广州长本电池科技有限公司

Guangzhou CBB Battery Technology Co., Ltd

51.2V100AH Lithium Phosphate Iron Battery Specifications

Model No.: BES512100



Prepared By/Date 编 制/日 期	Checked By/Date 审 核/日 期	Approved By/Date 批 准/日 期
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	Company Stamp(公司印章)

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1 Scope（适用范围）

Applicable to the batteries mentioned in this book.

适用于本书中所提及的电池。

2 Product Specification（产品技术规格）

Table 1 (表 1)

No. (序号)	Item （项目）	General Parameter (常规参数)		Remark （备注）
1	Rated Capacity （额定容量）	Typical （标称容量）	100Ah	20A0.2C standard charging, 50A0.5C standard discharge 20A0.2C 标准充电 50A0.5C 标准放电
		Energy （能量）	5120Wh	
2	Nominal Voltage （标称电压）	51.2V		Mean Operation Voltage （即工作电压）
3	Voltage at end of Discharge （放电终止电压）	43.2V ±0.5V		Discharge Cut-off Voltage （放电截止电压）
4	Battery limit voltage (充电限制电压)	58.4V±0.5V		Recommended charging voltage（推荐电压）：56.8V
5	Internal Impedance (内阻)	≤20mΩ		Internal resistance measured at AC 1KHz after 50% charge （半电态下用交流法测量内阻） The measure must uses the new batteries that within one week after shipment and cycles less than 5 times (使用出货后不到一个星期及循环次数少于 5 次的新电池测量)
6	Standard charge （标准充电）	Constant Current20A Constant Voltage 58.4V （持续电流：20A 持续电压：58.4V）		Charge time : Approx 5h （充电时间：大约 5 小时）
7	Standard discharge （标准放电）	Constant current 50A end voltage43.2V±0.5V （持续电流：50A 截止电压：43.2V±0.5V		Discharge time is approximately 2H 放电时间约为 2 小时
8	Fast charge (快速充电)	Constant Current 50A Constant Voltage 58.4V （持续电流：50A 持续电压：58.4V		Charge time : Approx 2h （充电时间：大约 2 小时）

Continuous the table 1 (续 表 1)

No. (序号)	Item （项目）	General Parameter (常规参数)	Remark （备注）
9	Maximum Continuous Charge Current (最大充电持续电流)	100A	1.0C
10	Maximum Continuous Discharge Current （最大放电持续电流）	100A	1.0C
11	Operation Temperature Range （工作温度范围）	Charge（充电）: 0~45℃	60±25%R.H. Battery （电池储存湿度范围）
		Discharge（放电）: -20~60℃	
12	Storage Temperature Range （储存温度范围）	Battery storage ambient temperature（-10℃~45℃） 电池储存环境温度（-10℃~45℃）	60±15%R.H. at the shipment state （出货状态时的湿度范围）
		Charge quantity30%~50% 荷电量 30%~50%	
13	Weight （重量）	≈43Kg	

3.1 Appearance（外观）

There shall be no such defect as flaw, crack, rust, leakage, which may adversely affect commercial value of battery.

电池外观应没有划伤、破裂、污渍、生锈、漏液等影响市场价值的缺陷存在。

3.2 Initial Performance Test（初始性能测试）

Table 2（表 2）

Item （项目）	Test Method and Condition （测试方法及条件）	Requirements （要求）
1、Li-ion BatteryVoltage 电池组电压	As of shipment 出货电压	≥52V
（2）Open-Circuit Voltage （开路电压）	The open-circuit voltage shall be measured within 24 hours after standard charge. （标准充电后 24 小时内测量开路电压）	≥52V
（3）Internal impedance (初始内阻)	Internal resistance measured at AC 1KHz after 50% charge. （半充电状态下，测量其 AC 1KHz 下的交流阻抗）	≤20mΩ
（4）Minimal Rated Capacity (最小额定容量)	After standard charging, let it stand for 30 minutes and measure the capacity released by discharging 50A to a cut-off voltage of 43.2V (标准充电后，搁置 30min，测量 50A 放电至 43.2V 截止电压所放出的容量)	**≥100Ah**

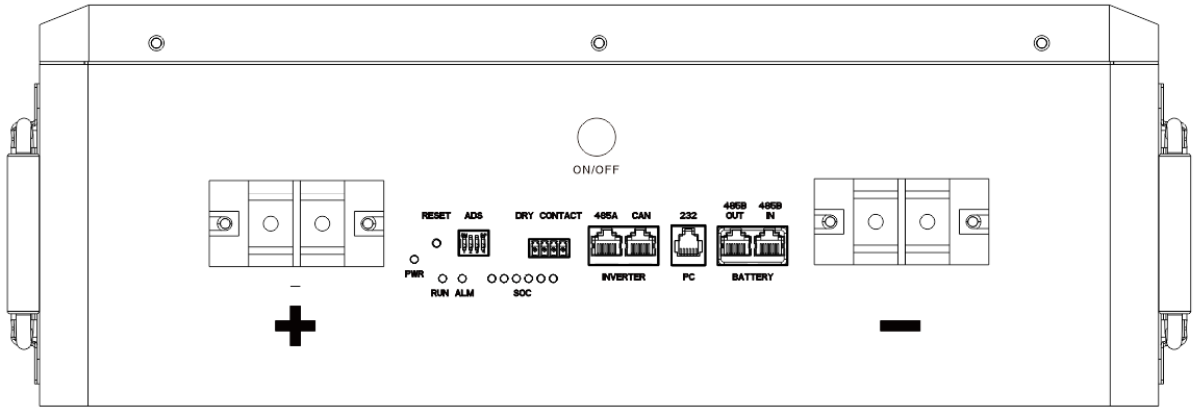
3.3 cycle life（循环寿命）

No. （序号）	Item （项目）	Criteria （标准）	Test Conditions （测试条件）
1	Cycle Life 循环寿命 (100Ah)	Higher than 80% of the Initial Capacities of the Cells （初始容量的 80%）	Carry out 6000cycle Charging/Discharging in the below condition. ◆Charge:Standard Charge ◆Discharge: Standard discharge ◆Rest Time between charge/discharge:30min. ◆Temperature:20±5℃ 循环 6000 次 充放电按以下条件： ◆充电: 标准充电 ◆放电: 标准放电 ◆搁置:30min. ◆温度:20±5℃

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端口定义图(Interface Diagram）



4. Overall Dimension Drawing（外形尺寸图）

1、电池系统长×宽×高=470mm*455mm*163mm±2mm（见图 II）

battery system length x width x height =470mm*455mm*163mm±2mm(II)

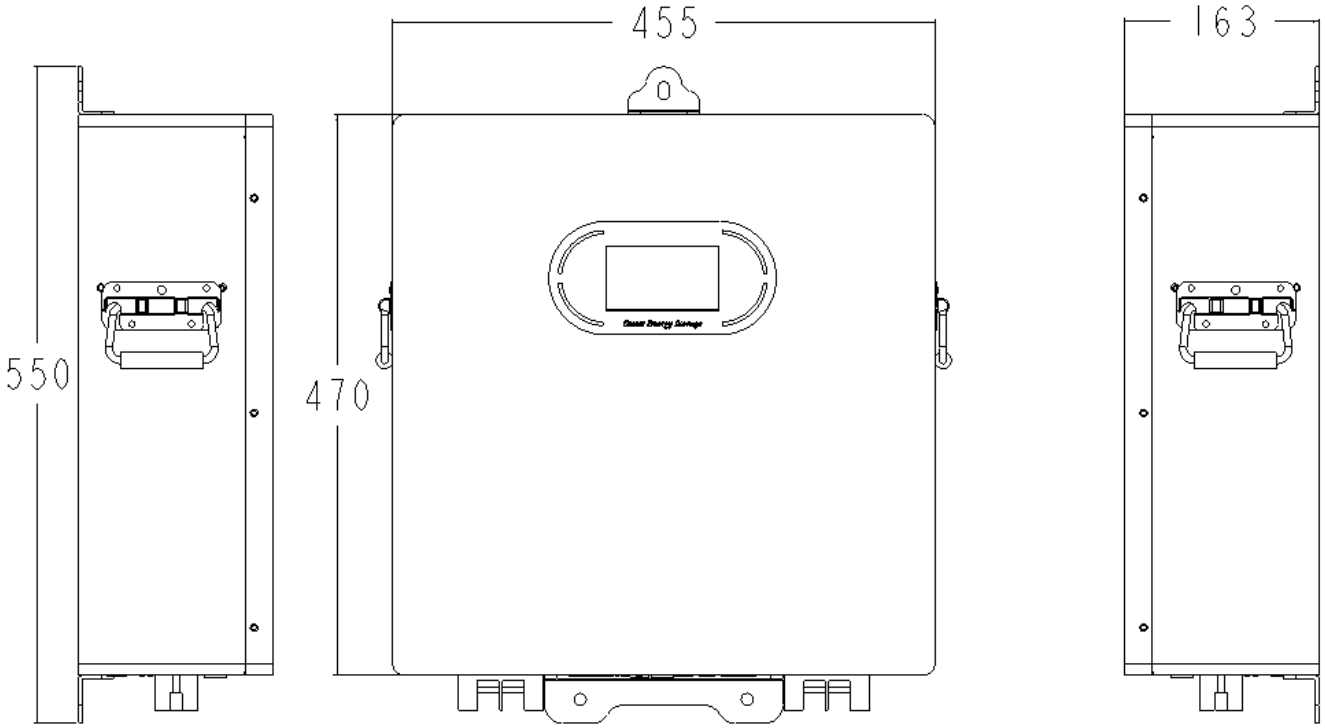


图 II

see figure II

5.Handling of Cells （电池操作注意事项）

5.1.Prohibition of disassembly （禁止拆卸）

1) Never disassemble the cells

The disassembling may generate internal short circuit in the cell, which may cause gassing, firing, explosion, or other problems.

2) Electrolyte is harmful

LI battery should not have liquid from electrolyte flowing, but in case the electrolyte come into contact with the skin, or eyes, physicians shall flush the electrolyte immediately with fresh water and medical advice is to be sought.

1、不要拆卸电池。

拆卸电池会发生电池内部短路，会引起起火、爆炸、有害气体或者其它问题。

2、电解液是有害的

万一电解液沾到皮肤、进入眼睛，应立即用清水冲洗以及求助医生。

5.2 Prohibition of dumping of cells into fire（不要把电池倾倒于火中）

Never incinerate nor dispose the cells in fire. These may cause explosion of the cells, which is very dangerous and is prohibited.

不要焚毁电池，否则会致电池爆炸，这个很危险，必须禁止。

5.3 Prohibition of cells immersion into liquid such as water（禁止浸泡电池）

The cells shall never be soaked with liquids such as water, seawater, drinks such as soft drinks, juices, coffee or others.

请不要把电池浸泡在液体当中，像清水、海水，及非酒精饮料、果汁、咖啡或者其它的饮料。

5.4 Battery cells replacement（更换电池）

The battery replacement shall be done only by either cells supplier or device supplier and never be done by the user.

更换电池应由电池生产商或设备供应商完成，用户不要自行更换。

5.5 Prohibition of use of damaged cells（禁止使用损坏的电池）

The cells might be damaged during shipping by shock. If any abnormal features of the cells are found such as damages in a plastic envelop of the cell, deformation of the cell package, smelling of an electrolyte, an electrolyte leakage and others, the cells shall never be used any more.

The Cells with a smell of the electrolyte or a leakage shall be placed away from fire to avoid firing or explosion.

电池可能在出货途中碰撞而受损。如果发现电池有异常，例如包装损坏、电池包裹变形，有电解液的味道、发现漏液等等，不要再使用这些电池。

电池如果有电解液的味道或者出现漏液，电池放置应该远离火源避免起火及爆炸。

6.Period of Warranty（保质期）

The delivery period from battery date for If the battery is proved in manufacturing process defect formation rather than the user abuse and error caused by use of this company is responsible for replacement battery.

电池的保质期从出货之日算起。如果证明电池的缺陷是在制造过程中形成的而不是由于用户滥用及错误使用造成，本公司负责退换电池。

7.Storing the Batteries （电池的存放）

The batteries should be stored at room temperature, charged to about 30% to 50% of capacity.

We recommend that batteries be charged about once per half 3 months to prevent over discharge.

电池应当在室温下存放，应充到 30%至 50%的电量。如长时间储存，建议每三个月充一次电以防止电池过放电。

8.Other The Chemical Reaction（其它的化学反应）

Because batteries utilize a chemical reaction, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, if the various usage conditions such as charge, discharge, ambient temperature, etc. are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage. If the batteries cannot maintain a charge for long periods of time, even when they are charged correctly, this may indicate it is time to change the battery.

由于电池是利用化学反应的原理，所以随时间的增加电池的性能会降低，即使是存放很长一段时间而不使用。如果使用条件如充电、放电及周围环境温度等情形不在指定的使用范围内，会使缩短电池的使用寿命，或者会产生漏液导致设备损坏。如果电池长周期不能充电，即使充电方法正确，这样需要更换电池了。

9.Note:（注释）

Any other items which are not covered in this specification shall be agreed by both parties.

本说明书未包括事项应由双方协议确定。