



## 1 · 概述 Summary

这规格书适用于广东力王新能源股份有限公司 LR14 产品。

This specification defines the Technology for high Capacity Alkaline cells LR14

1.1 型号 Type IEC: LR14 Other : C JIS : AM-2

1.2 执行标准 Execution standard

IEC 60086-1 --- Primary Batteries - Part 1: General

IEC 60086-2 --- Primary Batteries - Part 2: Physical and electrical specification

GB/T 8897.2

## 2 · 电化学体系 Chemistry composition

锌/氢氧化钾/电解二氧化锰 。 Zinc ,EMD , Potassium hydroxide, Graphite  
不添加水银和镉 0.00% Mercury & Cadmium

3. 标称电压 Normal voltage : 1.5V

4. 平均重量 Average weight : 70g

## 5. 标称容量 Nominal Capacity

8400mAh (条件: 20Ω 负载, 每天放电 4 小时, 终止电压 0.9V , 放电环境: 20+/-2° C )

8400mAh (condition: 20Ω load resistance, discharge 4 hours per day at 20+/-2°C, end-point voltage 0.9V )

## 6. 电性能 Electrical performance

(测试条件: 负载电阻 (±0.5%) 3.9Ω, 测试时间: 0.3秒, 温度: 20±2°C。)

(Test condition : Load Resistance (±0.5%) 3.9Ω, Time: 0.3s, Temperature: 20±2°C。)

	O.C.V (V)	C.C.V (V)	接收水平
新电池 (交货 30 天内) ≤ 30 days after delivery	1.58	1.45	MIL-STD105E , AQL(II)=0.4
45°C 储存 3 个月 45°C for 3 months	1.55	1.40	
常温储存 12 个月 Normal temperature for 12 Months	1.55	1.40	

## 7 · 放电性能 Service Life

(测试环境: 温度: 20±2°C 相对湿度 60±15%RH)

(Test condition: 20°C±2°C and 60±15%RH)

项目 ITEM	放电条件 (Discharge Method)			最小平均放电时间 (Minimum Average Duration)		
	放电负载 Load Resistance	放电方式 Time	终止电压 (V) Cutoff Voltage(V)	新电池 ≤ 30 days after delivery	45° C储存3 个月后 45°C for 3 months	室温储存12个月后 Normal Temperature for 12 Months
IEC 项目 (IEC ITEM)	20 Ω	4 h/d	0.9V	135 h	125 h	125 h
	3.9 Ω	1 h/d	0.8V	22 h	20 h	20 h
	400mA	2 h/d	0.9v	12 h	11 h	11 h

## 验收方法 Inspection Method/Satisfaction Standard:

- 1) 每一交货批, 每一放电项目, 抽 9 个电池作放电测试。  
9 pieces of battery will be tested for each discharging standard.
- 2) 放电平均结果大于或等于最小平均放电时间, 且个体放电时间低于最小平均值的 80% 的电池个数不大于 1, 则批次电池容量测试为合格。  
The result of the Minimum Average Duration from each discharging standard shall be equal to or more than the Minimum Average Duration requirement; and no more than one battery has a service output less than 80% of the specified requirement.
- 3) 如果第一次测试不合格, 则须重新抽样测试, 重测结果合格, 则整批货为合格。  
One re-test is allowed to confirm the previous result.

## 8 · 耐漏性能 Leakage Resistance

项目 Item	条件 Condition	测试时长 Test Duration	结果 Result	接收水平 Accept Level
过放电测试 Over Discharge Test	在 20°C±2°C 和 60±15%RH 的环境下, 用 10Ω 电阻连续放电 Test condition: +20°C±2°C and 60±15%RH Load Resistor: 10Ω Time:24h/d	连续放电 48 小时 Discharge 48h	电池的形变不能超过尺寸 规格值的上限及不能发生 肉眼可辨别的漏液现象 There shall be no deformation exceeding the specified dimensions, nor leakage recognized by human eye	N=30, Ac=1,Re=2
恒温恒湿测试 High heat and humidity storage test	60 ±2°C 相对湿度低于 90% RH 60 ±2°C Low 90% RH	30 天 30days		N=30, Ac=1,Re=2

## 9. 安全性/可靠性 Safety performance

项目 ITEM	条件 CONDITIONS	要求 REQUEST
自由跌落 Drop test	从 1m 高度跌落, 6 次 放置 1h Free drop from 1m height to floor for 6 times, keeping for 1 hour	无爆炸 no explore
外部短路 External shorting	用 0.1Ω 电阻连续放电 24h 或者电池外壳温度降至室 温 short positive and negative terminals with 0.1 Ω resistor for 24 hours or battery temperature drop to room temperature	无爆炸 no explore
不正确安装 Wrong Installation	4 个相同型号电池串联, 其中 1 个反接 4 batteries connect in series with 1 battery reversed, until the reversed battery leak or OCV drop to nearly 0V.	无爆炸 no explore
过放电 Over discharge	1 个已放电电池与 3 个未放电电池串联直到总电压降 至 2.4v Connect 3 new batteries and 1 discharged battery in series, until the whole voltage drop to 2.4V.	无爆炸 no explore

## 10. Marking

标签上印有以下内容 The label printing:

- (1) 型号 Type: LR14
- (2) 注册商标 Brand: Kendal
- (3) 标称电压 Normal : 1.5V
- (4) 电池极向 Polarity: “+” or “-”
- (5) 警告字眼 Warning: Battery may explode or leak if recharged or disposed of in fire.

## 11. 使用注意事项 Caution for use:

- (1) 碱性锌锰电池是不可充电的，如果对电池充电有可能发生漏液和爆炸的危险。

Since the battery is not manufactured for recharging, there are risks of electrolyte leakage or causing damage to the device if the battery is charged.

- (2) 请按+/-极的标示，正确安装电池。

The battery shall be installed with its "+" and "-" polarity in correct position, otherwise may cause short-circuit.

- (3) 禁止对电池短路、加热、投入火中或试图拆解电池。

Short-circuiting, heating, disposing of into fire and disassembling the battery are prohibited.

- (4) 不要对电池过度放电，这会引起电池泄漏而损坏用电器具。

Battery cannot be forced discharged, which lead to excess gassing and, may result in bulging, Leakage and de-crimping of cap.

- (5) 新旧电池，不同型号或品牌的电池，不能同时使用。如果更换电池时，请确认使用同一品牌且全部更换。

New and used batteries cannot be used at the same time, when replaced batteries recommend to replace all and with the same brand type.

- (6) 用完的电池请及时更换，以防止电池过度放电。否则有可能引起电池泄漏而损坏用电器具。

Exhausted batteries should be removed from compartment to prevent over-discharge, which Cause leakage damage to the device.

- (7) 禁止直接在电池上焊接，这样有可能损坏电池。

Direct soldering is not allowed, which will damage the battery.

- (8) 电池应放在儿童不可触及的地方，以防止儿童误吞。如果儿童误吞，请立即联系医生。

Battery should be kept out of the reach of children to prevent swallow, in case of accident should contact physician at once.

## 11 · 保质期 Period of validity: 5年

5 years after delivery under proper storage conditions.

(在温度 $20\pm 2^{\circ}\text{C}$ , 相对湿度 $65\pm 20\%\text{RH}$ 条件下)

(Temperature:  $20\pm 2^{\circ}\text{C}$ ; Relative humidity:  $65\pm 20\%\text{RH}$ )

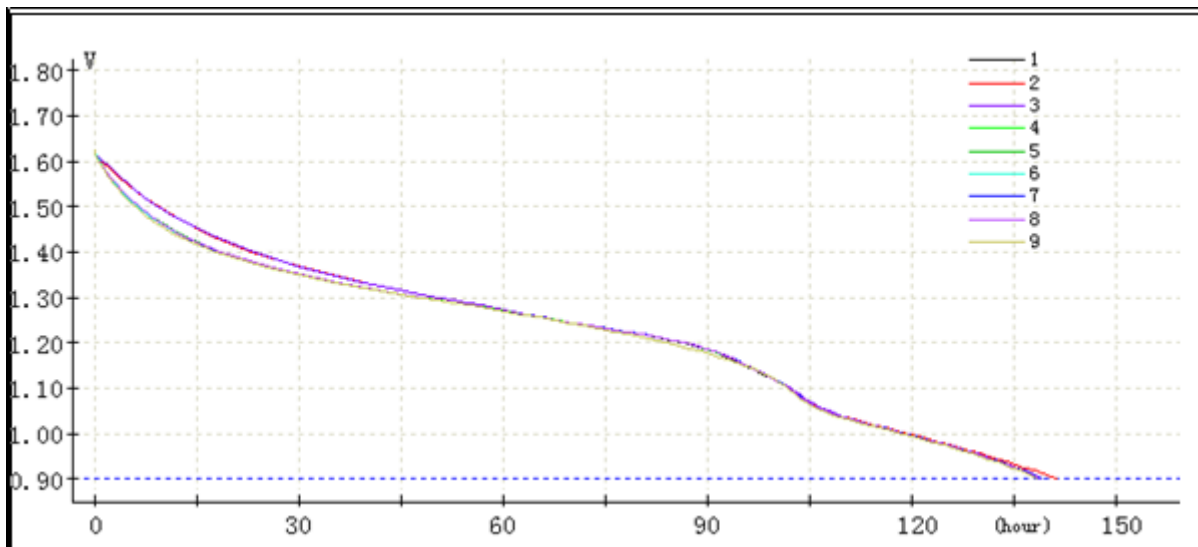
## 12 · 放电曲线 Discharge curve

## LR14 放电曲线 DISCHARGE CURVE

电阻:  $20\ \Omega$ ; 每天放电4小时, 环境温度:  $20\pm 2^{\circ}\text{C}$

Discharge Method:  $20\ \Omega$  Period: 4 h/d Temperature:  $20\pm 2^{\circ}\text{C}$

电压 (V) Terminal Voltage (V)



放电时间 (小时)

## 13 · 尺寸 Dimensions

