

# 产品规格承认书

## Specifications

12.8V 50AH 磷酸铁锂储能箱

12.8V 50AH LiFePO4 Battery

承认签章 Approval Signature		
核准 Approved	审核 Checked	拟定 Registered

客户确认栏 Customer Approval	
确认意见 Conformation:	
签章 Signature:	日期 Date:

<b>VIPOW</b>	<b>广州市捷力电子科技有限公司</b>	
	Guangzhou Jieli (VIPOW) Electronic Technology Co., Ltd	
	12.8V 50AH 储能箱 规格书 LiFePO4 Battery Specifications	<b>Rev 1.0</b>

## 文件发行/修订履历

### Product Modified Record List

版本 Version	日期 Date	ECN 编号	修改内容 Modified	创建/修改人 Modified By

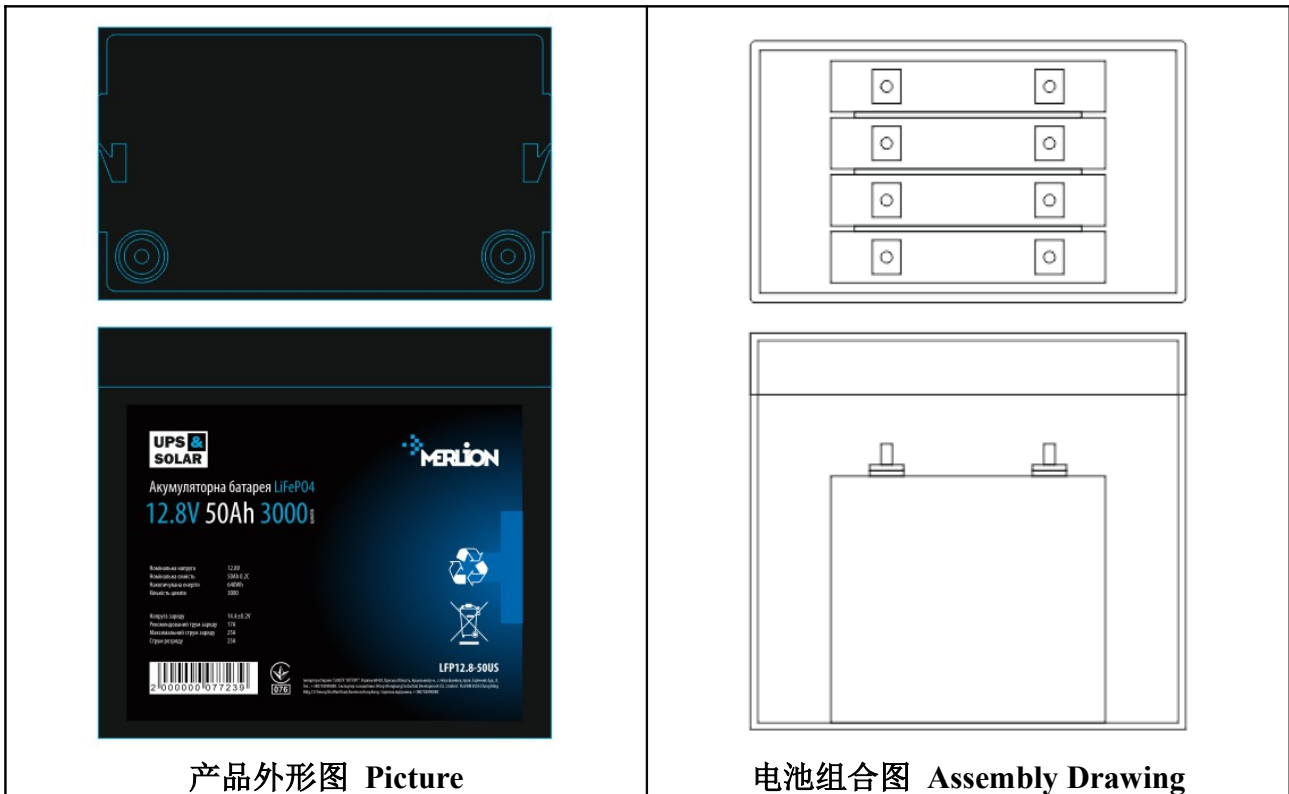
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1. 产品名称规格 Product Name: 磷酸铁锂电池 Lithium Iron Phosphate Battery:

2. 产品参数: Product Specifications:

产品名称 Product Name:	磷酸铁锂储能箱 LiFePO4 Battery Pack	
电池容量 Capacity:	640WH /12.8V 50AH (4S1P)	
产品外形尺寸 Size:	229x138x208 MM	
重量 Weight:	6KG (N.W.)	
内置电池类型 Battery Type:	磷酸铁锂电池 LiFePO4 Battery	
充电输入 Input:	DC 14.6V 40A (MAX)	
放电输出 Output:	DC 12.8V 40A	
循环寿命 Cycle Life:	≥3000 cycles	
充电温度 Charger Temperature:	0~45°C	
放电温度 Discharge Temperature:	0~60°C	
存储温度 Storage Temperature:	1年 year	0~30°C
	3月 months	0~35°C
	1月 month	0~45°C

3. 产品外表图和电池组合图 Picture and Assembly Drawing:



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#### 4. 储能箱用单体电芯类型和型号 Battery Unit Type and Model:

(1) 产品/ Product:磷酸铁锂电池/ LiFePO4 battery

(2) 电池型号/ Model (Type): 50AH 3.2V

#### 5. 本储能箱用电芯标准/ Cell Specification

项目/ Item		标准/ Specification	备注/ Remark
5.1 典型容量/ Typical capacity		50AH	0.2C rate discharge capacity
5.2 最小容量/ Minimum capacity		48Ah	
5.3 交流内阻/ Internal impedance		$\leq 3m\Omega$	By 1kHz AC
5.4 标称电压/ Nominal voltage		3.2V	
5.5 电芯重量/ Cell weight		1250g $\pm$ 100g	
5.8 标准放电方法 Standard discharge conditions (1C)	恒流/ Constant current	10 A	
	截止电压 End-of-charge voltage	2.0V	
5.6 标准充电方式 Standard charge method	恒流/ Constant current	10 A	
	充电电压 Charge voltage	3.65V	
	截止电流 Cut-off current	1A	
5.7 快速充电方式 Fast charge method	恒流/ Constant current	25A	
	充电电压 Charge voltage	3.65V	
	截止电流 Cut-off current	1A	
5.9 最大持续放电电流 Max continuous discharge current		50A (1C)	
5.10 脉冲放电电流 Pulse discharge at 2 Sec		100A (2C)	
5.11 循环寿命 Cycle life		3000times	0.2C continual discharge (100% DOD)
5.12 操作温度 Operating temperature	充电温度 Charging ambient temperature	0~45°C	Cell skin temperature should not exceed 65°C.
	放电温度 Discharging ambient temperature	0~60°C	Cell skin temperature should not exceed 80°C
	存储温度 Storage temperature	1 year 0~30°C 3 months 0~35°C 1 month 0~45°C	Note:If the cell is kept as ex-factory status (50% of charge)
5.13 外观/ Appearance		无破裂、划痕、变形、污迹、电解液泄露等	

#### 6. 电池管理系统 BMS 性能特点 BMS Main Feature:

7.1. 本储能箱使用的电池管理系统具有过充电保护功能，过放电保护功能，过电流保护功能，短路保护功能，充电电量平衡管理功能。 This storage battery is design with the below function: Over charge protection, over discharge protection, over current protection, short circuit protection, battery balance management.

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7.2. 产品特点 Main feature :

- 采用 A 级保护集成电路 IC 日本理光方案。 Ricoh's grade A protection IC.
- IC 自带电量平衡功能，平衡电路简单可靠，平衡电流可通过外部调节。 With the balance function of the IC, the balance circuit is simple and reliable, and the balance current can be adjusted externally
- 具有典型的电压侦测方式的过充电保护，过放电保护。硬件的过流，短路保护，短路保护性能稳定可靠，长时间负载短路不会对保护板和电芯产生影响。 With typical voltage detection mode, this BMS is with Over charge protection over discharge protection. Short circuit protection performance reliable, long-term short circuit will not affect the protection board and battery.

7. 电气参数 BMS Specifications:

	详细内容 Item	规格 Spec	单位	备注 Remark
放电 Discharge	持续放电电流 Continuous Discharge Current	40	A	
	瞬间放电电流 Max Discharge current	80	A	
充电 Charge	充电电压 Charge Voltage	14.6	V	
	充电电流 Charge Current	40 (MAX)	A	
过充电保护 Overcharge Protection	单串过充电检测电压 Over charge protection voltage (1S)	3.75±0.05	V	
	电池组过充电检测电压 Over charge protection voltage (4S)	15.0±0.2	V	
	过充电保护延时 Over charge protection delay	0.5	S	
	过充电解除电压 Over charge release voltage (1S)	3.6±0.1	V	
	过充电解除电压 Over charge release voltage (4S)	14.4±0.4	V	
电量平衡 Battery balance	电量平衡检测电压 Balance detection voltage	3.6	V	

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	电量平衡电流 Battery balance current	35±5	mA	
过放电保护 Over discharge protection	过放电检测电压 Over charge detection voltage	2.1±0.1	V	
	过放电检测延时 Over discharge detection delay time	0.5	S	
	过放解除电压 Over discharge release voltage	2.5±0.1	V	
过电流保护 Over current protection	过电流检测电压 Over current detection current	200	mV	
	过电流检测延时 Over current detection delay time	9	MS	
	过电流保护电流 Over current protection current	100±20	A	
	过电流保护解除条件 Over current lease	断开负载 Disconnect the load		
短路保护 Short circuit protection	短路保护条件 Short circuit protection condition	外部负载短路 External short circuit		
	短路检测延时 Short circuit detect delay	250	uS	
	短路保护解除条件 Short circuit lease condition	断开负载 Disconnect the load		
温度保护 Temperature protection	温度保护 Over temperature protection	-	°C	
内阻 Internal resistance	主回路导通内阻	≤10	mΩ	
自耗电 Self-consuming	工作电流 Operating Current	≤100	uA	
	睡眠电流（电池过放时） Sleeping current (over discharge)	≤20	uA	

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<b>工作温度</b> <b>Operation</b> <b>Temperature</b>	温度范围 Temperature Range	-20/+80	°C	

## 8. 注意事项 Note:

9.1 根据产品标示的正确的极性接线，不可接反电池的正负极。According to the correct polarity to connect the positive and negative poles.

9.2 使用过程中一定要遵循设计参数及使用条件；Follow the correct parameters and conditions.

9.3 充、放电流不可超过规格书中的额定值；Charge current and discharge current must not exceed the rated value

9.4 请在规定的工作温度内使用，并且确保周围有良好的散热环境； Operating within the specified temperature range to ensure the surrounding heat dissipation is good.

9.5 不可自行拆卸本产品；This product cannot be disassembled by consumer.

9.6 避免浸水。Do not put this battery in water.