

# 21334-CM-48V100Ah Battery Pack Spec

## 电池包规格书

Model :  
 型号: 21334-CM-48V100Ah

Customer P/N:  
 客户型号: \_\_\_\_\_

Nominal Voltage:  
 标称电压: 48V

Capacity:  
 容量: 100Ah

<b>Draft</b> 起草	<b>Checking</b> 审核	<b>Approved</b> 批准	<b>Customer Confirmation</b> 客户确认
Kenny	Jeff		

## Revision History 版本记录

Revision 版本	Date 日期	Editor 编著	Contents 内容
A0	2021-12-30	Kenny	Draft
A1	2022-01-15	Helen	更新标签图，增加配件图及包装图。
A2	2022-04-21	Kenny	更改钣金颜色和丝印
A3	2022-07-15	Dora	更改电池组贴标位置、存储温度、系统框图，增加包装描述、电池组额定容量、认证要求。

## 目录

1. Application 应用 .....	4
2. Basic Information 基本信息 .....	4
3. Electrical Characters 电气特性 .....	4
4. Certification 认证 .....	5
5. System Block Diagram 系统框图 .....	5
6. Mechanical Information 结构信息 .....	5
6.1. Sample Picture 样品照 .....	5
6.2. Design size 设计尺寸 .....	6
6.3. Screen printing 丝印 .....	6
6.4. Spare parts 配件 .....	7
6.5. BMS (For reference only, the electronics components of different kind shall exist 仅供参考, 具体以实物为准) .....	7
6.6. Terminal 端子信息 .....	10
6.7. Drawing of Label 标签图 .....	10
6.8. Drawing Packing 包装图 .....	10
7. Caution and prohibition 注意事项 .....	11
8. Warranty 保修 .....	11
9. Handling Instruction Guide for LiFePO4 Battery Pack 磷酸铁锂电池包使用说明书 .....	11
9.1. General 总括 .....	11
9.2. Storage of pack 电池组的储存 .....	11
9.3. Charging pack 电池包充电 .....	12
9.4. Protection from unexpected damaged to pack 防止电池包意外损坏 .....	12
9.5. For Safety 安全条款 .....	12

## 1. Application 应用

基站储能后备电源，家庭储能电源，数据中心储能。

Power backup system for telecom base, data center, and home Energy Storage System

## 2. Basic Information 基本信息

Description 描述:	Rechargeable LiFePO4 battery pack 可充磷酸铁锂电池包
Cell Type 电芯:	28148115-52Ah
Chemistry 化学成份:	LiFePO4 磷酸铁锂
PCM 保护板:	V02029 P16S100A-CP16190-10A-K4EN-ZJ (日月元协议)
Cell configuration 电芯配置:	2P15S
Voltage Nominal 标称电压:	48V
Capacity Nominal 标称容量:	100Ah
Rated Capacity 额定容量:	98Ah
Energy 能量:	4800Wh
Additional Function 其它功能:	RS485+CAN+LCD
Protection 保护:	<ul style="list-style-type: none"> <li>A. Over Charge Protection 过充保护</li> <li>B. Over Discharge Protection 过放保护</li> <li>C. Over Current Protection 过流保护</li> <li>D. Short Protection 短路保护</li> <li>E Temperature Protection 温度保护</li> </ul>

## 3. Electrical Characters 电气特性

Items 项目	Parameter 参数
Charging Method 充电方式	CC-CV 恒流恒压
Charging Voltage 充电电压	54V
Over Charging Protect 过充保护	55.5V
Standard Charging Current 标准充电电流	20A
Max. Charging Current 最大充电电流	100A
Cut-off Charging Current 充电结束电流	2A
Standard Discharging Current 标准放电电流	20A
Max. Discharging Current 最大放电电流	100A
Discharging cut-off Voltage 放电结束电压	37.5V
Over Charge Current 过充电流	110A
Level 1 Over Discharge Current 一级过放电流	110A
Level 2 Over Discharge Current 二级过放电流	150A
Over Discharging Protect 过放保护	2.5V
Internal Resistance 内阻	<80mOhm
balancing voltage 均衡电压	3.4V
balancing current 均衡电流	60±30mA

Standard Charge Temperature 标准充电工作温度	0~45℃
Standard Discharge Temperature 标准放电工作温度	-20~60℃
Cycle life 循环寿命	循环次数达到4000次时放电容量不低于初始容量的80%. (After 4000 cycles, the discharge capacity $\geq$ 80% C0) @25℃ 80% DOD
Storage Humidity 存储湿度	65%RH not condensed (无凝结)
Storage Temperature 存储温度	-20~45℃
Weight 重量	About 49.2 Kg

#### 4. Certification 认证

电池组要有 UN38.3 认证。

#### 5. System Block Diagram 系统框图

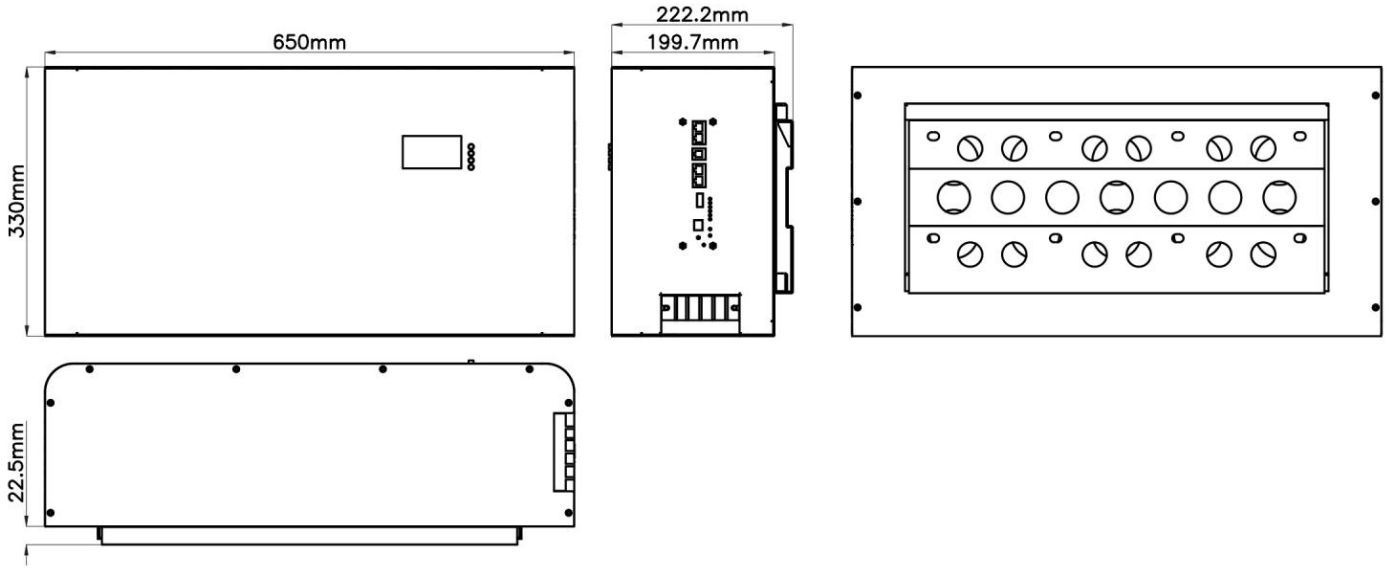
T.B.D.

#### 6. Mechanical Information 结构信息

##### 6.1. Sample Picture 样品照



### 6.2. Design size 设计尺寸



### 6.3. Screen printing 丝印

日期	版本	变更内容	姓名
2021/10/20	A0	初始版本发行	GuipinLu

备注: 1. 21334-BJ-01-A0丝印图  
 2. 箱体喷粉为pantone cool rgy 4C  
 3. 丝印效果和钣金颜色需与项目负责人确认

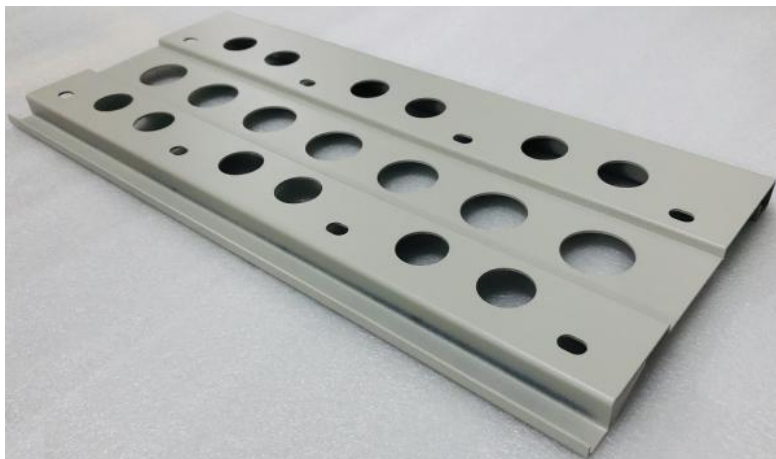
DIM.	TOLERANCE TYPE			SELECT LEVEL
	I	II	III	
<3	±0.03	±0.05	±0.15	II
>3~50	±0.05	±0.10	±0.15	
>50~100	±0.05	±0.10	±0.2	
>100	±0.05	±0.15	±0.3	
ANGULAR	±0.5°	±0.5°	±1°	

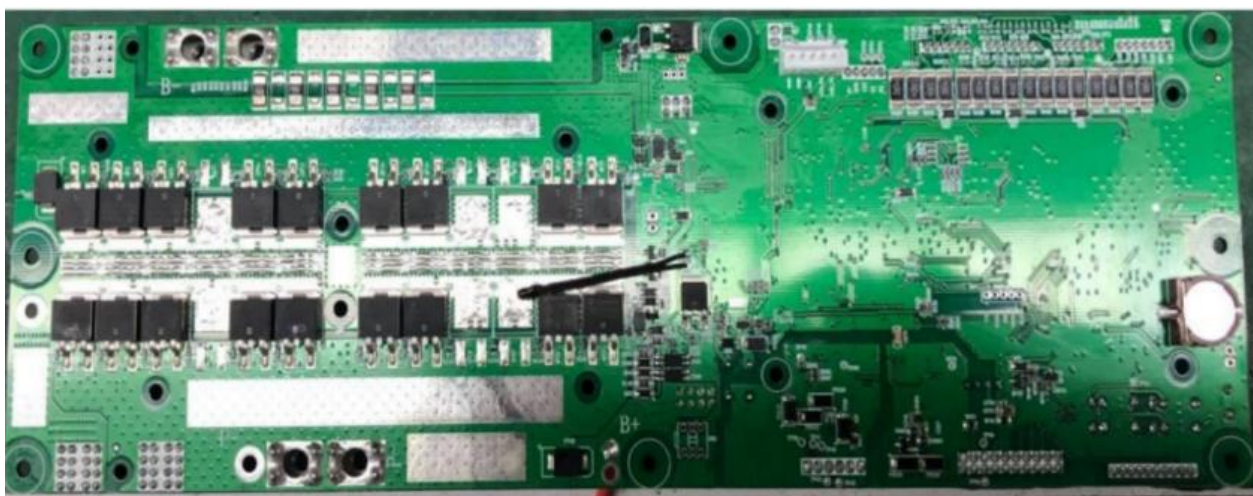
图纸号	21334-BJ-01-A0		制作	GuipinLu
物料名称	面板		审核	kenny
零件料号			批准	
材质	/	单位	mm	日期 2021.10.20
共 1 页 第 1 页		比例	1:1	版本 A/0

#### 6.4. Spare parts 配件

Description: One battery with one hanging plate and 6 M8 explosive screws 说明：一个电池配一个挂板以及 6 个 M8 的爆炸螺丝



#### 6.5. BMS (For reference only, the electronics components of different kind shall exist 仅供参考, 具体以实物为准)



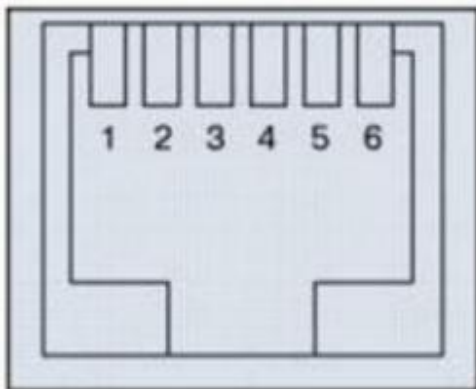
A: 通信说明 Communication:

RS232 communication

RS232 通信

BMS can communicate with the upper computer through RS232 interface, so that the upper computer can monitor various battery information, including battery voltage, current, temperature, status and battery production information, etc. The default baud rate is 9600Bps.

BMS 可以通过 RS232 接口与上位机进行通讯，从而可通过上位机监控电池的各种信息，包括电池电压、电流、温度、状态及电池生产信息等，默认波特率为 9600bps。



RS232 通讯接口

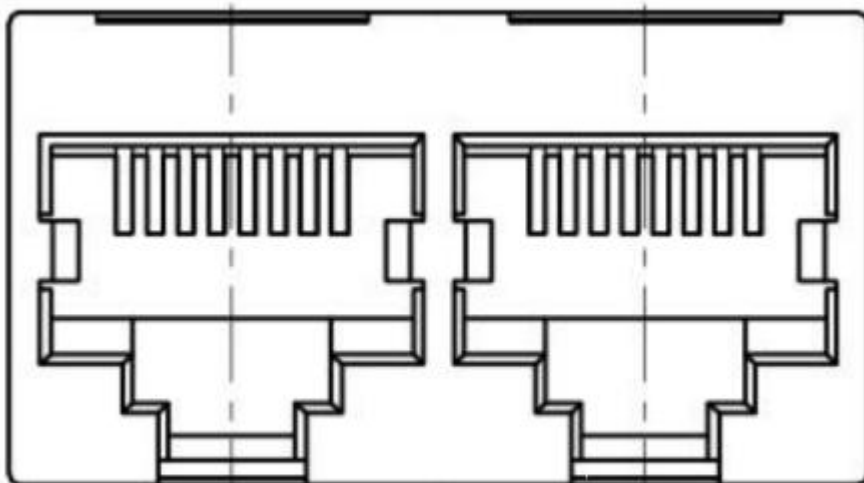
RS232--采用 6P6C 立式 RJ11 插座	
RJ11 引脚	定义说明
2	NC
3	TX ( 单板 )
4	RX ( 单板 )
5	GND

CAN communication.RS485 communication

CAN 通信；RS485 通信

CAN communication, default communication rate 500K;Dual RS485 ports enable you to view PACK information. The default baud rate is 9600bps.If you need to communicate with the monitoring device over RS485, the monitoring device acts as the host and polls data based on the address.

CAN 通信，默认通信速率 500K；具有双 RS485 接口，可以查看 PACK 的信息，默认波特率为 9600bps。如需通过 RS485 与监控设备通信，监控设备作为主机，依据地址轮询数据。



CAN 和 RS485 接口



RS485--采用 8P8C 立式 RJ45 插座		CAN--采用 8P8C 立式 RJ45 插座	
RJ45 引脚	定义说明	RJ45 引脚	定义说明
1、8	RS485-B1	9、10、11、14、16	NC
2、7	RS485-A1	12	CANL
3、6	GND	13	CANH
4、5	NC	15	GND

RS485 和 CAN 接口

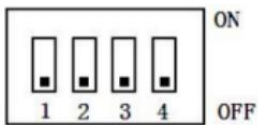
RS485--采用 8P8C 立式 RJ45 插座		RS485--采用 8P8C 立式 RJ45 插座	
RJ45 引脚	定义说明	RJ45 引脚	定义说明
1、8	RS485-B	9、16	RS485-B
2、7	RS485-A	10、15	RS485-A
3、6	GND	11、14	GND
4、5	NC	12、13	NC

并联通讯端口

### C: 拨码地址选择 Address setting

When packs are used in parallel, you can use the DIP switch on the BMS to set the address to distinguish different Packs. Do not set the address to the same. See the following table for the DEFINITION of THE BMS DIP switch.

当 PACK 作并联使用时，可通过 BMS 上的拨码开关设置地址区分不同的 PACK，需避免地址设为相同，BMS 拨码开关的定义参照下表。



地址	拨码开关位置			
	#1	#2	#3	#4
0	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON

### 6.6. Terminal 端子信息

P 间距 16mm，承载电流 100A，M6 螺丝  
M6 screw for 100A with the pinch 16mm.



### 6.7. Drawing of Label 标签图

PET 哑银标签要求；标签长 70mm，宽 50mm，日期随出货时间更改，格式示例如下：



### 6.8. Drawing Packing 包装图

单个装 UN 箱，电池包四周用珍珠棉填充；外箱硬朗，无不相关标签，包装方式如下：



## 7. Caution and prohibition 注意事项

Before using and handling the pack, see carefully attached “Handling Instruction for Rechargeable Lithium ion battery Pack”. 在使用和处理包装之前，请参阅“可充电锂离子电池包的处理说明书”。

For safety reasons rechargeable batteries are not shipped in a low remaining capacity state. Charge before using.

为了安全起见，可充电电池禁止在低剩余容量状态下运输。使用前请充电。

Do not connect multiple battery packs as parallel or serials for using. This might damage the battery pack, even your equipment's. 请勿将多个电池组并联或串联使用。这可能会损坏电池组，甚至您的设备。

## 8. Warranty 保修

Manufacturer will be responsible for replacing the battery pack against defects or poor workmanship for 24 months from the date of shipping. Any other problem caused by malfunction of the equipment or misuse of the battery is battery is not covered under this warranty.

电池包从发货之日起 24 个月内出现缺陷或做工不佳等问题由厂商负责更换。任何由于设备故障或使用不当造成的问题，不在本保修范围之内。

## 9. Handling Instruction Guide for LiFePO4 Battery Pack 磷酸铁锂电池包使用说明书

### 9.1. General 总括

Battery packs supplied by Crown Micro have to be handle carefully according to the specification. Here are some more to be followed.

Crown Micro 提供的电池包必须根据规格书正确使用。如下：

### 9.2. Storage of pack 电池组的储存

The packs are requested to be stored under the following conditions: 电池包请按以下条件下储存：

a. Indoor storage in a cool circumstances without direct sun light on the packs or cartons.

存放在室内阴凉的处，禁止阳光暴晒。

b. Store batteries in a dry location with low humidity, and a temperature range of - 20°C to +30°C. In case of the long term storage.

长期存放的情况下，需将电池放在干燥（湿度低）的地方，温度范围为-20°C至+ 30°C

c. As long-term storage can accelerate battery self-discharge and lead to the deactivation of the batteries. To minimize the deactivation effect, store battery packs in a temperature range of +10°C to +30°C.

由于长期存储会加速电池自放电并导致电池的停用。为了最大限度地减少电池消耗，请将电池包放在+ 10°C至+ 30°C的温度范围内。

d. When charging for the first time after long-term storage, deactivation of the packs may have led to decreased capacity. Recover such packs to original performance through repeating several cycles of full charging and discharging.

长时间储存后首次充电时，电池包的停用可能导致容量降低。通过重复几次完全充电和放电循环，将这些电池包恢复到原始性能。

e. When store packs for more than 6 month, charge at least once charring require per 6 months to prevent leakage and deterioration in performance due to self-discharging.

当电池包储存超过 6 个月时，每 6 个月至少需要补电一次，以防止由于自放电而造成的泄漏和性能下降。

### 9.3. Charging pack 电池包充电

- a. Use suitable charger with the specified voltage and current. We strongly recommend Crown Micro smart battery charger. We can recommend the usage or specification of the charger manufacturing. If you want to get the information about it, please contact us.

使用指定电压和电流的合适充电器。我们强烈推荐使用 Crown Micro 智能电池充电器。我们可以推荐充电器制造的规格和使用。如果您想获取有关信息，请与我们联系。

- b. Never attempt reverse charging. Charging with polarity reversed can cause a reversal in battery polarity, causing gas pressure inside of the battery to rise, which can be lead to leakage of the batteries in the pack.

切勿尝试反向充电。极性反转的充电可能导致电池极性反转，导致电池内部的气压升高，这可能导致电池中的电解液泄漏。

- c. Avoid overcharging. Repeated overcharging can be lead to deterioration in pack performance. And Over-heat occurred.

避免过度充电。重复过充可能导致包装性能下降。导致电池过热。

- d. Charging efficiency drops at temperatures above 40°C.

充电温度在 40°C 以上会导致充电效率下降。

### 9.4. Protection from unexpected damaged to pack 防止电池包意外损坏

- a. (+) and/or (-) terminals must not be connected in metal wire, necklace, chains.

(+) 正极和/或负极 ( - ) 端子不得连接在金属线，项链，链条中。

- b. Do not drop packs from height in order to prevent them from possible malfunction or damage.

不要从高处抛掷电池包，以防止它们发生故障或损坏。

- c. Do not twist or bend packs in order to prevent possible damage.

不要扭曲或弯曲电池包，以防止可能的损坏。

### 9.5. For Safety 安全条款

- a. Do not disassemble packs. 不要拆卸电池包。

- b. Do not use pack when something abnormal found such as smells, deformation, discoloration, and so on.

出现异常现象时，如气味，变形，变色等,请勿使用电池包。

- d. Do not re-use LiFePO4 cells or other parts after removing from the packs.

从电池包中取出后，请勿重新使用磷酸铁锂电池或其他部件。

- e. When the electrolyte leakage occurs, do not touch the liquid.

当发生电解液泄漏时，请勿接触液体。

- f. Once watered, packs may have potential malfunctions. Do not use those packs.

一旦碰水，电池包可能有潜在的故障。不要使用这些电池包。

- g. Do not have packs in the hot-temperature (60°C or more).

禁止在高温（60°C 或更高）下使用电池包。

- h. Do not put packs into fire.

电池包禁止接触火源。

- i. Do not crush/nail pack.

禁止碾压或钉子刺穿电池包

- j. Do not apply solder directly to packs.

禁止将焊料直接焊在电池包上。