



LiFePO₄ Battery Specification

磷酸铁锂电池规格书

Customer No 客户编号: _____

Product ID 产品编号: _____

Product Name 产品名称: LF1220N-H

Specification Model 规格型号: 12.8V20Ah

Checked & Approved by 批准	Prepared by 编制	Date 日期
邓雄华	张祥辉	

Customer Approved 客户承认 (Stamp) (盖章)	Test by 测试	Checked by 审核	Approved by 批准

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Revision History 修改记录

Edition 版本	Description 记述	Prepared by 编制	Approved by 批准	Date 日期
A0	First Edition 首次版本			2026/04/20



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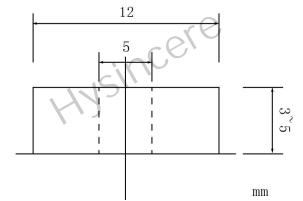
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1. Scope 概述

This specification applies to the rechargeable lithium iron phosphate battery pack manufactured by Shenzhen Hysincere Battery Co., Ltd.

此规格书适用于深圳市海芯电池有限公司制造的可充电磷酸铁锂电池组。

2. Port definitions 端口定义



3. Product Dimension 产品尺寸



4. Battery Pack Specifications 电池组规格

No. 序号	Item 项目	Rated Performance 产品性能		Remark 备注
1.	Cell Model 组合方式	4S1P		
2.	Communication Function 通讯功能	/		
3.	Way to work 工作方式	Use alone or in parallel		
4.	Rated Capacity 额定容量	Typical 标称容量	20Ah	23±2°C Discharge at 0.5C ₅ A after standard charge fully. 23±2°C 标准充电后 0.5C ₅ A放电
		Mini Capacity 最小容量	19.5Ah	
5.	Nominal Voltage 标称电压	12.8V		
6.	Discharge cut-off voltage 放电终止电压	10V		
7.	Charging Voltage 充电截止电压	14.6V		
8.	Internal resistance 内阻	≤45mΩ		AC Impedance, 1KHz AC 1KHz 交流阻抗
9.	Standard Charge 标准充电	Constant current 0.5C ₅ A charge to 14.6V,Then constant voltage 14.6V to current below 0.05C ₅ A cutoff. 恒流 0.5C ₅ A充电至 14.6V, 然后恒压 14.6V至电流低于 0.05C ₅ A截止。		Charge time: Approx 3.0h. 充电时间约 3.0 小时 0.5C ₅ A =10A
10.	Standard Discharge 标准放电	Constant Current 0.2C ₅ A end voltage 10V 恒流 0.2C ₅ A 放电至 10V		0.2C ₅ A =4A
11.	Fast Charge 快速充电	Constant current 1.0C ₅ A charge to 14.6V,Then constant voltage 14.6V to current below 0.05C ₅ A cutoff. 恒流 1.0C ₅ A充电至 14.6V, 然后恒压 14.6V至电流低于 0.05C ₅ A截止。		Charge time : Approx 1.5h. 充电时间约 1.5 小时
12.	Fast Discharge 快速放电	Constant Current 1.5C ₅ A end voltage 10V 恒流 1.5C ₅ A放电至 10V		
13.	Maximum Continuous Charge Current 最大持续充电电流	20A		



深圳市海芯电池有限公司

SHENZHEN HYSINCERE BATTERY CO.,LTD.

14.	Maximum Continuous Discharge Current 最大持续放电电流	30A	
15.	Discharge Pulse Current 放电脉冲电流	40A	< 5S
16.	Operation Temperature Range 工作温度范围	Charge: 0~55°C 充电: 0~55°C	60±25% RH.
		Discharge: -20~60°C 放电: -20~60°C	
17.	Weight 重量	Approx:2.12Kg 约: 2.12Kg	
18.	Product Dimension 产品尺寸	Height: 181±5mm 高度: 181±5mm	
		Width: 77±5mm 宽度: 77±5mm	
		Thickness: 169±5mm 厚度: 169±5mm	
19.	Energy Extension 能量扩展	Max. 4 units in parallel 最大支持 4 个单元并联 Max.Support up to 2 units in series 最大支持 2 个单元串联	The pressure difference of the battery should be less than 500mV when connected in parallel. 电池并联压差小于 500mV When used in series, the voltage of each unit should be consistent, otherwise it will affect the overall capacity 串联使用时各单元电压应一致, 否则将影响整体容量
20.	Ingress Protection 防护等级	IP67	
21.	Over charge protection voltage 过充保护电压	3.65V*N	
22.	Over discharge protection voltage 过放保护电压	2.30V*N	
23.	Charge over current protection current 充电过流保护电流	20~30A	
24.	Discharge over current protection current 放电过流保护电流	60~70A	
25.	Short protection 短路保护	YES	
26.	Active Balance Current 平衡电流	25~45mA	

27.	Charge low temperature protection 充电低温保护	0°C±5°C	
28.	Charge high temperature protection 充电高温保护	50°C±5°C	
29.	Discharge low temperature protection 放电低温保护	-20°C±5°C	
30.	Discharge high temperature protection 放电高温保护	70°C±5°C	
31.	Heating method 加热方式	/	
32.	Cycle Life 循环寿命	4000 cycles ≥ 80% 4000 次 ≥ 80%	0.5C ₅ A charging/0.5C ₅ A discharging, 100%DOD 0.5C ₅ A 充/0.5C ₅ A 放, 100%DOD
33.	Appearance 外观	There shall be no such defects as flaw, crack, rust, leakage, which may adversely affect commercial value of battery. 外观整洁, 电池无破损, 无污渍, 露液和腐蚀。	
34.	Discharge capacity at different temperatures: See the table below. 不同温度放电容量表现: 见下表		

Battery shall be charged per 5.3.1. and discharged @ 0.2C₅A to 10V at different temperatures, the discharge capacities are as shown in below . The battery shall be stored for 3 hours at the test temperature before test. Each battery shall meet or exceed the discharge capacities as shown in below .

以标准电流充电后, 电池以 0.2C₅A 放电到 10V, 电池在各种温度条件下的放电数据如下表。测试前电池要在测试温度环境中静置 3H, 然后再进行放电测试。测试后的数据应达到或超过下表数据。

Discharge Temperature 放电环境温度	-20°C	-10°C	0°C	10°C	23°C	55°C
Discharge Capacity (0.2C ₅ A) 放电容量 (0.2C ₅ A)	60%	65%	70%	80%	100%	95%

5. Period of Warranty 保质期

The warranty period is 5 years. During this period, if the battery experiences performance issues under the usage environment, parameter range, and operating specifications stated in this specification, we will repair or replace it; we are not responsible for warranty claims for product defects caused by use outside the conditions specified in the specification.

电池出厂后, 有 5 年的保质期。在此期间内, 正常使用情况下, 性能表现不良者给予维修或更换。但是如果是除电池外的其它原因导致的不良, 我们将不负责任。