

1. **Improper Use:** Including but not limited to damage caused by excessive use or misuse.
2. **Human Damage:** Such as damage from dropping, squeezing, scratching, or other human factors.
3. **Unauthorized Disassembly:** Any behavior involving unauthorized disassembly or repair of the product.
4. **Transport Damage:** Damage incurred during transportation arranged by parties other than our company, for which the transporter bears responsibility.
5. **Improper Installation:** Damage caused by installation, reinstallation, or misuse.
6. **Operation in Harsh Environments:** Damage resulting from operating the product in extreme or harsh conditions.
7. **Repair by Non-Professionals:** Unauthorized repairs performed by non-professional personnel.
8. **Use of Non-Standard Chargers:** Damage caused by using chargers not provided by our company or not complying with product specifications.

Quality tracking card

Dealer's Copy			
Customer		Model	
Address		Tel	
Battery No.		Bought Date	
Customer's Sign:			
Dealer's (Seal):			
Customer's Copy			
Customer		Tel	
Address		Battery No.	
Model		Bought Date	

Please keep this card carefully.

No replacement for loss, no "three guarantees" for battery damage. For batteries under "three guarantees", the dealer must send the first and second copies the tracking card back to the manufacturer. If the two copies are incomplete, the manufacturer will not refund the insurance.

During the warranty period, any quality problems caused by manufacturing reasons can be repaired or replaced at the dealer with this card or invoice; product damage caused by use and rechargeable batteries are not covered by the warranty. Any inconvenience is regretted.