ADD:9th Floor , Block B, Hongrongyuan North Station Center, No. 328, Mintang Road, Longhua District, Shenzhen,China,518110
Tel:86-755-86670672 Fax:86-755-86670609 Website:www.pkcell.com

Lithium Iron Phosphate Battery Specification

Customer _____

Part name Lithium Iron Phosphate Battery

Model No PK-12.8V 200Ah

Serial No _____

Produce No _____

Approved by		**Drafted by**	Xiaojun Nie
Checked by		**Signed by**	Wenfei Liang
Prepared by		**Date**	2023-12-27

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Product Modified Record List

Revision	Date	Modified Content	Corrected person
A1	2023-12-27		

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1.SCOPE

This specification is applied to the reference battery in this Specification and manufactured by ShenZhen PKCELL Battery Co., Ltd.

2.Specification

Electrical Characteristics	Nominal Voltage	12.8V
	Nominal Capacity	200Ah@0.5C
	Energy	2560Wh
	Internal Resistance	≤20mΩ
	Cycle Life	2000 Cycles @ 0.2C 100%DOD
	Charge retention and capacity Recovery capability	Standard charge the battery, and then put aside at room temperature for 28d or 55 ℃ for 7d, Charge retention rate ≥90%, Recovery rate of charge≥90
Standard Charging	Max.Charging Voltage	14.2-14.6V
	Charging Mode	0.2C to 14.6V, then 14.6V,charge current to 0.02C (CC/CV)
	Charging Current	40A
	Max.Charging Current	100A
Standard Discharging	Discharging Current	40A
	Max. Continuous Current	100A
	Discharging Cut-off Voltage	10.0V
Operating Condition	Charge Temperature	0℃ to 45℃(32℉ to 113℉) @60±25% Relative Humidity
	Discharge Temperature	-20℃ to 60℃(-4℉ to 140℉) @60±25% Relative Humidity
	Storage Temperature	0℃ to 45℃(32℉ to 113℉) @60±25% Relative Humidity
	Water Dust Resistance	IP65
	Casing	Plastic
	Dimension(L*W*H)	522*240*218mm
	Weight	Approx：21.5Kg
	Terminal	M8

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3.BMS function introduction

The BMS have all functions which are :
Overcharge detection function/Over discharge detection function/Over current detection function/Short detection function/Temperature detection function/Balance function.

BMS Protect parameter

Items	Details	Standard
Cell overcharge protection	Overcharge detection voltage	3.65±0.05V
	Overcharge release voltage	3.55±0.05V
Cell over-discharge protection	Over-discharge detection voltage	2.3±0.1V
	Over-discharge release voltage	2.7±0.1V
Over-current protection	discharge Over-current protection current 1	450±150A
	discharge Over-current protection current 2	900±300A
Short protection	Short protection current	1000-2000A
	Protection condition	Load short
	Protection release condition	Disconnect the load
Temperature(T) protection	Charge high T protection	70±5℃
	Charge high T recover	65±5℃
	Discharge high T protection	70±5℃
	Discharge high T recover	60±5℃
	Charge low T protection	0±5℃
	Charge low T recover	5±5℃
	Discharge low T protection	-20±5℃
	Discharge low T recover	-10±5℃
Balance	Balance threshold voltage	3.5±0.05V

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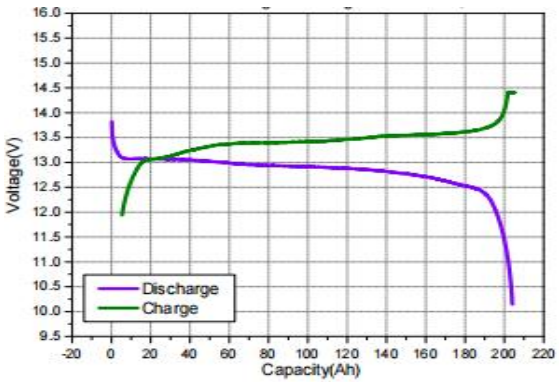
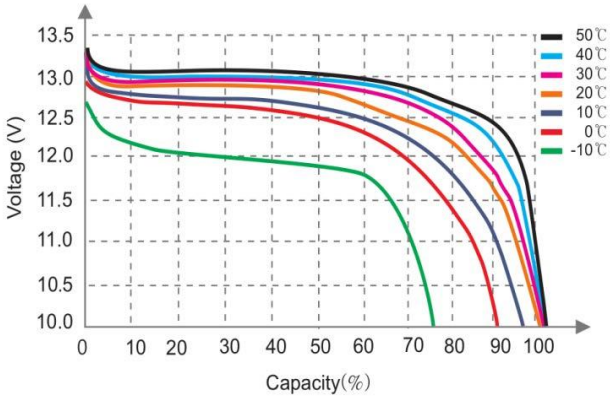
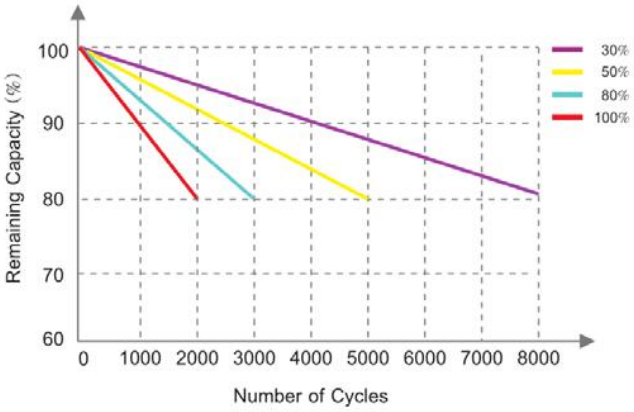
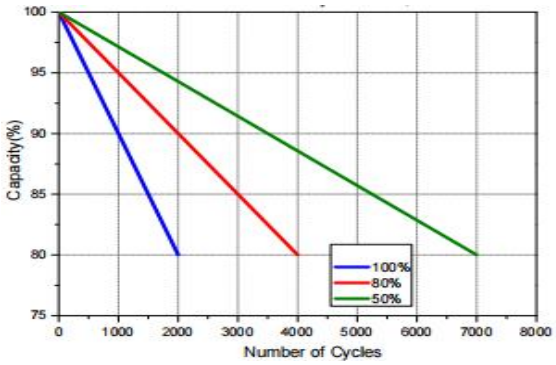
4. Discharge performance graph









5.Safe Characteristic

No.	Item	Testing Instruction	Requirement
1	Over- charge test	Charge in accordance with the following two ways (Choosing one between the two). (1)Charge at 1C current for 90min or until voltage of some single battery reaches 5.0V (stop test when fulfills either condition). (2)Charge at 3C current until the voltage of some single battery reaches 10.0V, then stop the test.	The battery shall not explode or catch fire
2	Over- discharge test	Charge the battery. Place at 20±5℃ for 1h, then discharge in 1/3C current at same emperature until some cell's voltage is 0V.	The battery shall not explode or catch fire
3	Short- ircuiting Test	After charge batteries, place at 20±5℃ for 1h. Short the battery for 10min, the external circuit resistance should be less than 5mΩ.	The battery shall not explode or catch fire

 If manufacturer want to modify the product technology specification, we won't inform you additionally)

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6. 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 55Hz 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 12.8V
2	Constant Temperature/ Humidity Test	Keep the battery at 40±2℃ and 90%-95%RH for 48 hrs after complete charge. After the test, keep the battery at 20±5℃ for 2 hrs. Discharge at 10A constant current discharge to the termination 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 55±2℃ 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℃ 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℃ 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℃ for 2 hrs.	Appearance of the battery shall not rust, smoke or explode Discharge Capacity >55%

7.Storage conditions

When the battery pack to be long-term stored, charge the battery pack to about 60% capacity, store in dry and ventilated place, Charge it every 3 months.

The battery pack and charger should be stored in clean, dry and ventilated place, avoid contacting with corrosive materials and be away from fire and heat.

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8.Battery Handling Precautions

Don't disassemble the battery.
Don't discard the battery in fire or heater.
Don't connect the positive and negative terminal directly with metal objects.
Don't immerse the battery in water.
Don't use of damaged battery.
Don't connect the battery to an electrical outlet directly
When charging, use a battery charger specifically for that purpose.
The battery replacement shall be done only by either cells supplier or device supplier and never be done by the user.

9.Dimension

Unit: mm
Range: ±1.5mm

……..END……..

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