Lithium-Iron Rechargeable Battery Specification

Product Name

Lithium Iron Rechargeable Battery

Model Number

XC76V100Ah

Prepared by :	Li Lin
Checked by :	Liu Jian
Approved by :	Wang Haihua

Introduction

This specification mainly describes the relevant reference technical indexes and requirements of 76V100Ah battery.

Description and Model

Basic Characteristics

No.	Item	Specification
1	Cell Model	60150
2	Array mode (Series Connection of Battery Packs)	24S2P
3	Nominal Capacity	100Ah (Standard 0.2C charge and 1C discharge)
4	Rated Energy	7680Wh
5	Nominal Voltage	76.8V
6	Initial AC Impedance	≦24mΩ (at 1kHz after standard charge)
7	Charging Limit Voltage	87.6V
8	Discharging Cut-off Voltage	60V
9	Standard Charging Method	20A
10	Standard Discharging Method	80A
11	Maximum Continuous Charging Current	20A
12	Maximum Continuous Discharge Current	80A
13	Cycle Life	≥2000
14	Transient Discharge Current	105A(30S)
16	Net Weight (Kg)	≈56 Kg
	Gross Weight (Kg)	≈57 Kg
17	Operating Temperature	Charging: -10 °C ~ 60 °C Discharging: -30 °C ~ 60 °C
18	Storage Temperature	3months: 0°C ~ 35°C 1 year: 0°C ~ 25°C
19	Relative Humidity	80%
20	Delivery Voltage	≥75-77V
21	Water Proof Grade	IP65
22	Charge Retention and Capacity Recovery Capability	Standard charge the battery, and then put aside at room temperature for 28d or 50°C for 7d, Charge retention rate ≥90%, Recovery rate of charge≥90%

Environmental Characteristic

No.	Item	Testing Instruction	Requirement
1	Vibration Test	The battery will be vibrated 30 minutes in three mutually perpendicular directions and changing frequency between 10 to 55Hz. The rate of scanning frequency is from 10 Hz to 55 Hz with the rate of 1Hz per min. Vibration frequency: 10-30Hz amplitude: 0.38mm vibration frequency: 30-55Hz amplitude: 0.19mm	The battery shall not rupture, smoke, explode or leak. Battery electric voltage 60-87.6V.
2	Constant Temperature/ Humidity Test	After the battery is fully charged, place it in a constant temperature and humidity chamber at 40°C±2°C with a relative humidity of 90%-95% and leave it for 48 hours. After the experiment, place the battery in an environment with a temperature of 20°C ±5°C and leave it for 2 hours to visually inspect the appearance of the battery. Current at a constant current of 0.5C to the terminal voltage.	Appearance of the battery shall not rust, smoke or explode. Discharge Capacity ≥80%
3	High Temperature Performance Test	Keep the battery at a hot oven with 60±2°C for 2 hrs, then measure the capacity with constant discharge current 0.5C to discharge protection point after complete charge. After the test, keep the battery at 20±5°C for 2 hrs.	Appearance of the battery shall not rust, smoke or explode Discharge Capacity >90%
4	Low Temperature Performance Test	Keep the battery at -20±2°C for 20 hrs, then measure the capacity with constant discharge current 0.5C to discharge protection point after complete charge. After the test, keep the battery at 20±5°C for 2 hrs.	Appearance of the battery shall not rust, smoke or explode Discharge Capacity >55%
5	Over-charge Test	Charging current: 1C Charging duration: 90 minutes stop condition: Terminate the test when either of the following is met:1. Charging duration reaches 90 minutes2. The voltage of any single cell reaches 3.65V.	The battery shall not explode or catch fire
6	Over-discharge Test	Charge the battery. Place at 20±5°C for 1h , then discharge in 1/3C current at same temperature until some cell ’s voltage is 0V.	The battery shall not explode or catch fire
7	Short-circuiting Test	After charge batteries, place at 20±5°C for 1h. Short the battery for 10min, the external circuit resistance should be less than 5mΩ.	The battery shall not explode or catch fire

BMS Specification

No.	Item	Specification
1	Model	100A
2	Charge Method	CC->CV
3	Charge Current	20A
4	Continuous Discharge Current	80A
5	Over Voltage Protection Threshold	3.65V±0.05
6	Over Voltage protection Release Conditions	3.55V±0.05
7	Under Protection Voltage Threshold	2.5V±0.05
8	Under Voltage Protection Release Conditions	2.65V±0.05
9	Over Current Protection (Discharge)	100±5A, 30S

Product appearance and size

No.	Item	Specification	Remark
1	Battery Size	L406*W390*H257 (mm)	The left side is the negative pole, and the right side is the positive pole
2	Output Line	Terminal 80A + GX12-5	
3	Small Wooden Case Size	L465*W465*H340 (mm)	

