

POWERING  
A SMARTER LIFE



USER MANUAL

# 5.12KWh

RELIABLE • SMART • LONG LASTING



## Wall / Floor Mount LiFePO4 Battery



7 Inch  
Touch Screen



**PACEx** 沛城智能  
2A Active  
Cell Balancing



Continuous  
1C Rate



Bluetooth &  
WiFi



Smart BMS  
Real Time  
Monitoring



CCS  
(Cell Contact  
System)



4X Reinforced  
Steel Belt  
Clamping



DOD 97%  
Depth Of  
Discharge



300kg  
Precision Cell  
Compression



4X Aluminium  
Heat Sink  
End Plates



**Built in protection**  
for over-charge, over-discharge & over-temperature



**MSDS**  
CERTIFIED



**UN38.3**  
CERTIFIED

**HYPER** NEO 2.0



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# STATEMENT OF LAW

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This product complies with the design requirements of environmental protection and personal safety. The storage, use and disposal of the products shall be carried out in accordance with the product manual, relevant contract or relevant laws and regulations.

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Customer can check the related information on the website of **Hypercell**, the product or technology is updated. Web URL: <https://www.hypercell.com.pk>

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Please note that the product cannot be modified without prior notice.



# Safety Precautions



## Warning

- Please do not put the battery into water or fire, in case of explosion or any other situation that might endanger your life.
- Please connect wires properly while installation, do not reverse connect.  
To avoid short circuit, please do not connect positive and negative poles with conductor (Wires for instance).
- Please do not stab, hit, trample or strike the battery in any other way.
- Please shut off the power completely when removing the device or reconnecting wires during the daily use or it could cause the danger of electric shock.
- Please use dry powder extinguisher to put out the flame when encountering a fire hazard, liquid extinguisher could result in the risk of secondary disaster.
- For your safety, please do not arbitrarily dismantle any component in any circumstances unless a specialist or an authorized one from our company, device breakdown due to improper operation will not be covered under warranty.



## Caution

- We have strict inspection to ensure the quality when products are shipped out, however, please contact us if case bulging or another abnormal phenomenon.
- For your safety, device shall be ground connected properly before normal use.
- To assure the proper use please make sure parameters among the relevant device are compatible.
- **Please do not mixed-use batteries from different manufacturers, different types and models, as well as old and new together.**
- Ambient and storage method could impact the life span and product reliability, please consider the operation environment abundantly to make sure device works in proper condition.
- For long-term storage, the battery should be recharged once every 6 months, and the amount of electric charge shall exceed 80% of the rated capacity.
- Please charge the battery in 18 hours after it discharges fully and starts over-discharging protection.

Formula of theoretical standby time:  $T=C/I$  (T is standby time, C is battery capacity, I is total current of all loads).



# PREFACE

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## Manual Declaration

The **Hypercell** lithium iron phosphate battery energy storage system can provide energy storage solutions for photovoltaic power generation users through parallel combination. During the day, the excess power of photovoltaic power generation can be stored in the battery. At night or when needed, the stored electrical energy can be used to supply power to the electrical equipment, which can improve the efficiency of photovoltaic power generation, peak load shifting, and emergency power backup.



This user manual details the basic structure, parameters, basic procedures and methods of installation and operation and maintenance of the equipment.



# 1 Introduction



## 1.1 Brief Introduction

**Hypercell** lithium iron phosphate battery system is a standard battery system unit, customers can choose a certain number of **Hypercell** according to their needs, by connecting parallel to form a larger capacity battery pack, to meet the user's long-term power supply needs. The product is especially suitable for applications with high operating temperatures, limited installation space, long power backup time and long service life.



## 1.2 Product Properties

The **Hypercell** energy storage product uses high-performance lithium iron phosphate (LiFePO<sub>4</sub>) battery technology, designed to provide safe, reliable, and efficient energy storage for residential and commercial applications. The battery system is managed by an advanced Battery Management System (BMS) with intelligent monitoring, active cell balancing, and multiple protection functions, providing high performance, long service life, and dependable operation. The system's key features are as follows:

- ✓ Comply with European ROHS, Certified SGS, employ non-toxic, non-pollution environment-friendly battery.
- ✓ LiFePO<sub>4</sub> battery technology provides high safety, stability, and long service life.
- ✓ Equipped with an advanced Battery Management System (BMS) for intelligent battery monitoring and comprehensive protection.
- ✓ Supports 2A active cell balancing to improve cell consistency and overall battery performance.
- ✓ Supports a continuous 1C charge/discharge rate for high-power energy applications.
- ✓ 97% depth of discharge (DOD) provides high usable energy capacity.
- ✓ Integrated 7-inch touchscreen display for convenient operation and battery status monitoring.
- ✓ Supports Bluetooth and Wi-Fi connectivity for smart and real-time battery monitoring.
- ✓ Features a Cell Contact System (CCS) for organized and reliable cell interconnection.
- ✓ Reinforced with 4× steel belt clamping for enhanced mechanical strength and structural stability.
- ✓ Features 300 kg precision cell compression to provide secure and stable cell assembly.
- ✓ Equipped with 4× aluminum heat-sink end plates for improved thermal management.
- ✓ Operates across a wide temperature range, with -10°C to +65°C for charging and -25°C to +65°C for discharging, providing reliable performance under different operating conditions.
- ✓ Multiple built-in protection functions, including over-charge, over-discharge, over-current, over-voltage, under-voltage, short-circuit, and MOS over-temperature protection.
- ✓ Supports additional intelligent functions, including charging-current limiting, dry contacts, heater control, buzzer indication, and shunt release/trip functionality.
- ✓ Designed with a compact and robust enclosure suitable for space-conscious energy-storage installations.
- ✓ Complies with CE, UN38.3, MSDS, IP40, and RoHS requirements.



2

Product Specification



2.1

Size and Weight

Table 2-1 Ziewnic Device size

| Product   | Nominal Voltage | Nominal Capacity | Dimension      | Weight                                                  |
|-----------|-----------------|------------------|----------------|---------------------------------------------------------|
| Hypercell | 51.2V           | 100Ah            | 560x480x150 mm | 50.7 kg<br><small>Including 1.75KG wall bracket</small> |



2.2

Performance Parameter

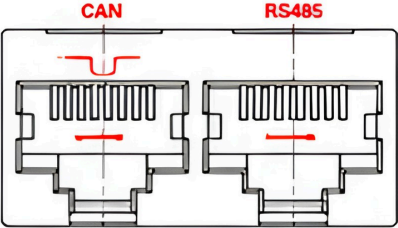
Table 2-2 performance parameter

| Item                                   | Parameter value |
|----------------------------------------|-----------------|
| Nominal Voltage(V)                     | 51.2            |
| Work Voltage Range(V)                  | 44.8~56.8       |
| Nominal Capacity(Ah)                   | 100             |
| Nominal Energy(kWh)                    | 5.12            |
| C Rating                               | 1.0             |
| Charge Voltage(V)                      | 56.8            |
| Discharge Cutoff Voltage(V)            | 44.8            |
| Charge Cut Off Voltage(V)              | 56.8            |
| Max. Continuous Charging Current(A)    | 100             |
| Max. Continuous Discharging Current(A) | 100             |

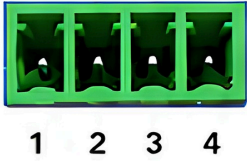


8. 接口定义Interface Definition

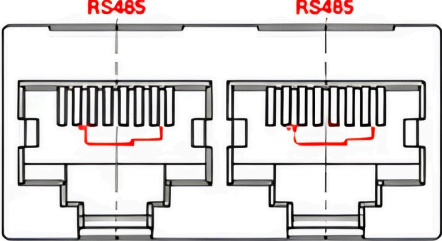
8.1 接口板通讯接口图示Communication interface diagram



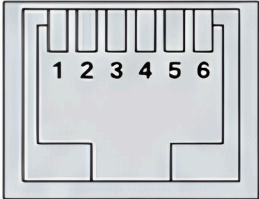
CAN 和 RS485 接口  
CAN and RS485 interfaces



干接点  
Dry contact point

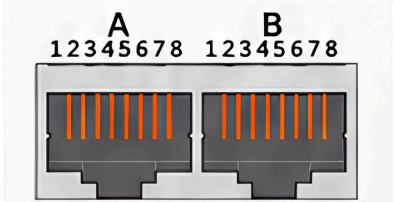


并联通讯端口  
Parallel communication port



RS232 通讯接口  
interface RS232

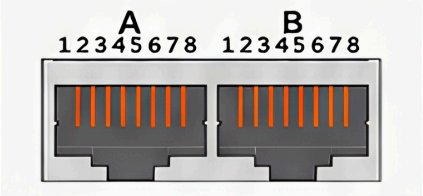
RS485-1 / CAN Communication Interface Definition:



| Interface                              | Defined declaration  |       | Defined declaration |                                 |       |           |
|----------------------------------------|----------------------|-------|---------------------|---------------------------------|-------|-----------|
| X1<br>Communication port<br>definition | A part<br>CAN joggle | PIN 1 | NC                  | B part<br>RS-485-1<br>Interface | PIN 1 | RS485-B1  |
|                                        |                      | PIN 2 | NC                  |                                 | PIN 2 | RS485-A1  |
|                                        |                      | PIN 3 | CGND                |                                 | PIN 3 | RS485-GND |
|                                        |                      | PIN 4 | CANH                |                                 | PIN 4 | NC        |
|                                        |                      | PIN 5 | CANL                |                                 | PIN 5 | NC        |
|                                        |                      | PIN 6 | CGND                |                                 | PIN 6 | RS485-GND |
|                                        |                      | PIN 7 | NC                  |                                 | PIN 7 | RS485-A1  |
|                                        |                      | PIN 8 | NC                  |                                 | PIN 8 | RS485-B1  |

Table 7 The RS 485-1 / CAN port definition

RS485-2 / CAN-2 Communication interface definition:



| joggle                                      | Definition             |       | Definition |                        |       |           |
|---------------------------------------------|------------------------|-------|------------|------------------------|-------|-----------|
| X2<br>Communication<br>interface definition | A part<br>CAN-2 joggle | PIN 1 | CAN2L      | B part<br>CAN-2 joggle | PIN 1 | CAN2L     |
|                                             |                        | PIN 2 | CAN2H      |                        | PIN 2 | CAN2H     |
|                                             |                        | PIN 3 | RS485-1-B  |                        | PIN 3 | RS485-1-B |
|                                             |                        | PIN 4 | RS485-1-A  |                        | PIN 4 | RS485-1-A |
|                                             |                        | PIN 5 | IN         |                        | PIN 5 | OUT       |
|                                             |                        | PIN 6 | P-GND      |                        | PIN 6 | P-GND     |
|                                             |                        | PIN 7 | CAN1L      |                        | PIN 7 | CAN1L     |
|                                             |                        | PIN 8 | CAN1H      |                        | PIN 8 | CAN1H     |

Communication interface function: battery pack parallel

8.2 接口定义说明

➤ 接口板通讯接口，管脚定义如下：The I/O board interface and the PINs definition are as follows

| RS232--采用 6P6C 立式 RJ11 插座<br>RS232- using 6P6C vertical RJ11 socket |  |                     |  |
|---------------------------------------------------------------------|--|---------------------|--|
| RJ11 引脚<br>RJ11 PIN                                                 |  | 定义说明<br>Description |  |
| 2                                                                   |  | NC                  |  |
| 3                                                                   |  | TX（单板）              |  |
| 4                                                                   |  | RX（单板）              |  |
| 5                                                                   |  | GND                 |  |

| CAN--采用 8P8C 立式 RJ45 插座<br>CAN- using 9P8C vertical RJ45socket |  | RS485--采用 8P8C 立式 RJ45 插座<br>RS485- using 8P8C vertical RJ45socket |  |
|----------------------------------------------------------------|--|--------------------------------------------------------------------|--|
| RJ45 引脚<br>RJ45 PIN                                            |  | 定义说明<br>Description                                                |  |
| 1, 7, 3, 6, 8                                                  |  | NC                                                                 |  |
| 5                                                              |  | CANL                                                               |  |
| 4                                                              |  | CANH                                                               |  |
| 2                                                              |  | GND                                                                |  |
|                                                                |  | 9, 16                                                              |  |
|                                                                |  | RS485-B1                                                           |  |
|                                                                |  | 10, 15                                                             |  |
|                                                                |  | RS485-A1                                                           |  |
|                                                                |  | 11, 14                                                             |  |
|                                                                |  | GND                                                                |  |
|                                                                |  | 12, 13                                                             |  |
|                                                                |  | NC                                                                 |  |

CAN 和 RS485 接口  
CAN and RS485 interfaces



| RS485--采用 8P8C 立式 RJ45 插座<br>RS485- using 8P8C vertical RJ45socket |                     | RS485--采用 8P8C 立式 RJ45 插座<br>RS485- using 8P8C vertical RJ45socket |                     |
|--------------------------------------------------------------------|---------------------|--------------------------------------------------------------------|---------------------|
| RJ45 引脚<br>RJ45 PIN                                                | 定义说明<br>Description | RJ45 引脚<br>RJ45 PIN                                                | 定义说明<br>Description |
| 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

Parallel communication port



➤ 主板接口，管脚定义如下： The BMS board's sampling interface is defined as follows:

| 接口<br>Interface           | 说明<br>Description                                                                             |         |      |         |
|---------------------------|-----------------------------------------------------------------------------------------------|---------|------|---------|
| B+                        | 电池正极，用来给 BMS 供电；<br>Positive pole of battery, used to supply power to BMS;                    |         |      |         |
| B-                        | 电池负极；<br>Battery negative electrode;                                                          |         |      |         |
| P-                        | 电池 PACK 负极（充放电同口）<br>Battery PACK negative electrode (same port for charging and discharging) |         |      |         |
| 电芯&温度<br>Cell&Temperature | J3-1                                                                                          | NTC1    | J4-1 | NTC2    |
|                           | J3-2                                                                                          | GND     | J4-2 | GND     |
|                           | J3-3                                                                                          | CELL1-  | J4-3 | CELL5+  |
|                           | J3-4                                                                                          | CELL1+  | J4-4 | CELL6+  |
|                           | J3-5                                                                                          | CELL2+  | J4-5 | CELL7+  |
|                           | J3-6                                                                                          | CELL3+  | J4-6 | CELL8+  |
|                           | J3-7                                                                                          | CELL4+  |      |         |
|                           |                                                                                               |         |      |         |
|                           | J1-1                                                                                          | NTC3    | J2-1 | NTC4    |
|                           | J1-2                                                                                          | GND     | J2-2 | GND     |
|                           | J1-3                                                                                          | CELL8-  | J2-3 | CELL13+ |
|                           | J1-4                                                                                          | CELL9+  | J2-4 | CELL14+ |
|                           | J1-5                                                                                          | CELL10+ | J2-5 | CELL15+ |
|                           | J1-6                                                                                          | CELL11+ | J2-6 | CELL16+ |
|                           | J1-7                                                                                          | CELL12+ |      |         |
|                           |                                                                                               |         |      |         |
|                           |                                                                                               |         |      |         |

| 接口编号<br>Interface number                      | 引脚编号<br>Pin No. | 信号<br>Signal | 定义<br>Definition                               | 备注<br>Remarks                     |
|-----------------------------------------------|-----------------|--------------|------------------------------------------------|-----------------------------------|
| J6<br>LED、通讯、拨码<br>LED、communication, dialing | Pin1:           | CANH         | CAN 通讯接口<br>CAN communication interface        | 对接 PCS 通讯<br>To PCS communication |
|                                               | Pin2:           | CANL         |                                                |                                   |
|                                               | Pin3:           | GND_CAN      |                                                |                                   |
|                                               | Pin4:           | GND_CAN      |                                                |                                   |
|                                               | Pin5:           | RS485A1      | RS4851 通信接口<br>RS4851 communication interface  | 对接 PCS 通讯<br>To PCS communication |
|                                               | Pin6:           | RS485B1      |                                                |                                   |
|                                               | Pin7:           | GND          | 保护板负极<br>Negative pole of BMS                  |                                   |
|                                               | Pin8:           | GND          |                                                |                                   |
|                                               | Pin9:           | lamp6        | 指示灯 6 正极<br>Positive pole of indicator light 6 | 50% LED                           |
|                                               | Pin10:          | K1           | 拨码开关 1 正极<br>Positive pole of dip switch 1     |                                   |
|                                               | Pin11:          | lamp5        | 指示灯 5 正极<br>Positive pole of indicator light 5 | 66% LED                           |



|  | Pin No. | Signal  | Description                                    | Remarks  |
|--|---------|---------|------------------------------------------------|----------|
|  | Pin12:  | K2      | 拨码开关 2 正极<br>Positive pole of dip switch 2     |          |
|  | Pin13:  | lamp4   | 指示灯 4 正极<br>Positive pole of indicator light 4 | 83% LED  |
|  | Pin14:  | K3      | 拨码开关 3 正极<br>Positive pole of dip switch 3     |          |
|  | Pin15:  | lamp3   | 指示灯 3 正极<br>Positive pole of indicator light 3 | 100% LED |
|  | Pin16:  | K4      | 拨码开关 4 正极<br>Positive pole of dip switch 4     |          |
|  | Pin17:  | lamp2   | 指示灯 2 正极<br>Positive pole of indicator light 2 | ALM LED  |
|  | Pin18:  | PW_OFF1 | 弱电开关 1 正极<br>Positive pole of weak switch 1    |          |
|  | Pin19:  | lamp1   | 指示灯 1 正极<br>Positive pole of indicator light 1 | RUN LED  |
|  | Pin20:  | NRSTM   | 复位按键正极<br>Reset button positive pole           |          |

|                                      | Pin No. | Signal | Description                                    | Remarks    |
|--------------------------------------|---------|--------|------------------------------------------------|------------|
| J10<br>干接点、LED<br>Dry contact<br>LED | Pin1:   | NO1    | 干接点 1<br>Dry contact 1                         |            |
|                                      | Pin2:   | COM1   | 干接点 1<br>Dry contact 1                         |            |
|                                      | Pin3:   | NO2    | 干接点 2<br>Dry contact 2                         |            |
|                                      | Pin4:   | COM2   | 干接点 2<br>Dry contact 2                         |            |
|                                      | Pin5:   | lamp7  | 指示灯 7 正极<br>Positive pole of indicator light 7 | 33% LED    |
|                                      | Pin6:   | lamp8  | 指示灯 8 正极<br>Positive pole of indicator light 8 | 17% LED    |
|                                      | Pin7:   | lamp9  | 指示灯 9 正极<br>Positive pole of indicator light 9 | ON/OFF LED |
|                                      | Pin8:   | K5     | 拨码开关 5 正极<br>Positive pole of dip switch 5     | NC         |
|                                      | Pin9:   | K6     | 拨码开关 6 正极<br>Positive pole of dip switch 6     | NC         |
|                                      | Pin10:  | GND    | 保护板负极<br>Negative pole of BMS                  |            |
|                                      |         |        |                                                |            |

|                                         | Pin No. | Signal | Description                               | Remarks |
|-----------------------------------------|---------|--------|-------------------------------------------|---------|
| J16<br>灯条接口<br>Light strip<br>interface | Pin1:   | GND    | 灯条通信地<br>Light strip communication ground |         |
|                                         | Pin2:   | DOUT   | 灯条信号输出<br>Light strip signal output       |         |
|                                         | Pin3:   | 5V     | 5V 供电输入<br>DC 5V supply                   |         |

|                           | Pin No. | Signal | Description                          | Remarks |
|---------------------------|---------|--------|--------------------------------------|---------|
| J7<br>弱电开关<br>Weak switch | Pin1:   | GND    | 地 ground                             |         |
|                           | Pin2:   | PW-OFF | 弱电开关检测信号<br>Weak switch check signal |         |

|     | Pin No. | Signal | Description                          | Remarks |
|-----|---------|--------|--------------------------------------|---------|
| JM1 | Pin1:   | PW-OFF | 弱电开关检测信号<br>Weak switch check signal |         |



| Interface                                                                                           | Pin No. | Signal    | Description                                                                                         | Remarks |
|-----------------------------------------------------------------------------------------------------|---------|-----------|-----------------------------------------------------------------------------------------------------|---------|
| 弱电开关<br>Weak switch                                                                                 | Pin2:   | 3.3V      | Weak switch check signal<br>预留：弱电开关正极<br>Reserved: Positive pole of weak current switch             |         |
| J13<br>WIFI 模块配网与<br>复位按键接口<br>WIFI module<br>distribution<br>network and reset<br>button interface | Pin1:   | GND       | 预留：地<br>Reserved: ground                                                                            |         |
|                                                                                                     | Pin2:   | ESO       | 预留：WiFi 配网按键<br>Reserved: WiFi distribution network button                                          |         |
|                                                                                                     | Pin3:   | GND       | 预留：地<br>Reserved: ground                                                                            |         |
|                                                                                                     | Pin4:   | WIFI-RST  | 预留：WIFI 模块使能按键，高有效,低电平复位<br>Reserved: WIFI module enable button, high<br>effective, low level reset |         |
| J12<br>WIFI 模块 LED 灯<br>接口<br>WIFI module LED<br>light interface                                    | Pin1:   | GND       | 地 ground                                                                                            |         |
|                                                                                                     | Pin2:   | WIFI-IO0  | WiFi 状态 LED<br>WiFi status LED                                                                      |         |
|                                                                                                     | Pin3:   | WIFI-IO21 | WiFi 连接情况 LED<br>WiFi connection status LED                                                         |         |
|                                                                                                     | Pin4:   | WIFI-IO1  | 预留：蓝牙 B41 状态 LED<br>Reserved: Bluetooth B41 status LED                                              |         |
| J5<br>通讯接口<br>communication<br>interface                                                            | Pin1:   | GND       | 通信接口地<br>Communication interface ground                                                             | 级联通讯    |
|                                                                                                     | Pin2:   | GND       | 通信接口地<br>Communication interface ground                                                             |         |
|                                                                                                     | Pin3:   | RS232-TX  | RS232 通信接口<br>RS232 interface                                                                       |         |
|                                                                                                     | Pin4:   | RS232-RX  | RS232 通信接口<br>RS232 interface                                                                       |         |
|                                                                                                     | Pin5:   | RS485A    | RS485 通信接口<br>RS485 interface                                                                       |         |
|                                                                                                     | Pin6:   | RS485B    | RS485 通信接口<br>RS485 interface                                                                       |         |
| J8<br>屏通信接口<br>Display<br>communication<br>interface                                                | Pin1:   | GND       | 显示屏地<br>Display ground                                                                              |         |
|                                                                                                     | Pin2:   | GND       | 显示屏地<br>Display ground                                                                              |         |
|                                                                                                     | Pin3:   | 3.3V      | 显示屏供电<br>Display power supply                                                                       |         |
|                                                                                                     | Pin4:   | LCD_RX    | 显示屏通讯信号<br>Display communication                                                                    |         |
|                                                                                                     | Pin5:   | LCD_TX    | 显示屏通讯信号<br>Display communication                                                                    |         |
| J9<br>5V 屏通讯接口<br>Display 5V<br>communication<br>interface                                          | Pin1:   | GND       | 地 ground                                                                                            |         |
|                                                                                                     | Pin2:   | 5V        | 5V 显示屏供电 Display power supply                                                                       |         |
|                                                                                                     | Pin3:   | LCD_RX    | LCD_RX                                                                                              |         |
|                                                                                                     | Pin4:   | LCD_TX    | LCD_TX                                                                                              |         |
| J15<br>自动编码                                                                                         | Pin1:   | UP_IN+    | 自动编码输入信号                                                                                            |         |



| Interface                               | Pin No. | Signal  | Description                                       | Remarks |
|-----------------------------------------|---------|---------|---------------------------------------------------|---------|
| automatic coding<br>自动编码                | Pin2:   | GND     | 自动编码地<br>Automatic encoding location              |         |
|                                         | Pin3:   | DN_OP+  | 自动编码输出信号<br>Automatic encoding output signal      |         |
| J18<br>双重电流检测<br>Dual current detection | Pin1:   | DISLC+  | 双重电流检测信号<br>Dual current detection                |         |
|                                         | Pin2:   | CHARC-  |                                                   |         |
| JH1<br>加热膜<br>Heating film              | Pin1:   | +       | 加热膜输出正极<br>Heating film output positive electrode |         |
|                                         | Pin2:   | -       | 加热膜输出负极<br>Heating film output negative electrode |         |
| J11<br>脱扣器                              | Pin1:   | B+      | 脱扣器驱动正极<br>Release device drives positive pole    |         |
|                                         | Pin2:   | GND     | 脱扣器负极<br>Negative pole of release device          |         |
|                                         | Pin3:   | POS_REV | 脱扣器反馈<br>Release feedback                         |         |

备注：引脚编号仅为方便排序，具体信号 PIN 脚请参考结构图

Note: Pin numbers are for easy sorting only. Please refer to the structural diagram for specific signal PIN pins



### 8.3 安装连接说明

### Installation and Connection Instructions

保护板上电有严格的顺序要求，先焊接 B-、P-、B+、P+，依次由低到高的顺序插接电池采样线连接器，上电后需要充电或按键激活。所有连接线安装好后才能加负载或充电器。

拆除时，先拔掉充电器或负载，依次由高到低的顺序拆卸电池采样线连接器，最后拆卸 B+、P+、B-、P-。

There are strict sequence requirements for powering on the protection board. First, weld B -, P -, B+, P+, and then plug in the battery sampling line connector in descending order. After powering on, it needs to be charged or activated by pressing a button. All connecting wires must be installed before adding a load or charger.

拆除时，先拔掉充电器或负载，拆卸电池采样线连接器需由低到高的顺序进行，最后拆卸 B+、P+、B-、P-。

When dismantling, first unplug the charger or load, dismantle the battery sampling line connector in descending order, and finally dismantle B+, P+, B -, P -.



5.2 基本配置 Basic configuration

|                |                               |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 功能<br>Function | 存储 (Storage)                  | <input type="checkbox"/> 无 Null <input type="checkbox"/> 400 <input type="checkbox"/> R10000 <input type="checkbox"/> 其他 (other) _____                                                                                                                                                                                                                                                                                    |
|                | 电芯容量 (Cell capacity)          | <input type="checkbox"/> 50AH <input type="checkbox"/> 100AH <input type="checkbox"/> 150AH <input type="checkbox"/> 200AH <input type="checkbox"/> 300AH <input type="checkbox"/> _____AH                                                                                                                                                                                                                                |
|                | 显示屏<br>Display                | <input type="checkbox"/> 无 Null <input type="checkbox"/> 中文智能 Chinese intelligent (separate delivery) <input checked="" type="checkbox"/> 英文智能<br>(CTP35H-1.3 分离配送)    English intelligent (CTP35H-1.3 separate delivery)                                                                                                                                                                                                 |
|                | 充电限流 CCL                      | <input type="checkbox"/> 无 (Null) <input type="checkbox"/> 5A <input type="checkbox"/> 10A <input type="checkbox"/> 20A <input type="checkbox"/> ____A;    定义: 充电电流 >100A 开启<br>(Define: Charging current >100A unlock)    (note: CCL-Charging current limiting)                                                                                                                                                          |
|                | 干 接 点                         | <input type="checkbox"/> 无 (Null), <input checked="" type="checkbox"/> 有 (yes),    定义: 干接点 1-PIN1 to PIN2:常开, 故障保护时闭合;<br>干接点 2-PIN3 to PIN4:常开, 低电量告警闭合。<br>(Define: Dry Contact #1-PIN1 to PIN2:Normally open, closed during fault protection;<br>Dry Contact #2-PIN3 to PIN4:Normally open, low battery alarm closed. )                                                                                                |
|                | 加热膜<br>Heater                 | <input type="checkbox"/> 无 (Null), <input checked="" type="checkbox"/> 有 (yes),    定义: 电芯温度低于 5℃开启, 电芯温度高于 15℃关闭。<br>(Define: When the temperature of the battery cell is lower than 5 °C, it is turned on,<br>and when the temperature of the battery cell is higher than 15 °C, it is turned off. )                                                                                                                     |
|                | 脱 扣 器<br>Release device       | <input type="checkbox"/> 无 Null <input checked="" type="checkbox"/> 有 yes<br>定义 Definition:<br>1、充电 MOS 关闭后, 若检测到有充电电流, 持续 8S 启动。<br>After the charging MOS is turned off, if a charging current is detected, it will<br>continue to start for 8 seconds.<br>2、放电 MOS 关闭后, 若检测到有放电电流, 持续 8S 启动。<br>After the discharge MOS is turned off, if a discharge current is detected,<br>it will continue to start for 8 seconds. |
|                | 蜂鸣器<br>Buzzer                 | <input type="checkbox"/> 无 null <input checked="" type="checkbox"/> 有 Yes                                                                                                                                                                                                                                                                                                                                                 |
|                | 反接保护<br>reverse protection    | <input type="checkbox"/> 无 null <input checked="" type="checkbox"/> 有 Yes                                                                                                                                                                                                                                                                                                                                                 |
|                | 弱电开关<br>Weak switch           | <input type="checkbox"/> 无 null <input checked="" type="checkbox"/> 有 Yes                                                                                                                                                                                                                                                                                                                                                 |
|                | 蓝牙&WiFi<br>Bluetooth&WiFi     | <input type="checkbox"/> 无 null <input checked="" type="checkbox"/> 有 Yes                                                                                                                                                                                                                                                                                                                                                 |
|                | 灯条接口<br>Light strip interface | <input type="checkbox"/> 无 null <input checked="" type="checkbox"/> 有 Yes                                                                                                                                                                                                                                                                                                                                                 |
|                | 拨码开关<br>Dial switch           | <input type="checkbox"/> 无 null <input type="checkbox"/> 2bit <input checked="" type="checkbox"/> 4bit <input type="checkbox"/> 6bit <input checked="" type="checkbox"/> 自动编码 automatic coding                                                                                                                                                                                                                            |
|                | LED 灯<br>LED indicators       | <input type="checkbox"/> 无 null <input checked="" type="checkbox"/> ALM <input checked="" type="checkbox"/> RUN <input checked="" type="checkbox"/> ON/OFF <input checked="" type="checkbox"/> SOC_6 个                                                                                                                                                                                                                    |
|                |                               |                                                                                                                                                                                                                                                                                                                                                                                                                           |

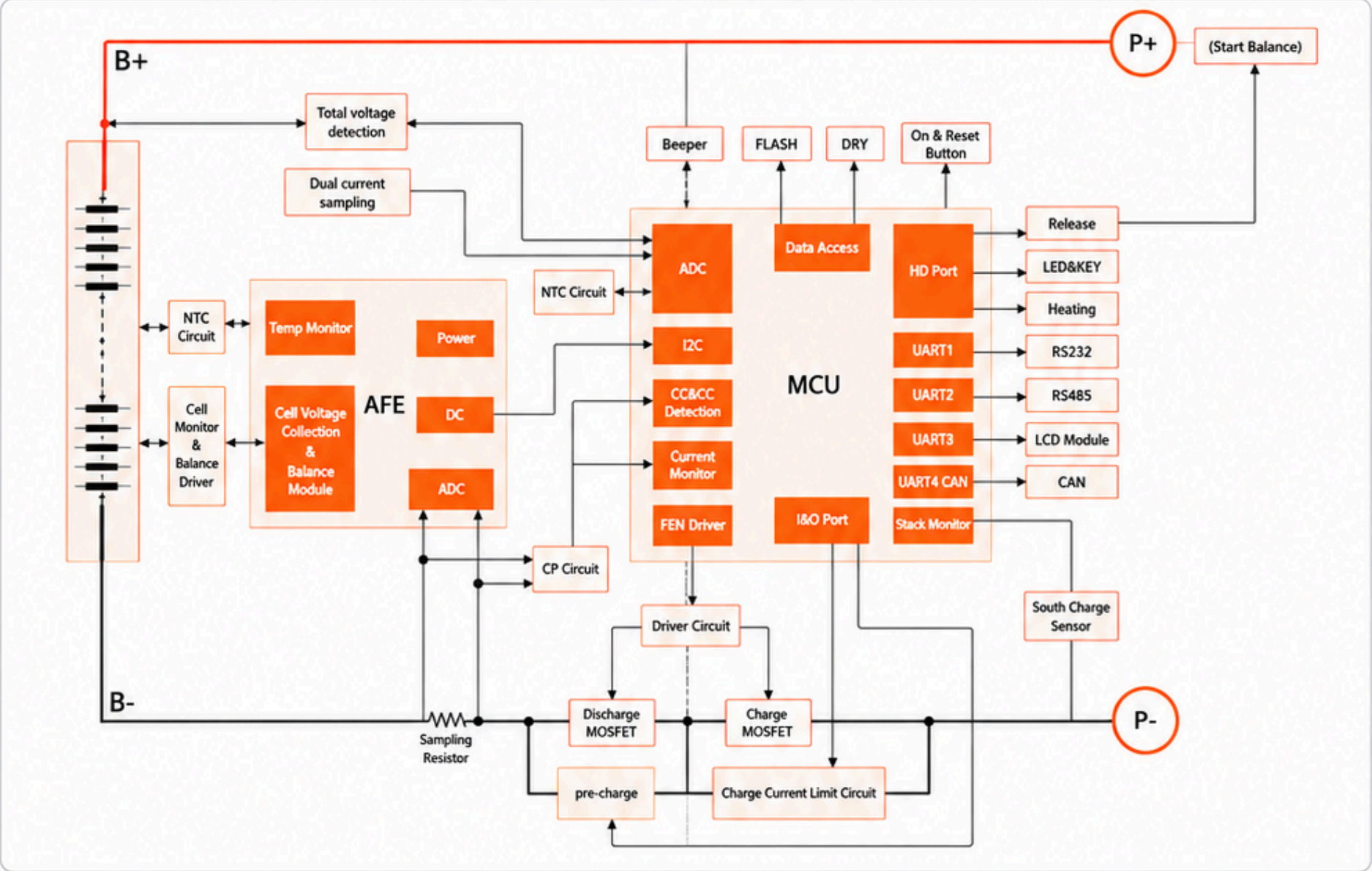




3. 功能示意框图

Functional schematic diagram

(仅供参考，以产品为准)  
(For reference only, subject to the product)





4. 环境要求

Environmental requirements

| 项目 Project               | 参数 Parameter | 单位 units |
|--------------------------|--------------|----------|
| 工作温度 Working temperature | -20~75       | ℃        |
| 储存温度 Storage temperature | -20~75       | ℃        |
| 工作湿度 Working humidity    | 10~85        | %RH      |
| 储存湿度 Storage humidity    | 10~85        | %RH      |



5. 电气特性

Electrical characteristics

5.1 参数设置

Basic parameter settings

(注：以下参数除特殊注明以外，25℃环境温度下测试)  
(Note: Unless otherwise specified, the following parameters are tested at an ambient temperature of 25 °C)

| 序号<br>No. | 指标项目 Project                            |                            | 出厂默认参数<br>Default parameters | 是否可设<br>Sett-ability | 备注<br>Remark                       |
|-----------|-----------------------------------------|----------------------------|------------------------------|----------------------|------------------------------------|
| 1         | 单体过充保护<br>Single over-charge protection | 告警电压<br>Alarm voltage      | 3600mV                       | 可设<br>Settable       | 充电时不告警<br>No alarm during charging |
|           |                                         | 保护电压<br>Protection voltage | 3650mV                       | 可设<br>Settable       |                                    |



| 序号<br>No. | 指标项目 Project                                     |                                                          | 参数值 Parameter                                   | 是否可设<br>Settable | 备注<br>Remark                                                                                                                            |
|-----------|--------------------------------------------------|----------------------------------------------------------|-------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1         |                                                  | 保护延时<br>Protection delay                                 | 1.0S                                            | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 保护解除电压<br>Voltage of protection released                 | 3380mV                                          | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 容量解除<br>Capacity Release                                 | SOC < 96%                                       | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 放电解除<br>Discharge release                                | 放电电流 > 2A<br>Discharge current > 2A             |                  |                                                                                                                                         |
| 2         | 单体过放保护<br>Individual over-discharge protection   | 告警电压<br>Alarm voltage                                    | 2800mV                                          | 可设<br>Settable   | 过放保护 30 秒后，仍无法恢复时，将进入低功耗模式<br><br>If the protection cannot be restored after 30 seconds of zero discharge, it will enter low-power mode |
|           |                                                  | 保护电压<br>Protection voltage                               | 2700mV                                          | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 保护延时<br>Protection delay                                 | 1.0S                                            | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 保护解除电压<br>Voltage of protection released                 | 2960mV                                          | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 存充电时解除<br>Charging release                               | 接入充电器可激活<br>Be Active when connected to charger |                  |                                                                                                                                         |
| 3         | 总体过充<br>Total voltage over-charge                | 总电压过充告警<br>Total voltage over-charge Alarm               | 57.6V                                           | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 总电压过充保护<br>Total voltage over-charge protection          | 58.4V                                           | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 总电压过充保护延时<br>Total voltage over-charge protection delay  | 1.0S                                            | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 总体过充保护解除电压<br>Total voltage over-charge release          | 54V                                             | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 容量解除<br>Capacity Release                                 | SOC < 96%                                       | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 放电解除<br>Discharge release                                | 放电电流 > 2A<br>(Discharge Current > 2A)           |                  |                                                                                                                                         |
| 4         | 总体过放保护<br>Total voltage under-voltage protection | 总体过放告警电压<br>Total voltage under-voltage Alarm            | 44.8V                                           | 可设<br>Settable   | 过放保护 30 秒后，仍无法恢复时，将进入低功耗模式<br><br>When the over discharge protection cannot be restored after 30 seconds, it will enter low-power mode  |
|           |                                                  | 总体过放保护电压<br>Total voltage under-voltage protection       | 43.2V                                           | 可设<br>Settable   |                                                                                                                                         |
|           |                                                  | 总体过放保护延时<br>Total voltage under-voltage protection delay | 1.0S                                            | 可设<br>Settable   |                                                                                                                                         |



| 序号<br>No. | 指标项目 Project                                              |                                                        | 参数值 Parameter                                     | 是否可设<br>Settable | 备注<br>Remark                                                                                                  |  |
|-----------|-----------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------|--|
| 5         | 充电过流保护<br>Charging Over-current protection                | 充电过流保护解除电压<br>Total voltage under-charge release       | 47.2V                                             | 可设<br>Settable   | enter low-power mode                                                                                          |  |
|           |                                                           | 充电允许解除<br>Charging release                             | 接入充电器可激活<br>Activation while Connected to charger |                  |                                                                                                               |  |
|           |                                                           | 充电过流告警<br>Charging Over-current alarm                  | 105A                                              | 可设<br>Settable   |                                                                                                               |  |
|           |                                                           | 充电过流保护<br>Charging Over-current protection             | 110A                                              | 可设<br>Settable   | 连续出现10次将锁定该状态，不再自动解除<br>10 consecutive occurrences will lock the state and no longer automatically release it |  |
|           |                                                           | 充电过流保护延时<br>Charging Over-current protection delay     | 1.0S                                              | 可设<br>Settable   |                                                                                                               |  |
|           |                                                           | 自动解除<br>Auto release                                   | 1min 后自动解除<br>Auto release after 1min             |                  |                                                                                                               |  |
|           |                                                           | 放电解除<br>Discharge release                              | 放电电流 > 1A<br>Discharging current > 1A             |                  |                                                                                                               |  |
| 6         | 放电过流1保护<br>current<br>Discharge Over-current 1 protection | 放电过流1告警电流<br>Discharge Over-current 1 alarm            | 105A                                              | 可设<br>Settable   | 连续出现10次将锁定该状态，不再自动解除<br>10 consecutive occurrences will lock the state and no longer automatically release it |  |
|           |                                                           | 放电过流1保护电流<br>Discharge Over-current 1 protection       | 110A                                              | 可设<br>Settable   |                                                                                                               |  |
|           |                                                           | 放电过流1保护延时<br>Discharge Over-current 1 protection delay | 1.0S                                              | 可设<br>Settable   |                                                                                                               |  |
|           |                                                           | 自动解除<br>Auto release                                   | 1min 后自动解除<br>Auto release after 1min             |                  |                                                                                                               |  |
|           |                                                           | 充电解除<br>Release while charging                         | 充电电流 > 1A<br>Charging current > 1A                |                  |                                                                                                               |  |
| 7         | 放电过流2<br>current<br>Discharge Over-current 2 protection   | 放电过流2保护电流<br>Discharge Over-current 2 protection       | ≥150A                                             | 可设<br>Settable   | 连续出现10次将锁定该状态，不再自动解除<br>10 consecutive occurrences will lock the state and no longer automatically release it |  |
|           |                                                           | 放电过流2保护延时<br>Discharge Over-current 2 protection delay | 500mS                                             | 可设<br>Settable   |                                                                                                               |  |
|           |                                                           | 自动解除<br>Auto release                                   | 1min 后自动解除<br>Auto release after 1min             |                  |                                                                                                               |  |
|           |                                                           | 充电解除<br>Release while charging                         | 充电电流 > 1A<br>Charging current > 1A                |                  |                                                                                                               |  |



| 序号<br>No. | 指标项目<br>Project                             |                                                       | 参数值<br>Parameter                                      | 是否可设<br>Settable | 备注<br>Remark |
|-----------|---------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|------------------|--------------|
| 8         | 短路保护<br>Short circuit protection            | 短路保护功能<br>Short circuit protection                    | 有<br>Yes                                              | 可设<br>Settable   |              |
|           |                                             | 短路保护延时<br>Short circuit protection delay              | ≤350μS                                                | 可设<br>Settable   |              |
|           |                                             | 短路保护解除<br>Short circuit protection release            | 有充电时，短路保护解除<br>Auto release while Charging            | 可设<br>Settable   |              |
|           |                                             | 短路保护解除<br>Short circuit protection release            | 负载移除后，条自动解除<br>Auto release after the load is removed | 可设<br>Settable   |              |
| 9         | MOS 高温保护<br>MOS over temperature protection | MOS 过温告警温度<br>MOS over temperature alarm              | 90℃                                                   | 可设<br>Settable   |              |
|           |                                             | MOS 过温保护温度<br>MOS over temperature protection         | 115℃                                                  | 可设<br>Settable   |              |
|           |                                             | MOS 保护解除温度<br>MOS over temperature protection release | 85℃                                                   | 可设<br>Settable   |              |
| 10        | 电芯温度保护<br>Cell temperature protection       | 充电低温告警温度<br>MOS low temperature alarm                 | 5℃                                                    | 可设<br>Settable   |              |
|           |                                             | 充电低温保护温度<br>MOS low temperature protection            | 0℃                                                    | 可设<br>Settable   |              |
|           |                                             | 充电低温保护解除温度<br>MOS low temperature protection release  | 5℃                                                    | 可设<br>Settable   |              |
|           |                                             | 充电高温告警温度<br>MOS over-temperature alarm                | 60℃                                                   | 可设<br>Settable   |              |
|           |                                             | 充电高温保护温度<br>MOS over-temperature protection           | 65℃                                                   | 可设<br>Settable   |              |
|           |                                             | 充电高温保护解除温度<br>MOS over-temperature protection release | 55℃                                                   | 可设<br>Settable   |              |
|           |                                             | 放电低温告警 Discharge low temperature alarm                | -15℃                                                  | 可设<br>Settable   |              |
|           |                                             | 放电低温保护 Discharge low temperature protection           | -20℃                                                  | 可设<br>Settable   |              |
|           |                                             | 放电低温保护解除 Discharge low temperature protection release | -15℃                                                  | 可设<br>Settable   |              |
|           |                                             | 放电高温告警温度 Discharge high temperature alarm             | 65℃                                                   | 可设<br>Settable   |              |
|           |                                             | 放电高温保护 Discharge high temperature protection          | 70℃                                                   | 可设<br>Settable   |              |



| 序号<br>No. | 指标项目<br>Project                               |                                                               | 参数值<br>Parameter                  | 是否可设<br>Settable    | 备注<br>Remark                                                                               |
|-----------|-----------------------------------------------|---------------------------------------------------------------|-----------------------------------|---------------------|--------------------------------------------------------------------------------------------|
| 11        | 环境温度告警<br>Environmental low temperature alarm | 放电高温保护<br>Discharge high temperature protection               |                                   |                     |                                                                                            |
|           |                                               | 放电高温保护解除温度<br>Discharge high temperature protection release   | 60℃                               | 可设<br>Settable      |                                                                                            |
|           |                                               | 环境低温告警<br>Environmental low temperature alarm                 | -15℃                              | 可设<br>Settable      |                                                                                            |
|           |                                               | 环境低温保护<br>Environmental low temperature protection            | -20℃                              | 可设<br>Settable      |                                                                                            |
|           |                                               | 环境低温保护解除<br>Environmental low temperature protection release  | -15℃                              | 可设<br>Settable      |                                                                                            |
|           |                                               | 环境高温告警<br>Environmental high temperature alarm                | 65℃                               | 可设<br>Settable      |                                                                                            |
|           |                                               | 环境高温保护<br>Environmental high temperature protection           | 75℃                               | 可设<br>Settable      |                                                                                            |
|           |                                               | 环境高温保护解除<br>Environmental high temperature protection release | 65℃                               | 可设<br>Settable      |                                                                                            |
| 12        | 消耗电流<br>Self consuming current                | 工作时自耗电电流<br>Self consuming current during operation           | ≤75mA（带显示屏 with display）          |                     |                                                                                            |
|           |                                               |                                                               | ≤40mA（不带显示屏 without display）      |                     |                                                                                            |
|           |                                               | 低功耗模式电流<br>Low power mode current                             | ≤200μA                            |                     |                                                                                            |
| 13        | 容量默认设置<br>Capacity default settings           | 低电量告警<br>Low battery alarm                                    | SOC < 5%                          | 可设<br>Settable      | 充电时不告警<br>No alarm during charging                                                         |
| 14        | 休眠功能<br>Sleep function                        | 休眠电压<br>Sleep voltage                                         | 3150mV                            | 可设<br>Settable      |                                                                                            |
|           |                                               | 延迟时间<br>delay time                                            | 5min                              | 可设<br>Settable      |                                                                                            |
| 15        | 电芯失效保护<br>Cell failure protection             | 单体压差<br>Individual difference voltage                         | 压差 > 1V<br>Different voltage > 1V | 不可设<br>Not settable | 不允许充放电<br>Charging and discharging not allowed                                             |
| 16        | 充满截止参数<br>Full cut-off parameter              | 电池包截止电压<br>Battery pack cut-off voltage                       | 56V                               | 可设<br>Settable      | 同时满足后停止充电，并更新SOC为100%<br>Stop charging and update SOC to 100% when both conditions are met |
|           |                                               | 电池包截止电流<br>Battery pack cut-off current                       | 2A                                | 可设<br>Settable      |                                                                                            |
|           |                                               | 电池包截止电流<br>Battery pack cut-off current                       |                                   | 可设<br>Settable      |                                                                                            |



## 7. 通信说明 Communication instructions

### RS232



#### 7.1 RS232 通信 RS232 communication

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。

BMS can communicate with the upper computer through the RS232 interface, thereby monitoring various information of the battery, including battery voltage, current, temperature, status, and battery production information. The default baud rate is 9600bps.

### CAN

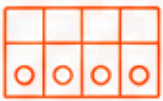


#### 7.2 CAN 通信 CAN communication

CAN 通信：默认通信速率 500K。

CAN communication, with a default communication rate of 500K.

### RS485



#### 7.3 RS485 通信 RS485 communication

独立 RS485 接口，默认波特率为 9600bps。此接口用于与逆变器通信。监控设备作为主机，可汇总从机数据与逆变器通信。

Independent RS485 interface, default baud rate is 9600bps. This interface is used for communication with the inverter. The monitoring device serves as the host and can aggregate data from the slave to communicate with the inverter.

### 并机 485



#### 7.4 并机 485 通信 Parallel 485 communication

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，地址设置范围为 2-15。

You can view the information of PACK, and the default baud rate is 9600bps. If communication with monitoring equipment is required through RS485, the monitoring equipment acts as the host and polls data based on the address, with an address setting range of 2-15.



#### 7.5 蓝牙通信 Bluetooth communication

BMS 可以通过蓝牙与动锂蓝牙 APP 通讯，从而在蓝牙 APP 监控电池的各种信息，包括电池电压、电流、温度、状态、SOC、SOH 及电池生产信息等，默认波特率为 9600bps。

BMS can communicate with PACE Bluetooth APP through Bluetooth to monitor various information of the battery, including battery voltage, current, temperature, status, SOC, SOH, and battery production information, etc. The default baud rate is 9600bps.



#### 7.6 WIFI 通信 WIFI communication

长按复位按键 10-13 秒，流水灯全部点亮或点亮 1 个灯的状态后松开（ON/OFF 灯除外），等待 8 秒即可在 APP 添加设备凭借设备。

Press and hold the reset button for 10-13 seconds. After all the flow lights are on, it will turn into a state where one light is on. Then release it (except for the ON/OFF light) and wait for 8 seconds to see the new device in the app's device addition section.



#### 7.7 拨码开关设置 Dial switch settings

（注：适用于动编码时逻辑参考如下）

Note: when selecting manual encoding, the logic reference is as follows



When PACKs are used in parallel, different PACKs can be distinguished by setting the address through the dip switch on the BMS. It is necessary to avoid setting the address to the same. The definition of the BMS dip switch is shown in the table below.



| 地址<br>Addr | 拨码开关位置<br>Dial switch position |     |     |     |
|------------|--------------------------------|-----|-----|-----|
|            | #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  |

## 7.8 并机自动编码 Parallel automatic coding

After the communication parallel line is connected, the system host will automatically encode after booting up (there is no matter the order of master-slave boot up, the host will continue to encode automatically after booting up). If the encoding fails, all indicator lights of the corresponding single machine will flash together.



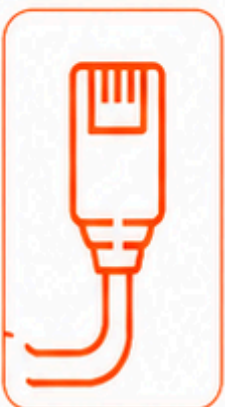


## 使用注意事项

### Precautions for use

- ▶ 焊接电池引线时，一定不可有错接或反接。如果确实已接错，该块电路板可能已损坏，需要重新测试合格后才可使用。
  - ▶ 装配时保护板不要直接接触到电芯表面，以免损坏电芯。装配要牢固可靠。
  - ▶ 使用中注意引线头、烙铁、焊锡等不要碰到电路板上的元器件，否则有可能损坏本电路板。
  - ▶ 使用过程要注意防静电、防潮、防水等。
  - ▶ 使用过程中请遵循设计参数及使用条件，不得超过本规格书中的值，否则有可能损坏保护板。
  - ▶ 将电池组和保护板组合好以后，初次上电如发现无电压输出或充不进电，请检查接线是否正确。
- 
- ▶ When welding battery leads, there must be no misconnection or reverse connection. If it has indeed been connected incorrectly, this circuit board may be damaged and needs to be retested before it can be used.
  - ▶ During assembly, the protective plate should not directly contact the surface of the battery cell to avoid damaging it. Assembly should be firm and reliable.
  - ▶ During use, be careful not to touch the components on the circuit board with the lead tips, soldering iron, solder, etc., otherwise it may damage the circuit board.
  - ▶ During use, attention should be paid to anti-static, moisture-proof, waterproof, etc.
  - ▶ Please follow the design parameters and usage conditions during use, and do not exceed the values in this specification, otherwise it may damage the protective plate.
  - ▶ After combining the battery pack and protection board, if there is no voltage output or charging failure during the initial power on, please check if the wiring is correct.

## Communicate factory default inverters



### Step 1

Select the cables used by the inverter by the label on the communication cables. Insert the RJ45 connector of the battery end(CAN/RS485) and the inverter end(CAN/RS485) into the interfaces on both sides.

### Step 2

Turn on the battery and inverter and wait until they are working properly. The battery is configured by factory default to communicate with the Voltronics, Mecer, Kodak, Phocos, Axpert Inverter (RS485 Port), DEYE, Sunsynk, SMK(Hybrid), Luxpower, Sofar, TBB inverters (CAN Port), the battery will automatically select and communicate with one of these inverters.

### Step 3

After successful communication between battery and inverter, battery status will be displayed on inverter: voltage, current, SOC, temperature, etc.



## 4.3 Remark of inverter protocol code

### Inverter protocol code remark

| RS485 Protocol |                               |
|----------------|-------------------------------|
| Protocol name  | Compatible protocol           |
| VKING          | VIKING                        |
| Voltronic      | MOTOMA/Opti_Solar/SAXO/Phocos |
| Growatt        | Growatt / SMK                 |
| SOLAX          | Solax                         |
| LTW            | LT-POWER                      |
| PACE           | PACE                          |
| MUST           | MUST                          |
| SRNE           | SRNE/PACE/EPEVER              |
| Baykee         | Baykee                        |
| SMK            | SMK                           |
| AFORE          | AFORE                         |
| GENIXGREEN     | GENIXGREEN                    |
|                |                               |

| CAN Protocol  |                                                                |
|---------------|----------------------------------------------------------------|
| Protocol name | Compatible protocol                                            |
| Ziewnic       | Ziewnic                                                        |
| VKING         | VIKING                                                         |
| GOODWE        | SOLARFAM                                                       |
| Growatt       | Growatt                                                        |
| SOLAX         | SOLAX                                                          |
| Sofar         | Sofar                                                          |
| Luxpower      | Luxpower                                                       |
| MUST          | MUST                                                           |
| LTW           | LTW                                                            |
| Victron       | Victron                                                        |
| PYLON         | PYLON/DEYE/Sunsynk/Solis/TBB/LUXPower/SOFAR/Megarevo/DnS/Afore |
| Sorotec       | Sorotec                                                        |
| SOLARFAM      | SOLARFAM                                                       |
| IMEON         | IMEON                                                          |
| Schneider     | Schneider                                                      |
| GENIXGREEN    | GENIXGREEN                                                     |
| INHENERGY     | INHENERGY                                                      |
| SMA           | SMA/Sofar/Studer                                               |