抚州比克电池有限公司
FuZhou BAK Battery Co.,ltd.

锂离子电池规格书

Specification
For
Rechargeable Lithium-ion Cell

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2024.10.18

产品名称：方形磷酸铁锂电芯

Product name: Prismatic LFP Cell

电芯型号：EE100

Cell Model: EE100

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1. Preface 前言

This specification describes the model and size, performance, technical characteristics, warning and caution of the rechargeable lithium-ion cell. The specification only applies to EE100 prismatic cells supplied by Fuzhou BAK Battery Co., Ltd.

本标准描述了方形锂离子电芯的外型尺寸、特性、技术要求及注意事项。本标准适用于抚州比克电池有限公司生产的方形 EE100 锂离子电芯。

2. Definition 定义

2.1 Room temperature 室温:25±2℃

2.2 Rated capacity 额定容量

Rated capacity refers to the minimum capacity of the cell, using Ah as a unit. It refers to the minimum value of the capacity, which is obtained by discharging a cell via the standard discharge method after the standard charge.

额定容量指的是电芯的最小容量，单位为安时（Ah），是指电芯按标准充电方式充电后，按标准放电方式放电得到的容量最小值。

2.3 C-Rate 倍率

The C-rate of a cell is a measure of the rate at which it is charged or discharged current relative to its rated capacity. It is indicated by the letter C.

充/放电电流与电芯的额定容量值的比率，用字母 C 表示。

2.4 Cycle 循环

One cycle means that cells are charged and discharged once according to the prescribed charge and discharge standards. The charge can be formed by combining some parts of the charge. Discharge can be formed by combining some partial discharges.

电芯按规定的充放制式充放一次视为一个循环。充电可以由一些部分充电组合在一起形成。放电可以由一些部分放电组合在一起形成。

2.5 Open circuit voltage（OCV）开路电压

Open-circuit voltage is the difference in electrical potential between two terminals of a device when disconnected from any circuit.

开路电压是指外电路没有电流流过时电池正负极柱之间的电位差。

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2.6 Operating voltage 工作电压

Operating voltage, also known as the discharge voltage or load voltage, is defined as the potential difference between the cell terminals when the current transmits through the external circuit.

工作电压又称放电电压或负荷电压，是指有电流通过外电路时，电芯两极间的电位差。

2.7 Standard charge method 标准充电制式

At 25±2℃, it is charged to 3.65V with a constant current of 0.5C, and then, charged with a constant voltage of 3.65V until the current is 0.05C.

在 25±2℃环境下，以 0.5C 的电流恒流充电至单体电芯电压 3.65V 后，转为恒压 3.65V 充电，至充电电流小于 0.05C 时，停止充电。

2.8 Standard discharge method 标准放电制式

At 25±2℃, it is discharged to 2.5 V with a constant current of 0.5C.

在 25±2℃环境下，以 0.5C 的电流恒流放电至 2.5 V。

2.9 Recovery capacity 恢复容量

After the cell is stored, it is charged and then discharged according to the standard charge and discharge conditions listed in sections 2.7 and 2.8.

电芯储存后，按照本规格书第 2.7 和 2.8 条所列的标准充放电条件，电芯进行充电后再放电的容量。

2.10 Retention rate of capacity 容量保持率

Under the specified experimental conditions and experimental methods, the retention rate of capacity is the ratio of the discharge capacity (direct discharge) to the initial capacity, the rate is expressed as a percentage.

在规定实验条件和实验方法下，电芯直接放电的容量与初始容量的比值，用百分数表示。

2.11 Recovery rate of capacity 容量恢复率

After storage, under the specified experimental conditions and methods, the recovery rate of capacity is the ratio of the discharge capacity (with charge and discharge) to the initial capacity, the rate is expressed as a percentage.

电芯存储后，在规定实验条件和方法下，电芯进行充电后再放电的容量与初始容量的比值，用百分数表示。

2.12 State of charge (SOC)荷电状态

Under unloaded conditions, the ratio of the cell capacity state to the rated capacity measured in ampere-hours. The abbreviation is expressed by SOC.

在无负载的情况下，以安培小时为单位计量的电芯容量状态与额定容量的比值，缩写用 SOC 表示。

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2.13 Units of measurement 测量单位

①“V” (Volt), Unit of voltage，伏特，电压单位

②“A” (Ampere), Unit of current，安培，电流单位

③“Ah” (Ampere-Hour), Unit of capacity，安培-小时，容量单位

④“Wh” (Watt-Hour), Unit of energy，瓦特-小时，能量单位

⑤“mΩ” (MilliOhm), Unit of resistance，毫欧姆，电阻单位

⑥“℃” (degree Celsius), Unit of temperature，摄氏度，温度单位

⑦“mm” (millimeter), Unit of length，毫米，长度单位

⑧“s” (second), Unit of time，秒，时间单位

⑨“Hz” (Hertz), Unit of frequency，赫兹，频率单位

2.14 Requirements of measuring instruments and facilities 测量仪表与设备要求

The voltage measurement device: Not less than 0.5 grade

电压测量装置：不低于 0.5 级

The current measurement device: Not less than 0.5 grade

电流测量装置：不低于 0.5 级

AC Impedance: 1000 Hz

交流阻抗测量频率：1000 Hz

Temperature meter: Precision ≤ 0.5 ℃

温度仪表要求：测量温度的仪表精度≤0.5℃

Time measurement unit: ± 0.1%

时间测量装置：± 0.1%

The size measurement device: ± 0.1%

尺寸测量装置：± 0.1%

The quality measurement device: ± 0.1%

质量测量装置：± 0.1%

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3. Cell model and size 电池型号及尺寸

3.1 Description and model 电芯说明及型号

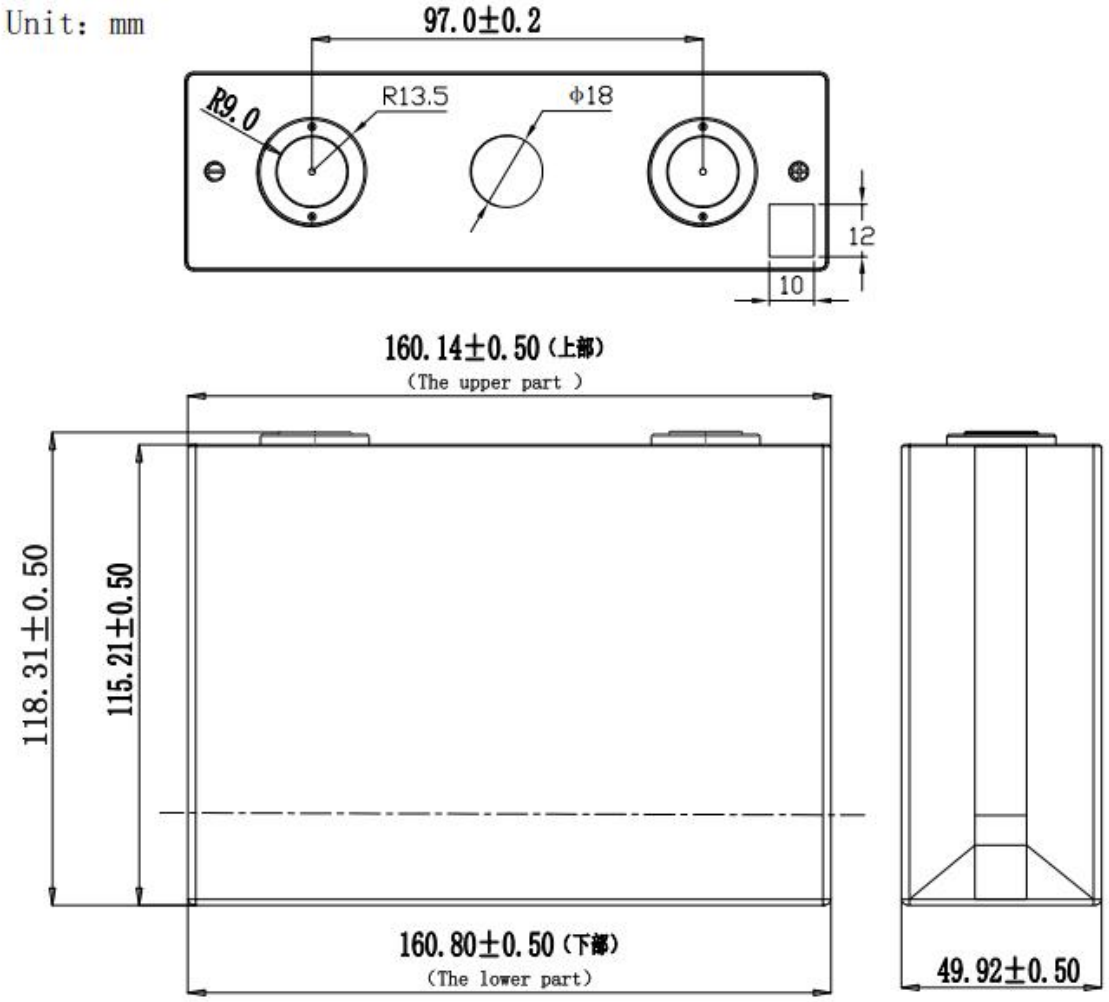
Description: Prismatic lithium-ion rechargeable cell　　方形锂离子二次电芯

Model:EE100　　型号：EE100

3.2 Cell size 电池尺寸

Cell physical dimension is listed in the following figure (unit: mm), with blue film.

电芯尺寸图如下图所示（单位：mm），包含蓝膜



Remark: 1. Thickness measure pressure: 300±20kgf　　2. Thickness measure SOC: 30%～40%

注：1. 厚度测量压力：300±20kgf　　2. 厚度测量 SOC：30%～40%

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4. Product performance 产品性能

Unless otherwise specified, all samples are fresh cells and tested according to standard charge and discharge methods.

除非有特殊说明，否则所有样品均为新鲜电芯，且按标准充电和标准放电方式进行测试。

4.1 Technical parameters 技术参数

ITEMS 项目	SPECIFICATION 特性
Minimal capacity (rated capacity) 最小容量（额定容量）	100Ah
Typical capacity 典型容量	102Ah
Nominal voltage 额定电压	3.2V（0.5C）
Charge Ending voltage 充电终止电压	3.65V
Discharge ending voltage 放电终止电压	2.5V (＞0℃), 2.0V (≤0℃)
Nominal energy 额定能量	320Wh
Internal resistance 交流内阻	≤0.5mΩ (AC Impedance, 1000 Hz) 交流阻抗测量频率为 1000 Hz，交流内阻≤0.5mΩ （30%～40%SOC）
Weight 重量	2.01±0.1kg
Standard charge current 标准充电电流	25±2℃, 0.5C
Standard discharge current 标准放电电流	25±2℃, 0.5C
Max. charge limited current at room temperature (Non-cyclic) 室温最大充电限制电流（非循环）	150A(Continuous) / 300A (50%SOC, 10s)
Max. discharge limited current at room temperature (Non-cyclic) 室温最大放电限制电流（非循环）	200A(Continuous) / 300A (50%SOC, 10s)

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Charge temperature range 充电温度窗口	0～+55℃	
Discharge temperature range 放电温度窗口	-20～+60℃	
Storage temperature 存储温度	Recommended 建议存储温度	-10～+35℃
	Allowable (short term) 允许存储温度（短期）	-30～+55℃

4.2 Charge method 充电制式

No. 序号	Parameters 参数	Values 规格	Remarks 备注
4.2.1	Standard Charge Method 标准充电制式	The standard charge method according to the conditions listed in section 2.7 依据2.7条款规定标准放电方法	
4.2.2	Standard Charge Temperature 标准充电温度	25±2℃	Cell Temperature 电池温度
4.2.3	Absolute Charge Temperature 绝对充电温度	0～55℃	Regardless of the charging mode of the cell, once the temperature of the cell exceeds the absolute charging temperature range, charging should be stopped.无论电池处在何种充电制式，一旦发现电池温度超过绝对充电温度范围，即停止充电
4.2.4	Absolute Charge Voltage 绝对充电电压	Maximum 3.65V 最大3.65V	Regardless of the charging mode of the cell, including pulse charging state, once the cell voltage exceeds the absolute charging voltage, charging should be stopped. 无论电池处在何种充电制式包括脉冲充电状态，一旦发现电池电压超过绝对充电电压范围，即停止充电

Other charge method 其他充电条件（制式）

Temperature 电芯温度	Charge current 充电电流	Max. charge limited current (Non-cyclic) 最大充电限制电流(非循环)	Pulse charge limited current (10s) (50%SOC) 脉冲充电限制电流（10s）
＜0℃	Not allowed 不允许充电	Not allowed 不允许充电	Not allowed 不允许充电
0℃≤T＜10℃	1/3C	0.5C	1C

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10℃≤T＜20℃	0.5C	1.0C	1.5C
20℃≤T＜30℃	0.5C	1.0C	2C
30℃≤T＜40℃	0.5C	1.0C	2C
40℃≤T≤55℃	1/3C	0.5C	1C
＞55℃	Not allowed 不允许充电	Not allowed 不允许充电	Not allowed 不允许充电

4.3Discharge method 放电制式

No. 序号	Parameters 参数	Values 规格	Remarks 备注
4.3.1	Standard Discharge Method 标准放电制式	The standard discharge method according to the conditions listed in section 2.8 依据2.8条款规定标准放电方法	
4.3.2	Standard Discharge Temperature 标准放电温度	25±2℃	Cell Temperature 电池温度
4.3.3	Absolute Discharge Temperature 绝对放电温度	-20～60℃	Regardless of the discharge mode of the cell, once the cell temperature exceeds the absolute discharge temperature range, discharging should be stopped. 无论电池处在何种放电制式，一旦发现电池温度超过绝对放电温度范围，即停止放电。
4.3.4	Absolute Discharge Voltage 绝对放电电压	2.5V（＞0℃） 2.0V（≤0℃）	Regardless of the discharge mode of the cell, including pulse discharge state, once the cell voltage is found to be lower than the absolute discharge voltage range, discharging should be stopped. 无论电池处在何种放电制式包括脉冲放电状态，一旦发现电池电压低于绝对放电电压范围，即停止放电。

4.4 Electrochemical characteristics 电化学特性

No. 序号	Items 项目	Technical Requirements 技术要求	Test Methods 测试方法及步骤
4.4.1	Appearance 外观	No damage, leakage, or oil stains. Legibly marked. 电池应无破损、漏液、油污等缺陷，标识清楚。	Visual Inspection 目测法

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4.4.2	Discharge performance under room temperature 室温放电性能	Discharge Capacity/Minimal Capacity×100%: a) Discharge with 1.0C≥100% b)Discharge with 2.0C≥97% 放电容量/最小容量×100%： a) 1.0C 放电时≥100% b) 2.0C 放电时≥97%	1.0C (or 2.0C) discharge to 2.5V at 25±2℃ to obtain the discharge capacity. 25±2℃下，以 1.0C（或 2.0C）进行放电至 2.5V，获取放电容量（以 Ah 计）。
4.4.3	Discharge characteristics under high and low temperatures 高低温放电性能	Discharge Capacity/Minimal Capacity×100%: a) Discharge at 55℃ ≥99% b) Discharge at -20℃ ≥80% 放电容量/最小容量×100%： a) 55℃时≥99% b) -20℃时≥80%	High-temperature discharge capacity: a）Standard charge; b）Rest for 5h at 55±2℃; c） 1.0C discharge to 2.5V at 55±2℃, get the capacity (Ah). Low-temperature discharge capacity: a）Standard charge; b）Rest for 24h at -20±2℃; c） 1.0C discharge to 2.0V at -20±2℃, get the capacity (Ah). 高温放电容量： a）电池标准充电； b）在55±2℃条件下搁置5h； c）在55±2℃条件下以1.0C放电至终止电压2.5V，获取放电容量（Ah）。 低温放电容量： a） 电池标准充电； b） 在-20±2℃条件下搁置24h； c） 在-20±2℃条件下以1.0C放电至终止电压2.0V，获取放电容量（Ah）。
4.4.4	Cycle Life (with clamp and covering the entire surface of the cell, 200-300kgf) 循环寿命(带夹具和覆盖整个电芯大面, 200-300kgf)	≥4000 cycles 80% EOL ≥4000次 80% EOL	a）At 25±2℃, 0.5C charge to 3.65V, then charged at 3.65V until the current is 0.05C, b）0.5C discharge to 2.5V; c） Repeat steps of a) ~ b), until the discharge capacity reached the 80% of the rated capacity, the number of cycles completed was defined as the cell cycle life. a）25±2℃下，以0.5C恒流持续充电至单体电池电压3.65V，恒压充电至电流0.05C； b）室温下，以0.5C恒流放电至终止电压2.5V； c）重复a）~b）至容量衰减为额定容量的80%，所完成的循环次数定义为该电池的循环寿命。

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4.5 Safety characteristics 安全性能

No. 序号	Items 项目	Technical Requirements 技术要求	Test Methods & Steps 测试方法及步骤	Reference Standard 参考标准
4.5.1	Vibration 振动	No leakage, No venting, No disassembly, No rupture and No fire, OCV≥90% of the initial voltage. 电芯无渗漏、无排气、无解体、无破裂和无起火，OCV≥90 %初始电压	Place the fully charged cell on the vibration test bench. From 7Hz a peak acceleration of 1gn is maintained until 18Hzis reached. The amplitude is then maintained at 0.8mm (1.6mm total excursion) and the frequency increased until a peak acceleration of 8 gn occurs (approximately 50Hz). A peak acceleration of 8gn is then maintained until the frequency is increased to 200Hz. 将满电电芯放在振动实验台上，7Hz 开始，保持 1gn 的最大加速度，直到频率达到 18 赫兹。然后将振幅保持在 0.8 毫米(总偏移 1.6 毫米)，并增加频率直到最大加速度达到 8gn(频率约为 50 赫兹)。将最大加速度保持在 8gn 直到频率增加到 200 赫兹。	UN38.3
4.5.2	Over-discharge Test 过放电	No explosion, No fire, No leakage. 不爆炸、不起火、不漏液	a）Standard charge; b）Discharge for 90min with a constant current 1.0C, observed for 1 hour. a）标准充电； b）1.0C 电流放电 90min。	GBT36276-2018
4.5.3	Over-charge Test 过充电	No explosion, No fire. 不爆炸、不起火	a）Standard discharge; b）The 1.0C current charge to 1.5 times of the maximum cut-off voltage specified by the company or stops after the charge time reaches 1h. a）标准放电； b）1C 电流充电至企业规定最大截止电压的 1.5 倍或充电时间达到 1h 后停止。	GBT36276-2018
4.5.4	Short-circuit Test 外部短路	No explosion, No fire. 不爆炸、不起火	a）Standard charge; b）Short-circuit the cell positive and negative terminals externally for 10 mins. with an external circuit resistance of less than 5mΩ. After completion, observe for 1 hour. a) 标准充电； b) 将电芯正、负极经外部短路 10min，外部线路电阻小于 5 毫欧，完成后观察 1h。	GBT36276-2018

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4.5.5	Heating Test 加热	No explosion, No fire. 不爆炸、不起火	a）Standard charge; b）Put the cell into temperature chamber and raise the temperature to 130±2℃ at a rate of 5℃/min, maintain it at 130℃ for 30 mins and observe for1 hour. a）标准充电； b）将温度箱的温度以 5℃/min 的速度升至 130°C±2℃，在 130℃ 下保持 30min， 观察 1h。	GBT36276-2018
4.5.6	Temperature Cycling 温度循环	No venting, leakage, rupture, fire, explosion, OCV≥90 % of the initial voltage. 不开阀、不漏液、不破裂、不爆炸、不起火，OCV≥90 %初始电压	a）Standard charge; b）Place the fully charged cell in the oven, and heat it up to 85±2℃ within 30 minutes, and maintain for 4h; c）Reduce the chamber temperature to 25℃±5℃ within 30 minutes and maintain for 2h; d）Reduce the chamber temperature to -40℃±2℃ for 30min and maintain for 4h; e）Increase the chamber temperature to 25℃±5℃ within 30 minutes; f）Repeat steps (b-e) 9 times (10 times in total); g）After the above steps are completed, the cell is stored at 25℃±5℃for more than 24h , to complete the test; h) After the cycle test is completed, the OCV is recorded and compared with the initial state. a）标准充电； b)放置满电电芯在烘箱中，30 分钟内升温至 85±2℃保持 4h； c)30min 内降温至 25℃±5℃，保持 2h； d)30min 降温至-40℃±2℃，保持 4h； e)30min 内升温至 25℃±5℃； f)循环 b-e 步 9 次（共计 10 次）； g)以上步骤完成，25℃±5℃下存储电芯 24h 以上，完成测试； h)循环测试结束后记录开路电位并与初始状态进行比较。	UL1973-2022
4.5.7	Crush Test 挤压	No explosion, No fire. 不爆炸、不起火	a）Standard charge; b）Crush cell with half cylinder at a speed of 5±1mm/s. The diameter of the half cylinder is 75mm. Stop to crush when voltage reached	GBT36276-2018

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			0V or deformation amount reached 30% or pressure reached 13±0.78KN, observe for 1 hour. a）标准充电； b) 用 Φ75mm 半圆柱体以 5±1mm/s 速度挤压电池，电压达到 0V 或变形量达到 30%或挤压力达到 13±0.78KN，观察 1h。	
4.5.8	Low Pressure Test 低气压测试	No fire, No explosion, No leakage, The max. mass loss ≤0.1% 电芯不起火、不爆炸、不漏液，最大质量损失≤0.1%	a）Standard charge; b) Stored at an absolute pressure of 11.6 kPa for six hours at ambient temperature. a）标准充电； b) 在绝对气压等于 11.6 kPa 的室温条件下存储 6h。	GBT36276-2018
4.5.9	Drop Test 跌落测试	No fire, No explosion 电芯不起火、不爆炸	a）Standard charge; b) At 25℃±2℃, freely drop the cell with the positive or negative terminal facing down from a height of 1.5m to the cement floor once, and observe for 1 hour. a）标准充电； b) 25℃±2℃下，将电芯正极或负极端子朝下从 1.5m 高度处自由跌落一次到水泥地面上，观察 1h。	GBT36276-2018

4.6 Storage performance 储存性能

NO. 序号	Parameter 参数	Specifications 产品规格	Condition 条件
4.6.1	Retention rate of capacity（Short term-100%SOC） Recovery rate of capacity（Short term-100%SOC） 容量保持率（短期-100%SOC) 容量恢复率（短期-100%SOC)	≥95% ≥96%	Standard charged to 100%SOC, and stored for 28 days at 25±2℃. The ratio of the test capacity to the initial capacity. 标准充电到100%SOC，25±2℃温度储存28天。测试容量与初始容量的比值。
4.6.2	Retention rate of capacity（Short term-100%SOC） Recovery rate of capacity（Short term-100%SOC） 容量保持率（短期-100%SOC) 容量恢复率（短期-100%SOC)	≥95% ≥96%	Standard charged to 100%SOC, and stored for 7 days at 55±2℃. The ratio of the test capacity to the initial capacity. 标准充电到 100%SOC，55±2℃温度储存 7 天。测试容量与初始容量的比值。
4.6.3	Recovery rate of capacity （Long term）	≥95%	Standard charged to 30%SOC, and stored for 90 days at 25±2℃. The ratio of the test capacity to the

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	容量恢复率（长期-30%SOC）		initial capacity. 标准充电到 30%SOC，25±2℃温度储存 90 天。 测试容量与初始容量的比值。

4.7 Application conditions 应用条件

NO. 序号	ITEM 项目	SPECIFICATION 特性
4.7.1	Cell Monitoring 电芯监控	Customer shall procure that each Product shall be used under the strict monitor, control and protection by the BMS. 客户应配置电池管理系统，严密监控、管理与保护每个电池。
4.7.2		Customer shall keep relevant records of the BMS monitoring data throughout the entire service life of each product as a reference for product quality responsibility division. No warranty or liability claim will be considered without BMS diagnosis records. 客户应保存完整的电池运转的监测数据，用作产品质量责任划分的参考。不具备完整的电池系统使用期限内的监测数据的，BAK 不承担产品质量保证责任。
4.7.3	Protection voltage 保护电压	Avoid over-charge and over-discharge of the cell. When the cell voltage is lower than 2.0V and higher than 3.7V, the cell performance may be permanently damaged. 避免电芯到达过放过充状态。电芯电压低于 2.0V 和高于 3.7V 时，电池内部可能会遭到永久性的损坏。
4.7.4	低温充电 Charge at low temperature	Cells should not be charged under low temperature conditions prohibited by this document, Otherwise, unexpected capacity loss or security risk may occur. The battery management system should be controlled according to the minimum charging temperature. 电芯避免在本文件禁止的低温条件下充电，否则可能出现意外的容量降低现象或安全隐患。电池管理系统应依照最小充电温度进行控制。

5. Precautions for transportation 运输注意事项

The Cell are shipped with charging capacity range of 30% SOC~ 40% SOC or in accordance with customers' requirement. The remaining capacity after shipment and before charging depends on the storage time and conditions.

单体电芯按 30%SOC~40%SOC 的充电容量或客户要求出货，电芯出货后充电前的剩余容量取决于储存时间和条件。

The cells should be packaged in boxes for transportation at less than 50%SOC. During transportation, the cells

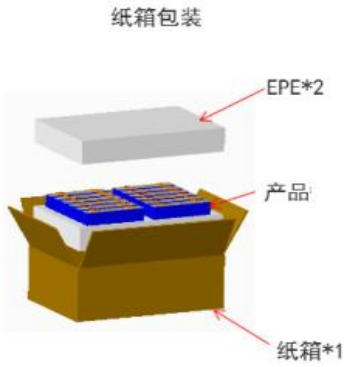
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should be prevented from severe vibration, impact or compression, sun-scorched and rain-drenched, and should not be placed upside down. Suitable for transportation by vehicles such as cars, trains, ships, etc. Please refer to MH/T 1020-2013 (Lithium Battery Air Transport Specification) (≤ 30% SOC) for air transportation.

电芯应在低于 50%荷电状态下包装成箱进行运输，在运输过程中应防止剧烈振动、冲击或挤压、防止日晒雨淋，不得倒置。适用于汽车、火车、轮船等交通工具运输。航空运输请参照 MH/T 1020-2013《锂电池航空运输规范》(≤30%SOC)。

5.1 Package 包装

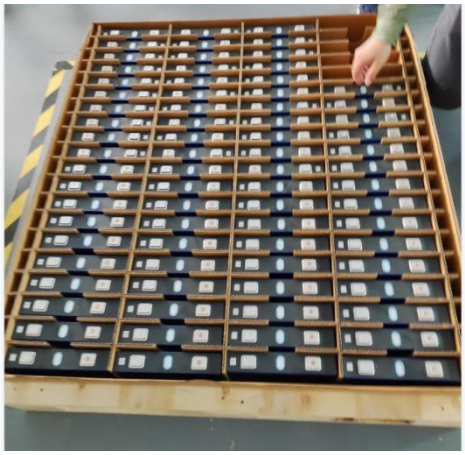
包装方式 1 Package 1





Small box（12pcs） 小箱（12pcs） **Pallet（432pcs） 货板（432pcs）**

包装方式 2 Package 2





Small box（80pcs） 小箱 （80pcs） **Pallet（400pcs） 货板（400pcs）**

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6. Warranty 质量保证

The shelf life of the cells shall be determined by the contract from the date of shipment. However, during this period, if there are quality issues with the cells caused by customer misuse rather than due to the manufacturing process of BAK Company, BAK Company does not promise to replace them free of charge.

自出货之日起，电芯的保质期限依合同而定。但是，在此期限内，如果非比克公司的制程原因，而是客户的误用造成的电芯质量问题，比克公司不承诺免费更换。

BAK Company does not assume any responsibility for issues arising from violating safety regulations.

比克公司对违反安全守则操作所产生的问题不承担任何责任。

BAK Company does not assume any responsibility for issues caused by the use of electric circuits, cell packs and chargers.

比克公司对与电路，电池组，充电器搭配使用所产生的问题不承担任何责任。

The defective cells caused by the customer during the assembly process after shipment are not within the scope of BAK quality assurance.

出货后客户在电芯组装过程中产生的不良电芯不在比克公司质量保证的范围之列。

7. Storage and shipment requirement 存储及运输要求

Item 项目		Requirement 要求
Storage environment 储存环境	Short term: less than 1 month 短期：少于 1 个月	-30°C ~ +55°C, 90%RH Max, no condensation -30° C ~ +55° C，湿度最大 90%，无凝露
	Long term: more than 3 months 长期：超过 3 个月	-10°C ~ + 45°C, 90%RH Max, no condensation -10° C ~ +45° C，湿度最大 90%，无凝露
	Recommended storage 推荐存储	-10°C ~ + 35°C, 85%RH Max, no condensation -10° C ~ +35° C，湿度最大 85%，无凝露
Long time storage: If the cell is stored for a long time, the cell's storage SOC should be less than 50%. Also, it is recommended to discharge/charge one cycle every six months. 长期储存: 如果电池长期存放，电池的存储 SOC 应小于 50%。此外，建议每六个月放电/充电一次。		

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8. Warning and cautions in handling the lithium-ion cell 电芯使用时警告事项及注意事项

The cell life is limited. When the capacity in use is less than 60% of the rated capacity, the cell should not to operate. Violation of this requirement will exempt Fuzhou BAK Battery Co., Ltd. from its responsibility for product quality assurance in accordance with the product sales agreement and this specification.

电池的使用期限是有限的。当使用中的电池容量小于 60%额定容量（25℃）时，应停止使用电池。违反该项要求，将免除抚州比克电池有限公司依据产品销售协议以及本规格书所应承担的产品质量保证责任。

Abuse of rechargeable lithium-ion cells may cause damage to the cell and/or personal injury. Please read and observe the standard cell precautions below before utilization.

滥用锂离子充电电芯可能会造成电池芯的损害或人身的伤害。在使用锂离子充电电芯以前，请仔细阅读以下的安全守则：

Note 1. The customer is required to contact BAK in advances, if and when the customer needs other applications or operating conditions not described in this document.

注释 1. 如果客户需要其它应用程序或本文档中描述之外的操作条件，客户需要提前联系比克。

Note 2. BAK will take no responsibility for any accident when the cell is used under other conditions not described in this document.

注释 2. 在该文件说明的条件之外使用该电芯而产生的事故，比克公司不承担任何责任。

Warnings 警告

Danger Warning: To prevent the possibility of the cell from leakage, heating, or explosion, please observe the following precautions: (It should be indicated especially in manual or instruction for users)

危险警告：（应在使用说明手册或说明书中，特别注明）为防止电芯可能发生泄漏，发热，爆炸，请注意以下预防措施：

Don’t immerse the cell in seawater or water. When not in use, please put it in a cool and dry environment if no using.

严禁将电芯浸入海水或水中，保存不用时，应放置在阴凉干燥的环境中。

Do not use or leave the cells next to hot and high-temperature sources such as fire or heaters.

禁止将电芯放在热高温源如火，加热器等旁边使用和留置。

Don’t transport and store the cells together with metal objects such as necklaces, hairpins, coins, etc..

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禁止将电芯与金属，如发卡、项链、硬币等一起运输或存储。

Do not use cells in areas with strong static electricity and strong magnetic fields, otherwise it may bring unsafe hazards.

禁止在强静电和强磁场的地方使用，否则易带来不安全的隐患。

Don’t use or place the cells in very high temperature conditions (for example, strong direct sunlight or a vehicle in extremely hot conditions), as this may cause the battery to overheat, catch fire, or malfunction, resulting in a shortened lifespan.

禁止在高温下（直热的阳光下或很热的汽车中）使用或放置电芯，否则可能会引起电池过热，起火或功能失效，寿命减短。

Keep the cells away from babies.

电芯应远离小孩。

Use a dedicated lithium-ion battery charger when charging.

充电时请选用锂离子电池专用充电器。

Don’t reverse the positive and negative terminals.

严禁颠倒正负极后使用电芯。

Do not disassemble or repair the cells.

不要拆卸或修整电芯。

Don’t connect the cell to an electrical outlet directly.

严禁将电芯直接插入电源插座。

Do not short circuit, over-charge or over-discharge the cell.

不要将电芯短路、过充或过放。

Don’t strike, throw or trample the cell.

禁止敲击、抛掷或踩踏电芯等。

Cells should be removed immediately from the device or charger and stop using it if they are overheat, emits an odor, discolor or deforms, or appears any abnormality during use, storage or charge.

如果电芯发出异味，发热，变色，变形或使用、贮存、充电过程中出现任何异常现象，立即将电芯从装置或充电器中移离并停用。

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When the battery is connected to the charging device for a period of time, but it is not charging, the charging should be stopped. If abnormal cell charging termination occurs for reasons (such as exceeding allowable charge time, cut-off due to exceeding charge voltage or cut-off due to exceeding charge current), the charge should be stopped immediately. subsequent charge of such cell system without finding and fixing root cause of problem may cause potential overheat or fire hazards.

当电池连接充电装置一段时间后，却并未充入电量的话，应停止充电。如电池充电过程中可能发生非正常的终止充电现象（如:超出允许的充电时间充电，充电电压过高而终止充电或充电电流过强而终止充电）应立即停止充电。在没有找到根本原因并彻底解决之前继续对该电池充电可能会引起电池过热或发生火灾。

Do not directly solder the cell and pierce the cell with a nail or other sharp tools.

禁止直接焊接电芯和用钉子或其它利器刺穿电芯。

During pack, do not make the cell significantly damaged or deformed.

Pack 生产时，不要使电芯受到明显的损害或变形。

Make sure package designing will not cause cell damages and has sufficient mechanical strength to ensure internal cells are protected from mechanical impact.

电池外壳设计和包装禁止损伤电芯和有足够的机械强度以保证其内部电芯免受机械撞击。

The design of the battery box should fully consider the heat dissipation of the single cell.

电池箱的设计应充分考虑单体电芯的散热问题。

The blue insulation film on the outside of the cell can satisfy the insulation of the single cell during transportation. When packing, additional insulation protection measures should be added outside the cell according to the actual operating conditions.

电芯外部蓝色绝缘膜能满足单体电池运输情况下的绝缘，pack 时需根据实际使用工况在单体电池外增加额外绝缘防护措施。

Disassembling cells from pack or module is not permitted unless under the guidance of professional technicians.

严禁将电芯从电池包或电池模组中拆卸，除非在专业技术人员的指导下进行。

Cell packing should be conducted strictly according to level range, any misuse of different levels should not be permitted. Mixed use of cells of different types is not permitted.

电芯配组时需严格按等级执行，不能跨等级成组。禁止与不同型号的电芯混合使用。

Abandoned cells should be wrapped with insulating paper around the terminals to prevent fire and explosion, and

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should be disposed of in a timely manner according to local recycling or waste regulations.

废弃电芯应用绝缘纸包住电极，以防起火，爆炸，应根据当地的回收或废弃物法规及时处理废弃电池。

Please separate the cells from other electrochemical system products when handling rechargeable cells.

二次电池处理时，请将电芯和其它电化学体系的产品分开。

9. Emergency treatment 紧急情况处理

If the cell leaks and the electrolyte get into your eyes, don't wipe eyes, instead, thoroughly rinse the eyes with clean running water for at least 15 minutes, and immediately seek medical attention. Otherwise, eyes injury can result.

如果电池发生泄露，电解液进入眼睛，请不要搓揉，应用清水冲洗眼睛，必要时请立即前往医院接受治疗，否则会伤害眼睛。

When the cells catch fire, the organic solution inside the cell may react at high temperatures, which may release toxic and corrosive substances. The cell contains both oxidants and reducing agents, so the selection of fire extinguishing agents is limited, and plenty of water is recommended to extinguish the fire, while cooling the battery.

电芯起火时，电芯内部有机溶液等在高温下发生反应可能会释放有毒和腐蚀性的物质。电芯内部既含有氧化剂又有还原剂，因此灭火剂的选择范围是有限的，推荐大量水进行灭火，同时冷却电芯。

10. Restriction of hazardous substances 有害物质控制要求

This model of the lithium-ion cell is in accordance with our company's request of

"The hazardous substances and material management standard" or customer's requirements.

本型号锂离子电芯符合本公司《产品环境物质管理规范》要求或参照客户要求执行！

11. Contact information 联系方式

If you have any questions regarding the cell, please contact the following address:

如有疑问，请按以下地址联系：

Headquarter: 4002 Wenchang Avenue, Linchuan District, Fuzhou City, Jiangxi Province, China

厂址：江西省抚州市临川区文昌大道 4002 号

Tel: +86-0794-8296111 电话: +86-0794-8296111