FLYOUNG ENERGY 远阳®

锂 锰 电 池 产 品 规 格 书

Lithium Manganese Dioxide Battery product specification

客户名称:
Customer Name

产品名称:
Model Name 锂-二氧化锰扣式电池

规格型号:
Product model FLY CR1220 WB 40mAh 3.0V

送样日期:
Date 2025 年 04 月 28 日

◆ **出厂签章:**

工程部 PIE	品质部 QA	业务部 B&D	批准 Approved
黄烈清	王仁树	王培	陈远洪
送样数量 sample quantity:		确认书份数 Copy: 电子档	

◆ **客户确认签章:**

审 核 Checked	批 准 Approved	确认签章 Company Stamp

效 率 服 务 创 造 品 牌　　诚 信 品 质 铸 就 未 来

电话:0769-83269986 地址：东莞市寮步镇松湖智谷研发中心 A4 栋 4F

规格书修订记录 Revision history

更改日期 Date	更改内容 Event	版本号 Version
2025 年 04 月 28 日 April 28, 2025	首次发行 First issue	A/0

目 录 Content

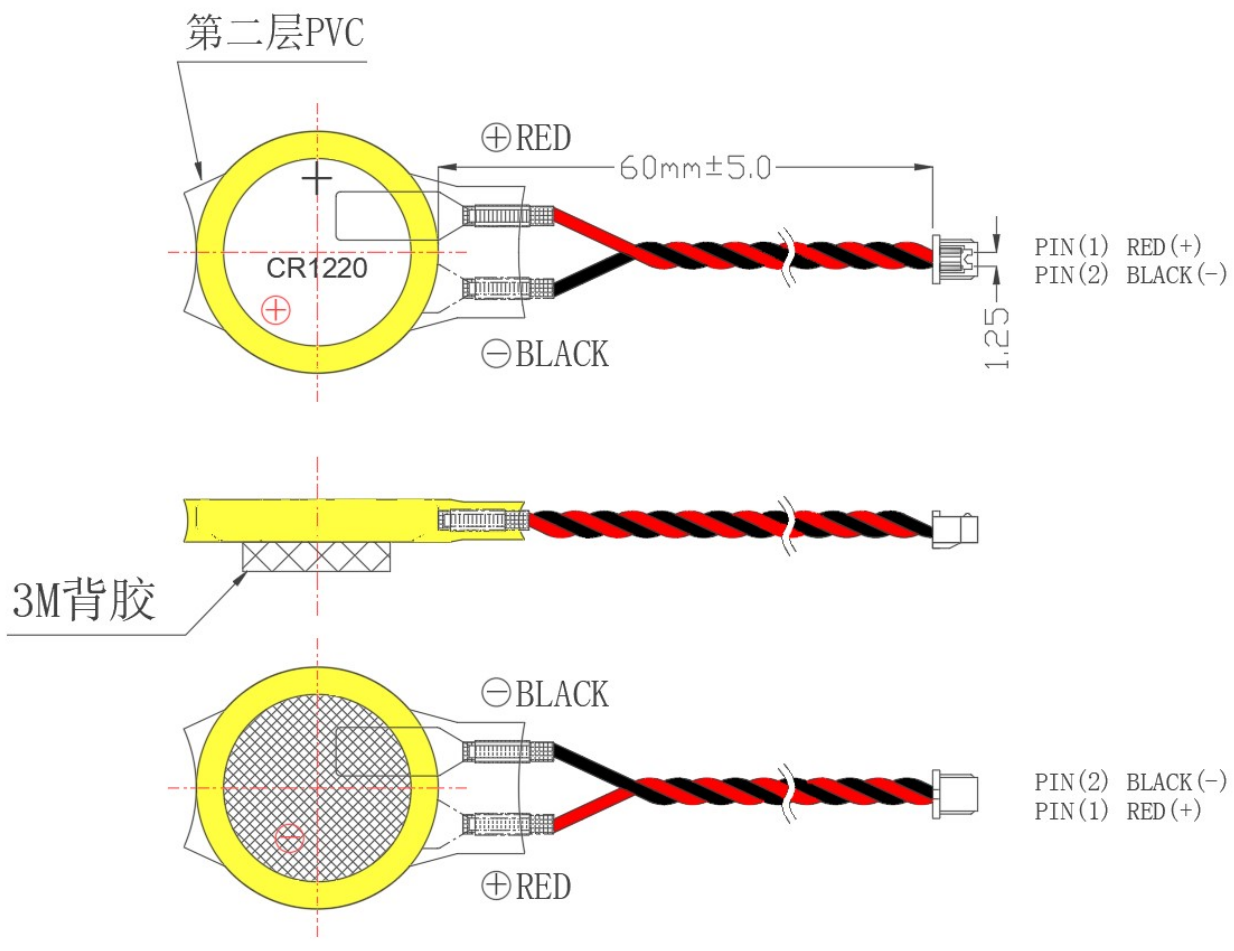
1. 适用范围 Scope

本份规格书适用于远阳公司生产的锂-二氧化锰扣式电池的产品性能指标。
This specification sheet is applicable to the performance indicators of lithium manganese dioxide button batteries produced by FLYOUNG Company.

2. 电池主要物料 Battery main materials

序号 NO.	物料名称 Material name	规格型号 Specifications	数量 Qty	备注 Remark
1.	电芯/Cell	CR1220 WB-40mAh 3.0V	1	直径 12.5x2.0mm
2.	导线/Wire	1571-28# 绞线	2	正极：红线，负极：黑线
3.	标签/ Label	/	/	/
4.	热缩套管/PVC	黄色	2	/
5.	连接器端子 Connector terminal	MH1.25-2PIN-正向	1	红黑

3. 电池尺寸及显示信息 Battery size and display information



4. 电池规格 Specifications of cell

序号 NO.	项目 Items	规格参数 Specifications
1.	标称电压 Nominal voltage	3.0V
2.	标称容量 Nominal capacity	40mAh （负载:68kΩ,终止电压 2.0 V） （Load: 68kΩ, End voltage 2.0V）
3.	瞬间短路电流 Instantaneous short-cut circuit	≥100mA（时间≤0.5′ ） （time≤0.5′）
4.	开路电压 Open circuit Voltage	3.20～3.45V
5.	适用温度 Appropriated temperature	-20～60℃
6.	贮存温度 Storage temperature	0～30℃
7.	自放电率 Discharge of life	≤8%/年 ≤8%/yr
8.	快速测试使用寿命 Quick Test Use of life	在负载 4.7kΩ，温度 20±2℃，相对湿度≤75%RH 的情况下:≥60H Discharge load 4.7kΩ，Temperature 20±2℃，under the condition of related humidity≤75%:≥60H
9.	重量 Weight	≈0.9g
10.	环保要求 Environmental request	满足 ROHS 要求 Meet ROHS requirements

注 1：本产品之电化学体系、尺寸等要求执行 IEC 60086-1：2021 标准（即 GB/T8897.1，原电池 ，第 1 部分：总则）

Remark1：The electrochemistry of this product, dimension are under IEC 60086-1：2021 standard（GB/T8897.1，Battery ，Related to 1st part）

5. 外观检查 Visual inspection

目测检查电池表面光洁、无破损、变形，标志清晰

Will be free from flaw, stain, deformation, uneven tone, electrolyte leakage and other defects which impair the value of the commodity

6. 测试条件 Test Conditions

除非特别说明，本标准书中所有测试均在以下环境条件下进行：

温度：20±2℃ 湿度：≤55%RH±20℃

Unless otherwise specified, all tests stated in this Product Specification are conducted at below condition:

Temperature：20±2℃ Humidity: ≤55%RH±20℃

7. 性能检查及测试 Performance Criteria

序号 NO.	项目 Items	测试方法 Test Method	标准 Criteria
1.	开路电压 Open circuit voltage	用精度不低于 0.25%、内阻大于 1MΩ的数字万用表。 Precision is 0.25% or more precise、resistance of internal circuit is bigger than 1 MΩ DDM	3.20~3.45V
2.	瞬间短路电流 Instantaneous short-circuit	用指针式万用表测试，每次时间不超过 0.5′，却必须避免重复测试，再次测试时间间隔应在 0.5 小时以上。 Using pointer multimeter for test，the time is not more than 0.5′，avoid duplicated test，the time for next test should be after half an hours.	≥100mA
3.	快速放电容量 Quick Discharged Volume	在标准温度 20±2℃，相对湿度≤75%，负载为 4.7kΩ，终止电压为 2.0V 的情况下。 Standard Temperature 20±2℃，related humidity≤75%，discharge load 4.7kΩ，terminated voltage be 2.0V	≥60 小时 ≥60hours
4.	震动测试 Vibrate test	在振动频率为 100-150 次/分钟的振动机上持续振动 1 小时。 Vibrate frequency 100-150 times per min under continuously vibration for 1 hour	性能稳定 Stability
5.	高温耐漏液性能 High temperature-resistant of weeping performance	在 45±2℃的条件下贮存 30 天。 Storage 30 days Under 45±2 conditions	漏液率≤万分之五 leakage %≤0.0005
6.	过放电耐漏液性能 Circuit load of weeping performance	在终止电压到 2.0V 时，持续放电 5 小时。 When terminated voltage is 2.0V, continuously discharge load for 5hrs	无漏液 No leakage

注 2：本产品之外形尺寸和性能执行 IEC 60086-2：2021 标准（即 GB/T8897.2-，原电池 ，第 2 部分：外形尺寸和电性能要求）。

Remark2：The bearing boundary dimension of this product, dimension are under IEC 60086-2：2021 standard（GB/T8897.2，Battery，Related to 2nd part）

注 3：

1.上述测试已经过大量的试验得到证实。

2.本公司标准完全严于国家颁布的 GB/T8897《原电池》标准。

3.如客户有特殊要求，公司可根据客户要求采取特殊的测试方法。

Remark3：

1.Above tests were approved under plenty of experiments.

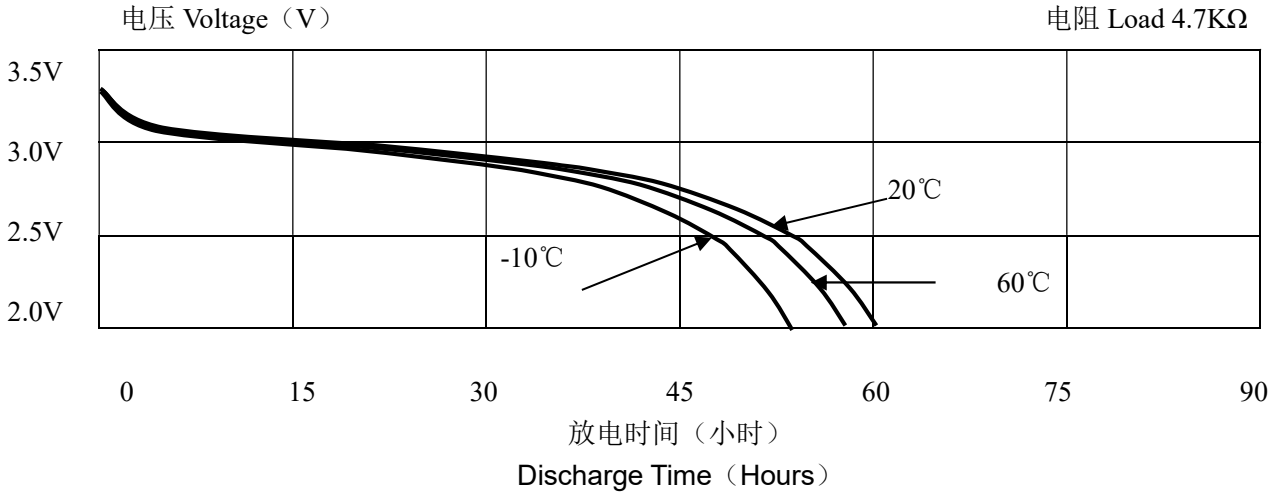
2.The company completely more stringent than the national standard issued by the GB/T8897 《primary batteries》standards.

3.If necessary or under customer's specified requested, our company can adopt any test methods provided by customers.

8. 放电寿命 Service life

负载电阻 Load resistance	4.7kΩ	初始测试：交货后一个月内进行的检测。 储存测试：在特定条件下，储存经过 12 个月后进行的检测。 Initial testing: Testing conducted within one month after delivery. Storage testing: Testing conducted after 12 months of storage under specific conditions.
放电方法（标准） Discharge method	24 小时连续放电 24 hours/day	
终止电压 End voltage	2.0 V	
标准时间(初始期) Minimum duration (Initial)	60 小时 60 hours	
标准时间(储存 12 个月后) Minimum duration (After 12 months storage)	55 小时 55 hours	

9. 电阻放电曲线 Discharge characteristics on load



10. 使用注意事项 Use Attentions:

为确保电池正确使用，请在使用之前阅读使用说明书。

To ensure proper use of the battery please read the manual carefully before using it.

11.1 该电池是不可充电的。当电池使用在后备记忆电路或带有电容电阻的电路设计中，作为后备电源的一次性电池的主要线路是重要的。此外，应用程序的保护阻抗是必要的，因为它可以调节电流。以下几点在选择二极管和保护阻抗时需要注意。

The battery is not rechargeable. It is important that the diodes are applied for prevention of charging from the main power or other batteries when the battery is used for the device having memory or RTC back-up applications. In addition, the application of protective resistance is necessary as it can regulate the current as shown in the figure below. The following points have to be paid attention when choosing diodes and protective resistance.

11.2 由于一个二极管和电阻组成的应用程序，在操作期间电压将会下降，提醒你注意负荷电压的终止电压。

Due to the application of a diode and a resistance, the voltage generated will drop during operation, you are reminded to pay attention to these drops of voltage for supplied voltage to load.

11.3 通过应用二极管防止充电 Prevent charging by applying diodes

11.4 推荐使用单向二极管。由于泄漏电流应维持在额定容量 1%能力上。

It is recommended to use the least leak current diodes. The charged capacity owing to leak current should be maintained within 1% of nominal capacity.

11.5设置和使用保护阻抗 Using and setting protective resistance

11.6当二极管失效时，为了避免电流大量激增使电池产生变化，应当应用保护电阻。建议调整保护阻抗，使最大电流不超过规定的数据表。

In order to refrain from changing the battery by large surges of current when the diode is failed, the protective resistance should be applied. It is recommended to adjust the protective resistance to make the maximum current not over the figures as stated in the table.

11.7该电池由锂、有机溶剂、及其它易燃材料组成。妥善处理电池是至关重要的；否则,电池可能导致变形、漏液(意外渗漏的液体)、过热、爆炸、火灾、造成他人人身伤害或损坏设备。请严格遵守以下指令来避免事故的发生。The battery consists of lithium, organic, solvent, and other combustible materials. Proper handling of the battery is of utmost importance; otherwise, the battery could lead to distortion, leakage (accidental seepage of liquid), overheating, explosion, or fire and cause bodily injury or damage to equipment. Please strictly comply with the following instructions to avoid the occurrence of accident.

11.8为了避免孩子们能轻易摄取到电池并将其放进嘴里，电池应该远离他们存储。然而,如果这一切发生的时候，你应该立即带他们去医院就医。

The battery should be property stored and keep away from children in order to avoid them to put it into their mouths and ingest it. However, if it happens, you should immediately take them to the hospital.

11.9如果电池被加热到 100 摄氏度以上，会增加内部压力，产生变形、渗漏、过热、爆炸、或火灾。

If the battery is being heated to more than 100 degree centigrade, it would increase the internal pressure resulting distortion, leakage, overheating, explosion, or fire.

11.10 如果焚烧电池，或使电池遇到火焰，金属锂将会融化，导致爆炸或火灾。

If the battery is burnt or put to flame, the lithium metal will melt and cause explosion or fire.

11.11 非专业人士请勿拆解电池。因为它将造成密封圈损坏，产生变形、渗漏、过热、爆炸、或火灾。

The battery should not be dismantled as it will cause damage to separator or gasket resulting distortion, leakage, overheating, explosion, or fire

11.12 不当的设置可能导致电池强制放电。可能造成电池变形、渗漏、过热、爆炸、火灾等不良后果。当设置时，电池的正极和负极端子不要反接。

The improper setting of the battery could lead to short-circuiting, charging or forced-discharging and distortion, leakage, overheating, explosion, or fire could be occasioned as a result. When setting, the positive and negative terminals should not be reversed.

11.13 焊接将导致电池热量升高、密封圈损坏和锂融化而损坏电池。可能导致渗漏、过热、爆炸或引起火灾。电池不应该直接焊接到设备上,它必须通过连接片或导线连接。烙铁温度不能超过 340 摄氏度和焊接时间不得超过 3 秒；重要的是要保持温度低、时间短。不焊接时，不要将电池投放在焊接池中，不应该将烙铁搁置在电池上。焊接时应当避免多次焊接,因为它通过连接片或导线等同于对电池进行充电或短接电池。

The welding will cause heat and occasion lithium melted or insulating material damaged in the battery. As a result, the distorting, leakage, overheating, explosion, or fire would be caused. The battery should not be soldered directly to equipment which it must be done only on tabs or leads. The temperature of soldering iron must not be over 340 degree C and the soldering time must not be more than 3 seconds; it is important to keep the temperature low and the time short. The soldering bath should not be used as the board with battery could stop on the bath or the battery could drop into the bath. It should avoid taking excessive solder because it could go to unintended portion on the board resulting short or charge of the battery.

11.14 必须避免使用不同种类的电池，因为不同制造商生产的、不同类型或使用新旧搭配的电池，可能造成电池渗漏、过热、爆炸、或火灾。如果有必要使用两种或两种以上的电池串联或并联。建议从远阳限公司获得。

It must be avoided for using different batteries collectively because batteries of different types or used and new or different manufacturers could occasion distortion, leakage, overheating, explosion, or fire. Please obtain advice from DONGGUAN FLYOUNG ENERGY ELECTRONIC Co., Ltd. if it is necessary for using two or more batteries connected in series or in parallel.

11.15 如果液体泄露而进入口腔，请你应该立即漱口。如果液体进入眼睛，你应该立即用水冲洗眼睛。在任何情况下，你应该去医院接受专业医护人员医治。

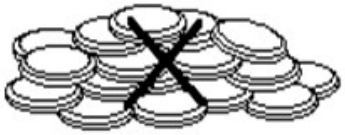
In case the liquid leaked and get into the mouth, you should immediately rinse your mouth. In case the liquid gets into your eyes, you should immediately flush eyes with water. In any event, you should go to the hospital and have proper treatment from a medical practitioner

11.16 如果发现电池泄漏或闻到奇怪的气味，立即把电池远离易燃的液体。

If the leakage or strange smell is found, immediately put the battery away from fire as the leaked liquid is combustible

11.17 尽量避免肌肤直接触摸电池，因为这样会使皮肤受伤。

Try to avoid keeping the battery in touch with the skin as it will get hurt.



11.18 不要让电池重叠和交叉堆放（如右图）

Do not stack batteries overlapping or crossing over (as shown in the image on the right)

11.19 在不同的国家或地区有不同的规定，请遵守这些规定。一般而言，在处置前，应用绝缘胶带覆盖电池(+)和(-)端。这是因为废弃电池仍然存在有电容量，当它在接触其他金属或金属材料时，它可以造成电池变形、渗漏、过热或爆炸。

There are different regulations in different countries or regions and please comply with those regulations. In general, the insulating tape or friction tape should be used to cover the (+) and (-) terminals before disposal. It is because the discarded battery still has electric capacity and when it is in touch with other metals or materials, it could occasion distortion, leakage, overheating, or explosion.