

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification		文件编号 File NO.	BNP-GGS-LS-YP000400
			版本 Edition	A01

文件编号：BNP-GGS-LS-YP000400

比克新动力锂离子电池组

产品规格书

BAK New Power Lithium Ion Battery Pack Specification

项目代号 LS-YP000400

Project Code LS-YP000400

产品名称 锂离子电池组

Product Name Li-ion Battery Pack

产品规格 12.8V100Ah

Product Specification 12.8V100Ah


版本 Edition	A01		发行日期 issue Date	
编制 Editor	校准 Calibration	审核 Check	会签 Countersign	批准 Approval

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

修订记录

Revision Record

版本 Version	修订内容 Change Content	修订人 Reviser	修改日期 Date
A01	首版发行 The first release	谢靖	2022.10.02

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	
	文件编号 File NO.	BNP-GGS-LS-YP000400
	版本 Edition	A01

目录

Contents

一、概述 Product overview.....	3
二、技术参数 Product specifications and parameters	3
2.1 锂电池组技术参数 Battery Technical Parameters	3
2.2 充放电接口 Charging and discharging interface	5
2.3 BMS	6
三、锂电池外观照片 Battery pack dimension and Appearance.....	11
四、测试条件 Test conditions	12
4.1 测试条件 Test Conditions.....	12
4.2 电池组标准充电 Battery pack standard charging.....	13
4.3 电池组标准放电 Battery pack standard discharging	13
五、电池组安全性能 Battery pack safety performance	13
六、贮存与运输 Storage and shipping.....	15
6.1 贮存 Storage	15
6.2 运输 Logistics	16
七、电池使用注意事项 Precautions for battery use.....	16
八、免责声明 Disclaimer.....	18
九、联系方式 Contact us	19

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

一、概述 Product overview


本规格书描述了锂离子电池组的型号、规格、参数、存储、注意事项等。
本规格书适用于郑州比克新动力科技有限公司和安徽比克新动力科技有限公司及其关联公司生产的 **LS-YP000400** 锂离子电池组。

This specification describes the model, specification, parameters, storage, precautions, etc. of lithium ion battery pack. This specification is applicable to **LS-YP000400** lithium ion battery pack produced by Zhengzhou BAK New Power Technology Co., Ltd., and Anhui BAK New Power Technology Co., Ltd. And any affiliated companies from both

二、技术参数 Product specifications and parameters

2.1 锂电池组技术参数 Battery Technical Parameters

项目规格 Project Specifications	标准参数 Standard Parameters	备注 Remarks
电池规格 Battery model	12.8V100Ah	
电池类型 Battery Type	磷酸铁锂电池 LiFePo4 lithium ion battery	
标称电压 (V) Nominal voltage (V)	12.8	
标称容量 (Ah) Nominal capacity (Ah)	100	25°C ± 2°C, 50A 充电 50A 放电 25°C ± 2°C, 50A Charge 50A Discharge
充电截止电压 (V) Charging cutoff voltage (V)	14.4	
放电截止电压 (V) Discharging cutoff voltage (V)	11.2	
标准充电电流 (A) Standard charging current (A)	20	
最大充电电流 (A) Maximum charging current (A)	50	快充充电时间 30min 30%~80%SOC, 25°C Fast charging time 30min 30%~80%SOC, 25°C
标准放电电流 (A) Standard discharge Current (A)	50	

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

最大放电电流 (A) Maximum discharge current (A)	100	
外壳材料 Shell material	塑胶外壳 plastic shell	
重量 (kg) Weight (kg)	About 17.5	
月自放电率 Monthly self-discharge rate	≤3%	
外形尺寸 (mm) Overall dimensions (mm)	328*173*214mm±1.0	长*宽*高 Length* Width*Height
充电温度范围 (°C) Charging temperature (°C)	20A	0~10°C
	50A	10~20°C
	50A	20~45°C
	50A	45~50°C
	20A	50~60°C
放电温度范围 (°C) Discharge temperature (°C)	-20~60	电芯表面温度不能超过 60°C The surface temperature of the cell should not exceed 60°C
出厂电压 (V) Delivery voltage (V)	11~14	
标准循环寿命测试 Standard cycle life test (25°C±2°C)	<p>以 50A 恒流充电至 14.4V, 以 14.4V 恒压充电至电流小于 5A, 结束后, 搁置 30min, 然后以 50A 恒流放电至 11.2V, 放电结束后搁置 30min, 再进行下一次充放电循环, 连续进行充放电循环 2000 次。以典型容量测试方法 复测容量。</p> <p>At a constant current of 50A charge to 14.4V, at a constant voltage of 14.4V charge to current less than 5A, after the end, shelved 30min, and then at a constant discharge of 50A to 11.2V, after the end of the discharge shelved 30min, and then into the next charge and discharge cycle, continuous</p>	容量保持率: ≥80% capacity retention: ≥80%

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

	charge and discharge cycle 2000 times. Retest the capacity with a typical capacity test method.	
存储温度 (°C) Storage Temperature	-20~45°C	3 个月 3month
	-10~25°C	6 个月 6month

2.2 充放电接口 Charging and discharging interface

铜柱式接线端子

Copper post terminal



 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

2.3 BMS

2.3.1 BMS 参数 BMS parameters

功能 Function	项目 Test project	最小值 Minimum value	典型值 Typical value	最大值 Maximum value	单位 unit
工作电压 Operation voltage	电压范围 Voltage range	8.8	/	15	V
工作电流 Operation current	充电电流 Charging current	/	/	100	A
	放电电流 Discharge current	/	/	100	A
充电保护 Charging protection	充电器电压 (CC-CV) Charger voltage (CC-CV)	/	14.4	/	V
	过充保护电压 Over charge protection voltage	3.7	3.75	3.8	V
	过充保护延时时间 Over charge protection delay time	500	1000	1500	ms
	过充保护恢复电压 Over charge protection recovery voltage	3.4	3.55	3.6	V
放电保护 Discharge protection	过放保护电压 Over discharge protection voltage	2.1	2.2	2.3	V
	过放保护延时时间 Over discharge protection delay time	500	1000	1500	ms
	过放保护恢复电压 Over discharge protection recovery voltage	2.6	2.7	2.8	V
	过放保护释放条件 (Undervoltage release conditions)	断开负载或者充电恢复(Disconnect load or charge release)			

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

充放电过流保护 Charge and discharge overcurrent protection	充电过流保护值 Charging overcurrent protection value	110	150	190	A
	充电过流延时 Over current charge delay	500	1000	1500	ms
	放电过流 1 保护电流值 Discharge overcurrent level 1 protection current value	240	320	400	A
	放电过流 1 保护延迟 Discharge overcurrent level 1 protection delay	100	250	400	ms
	放电过流 2 保护电流值 Discharge overcurrent level 2 protection current value	510	710	910	A
	放电过流 2 保护延迟 Discharge overcurrent level 2 protection delay	10	25	40	ms
	放电过流保护恢复条件 (Overcurrent Discharge release)	断开负载或者充电恢复(Disconnect load or charge release)			
短路保护 Short circuit	短路保护 Short circuit protection	支持			
	短路保护延迟时间 Short circuit protection delay time	200	500	800	μs
	短路保护恢复(Short circuit protection recovery)	断开负载或者充电恢复(Disconnect load or charge release)			
放电高温保护 Discharge high temperature protection	温度保护值 Temperature protection value	65	70	75	℃
	温度保护释放值 Temperature protection release value	40	50	60	℃
放电低温保护 Low temperature protection of discharge	温度保护值 Temperature protection value	/	/	/	℃
	温度保护释放值 Temperature protection release value	/	/	/	℃
充电高温保护	温度保护值 Temperature protection	65	70	75	℃

	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

Charging high temperature protection	value				
	温度保护释放值 Temperature protection release value	40	50	60	℃
充电低温保护 Charging low temperature protection	温度保护值 Temperature protection value	/	/	/	℃
	温度保护释放值 Temperature protection release value	/	/	/	℃
FET 高温保护(内置) high temperature protection of FET(Built-in)	温度保护值(Temperature protection value)	82	90	98	℃
	温度保护释放值 (Temperature protection release value)	50	65	80	℃
	放电高温保护释放条件 (Overtemperature Discharge protection release conditions)	断开负载或者充电恢复(Disconnect load or charge release)			
均衡功能 (Balance Function)	均衡开启电压 (Equalization turn-on voltage)	3.40	3.50	3.55	V
	均衡电流 (Balance current)	100	225	250	mA
	均衡类型 (Balance type)	脉冲均衡 (Pulse equalization)			
工作温度 Operation temperature	正常工作范围 Normal operating range	-20~70			℃
存储温度 Storage temperature	湿度低于 70%，时间≤1 年 Humidity below 70%, time ≤1 year	-5~40			℃

2.3.2 保护功能说明 Protection function description

1) 过充保护：电池组在充电时，电压不断升高，当 BMS 检测到任意一串电芯电压达到过充保护值时，BMS 会关断充电 MOS，此时充电截止，电池组不能再给进行充电。

Overcharge protection: When the battery is charging, the voltage keeps rising. When the BMS detects that the voltage of any cell is higher than the

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

overcharge protection value, the BMS will turn off the charging MOS tube and the charging will be terminated.

2) 过放保护: 电池组在放电时, 电压不断下降, 当 **BMS** 检测到任意一串电芯电压达到欠压保护值时, **BMS** 会关断放电 MOS, 此时放电截止, 电池组不能再进行放电。

Over discharge protection: When the battery pack is in the condition of discharge, the voltage decreases. When the BMS detects any series of batteries voltage below the discharge protection value, the BMS will cut-off MOS tube, discharge will be terminated.

3) 过流保护: 电池组在静置或者放电状态下, 电流突然加大, 当 **BMS** 检测到电流达到放电过流保护值时, **BMS** 会关断放电 MOS, 此时放电截止, 电池组能再进行放电; 电池组在充电状态下, 当 **BMS** 检测到充电电流值达到充电过流保护值时, **BMS** 会关断充电 MOS, 此时充电截止, 电池组不能再进行充电。

Over-current protection: the battery in standstill or discharge state, when the current is suddenly increased, if the BMS detects discharging current reaches over-current protection value, BMS will cut-off discharge MOS, then the discharge will be terminated and battery cannot discharge. When the battery is in charging state, if the BMS detects current reach over-charging current protection value, BMS will cut off charging MOS, then the charge will be terminated and battery can't be charged.

4) 短路保护: 电池组在负载异常或被短路情况下, 导致放电电流急剧变大, 当 **BMS** 检测到电流值达到过流保护值时, **BMS** 会关断放电 MOS, 此时放电截止, 电池组不能再进行放电。

Short-circuit protection: When the battery in the situation of abnormal load or short circuit, result in discharging current increases drastically. When the BMS detects current reaching to over current protection value, BMS will cut off discharge MOS, discharge will be terminated, and battery can't discharge

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

5) 过温保护: 电池组在放电时, 当 BMS 检测到电芯表面温度达到放电过温保护值时, BMS 会关断放电 MOS, 此时放电截止, 电池组不能再进行放电; 电池组进行充电时, 当 BMS 检测到电芯表面温度达到充电过温保护值时, BMS 会关断充电 MOS, 此时充电截止, 电池组不能再进行充电。

Overtemperature protection: When the battery is discharging, when BMS detects that the cell surface temperature reaches the overtemperature protection value, BMS will turn off the discharge MOS, and then the discharge ends, and the battery can no longer discharge. When the battery pack is charged, when the BMS detects that the cell surface temperature reaches the charging overtemperature protection value, the BMS will turn off the charging MOS, and the charging ends at this time, and the battery pack cannot be charged again.

6) 低温保护: 电池组在放电时, 当 BMS 检测到电芯温度表面达到放电低温保护值时, BMS 会关断放电 MOS, 此时放电截止, 电池组不能再进行放电; 电池组进行充电时, 当 BMS 检测到电芯表面温度达到充电低温保护值时, BMS 会关断充电 MOS, 此时充电截止, 电池组不能再进行充电。

Low temperature protection: When the battery is discharging, when BMS detects that the temperature surface of the battery core reaches the low temperature protection value of discharge, BMS will turn off the discharge MOS, and the discharge ends at this time, and the battery can no longer discharge. When the battery pack is charged, when BMS detects that the cell surface temperature reaches the low temperature protection value of charging, BMS will turn off the charging MOS. At this time, the charging ends and the battery pack cannot be charged again.

2.3.3 电池管理系统原理图 (Schematic diagram of BMS)

/

2.3.4 通讯方式 Communication mode

通讯方式为: /

Communication mode: /


 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification		文件编号 File NO.	BNP-GGS-LS-YP000400
			版本 Edition	A01

三、锂电池外观照片 **Battery pack dimension and Appearance**

电池组外观照片如下图所示：

The appearance photo of battery pack is indicated as below:



 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01



四、测试条件 **Test conditions**

4.1 测试条件 **Test Conditions**

除特别指定，所有测试均在温度为 $25 \pm 2^{\circ}\text{C}$ 、相对湿度 5%~90%、大气

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

压力 86kPa~106kPa 环境中进行。

Unless otherwise specified, all tests are conducted at temperatures of $25 \pm 2^{\circ}\text{C}$, relative humidity between 5%~90% and atmospheric pressures between 86kpa~106kpa.

4.2 电池组标准充电 Battery pack standard charging

电池组充电必须使用比克新动力指定的专用充电器进行充电，若客户使用非指定的充电器，则充电器应符合比克新动力的要求及国家相关标准要求，充电方式为先恒流后恒压，充电器上限电压不超过电池组的上限电压，充电电流不超过 20A。

It is needed to charge battery with BNP specified charger as mandatory, if customer use the un-specified charger, then the charger should adhere to BNP requirement and related national criteria, charge mode should be in constant current as first and constant voltage as next, high limit of charge should not exceed high limit voltage of battery pack, charge current should be below 20A

4.3 电池组标准放电 Battery pack standard discharging

电池组标准放电电流为 50A。

Battery pack standard discharge current is 50A

五、电池组安全性能 Battery pack safety performance

序号 No.	测试项目 Test Item	性能标准 Performance Standard	测试条件与方法 Performance conditions and method
1	过充测试 Overcharge test	电池组不起火、不爆炸 No fire, No explosion	电池组以标准充电方式充满电，然后以 50A 充电至 $n \times 5\text{V}$ 为电池组内单体电池或单体电池并联块的串联级数) 充电 60min,之后搁置 6h,观察外观。 After fully charged according to the standard charge mode, charge the battery pack at 50A to $n \times 5\text{V}$ for 60 min, leave it in standstill and observe.

	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

2	强制放电 Forced discharge	电池组不起火、不爆炸 No fire, No explosion	将电池组中的任何一个单体电池进行放电至终止电压，其余单体电池均为充满电状态，之后对电池组以 50A 恒流放电 60min,目检电池组外观。 Discharge any single cell to its end voltage, other cells are in full charged situation. Then discharge battery pack at 50A for 60 min. Observe battery appearance.
3	挤压测试 Crush test	电池组不起火、不爆炸 No fire, No explosion No fire, No explosion	电池组以标准充电方式充满电,按垂直于电池组中单体排列方向施压，挤压头为半径 75mm 的半圆柱体，半圆柱体长度（L）大于被挤压电池的尺寸（但不超过 1m），挤压速度为（5±1）mm/s,当挤压至电池组至原尺寸的 70%，或挤压力达到 30kN 时保持 5min，之后下载挤压力，观察 1h。 After charging the battery pack with following the standard charge mode, the battery pack shall be crushed by a vertical force to cell pole. The crushing head is a semi-cylinder with radius of 75mm. The length of semi-cylinder is bigger than crushed battery pack (no more than 1meter). With crush speed of 5±1mm/s, when battery deflection reaches to 70% of its original dimension or crushing force reaches to 30kN, keep it for 5 min, then release load. Observe battery pack in 1 hour.
4	短路测试 Short circuit test	电池组不起火、不爆炸 No fire, No explosion	将电池组的正负极用电阻 80mΩ ± 20mΩ 的外线路进行短路，直至电池组电压小于 0.2V,目检电池组外观。 Use an outer circuit with a 80mΩ ± 20mΩ to short-circuited the battery pack until battery pack voltage is lower than 0.2V. Observe battery pack appearance.
5	过放测试 Over discharge test	电池组不起火、不爆炸、不漏液 No fire, No explosion, No leaking	电池组按标准充电后以 50A 电流至终止电压，之后再继续以 10A 恒流放电 24h,目检电池组外观。 After charging the battery pack according to the standard, apply 50A current to the termination voltage, and then continue to apply 10A constant current for 24h. Visually check the appearance of the battery pack.
6	跌落测试 Drop Test	电池组不起火、不爆炸 No fire, No explosion	将电池组放置在高度（最低点高度）为 1.5m 的位置，以 X、Y、Z 三个方向自由跌落到水泥板面上各一次，测试结束后目检电池组外观。 The battery pack is dropped from a height of 1.5m by X, Y, Z, three directions into the cement floor for each time. Observe the appearance after

	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

			testing.
7	温度循环 Thermal cycling	电池组不起火、不爆炸、不漏液 No fire, No explosion, No leaking	<p>电池组首先按标准制式充电，放入温度箱中，温度箱温度调节如下：</p> <ol style="list-style-type: none"> 1.在 $70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 的环境中保持 4h。 2.在 30min 内由 $70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 降温至 $20^{\circ}\text{C} \pm 3^{\circ}\text{C}$，保持 2h。 2.在 30min 内温度降至 $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$，保持 4h。 3.在 30min 内温度升至 $20^{\circ}\text{C} \pm 3^{\circ}\text{C}$，保持 2h。 4.循环以上步骤 5 次。 <p>上述循环后，将电池组放置在温度为 $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 的环境中 7 天，目检电池组外观。</p> <p>After fully charged according to the standard charge mode, put battery in an oven with condition as follows:</p> <ol style="list-style-type: none"> 1. $70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ for 4h. 2. Decrease the chamber temperature from $70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ to $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$, kept for 4h. 3. Raise the chamber temperature to $20^{\circ}\text{C} \pm 3^{\circ}\text{C}$, kept for 2h. 4. Repeat the test for 5 cycles. <p>Afterwards, put the battery pack into a chamber with $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 7 days. Observe battery pack appearance.</p>
8	低气压 Low air pressure	电池组不起火、不爆炸、不漏液 No fire, no explosion, no leaking	<p>将电池组放置在 $20 \pm 3^{\circ}\text{C}$ 真空箱中，逐渐减小其内部气压至不大于 11.6 kPa（模拟 15420m 高度）并保持 6h,目检电池组外观。</p> <p>The battery pack was placed in an empty box at $20 \pm 3^{\circ}\text{C}$, and the internal air pressure was gradually reduced to no more than 11.6 kPa (simulated height of 15420m) and kept for 6 hours. The appearance of the battery pack was visually examined.</p>
备注 Note	<p>除特殊说明，以上所有安全测试均应在 $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 通风橱中，且附带有保护装置的条件下进行。</p> <p>Unless otherwise specified, all safety tests above shall be conducted in ventilated environment at $25 \pm 2^{\circ}\text{C}$ and under protective equipment.</p>		

六、贮存与运输 Storage and shipping

6.1 贮存 Storage

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification		文件编号 File NO.	BNP-GGS-LS-YP000400
			版本 Edition	A01

电池组需长期贮存时，需保持 50% 的电量，放置于干燥、通风处；每 3 个月用充电器充电。

电池组与充电器应贮存在清洁、干燥、通风良好的仓库内，避免与腐蚀性物质接触，远离火源及热源。电池组不得倒置，避免机械冲击或其它重物的重压。

When the battery pack needs to be stored for a long time, it should be kept at 50% of the electric capacity and placed in a dry and ventilated location. Use charger to charge every 3 months.

Battery pack and charger should be stored in a clean, dry, well-ventilated warehouse, avoid contact with corrosive substances, away from fire and heat sources. The battery pack must not be turned upside down and avoid mechanical shock or any other heavy load.

6.2 运输 Logistics

电池组运输过程中荷电状态应处于 30~65%，在运输中不得受剧烈机械冲击、暴晒、雨淋、倒置。在装卸过程中，应轻搬轻放，严防摔掷、翻滚和重压。

The battery pack should be in 30-65% state of its capacity during logistics and should not be subjected to violent mechanical crash, exposure to the blazing sun, rain, or inversion during logistics. In the process of loading and unloading, the battery should be handled lightly, strictly prevent throwing, rolling and heavy load.

七、电池使用注意事项 **Precautions for battery use**

为防止电池可能发生泄漏、发热、爆炸，请注意以下预防措施：

To prevent possible leakage, heating, and explosion of the battery, please pay attention to the following precautions:

7.1 请将锂电池组置放在孩童无法够触的区域。

Place the li-ion battery out of children's reach.

7.2 严禁将电池组正负极短路，安装中请勿将正负极接错（红线为正极，黑线负极）。

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	文件编号 File NO.	BNP-GGS-LS-YP000400
		版本 Edition	A01

Forbidden to short circuit the positive and negative poles. Connect the positive and negative poles right. (Red +, Black -)

7.3 请使用比克新动力指定的专用充电器充电。

Please use the matching li-ion battery charger authorized by BNP.

7.4 请在环境温度-20℃~60℃内使用，在环境温度 0℃~60℃内对电池进行充电，严禁在 0℃以下进行充电。

Use it at ambient Temperature of -20℃~60℃, charge it at ambient Temperature of 0℃~60℃. It is strictly forbidden charging battery under 0℃.

7.5 当电压降至大于截止电压 5V 时，请及时充电，充电不得超过 12 小时。

Charge in time when the voltage drops to greater than cut-off voltage 5V. The charging time should not exceed 12h.

7.6 如果要长时间存放(超过 3 个月)，应存储在温度范围为 -10~25℃，低湿度和不含腐蚀性气体的环境中，建议每隔 3 个月充放电一次，SOC 保持在 40-75% 之间。

In case of long period storage (more than 3 months), storage at temperature range of -10 ~ 25° C, low humidity, no corrosive gas atmosphere, and recommend to charge/discharge once every 3 months, and the SOC remains between 40-75%.

7.7 严禁控制器限流超过电池组最大放电电流使用，更换控制器请提前咨询。

Forbidden to use the controller current limit exceeding the nominal discharge current of the li-ion battery. Please consult BNP before changing controller.

7.8 请严格按照锂电池操作规范使用，选择通风开阔地点充电，并远离易燃易爆物品。

Please use the lithium battery strictly according to the operation rules, choose the ventilated open place to charge and keep away from inflammable and explosive materials.

7.9 电池组中有保护装置，请勿私自拆解或改变电池组结构，否则不予售后，后果自负。

There is protective device in the battery pack. Please do not disassemble or

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification		文件编号 File NO.	BNP-GGS-LS-YP000400
			版本 Edition	A01

change the structure of the battery pack, otherwise aftersales is responsible and the consequence is on user's own account.

7.10 电池仓体侧放/倒放而引起的进水损坏及电池组泡水，不提供质保。

No warranty is provided for the water damage caused by the side-up/down of the battery compartment and the soaking of the battery pack.

7.11 电池组因接线错误而损坏，商务协商，付费维修。

If battery pack is damaged due to faulty wiring, the user should pay the bill of maintenance.

7.12 过流引起的保护板烧坏，商务协商，付费维修。

If BMS is damaged by overcurrent, the user should pay the bill of maintenance.

八、免责声明 Disclaimer

8.1 如果由于产品需求单位不按本规格书中的规定进行使用，造成的一切损失，供方将追究产品需求单位的责任。根据对供方造成的损失，产品需求单位可向供方提供赔偿。

If the customer does not use the product according to the provisions of this specification, causing all the related loss, the supplier will investigate the responsibility. If the responsibility is from supplier, the customer should provide compensation to the supplier.

8.2 比克新动力保留对产品的规格及性能参数修改的权利。买方在订购比克新动力产品前，需要与比克新动力提前确认产品的最新状态。

BAK New Power reserves the right to modify the specifications and performance parameters of the product. Before order BAK New Power products, the buyer needs to confirm the latest status of the products with BAK New Power in advance.

8.3 产品需求单位可提出对电池组的需求并与比克新动力沟通，如客户有一些特别的应用或者操作条件不同于此文件所描述的，比克新动力可根据客户的特别要求进行产品的设计和生产。

The customer is requested to write down its information and contact BAK New Power in advance, when the customer needs applications or operating

 比克新动力 BAK NEW POWER	比克新动力锂离子电池组产品规格书 BAK New Power Lithium Ion Battery Pack Specification	
	文件编号 File NO.	BNP-GGS-LS-YP000400
	版本 Edition	A01

conditions other than those described in this document. BAK New Power could design and build such products according to customized special request.

8.4 英文规格释义仅供参考，请以中文版技术规格要求为准，我司进行工艺优化时不需另行通知。

- English specifications are for reference only. Please refer to the technical specifications of the Chinese Version. We will carry out process optimization without prior notice.

九、联系方式 **Contact us**

郑州比克新动力科技有限公司

Zhengzhou BAK New Power Technology Co., LTD.

地址：郑州市中牟县万洪路与中兴路交叉口南 100 米路西

Address: The intersection of Wanhong Road and Zhongxing Road, Zhongmu County, Zhengzhou City, Henan Province, China.

安徽比克新动力科技有限公司

Anhui BAK New Power Technology Co, LTD.

地址：安徽省黄山高新技术产业开发区梅林大道 59 号

Address: No.59, Meilin Avenue, Huangshan High Tech Industrial Development Zone, Anhui Province, China

电话：400-870-0267

Tel: 400-870-0267

网 址：www.baknewpower.com

Website: www.baknewpower.com