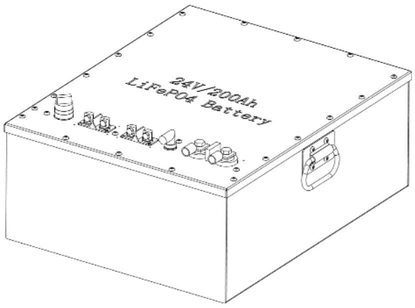
技术参数表 |Technical Data Sheet

磷酸铁锂电池组 | LiFePO4 Battery Packs



24V/200Ah 系列:

IP50 电池组配备智能电池管理系统 (BMS)，以确保稳定和高效率的充电及放电表现。电池组可使用专用的锂电池充电器充电。磷酸铁锂电池组是其中一种最安全的锂离子，以出色的电解表现和耐力而被广泛应用。

24V/200Ah Series:

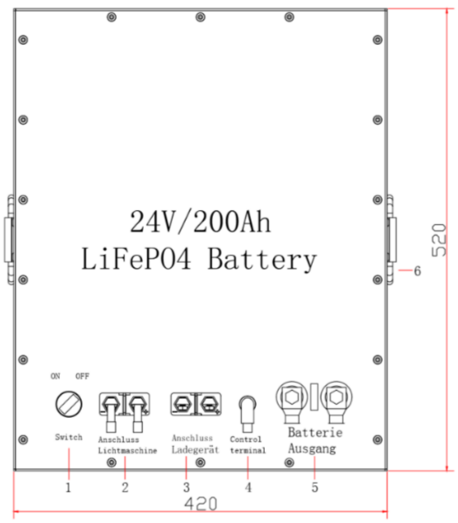
IP50 battery pack equipped with a smart battery management system (BMS) to ensure stable and highly efficient charge and discharge performance. It can be charged by a lithium-based battery charger. LiFePO4 is one of the safest Li-ions, recognized with the outstanding electrochemical performance and endurability.

产品特色 | Special Features

- 被动散热 | Passive cooling
- 自动被动电芯平衡 | Automatic passive cell balancing
- 在放电深度达 80% 状态下，>2000 次循环 | >2,000 cycles at 80% depth of discharge
- 在低温环境下，可配自动加热机制 （可选） | Auto heating mechanism at low temperature (optional)
- 过充、过放自动保护机制 | Automatic protection against overcharge or over-discharge
- 在高低温环境下自动关闭 | Automatic shut-off at unsafe temperatures
- 对单体电芯表现及健康状况进行记录分析 | Data logging for cell monitoring (performance, state of health)
- 配备低电量状态下的警告指示灯 （LED 及蜂鸣器） | Warning indicators (LED and buzzer) at low energy state

产品结构图 | Product Configuration

1.	电池管理系统开关 **BMS on/off Switch**	**2.**	**发电机充电端子 Generator Charge Terminal**	**3.**	**充电器充电端子 Charger Charge Terminal**
4.	**通讯口 Communication Port**	**5.**	**放电端子 Discharge Terminal**	**6.**	**把手 Handle**



技术参数 | Technical Specifications

常规技术参数 | Specifications	
型号 | Model	24V/200Ah LiFePO4 电池 | Battery
电芯类型 | Cell Chemistry	3.2V/100Ah LiFePO4 电芯 | Cells
组合方式 | Cell Configuration	8S2P
额定容量 | Rated Capacity (Ah)	200Ah @0.2C 放电倍率 | Discharge Rate
正常电压 | Nominal Voltage (V)	25.6V
额定能量 | Rated Energy (kWh)	5.12kWh
电压范围 | Voltage Range (V)	20.0V – 28.8V
循环寿命 | Cycle Life	在 25ºC、放电深度达 80% 状态下，>2000 次循环 >2000 cycles with 80% discharge depth at 25ºC
2,000 次充放电循环后的剩余电量 Remaining Capacity (%) after 2,000 Charge / Discharge Cycles	≥80% 初始容量 | of initial capacity

Pb-free RoHS conform

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充电 | Charging	
低温充电电流 Low Temperature Charge Current (A)	0.1C/20A @0 ºC to 10ºC （充电持续电流 | Constant Current Charging）
标准充电 | Standard Charge Current (A)	0.2C/40A （充电持续电流 | Constant Current Charging）
最大充电电流 | Maximum Charge Current (A)	0.5C/100A （充电持续电流 | Constant Current Charging）
充电条件 | Charge Condition	@0ºC to 45ºC
放电 | Discharging	
标准放电 | Standard Discharge Current (A)	0.5C/100A （放电持续电流 | Constant Current Discharge）
最大放电电流 | Max. Discharge Current (A)	1C/200A （放电持续电流 | Constant Current Discharge）
放电条件 | Discharge Condition	@ -10ºC－60ºC
电池管理及通讯 | Battery Management & Communication	
电池管理 | Battery Management	电池管理系统 (BMS) 、电芯平衡、CAN-界面 Battery Management System with cell balancing and CAN-Interface
电芯监察 | Cell Monitoring	对单体电芯表现、健康状况及维护进行记录分析 Data logging for cell performance, state of health or maintenance
保护 / 耐用性 | Protection / Durability	
散热系统 | Heat Dissipation	被动散热 | Passive Cooling
电芯平衡 | Cell Balancing	自动 （被动） | Automatic (Passive)
安全 | Safety	过充、过放、过流、高低温保护 | Overcharge, over-discharge, over-current and unsafe operating temp. protection
加热系统 | Heating System (opt.)	可选 | Available upon request
外壳及端子 | Enclosure & Terminals	
外壳 | Enclosure	2.0mm 經电镀及喷粉处理的铁制外箱 2.0mm iron sheet, electro-plated and powder coated
防水等级 | IP Code	IP50
尺寸及重量 | Dimensions & Weight	520x420x246mm / 60kg
充放电端子 Charge- and Discharging Terminals	开放式接线柱 Opened-ended screw terminals
维护及贮存 | Maintenance & Storage	
维护 | Maintenance	每三个月定期对电池组进行充放电维护，确保电池处于最佳性能状态。 The battery pack should be charged and discharged fully once every 3-month.
在环境温度 -20 ºC 到 25 ºC 下 Storage Condition @ -20 ºC to 25ºC	在 50% 电量状态，能储存 3 个月 Can be kept for 3 months at 50% capacity
在环境温度 -20 ºC 到 45 ºC 下 Storage Condition @ -20 ºC to 45ºC	在 50% 电量状态，能储存 1 个月 Can be kept for 1 month at 50% capacity
质保及认证 | Warranty & Certificates	
保修期 | Warranty	3 年 | Years

保护参数设置 | Battery Protection Parameters

指标项目 | Description	参数 | Value	采取措施 | Action
单体过充保护电压 Single Cell Voltage Upper Limit Alarm	3.65V	主继电器打开 => 停止充放电 Main relay open => Stop charging/discharging
单体过放保护电压 Single Cell Voltage Lower Limit Alarm	2.5V	
单体压差保护电压 Single Cell Voltage Difference Alarm	0.5V	
总体过充保护电压 Total Voltage Upper Limit Alarm	29.2V	
总体过放保护电压 Total Voltage Lower Limit Alarm	20.0V	
充电 / 放电高温保护温度 Charge / Discharge Temperature Upper Limit Alarm	60ºC	
充电 / 放电低温保护温度 Charge / Discharge Temperature Lower Limit Alarm	-30ºC	
充电 / 放电过流保护电流 Charge / Discharge Current Upper Limit Alarm	405A	

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电池組充放电曲线图 | Battery Charge and Discharge Profile

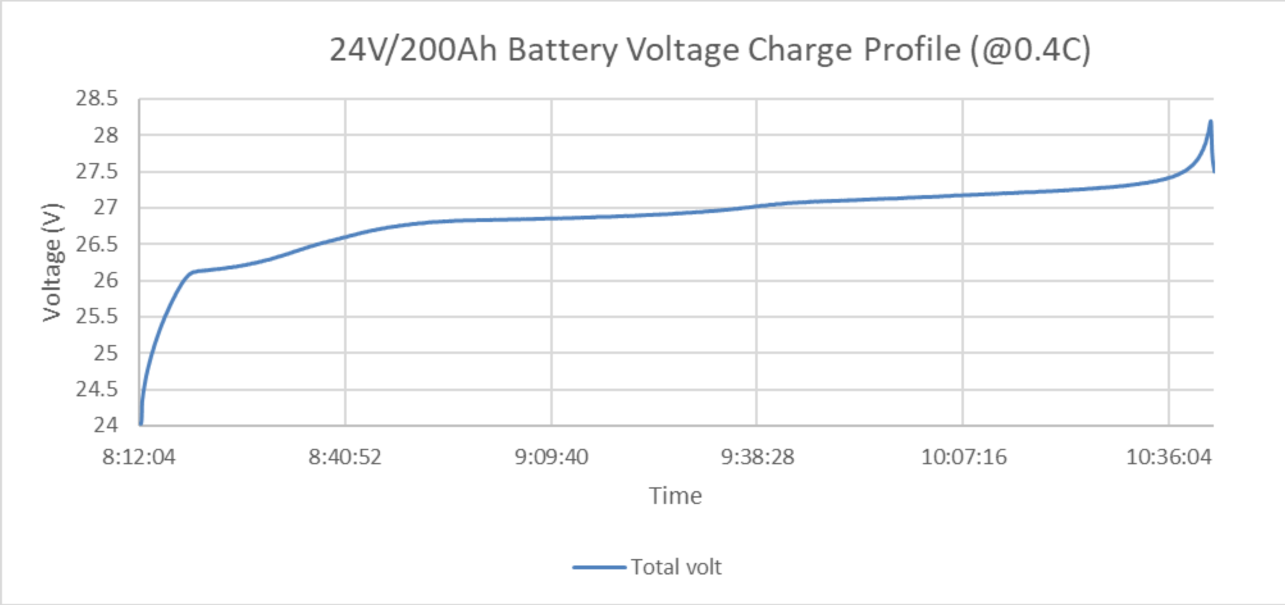

图1 24V/200Ah 电池电压充电曲线 (0.4C) | Figure 1 24V/200Ah Battery Voltage Charge Profile (0.4C)

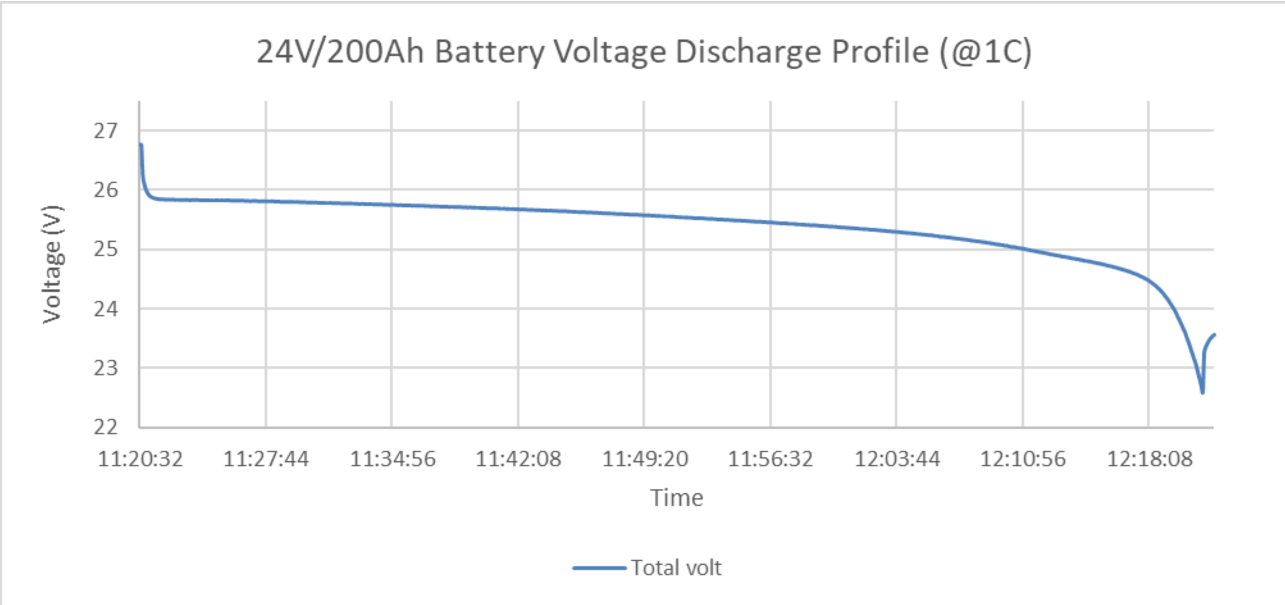

图2 24V/200Ah 电池电压放电曲线 (1C) | Figure 2 24V/200Ah Battery Voltage Discharge Profile (1C)

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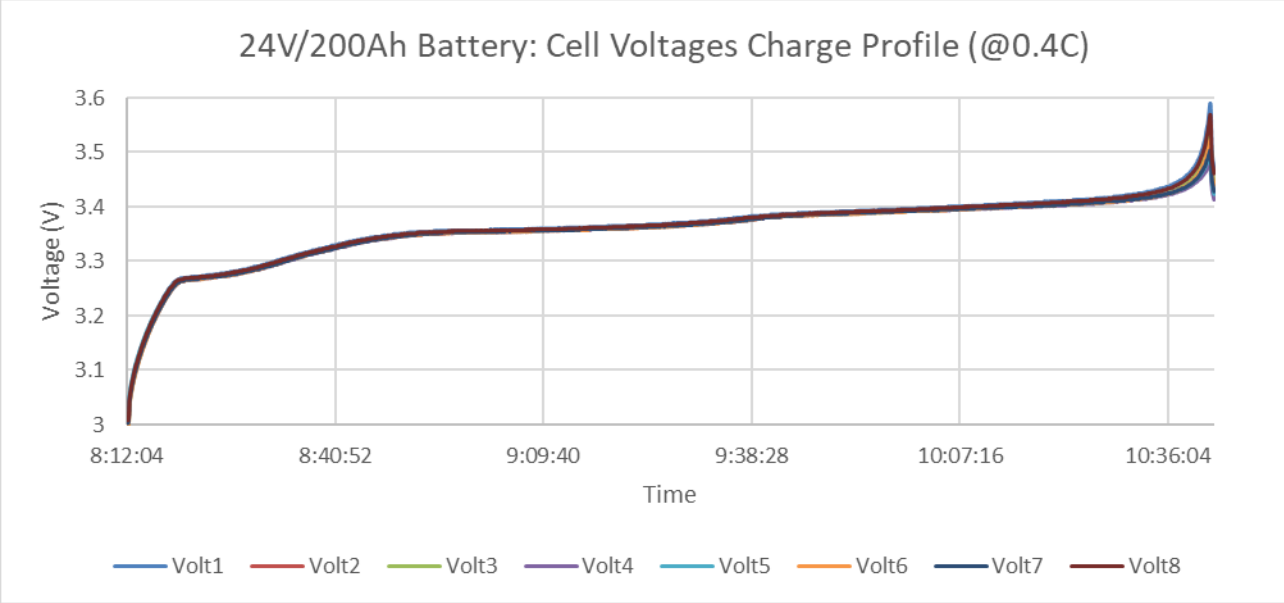

图 3 24V/200Ah 电芯电压充电曲线 (0.4C) | Figure 3 24V/200Ah Battery: Cell Voltages Charge Profile (0.4C)

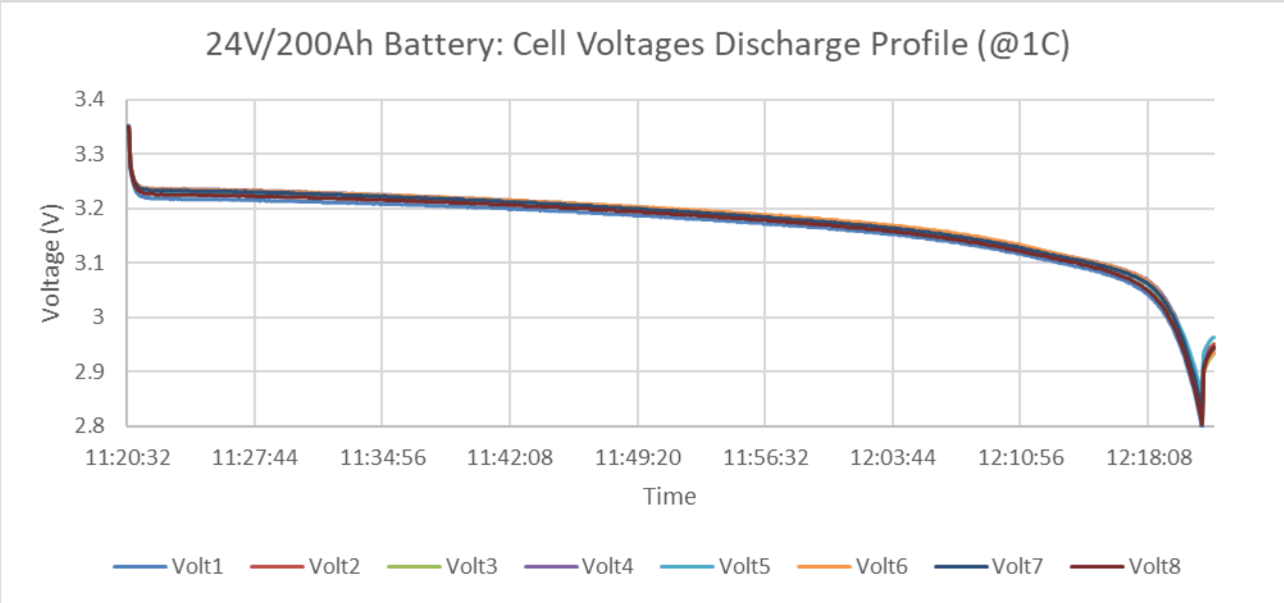

图 4 24V/200Ah 电芯电压放电曲线 (1C) | Figure 4 24V/200Ah Battery: Cell Voltages Discharge Profile (1C)

如图 1、图 2 所示，24V/200Ah 电池組充电时电压平台为 26V 到 28V，放电时电压平台为 26V 到 24V，电压平稳。此电池組为您的设备运作提供了稳定的电力来源。MEC 就每一个生产的电池組都耐心细致地进行了选择合适的电芯的工序。事实证明，如图 3、图 4 所示，电池組内置的电芯匹配良好。稳定的电芯性能降低了电容量损耗，提升了电池組整体的性能。希望大家喜欢 MEC 电池。

The 24V/200Ah battery pack has a smooth and steady voltage platform from 26V to 28V on charge, and from 26V to 24V on discharge, as shown on Figure 1 and Figure 2. The battery supplies you a stable source of energy for your device operation. MEC patiently and carefully selects the optimal cells for every battery pack produced. Figure 3 and Figure 4 show that the built-in cells within the battery are well matched. The consistent cell performance enhances the overall battery performance with reduced capacity loss. We hope you enjoy the battery packs labelled MEC.

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