



BEXIE ENERGY

Product Specification Sheet

Product Model: 25.6V 200Ah Lithium Iron Phosphate Battery Pack

Foreword

Overview

This specification document details the technical specifications, performance requirements, and functional characteristics of the relevant products to meet application needs across various scenarios. It provides a unified reference standard for suppliers, engineers, and customers, ensuring the products meet expected requirements and operate safely and reliably.

This specification draws upon industry standards, national regulations, and relevant technical requirements to comprehensively define core technologies, component selection, system performance, safety features, control and monitoring systems, and other aspects. It also outlines requirements for delivery acceptance, maintenance, and after-sales service to guarantee product quality and reliability.

During the development of this specification, we incorporated feedback from suppliers, engineers, and customers to ensure its content is reasonable, feasible, and aligned with existing industry standards and regulations. However, due to ongoing technological and market developments, this specification may require updates and revisions based on practical application scenarios.

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1、Product Overview

1. 1 Name and Model:

25.6V 200Ah Lithium Iron Phosphate Battery Pack

1. 2 Scope of Application:

This specification applies exclusively to the 25.6V 200Ah Lithium Iron Phosphate Battery Pack referenced herein.

2、Product Specifications

NO	Project	Specifications	Notes
1	Rated Capacity	190Ah	Under standard charging/discharging conditions at 0.2C
2	Nominal Voltage	25.6V	Operating voltage
3	Cut-off Voltage	20V	
4	Charge Voltage	29.2V	
5	Internal Resistance	≤180mΩ	
6	Standard Charge	Continuous Current : 0.2C ₅ A Continuous Voltage : 29.2V Cutoff Current : 0.01C	
7	Standard Discharge	Continuous Current : 0.2 C ₅ A Cutoff Voltage : 20V	
8	Fast Charge	Continuous Current : 0.5C Continuous Voltage : 29.2V Cutoff Current : 0.01C	
9	Fast Discharge	Continuous Current : 0.5 C Cutoff Voltage : 20V	
10	Maximum Continuous Charge Current	≤100A	
11	Maximum Continuous Discharge Current	≤100A	
12	Pack Configuration	8S2P	
13	Cell Model	LFP-GSP50160119F-100Ah-3.2V	
14	Cell Weight	1.92±0.1Kg	
15	Battery Pack Dimensions	522*269*220mm	
16	Individual Cell Dimensions	50.5±1*160.1±0.5*118.6±0.6mm	
17	Operating Temperature Range	Charging : 0°C~45°C	60±25%RH
		Discharging : -10°C~55°C	
18	Storage Temperature Range	<1 year -10°C~25°C	60±25%RH
		<3 months -20°C~40°C	
		<7 days -20°C~60°C	

3、 Test Conditions and Methods

3. 1 Test Product Standards

3.1.1 Testing shall use new battery packs delivered within 15 days that have undergone no more than five charge-discharge cycles.

3.1.2 Testing shall be conducted under the environmental conditions specified in 3.2.

3. 2 Test Environment Standards

Temperature: $25 \pm 2^\circ \text{C}$, Humidity: $60 \pm 25\% \text{RH}$, Atmospheric Pressure: 60 - 160 kPa.

3. 3 Test Method Standards

NO	Project	Test Method
3. 3. 1	Standard Charging	Constant Current Charging: Initially charge at a constant current of 0.2C until the set voltage is reached. Constant Voltage Charging: After reaching the charging voltage, switch to constant voltage charging mode. Current Reduction: In constant voltage mode, gradually reduce the current to 0.01C.
3. 3. 2	Standard Discharge	Constant Current Discharge: Discharge at a constant current of 0.2C until the discharge cut-off voltage is reached.
3. 3. 3	Charge-Discharge Cycle	Charge Phase: Charge to full capacity per Section 3.3.1 requirements, then rest for 0.5-1 hour. Discharge Phase: Discharge to completion per Section 3.3.2 requirements, then rest again for 0.5-1 hour. Repeat Cycle: After completing one charge-discharge cycle, repeat the charge-discharge process, maintaining a 0.5-1 hour rest period between each cycle.

Note: All the above test methods must meet the standards specified in Sections 3.1 and 3.2. Parameters such as charge/discharge current and voltage involved in the test methods shall be based on the product specifications in Section 2.

3. 4 Test Equipment Accuracy Standards

NO	Item	Accuracy
3. 4. 1	Voltage Accuracy	$\geq 0.5 \text{ Class}$
3. 4. 2	Current Accuracy	$\geq 0.5 \text{ Class}$
3. 4. 3	Temperature Accuracy	$\pm 0.5^\circ \text{C}$
3. 4. 4	Time Accuracy	0.1%
3. 4. 5	Dimensional Accuracy	0.1%

4、 Standard Performance

NO	Item	Test Method	Standard Requirement
4. 1	Initial Capacity	Under standard test conditions, cycle the battery through charge-discharge 5 times as specified in Clause 3.3.3; the capacity shall meet the standard requirement in at least 1 cycle.	Initial Capacity $\geq 190\text{Ah}$
4. 2	Cycle Life	Under standard test conditions, perform 2000 charge-discharge cycles on a new battery as specified in Clause 3.3.3.	Capacity at 2000th cycle $\geq 80\%$ of initial capacity
4. 3	Charge Retention Performance	Under standard test conditions, fully charge a new battery as specified in Clause 3.3.1; leave the battery open-circuited at $25 \pm 2^\circ \text{C}$ for 28 days, then discharge it as specified in Clause 3.3.2 until completion.	Remaining discharge capacity $\geq 95\%$ of initial capacity
4. 4	Storage Performance	Under standard test conditions, cycle the new battery through 1 charge-discharge cycle as specified in Clause 3.3.3; then store the battery at $20 \pm 3^\circ \text{C}$ for 90 days. Cycle it through 5 charge-discharge cycles as specified in Clause 3.3.3; the capacity shall recover to meet the standard requirement in at least 1 cycle.	Recovered Capacity $\geq 90\%$ of initial capacity
4. 5	High-Temperature Discharge	Under standard test conditions, fully charge a new battery as specified in Clause 3.3.1	High-temperature discharge capacity \geq initial capacity

	Performance	Fully charge the battery, leave it open-circuited at $55 \pm 2^\circ \text{C}$ for 5 hours, then discharge it as specified in Clause 3.3.2 until the discharge is completed.	95% of (initial) capacity
4.6	Low-Temperature Discharge Performance	Under standard test conditions, fully charge a new battery as specified in Clause 3.3.1; leave the battery open-circuited at $-20 \pm 2^\circ \text{C}$ for 5 hours, then discharge it as specified in Clause 3.3.2 until the discharge is completed.	Low-temperature discharge capacity $\geq 75\%$ of initial capacity

5、 Safety Performance

NO	Item	Test Method	Standard Requirement
5.1	Short-Circuit Test	Under standard test conditions, connect the positive and negative terminals of a fully charged battery with a load of $\leq 100\text{m}\Omega$ to short-circuit the battery externally for 10 minutes.	No leakage, no smoking, no ignition, no explosion. After removing the load, the battery shall work normally.
5.2	Temperature Shock	Place the fully charged battery in a constant temperature and humidity test chamber, and perform the test as follows: 1. Adjust the chamber temperature to 75°C and maintain it for 6 hours. 2. Adjust the temperature to -40°C (transition time <1 hour) and maintain it for 6 hours. 3. Adjust the temperature back to 75°C (transition time <1 hour) and maintain it for 6 hours. 4. Repeat steps 2-3 for a total of 10 cycles. 5. Remove the test battery and store it at $25 \pm 2^\circ \text{C}$ for 24 hours.	No leakage, no smoking, no ignition, no explosion.
5.3	Impact Test	Secure the packaged battery on the test bench and perform the test as follows: - Impact waveform: Half-sine wave - Peak acceleration: 180m/s^2 - Pulse duration: 6ms - Impact directions: 6 directions - Impact times per direction: 100 times	No leakage, no smoking, no ignition, no explosion.
5.4	Low-Voltage Test	Secure the packaged battery on the test bench and perform the test as follows: - Impact waveform: Half-sine wave - Peak acceleration: 180m/s^2 - Pulse duration: 6ms - Impact directions: 6 directions - Impact times per direction: 100 times	No leakage, no smoking, no ignition, no explosion. After unpacking, there shall be no appearance deformation, and the battery shall work normally.
5.5	Crash Test	Secure the packaged battery on the test bench and perform the test as follows: - Vibration: Logarithmic sweep from 7Hz to 200Hz and back to 7Hz (1 minute per sweep). Repeat this vibration process 12 times for each direction of 3 mutually perpendicular battery mounting orientations (total duration: 3 hours). One vibration direction must be perpendicular to the end face. - Logarithmic sweep: Start at 7Hz with a maximum acceleration of 1gn until reaching 18Hz. Then maintain an amplitude of 0.8mm (total displacement: 1.6mm) and increase the frequency until the maximum acceleration reaches 8gn (frequency $\approx 50\text{Hz}$). Keep the maximum acceleration at 8gn until the frequency increases to 200Hz.	No leakage, no smoking, no ignition, no explosion. After unpacking, there shall be no appearance deformation, and the battery shall work normally.

Note: Performance testing is an extremely hazardous operation and must be carried out by qualified testing technicians under proper safety protection.

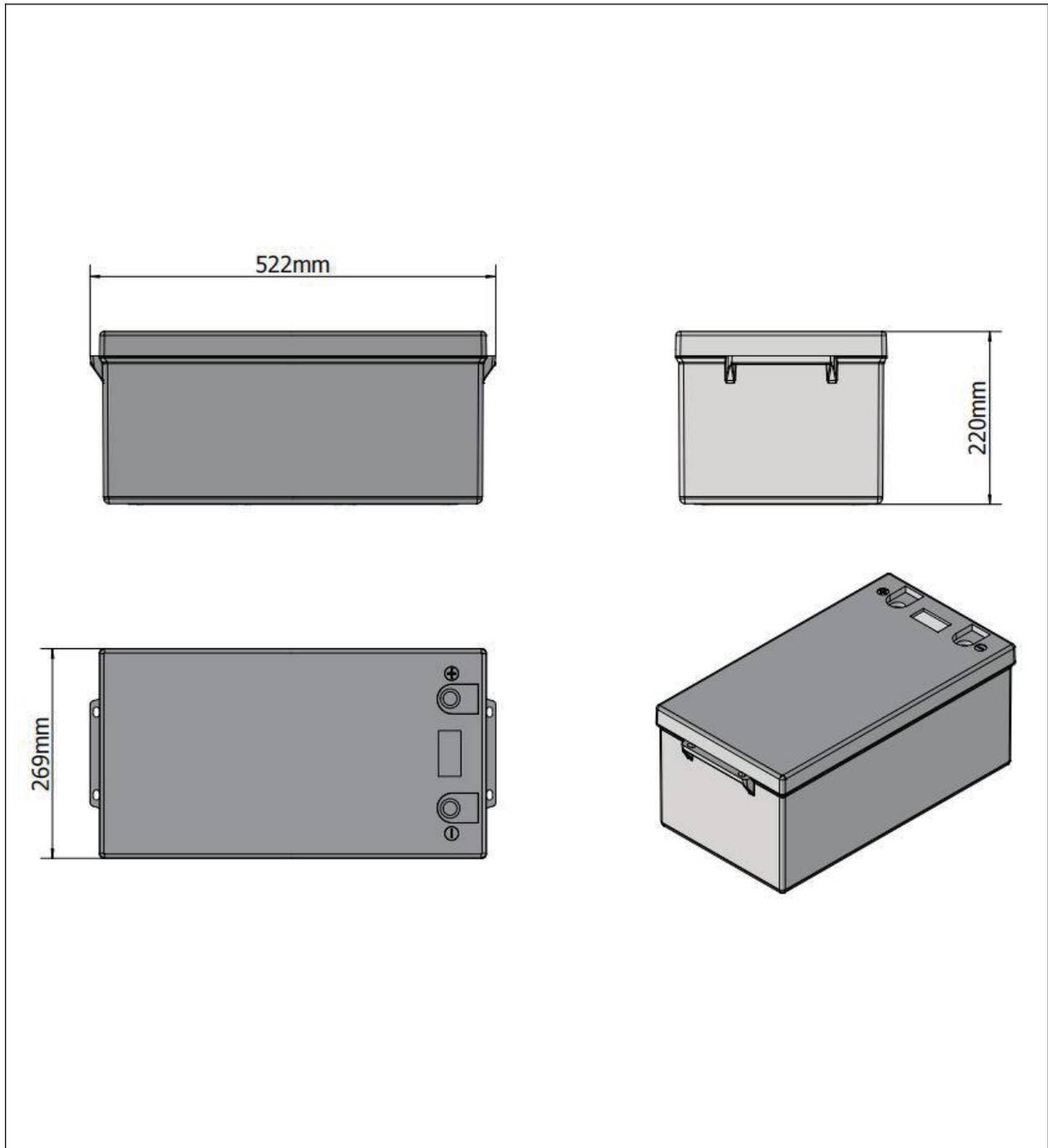
6、BMS Parameters

6. 1 Main Technical Parameters of the Protection Circuit

Name	Condition	Minimum Value	Typical Value	Maximum Value	Unit	Remarks
Overcharge Protection Voltage		3.72	3.75	3.78	V	Single-section parameters
Overcharge Recovery Voltage		3.45	3.55	3.60	V	Single-section parameters
Overcharge Protection Delay		500	1000	1500	mS	
Overdischarge Detection Voltage		2.12	2.20	2.28	V	Single-section parameters
Overdischarge Recovery Voltage		2.60	2.70	2.80	V	Single-section parameters
Overdischarge Protection Delay		4000	5000	6000	mS	
Normal Operating Current	100				A	
Charge Overcurrent Protection		250	330	410	A	
Charge Overcurrent Delay		0.5	1	1.5	S	
Charge Overcurrent Protection Recovery Condition	Remove the charger					
Discharge Overcurrent Protection		310	410	510	A	
Discharge Overcurrent Delay		10	20	30	mS	
Discharge Overcurrent Protection Recovery Condition	Disconnect the load and restore via charging					
Self-Current Consumption	Normal operating state ≤ 100				uA	
PCB Internal Resistance	≤ 10				m Ω	
Short-Circuit Protection		1650	2250	2850	A	
Short-Circuit Protection Delay		200	400	800	uS	
Short-Circuit Protection Recovery Condition	Disconnect the load and restore via charging					
Balancing Activation Condition		3.45	3.50	3.55	V	
Balancing Current		150	200	250	mA	
Balancing Mode	Passive equalization					

7、Product Drawings

Product Dimension Drawing



3	Wire Model	Ultra-soft silicone wire—6AWG			
2	Exposed Wire Length	M8 terminal			
1	External Dimensions	522*269*220mm—Upper cover: black; Lower case: black; Lead-acid rubber shell			
Remarks					
Drawn by	Zhang Heng	Reviewed by		Date	2025. 11. 17

8. Usage Instructions

8.1 Charging Requirements

Charging requirements are rules to ensure safe and effective charging. Please strictly follow the following charging rules:

1. The charging current shall not exceed the maximum charging current specified in the specification.
2. The charging voltage shall not exceed the voltage range specified in the specification.
3. The charger design must meet the condition that the charging voltage does not exceed the battery's maximum charging voltage.
4. During charging, the battery must be charged within the ambient temperature range specified in the specification.
5. Reverse charging is strictly prohibited. Please ensure correct connection of the battery's positive and negative terminals to avoid reverse charging.

Following these charging requirements helps ensure charging safety while protecting the service life of the device and battery.

8.2 Discharging Requirements

Discharging requirements are rules to ensure safe and effective battery use. Please follow the following discharging rules:

1. The discharging current shall not exceed the maximum discharging current specified in the specification.
2. During discharging, the battery must be discharged within the ambient temperature range specified in the specification.
3. To prevent the battery from self-discharging excessively, it is recommended to discharge it once every three months. If the storage period exceeds half a year, charge the battery to activate it before use.

Following these discharging requirements helps ensure normal battery operation and extend its service life. Please note to fully charge and discharge the battery to maintain its performance.

8.3 Storage Requirements

Storage requirements are rules to keep the battery in good condition when not in use.

Please follow the following storage rules:

1. The battery pack shall be stored under conditions of 15-25° C (ambient temperature) and 60±20% RH.
2. Before storage, charge the battery to a state of charge (SOC) of 40%-60%.
3. If the battery pack is stored for 30 days or longer, adjust its SOC to approximately 50% by charging/discharging it once.
4. If the battery is stored with 50% SOC for more than 6 months without charge/discharge maintenance, it may cause irreversible capacity loss of ~5%. If the battery is stored with 50% SOC for more than 9 months without charge/discharge maintenance, it may cause capacity loss or other defects—we will not assume warranty liability in such cases.

Following these storage requirements helps protect the battery's performance and service life, ensuring it works normally when needed. Please perform regular charge/discharge maintenance to maintain the battery's condition.

8.4 Shipping Charge State

The shipping charge state refers to the charge level the battery should have during transportation. Depending on the transportation method, the shipping charge requirements are as follows:

1. For air transportation, the state of charge (SOC) of the battery shall be within 20% - 30%.
 2. For sea or land transportation, the SOC of the battery shall be within 40% - 60%.
- Following these requirements ensures battery safety during transportation and reduces potential risks. When arranging battery transportation, please ensure its SOC is within the appropriate range based on the transportation method.

9. Warnings

To ensure the safe use of the battery pack, please observe the following usage rules and precautions:

1. Do not disassemble or modify the battery pack structure: Never disassemble the battery pack or modify its external structure on your own.
2. Use only dedicated lithium-ion battery chargers: Ensure the charger used meets the battery pack's specifications.
3. Do not reverse the positive and negative terminals: Connect the terminals correctly to avoid reverse polarity.
4. Do not connect the battery pack directly to a power outlet: Avoid direct connection of the battery pack to a power socket.
5. Do not directly connect the battery pack's terminals with metal objects: Prevent short circuits caused by metal contact.
6. Do not store the battery pack with metal objects: Avoid contact between the battery pack and metal objects to prevent potential hazards.
7. Do not strike, drop, or crush the battery pack: Prevent physical damage to the battery pack.
8. Do not pierce the battery pack with sharp objects: Avoid puncturing the battery pack.
9. Do not immerse the battery pack in seawater or water: Prevent contact between the battery pack and water to avoid dangerous situations.
10. Do not use the battery pack in high-temperature environments: Avoid fire sources, heaters, intense sunlight, hot car interiors, etc.
11. Do not weld the battery pack or cells directly: Never perform direct welding on the battery pack.
12. Do not use the battery pack in strong static or electromagnetic fields: Such environments may interfere with the battery pack's safety protection devices, leading to safety hazards.
13. If the battery is involved in a collision, impact, or fall: Immediately mark and isolate the battery. Do not continue using it even if it appears functional; handle the faulty battery properly.

Please strictly follow the above rules and precautions to ensure safe use of the battery pack and prevent potential hazards.

10. Precautions

1. Ensure the voltage and current generated by reverse polarity do not exceed the reverse voltage and current tolerance of the BMS (Battery Management System) to avoid damaging the BMS board.
2. If battery leakage gets into the eyes, do not rub them with hands—rinse immediately with clean water and seek medical attention to prevent eye injury.
3. If abnormal conditions occur during use or storage (e.g., strange odors, overheating, discoloration, deformation, or abnormalities during charging), stop use immediately and remove the battery from the charger or device.

4. Before using the battery, ensure the electrical connection contacts are clean to guarantee good contact and avoid affecting performance.
5. Disposed batteries shall be wrapped with insulating materials to cover the terminals, preventing safety hazards such as short circuits, smoking, or ignition.
6. Please follow the above precautions to ensure safe battery use. If problems or abnormalities occur, take appropriate measures or consult professionals promptly.

11. Quality Assurance

Per the company's policy, the maximum warranty period for the battery is 1 year, starting from the date of shipment. If our after-sales technicians confirm that the battery has inherent quality issues (excluding damage caused by user misuse, incorrect operation, self-disassembly, intentional damage, or external forces beyond our control), we will not charge for repairs. If assessment shows the defective battery cannot be repaired, we will provide the customer with a new replacement battery.

Therefore, if the battery you purchased has inherent quality issues within the warranty period, and our after-sales technicians confirm this, we will provide warranty service. Please provide the relevant purchase proof and detailed problem description—our after-sales team will follow up and resolve the issue.

If you have special needs for the product that exceed our repair policy, we recommend consulting our sales representatives at the time of purchase and signing a special warranty service agreement for this product. We will provide solutions that meet your needs and offer corresponding warranty services per the agreement. Please contact our sales representatives to discuss and confirm your special warranty requirements in detail.

12. Other Matters

1. Please read the product manual carefully before using the battery and operate it in accordance with the guidelines. Improper use may cause the battery to overheat, swell, ignite, or experience rapid performance degradation, and may even result in personal injury or property damage.
2. If you plan to use the battery in environments or application conditions beyond the specified scope, please contact us in advance. We need to conduct customized testing to verify the battery's performance and safety under such conditions.
3. Our company shall not be liable for any losses or accidents caused by using this product under conditions beyond the specified scope.
4. Unless agreed upon by both parties, the matters mentioned in this specification do not have legal effect.
5. Our company reserves the right to upgrade and adjust the product's performance or specification parameters without prior notice to customers.