

Version JK1.0 26.01

16kwh Vertical Lithium Battery

User Manual

Power14 | Power15 | Power16

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Revision History
修订历史

Version 版本号	Date 日期	Revised Content 修订内容	Reasons for Change 变更原因	Reviser 修订者	Approve 批准
V JK1.0	2026.01.06	First Edition 第一版	First Draft 初稿	Daniel Mao	Tom Wang

1. Preface(前言)

This manual provides detailed product information and installation instructions for users of the stackable series products. Please read this manual carefully and keep it in a place convenient for installation, operation, and reference.

本手册将为堆叠式系列产品的用户提供详细的产品信息和安装说明。请仔细阅读本手册，并将其放置在您便于安装、操作和取用的地方。

The safety precautions mentioned in the manual do not represent all safety matters that should be complied with, but only serve as a supplement to safety considerations. During installation, operation, and maintenance of the equipment, local safety regulations and specifications should be observed. Only trained professionals are allowed to install, operate, and maintain the equipment. Issues or losses resulting from violations of general safety operation requirements or safety standards in the design, production, and use of the equipment will not be covered. Installation and maintenance personnel must possess skills for operating high voltage and alternating current. During installation, operation, and maintenance of the equipment, do not wear any conductive objects such as watches, bracelets, bangles, and rings, and prevent moisture from entering the equipment.

手册中提到的安全注意事项并不代表应遵守的所有安全事项，仅作为安全注意事项的补充。在安装、操作和维护设备时，应遵守当地的安全规定和规范。只有经过培训的专业人员才能安装、操作和维护设备。因违反一般安全操作要求或违反设备设计、生产和使用的安全标准而造成的问题，损失责任将不予承担。安装和维护人员必须具备高压和交流电操作技能。在安装、操作和维护设备时，不得佩戴任何导电物体，如手表、手镯、手链和戒指，并防止湿气进入设备。

⚠ Safety Instructions(安全说明)

High Voltage Hazard(高压危险)

High voltage power supplies the electricity for the equipment's operation. Direct contact or indirect contact with high voltage power through wet objects will cause fatal danger.

高压电源为设备运行提供电力。直接接触或通过潮湿物体间接接触高压电源将造成致命危险。

Use Professional Tools(使用专业工具)

When handling high voltage and alternating current, always use professional tools; do not use personal tools.

在处理高压和交流电时，务必使用专业工具，切勿使用个人工具。

Anti-static(防静电)

Static electricity generated by the human body can damage static-sensitive components on the board. Before touching plugs, circuit boards, or chips, always take appropriate anti-static measures.

人体产生的静电会损坏板上的静电敏感元件。在接触插件、电路板或芯片之前，请务必采取适当的防静电措施。

Operation Precautions(操作注意)

Power must be cut off before operation; live work is prohibited.

操作前必须先切断电源，禁止带电作业。

DC Short Circuit Hazard(直流短路危险)

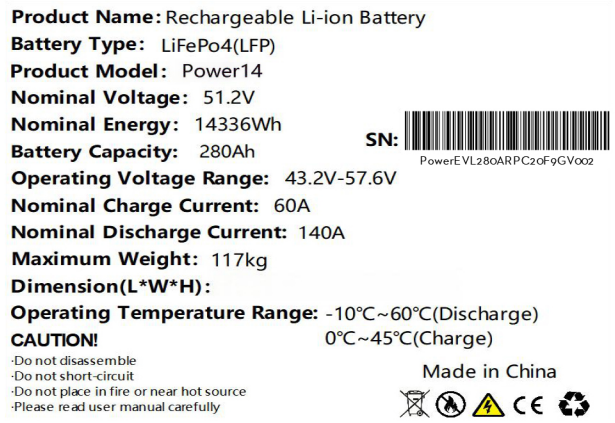
The power system provides DC regulated power; a DC short circuit will damage the equipment and cause personal injury.

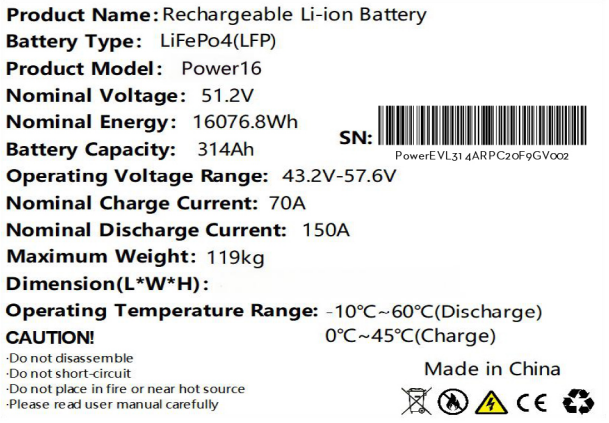
电源系统提供直流稳压电源，直流短路会损坏设备并造成人身伤害。

2.Label Description(标签说明)

The label contains the following information. The actual label content is subject to the label affixed to the goods. Product information can be queried on the manufacturer's official website using the 21-digit SN code; contact the supplier for verification.

标签包含以下信息，实际标签内容以货品上张贴为准，可通过２１位ＳＮ码，在制造商官方网站上查询产品信息；请联系供应商核实。





3. Product Advantages(产品优势)

This product is a Lithium Iron Phosphate battery (LFP LiFePO4) composed of 16 cells in series, suitable for home energy storage systems. It can be customized according to customer needs to meet diversified application scenarios, providing stable power for various user devices.

本产品是由16节电芯串联组成的磷酸铁锂电池（LFP LiFePO4），适用于家庭储能系统。可根据客户需求定制，满足多样化应用场景，为用户的各种设备提供稳定电力。

3.1 Built-in Battery Management System (BMS): Equipped with multiple protection functions such as overcharge, over-discharge, over-current, temperature control, short circuit, etc;

内置电池管理系统(BMS)： 具备过充、过放、过流、温度控制、短路等多种保护功能；

3.2 Active equalization: The protection board adopts active equalization technology, and the principle of equalization is to transfer the energy of the high-voltage cell to the low-voltage cell, and realize the energy transfer through the medium of the protection board;

主动均衡：保护板采用主动均衡技术，均衡的原理是将高电压的电芯能量转移到低电压的电芯中，通过保护板这一媒介实现能量转移。；

3.3 High Cost Performance: High safety performance, long service life, stable and reliable quality;

高性价比： 安全性能高，使用寿命长，质量稳定可靠；

3.4 Scalability: Equipped with RS485/CAN bus ports, supporting up to 16 units in parallel;

可扩展性：配备RS485/CAN总线端口，最多支持16台并联；

3.5 Operating Temperature Range: 0℃~45℃ (charge), -10℃~60℃ (discharge), excellent high-temperature discharge performance;

工作温度范围：0℃~45℃(充电)，-10℃~60℃(放电)，优异的高温放电性能；

3.6 Convenience: Modular design, small size, light weight, easy to install and maintain.

便捷性：模块化设计，体积小，重量轻，便于安装和维护。

4. Product Technical Specifications(产品技术参数)

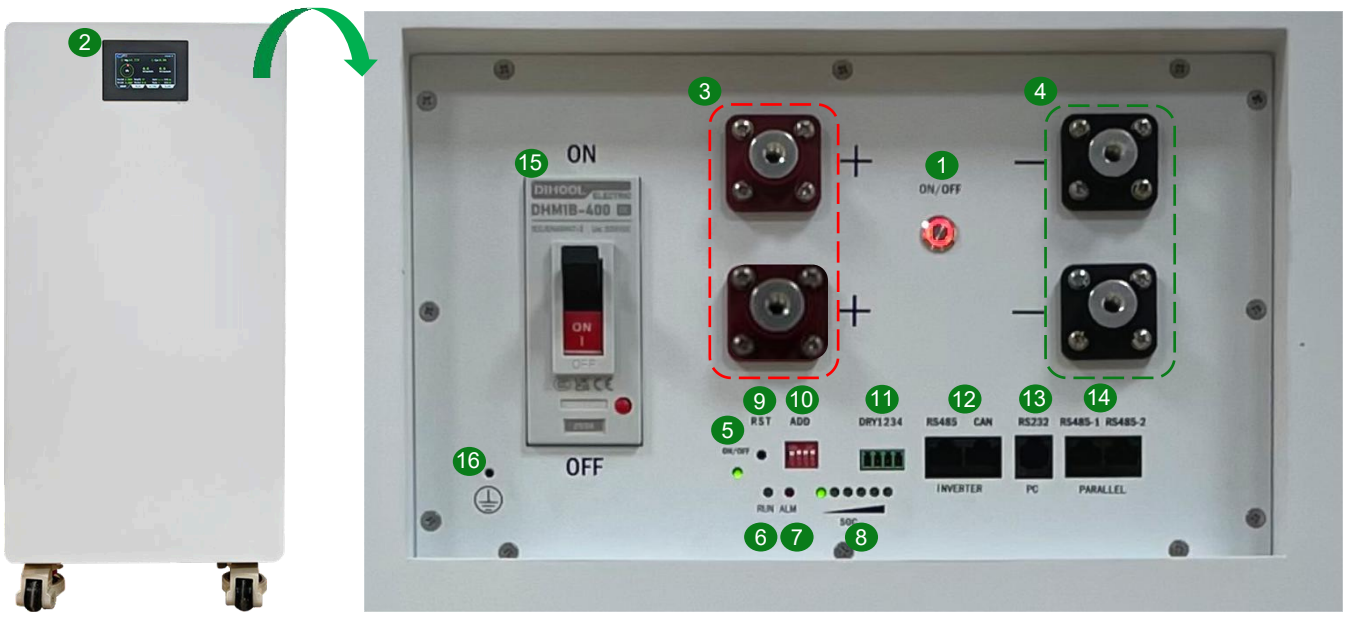
4.1 Specification Description(规格说明)

Item 项目	Specifications 规格		
Model 型号	Power14	Power15	Power16
Nominal Voltage 标称电压	51.2V	51.2V	51.2V
Operating Voltage 工作电压	43.2V-57.6V	43.2V-57.6V	43.2V-57.6V
Nominal Capacity 标称容量	280AH	300AH	314AH
Total Energy 总能量	14336Wh	15360Wh	16076.8Wh
Configuration 配置	16S1P	16S1P	16S1P
Operation Temperature 工作温度	0℃~45℃(Charge) 0℃~45℃(充电)	0℃~45℃(Charge) 0℃~45℃(充电)	0℃~45℃(Charge) 0℃~45℃(充电)
	-10℃~60℃(Discharge) -10℃~60℃(放电)	-10℃~60℃(Discharge) -10℃~60℃(放电)	-10℃~60℃(Discharge) -10℃~60℃(放电)
Standard Charge Current 标准充电电流	60A	70A	70A
Standard Discharge Current 标准放电电流	140A	150A	150A
Maximum Continuous Charge Current 最大持续充电电流	140A	150A	150A
Maximum Continuous Discharge Current 最大持续放电电流	200A	200A	200A
Communication Protocols 通信协议	RS485/CAN	RS485/CAN	RS485/CAN
Dimensions(L*W*H) 尺寸(长*宽*高)	450mm*253mm*938mm	450mm*253mm*938mm	450mm*253mm*938mm
Maximum Net Weight 最大净重	117kg	118kg	119kg

4.2 Device Interface Description(设备接口说明)

The appearance of batteries of different versions may vary slightly. The following figure takes the Power16 as an example:

不同版本的电池外观会略有差异。如下图所示，以Power16为例：



① **Power Switch:** Used to turn the battery pack ; ON: Power on; OFF: Power off.
电源开关：用于电池组的开关机；ON 开机；OFF：关机。

② **Touch Color Screen:** Displays battery voltage, SOC (State of Charge), temperature, etc.
触摸彩屏：显示电池电压、SOC（荷电状态）、温度等。

③ **Positive Terminal:** Connects to the positive terminal of the inverter via cable for DC output.
正极端子：通过电缆连接到逆变器的正极进行直流输出。

④ **Negative Terminal:** Connects to the negative terminal of the inverter via cable for DC output.
负极端子：通过电缆连接到逆变器的负极进行直流输出。

⑤ **Power Indicator Light:** Turn on then light-on, turn off then light-off.
电源指示灯： 开启时亮起，关闭时熄灭。

⑥ **Run Indicator Light:** Green LED light displays the battery operating status.
运行指示灯： 绿色 LED 灯显示电池运行状态。

⑦ **Alarm Indicator Light:** Flashing red LED indicates a battery alarm.
报警指示灯： 红色 LED 闪烁表示电池报警。

⑧ **Battery Capacity Indicator Light:** Six green LED lights display the current battery capacity.
电池电量指示灯： 六颗绿色 LED 灯显示电池当前电量。

LED Working Status Indication
LED工作状态指示

Status 状态	Normal/Alarm/Protection 正常/告警/保护	ON/OFF 指示	RUN	ALM	L1	L2	L3	L4	L5	L6	Instructions 说明
Power Off 关机	Normal 正常	OFF									
Balance 平衡	Normal 正常	ON	Flicker 闪烁	OFF	Battery based display 依据电量显示					OFF	
Charging 充电	Normal 正常	ON	Flicker 闪烁	OFF	Battery based display 依据电量显示					OFF	
	Over current, over temperature, over voltage, charging failure 过流/过温/过压/充电失败	ON	Flicker 闪烁	Flicker 闪烁	Battery based display 依据电量显示					OFF	
Discharge 放电	Normal 正常	ON	Flicker 闪烁	OFF	Battery based display 依据电量显示					OFF	
	Over current, over temperature, under voltage, discharge failure 过流/过温/欠压/放电失败	ON	Flicker 闪烁	Flicker 闪烁	Battery based display 依据电量显示					OFF	
Other alarm 其他告警	Password not changed / short circuit / temperature abnormal 密码未修改/短路/温度异常	ON	Flicker 闪烁	Flicker 闪烁	Battery based display 依据电量显示					OFF	

Note: When the device address is set to 0, it acts as the host, and the last LED indicator L6 blinks. When set to any other value, it operates as a slave: the LED remains off and blinks only after successful communication with the host.
备注：当设备地址设置为0时做主机，最后一颗LED灯L6闪烁。当设为其他值时做从机熄灭，从机和主机通信成功后闪烁
Note: "ON" indicates the LED is illuminated, while "OFF" indicates it is extinguished.
备注：ON代表LED状态为亮，OFF代表LED状态为熄灭。

Description of Battery Capacity Indicator
电池容量指示灯说明

Status 状态		Charging 充电					Discharge 放电				
Capacity Indicator Light 容量指示灯		L5	L4	L3	L2	L1	L5	L4	L3	L2	L1
Electric Quantity % 电量 %	0~20%	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON
	20~40%	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	ON	ON
	40~60%	OFF	OFF	ON	ON	ON	OFF	OFF	ON	ON	ON
	60~80%	OFF	ON	ON	ON	ON	OFF	ON	ON	ON	ON
	80~100%	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Note: "ON" indicates the LED is illuminated, while "OFF" indicates it is extinguished. 备注：ON代表LED状态为亮，OFF代表LED状态为熄灭。											

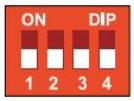
⑨ **Reset:** When the BMS is in an active state, press the button (6~10 seconds) and then release. The protection board will be reset, and all LED lights will illuminate simultaneously for 1.5 seconds. Parameters and functions set via the PC software are retained after the BMS reset. If restoring to initial parameters is needed, it can be achieved through the "Restore Defaults" function in the PC software, but related operational records and stored data (such as capacity, cycle count, protection records, etc.) remain unchanged.

复位：BMS 处于激活状态时，按下按键(6~10S)后松开，保护板被复位，LED 灯全部同时点亮 1.5秒。BMS 被复位后仍保留通过上位机设置的参数和功能，如果需要恢复到初始参数可以通过上位机的“恢复默认值”来实现，但相关运行记录和存储数据保持不变(如电量、循环次数、保护记录等)。

⑩ **DIP Switch Settings:** When the battery packs are used in parallel, the address can be set via the DIP switch on the BMS to distinguish different battery packs. Avoid setting the same address. The definition of the BMS DIP switch refers to the table below. In parallel mode, the pack with DIP address set to “0” is the master by default.

DIP开关设置： 当电池组作并联使用时，可通过 BMS 上的拨码开关设置地址区分不同的电池组，需避免地址设为相同。BMS 拨码开关的定义参照下表。并机模式下，默认拨码地址为 0 的为主机。

DIP Switch Diagram
拨码开关图示



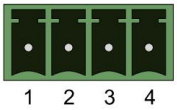
ON

OFF

Address	DIP 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

⑪ **Dry Contact:** Output Description

干接点：输出描述



Dry Contact 1 - PIN1 to PIN2: normally open, closes when battery capacity is low.

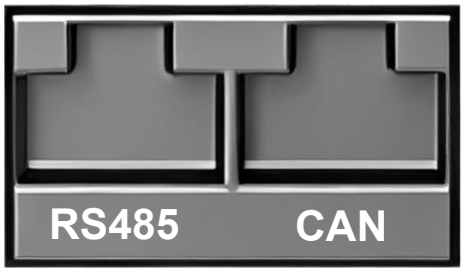
干接点1-PIN1到PIN2：常开，电池电量低时闭合。

Dry Contact 2 - PIN3 to PIN4: normally open, closes during fault protection.

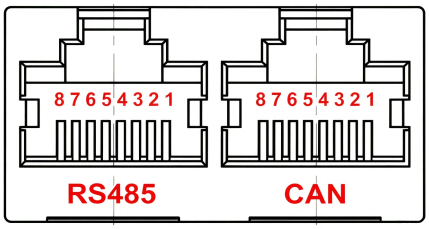
干接点2-PIN3到PIN4：常开，故障保护期间闭合。

⑫ **RS485 and CAN:** Used for communication connection between the inverter and battery pack.

RS485和CAN： 用于逆变器和电池组之间的通信连接。



RJ45 Socket



RJ45 Plug

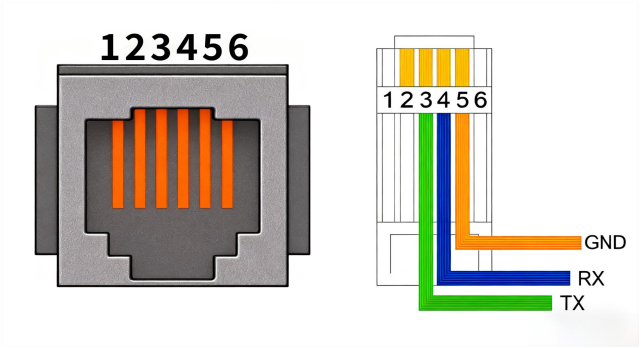


RS485-8P8C Vertical RJ45 Socket is Adopted		CAN-8P8C Vertical RJ45 Socket is Adopted	
RS485 PORT RJ45 PIN	**Definition Description**	**CAN PORT RJ45 PIN**	**Definition Description**
1、8	RS485-B	1、2、3、6、8	NC(Empty)
2、7	RS485-A	4	CAN-H
3、6	GND	5	CAN-L
4、5	NC(Empty)	7	GND

RS485 and CAN Communication Port Definition
RS485和CAN通信端口定义

⑬ **RS232 (For Debugging):** Intended for debugging purposes by manufacturers or professional engineers.

RS232 (调试用)：供制造商或专业工程师进行调试。



RS232-6P6C Vertical RJ11 Socket is Adopted	
RS232 PORT RJ11 PIN	**Definition Description**
1、2、6	NC(Empty)
3	TX BMS Sending Data (PC Receiving Data)
4	RX BMS Receiving Data (PC Sending Data)
5	GND

RS232 Communication Port Definition
RS232通信端口定义 ▲

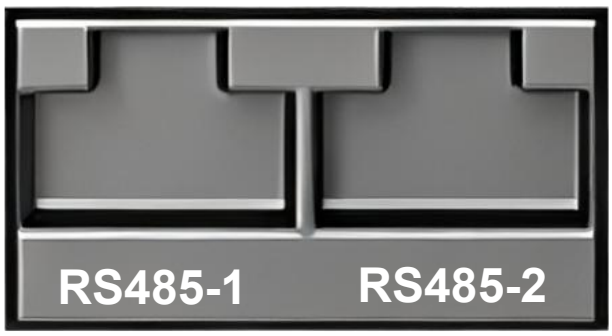
⑭ **RS485 Parallel Communication Function(RS485并联通信功能):**

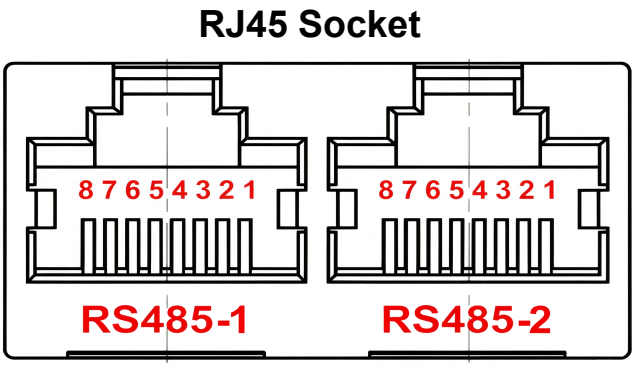
a). In parallel state, the communication address 0000 is the master battery pack, and the other communication addresses are slave battery packs. Slave battery packs communicate with the master battery pack through the RS485 port. The master battery pack will collect data from all slave battery packs.Supports up to 16 battery packs in parallel.

在并联状态下，通信地址 0000 为主电池组，其余通信地址为从电池组。从电池组通过 RS485 端口与主电池组通信。主电池组将收集所有从电池组的数据。最大可支持16台电池组并联。

b). In parallel state, only the master battery pack communicates with the PC software for remote monitoring, data uploading, and displaying the status and other information of all battery packs.

在并联状态下，只有主电池组与PC上位机通信，进行远程监控、上传数据、显示所有电池组的状态和其他信息。

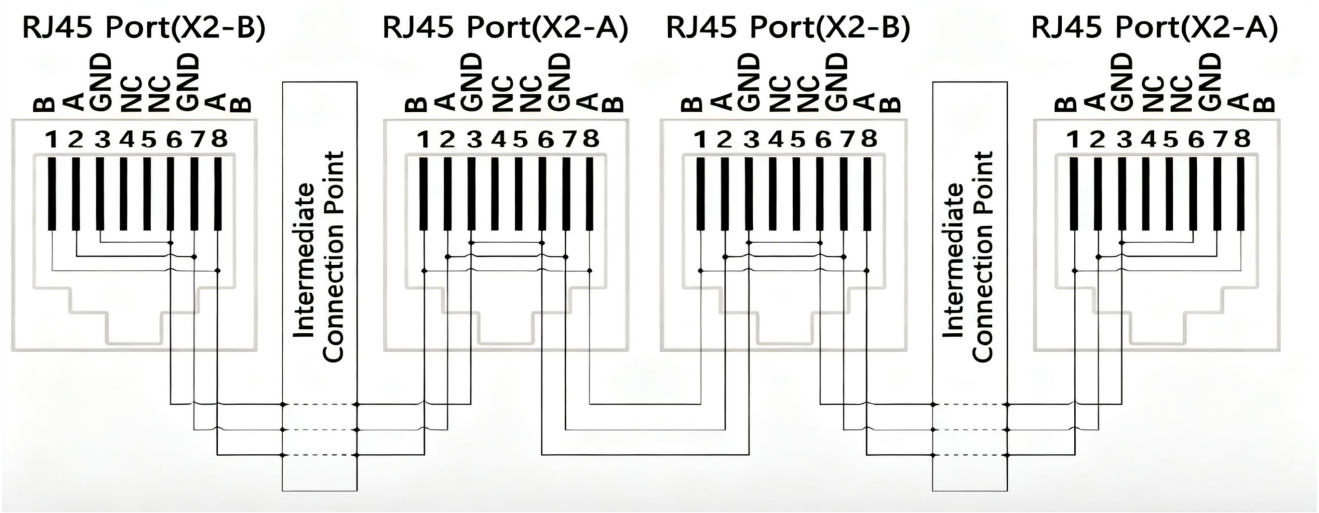




RS485 Parallel Communication-8P8C Vertical Double RJ45 Socket is Adopted			
RS485-1 PORT RJ45 PIN	**Definition Description**	**RS485-2 PORT RJ45 PIN**	**Definition Description**
1、8	RS485-B	1、8	RS485-B
2、7	RS485-A	2、7	RS485-A
3、6	GND	3、6	GND
4、5	NC(Empty)	4、5	NC(Empty)

RS485 Parallel Communication Port Definition
RS485并联通信端口定义 ▲

c). RS485 Parallel Cable Connection Diagram(RS485 并联电缆连接示意图):



When handling communication for multiple battery groups in parallel, it is necessary to first configure the DIP switch address for each individual battery group using BCD code format (set the address according to the DIP address table from Step ⑩ mentioned above)

处理多组电池并联通信时，需要先设置单组电池的 DIP 开关地址，并采用 BCD 码格式设置 (使用上述第⑩步的DIP地址表设置地址)。

⑮ **Circuit Breaker:** Protects the battery from overload and short circuit.

断路器：保护电池免受过载和短路影响。

⑯ **Ground wire:** Ground wire interface.(Non-standard configuration; subject to the actual delivered product)

接地线：地线接口。(非标准配置，以实际交付产品为准)

4.3 BMS Basic Functions(BMS基本功能)

Protection & Alarms **保护与报警**	**Management & Monitoring** **管理与监控**
Charge/Discharge Termination 充/放电结束	Cell Balancing 单体电池均衡
Charge Over-Voltage 充电过压	Smart Charging Mode 智能充电模式
Discharge Under-Voltage 放电欠压	Charge/Discharge Current Limiting 充/放电电流限制
Charge/Discharge Over-Current 充/放电过流	Capacity Calculation (SOC) 容量计算(剩余容量)
High/Low Temperature (Cell/BMS) 高/低温(单体电池/BMS)	Administrator Monitor 管理员监控
Short Circuit 短路	Operation Record 操作日志

6. Connection(连接)

6.1 Battery Pack In Parallel (Supports up to 16 battery packs in parallel, see picture example)

电池组并联 (最大支持16个电池组并联，见图片示例)

a). Use a multimeter to measure whether the positive and negative cable connections are conductive, and check if the connections are loose.

使用万用表测量正负极电缆连接是否导通，并检查连接是否松动。

b). Before wiring, turn off the battery switch to ensure no DC output from the battery.

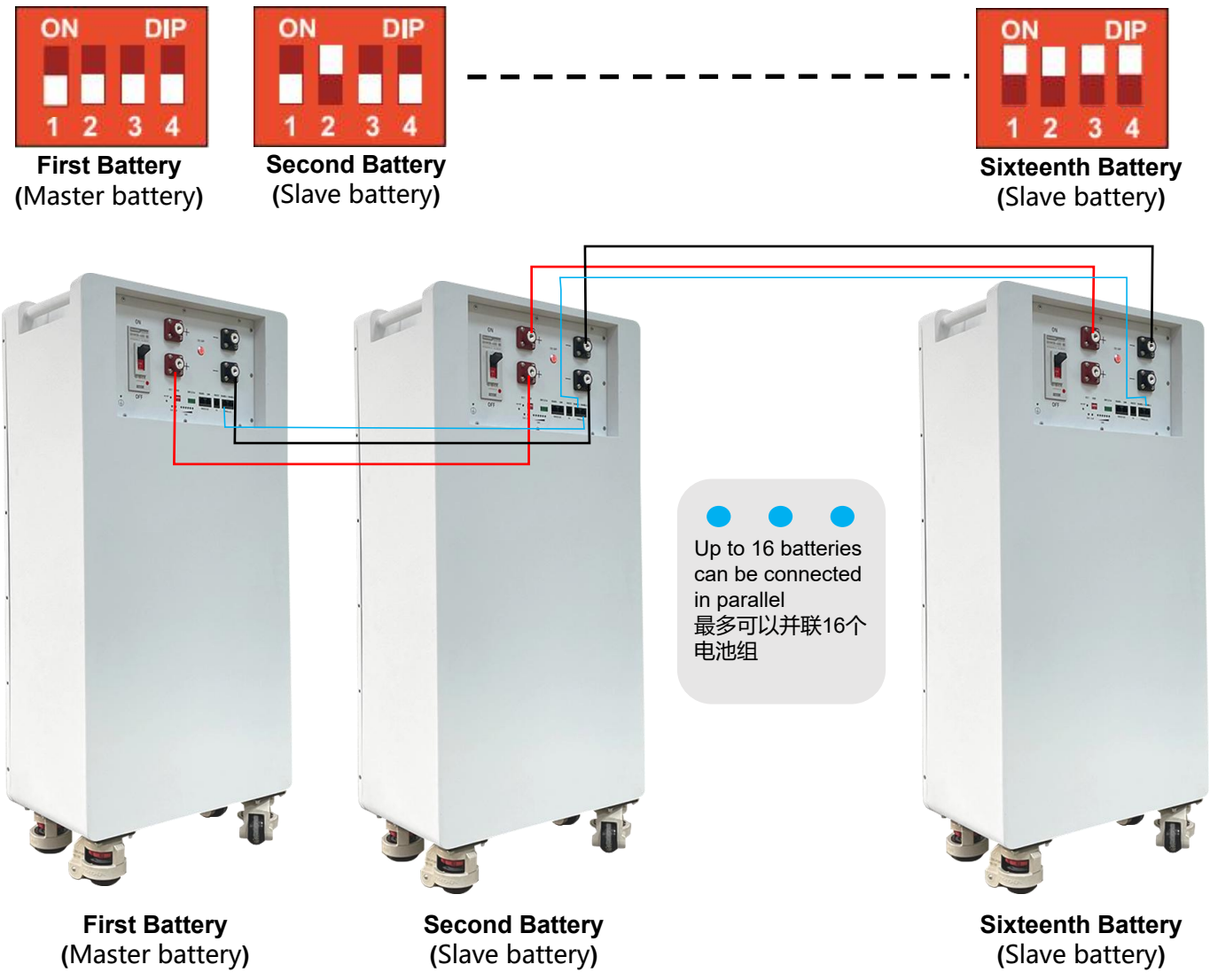
接线前应关闭电池开关，确保电池无直流输出。

c). First lock the parallel cable to the positive terminal of the battery pack, then connect the other end to the negative terminal (forming a ring connection between batteries).

先将并联电缆线锁定到电池包的正极端子，然后将另一端连接到负极端子(形成电池间的环形连接)。

d). Connect the parallel communication cable to the RS485 ports of the battery packs (connections must be made between different ports, e.g., the master battery's RS485-1 connects to the slave battery's RS485-2, and so on). For details on communication ports, refer to Section 4.2 of this manual.

将并联通信线连接到电池包的RS485端口(必须在不同端口之间连接，例如：主电池的RS485-1连接到从电池的RS485-2，依次类推)。有关通信端口的说明，请参阅本手册的“4.2”部分。



Parallel Example
并联示例

6.2 Battery Pack and Inverter Connection(电池组与逆变器连接)

a). Use a multimeter to measure whether the positive and negative cable connections are conductive, and check if the connections are loose.

使用万用表测量正负极电缆连接是否导通，并检查连接是否松动。

b). Before wiring, turn off the battery switch to ensure no DC output from the battery.

接线前应关闭电池开关，确保电池无直流输出。

c). Connect the battery and the inverter's positive terminals with a red power cable, then connect the negative terminals at both ends with a black power cable.

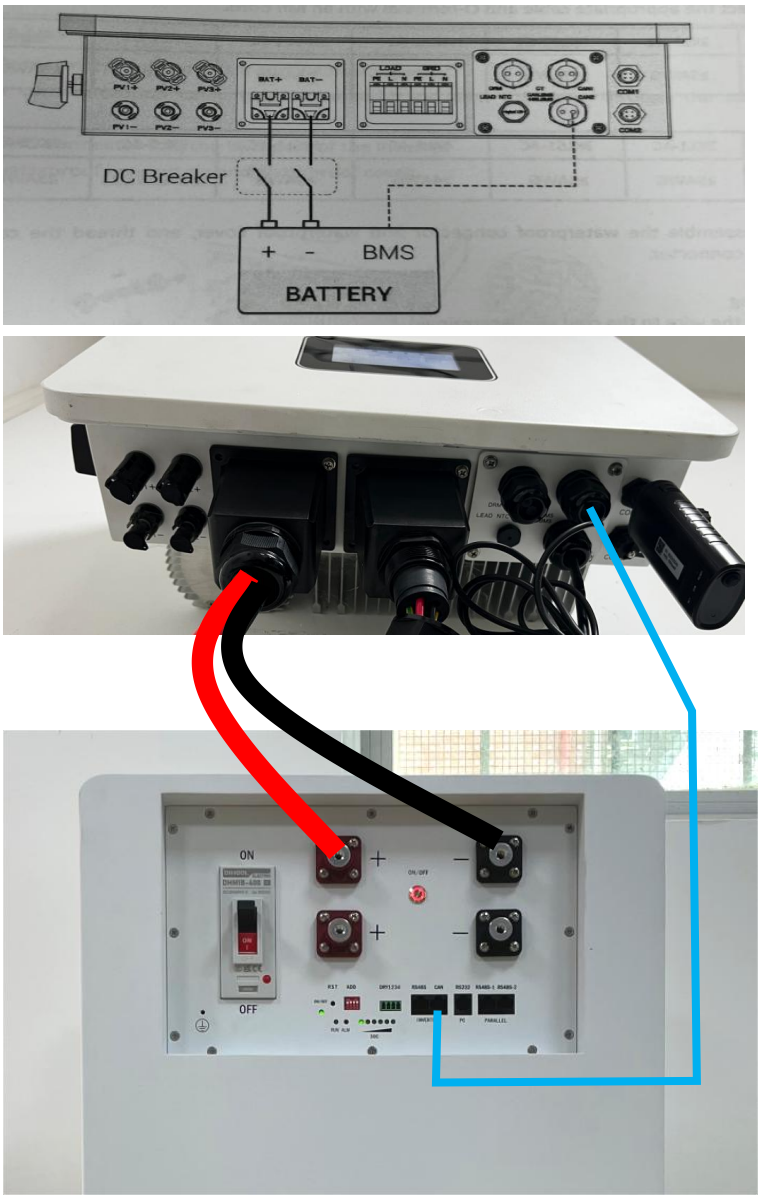
用红色电源线连接电池和逆变器的正极端子，然后用黑色电源线连接两端的负极端子。

d). Connect the battery's communication port (RS485 or CAN) to the inverter's BMS port using a communication cable. The BMS port definitions for different inverter brands may vary; please consult the inverter manual.

用通信线连接电池的通信端口（RS485或CAN）和逆变器的BMS端口。不同品牌的逆变器BMS端口定义可能不同，请查阅逆变器手册。

Taking Megarevo 6KL1D-G2 as an example:

以迈格瑞能6KL1D-G2为例：



7. Battery Pack Operation(电池组操作)

7.1 Pre-Startup Check(开机前检查)

a). Check that all positive, negative cables, and communication cables are correctly and securely connected.

检查所有正、负极电缆和通信线是否正确、安全连接。

b). Check that the battery installation is firm, convenient for operation and maintenance, and check ventilation.

检查电池安装牢固，便于操作和维护，并检查通风情况。

c). Insulate unused ports.

绝缘未使用的端口。

7.2 Startup(开机)

a). Turn on the switch on the battery.

打开电池上的开关。

b). The green RUN LED should illuminate normally (check the LED indicator status).

绿色运行(RUN) LED正常亮起（检查LED指示灯状态）。

c). If the battery system cannot be started, check that all electrical connections are correct.

如果无法开启电池系统，请检查所有电气连接是否正确。

d). If the electrical connections are correct but the battery system still cannot start, contact our sales personnel within 48 hours.

如果电气连接正确，但电池系统仍无法开启，请在48小时内联系我们的销售人员。

For LED indicator instructions, please refer to section "4.2" of this manual.

有关LED指示的说明，请参阅本手册的“4.2”部分。

8. APP Operation(APP操作)

16kwh battery pack is equipped with Bluetooth control functionality, supporting battery status monitoring via an APP. All information within the battery, such as the charging status, voltage, operating current, temperature, and other operational data, can be transmitted in real-time through Bluetooth. These parameters can be intuitively displayed on a mobile APP.

制造商电池组配备有蓝牙控制功能，支持通过ＡＰＰ监测电池状态。电池中的所有信息，如充电状态、电压、运行电流、温度以及其他运行信息，都能通过蓝牙实时传输。这些参数可以通过手机APP直观显示。

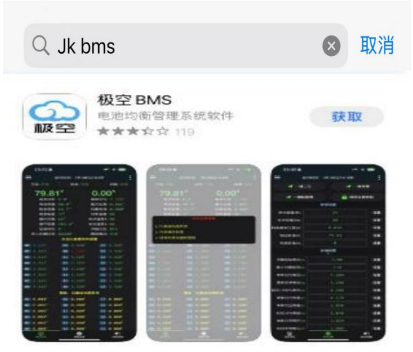
The mobile app that matches this product can be obtained by scanning the QR code shown in Figure. Android Version 7.0 or higher is required for the Android app.

可通过扫描图中的二维码获取匹配该产品的移动应用。Android 应用要求系统版本最低为 Android 7.0。

Mobile APP link QR code
手机APP 链接二维码



Android: JK BMS - Download from Google Play Store
安卓：JK BMS 谷歌应用商店下载



Apple: JK BMS - Download from Apple App Store
苹果：JK BMS 苹果应用商店下载

8.1 Bluetooth Connection(蓝牙连接)

a). First, turn on the Bluetooth on your phone, then open the app as shown in Figure 1;

首先开启手机蓝牙，然后打开APP后，如图1所示；

b). Click the icon in the upper left corner to scan for devices. Wait for the scan to complete, then select the name of the device you wish to connect to, such as "JK-B1A24S". During the first connection, the app will prompt you to enter a password. The default device password is "1234". Once the device is successfully connected, the app will automatically save the password. For subsequent connections, you will not need to re-enter it. After opening the app, simply click on the device in the device list to connect automatically. The password entry interface is shown in Figure 2; (Note: Depending on the BMS model, some devices do not require an initial password after connecting via Bluetooth.)

点击左上角的图标扫描设备。等待扫描完成，然后点击需要连接的设备名称，例如“JK-B1A24S”。首次连接时，APP将提示输入密码，设备默认密码为“1234”。设备连接成功后，APP会自动保存密码，下次连接时无需再次输入。打开APP后，直接点击设备列表中的设备即可自动连接。密码输入界面如图2所示；（备注：因BMS型号不同，有些设备通过蓝牙连接后，无需输入初始密码）；

c). The authorization password for the protection board is '654321'. After successfully connecting the protection board to the mobile app, please change the connection password immediately to prevent unauthorized access. Unauthorized modification of the power circuit on the protection board is strictly prohibited, as it may lead to uneven current distribution, overcurrent, and potentially cause the protection board to burn out, as shown in Figure 3. If you enter an incorrect password, please contact the sales support team promptly;

保护板的授权密码为 '654321'。手机 APP 成功连接保护板后，请立即更改连接密码，以防他人未经授权进行连接。严禁擅自改动保护板的电源电路，否则可能导致电流分配不均、过流，进而造成保护板烧毁，如图3所示。如密码错误时，请及时与销售人员联系；

d). Monitoring interface displays: SOC, voltage, current, and temperature, as shown in Figures 4 and 5.

监控界面显示：SOC/电压/电流/温度，如图4和5所示。



Figure 1
Device Scanning
图片1 设备扫描



Figure 2
Password Input
图片2 密码输入

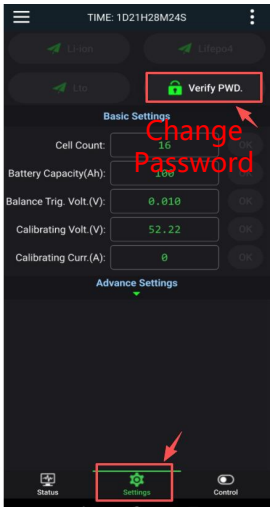


Figure 3 Change the authorization password
图片3 修改授权密码



Figure 4 Real time status display
图片4 实时监控

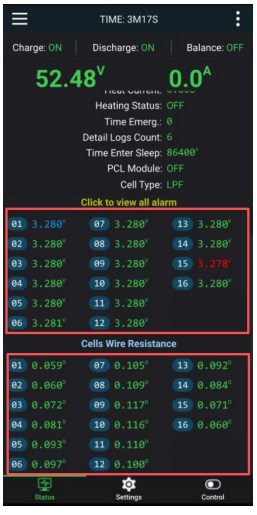


Figure 5 Real time status display
图片5 实时监控

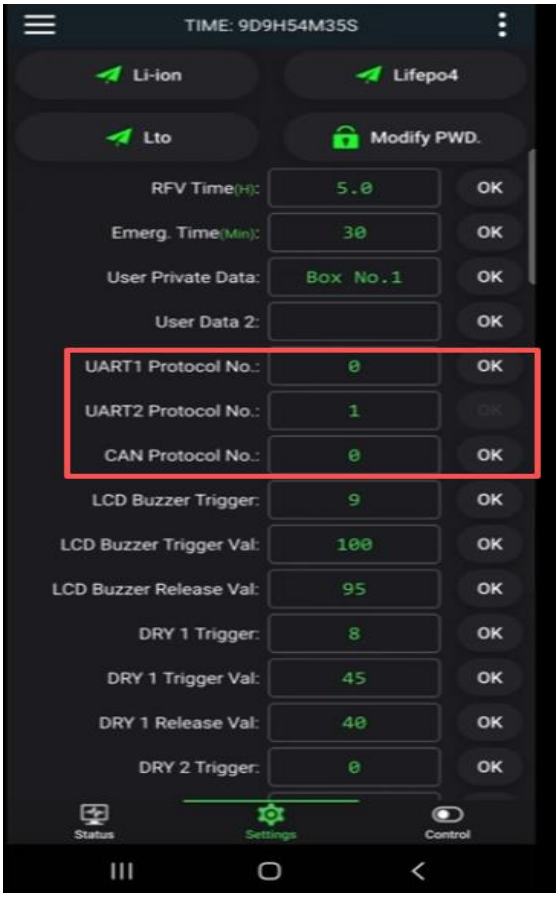
8.2 Communication Protocol Switching(通信协议切换)

a). First connect to the Bluetooth APP and complete pairing;

首先连接蓝牙APP并完成配对；

b). Select Protocol - Set Successfully - Restart Battery Pack - Setup Complete.

选择协议-设置成功-重启电池组-完成设置。







9. Operation of Upper System(上位机操作)

16kwh battery packs support connection to PC software for monitoring battery status and modifying communication protocols. Please contact our sales representative or visit our website to obtain the PC software.

制造商电池组支持上位系统连接，以监控电池状态和修改通讯协议，请联系我们的销售代表或访问我们的网站获取上位系统软件。

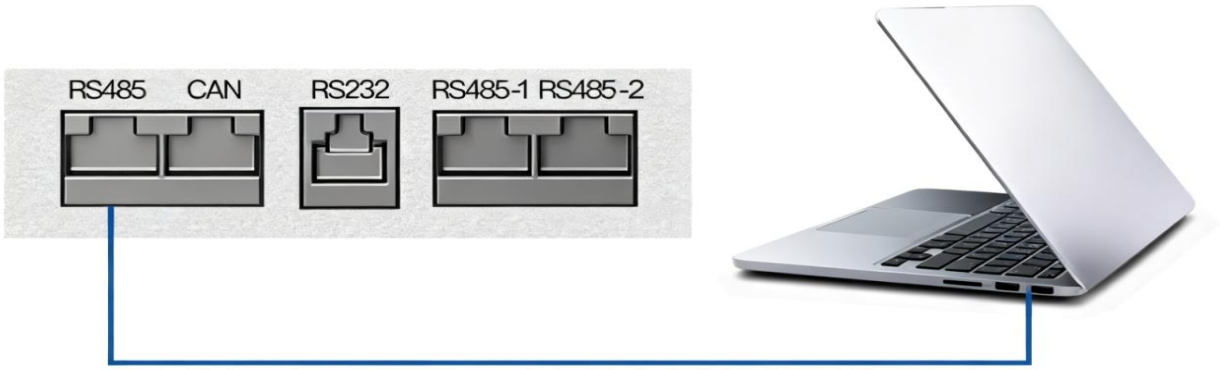
9.1 Login(登录)

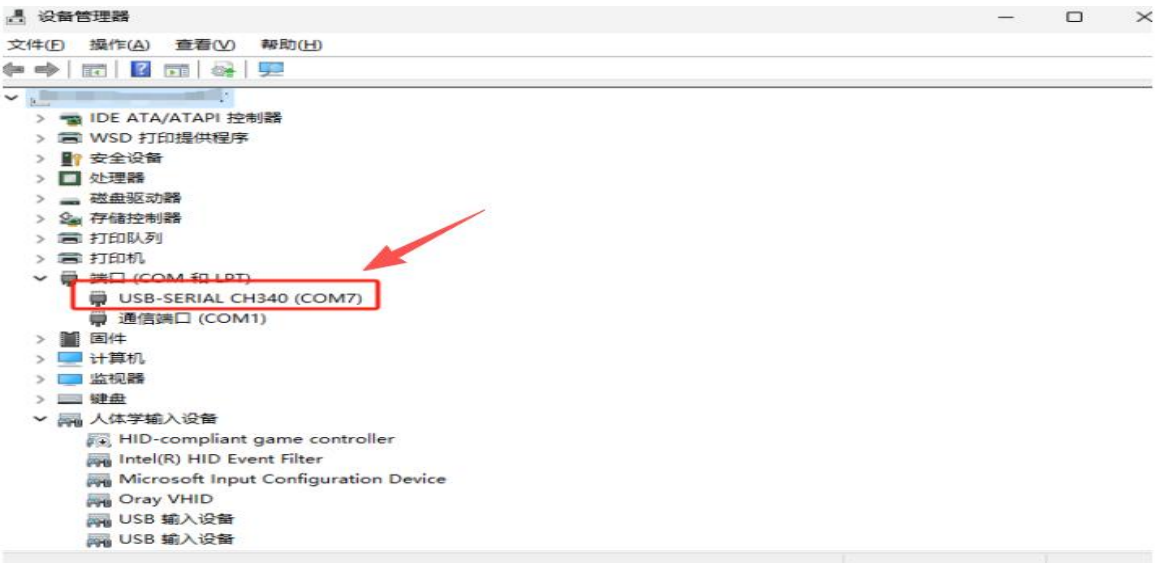
a). Connect the PC software communication cable to the RS485 port on the battery;

上位系统通信电缆连接到电池上的RS485端口；

b). Insert the other end of the upper computer communication cable into the computer's USB port. Check if the module is working properly in Device Manager and note the COM port number. You must select the correct COM port to establish a connection. (The COM port number may vary on different computers; any recognized port is the one you need.)

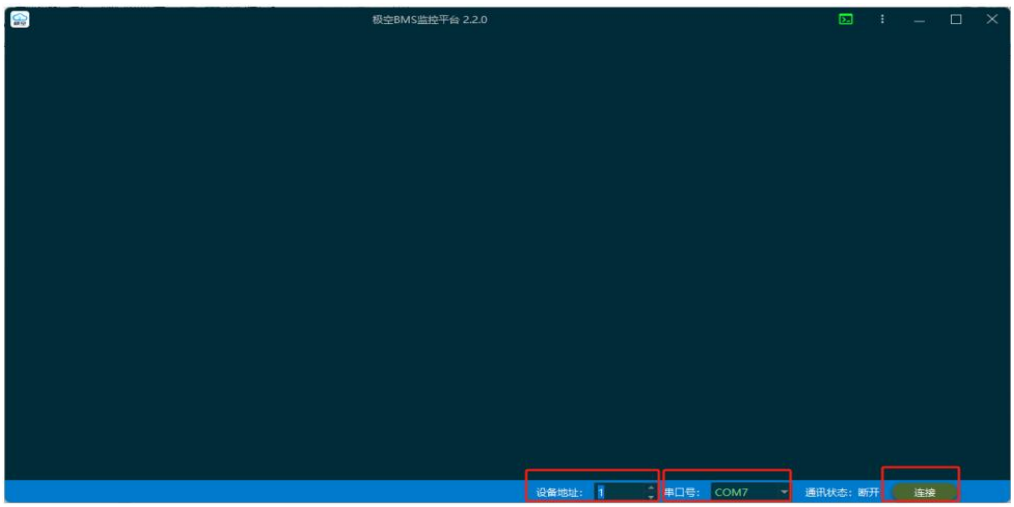
上位系统通信电缆另一端插入电脑 USB 接口，检查设备管理器中模块工作是否正常，记住串口号，选择正确的串口号才能进行连接；（每台电脑的串口号可能不同，只要是识别到了就是需要的串口）





c). Open the PC software, enter the device address and COM port number obtained from the previous steps in the bottom right corner, and then click "Connect".

打开上位机软件，在右下角填入上述操作步骤的设备地址和串口号，点击连接即可。



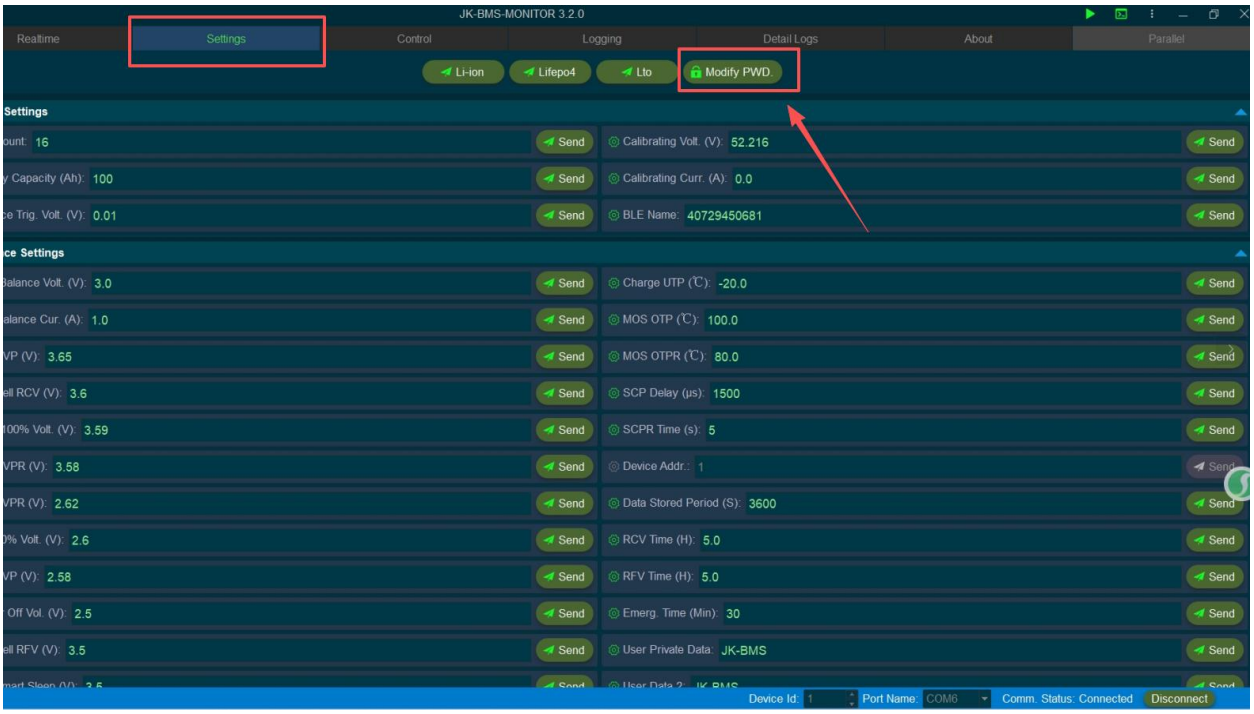
d). The real-time status page displays battery voltage, charging current, abnormal warnings, battery status, and equalization line group information;

实时状态页面，可查看电池电压、充电电流、异常告警、电池状态、均衡线组等；



e). On the parameter settings page, no parameters can be modified by default; changes must be made through the "Authorization Settings". The factory default password for the protection board is "123456".If the connections are correct but the PC software still does not function, contact our sales service department.

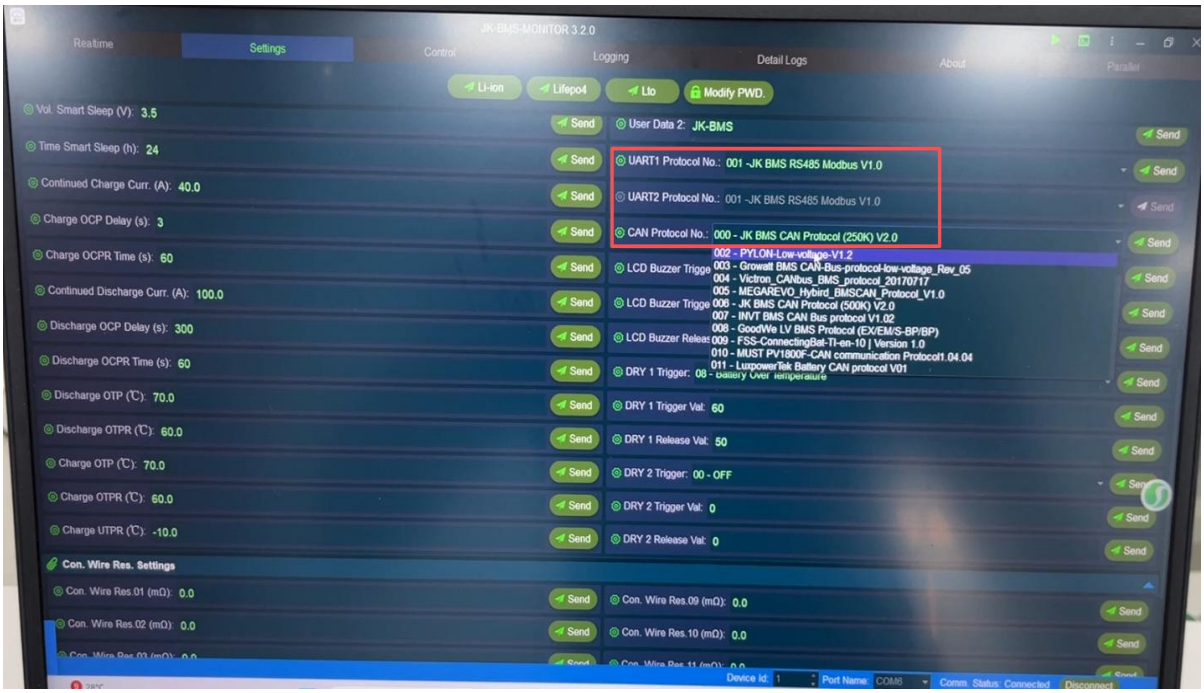
参数设置页面，默认状态下无法修改任何参数，需要通过“授权设置”进行更改。保护板出厂默认密码：“123456”；如果未能与上位系统连接，请检查所有连接是否正确。如果连接无误，但上位系统仍无法运行，请与我们的销售服务部门联系。



9.2 Switching Communication Protocol via PC(通过PC切换通信协议)

Settings - UART1 Protocol No. or CAN Protocol No. - Select Protocol - Send - Setup Complete

设置-UART1或者CAN通信协议设置-选择协议-设置-设置完成



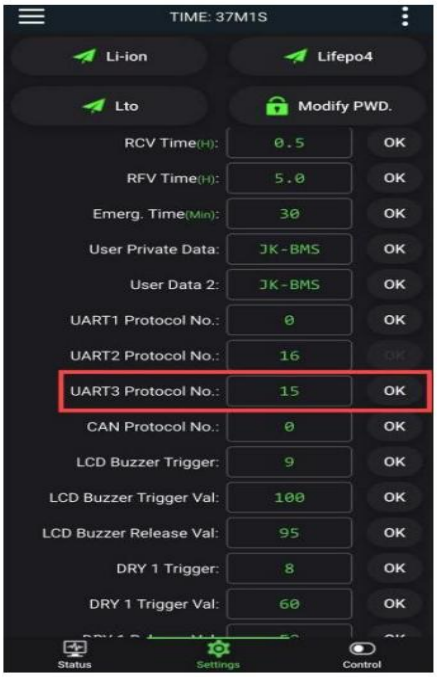
9.3 Communication Compatibility List(通信兼容列表)

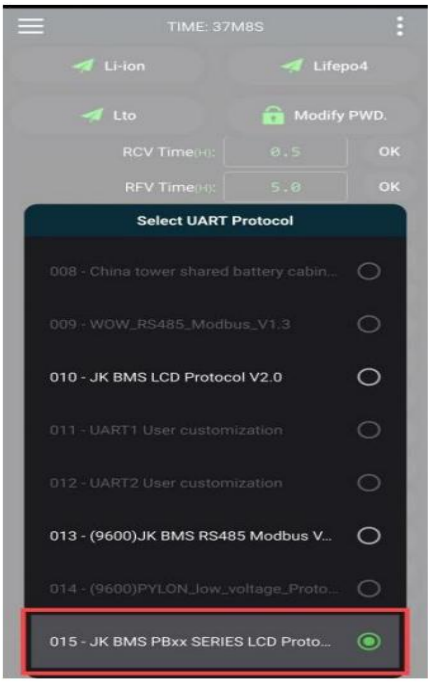
No.	Brand Name	LOGO	Communication
1	PYLON TECH	PYLONTECH	CAN/RS485
2	GROWATT	GROWATT	CAN/RS485
3	DEYE	Deye	CAN
4	LUXPOWER	LUXPOWER TEK	CAN
5	GOODWE	GOODWE	CAN
6	VICTRON	victron energy BLUE POWER	CAN
7	SMA	SMA	CAN
8	MUST	MUST 美世乐	CAN
9	INVENT	invt 英威腾	CAN
10	VOLTRON	Voltronic Power Advancing Power	RS485
11	SRNE	SRNE	RS485

10. Display Screen Operation(显示屏操作)

a). APP operation instruction: Open the JK BMS APP, and change the "Serial port 3 protocol" to "015-JK BMS PBxx SERIES LCD Protocol V1.0" on the "Parameter Setting" page;

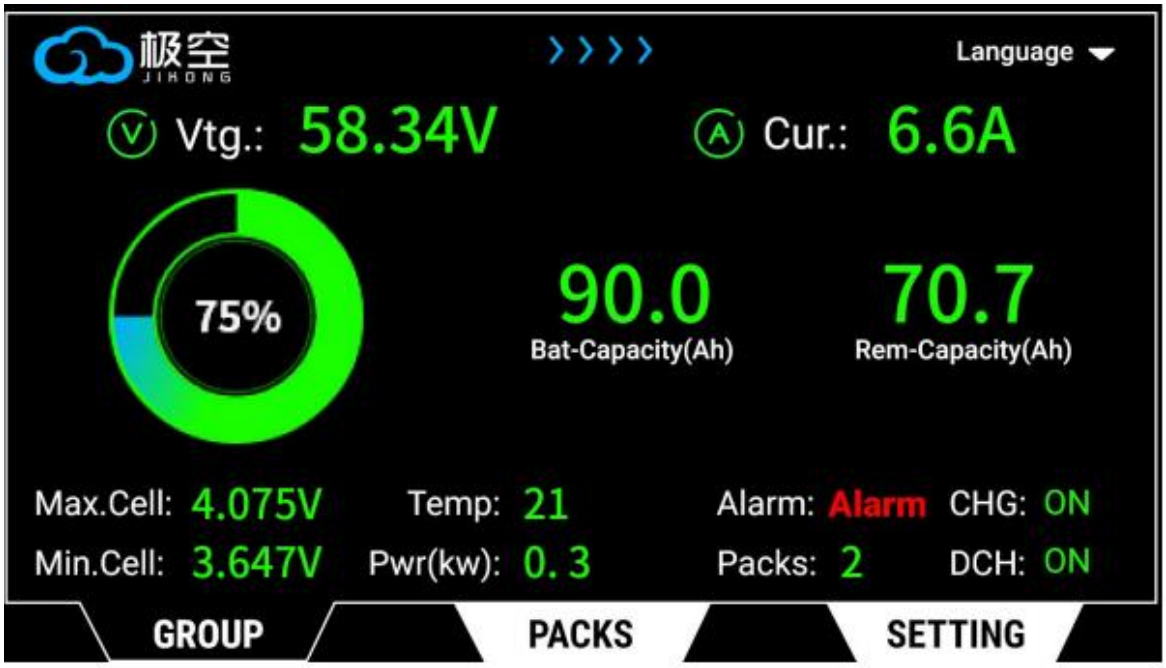
APP端操作说明：打开极空 BMS APP，在“参数设置”页面将“串口 3 协议”改为“015-极空储能显示器通信协议 V1.0”即可；





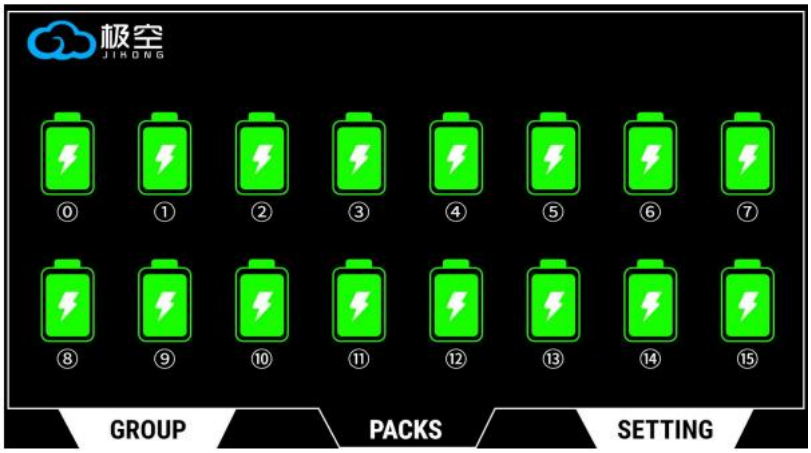
b). Battery interface: The battery string screen displays the current voltage and current of the battery string, the number of online battery packs, the charging and discharging status of the entire battery string, and the highest and lowest cell temperature;

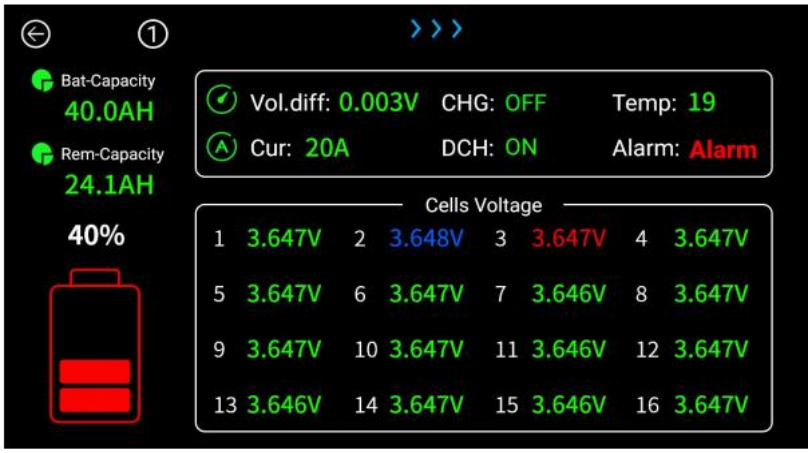
电池组界面：可以显示当前电池组的电压、电流、在线电池包数量，整个电池组充放电状态，最高和最低单体温度；



c). Battery pack interface: In parallel mode, by selecting the battery pack, you can display different battery pack design capacity, remaining capacity, charging and discharging status of each battery pack, voltage of each cell and other parameters, up to 16 battery packs can be displayed;

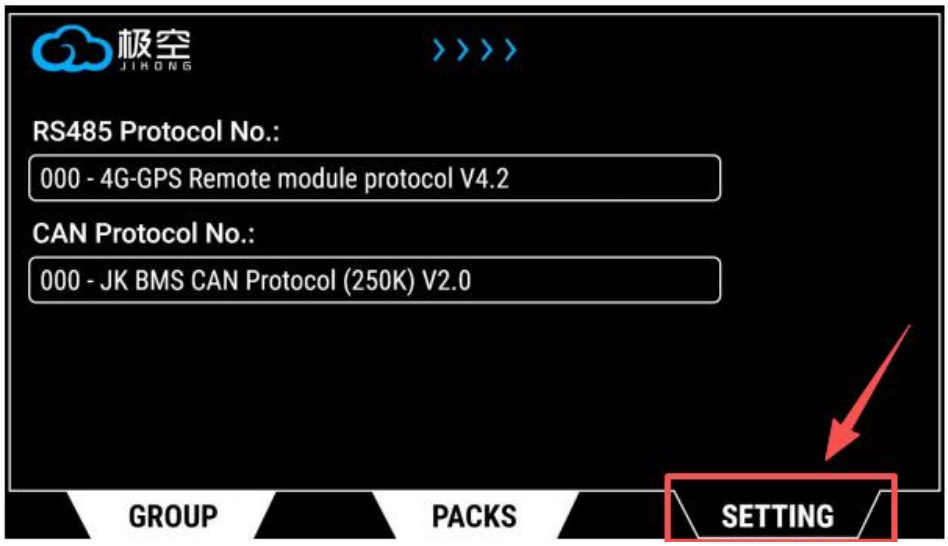
电池包界面：在并机模式下，通过选择电池包，可以显示不同电池包设计容量、剩余容量、每个电池包的充放电状态，每个电芯单体电压等参数，最多可以对 16 个电池包的状态进行显示;



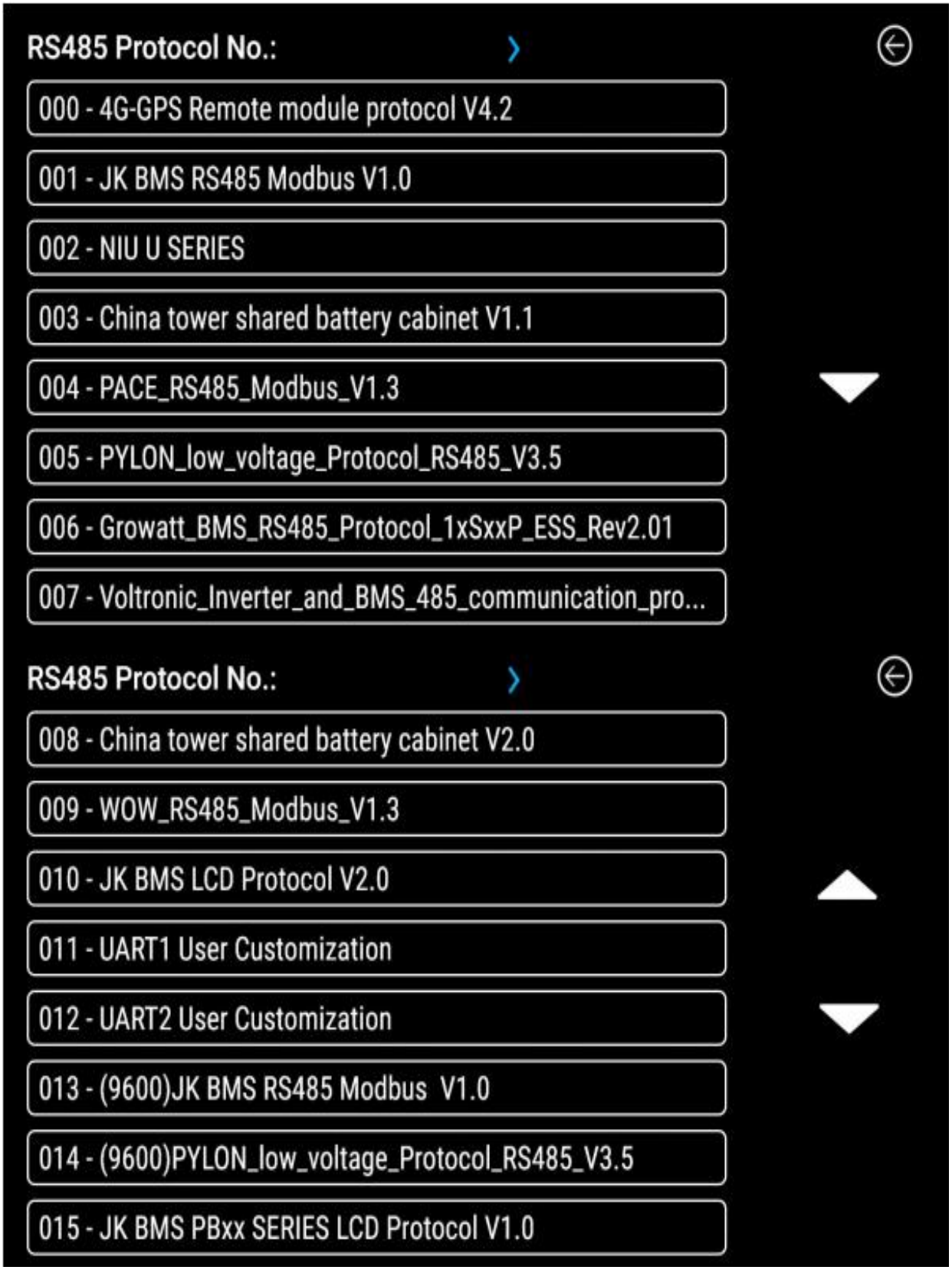


d). Protocol selection interface: Through protocol selection, you CAN select the corresponding 485 protocol and CAN protocol, so as to select the appropriate communication protocol for communication;

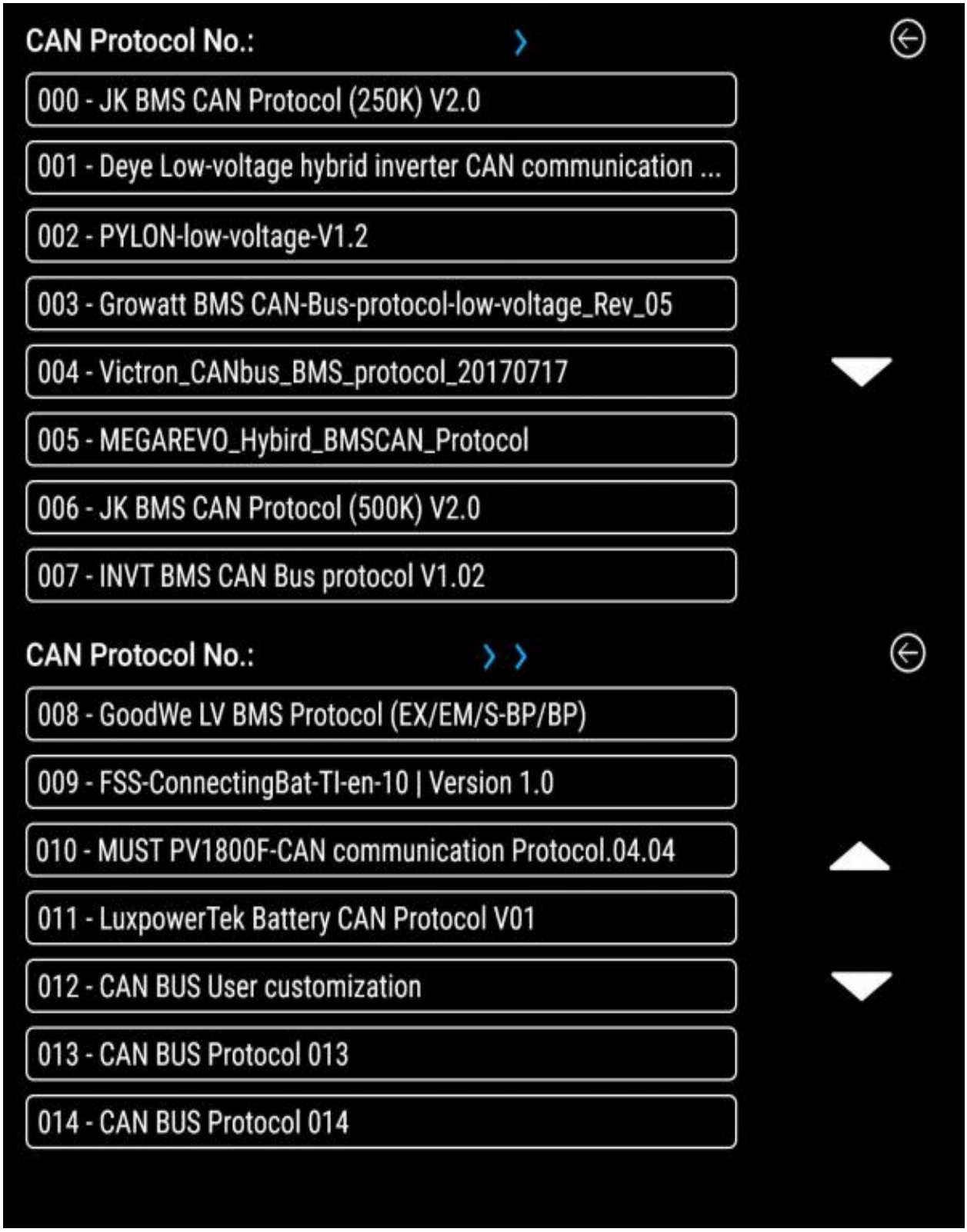
协议选择界面：通过协议选择，可以选择相应的 485 协议和 CAN 协议，从而选择合适的通信协议进行通信。



e). 485 Protocol Selection(485协议选择):



f). CAN Protocol Selection(CAN协议选择):



11. Warranty Coverage(保修范围)

the manufacturer guarantees that each manufacturer-branded battery product sold by it or by any of its authorized distributors or dealers is free from defects in material and workmanship under normal use and service for the warranty period listed in the table below, commencing on the date of sale (as evidenced by the customer's sales receipt, shipping invoice, and/or battery serial number and proof of purchase). During the warranty period, if it is determined that the relevant component has a material or workmanship defect, subject to the exclusions below, the manufacturer will compensate, replace, or repair the product and its components according to the situation.

制造商保证，其销售或由其任何授权分销商或经销商销售的每款制造商品牌电池产品，自销售日期起（依据客户的销售收据、发货发票和/或电池序列号以及购买凭证等)，在下表所列的期限保修期限内，在正常使用和服务条件下无材料和工艺缺陷。在保修期内，若经确定相关部件存在材料或工艺缺陷，在遵守下述除外条款的前提下，制造商将根据情况对产品及产品的部件进行抵偿、更换或维修。

The warranty period for battery products purchased from the manufacturer is 5 years.

从制造商购买的电池产品保修期为 5 年。

the manufacturer will replace or repair the product free of charge using new or refurbished replacement parts.

制造商将使用新的或翻新的替换零件免费更换或维修产品。

The seller shall not be liable under this limited warranty for product problems caused by the following (including but not limited to):

销售方在以下(包括但不限于)情况造成的产品问题不承担本有限保修责任：

a). Damage caused during transportation or improper handling of the product;

运输过程中或产品处理不当造成的损坏;

b). Damage caused by improper installation: loose terminal connections, undersized cables, incorrect series (cannot be used in series) or parallel connections, reverse polarity connection, or insufficient space affecting airflow; installation not meeting the communication cables and communication equipment defined by the manufacturer;

安装不当造成的损坏：端子连接松动、线缆尺寸过小、错误的串联(不可串联使用)或并联连接、反极性连接、或空间不足影响气流；安装不符合制造商定义的通信线缆和通讯设备；

c). Damage caused by the environment, such as improper storage conditions not meeting the manufacturer's definitions, exposure to extreme high or low temperatures, fire or freezing, or water damage, impact, or collision;

环境造成的损坏，例如不符合制造商定义的不当储存条件、暴露在极端高温或低温下、火灾或冰冻、或水损、撞击、或碰撞;

d). Damage caused by improper operation or maintenance, such as undercharging or overcharging the product, charging at low temperatures, lack of cleaning leading to corrosion of terminal connections or accumulation of dirt, debris, organic matter, fossil fuels, or chemicals on the product casing;

操作或维护不当造成的损坏，例如产品欠充或过充、低温充电、缺乏清洁导致端子连接腐蚀或产品外壳上积聚污垢、碎屑、有机物、化石燃料或化学品;

e). Products that have been opened, modified, or tampered with. Tampering with or removal of production date codes;

被打开、修改或篡改过的产品。篡改或移除生产日期编码;

f). Products used for applications other than those designed and intended by the manufacturer;

产品被用于制造商设计和预期用途之外的应用;

g). Products that are undersized for the application scenario (insufficient power or capacity).

产品对于应用场景而言规格过小。

12. Storage(存储)

a). The external terminals of the battery pack should be insulated.

电池组的外部端子应进行绝缘保护处理;

b). If the battery pack needs to be stored idle for a long time, it is recommended to charge it to 30%-60% capacity. Storage in a fully discharged state is strictly prohibited.

若电池组需长期闲置存放，建议充电至30%-60%电量，严禁完全放电状态下存储;

c). Batteries stored for more than 3 months need to be supplementary charged for 2-3 hours with a current of 0.2C~0.3C.

存放超过3个月的电池，需以0.2C~0.3C电流补充充电2-3小时;

d). Batteries should be stored in a dry, clean, ventilated, non-corrosive gas environment, away from fire sources and direct sunlight.

电池应储存在干燥、清洁、通风、无腐蚀性气体的环境中，远离火源并避免阳光直射;

e). Long-term storage in high-temperature environments exceeding 60°C is prohibited, as this will lead to performance degradation and shortened lifespan.

禁止在超过60℃的高温环境下长期存放，否则将导致性能衰退和寿命缩短。

13. Warnings(警告)

To prevent potential battery leakage, overheating, and explosion, please observe the following warnings:

为防止电池可能发生的泄漏、发热及爆炸，请遵守以下警告：

a). Strictly prohibit immersing the battery in seawater or other liquids; When idle, place in a cool and dry environment;

严禁将电池浸入海水或其他液体中；闲置时应置于阴凉干燥环境；

b). Strictly prohibit reverse connection of battery positive and negative terminals (Positive and negative terminals must not be connected in reverse);

严禁反接电池正负极（正负极端子不可反向连接）；

c). Prohibited to directly short-circuit battery positive and negative terminals with metal objects (to prevent accidental short circuits);

禁止用金属物体直接短接电池正负极（防止意外短路）；

d). Prohibited to transport or store together with metal items (such as hairpins, necklaces etc.);

禁止与金属物品（如发夹、项链等）共同运输或存储；

e). Prohibited to strike, throw, or step on the battery;

禁止敲击、抛掷、踩踏电池；

f). Prohibited to directly weld battery terminals or pierce the battery with nails or other sharp objects.

禁止直接焊接电池极柱，或使用钉子等尖锐物刺穿电池。

Notes(注意)

a). Temperature Management: Strictly prohibit exposure to high temperatures (>45°C). Storage temperature must be maintained between 10-45°C;

温度管理：严禁高温暴露（＞45℃），存储温度需保持10-45℃；

b). Hazard Avoidance: Keep away from fire sources/strong magnetic fields/strong static electricity. Only use dedicated chargers;

危险源规避：远离火源/强磁场/强静电，禁用非专用充电器；

c). Abnormal Handling: If electrolyte enters eyes, immediately rinse with clean water and seek medical attention. If overheating or deformation occurs, stop using immediately and remove the battery;

异常处置：漏液入眼用清水立即冲洗送医，发热变形立刻停用移除；

d). Maintenance Specifications: Maintain storage capacity at 30%-60%. Batteries unused for three months must be recharged;

维护规范：储存电量维持30%-60%，三月未用必须补电；

e). Safety Check: Verify voltage and connector status before use;

安全检查：使用前验证电压与连接器状态；

f). Disposal & Recycling: Waste batteries must only be handed over to suppliers or designated collection points.

报废回收：废旧电池仅可交由供应商或指定回收点。