

Specification Approval Sheet(Battery)

产品规格确认书(电池)

型号: 48V100Ah

MODEL: 48V100Ah

拟制 Prepared by	审核 Checked by	批准 Approval

客户 赞同 Customer Approval	客户名称: Customer's Name:	
	签字(盖章) Signature (Stamp)	日期 Date

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1.Scope

This document describes the Product Specification of the Lithium-ion rechargeable battery supplied by Shenzhen herewin technology CO.,Ltd.
(HEREWIN)

适用范围

本规格说明书描述了深圳市海盈科技有限公司（以下简称海盈科技）生产的可充电锂离子电池的产品性能指标

2.Model

型号：48V100Ah

3.Specification

技术参数

No.	Items	Specifications
1	Nominal voltage 标称电压	48V
2	Nominal capacity 标称容量	100Ah @0.2C Discharge(放电)典型值
3	Energy 能量	4.8KWh
4	Charge current 充电电流	Standard charge (标准充电) : 0.2C Approx 6 Hour (约 6 小时) Rapid charge (快速充电) : 0.5C Approx 6 Hour (约 3 小时)
5	Standard Charging method 标准充电方法	0.2 CC(constant current) charge to 54.75V, then CV(constant voltage 54.75V) charge till charge current decline to $\leq 0.02C$ 0.2C CC (恒流) 充电至 54.75V,再 CV (恒压 54.75V) 充电直至充电电流 $\leq 0.02C$.
6	Max. charge current 最大充电电流	100A (Recommend 50A)
7	Max. discharge current 最大放电电流	100A (Recommend 50A)
8	Max.Pulse Current 最大脉冲电流	150A (Peak@10S)
9	Discharge cut-off voltage 放电截止电压	37.5V
10	cell & Method 电芯组装方式	(3.2V) 15S
11	Operating temperature 工作温度	Charging(充电): 0°C ~ 45°C Discharging (放电) : 0°C ~ 50°C
12	Storage temperature 储存温度	-20°C ~ + 60°C
13	Battery Weight 电池重量	Approx. 65kg 约: 65kg
14	Battery Dimension 电池尺寸	750*600*133mm (IP65)
15	Design Life 设计寿命	10+Years (@25°C/77°F)
16	Authentication Level 认证等级	IEC62619/CE/UN38.3
17	Communication Port 通讯接口	RS485,CAN

4. Battery Performance Inspection

电池性能检查及测试

4.1 Electrical characteristics

充放电性能

No.	Items	Test Method and Condition	Criteria
1	Standard Charge 标准充电	Charging the Battery initially with constant current at 0.2C and then with constant voltage at 54.75V till charge current declines to 0.02C. 先用 0.2C 恒流充电至 54.75V, 再恒压 54.75V 充电直至充电电流 $\leq 0.02C$ 。	N.A.
2	Discharge Performance 放电性能	When connecting with load, the battery can supply power. Charge the battery with standard charge mode, then rest for 0.5h, then discharge with 0.2C until the voltage is 37.5V. 电池外接负载, 能够供电。将电池按标准充电模式充好电后, 开路搁置 0.5h, 再以 0.2C 放电至 37.5V。	The discharge time is required $\geq 280\text{min}$ 要求放电时间 $\geq 280\text{min}$
3	Cycle Life 循环寿命	Test condition: Charge: 0.2C to 53.5V Discharge: 0.2C to 45V 80% or more of 1 st cycle capacity at 0.2C discharge of Operation 测试条件: 充电: 0.2C 充电到 53.5V 放电: 0.2C 放电到 45V 当放电容量降至初始容量的 80% 时, 所完成的循环次数定义为该电池的循环寿命	≥ 6000 (@25°C)
4	Self-discharge 自放电	After the standard charging, storied the Batteries under the condition for 30days, then measured the capacity with 0.5C till 37.5V 标准充电后, 贮存 30 天, 再以 0.2C 放电至 37.5V 所放出的容量。	Residual capacity $> 80\%$ 剩余容量 $> 80\%$
5	Initial Impedance 初始内阻	Internal resistance measured at AC 1KHz after 50% charge 半充状态下, 测量其 AC 1KHz 下的交流阻抗	$\leq 200\text{m}\Omega$

4.2 Visual inspection

外观检查

There shall be no such defect as scratch, flaw, crack, and leakage, which may adversely affect commercial value of the Battery.

不允许有任何影响电池性能的外观缺陷，诸如裂纹、裂缝、划伤等。

4.3 Standard environmental test condition

标准测试环境

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

Temperature : $23 \pm 5^{\circ}\text{C}$

Humidity : 5~85% RH

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： $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$

湿度： 5~85%RH

5.Storage and Others

贮存及其它事项

a) Long Time Storage

If the Battery is stored for a long time, the Battery's storage voltage should be 48.75~51.09V.

长期贮存

长期贮存的电池（超过1个月需要补电满充电一次）须置于干燥、凉爽处。贮存电压为 48.75~51.09V。

b) Others

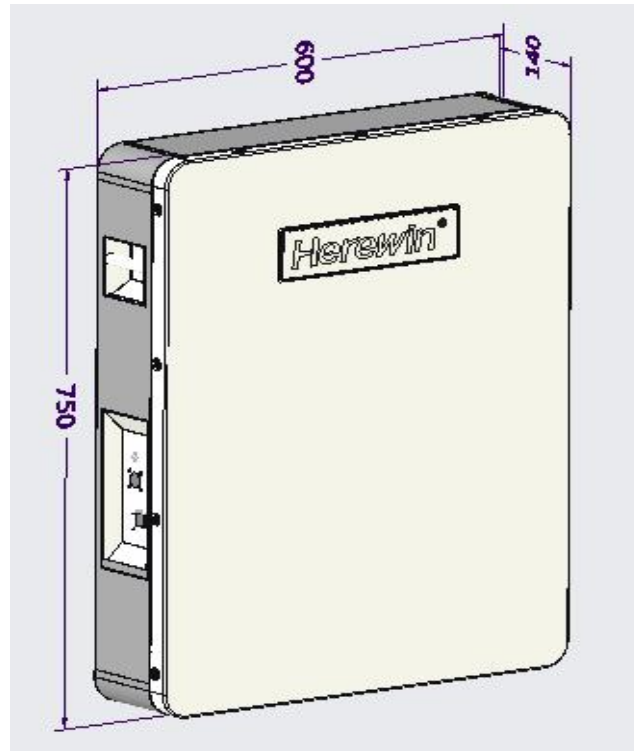
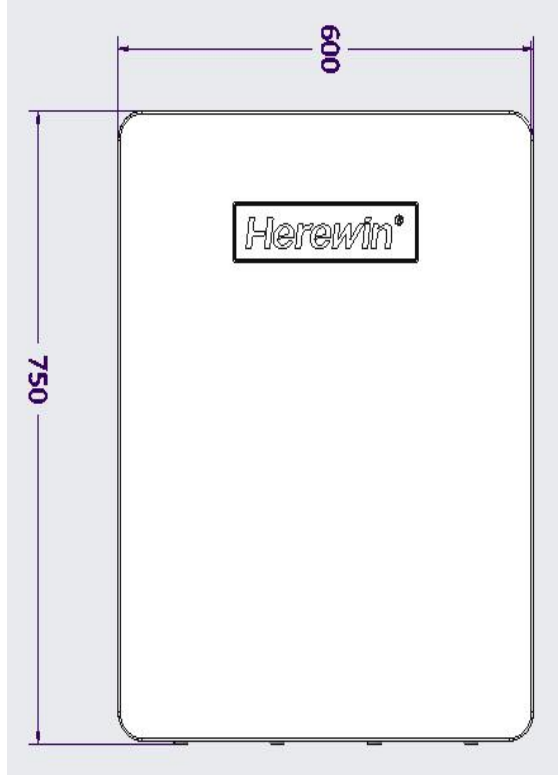
Any matters that this specification does not cover should be conferred between the customer and HEREWIN.

其它事项

任何本说明书中未提及的事项，须经双方协商确定

6.Drawing (all unit in mm, not in scale)

电池外型图 (单位: mm;未按比例)



Appendix: 7

附录:7

Handling Precautions and Guideline For LIP (Lithium-Ion) Rechargeable Batteries 锂离子充电电池操作指示及注意事项

Preface

This document of 'Handling Precautions and Guideline HEREWIN Rechargeable Batteries' shall be applied to the Batteries manufactured by Shenzhen herewin technology CO.,Ltd.

前言

本文件“锂离子充电电池操作指示及注意事项”仅适用于深圳市海盈科技有限公司生产的电池。

Note (1):

The customer is requested to contact HEREWIN in advance, if and when the customer needs other applications or operating conditions than those described in this document. Additional experimentation may be required to verify performance and safety under such conditions.

声明一:

客户若需要将电池用于超出文件规定以外的设备，或在文件规定以外的使用条件下使用电池，应事先联系海盈科技，因为需要进行特定的实验测试以核实电池在该使用条件下的性能及安全性。

Note (2):

HEREWIN will take no responsibility for any accident when the Battery is used under other conditions than those described in this Document.

声明二:

对于在超出文件规定以外的条件下使用电池而造成的任何意外事故，海盈科技概不负责。

Note (3):

HEREWIN will inform, in a written form, the customer of improvement(s) regarding proper use and Handling of the Battery, if it is deemed necessary.

声明三:

如有必要，海盈科技会以书面形式告知客户有关正确操作使用电池的改进措施。