



# Product Specification

## 产品规格承认书

Customer Code 客户代码: \_\_\_\_\_

Customer Part Number 客户产品料号: \_\_\_\_\_

Coincell Battery Model. 科恩瑟尔成品电池型号

**KE26700-4S5P-R020**

Coincell Battery Part Number. 科恩瑟尔成品电池料号: \_\_\_\_\_

Prepared by 制作人	Checked by 审核人	Approved by 批准人

Customer Approval 客户承认	Customer Signature/Date 客户签名/日期	Customer Company Stamp 客户公司盖章

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## Revision History 版本履历 表

Revision 版本	Description 内容描述	Issued by 发行人	Approved by 审批人	Date 日期
V1	首次发行 First Release	唐梦宏	李永辉	2022-12-9
V2	更新容量及充电截止电压	唐梦宏	李永辉	2022-12-15



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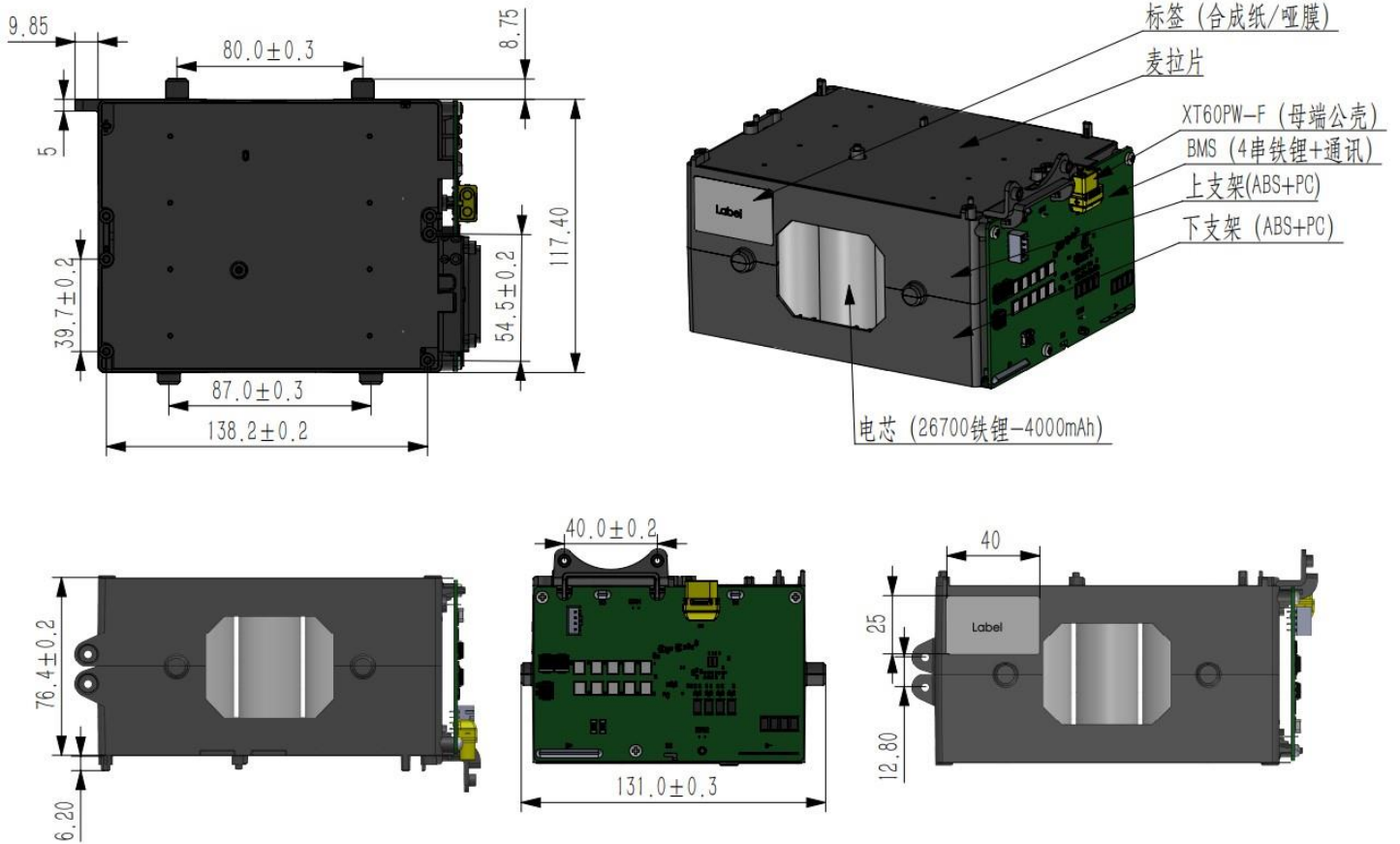
## 1. Scope 概述

This document describes the specification of rechargeable Li-ion battery pack which is designed and provided by **Shenzhen Coincell Battery Co., Ltd.** 这文件描述由**深圳市科恩瑟尔电池有限公司**设计提供的可充电锂离子电池成品的规格。

## 2. Battery specification 电池规格 (温度=25±3°C, 除非另有规定):

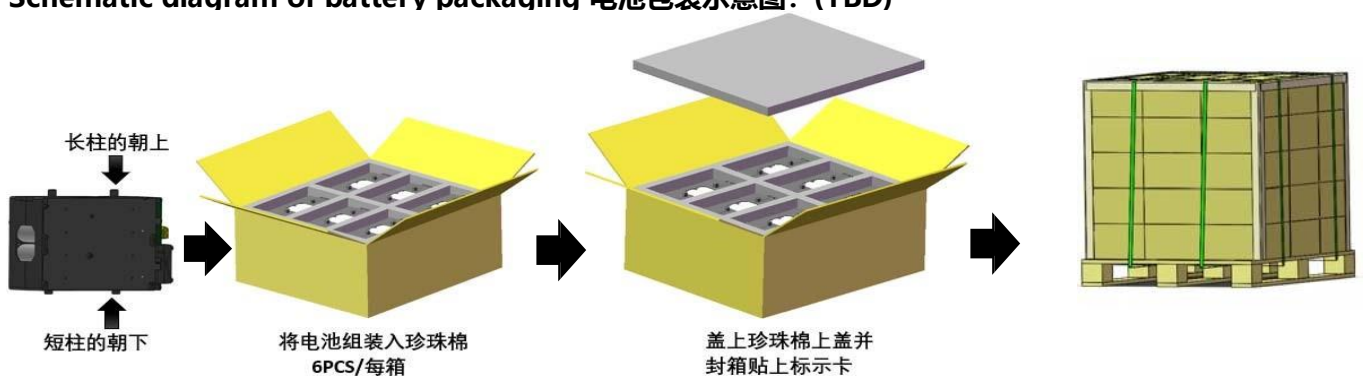
No.	Item 项目	Parameters 参数	
1	Battery pack model 电池成品型号	KE26700-4S5P-R020	
2	Combination mode 组合方式	4S5P	
3	Rated capacity 额定容量	18500mAh	0.5C discharge current 0.5C 放电电流
4	Nominal voltage 标称电压	12.8V	
5	Shipment voltage 出货电压	12.6~13.0V	
6	Charge ending voltage 充电限制电压	14V	充电模式: CC/CV 恒压截止电流 1A
7	Discharge ending voltage 放电截止电压	10.8V	
8	Pack Impedance 内阻	≤50mΩ (AC/1000HZ)	Note: The ex-factory less than 6 months, and the number of cycles is less than 30 times 备注: 出厂时间小于6个月, 循环次数小于30次
9	Battery weight 电池重量 (packed)	Approx . 2100g	
10	Standard charge current 标准充电电流	0.5C(10000mA)	
11	Standard discharge current 标准放电电流	0.5C(10000mA)	
12	Max constant charging current 最大连续充电电流	0.5C(10000mA)	
13	Max constant discharging current 最大连续放电电流	40000mA	
14	Operating temperature 工作温度范围	Charge 充电: 0~55°C Discharge 放电: -20~60°C	
15	Cycles life 循环寿命 (RT: 25±3°C) (0.5C charge to 14V, 1 C discharge to 10.8V)	1500 次充放电后, 电池恢复 80%的初始容量 After 1500cycles charge/discharge, battery can recover 80% of its initial capacity	
16	Storage Method 储存方式	3 Month at -20 to 35 °C	Storage Humidity 存储湿度: 65±20%
		12 Month at -20 to 25 °C	
17	Battery Pairing Requirements 电池配组要求	电压差 5mV, 内阻差≤4mΩ, 容量差≤40mAh	
18	Certification requirement 认证要求	环保: RoHS	
19	Communication mode 通讯方式	IIC	

2.1 Battery packed drawing 电池成品尺寸:



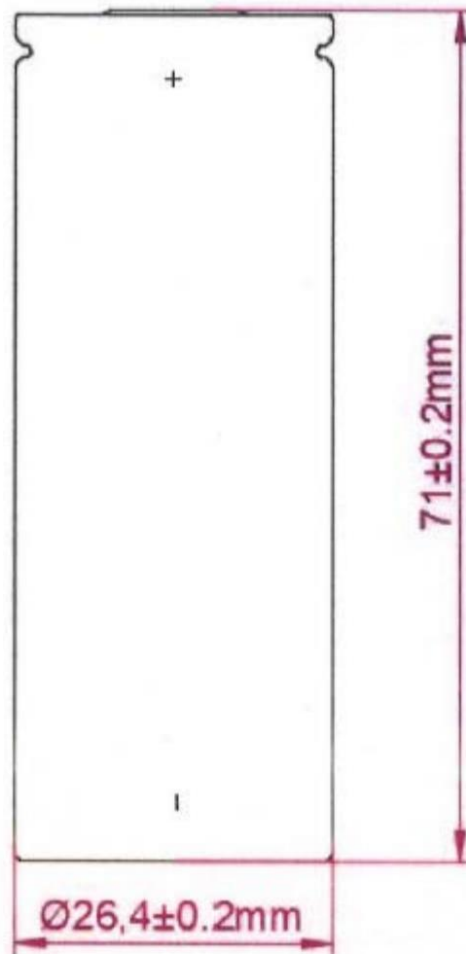
标贴: (TBD)

2.2 Schematic diagram of battery packaging 电池包装示意图: (TBD)



### 3. Cell specification 电芯规格:

No.	Item 项目	Parameter 参数
1	Cell model 电芯型号	LWN-ITR26700-40E
2	Minimal capacity 最小容量 (0.5C discharge current 放电电流)	3960mAh
3	Typical capacity 典型容量 (0.5C discharge current 放电电流)	4000mAh
4	Nominal voltage 标称电压	3.2V
5	Cell charge ending voltage 电芯充电限制电压	3.65±0.02V
6	Cell Impedance 电芯内阻	≤20mΩ
7	Maximum Cell Diameter 电芯最大直径 D	26.4±0.2mm
8	Maximum Cell Height 电芯最大高度 H	71±0.2mm





#### 4. BMS Specification 保护板规格

##### 4.1 BMS Characteristic 保护板特性 (at 25°C)

项目 Items	最小值 Min	典型值 Type	最大值 Max	单位 unit	特殊控制点	
单节过充保护 Cell Voltage Over- Charge Protection	过充保护电压 Over-Charge Voltage Protection(OVP)	3625	3650	3670	mV	/
	过充保护延时 Over-Charge Voltage Protection Delay Time (OV PDT)	2000	3000	4000	mS	/
	过充恢复电压 Over-Charge Voltage Protection Release (OVPR)	3275	3350	3375	mV	/
	过充恢复策略 Over-Charge Recovery policy	1. 最高单体电压低于恢复电压点 The maximum cell voltage is lower than the recovery voltage point 2. 容量低于 95% Capacity below 95% 3. 放电立即恢复 Discharge recovery				/
	满充电压 Full charge Voltage	3400	3450	3500	mV	单节达到 3.45V, 小电 流 3A, 持续 10S; 单节满 充 SOC 调整为 100%
	满充恢复电压 Full charge recovery voltage	3275	3350	3375	mV	3S 延时
总压过充保护 Total Voltage Over Charge Protection	过充保护电压 Over-Charge Voltage protection (OVP)	14.5	14.6	14.68	V	/
	过充保护延时 Over-Charge Voltage protection Delay Time (OV PDT)	2000	3000	4000	mS	/
	过充恢复电压 Over-Charge Voltage protection Release (OVPR)	13.1	13.4	13.5	V	/



单体过放保护 Cell Voltage Over Discharge Protection	过放电保护电压 Over-Discharge Voltage Protection (UVP)	2675	2700	2725	mV	SOC 0%对应点
	过放电保护延时 Over-Discharge Voltage Protection Delay Time (UVPDT)	2000	3000	4000	mS	/
	过放电恢复电压 Over-Discharge Voltage Protection Release (UVPR)	3075	3100	3125	mV	/
	过放电恢复策略 Over-Discharge Recovery Policy	1.充电恢复 Charge recovery				/
	放电截止电压(SOC 1%对应点) End-off voltage	2775	2800	2825	mV	SOC 1%对应点
总压过放保护 Total Voltage Over Discharge Protection	过放电保护电压 Over-Discharge Voltage Protection (UVP)	10.7	10.8	10.9	V	/
	过放电保护延时 Over-Discharge Voltage Protection Delay Time (UVPDT)	2000	3000	4000	mS	/
	过放电恢复电压 Over-Discharge Voltage Protection Release (UVPR)	12.3	12.4	12.5	V	/
充电过流保护 Over Charge Current protection	充电过流保护电流 Over-Current Charge protection (OCDP)	18.0	20.0	22.0	A	/
	充电过流保护延时 Over-Current Charge Protection Delay Time (OCPDT)	2000	3000	4000	mS	/
	充电过流保护恢复 Over-Current Charge Protection Release	1. 放电立即恢复 Discharge Restore				/
	一级放电过流保护电流 First Over Protection current	45	48	50	A	30S 自恢复



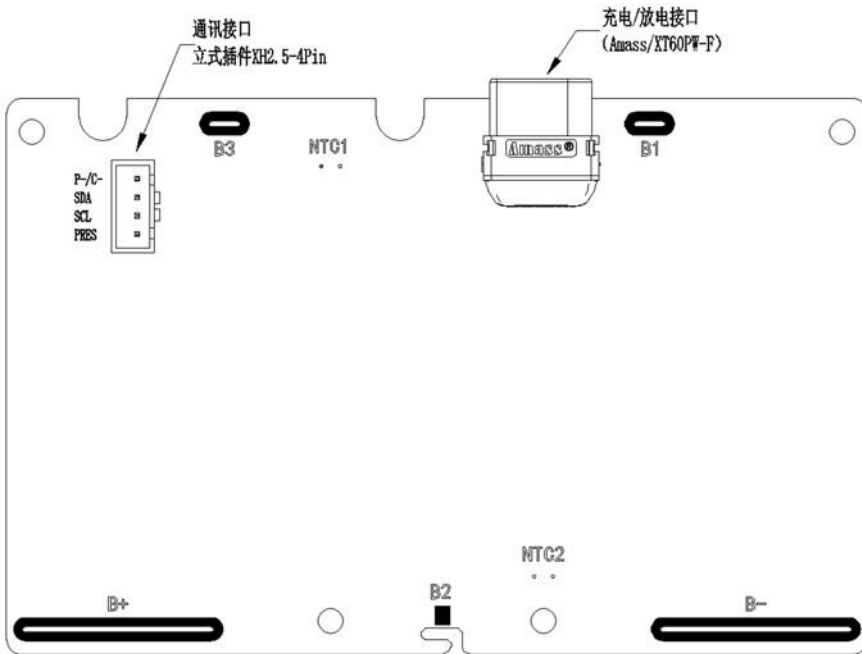


放电过流保护 Over Discharge Current Protection	一级放电过流保护延时 First Over Protection Delay Time	6000	7000	8000	mS	/
	二级放电过流保护电流 Second Over Protection Current	55.0	60.0	65.0	A	30S 自恢复
	二级放电过流保护延时 Second Over Protection delay time	4000	5000	6000	mS	/
	放电过载保护 Discharge Overload protection	95	100	105	A	30S 自恢复
	放电过载保护 Discharge Overload protection delay time	/	150	/	mS	
	放电过流保护恢复 Over- Discharge Charge Protection Release	1. 充电立即恢复 1. Charge Restore				/
故障电芯电压 Faulty cell voltage	/	< 1.7		> 3.8	V	持续 5S
短路保护 Short Circuit Protection	短路保护电流 Short Circuit Current Protection	/	170	/	A	30S 自恢复
	短路保护延时 Short Circuit Current Protection Delay Time	≤300			uS	/
	短路保护恢复 Short Circuit Protection Release	1. 充电立即恢复 2. 1.Charge Restore				/
温度保护 Temperature Protection	MOS 高温保护 MOS Over Temperature Protection	/	/	/	°C	保护延时 1S/恢复 延时 1S Protection delay: 1s / recovery delay: 1s
	MOS 高温恢复 MOS Over Temperature Recovery	/	/	/	°C	
	放电高温保护 Discharging High Temperature Protection	58	60	/	°C	
	放电高温恢复 Discharging High Temperature Protection Release	53	55	57	°C	
	放电低温保护 Discharging Low Temperature Protection	-20	-18	-16	°C	
	放电低温恢复 Discharging Low Temperature Protection Release	-14	-12	-10	°C	



	充电高温保护 Charging High Temperature Protection	53	55	/	°C	
	充电高温恢复 Charging High Temperature Protection Release	43	45	47	°C	
	充电低温保护 Charging Low Temperature Protection	/	0	2	°C	
	充电低温恢复 Charging Low Protection Release	3	5	7	°C	
均衡电压 Balanced Voltage	均衡开启电压 Balanced Opening Voltage	3.20		3.45	V	/
	均衡开启压差 Balanced Opening Voltage different	10	20	30	mV	/
	均衡关闭压差 Equalizing closing differential pressure	-	/	-	mV	/
	均衡电流 Balanced Opening Current	50			mA	/
	均衡方式 Balanced Opening Mode	被动均衡 Passive Balance				/
	<p><b>均衡开启条件</b> (必须都满足): 1)充电状态; 2)所有电芯电压在 3.2V-3.45V 之间; 3)最高最低电芯压差 <math>\geq 20\text{mV}</math>; <b>均衡关闭条件</b> (任一满足): 1)非充电状态; 2)电芯电压在 3.2V-3.45V 之外;</p> <p><b>Equalization on conditions</b> (all must be met): 1) charging state; 2) All cell voltages are between 3.2v-3.45v; 3) Maximum and minimum cell voltage difference <math>\geq 20\text{mV}</math>;</p> <p><b>Equalization off condition</b> (any one is satisfied): 1) non charging state; 2) The cell voltage is outside 3.2v-3.45v;</p>					
功耗 Power Consumption	正常状态下静态电流 Current consumption (Operation)	$\leq 350$			uA	放电电流小于 100mA 以下/延时 10S 进入
	休眠功耗 shut down	$\leq 5$			uA	/
最大持续电流 Max Continuous Current	最大持续充电电流 Max Continuous Charge Current	-	-	20	A	/
	最大持续放电电流 Max Continuous Discharge Current	-	-	40	A	/
空载内阻 impedance		-	-	20	mΩ	/
SOC 线性度误差 SOC linearity error	$\leq 5\%$					/
电流采集精度 Current accuracy	3%					/

#### 4.2 Port definition and connection 端口定义及连接图



### 5. Bill of Material (BOM) 物料清单

#### 5.1 Battery Pack BOM 电池成品主要物料清单

No.	Material 物料	Description 描述	Quantity 用量	Manufactured 制造商
1	Cell 电芯	LWN-ITR26700-40E	20	LWN
2	Protection board 保护板	M4S5P-26700-R020-BMS/带通讯 /BQ40Z50	1	/
3	电芯支架	专用上下支架	1 套	/
4	Tab 镍片	专用镍片 镀镍钢 厚 0.25mm	1 套	/

### 6.Environmental characteristics 环境特性

No.	Test item 测试项目	Test Method 测试方法	Pass Criteria 合格标准
1	Charged Storage Characteristics 荷电保持能力	Battery is fully charged by standard charge process. Battery idle at 25±3°C for 28days. At 25±3°C, Battery is discharged battery by 0.2C until 10.8V. 电池按标准充电流程满充电。在 25±3°C 放置 28 天。在 25±3°C 电池按 0.2C 放电到 10.8V.	Remain capacity ≥ standard capacity *90% 剩余容量 ≥ 标称容量 *90%



## 7. Safety Test 安全测试

Coincell battery can meet several international safety standards. Below is part of safety tests which are referred to international standard. 深圳市科恩瑟尔电池有限公司的电池能达到多个国际电池安全标准。以下是部分安全测试项目。

No	Test item 测试项目	Test Method 测试方法	Criteria 标准
1	Constant Humidity and Temperature test 恒定湿热测试	Battery is fully charged by standard charge process. Then, Battery is put into chamber with constant humidity(90~95%) and temperature (40±2°C) for 48hrs. After test, battery idle for 2hrs at 25±3°C and discharge by 0.5C to 10.8V. 电池按标准充电流程满充电。之后电池放在恒温箱 48 小时，湿度为 90~95%和温度为 40±2°C。测试后，电池在 25±3°C下搁置 2 小时，以 0.5C 放电至 10.8V。	No fire, No leakage, No explosion 无起火，无漏液，无爆炸
2	Overcharge Test 过充电测试	Battery is fully charged by standard charge process. Then, the battery is charged by 3C rate constant current and voltage to 4.6V for 7hrs. 电池按标准充电流程满充电。之后电池用 3C4.6V(单节)恒流恒压充电 7 小时。	No fire, No explosion 无起火，无爆炸
3	Over discharge Test 过放电测试	At 25±3°C, Battery is discharged by 0.5C until 10.8V. And then Battery is connected the load with 30Ω to discharge for 7hours. 电池在 25±3°C 用 0.5C 放电到 10.8V。之后电池连接 30Ω 负载放电 7 小时。	No fire, No explosion 无起火，无爆炸
4	Short test 短路测试	Battery is fully charged by standard charge process. Then, Battery anode and cathode connected to 80±20mΩ load for 1hour. 电池按标准充电流程满充电。电池的正负极连接到 80±20mΩ 负载 1 小时。	No fire, No explosion The Temperature of the Battery surface not exceeded than 150°C 无起火，无爆炸，表面温度 ≤150°C
5	Projectile Test 焚烧测试 (单节)	Battery is fully charged by standard charge process. Battery is placed on the screen which is to be constructed by steel wire mesh. The screen is mounted above the burner. And eight-sided covered wire cage is to be placed over the Battery. Battery is to be heated and remain on the screen until it	No part of an exploding cell shall penetrate the wire screen. 电池的任何部分不得穿出此八面铝网。



		<p>explodes or has been ignited or burned out. 电池按标准充电流程满充电。 将电池放在钢丝网上，钢丝网下有燃烧器和钢丝网被八面铝网盖住。电池在钢丝网上被加热直到电池爆炸或被点燃或完全烧毁。</p>	
6	Drop Test 掉落测试	<p>Battery is fully charged by standard charge process. Battery is free fall from a height of 1m on the cement floor, from X-axis、Y-axis positive and negative direction. Each direction is free fall 1 time. 电池按标准充电流程满充电。 电池从 1 米高处自由跌落到水泥地板上，从 X 轴、Y 轴的正负方向，每个方向自由跌落一次。</p>	No fire, No explosion 无起火，无爆炸
7	Crush test 挤压测试 (单节)	<p>Battery is fully charged by standard charge process. The Battery is to be crushed with its longitudinal axis parallel to the surfaces of crushing apparatus. The surfaces are to be bought in contact with cell and the crushing is to be continued until an applied force of 13±1kN is reached. Once the maximum force has been obtained, it is to be released. 电池按标准充电流程满充电。 电池的纵向跟平面金属板间平行，持续施加 13±1kN 的压力挤压，直到压力达到 13±1KN 时停止并释放压力。</p>	No fire, No explosion 无起火，无爆炸
8	Shock test 撞击测试 (单节)	<p>Battery is fully charged by standard charge process. Battery is secured to the testing machine by means of a rigid mount which will support all mounting surfaces of the Battery. The Battery is subjected to a total of two shocks of equal magnitude. The shocks are to be applied in each of two mutually perpendicular directions. For each shock the Battery is accelerated in such a manner that during the initial 3ms the minimum average acceleration is 75g. The peak acceleration shall be between 125 g and 175 g. Battery is tested at 20±5°C 电池按标准充电流程满充电。 在环境温度下，将电池分别按二个轴向固定在测试台面上，前 3ms 内平均加速度最少达到 75g (g 为重力加速度)，峰值加速度达 125g 至 175g。电池测试温度为 20±5°C</p>	No fire, No explosion, 无起火，无爆炸



## Performance and Test Criteria 电池性能和测试标准

### 8.1 Standard Test Criteria 标准测试标准

If test criteria is not defined, test should be done under the below standard test criteria. 如果测试标准没有定义，测试标准会按以下测试完成。

Test Criteria 测试标准	Parameters 参数
Ambient Temperature 环境温度	25±3°C
Relative Humidity 相对湿度	65±20%
Atmospheric pressure 大气压力	86 ~ 106 kPa
Charge 充电	Standard charge process 标准充电流程
Discharge 放电	Standard discharge process 标准放电流程
Delivery Time from Coincell 从科恩瑟尔发出时间	Within 1month 一个月内

### 8.2 Visual Inspection 外观检查 No

crack, no leakage  
没有破裂，没有漏液

### 8.3 Measuring Instrument Standard 测量仪器标准

Instrument 仪器	Standard 标准
Instrument to measure dimension 测试尺寸仪器	Precision scale : 0.01mm 精度: 0.01mm
Voltmeter 伏特计	Internal impedance < 10kΩ/V 内阻 < 10kΩ/V
Ammeter 安培计	Impedance of ammeter and wires < 0.01Ω 安培计和电线内阻 < 0.01Ω
Impedance meter 阻抗计	Impedance is measured by sinusoidal 1kHz AC current 内阻测试用 1kHz 正弦交流电流

### 8.4 Standard charge process 标准充电流程

Battery pack is charged by 0.5C constant current at 25±3°C until 14V. Then, Battery is charged by constant voltage until current drop to 1A. 在 25±3°C，电池成品以 0.5C 恒流电流充电直到 14V，电池用恒压充电直到电池电流降到 1A。

### 8.5 Standard discharge process 标准放电流程

Battery pack is discharged by 0.5C continuous current at 25±3°C until the voltage drop to 10.8V. 在 25±3°C，电池成品以 0.5C 连续放电电流放电直到 10.8V。



### 8.6 Maximum charge current 最大充电电流

Battery pack is charged by 10A constant current at  $25\pm 3^{\circ}\text{C}$  until 14V. Then, battery pack is charged by constant voltage at 14V until current drop to 1A. 在  $25\pm 3^{\circ}\text{C}$ , 电池成品以 10A 恒流电流充电直到 14V, 电池用恒压充电直到电池电流降到 1A。

### 8.7 Maximum discharge current 最大放电电流

Battery pack is discharged by 40A continuous current at  $25\pm 3^{\circ}\text{C}$  until the voltage drop to 10.8V. 在  $25\pm 3^{\circ}\text{C}$ , 电池成品以 40A 连续放电电流放电直到 10.8V。

### 8.8 Initial impedance 初始内阻值

Battery pack is fully charged by standard charge process.

The impedance of fully charged Battery is tested by AC impedance tester at 1kHz. The initial impedance should be  $\leq 50\text{m}\Omega$ . 电池成品用标准充电流程充满电。再使用交流阻抗测试仪 (at 1KHz) 测量初始内阻。电池初始内阻应  $\leq 50\text{m}\Omega$ 。

### 8.9 Initial capacity 初始容量值

Battery pack is fully charged by standard charge process and then Battery is fully discharged by standard discharge process. The initial capacity is  $\geq 18500\text{mAh}$ . 电池成品用标准充电流程充满电。电池再用标准放电流程放完电。电池初始容量  $\geq 18500\text{mAh}$ 。

### 8.10 Cycle life 循环寿命 (RT: $25\pm 3^{\circ}\text{C}$ )

Test procedure 测试步骤:

Step 1: Battery pack is charged by 0.5C constant current at  $25\pm 3^{\circ}\text{C}$  until 14V. Then, Battery is charged by constant voltage at 14V until current drop to 1A.

Step 2: Wait for 10mins

Step 3: Battery pack is discharged by 0.5C continuous current at  $25\pm 3^{\circ}\text{C}$  until the voltage drop to 10.8V.

Step 4: Wait for 10mins

Step 5: Repeat step1 to step 4 until discharge capacity is less than 80% of initial battery capacity. Cycle life should be more than or equal to 2000cycles.

- 1) 电池成品在  $25\pm 3^{\circ}\text{C}$  按 0.5C 恒流充电直到 14V。再用 14V 恒压充电直到充电电流小于 1A。
- 2) 等待 10 分钟
- 3) 电池成品在  $25\pm 3^{\circ}\text{C}$  按 0.5C 恒流放电直到 10.8V
- 4) 等待 10 分钟
- 5) 重复 1) 到 4), 直到放电容量小于初始容量 80%。循环寿命需要大于等于 1500 周。





## 9. Usage of battery 使用电池

Shenzhen Coincell Battery Co., Ltd. **DO NOT** take responsibility if customer **DO NOT** follow the specification and below instruction using the battery. 如果客户**没有**按规格书和以下说明使用电池，深圳市科恩瑟尔电池有限公司将**不**负任何责任。

To have good performance of battery, battery should follow this battery specification to use and storage.

Recommend to charge battery every 6months using standard charge process.

To use the battery safe, battery is prohibited to disassemble, drop, heat, burn, soak, crush, shock, short circuit.

Enough insulation inside the customer's end product is required to avoid the short circuit of the battery. Battery should have enough space to install inside the customer's end product. Please use the maximum dimension of battery pack after cycle life to reserve the space.

To protect the battery, battery should be installed in the customer's end product with strong mechanical strength.

Any movement of the battery in the end product should be avoided.

If battery has any abnormal feature such as battery cannot be charged and discharge, abnormal heat generate, deformation, smelling of electrolyte or leakage, battery should be stopped to use immediately. Battery with smelling of electrolyte or leakage should be placed away from fire. Electrolyte is harmful. If electrolyte is contacted the skin or eyes, please flush electrolyte by purified water and consult doctor. 为了电池保持良好的性能，电池需要按本规格书使用和储存。建议电池每 6 个月按标准充电流程充电一次。为了安全使用电池，电池禁止拆解，掉落，加热，焚烧，浸泡，挤压，撞击，短路。客户终端产品需要有足够的绝缘，避免电池被短路。客户终端产品需要有足够的空间组装电池。空间需求请按规格书中循环后的电池成品最大尺寸进行设计。客户终端产品需要有强力的结构保护电池。请避免电池在客户终端产品中能移动。如果电池有异常特征，比方说电池不能充放电，发热异常，变形，有电解液气味或漏液，电池应马上停止使用。电池有电解液气味或漏液须要远离火种。电解液是有害的。如果电解液接触到皮肤或眼睛，请马上用纯净水冲洗和就医。

## 10. Warranty 保证期

Shenzhen Coincell Battery Co., Ltd. guarantees the battery at good condition within **12months** when battery is delivered from Shenzhen Coincell Battery Co., Ltd. factory. 深圳市科恩瑟尔电池有限公司保证电池从出厂日起 **12 个月内**功能良好





## 11. Others 其他

### 11.1 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 LIP 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。

### 11.2 Prohibition of dumping of battery into fire 不要把电池倾倒在火中

Never incinerate nor dispose the cells in fire. These may cause explosion of the cells, which is very Dangerous and is prohibited. 不要焚烧电池，否则会致电池爆炸，这很危险，必须禁止。

### 11.3 Prohibition of use of damaged battery 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。

a) **The following warning language is to be provided with the information packaged with the small cells and batteries or equipment using them 以下警告语言将提供与小型电池、电池或设备一起使用的信息：**

- Keeps mall cells and batteries which are considered swallow able out of the reach of children 将商场内的电池和电池放在孩子们够不到的地方。
- Swallowing may lead to burns, perforation of soft tissue and death. Secere burns can occur within 2 h of ingestion. 吞咽可能导致烧伤、软组织穿孔和死亡。摄入 2 小时后会造 2 次烧伤。
- In case of ingestion of a cell or battery, seek medical assistance promptly. 误食电池或电池时，应立即寻求医疗救助。
- Keep batteries out of reach of children to avoid being swallowed 把电池放到小孩够不到的地方以免吞服。
- If children use the battery, their guardians should explain the proper handling. 小孩使用电池时，监护人应详细解释操作方法。

b) **Any other items are not covered in the specification shall be agreed by both parties. 任何本规格书没有包括的事项，需要双方协议确定。**