



### Revision history 变更履历

Version 版本	Description 修改内容描述	Prepared by 编制	Date 日期
A0	初版发行	陈明标	2025-05-09
A1	1、端子线外露线长改为 80±5mm 2、改专用定位支架, 更新尺寸图 3、更新保护板, 同步更新参数 4、增加重量参数	梁照运	2025-07-28
A1	1、取消 5 面环氧板, 更新尺寸 2、更新标贴, 容量按 2600mAh	梁照运	2025-07-31

	<b>东莞市环宇源科技有限公司</b> Dong Guan Huan Yu Yuan Technology Co.,Ltd	File No.文件编号: RD-TS-0934
		Rev.版本: A2 产品料号:10201996003
		Date 生效日期: 2025 / 07 / 31
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## 1. Product Summary 产品概要

### 1.1 Scope 适用范围

This specification describes the basic performance, technical requirement, testing method, warning and caution of the rechargeable lithium-ion battery pack. This specification is applied to battery manufactured by Dong Guan Huan Yu Yuan Technology Co., Ltd.

本标准规定了可充式锂离子电池组的基本性能、技术要求、测试方法及注意事项，本产品规格书适用于东莞环宇源科技有限公司提供的锂离子电池。

### 1.2 Standard 引用标准

The design of this battery pack is base on this Standard: GB 31241-2022 《Lithium ion cells and batteries used in portable electronic equipments - Safety requirement》.

本成品电池设计参考标准：中华人民共和国国家标准 GB 31241-2022 《便携式电子产品用锂离子电池和电池组安全要求》。

## 2. Normal Specification 基本参数

### 2.1 Cell Main Characteristics 电芯主要特性

Cell manufacturer 电芯制造商	Cell Model 电芯型号	Nominal Voltage 标称电压	Nominal Capacity 标称容量	Minimum Capacity 最小容量
DMEGC/东磁	INR18650-26E	3.65V	2600mAh	2500mAh

### 2.2 Electrical Characteristics 电气特性

No. 序号	Items 项目	Parameter 参数		Remarks 备注
1	Nominal Capacity 标称容量	2600	mAh	Discharge:0.2C 放电:0.2C
	Minimum Capacity 最小容量	2500	mAh	
2	Series-Parallel 组合方式	4S1P		/
3	Initial Impedance 内阻	≤140	mΩ	50% SOC, 交流 1kHz;
4	Nominal voltage 标称电压	14.6	V	/
5	Discharge cut-off voltage 放电截止电压	11.2±0.4	V	CC Discharge 恒流放电 Temperature of 25 ± 2 °C humidity of 15%~75% 室温 25 ± 2 °C, 湿度 15%~75%
6	Standard discharge current 标准放电电流	520	mA	Temperature of 25 ± 2 °C humidity of 15%~75% 室温 25 ± 2 °C, 湿度 15%~75%
7	Max continuous discharge current 最大持续放电电流	7000	mA	



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No. 序号	Items 项目	Parameter 参数		Remarks 备注
8	Transient discharge current 瞬间放电电流 1	15A/100mS		Temperature of 25±2°C humidity of 15%~75% 室温 25±2°C, 湿度 15%~75%
9	Charging mode 充电模式	CC+CV Charge 恒流恒压充电		Charger for Lithium Ion Batteries and Charging mode with CC+CV 具备恒流恒压充电模式的锂离子电池专用充电器
10	Max. Charge voltage 充电限制电压	16.8 备注: 容量测试时建议 17.2V 充电。	V	CC+CV Charge 恒流恒压充电 Temperature of 25±2°C humidity of 15%~75% 室温 25±2°C, 湿度 15%~75%
11	Standard charge current 标准充电电流	520	mA	CC Charge 恒流充电 Temperature of 25±2°C humidity of 15%~75% 室温 25±2°C, 湿度 15%~75%
12	Max continuous charge current 最大持续充电电流	1000	mA	Temperature of 25±2°C humidity of 15%~75% 室温 25±2°C, 湿度 15%~75%
13	CC Charging Cut-off Current 恒压充电截止电流	130	mA	Temperature of 25±2°C humidity of 15%~75% 室温 25±2°C, 湿度 15%~75%
14	Weight 重量	222.6	g	/
15	防水等级 IP Class	IP21		蓝色套管包裹
16	Open circuit voltage at delivery 出货时开路电压	14.6≤U≤ 15.4	V	Voltage within 1 week after delivery (出货后 1 周以内测定)
17	Operating Temperature (Charge) 工作温度 (充电)	0≤T≤50	°C	最大持续充电电流 1000mA
18	Operating Temperature (Discharge) 工作温度 (放电)	-20≤T≤10	°C	最大持续放电电流 520mA
		10<T≤60		最大持续放电电流 7000mA
19	Storage temperature/Humidity 储存温度	-20°C~60°C	≤1 month	charged to about 30% of capacity 应充到 30% 的电量
		-20°C~45°C	≤3 month	
		-20°C~25°C	≤1 year	
20	储存湿度 Storage Humidity	0~60% RH	%	
21	0V charging function 0V 充电功能	0V 不允许充电 备注: 针对电芯电压/单串 低于 1.5V 禁止充电。		After discharge cut-off, charging can be activated when P+/P- voltage is 0V. 放电截止后, P+/P-电压为 0V 时, 可以激活充电。

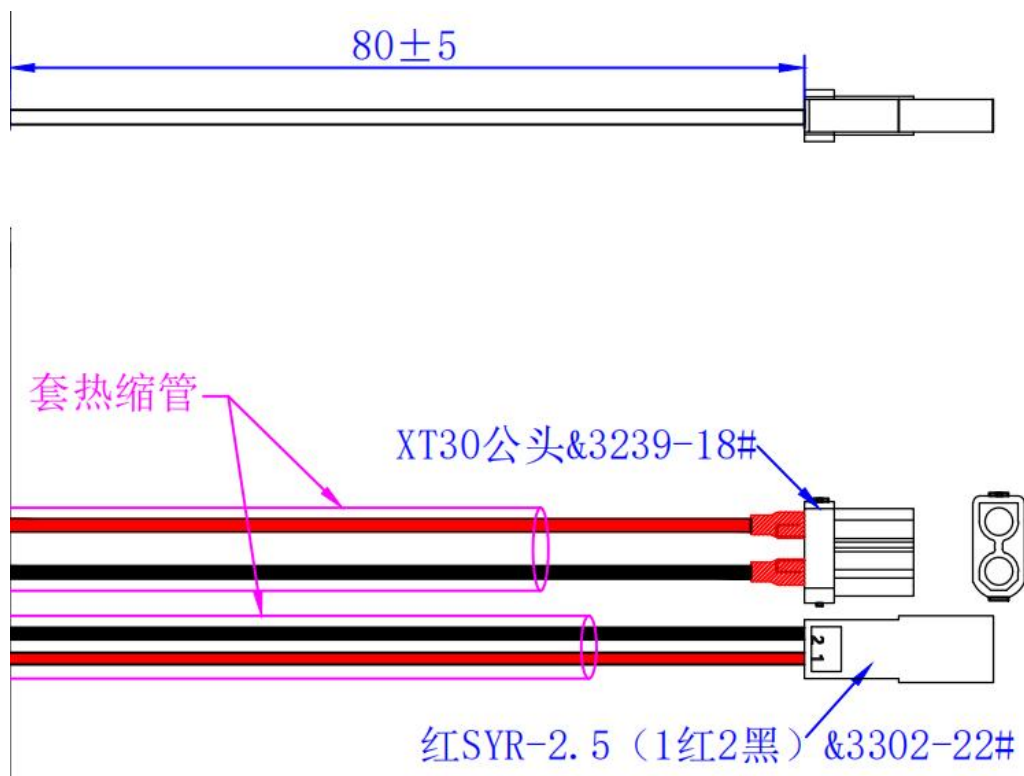
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### 2.3 Terminal Specification 端子定义

Name 定义	Description 描述
XT30/红线	电池放电正极
XT30/黑线	电池放电负极
SYR-2.5/红线	电池充电正极
SYR-2.5/黑线	电池充电负极

电池组输出端口图/Battery pack output terminal diagram:



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### 3. Battery Performance Test 电池性能测试

#### 3.1 Appearance 外观

There shall be no such defect as scratch, bur and other mechanical scratch, and the connector should be no rust dirt.

电池的表面应无明显的划痕毛刺及其其它机械划伤，外露的金属端子应无锈蚀污垢。

#### 3.2 Test Equipment 测试设备要求

##### 1) Dimension Measuring Instrument 尺寸测量设备

The dimension measurement shall be implemented by instruments with accuracy no less than 0.01mm.

测量尺寸的仪器的精度应不小于 0.01mm。

##### 2) Voltmeter 电压表

Class with national standard or more sensitive class. Total external resistance including ammeter and wire is less than 0.01Ω.

国家标准或更灵敏等级,内阻不小于 10 KΩ/V。

##### 3) Ammeter 电流表

Class with national standard or more sensitive class. Total external resistance including ammeter and wire is less than 0.01Ω.

国家标准或更灵敏等级，外部总内阻包括电流表和导线应小于 0.01Ω。

##### 4) Impedance Meter 内阻测试仪

Impedance shall be measured by a AC impedance method (AC 1kHz LCR meter).

内阻测试仪测试方法为交流阻抗法(AC 1kHz LCR)。

#### 3.3 Test conditions 测试条件

Unless otherwise specified, the default is to follow the following conditions.

除非其他特殊要求说明，默认按照下列条件执行。

##### 1) At the ambient temperature of 25 ± 2°C and humidity of 45%~75%

标准温度(25 ± 2°C)及标准湿度(45%~75%)的条件下。

3.4 Common Performance 产品的常规性能

No	Items/项目	Test Methods and Condition 测试方法和条件	Criteria 标准
1	Rated Capacity 额定容量	Charge at 0.25C but not higher than the maximum allowable charging current of the product design to(cut-off current is 0.02C), rest for 30 min. , constant current 0.2C discharge to empty. 以 0.2C 充电(但不高于产品设计的最大允许充电电流)到满(截止电流为 0.02C),静置 30 分钟, 然后以 0.2C 放电到完成。	Capacity≥2500mAh
2	Cycle Life 循环寿命	The battery shall be constantly charged at 0.2C in the temperature of (20±5°C). When its voltage reaches 16.8V, it shall be charged to constant voltage charging. It shall not stop charging until its current is no more than 0.02C .Put it aside for 0.5h-1h then discharge with 0.5C in the constant current to its final voltage 11.2V. When the discharging is finished, the battery shall be put aside for 0.5h-1h and has the next charge and discharge recycle. The above recycle test shall be continued unless there are two continuous discharging capacity less than 80%, which is taken as the end of the life. 电池循环寿命试验应在 20°C ± 5°C, 以 0.2C 充电, 当电池端电压达到充电限制电压时, 改为恒压充电, 直到充电电流小于或等于 0.02C, 停止充电搁置 0.5h-1h, 然后以 0.5C 电流放电至终止电压, 放电结束后, 搁置 0.5-1h, 再进行下一个循环, 直至连续两次放电容量小于 80%, 则认为寿命终止。	its cycles shall be over 800 times. 循环寿命不低于 800 次
3	Initial Impedance 初始内阻	Using a AC 1KHZ meter whose precision must be less than 0.5%, detect the resistance between the battery's positive and negative terminals. The result value can not include any external conductor's resistance. The maximum and the minimum need to be recorded. 使用 AC 1KHz 检测方法 & 准确度不低于 0.5 级的仪表, 测量电池接口处正负极之间的内阻值, 若检测仪表在检测过程中使用附加的电池固定夹具和引线, 可以视情况减去固定引线的电阻值, 且记录最大与最小之差值。	参考 2.2 (Refer to 2.2)

4	<p>Appearance and size of the finished Battery 成品电池外观及尺寸</p>	<p>Visual appearance of the battery; Use size measurement equipment measurements. 目测电池外观; 使用尺寸测量仪器设备测量尺寸。</p>	<p>Battery appearance should be clean ,no mechanical damage ,contact no rust necessary product logo; dimensions shall comply with specifications. 电池外表应清洁, 无机械损伤, 触点无锈蚀; 有必要的产品标志; 尺寸应符合规格要求。</p>
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### 3.5 Protection Performance 保护性能

No	Items/项目	Test Methods and Condition 测试方法和条件	Criteria 标准
1	<p>Overcharge testing 过充测试</p>	<p>Apply voltage to the battery pack at 1.2 times of the designed normal charging voltage, and charge the battery pack at the maximum allowable charging current, until the battery management system comes into operation (and observe for 2 hours), or stop the test in case of fire or explosion conditions. 以设计之正常充电电压的 1.2 倍给电池包施加电压, 并以允许最大充电电流对电池组充电, 直至电池管理系统起作用(并观察 2 小时), 或起火、爆炸条件时停止试验。</p>	<p>The charging protection is acting, and No fire, no explosion. 充电保护动作, 且不起火, 不爆炸</p>
2	<p>Over-discharge Testing 过放测试</p>	<p>Set the discharge process with the maximum allowable discharge current and the protective voltage below the discharge cutoff until the discharge is terminated, the battery management system is in operation (and observe for 2 hours), or the test is stopped under fire or explosion conditions. 以最大允许放电电流, 并以低于放电截止保护电压设置放电过程,直至放电终止, 电池管理系统起作用(并观察 2 小时), 或起火、爆炸条件时停止试验。</p>	<p>Discharging protection is acting, No fire,no explosion,no leakage. 放电保护动作, 且不起火, 不爆炸, 无泄液</p>
3	<p>External short circuit 外部短路</p>	<p>After fully charged ,connect the anode and cathode with a 0.08Ω resistance element and keep it for one hour. 完全充电后, 用小于 0.08Ω电阻连接正负极, 持续 1h</p>	<p>Short circuit protection is acting, No fire,no explosion 短路保护动作、不起火、不爆炸</p>

3.6 Mechanical property 机械性能

No	Items/项目	Test Methods and Condition 测试方法和条件	Criteria 标准
1	Vibration 振动	<p>At 20±5℃ Charge temperature condition ,the battery pack charging to upper limited charging voltage . The battery pack shall be tested under the following vibration conditions: An amplitude of 0.76mm, Frequency range between 10 Hz and 55 Hz, Sweeping velocity of 1 Hz per minute, Three mutually perpendicular directions of vibration (X, Y and Z axes), Tested time of 90±5 minutes. The battery pack shall be left for one hour after the test and a visual inspection shall be conducted.</p> <p>在 20±5℃ 充电环境下，将电池组充电至上限截止电压。充好电的电池按照以下测试条件进行测试：振幅保持在 0.76mm,频率范围保持在 10~55HZ，从 X、Y、Z 三个方向以扫频速率 1HZ/min，循环扫频，测试时间为 90±5 min。电池振动后静置 1H 后目视检查外观。</p>	<p>No fire,no explosion no leakage 不起火、不爆炸，无泄液</p>
		<p>Remark: The test is not suitable for battery pack with no housing. 备注：本试验不适用于无壳电池组。</p>	
2	Free fall 自由跌落	<p>At 20±5℃ Charge temperature condition ,the battery pack charging to upper limited charging voltage . The battery pack shall be dropped three times from a level of 1 meter onto a concrete floor in a random direction for three times.</p> <p>在 20±5℃ 充电环境下，将电池组充电至上限截止电压。将电池组从离地面 1m 的高度，以任意方向跌落到混凝土地板上，总共进行三次试验。</p>	<p>No fire,no explosion 不起火、不爆炸</p>
		<p>Remark: The test is not suitable for battery pack with no housing. 备注：本试验不适用于无壳电池组。</p>	

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## 4. PCM Specification and characteristic 保护板规格特性

### 4.1 Circuit Diagram or Schematic 系统框图或电路原理图

/

### 4.2 PCM parameter PCM 参数

Item 项目	Content 内容	Parameter 参数 (@ 25°C)			
		MIN 最小值	Typical 典型值	MAX 最大值	Unit 单位
Over charge protection 过充保护	Over-charge Protection Voltage 过充电保护电压	4.225	4.250	4.275	V
	Over-charge detection delay time 过充保护延时时间	800	1000	1200	ms
	Over-charge release Voltage 过充恢复电压	4.125	4.150	4.175	V
Over discharge protection 过放保护	Over-discharge protection Voltage 过放保护电压	2.670	2.700	2.730	V
	Over-discharge detection delay time 过放保护延时时间	800	1000	1200	ms
	Over-discharge release Voltage 过放恢复电压	2.970	3.000	3.030	V
Charge over current protection 充电过流保护	Charge over current protection current 充电过流保护电流	7.0	10	13	A
	Charge over current detection delay time 充电过流保护延时时间	300	500	700	ms
Discharge over current protection 放电过流保护	Discharge over current protection current 1 放电过流保护电流 1	20	25	30	A
	Discharge over current detection delay time 放电过流保护延时时间	700	1000	1300	ms
	Discharge over current protection current 2 放电过流保护电流 2	40	50	60	A
	Discharge over current detection delay time 放电过流保护延时时间	70	100	130	ms
	Discharge over current Protection Release 放电过流保护恢复方式	断开负载			
Short circuit protection 短路保护	Short circuit protection detection delay time 短路保护延时时间	100	200	400	us
	Short circuit release condition 短路恢复条件	Remove Load 移除负载			
Current consumption 电流消耗	Normal Current Consumption Of PCM 静态电流消耗	/	75	90	uA
Suggest working conditions	max continuous charge current 建议最大持续充电电流	1.0			A

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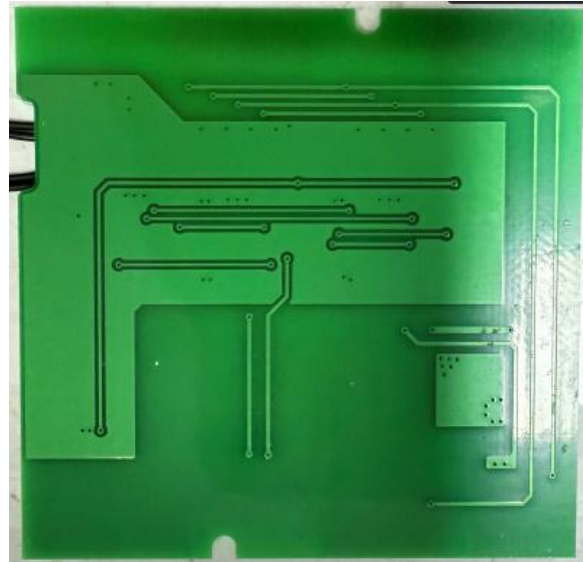
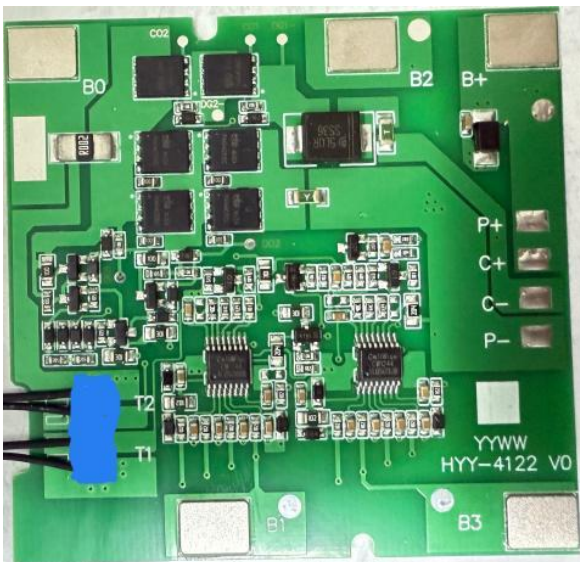
建议工作条件	max continuous discharge current 建议最大持续放电电流	7.0			A
	suggest working temperature 建议工作温度	-20~+60			°C
Inner resistance 内阻	Inner resistance 内阻	/	50	65	mΩ
Charging temperature protection 充电温度保护	Charging high temperature protection temperature 充电高温保护温度	47	50	53	°C
	Charging high temperature to protect the recovery temperature 充电高温保护恢复温度	42	45	48	°C
	Charging low temperature protection temperature 充电低温保护温度	-8	-5	-2	°C
	Charging low temperature to protect the recovery temperature 充电低温保护恢复温度	-3	0	3	°C
Discharging temperature protection 放电温度保护	Discharge high temperature protection temperature 放电高温保护温度	62	65	68	°C
	Discharge high temperature to protect recovery temperature 放电高温保护恢复温度	52	55	58	°C
	Discharging low temperature protection temperature 放电低温保护温度	-28	-25	-22	°C
	Discharging low temperature to protect the recovery temperature 放电低温保护恢复温度	-23	-20	-17	°C
	0V 禁止充电电压 0V prohibited charging voltage	1.3	1.5	1.7	V

注: 二级保护与一级保护参数一致

### 4.3 Main Components BOM 主要元器件 BOM

NO. 序号	Parts name 器件名称	Description 描述	Qty 数量	Manufacturer 制造商
1	Protection IC	CW1244ALBS	2	赛威
2	N-MOSFET	PAN4055C	4	派思迪
3	N-MOSFET	PAN4040C	2	派思迪

### 4.4 Layout Diagram 布线图



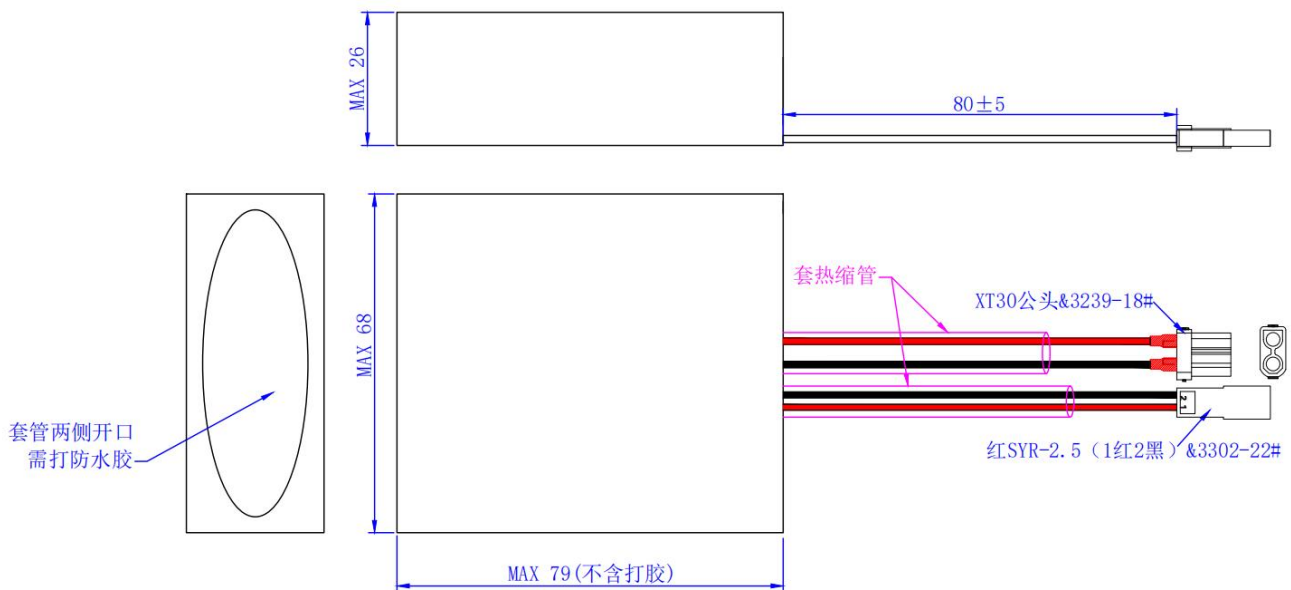
保护板实物图

## 5. Battery Configuration 电池组成

No. 编号	Item 项目	Type 类型	Qty 数量	备注
1	Cell 电芯	东磁/INR18650-26E/2600mAh/3C/3.65V	4PCS	
2	PCM 保护板	4S 分口/14.8V/7A/HYY-4122 V0/ CW1244ALBS*2/PAN4055C*2/PAN4040C*2	1PCS	
3	端子线	黄/Amass/XT30U-F 公头/3239-18#/红黑/L= (98*98mm) +2.5/套 85mm 长热缩管	1PCS	
4	端子线	红/SYR-2.5-2P 母头/3302-22#/1 红 2 黑/L (95*95mm) +2.5/套 85mm 长热缩管	1PCS	
5	支架	支架-A/18650 一体支架/孔径 18.5mm/中心距 19mm/尺寸 77*21.7*10mm/ZJ-21004(1PX4S)	1PCS	
6	支架	支架-B/18650 一体支架/孔径 18.5mm/中心距 19mm/尺寸 77*21.7*10mm/ZJ-21004(1PX4S)	1PCS	

## 6. Outline Drawing 外形图

### 6.1 Finished Product Dimension 成品尺寸图



(长宽高最大尺寸 79\*68\*26mm)

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## 6.2 Label 标贴

30 mm

Red(红线): +    Black(黑线): -    4INR19/66  
Rechargeable Lithium-ion Battery Pack/可充式锂离子电池组  
Model(型号): HYY1996003  
Nominal Voltage(标称电压): 14.6V  
Rated Capacity(额定容量): 2600mAh  
Rated Energy(额定能量): 37.96Wh  
Limited Charging Voltage(充电限制电压): 16.8V  
Date(生产日期): 20241008  
△ CAUTION/警告:  
Do not disassemble, impact, squeeze or put into the fire.  
禁止拆解、撞击、挤压或投入火中。  
Do not place it in the hot environment.请勿置于高温环境。  
Do not use it after immersing.电池浸水后禁止使用。  
Please use the designated charger to charge.  
请使用指定的充电器充电。




Manufacturer/Factory(制造商/生产厂):  
Dong Guan Huan Yu Yuan Technology Co., Ltd.  
东莞市环宇源科技有限公司  
中国制造/Made in China



S/N: HYY19960032024100800001

50 mm



条形码说明:

编码格式: Code 128;

扫码位数23位;

扫码内容: HYY19960032024100800001;

1、HYY1996003代表产品型号, 不变

2、20241008生产日期, 2024年10月08号,

其中2024表示2024年, 10表示月份, 08表示8日, 以此类推, 按订单备注的生产日期为准

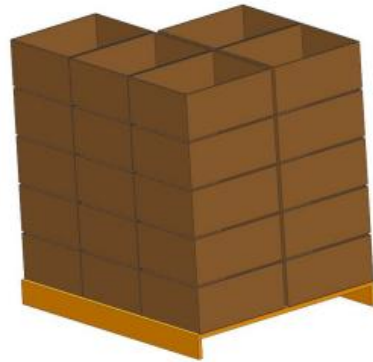
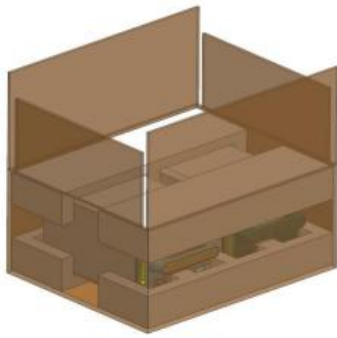
3、00001(5位)代表流水号, 采用十进制(0~9)

## 7. Packing Instruction 包装说明

### 7.1 Package and Marking 包装及标志

Outside shall indicate the product name, model, quantity, gross weight, manufacturers and contact address, date of production, shall also have the "handle with care", "keep dry", "up" and other necessary sign; A sign of its packaging storage and transportation should be consistent with the provisions of the GB - 191-2008.

包装箱外应标明产品名称、型号、数量、毛重、制造厂商及联络地址、出厂日期，还应有“小心轻放”、“怕湿”、“向上”等必要标志；其包装储运的标志应符合 GB-191-2008 的规定。



### 7.2 Box Label 箱唛

Each battery box label contains information such as the name, quantity, weight, size, and origin/destination of the goods.

每个电池箱唛内容包含货物的名称、数量、重量、尺寸和出发地、目的地等信息。

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## 8. Transportation and Storage 运输和贮存

### 8.1 Transportation 运输

- 1) The product can be transported by any means of transport, keep the product from collision, violent vibration, rain ,snow, water, etc.;  
包装后的产品能用任何交通工具运输，运输中应避免碰撞、剧烈震动、雨雪淋袭、水浸等；
- 2) The product shall not be stored in open-air warehouse;  
中途转运时不得存放在露天仓库中；
- 3) The products can't have any damage and performance degradation after shipping;  
运输后产品不能有任何损伤和性能下降；

### 8.2 Storage 贮存

- 1) The product should be stored in a clean, dry, ventilated, non-corrosive gas environment, there must be no direct sunlight, the storage temperature is-10~40℃, and the relative humidity is not more than 65%;  
产品应贮存在清洁、干燥、通风、无腐蚀性气体的环境中，不能有阳光直射，储存仓库温度为-10~40℃，相对湿度不大于 65%；

## 9. Caution 注意事项

### 9.1 Use precautions 使用注意事项

- 1) Do not use or store the battery where is exposed to extremely hot, such as under window of a car in direct sunlight in a hot day. Otherwise, the battery may be overheated. This can also reduce battery performance and/or shorten service life.  
不要使用处于极热环境中的电池，如阳光直射或热天的车内。否则，电池会过热，可能着火（点燃），这样就会影响电池的性能、缩短电池的使用寿命。
- 2) Do not use any chargers other than those recommended.  
请使用专用充电器！
- 3) During the use of batteries, there should be no abnormal use such as overcharge (voltage > 4.20V), over discharge (voltage < 2.75V), over current charging and discharging (maximum current allowed by current temperature), etc. It is strictly prohibited to use cores in environments prone to static electricity and poor sealing (water, dust entering).  
电池使用过程中，不能出现单体过充电（电压>4.20V）、单体过放电（电压<2.75V）、超电流充放电（当前温度允许的最大电流）等不正常使用情况；严禁在易产生静电、密封不良（水、粉尘进入）等环境使用电芯。
- 4) Batteries with in high/low temperature environment, using in vibration environment, using in bad environment and using in humid environment will reduce the service life of the core.  
电池在高温环境/低温环境使用、震动环境使用、配组不良环境使用、潮湿环境使用会降低电芯的使用寿命。
- 5) When batteries are used in series and in parallel, it is suggested that high voltage conductors should be covered with electromagnetic insulation to prevent electromagnetic wave damage to nearby

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devices and human body.

电池多串并配组使用时，建议高电压导线外套电磁绝缘罩，防止电磁波对临近器件、人体的损伤；

- 6) Do not short-circuit the battery by connecting wires or other metal objects to the positive (+) and negative (-) terminals.

禁止用导线或其它金属物体将电池正负极短路，禁止将电池与项链、发夹或其它金属物体一起运输或贮存！

- 7) The pack should be charged and discharged in strict accordance with the current specified in the specifications to ensure the service life and safety of pack.

电池应严格按照规格书规定的电流进行充、放电设计，保证电池的使用寿命及安全。

- 8) when the battery is used in combination, it is required to use the same capacity, internal resistance gear, the same batch and the same state of charge cell, and the combination standard is strictly in accordance with the technical agreement. During the operation of the battery pack, the temperature difference inside the battery pack shall be less than 5 °C.

电池配组使用时，需使用相同容量、内阻档位，相同批次以及相同荷电状态的电芯，配组标准严格按照技术协议进行。电池组工作过程中，电池包内部温差应小于 5℃。

- 9) The pack should be stored at room temperature, charged to about 40% to 60% of capacity. In case of over-discharge, pack should be charged for one time every 3 months while storing and batteries should be discharge and charge after being stored more than a year in order to activate it and restore energy.

电池组合应当在室温下存放，应充到 40%至 60%的电量。为防止电池过放，建议每 3 个月进行一次充电，如储存时间超过一年，建议每年进行一次充、放电以激活电池。

## 9.2 Safety precautions 安全注意事项

- 1) Do not immerse the battery in water or allow it to get wet.  
勿将电池投入水中或将其弄湿！
- 2) Do not use or store the battery near sources of heat such as a fire or heater.  
禁止在火源或极热条件下给电池充电！勿在热源（如火或加热器）附近使用或贮存电池！如果电池泄漏或发出异味，应立即将其从接近明火处移开；
- 3) Do not connect the battery directly to wall outlets or car cigarette-lighter sockets.  
勿将电池直接连接到墙上插座或车载点烟式插座上！
- 4) Do not put the battery into a fire or apply direct heat to it.  
勿将电池投入火中或给电池加热！
- 5) Do not pierce the battery casing with a nail or other sharp object, break it open with a hammer, or step on it.  
禁止用钉子或其它尖锐物体刺穿电池壳体，禁止锤击或脚踏电池！
- 6) Do not strike, throw or subject the battery to sever physical shock.  
禁止撞击、投掷或者使电池受到机械震动！
- 7) Do not directly solder the battery terminals.  
禁止直接焊接电池端子！
- 8) Do not attempt to disassemble or modify the battery in any way.  
禁止以任何方式分解电池！

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- 9) Do not place the battery in a microwave oven or pressurized container.  
禁止将电池置入微波炉或压力容器中!
- 10) Do not use the battery if it gives off an odor, generates heat, becomes discolored or deformed, or appears abnormal in any way. If the battery is in use or being recharged, remove it from the device or charger immediately and discontinue use.  
如果电池发出异味、发热、变形、变色或出现其它任何异常现象时不得使用; 如果电池正在使用或充电, 应立即从用电器中或充电器上取出并停止使用!
- 11) If the battery leaks and electrolyte gets in your eyes, do not rub them. Instead, rinse them with clean running water and immediately seek medical attention. If left as is, electrolyte can cause eye injury.  
如果电池漏液后电解液进入眼睛, 不要擦拭, 应用水冲洗, 立即寻求医疗救助。如不及时处理, 眼睛将会受到伤害。
- 12) Do not use the battery in combination with primary batteries (such as dry-cell batteries) or batteries of different Capacity type or brand.  
禁止与一次电池(如干电池)或不同容量、型号、品种电池组合使用!
- 13) Do not immerse the battery in water or allow it to get wet.  
勿将电池投入水中或将其弄湿!

### 9.3 Free-responsibility Declaration 免责声明

- 1) Before using the battery, you should read the specifications, usage instruction and some attentions carefully to learn its application method and areas. If the phenomenon such as error using method or wrong circuit connection, or input power data, working index are in consisted with the specifications happen and cause damage to production ,circuit and its accessories, we are not responsible for it.  
产品使用前, 请用户说细阅读产品规格书、使用说明书及使用注意事项等, 了解产品的使用方法及应用范围; 若出现产品使用方法错误、电路连接不对或采用的输入电源、负载功能参数与产品规格书所标性能参数不符等现象均属使用不当, 由使用不当造成产品、负载及周边连接件的损坏, 本公司均不承担任何责任。
- 2) Any matters that this specification does not cover should be conferred between the customer and IES  
本规格书中任何未提及的事项, 须经双方协商确定。
- 3) The final explanation right belongs to Dong guan huan yu yuan technology Co., Ltd.  
本规格书的最终解释权归东莞环宇源科技有限公司。

### 9.4 Environment Protection 环保要求

This product accord with ROHS requirement.  
此产品符合 ROHS 环保要求。

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## 10. Appendix 附录

TBD