User Manual

Pony Energy

LiFePo4 Energy Storage Battery

www.ponynrg.com

Disclaimer

Before using the lithium iron phosphate battery (hereinafter referred to as the "battery") product, please read this disclaimer carefully. This statement aims to clarify the responsibilities of the relevant parties during the use of the battery and to protect the legal rights of all parties involved.

1. Product Information and Risk Notification

• The lithium iron phosphate battery is manufactured according to CE and QMSC. However, the performance and safety of the battery may be affected by various factors, including but not limited to environmental temperature, usage methods, charging conditions, and storage conditions.

• Users should be aware that improper use of the battery may lead to dangerous situations such as overheating, fire, explosion, and leakage, which can cause serious harm to personal safety and property.

2. User Responsibility

• The user is responsible for ensuring that the use, charging, and storage of the battery comply fully with the user manual, operating guide, and relevant safety regulations provided with this product. In particular, the user must use a charger compatible with the battery and perform charging operations within the specified charging parameters.

• Throughout the battery's lifecycle, the user should regularly inspect the battery's appearance and connection status. If any abnormalities (such as bulging, leakage, odor, etc.) are found, the user should stop using it immediately and handle it properly according to safety procedures.

• The user is not permitted to disassemble, modify, repair, or use non-original parts of the battery without authorization. The user will be solely responsible for any consequences resulting from such actions.

3. Manufacturer/Seller Liability Limitation

• The manufacturer and seller have made every effort to ensure that the battery meets safety and quality standards under normal usage conditions. However, the manufacturer and seller shall not be liable for any direct or indirect responsibility, including but not limited to personal injury compensation, property damage compensation, and business interruption losses caused by the user's violation of usage instructions, force majeure, or unforeseeable external factors.

• To the maximum extent permitted by law, the warranty service provided by the manufacturer and seller for the battery product is limited to the quality defects of the product itself, and such quality defects must appear under normal usage and maintenance conditions. Damage caused by improper use or other user responsibilities is not covered by the warranty.

Scope of Application

This manual applies to energy storage batteries produced by Pony Energy®, including the 12Volt series, 24Volt series, and 48Volt series. The products provided in this manual comply with CE, QMSC, and have passed safety tests such as UN38.3 and MSDS.

Usage Precautions

- **Correct Installation:** The wire specifications should be greater than the battery's maximum discharge current. Ensure the battery is accurately connected according to the positive and negative poles, and provide proper insulation to avoid short circuits.
- **Charging and Discharging:** It is recommended to use the designated charger. The charging voltage should not exceed the maximum voltage specified in the product specifications. Avoid overcharging or over discharging.
- **Temperature Requirements:** Use the battery within the designated operating temperature range (0°C to 60°C).
- **Safe Usage:** Do not throw the battery into fire, immerse it in water, disassemble, or puncture it. Avoid using the battery in high-temperature or high-humidity environments.
- **Regular Inspections:** Regularly check the battery status. If the battery casing is found to be damaged, leaking, or showing other abnormalities, stop using it immediately and contact after-sales service.

Maintenance and Care

- **Regular Charging:** If the battery is not used for a long time, perform maintenance charging every three months to keep the battery in optimal condition.
- **Storage Charge:** When the battery is not in use, it should be maintained at 50%-70% charge.
- **Environmental Requirements:** Store the battery in a dry and cool environment. The ideal storage temperature is 15°C to 25°C.
- **Cleaning:** Use a dry cloth to gently wipe the battery surface. Avoid using chemical cleaners.

Transportation and Storage

- **Transportation Regulations:** During transportation, ensure that the battery is packed according to national regulations to avoid short circuits or damage.
- **Storage Location:** Store in a location away from heat sources, fire, and chemicals. Avoid direct sunlight.
- **Shockproof Measures:** Ensure that the battery is packed with shockproof materials during transportation to prevent damage from vibrations.

Product Specifications

Model	12V50Ah	12V100Ah	12V200Ah	12V280Ah	12V314Ah
Battery Type	Lithium Iron Phosphate				
Nominal Voltage	12.8V				
Nominal Capacity	50Ah	100Ah	200Ah	280Ah	314Ah
Charging Voltage	14.6V				
Operating Voltage	10V-14.6V				
Cut-off Voltage	10V				
Max Discharge Current	50A	100A	200A		
Max Charging Current	50A	100A	200A		
Recommended Charging Current	10A-20A	10A-30A			
Cycle Life	3000 cycles (DOD 100%)				
Series Connection	Supported, up to 4 sets forming a 48V battery system				
Parallel Connection	Supported, but ensure voltage difference between batteries is less than 3V				

Model	24V100Ah	24V170Ah	24V200Ah	24V314Ah
Battery Type	Lithium Iron Phosphate			
Nominal Voltage	25.6V			
Nominal Capacity	100Ah	170Ah	200Ah	314Ah
Charging Voltage	29.2V			
Operating Voltage	20V-29.2V			
Cut-off Voltage	20V			
Max Discharge Current	100A	100A	200A	200A
Max Charging Current	100A	100A	200A	200A
Recommended Charging Current	10A-30A			
Cycle Life	3000 cycles (DOD 100%)			
Series Connection	Supported, up to 2 sets forming a 48V battery system			
Parallel Connection	Supported, but ensure voltage difference between batteries is less than 3V			

Model	48V100Ah
Battery Type	Lithium Iron Phosphate
Nominal Voltage	51.2V
Nominal Capacity	100Ah
Charging Voltage	58.4V
Operating Voltage	40V-58.4V
Cut-off Voltage	40V
Max Discharge Current	100A
Max Charging Current	100A
Recommended Charging Current	10A-30A
Cycle Life	3000 cycles (DOD 100%)
Series Connection	Not Supported
Parallel Connection	Supported, but ensure voltage difference between batteries is less than 3V

SOC Voltage Reference Data

The SOC-Volt data is based on battery discharge conditions at 30A-50A. Due to the physical characteristics of LiFePo4 cells, the battery capacity and voltage may vary under different loads. This data is for reference only.

SOC/Volt	12Volt Series	24Volt Series	48Volt Series
100%	13.4V-13.6V	26.5V-27.2V	53.6V-54.4V
80%-100%	12.95V-13.4V	26.15V-26.5V	52.12V-53.6V
60%-80%	12.84V-12.95V	25.95V-26.15V	51.88V-52.12V
40%-60%	12.77V-12.84V	25.8V-25.95V	51.55V-51.88V
20%-40%	12.55V-12.77V	25.5V-25.8V	51V-51.55V
0-20%	10-12.55V	20V-25.5V	40V-51V

FAQ

- **Q: Can a lead-acid charger be used to charge the battery?**

A: No, the LiFePo4 batteries require a dedicated charger. Using an incompatible charger may cause damage to the battery.

- **Q: How should the parameters be configured when connecting to an inverter/SCC?**

A: Set the battery type to lithium. For the 12V/24V/48V battery series, the charging voltages are 14.6V/29.2V/58.4V respectively, the float voltages are 13.75V/27V/54V respectively, and the cut-off voltages are 11V/22V/44V respectively.

- **Q: What precautions should be taken when connecting batteries in series or parallel?**

A: Ensure that all batteries have the same nominal voltage, nominal capacity, and BMS brand specifications. Before connecting them in series or parallel, fully discharge each battery, then assemble them and connect to the inverter/SCC/MPPT for charging until fully charged. Repeat this process every 1–2 months to maintain balance between batteries and achieve optimal performance.

FAQ

• Q: What should I do if the battery suddenly shuts down during use and cannot be restarted?

A: Over 90% of sudden battery shutdowns are due to the BMS entering a protection disconnect state. To reactivate the BMS:

1. Use a fixed-voltage lithium iron phosphate charger that can sustain output current to recharge the battery.

2. Recharge the battery with an MPPT configured to the correct voltage.

3. Utilize an inverter with a blind charge activation function to restore the battery.

Note: Excessive charging voltage, heavy load current, inverter surge current, and overly low cut-off voltage are common causes for triggering the BMS protection disconnect state. Please follow the battery specifications to ensure proper setup and compatible usage.

Warranty Policy

• **Warranty Period:** The battery comes with a five-year warranty from the date of purchase.

• **Warranty Coverage:** The warranty includes coverage for product quality issues and manufacturing defects that may arise during normal use. It does not cover damage caused by misuse, unauthorized modifications, or environmental factors.

• **After-Sales Service:** If there are any issues within the warranty period, please contact Pony Energy's after-sales service center with proof of purchase and a description of the problem. We will handle it promptly.

• **Return and Exchange Policy:** If you find any quality issues within 30 days of receiving the battery, you can apply for a return or exchange. Please refer to Pony Energy's return and exchange policy for details.

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