

MODEL: G00102

1. Scope

Lithium battery for solar power recharge.



LIFEP04 BATTERY

Features:

Model No : G00102

Pack : 4S2P

Voltage : 12.8V

Capacity : 150Ah

Battery : Lithium

2. Rating

Item	Rating	Note
Nominal Capacity	150Ah	Discharge : 10A Cut-off Voltage:10V
Minimum Capacity	145Ah	Discharge : 10A Cut-off Voltage: 10V
Nominal Voltage	12.8V	
Energy	1920Wh	
Charge Voltage	14.6V	
Discharge cut-off voltage	10V	
Charge Method	CC/CV	
Standard Charge Current	10A	
Max. Charge Current	18A	
Standard Discharge Current	10A	C
Max. Continuous Discharge current	18A	
Peak Discharge Current	52A	<400mS
Cycle Life	≥2000 times	≥80%
Internal Impedance	≤30mΩ	
Dimension	Max. 106×198x345mm	
Output Wire	AWG14	Red/Black,L=510±20 mm
Output Connector	N/A	
Weight	Approx.21.5kg	
Working Temperature Range	Charge: 0°C--45°C Discharge: -20°C--60°C	
Storage Temperature	-10°C--45°C	
Storage Humidity	65±20%	

3. Protection Circuit

3.1 PCB Parameter

No.	Item	Standard	
1	Charge Current	15-18A	
2	Discharge Current	15-18A	
3	Balance	Balance Voltage	3.55-3.65V
		Balance Current	38-49mA
4	Overcharge	Over-Charge Detect Voltage	3.85±0.05V
		Over-Charge Delay Time	0.5S—2.0S
		Over-Charge Reset Voltage	3.65±0.10V
5	Over-discharge	Over-Discharge Detect Voltage	2.30±0.10V
		Over-Discharge Delay Time	0.5—2.0S
		Over-Discharge Reset Voltage	2.50±0.08V

6	Over-current	Over-Current Detect Current	45-60A
		Over-Current Delay Time	300±500ms
		Reset	Release load
7	Short Circuit	Detect Status	External Short Circuit
		Delay Time	300-700us
		Reset	Release load
8	Resistance		≤15mΩ
9	TCO		85°C
10	Code	B01-04-010	

4. Appearance

It shall be free from any defects such as remarkable scratches, breaks, cracks, discoloration, leakage, or deformation, and it shall be clean and have equality and product value.

5. Performance

5.1 Standard Test Condition

The battery shall be evaluated within 1 month from the arrival date.

Unless otherwise stated in these specifications, the following test shall be carried out in an ambient temperature of 20±5°C, relative humidity of 65±20%

Discharge capacity when the battery is discharged at 10A to 10V after being standard charged. Five cycles are permitted for this test. The test shall be terminated at the end of the first cycle which meets the requirement.

5.2 Testing Instrument or Apparatus

5.2.1 Dimension Measuring Instrument

The dimension measurement shall be implemented by instruments with equal or more precision scale of 0.01mm specified.

5.2.2 Voltmeter and Ammeter

Voltmeters and ammeters shall be equal or more precision instruments of 10KΩ/V and 0.01Ω.

5.2.3 Impedance Meter

Impedance shall be measured by a sinusoidal alternating current method (1kHz LCR meter)

5.3 Standard Charge

Standard charge means charging for 11hours using 14.6V/10A charger

5.4 Standard Discharge

Standard discharge means discharging at 10A down to 10V

5.5 Electrical Performance

Item	Condition	Specification
Open-Circuit Voltage	The open-circuit voltage shall be measured within 24hours after standard charge	≥14V
Internal Impedance	The impedance shall be measure in an alternating current method (1kHz LCR meter) after standard charge at 20±5°C	≤33mΩ
Battery Capacity	The discharge time at 10A shall be measured after standard charge at 20±5°C and rest 30mins	≥600min
Charge/Discharge Cycle	The discharge time on standard discharge shall be measured after 1200 cycles of standard charge and discharge at 20±5°C	≥480min(10A)
Charge(capacity) retention	The discharge time at 10A shall be measured after standard charge and then storage at 20±5°C for 28days	≥480min
Temperature Characteristic1	After standard charging at 20±5°C, laying the battery at 55°C for 4hour, then discharge at 10A to 10V, record the discharge time	≥480min
Temperature Characteristic2	After standard charging at 20±5°C, laying the battery at -10°C for 4hour, then discharge at 10A to 10V, record the discharge time	≥420min

6. Mechanical Performance

Item	Condition	Specification
Crush Test	A battery is to be crushed between two flat surfaces. The force for the crushing is to be applied by a hydraulic ram with a 32mm diameter piston. The crushing is to be continued until a pressure reading of 17.2mmPa is reached on the hydraulic ram, applied force of 13kN. Once the maximum pressure has been obtained it is to be released.	No fire, No explosion
Drop Test	The battery has only two axes of symmetry in which case only two directions shall be tested. The battery is to be dropped from a height of 1 meter twice onto concrete ground.	No explosion, No fire, No smoke
Vibration	A full-charged battery is to be subjected to simple harmonic motion with an amplitude of 1.6mm total maximum excursion. The frequency is to be varied at the rate of 1 hertz per minute between 10 and 55 hertz. The cell shall be vibrated for 30 minutes per axis o XYZ axes.	No leakage, No Fire, No explosion

7. Safety Performance

Item	Condition	Specification
Over charge	At 20±5°C, charging battery with constant current 1C to voltage 16V, then with constant voltage 16V till current decline to 0.	No explosion, No fire
Over discharge	At 20±5°C, the cell are fully charged with standard charging method and standby at least 1hour. The cell should be discharged at a current of 1C for 2.5h.	No explosion, No fire
Short-circuit	At 20±5°C, The cells are fully charged with standard charging method and standby at least 1hour. Positive and negative terminal connect with wire (maximum load of 50mΩ) to cause short circuit until its voltage is lower than 0.1V or cell temperature on the surface is back to room temperature ±10°C.	No explosion, No fire The temperature of the surface of the cell are lower than 150°C
Heating	Battery is heated in a circulating air oven at a rate of 5±2°C per mins to 130°C, an then placed 30 mins at 130°C	No explosion, no fire

8. Delivery Condition

Approx. 50% charged
Shipment voltage:12.8-14.4V

9. Period of Warranty

The period of warranty is three year from the date of shipment. Our product guarantees to give a replacement in case of battery with defects proven due to manufacturing process instead of the customer abuse and misuse.

10. Warnings

To prevent the possibility of the battery from leaking, heating, fire, Please READ this specification carefully before usage and observe the following precautions:

- Ⓞ When recharging, use the LiFePO4 battery charger specifically for that purpose
- Ⓞ Do not strike battery with any sharp edge parts, such as Ni-tabs, pins and needles
- Ⓞ Do not immerse the battery in water and seawater
- Ⓞ Do not use and leave the battery near a heat source as fire or heater
- Ⓞ Do not reverse the position and negative terminals
- Ⓞ Do not connect the battery to an electrical outlet
- Ⓞ Do not discard the battle in fire or heat it

- ©The battery tabs are not so stubborn especially for aluminum tab. Do not bend tab.
- ©Do not short-circuit the battery by directly connecting the positive and negative terminal with metal object.
- ©Do not transport and store the battery together with metal objects such as necklaces, hairpins etc.
- ©Do not directly solder the battery and pierce the battery with a nail or other sharp object.

11. Battery operation instruction

11.1 Charging

Charging current: Do not surpass the biggest charging current which in this specification。

Charging voltage: Do not surpass the highest voltage which in this specification。

Charge temperature: The charge temperature is in according to this specification。

11.2 Discharging

Discharge current: Do not surpass the biggest discharge current which in this specification.

Discharge voltage: Do not be less than the lowest voltage which is in this specification.

Discharge temperature: The discharge temperature is in according to this specification,

11.3 Over-discharges

After the short time excessively discharges charges immediately cannot affect the use, but the long time excessively discharges can cause the battery the performance, battery function losing. The battery long-term has not used, has the possibility to be able to be at because of its automatic flashover characteristic certain excessively discharges the condition, for prevented excessively discharges the occurrence, the battery should maintain the certain electric quantity.

11.4 Storing the Batteries

The battery should store in the product specification book stipulation temperature range. If has surpasses above for six months the long time storage, suggested you should carry on additional charge to the battery.

11.5 Please do not continuously charge the battery over 8hours.

12. Others

©The customer is requested to contact with advance, if and when the customer needs other applications or operating conditions than those described in this document. Additional experimentation may be required to verify performance and safety under such conditions.

©We will take no responsibility for any accident when the battery is used under other conditions than those described in this Document.

©We will inform, in a written form, the customer of improvement(s) regarding proper use and handling of the battery, if it is deemed necessary.