



湖北亿纬动力有限公司

产品规格书

文件编号：LF100M-50160

版本：Rf

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产品名称： 方形铝壳磷酸铁锂电池

产品型号： LF100M

产品规格： 3.2V/100Ah

拟制： _____

审核： _____

批准： _____

客户确认：

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1 Scope of application

This standard describes the product types, basic performance, test methods and precautions of square aluminum-shell lithium iron phosphate batteries produced by Hubei Yiwei Power Co., Ltd. This product is suitable for energy storage systems, etc.

2 Product types

2.1 Product Name: Square Aluminum Lithium Iron Phosphate Battery

2.2 Model Specifications: LF100M

3. Nominal technical parameters

NO	ITEMS		SPECIFICATION	REMARK
1	Nominal capacity		100Ah	(25±2)°C, standard charge and discharge.
2	standard		3.2V	
3	Internal resistance (1KHz)		<0.5mΩ	
4	Standard charge and discharge	charge/discharge current	0.5C/0.5C	(25±2) °C
		Charge/discharge cut-off voltage	3.65V/2.5V	
5	Maximum charge/discharge current	Continuous charge/discharge	1C/1C	Refer to continuous/pulse charge and discharge ammeter
		Pulse charge/discharge (30s)	2C/2C	
6	Recommended SOC usage window		10%~90%	N.A.
7	Charging working temperature		0°C~55°C	Refer to continuous/pulse charge and discharge ammeter
8	Discharge working temperature		-20 °C ~55 °C	
9	storage temperature	Short term (within 1 month)	-20 °C ~45 °C	N.A.
		Long term (within 1 year)	0°C~35°C	
10	Storage humidity		<95%	
11	Monthly self-discharge rate		≤3%	(25±2)°C, 30%~50%SOC storage

NO	ITEMS		SPECIFICATION	REMARK
12	Size	Unfolded area width	160.0±0.5mm	Refer to Appendix 1
13		hemming area width	160.0±0.8mm	
14		thickness (30%-40%SOC 200kgf)	49.9±0.5mm	
15		Height (total height)	118.5±0.5mm	
16		Height (body height)	115.7±0.5mm	
17		Pole center distance	97.0±0.3mm	
18	battery weight		1.92 +0.05kg	
19	Envelope method		U-shaped envelope	

4. Test Conditions

4.1 Test environmental conditions

Temperature: (25±2)°C

Relative humidity: 15%~90%

Atmospheric pressure: 86KPa~106KPa

4.2 Standard charging

Under the condition of ambient temperature (25±2)°C, charge the battery with a constant current of 0.5C(A) to the charging limit voltage of 3.65V, and then charge it with a constant voltage until the current is less than 0.05C(A).

4.3 Standard discharge

Under the condition of ambient temperature (25±2)°C, discharge the battery with a constant current of 0.5C(A) to the final voltage of 2.5V.

5. Battery performance

5.1 Electrical properties

No	Item	Technical requirements	Test Methods
1	25 °C rate discharge performance	Discharge capacity/nominal capacity X100% A) 0.1C(A)>100% B) 0.33C(A)>100% C) 0.5C(A)>100%	After the standard charging of the battery, put it on hold for 0.5h, and discharge it to 2.5V at 0.1C(A), 0.33C(A), 0.5C(A), and 1.0C(A) respectively. If the discharge capacity does not meet the technical requirements, this Experiments were allowed to be repeated 3 times.
2	Discharge performance at different temperatures	Discharge capacity/nominal capacity x100% A) 55 °C 1C(A)>95% B) -20 °C 1C(A)>70%	A) After standard charging of the battery, put it on hold for 4h at 55±2°C, and discharge it to 2.5V at 1C(A); B) After standard charging of the battery, put it at -20±2°C for 4h, and discharge it to 2.0V at 1C(A).
3	25 °C charge retention and recovery capability	Capacity retention rate: Remaining capacity/nominal capacity≥95% Capacity recovery rate: Recovery capacity/nominal capacity≥97%	1) 1) After the standard charging of the battery cell, let it stand for 28 days at 25±2°C; 2) 2) After the storage is over, discharge the battery cell to 2.5V at 0.5C constant current at 25C, and let it stand for 30min; calculate the capacity retention rate; 3) 3) The cell is charged with 0.5C constant current and constant voltage at 25±2°C to 3.65V/0.05C cut-off, and let stand for 30min; 4) 4) The cells are discharged to 2.5V with a constant current of 0.5C under 25 watts, and let stand for 30min. Calculate the
4	25°C cycle life	22000 time @0.5C/0.5C	(25±2) °C, battery under 200kgf fixture: charge to 3.65V with 0.5C(A) constant current and constant voltage, cut-off current 0.05C(A), set aside for 30min, discharge with 0.5C(A) constant current to 3.65V 2.5V, set aside for 30min, and then perform the next cycle until the capacity decays to 80% of the nominal capacity.
5	35°C cycle life	>1600 time @0.5C/0.5C	(35±2) °C, battery under 200kgf fixture: charge to 3.65V with 0.5C(A) constant current and constant voltage, cut-off current 0.05C(A), set aside for 30min, discharge with 0.5C(A) constant current to 3.65V 2.5V, set aside for 30min, and then perform the next cycle until the capacity decays to 80% of the nominal capacity.

6	45°C cycle life	>1000 time @0.5C/0.5C	(45±2) °C, battery under 200kgf fixture: charge to 3.65V with 0.5C(A) constant current and constant voltage, cut-off current 0.05C(A), set aside for 30min, discharge with 0.5C(A) constant current to 3.65V 2.5V, set aside for 30min, and then perform the next cycle until the capacity decays to 80% of the nominal capacity.
7	End of Life Management	Capacity/nominal capacity < 70%	During the use of the battery, when the end-of-life regulations are exceeded, the battery should be stopped.

5.2 Safety performance

No	Item	Technical requirements	Test Methods
1	Overdischarge	No explosion, no fire	Reference: GB/T 36276-2018 "Lithium-ion batteries for power storage"
2	overcharge	No explosion, no fire	
3	short circuit	No explosion, no fire	
4	fall	No explosion, no fire	
5	heating	No explosion, no fire	
6	extrusion	No explosion, no fire	
7	low pressure	No explosion, no fire, no leakage	
8	Thermal runaway	No explosion, no fire	

6. Shipping

Batteries should be packed in boxes for transportation in the state of charge (30%~50% SOC), and should be protected from severe vibration, shock or extrusion during transportation, and protected from sunlight and rain.

7. Storage

The battery should be stored (over 1 month) in a clean, dry and ventilated room with an ambient temperature of 0°C to 35°C. The battery is charged and discharged every 6 months to store the state of charge (30%~50% SOC).

8. Precautions

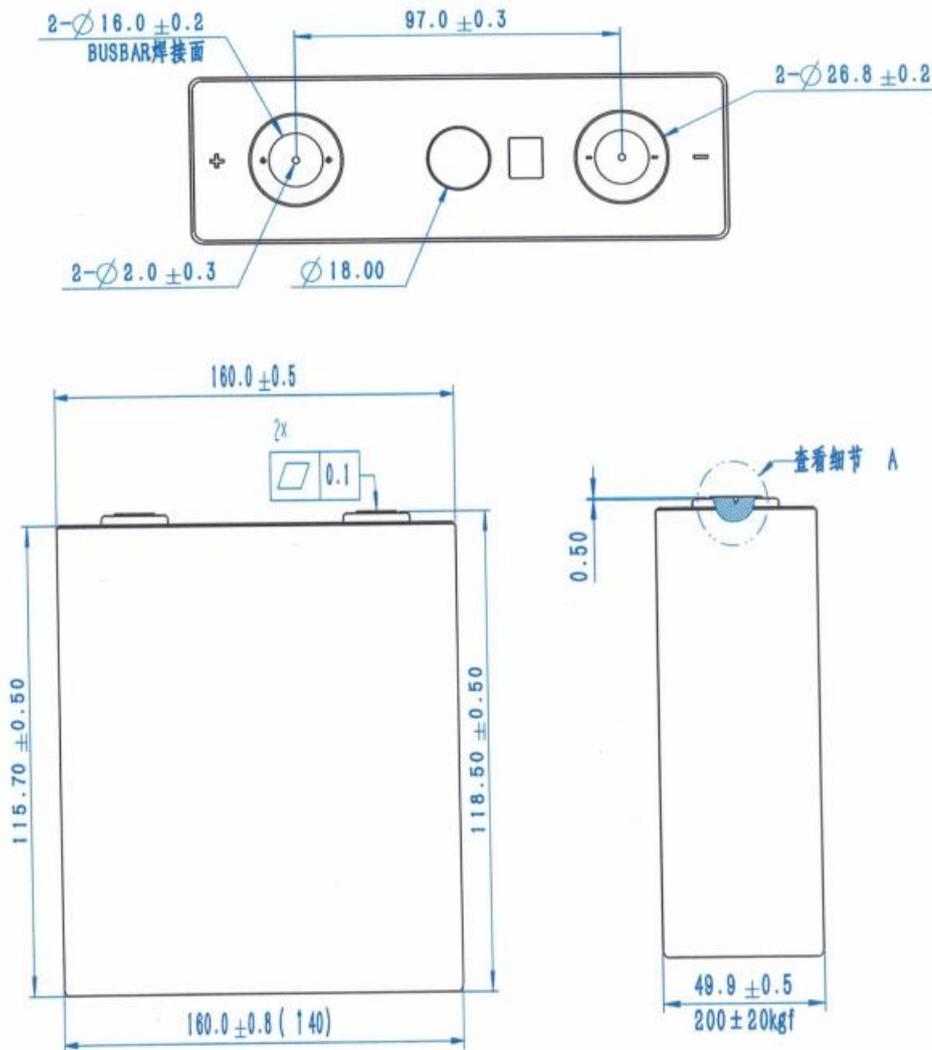
1. When charging and discharging the battery, ensure that the battery voltage, current and

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temperature are monitored and protected.

2. Please keep the battery away from heat sources, fire sources and other corrosive environments such as strong acid and strong alkali.
3. Do not short-circuit or install the battery with incorrect polarity at any time.
4. Do not mix batteries of different types or manufacturers.
5. Do not use external force to drop, impact or puncture the battery, and do not disassemble or change the external structure of the battery.
6. When the battery is not used for a long time, please keep the battery charge at 30%~50% SOC, and avoid direct sunlight or high temperature and high humidity environment.
7. When operating the battery, you need to wear protective equipment such as rubber gloves.
8. If the battery leaks, smokes or is damaged, please stop using it immediately and contact our company for handling.

Appendix 1: 2D diagram of battery



Appendix II: Battery Engraving Rules



Appendix 3: Appearance photos of the battery (the bottom can be optionally pasted with a bottom insulating sheet as needed)

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