东莞市安安森新能源科技有限公司

Dongguan A&S Power Technology Co., Ltd.

Wall-Mounted Battery Pack
壁挂式电池组

User Manual
用户手册

51.2V200Ah- 10.24KWh

Version: 1.

Warning 

Please comply with all warnings and operating instructions in this manual strictly. Save this manual properly and read carefully the following instructions before installing the unit. Do not operate this unit before reading through all safety information and operating instructions carefully.

请严格遵守本手册中的所有警告和操作说明。正确保存本手册，并在安装设备前仔细阅读以下说明。在仔细阅读所有安全信息和操作说明之前，请勿操作本装置。

1.Parameters of Battery电池参数

1-1 Parameters of Battery Pack单电池组参数

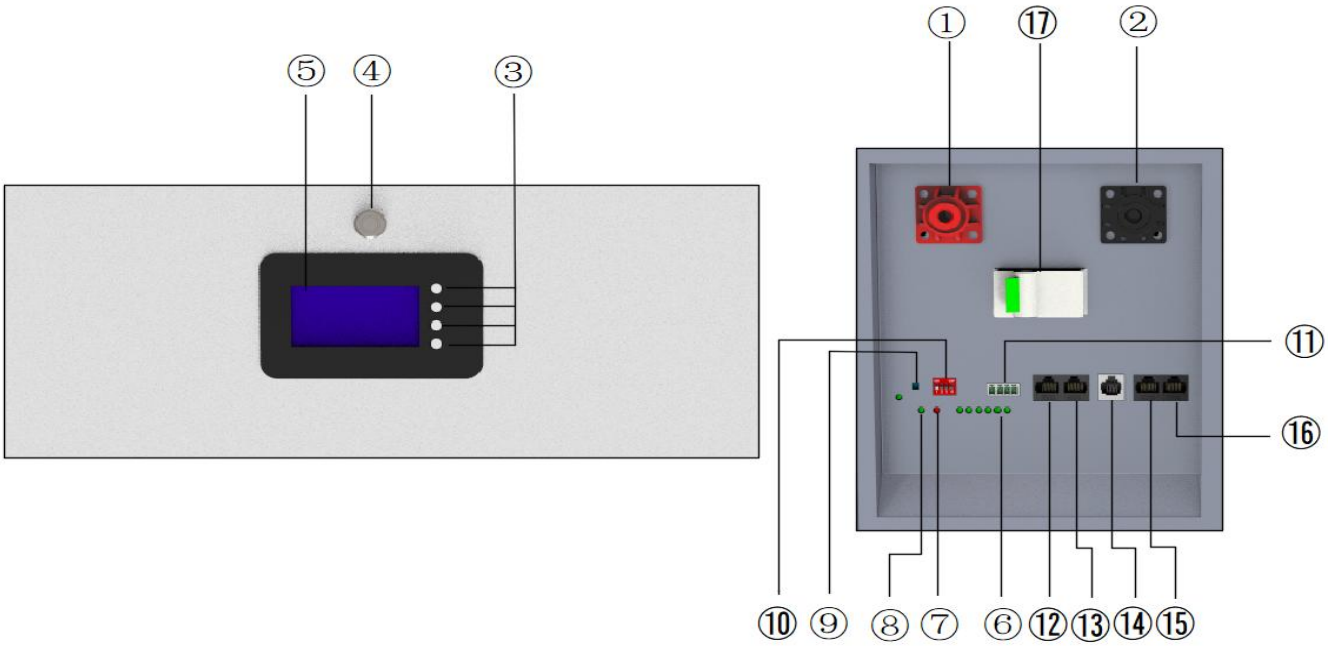
Model of battery pack 电池组型号	AS-51.2-200
Nominal voltage 标称电压	51.2V
Rated capacity 额定容量	200AH
Rated reserved energy 额定瓦时	10.24KWH
Standard charging current 标准充电电流	0.2C
Total charging cut-off voltage 充电截止电压	58.4
Cut-off voltage for cell charging 单体充电截止电压	3.65V
Standard discharging current 标准放电电流	0.2C
Maximum continuous discharging current 最大持续放电电流	200A
Cut-off voltage of discharging 放电截止电压	43.2V
Charging temperature range 充电温度范围	0℃～45℃
Discharging temperature range 放电温度范围	-20℃～60℃
Single module Size(W×L×H) **单模组尺寸**	740*525*255mm (excluding bracket)（不含挂架）
Weight 1PCS重量	Single module 单模组约95kg±5%

1-2 Technical Parameters of Battery Management System (BMS) 电池管理系统（BMS）技术参数

Items 项目	Details 详情细节	Standard 标准可设
Cell overcharge protection 电池过充电保护	Overcharge detection voltage 过充保护电压	3.65V
	Overcharge detection delay time 过充保护延迟时间	Typical:1.0s
	Overcharge release voltage 过充释放电压	3.45V
Cell over-discharge protection 电池过放电保护	Over-discharge detection voltag 过放保护电压	2.70V
	Over-discharge detection delay time 过放保护延迟时间	Typical:1.0s
	Over-discharge release voltage 过放恢复电压	2.90±V or charge release
Over-current protection 过流保护	discharge Over-current protection current1 放电过电流保护电流1	110A
	discharge Over-current detection delay time 1 放电过电流保护延迟时间1	15S
	discharge Over-current protection current2 放电过电流保护电流2	115A
	discharge Over-current detection delay time2 放电过电流保护延迟时间1	≤500ms
	Charge OC protection current 充电过流保护	110A
Short circuit protection 短路保护	Short circuit protection current 短路保护电流	350A-400A
	Protection condition 保护条件	External load short circuit 外部负载短路
	Detection delay time 检测延迟时间	≤500us
	Protection release condition 保护释放条件	Charge release or reset 充电释放或重置

Temperature(T) protection 温度保护	Charge high T protection 充电高温保护	55±5℃
	Charge high T recover 充电高温恢复	50±5℃
	Discharge high T protection 放电高温保护	60±5℃
	Discharge high T recover 放电高温恢复	60±5℃
	Charge low T protection 充电低温保护	-5±5℃
	Charge low T recover 充电低温恢复	0±5℃
	Discharge low T protection 放电低温保护	-20±5℃
	Discharge low T recover 放电低温恢复	-10±5℃
Balance 均衡	Balance threshold voltage 均衡开启电压	3.50V
Communication 通讯	It has RS485 and CAN standard communication interface, it can real-time monitoring the capacity of battery bank, the voltage, current, environment temperature, and charging/discharging current. 具有RS485和CAN标准通讯接口，可实时监测电池组容量、电压、电流、环境温度、充放电电流	
Alarm 报警	It has over-temperature, over charge, under-voltage, over-current, short circuit alarmFunction. 具有超温、过充、欠压、过流、短路报警功能	

2. Panel operation instructions 面板操作说



No. 序号	Description 说明	Silk-screen 丝印	Remark 备注
1	Battery + 电池正极	P+	Positive terminal 电池正极
2	Battery - 电池负极	P-	Negative terminal 电池负极
3	LCD KEY LCD屏幕按键		LCD display key 液晶显示键
4	Output ON/OFF电源开关	OFF/ON	BMS switch button BMS开关
5	LCD 屏幕		Display screen 显示屏
6	Electricity volume indicator 电量指示灯	LED	Display the battery's capacity容量显示灯
7	ALM alarm indicator light blinking 警示灯	ALM	Red- trouble-light on 警示灯
8	Run indicator light 运行指示灯	RUN	Display state information 显示状态信息
9	Reset button 重置键	RST	Reset key 重置键
10	DIP switch 拨码开关	ADD	Display connection address 显示连接地址
11	DRY干接点	DRY	Dry contact干接点
12	RS485A port 485A端口	RS485A	RS-485connection port-A RS485 485连接口
13	CAN port CAN端口	CAN	CAN communication port CAN通讯口
14	RS232 port 232端口	RS232	RS-232connection port 232连接口
15	485B port 485B端口	485B	485connection port- 485连接口
16	485B port 485B端口	485B	485connection port- 485连接口
17	Circuit breaker 断路器	OFF/ON	Battery circuit breaker电池断路器

3. Installation and Operation 安装操作

3-1. Single battery Installation单电池安装

Installation and wiring must be performed in accordance with the local electric laws/regulations and execute the following instructions by professional personnel.安装和布线必须按照当地电气法律/法规进行，并由专业人员执行以下指示

1) Make sure the mains wire and breakers in the building are in compliance with the standard of rated capacity of battery to avoid the hazards of electric shock or fire.确保建筑物内的电源线和断路器符合蓄电池额定容量标准，避免触电或火灾危险

2) Switch off the mains switch in the building before installation安装前关闭建筑物内的电源开关

3) Turn off all the connected devices before connecting to the battery连接到电池前关闭所有连接的设备.

4) Prepare wires based on the following table根据下表准备电线:

Model	Cables(AWG)	Cables(mm2)
<50Ah	8	6
50Ah	6	16
100Ah	4	25
200/300AH	2	50

Table 1 Output Cables

NOTE : It is recommended to use suitable wire in above table or thicker for safety and efficiency.
注意：为了安全和高效，建议使用上表中的合适电线或更粗的电线

5) Set the battery pack breaker in “OFF” position and then install the battery pack.

将电池组断路器置于“关闭”位置，然后安装电池组

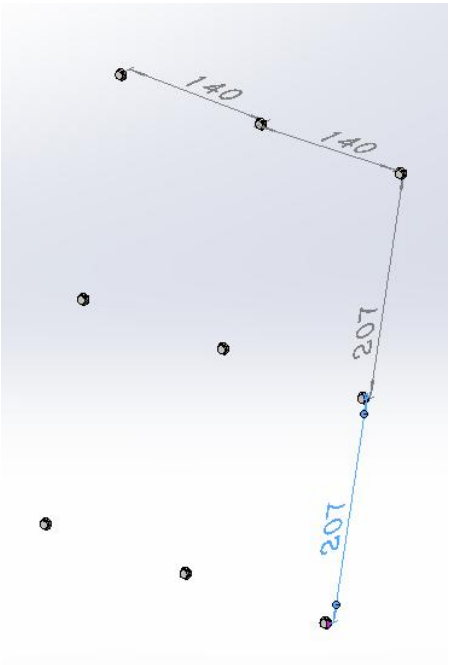
3-2 Wall mounted battery mount 壁挂电池安装

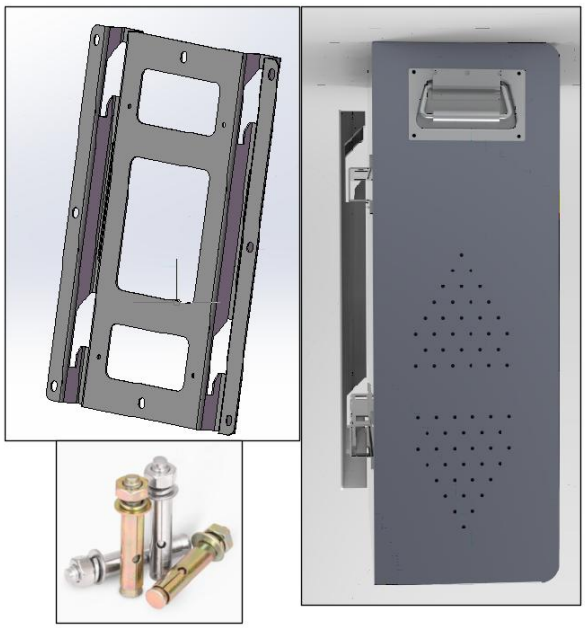
墙上按如下尺寸开10个孔.敲入膨胀螺丝

Make 10 holes in the wall according to the following dimensions. Tap in the expansion screws.

挂架用爆炸螺丝固定在墙上并拧紧螺丝，
然后将电池机箱挂钩放到挂架对应的挂钩上即可

The rack is fixed on the wall with the explosive screw and the screw is tightened, and then the battery case hook is put on the corresponding hook of the rack





Wall-mounted battery installation schematic diagram, the specific situation according to the actual order requirements operation

壁挂电池安装示意图，具体情况按实际订单要求操作

3-3.Installation Precautions安装注意事项

(1) Prior to installation, unpacking to check the quantity of the parts and battery appearance.
安装前开箱检查零件数量和电池外观

(2) Measure the battery voltage with a multimeter. The general factory voltage of the battery is50V-53V . 用万用表测量电池电压。电池的出厂电压一般为50-53V.

(3)Prior to wiring, check the anode and cathode of the battery and the anode and cathode terminals shall not be connected reversely.接线前应检查蓄电池的正负极，正负极端子不得接反

(4)During battery connection, please wear the protective gloves. When using such metal tools as torque wrench, please perform insulating packaging for them and two end of the metal tools such as torque wrench shall not contact the positive and negative terminals of the battery at the same time to avoid battery short-circuit.连接电池时，请戴上防护手套。使用扭矩扳手等金属工具时，请对其进行绝缘包装，扭矩扳手等金属工具的两端不得同时接触电池的正负极，以免电池短路.

(5)Before the battery is connected with the externally connected equipment, make the equipment in a disconnected state, check whether the connecting polarity of the battery and total voltage are correct, connect the battery anode with the equipment anode and battery cathode with the equipment cathode and fix the connecting line.电池与外接设备连接前，应先使设备处于断开状态，检查电池的连接极性和总电压是否正确，电池阳极与设备阳极、电池阴极与设备阴极连接，并固定连接线.

(6)During handling and placement, the battery must be handled gently. No dropping or impacting. The battery shall not be thrown or beaten to avoid damaging the battery or resulting in potential safety hazard.
在搬运和放置过程中，必须轻拿电池。无跌落或撞击。不得投掷或敲打电池，以免损坏电池或造成安全隐患.

(7)Do not touch the surface of the battery box with the sharp part of the tool to scratch or damage the battery box.不要用工具的锋利部分接触电池盒表面，以免划伤或损坏电池盒.

(8)Do not disassemble the battery box without authorization.未经授权，请勿拆卸电池盒.

(9)Do not put any article made of the metal conductive material together with the battery or assemble it into the battery box.
不要将任何由金属导电材料制成的物品与电池放在一起，也不要将其组装到电池盒中.

（10）Install it according to the selected installation mode根据所选安装模式进行安装:

Installation of standard cabinet (rack): Install the matching hanger for the battery pack and fix them in the standard cabinet and the tray protection is added for the battery box.标准柜（架）安装：安装匹配的电池箱和支架或托盘固定在内部，标准是为保护电池箱

Stacking battery box installation: first place the base in the plane area, then stack the battery box according to the outer label number sequence, then the screw holes reserved for the upper and lower chassis are locked and fixed with screws,

堆叠式电池箱安装：先将底座放在平面区域，然后将电池箱按外标识编号顺序安放堆叠，再将上下机箱预留的螺丝孔，用螺丝锁紧固定，

Installation of wall-mounted box: Prior to installation, please ensure that the wall complies with the wall-mounted requirements; according to the location in the design plan, install the special wall-mounted box of the lithium battery; the battery pack is fixed in the wall-mounted box in a hanger manner.壁挂箱安装：安装前，请确保壁挂符合壁挂要求；根据设计方案中的位置，安装锂电池专用壁挂箱；电池组以悬挂方式固定在壁挂箱中

Installation of integrated indoor and outdoor cabinets (boxes): Install them according to the installation specification for the customized integrated cabinet (box)室内外综合柜（箱）安装：

按定制综合柜（箱）安装规范进行安装.

3-4 Operation Instruction for Installation安装作业指导书

1) Prior to installation, please check whether the battery is normal.
安装前请检查电池是否正常？

Press the switch on the front panel RST for 1 second to start for startup. During startup, 4 capacity indicator lights on the front panel, ALM alarm indicator light (red) and RUN running indicator light light up. Check whether all indicator lights light up normally; then the ALM alarm indicator light goes out, the RUN running indicator light lights up and the capacity indicator light lights up according to the capacity.

If the ALM alarm indicator light flashes after startup, it means that the battery has an alarm. The newly installed battery seldom has alarm. The common alarm is the battery under voltage alarm (which is resulted from non-use of the battery for a long time). Such case may be removed after the battery is charged for 30min; if the alarm may not be removed, please press the reset key RST for 10S, until all LEDs light up for reset, execute the battery reset operation and confirm whether the alarm is removed. If the alarm is removed, the battery may be used normally. Otherwise the battery shall be reworked.

按前面板上的开关RST 1秒启动。启动时，前面板4个容量指示灯亮，ALM报警指示灯（红色），运行指示灯 亮。检查各指示灯是否正常亮起，然后ALM报警指示灯熄灭，运行指示灯亮起，容量指示灯按容量亮起。如果启 动后ALM报警指示灯闪烁，说明电池有报警。新安装的电池很少有报警。常见报警为电池欠压报警（长时间不使 用电池导致）。这种情况可在电池充电30分钟，如果不能解除报警，请按内部复位键RST 10秒，直到所有LED亮 起进行复位，执行电池复位操作，确认是否解除报警。如果警报解除，电池可以正常使用。否则，应返修加工电 池.

2) For the battery which is normal after detection, please press the reset key RST for 3S to execute the battery ON/OFF operation.

对于检测正常的电池，请按内部复位键RST 3秒，执行电池开/关操作.

Instructions of manual operation of the reset key RST复位键RST的手动操作说明	Startup 启动	In the OFF state of BMS, press the key for 3S for startup;在BMS关闭状态下，按键3s启动
	Shutdown 关闭	In the non-standby state of BMS, press the key for 3S for shutdown;在BMS的非待机状态下，按键3s关机
	Reset 重置	In the non-standby state of BMS, press the key for 10S, until all LEDs light up for reset.在BMS的非待机状 态下，按键10秒，直到所有LED亮起进行重置

Instructions: “Shutdown” and “standby” and “startup” and “activation” in Chinese have the same meaning.

说明：“关机”、“待机”，“启动”、“激活”中文含义相同

3) Installation of the lithium battery, wiring and startup　　锂电池安装，布线和启动.

Make the battery pack in a standby state, install it in the battery cabinet one by one, the anode and cathode of the battery pack are connected respectively, which are connected to the switching mode power supply or UPS (Please note that the switching mode power supply and UPS shall be disconnected from the AC). Press the reset key RST of one of battery packs for 1S for startup. Such startup battery may activate other batteries which are connected in parallel (or press the reset key RST of each battery pack for 1S

successively) and the whole battery pack with high capacity enters the working state. Later, apply AC to the power supply equipment such as switching mode power supply and UPS to make the whole standby system run.

使电池组处于关机状态，逐个安装电池，电池组的正负极分别连接，与开关电源或UPS相连（请注意 开关电源和UPS应与交流断开）。按其中一个电池组的RST 1秒启动。该启动电池可激活其他并联电池（或 依次按下各电池组的RST 1秒），整个大容量电池组进入工作状态。随后对开关电源、UPS等供电设备进行 交流，使整个备用系统运行.

The specification of the connecting line is selected according to the load current, with the common specifications of the connecting line as follows

连接线的规格根据负载电流选择，连接线的通用规格如下：

1）When the battery pack with the capacity of 200Ah or below is connected in parallel, it is suggested to select 25mm2 copper wire.

1）200Ah及以下电池组接入时并联，建议选用25mm2铜线.

2）When the battery pack with the capacity of 200Ah~300Ah is connected in parallel, it is suggested to select 35mm2 or 50mm2 copper wire.

2）200Ah~300Ah蓄电池组并联时，建议选用35mm2或50mm2铜线.

3）When the battery pack with the capacity of 300Ah or above is connected in parallel, it is suggested to select 50mm2 copper wire.

3）容量为300Ah及以上的电池组并联时，建议选用50mm2铜线.

4）Note: We do not equip with the battery connecting line by default, which shall be selected according to the total capacity of the battery pack.

注：我们默认不配置电池连接线，根据电池组总容量选择

Lithium battery 锂电池	Copper core cable 铜芯电缆	Copper lug 铜鼻子	Remarks
48V50Ah	16mm²/25mm²	16-8/25-8	M8 copper lug is used for 48V50Ah
48V100Ah	16mm²/25mm²	16-10/25-10	M8 copper lug is used for48V100Ah
48v200AH	35mm²	35-10	M8 copper lug is used for48V200Ah
48v300AH	50mm²	50-10	M8 copper lug is used for48V300Ah

Introduction to operation steps in detail according to the capacity required 根据所需容量详细介绍操作步骤:

5）Battery pack in parallel with the capacity of 200Ah or below (the wiring diagram is shown in Figure 1): 电池组并联，容量200Ah及以下（接线图所示）：

Step1: The battery pack is in the shutdown state, and the battery is mounted on the wall in turn;步骤1：使电池组处于关机状态，依次壁挂安装电池；

Step2: Disassemble the anode insulating cap of the neighboring batteries one by one, connect the anodes of up and own neighboring battery packs with the installation connecting line and screw on the anode insulating cap；

步骤2：逐个拆卸相邻电池的正极绝缘帽，将上下相邻电池组的正极与安装连接线连接，并拧上正极绝缘帽；

Step 3: According to step 2, connect the cathode of the battery pack.

步骤3：根据步骤2，连接电池组的负极

Step 4: Set the dial-up addresses of all battery modules from top to bottom one by one, which are 1000, 0100, 1100 and 0010 (the dial-up addresses are set according to the number of battery modules actually used) respectively; (this step may be skipped if there is no need to access to the remote monitoring platform).

步骤4：从上到下依次设置所有电池模块的拨号地址，分别为1000、0100、1100和0010（拨号地址根据 实际使用的电池模块数量设置）；（如果不需要访问远程MO，可以跳过此步骤。监测平台）。

Step 5: Perform the cascade connection to RS485 communication interface of the battery module with the RS485 connecting line; lead to the collector of the monitoring platform from the

CAN interface of the battery module with the address of 1000 with the CAN connecting line; (this step may be skipped if there is no need to access to the remote monitoring platform).

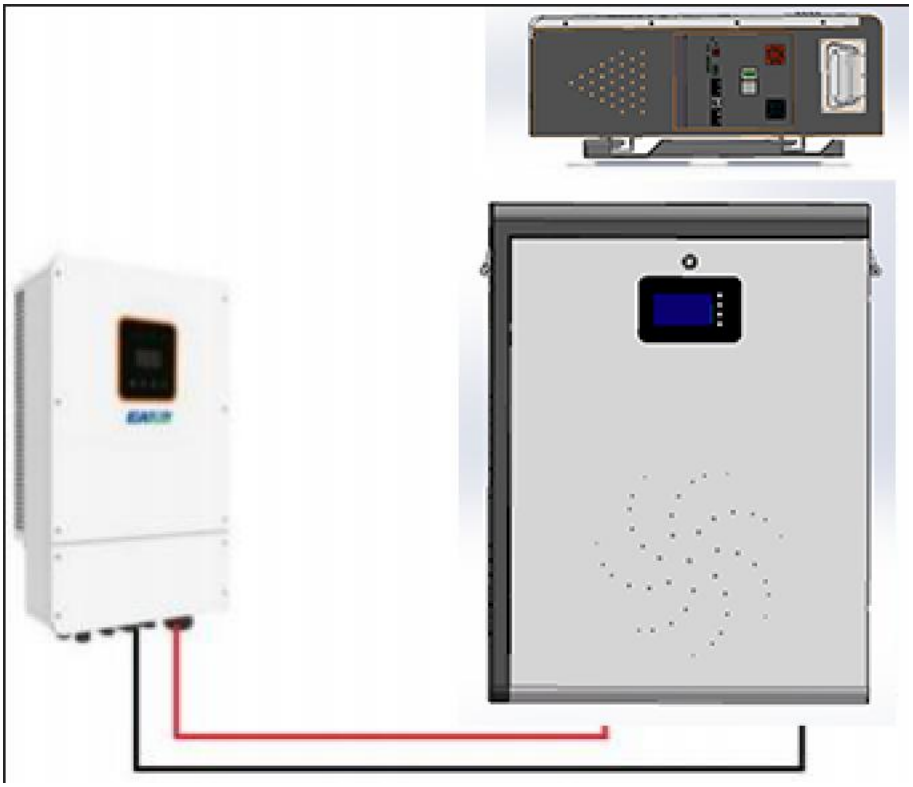
步骤5：用RS485连接线串接电池模块的RS485通信接口；用CAN连接线从地址为1000的电池模块的CAN接口引至监控平台的集电极；（如果不需要接入遥控器，可跳过此步骤）监控平台）

Step 6: Draw out two wires from the anode and cathode of a battery pack at the top or in the middle respectively as the main connecting line of the battery pack in parallel, which are connected with the switching mode power supply or UPS.

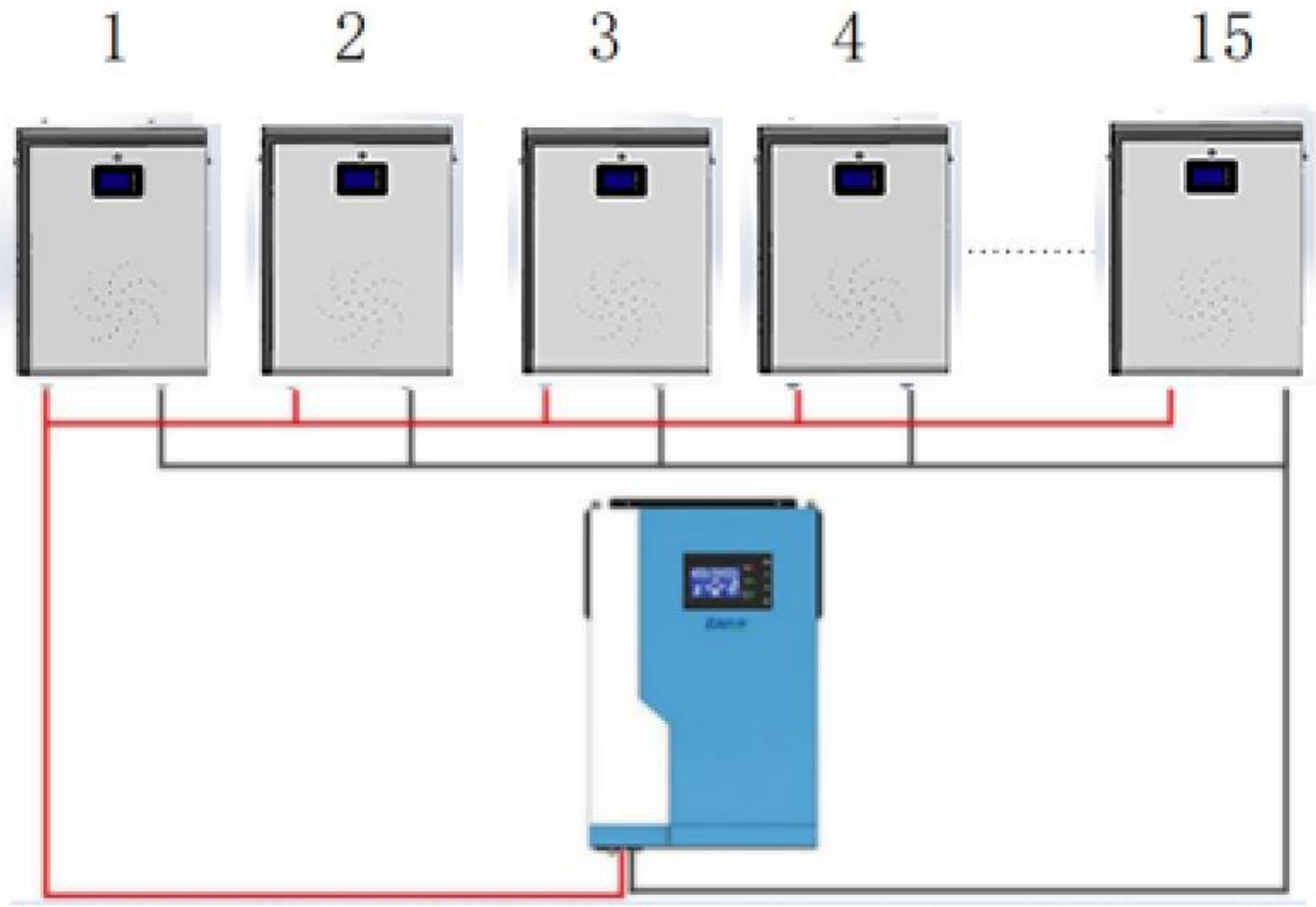
步骤6：从电池组顶部或中部的正极和负极分别抽出两根电线，作为电池组的并联主连接线，与 开关电源或UPS连接；

Step 7: Press the ON/OFF key of each battery pack for Reset and the whole battery pack with high capacity enters the working state.

步骤7：按每个电池组的ON/OFF键复位，整个大容量电池组进入工作状态

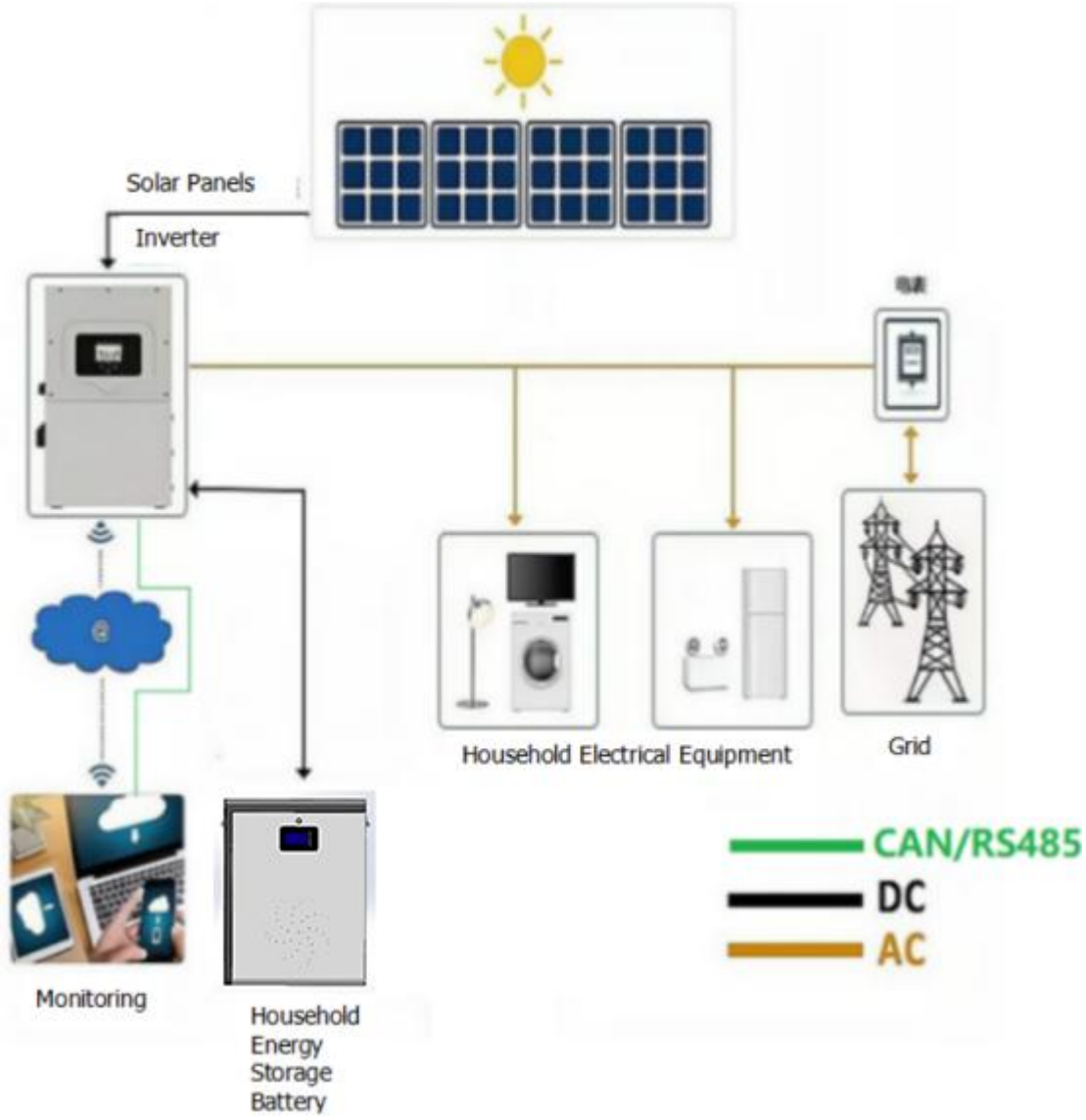


Stand-alone installation单机安装



Parallel machine installation并机安装

3-5. System integration link installation topology diagram
系统集成连接安装拓扑图



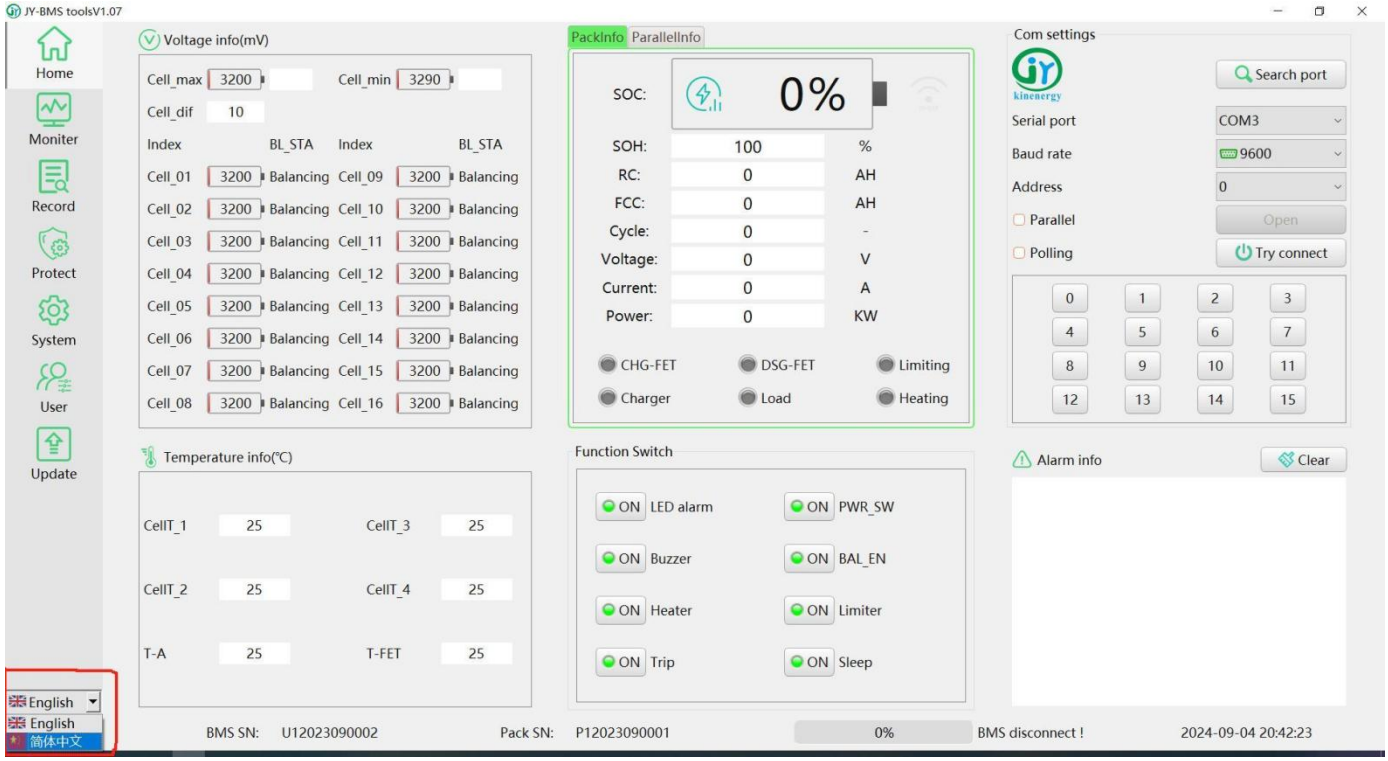
3-6.Upper computer instructions

上位机说明选项

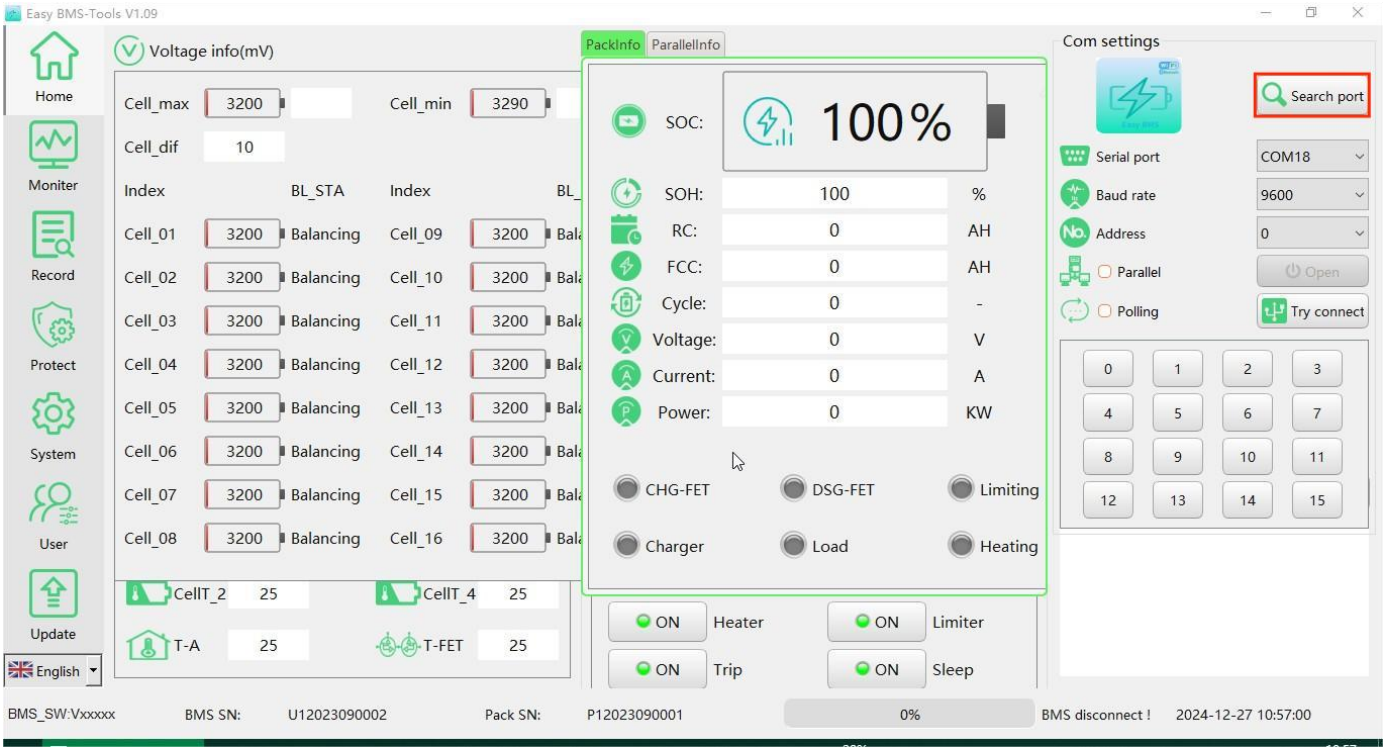
3.6.1 Home Page

A、A.Power on the Golden YU upper computer打开金昱上位机

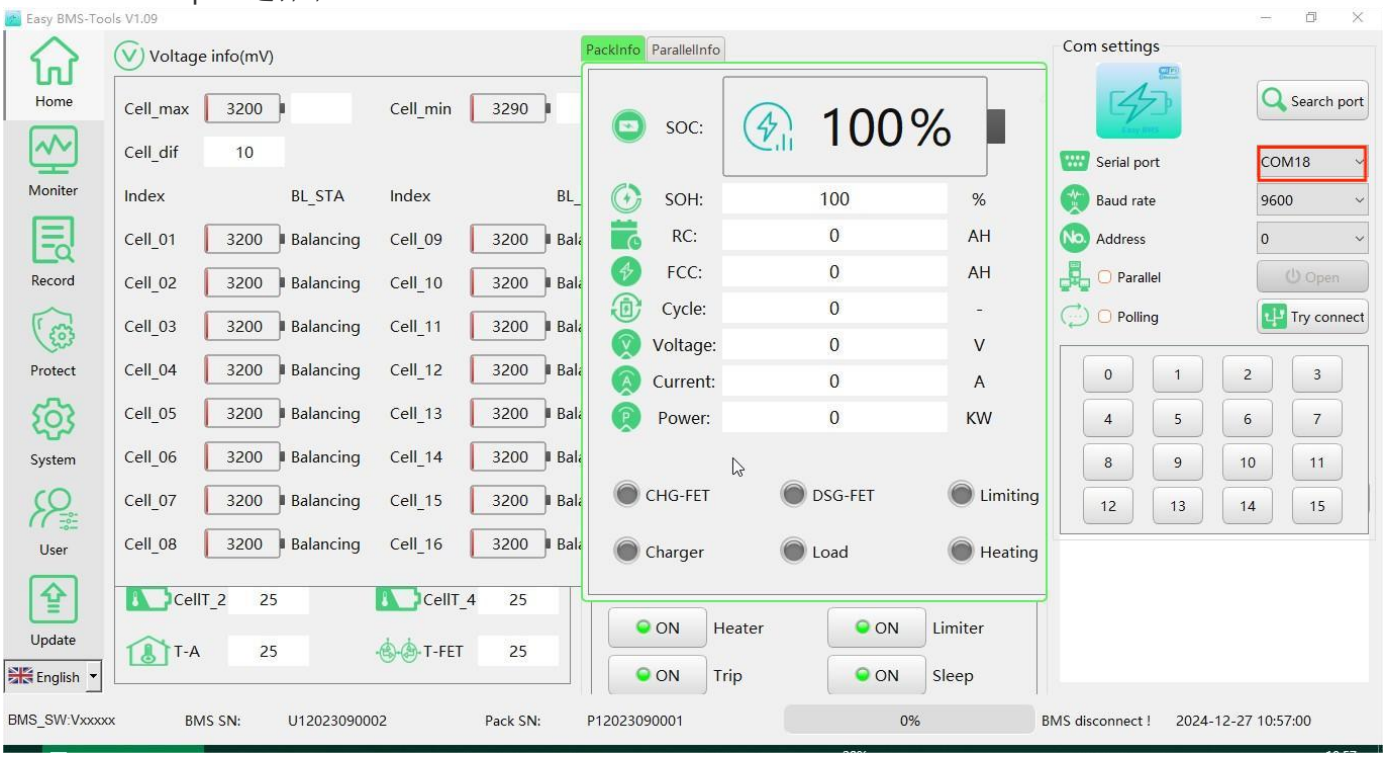
B.Switch between Chinese and English modes (skip for users in English mode)
切换中英模式（英文模式用户跳过）



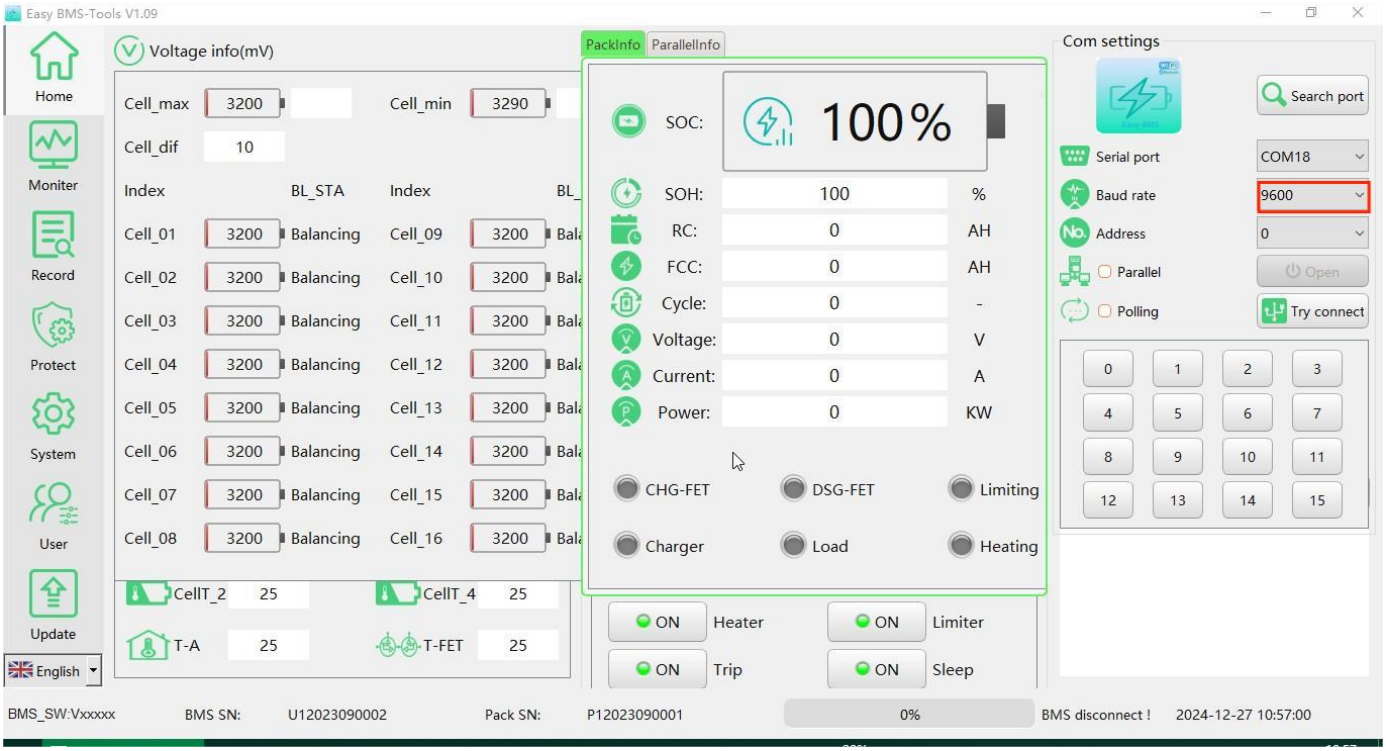
C.Search serial port 搜索串口



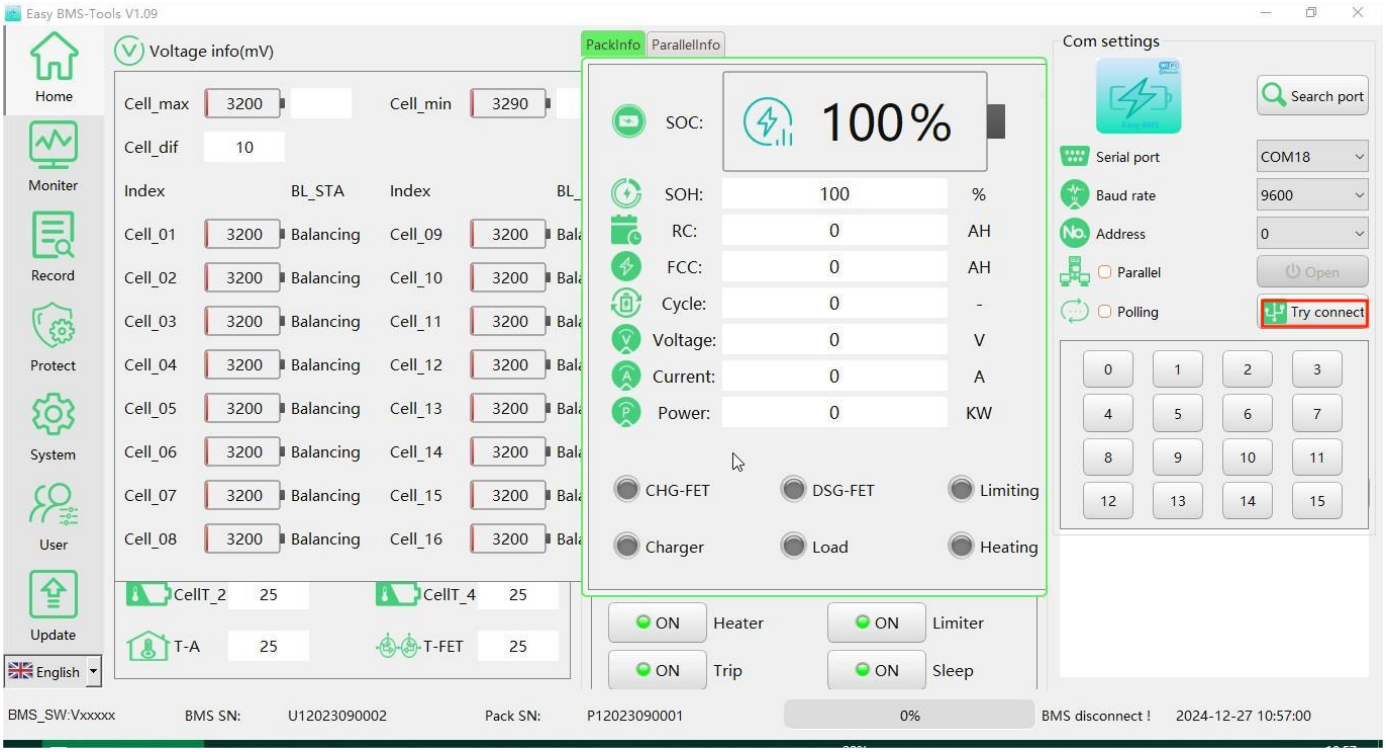
D.Select serial port 选择串口



E.Select baud rate 选择波特率



F.Try to connect 尝试连接



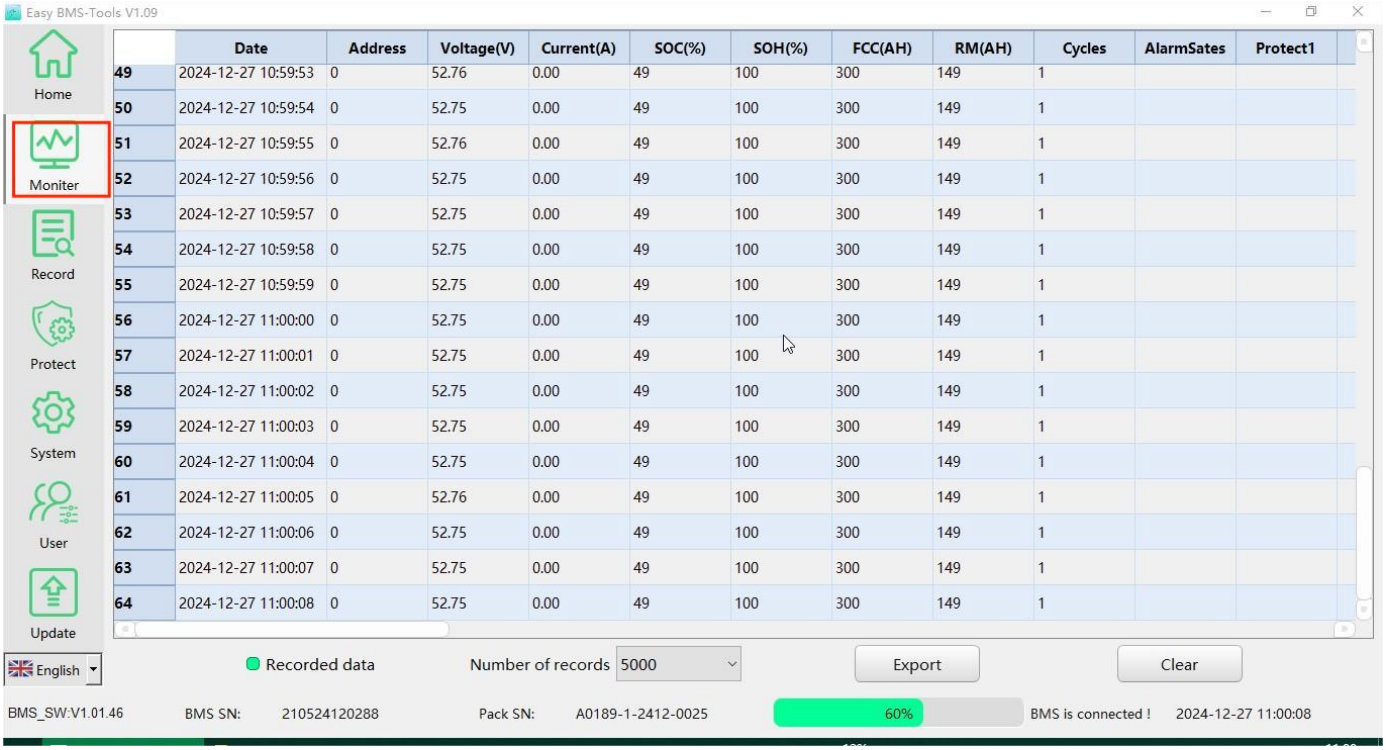
G.Connection succeeded 连接成功

3.6.2 Basic information of the master station homepage 上位机主页的基本信息

1 Switching between Chinese and English modes on the host computer
上位机中英文切换模式
2 BMS tests the highest and lowest voltages of a certain series of cells in the battery pack and their voltage difference.
BMS 检测电池包某串电芯最高电压和最低电压与其之间的压差
3 BMS monitors the current voltage status of all cells in real time.
BMS 实时检测所有电芯当前电压状态
4 BMS detects the current temperature of 4 cell channels, ambient temperature, and MOSFET temperature.
BMS 检测当前的 4 路电芯温度、环境温度、MOS 管温度
5 Switching between single-unit battery mode and parallel battery mode status information
单机电池模式与并机电池模式状态信息切换

6 Current battery information, BMS charge and discharge enable, current limiting, external load, charger access, and heater film status detection
当前电池信息以及 BMS 充放电使能、限流、外部负载、充电器接入、加热膜状态检测
7 Current BMS enable switch status
当前 BMS 使能开关状态
8 Connect to the upper computer: Search for the serial port and then select the serial port and baud rate (9600-11200), and click Try to Connect! If you need to connect in parallel, please check the parallel mode, and then sequentially poll and monitor the status the parallel batteries.
连接上位机方式：搜索串口然后选择串口和波特率（9600-115200）并点击尝连接！需并机请勾选并机模式，再依次轮询监控并机电池状态
9 Check the current number of monitorable battery packs
9 检测当前可监控电池包数量
10 indicates the current battery pack warning protection information.
提示当前电池包告警保护信息
11 Display the current BMS software version information, serial number, and battery pack serial number
显示当前 BMS 软件版本信息、序列号、电池包序列号
12 Display the current BMS connection status with the host computer
显示当前 BMS 与上位机的联机状态

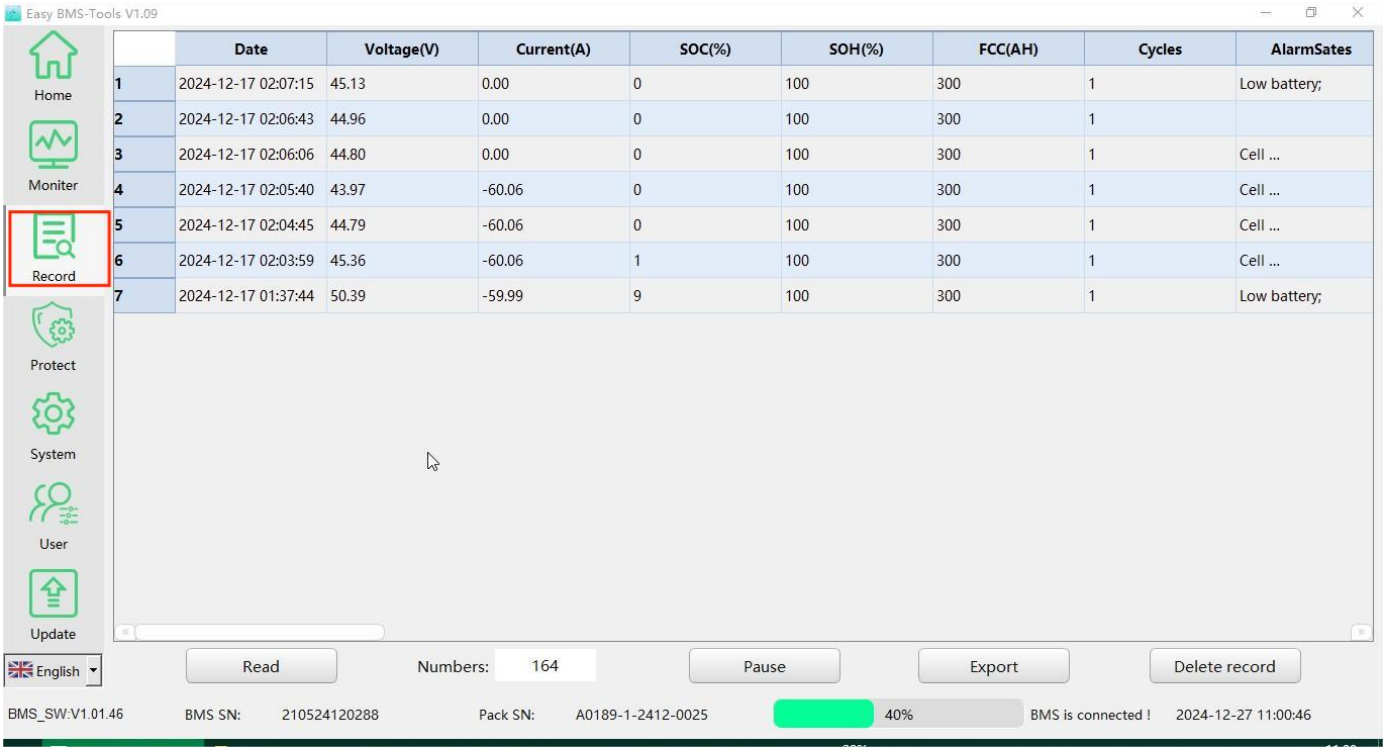
3.6.3 Data recording of upper computer monitoring 上位机监控数据记录



	Date	Address	Voltage(V)	Current(A)	SOC(%)	SOH(%)	FCC(AH)	RM(AH)	Cycles	AlarmSates	Protect1
49	2024-12-27 10:59:53	0	52.76	0.00	49	100	300	149	1		
50	2024-12-27 10:59:54	0	52.75	0.00	49	100	300	149	1		
51	2024-12-27 10:59:55	0	52.76	0.00	49	100	300	149	1		
52	2024-12-27 10:59:56	0	52.75	0.00	49	100	300	149	1		
53	2024-12-27 10:59:57	0	52.75	0.00	49	100	300	149	1		
54	2024-12-27 10:59:58	0	52.75	0.00	49	100	300	149	1		
55	2024-12-27 10:59:59	0	52.75	0.00	49	100	300	149	1		
56	2024-12-27 11:00:00	0	52.75	0.00	49	100	300	149	1		
57	2024-12-27 11:00:01	0	52.75	0.00	49	100	300	149	1		
58	2024-12-27 11:00:02	0	52.75	0.00	49	100	300	149	1		
59	2024-12-27 11:00:03	0	52.75	0.00	49	100	300	149	1		
60	2024-12-27 11:00:04	0	52.75	0.00	49	100	300	149	1		
61	2024-12-27 11:00:05	0	52.76	0.00	49	100	300	149	1		
62	2024-12-27 11:00:06	0	52.75	0.00	49	100	300	149	1		
63	2024-12-27 11:00:07	0	52.75	0.00	49	100	300	149	1		
64	2024-12-27 11:00:08	0	52.75	0.00	49	100	300	149	1		

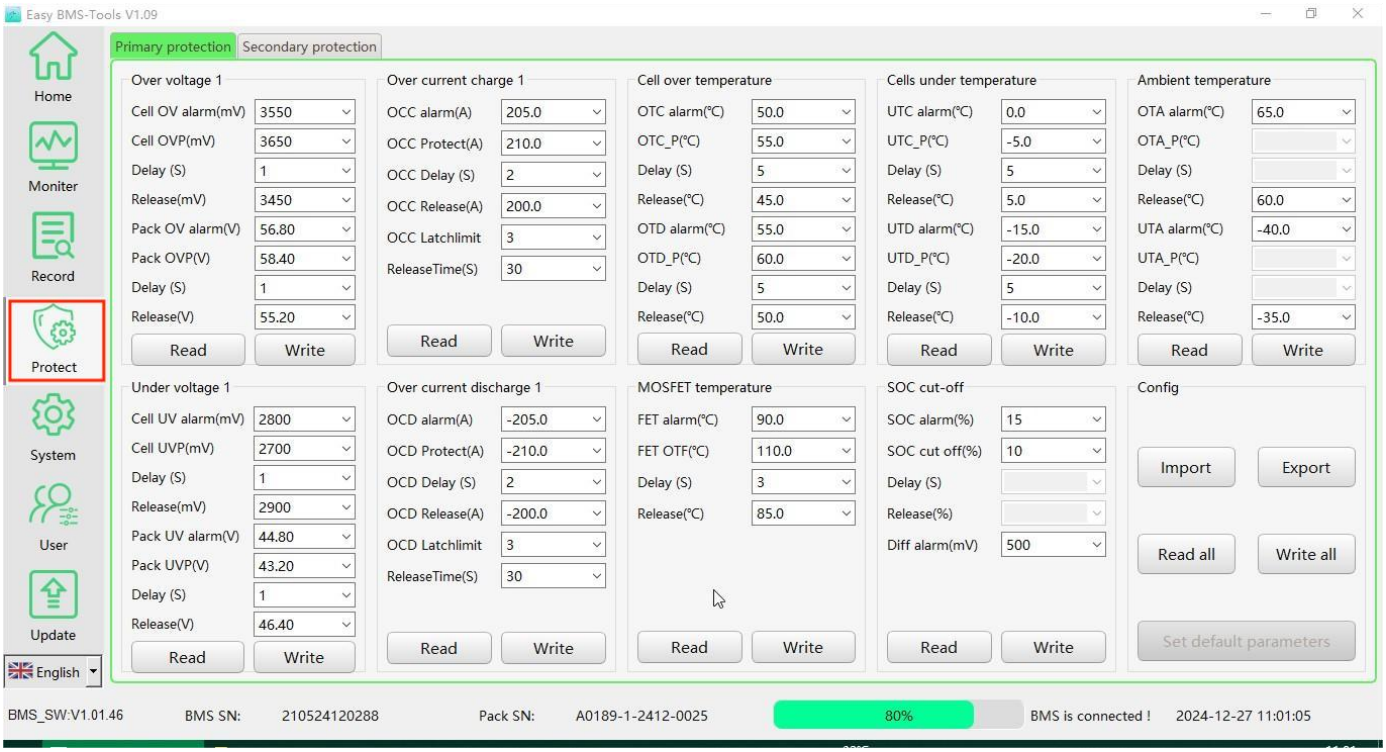
Check the record data option, the host computer sends real-time data records once per second, with a maximum of 20,000 that can be saved. The data can also be exported and cleared.
勾选记录数据选项，上位机以每秒发送一次实时数据记录，可选项最高 20000 条保存记录、并有导出和清处数据功能。

3.6.4 Historical records of the master computer 上位机历史记录

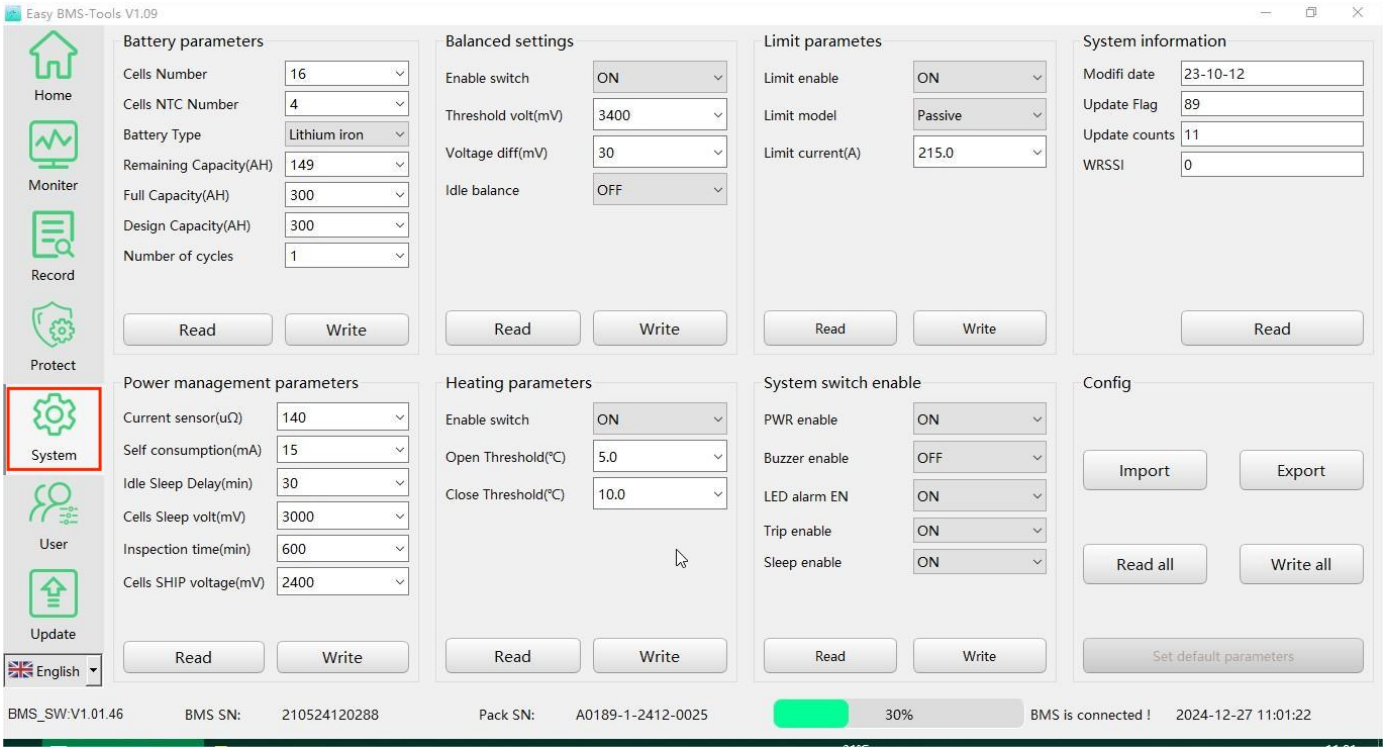


The history record can automatically save BMS alarm information, and clicking to read it will list it.
历史记录可自动保存 BMS 告警信息，点击读取即可列出

3.6.5 BMS protection parameters BMS 保护参数

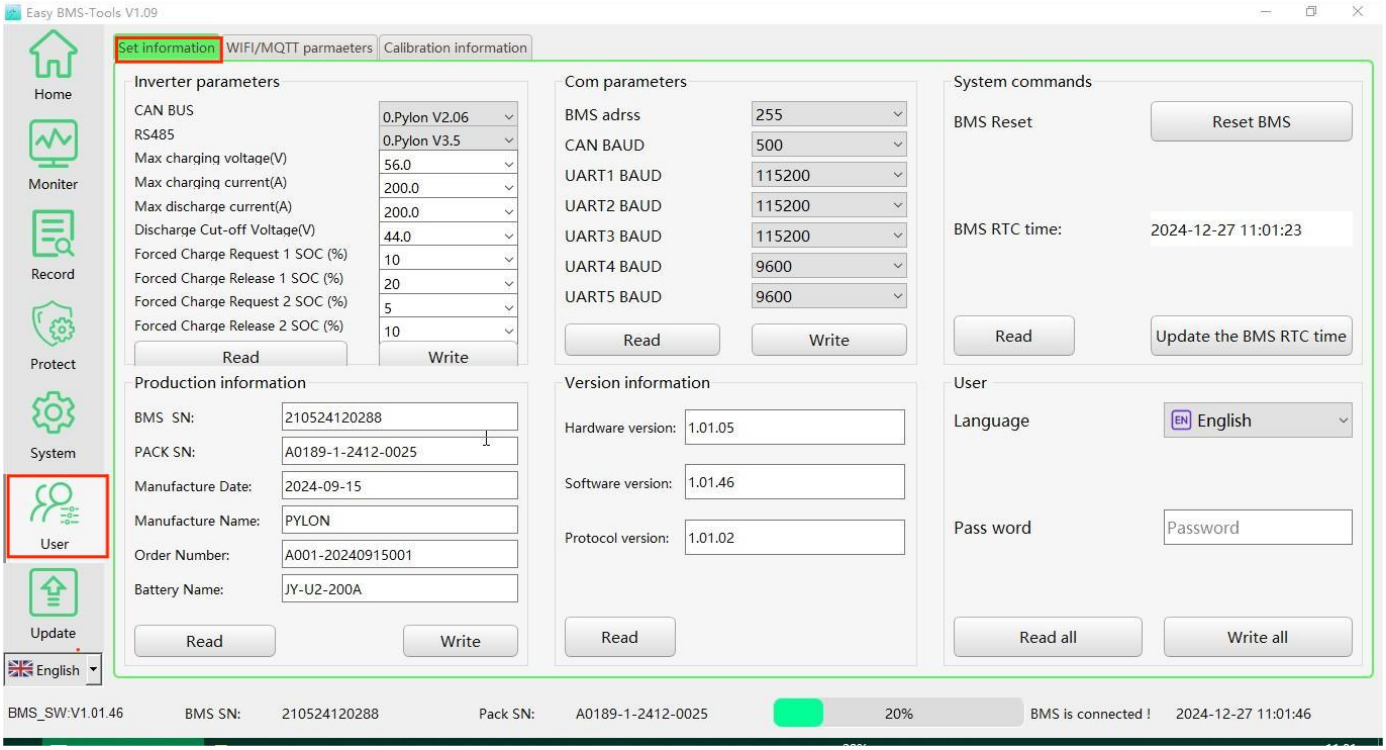


3.6.6 System parameters 系统参数

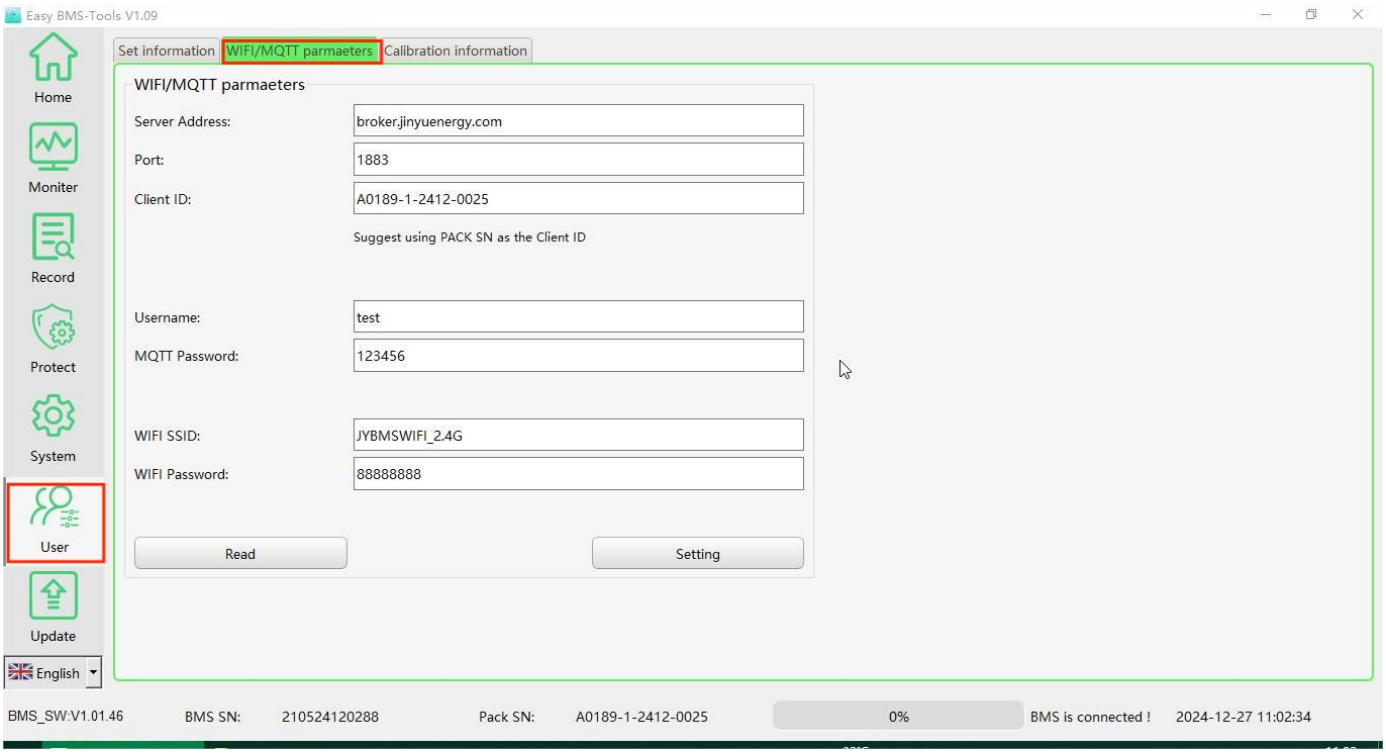


3.6.7 User parameters 用户参数

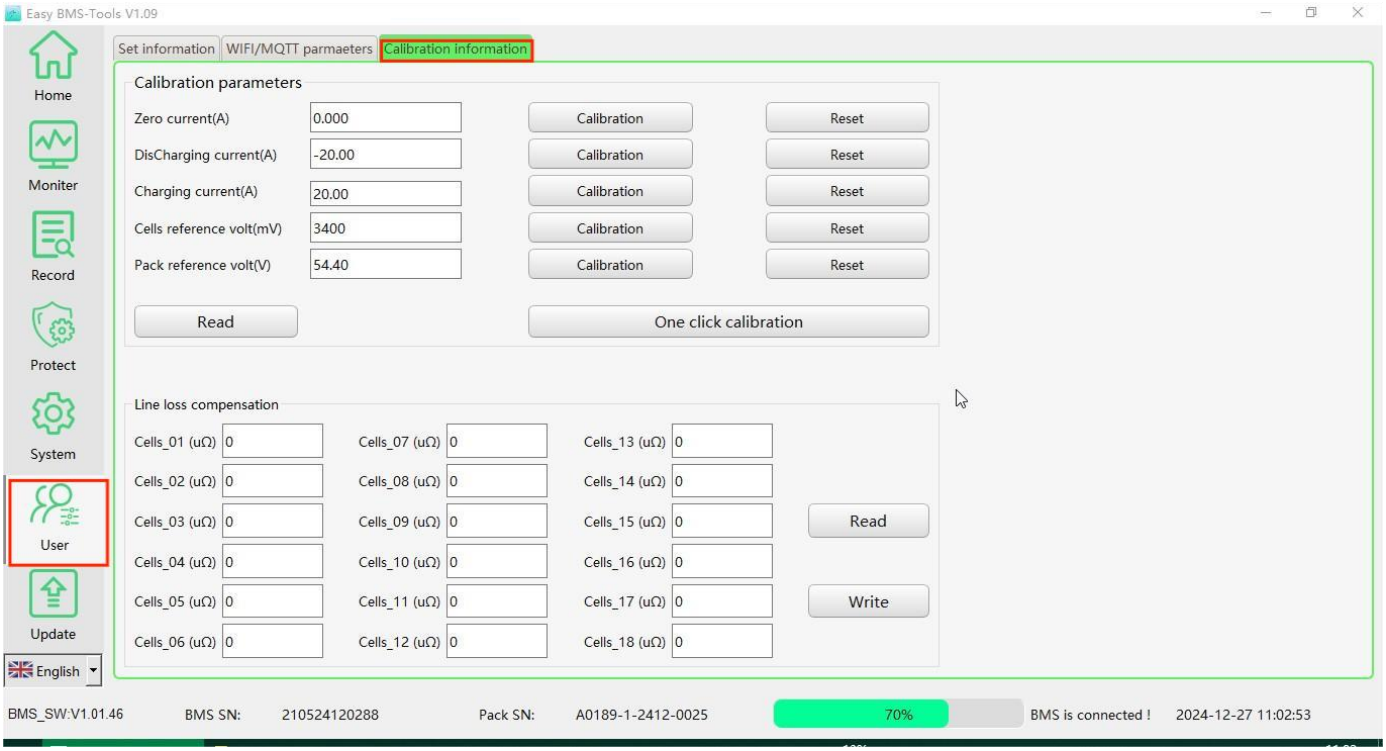
A.Setting information 设置信息



B. WIFI/MQTT Parameters WIFI/MQTT 参数



C Calibration information 矫正信息



3-7 WIFI/Bluetooth APP User Manual WIFI/蓝牙 APP 操作指南

I BLuetooth APP Instruction 蓝牙APP指南

I-1. Find the Andrioid and iOS APP.

找到相应的安卓和iOS版本的APP

iOS store:

https://apps.apple.com/us/app/easy-bms/id6569234697

Easy BMS 4+

金玲 徐

Designed for iPhone

Free

Andriod version:

https://download.s21i.co99.net/31550559/0/0/ABUIABBKGAAg282EuwYogOyJFQ.apk?f=EasyBms%20V1.89_1217.apk&v=1734420187

You can download the app(.apk) to your mobile and run it.

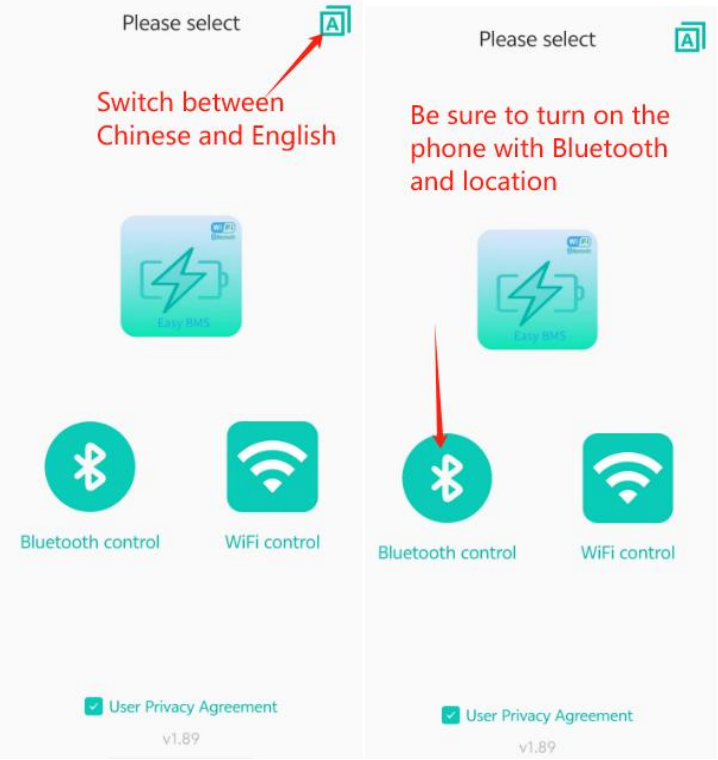
请直接从网址中下载APP并运行。

I-2. Install APP 安装APP

Note: Select the corresponding system version of the mobile phone, and complete the installation.

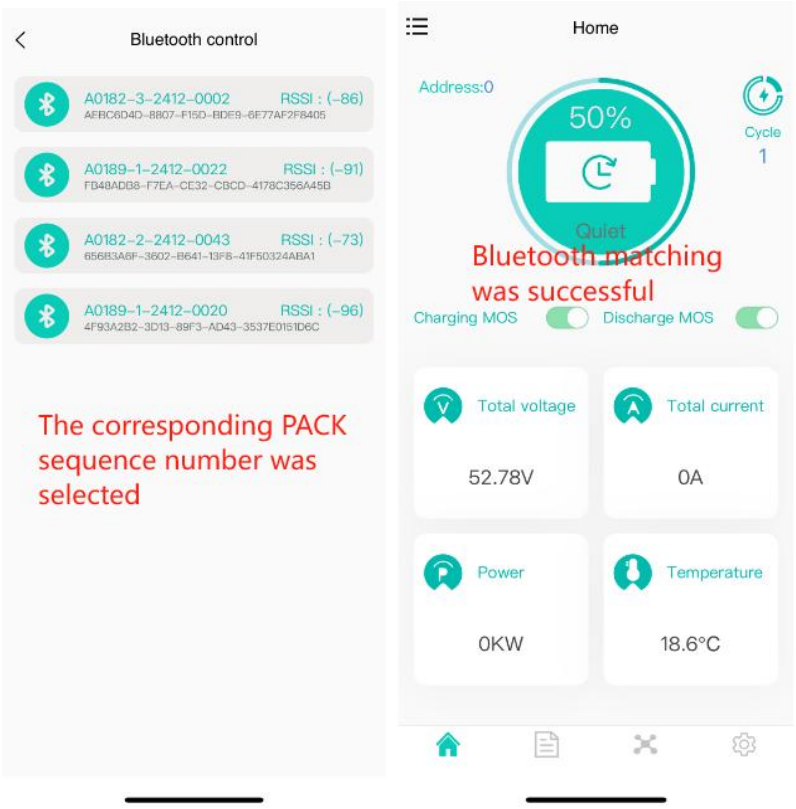
注：选择手机对应系统版本，安装完成

I-3. Bluetooth app connection mode 蓝牙app连接方式

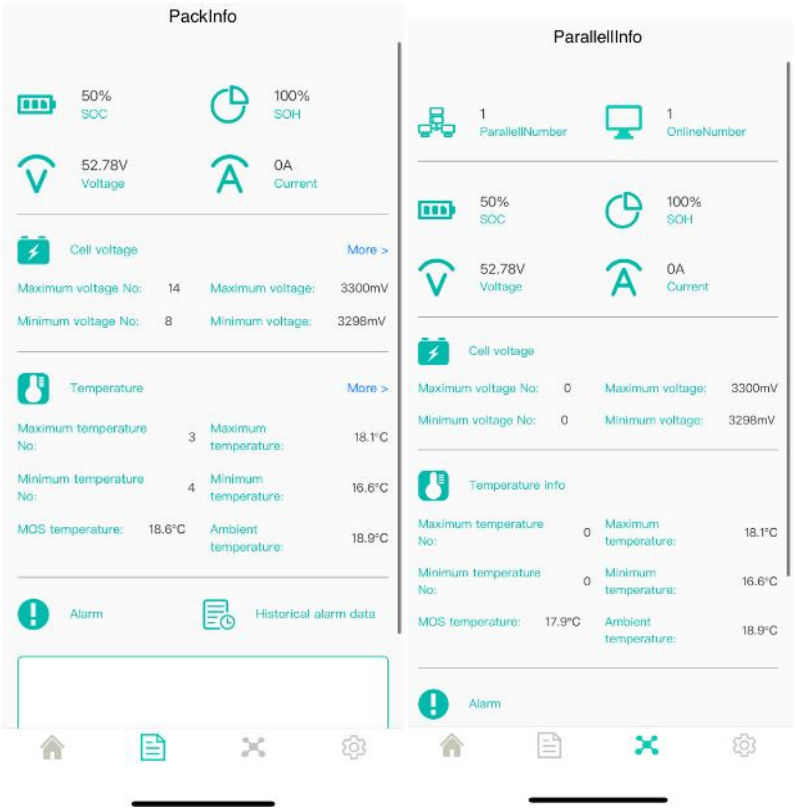


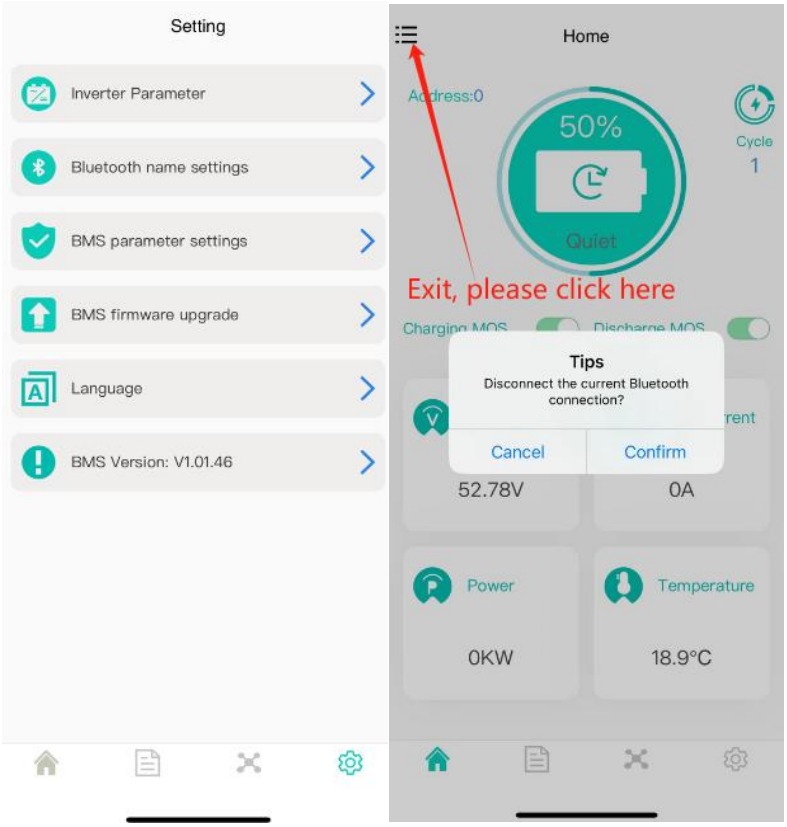
Using Bluetooth requires mobile phone location rights, and turning on the phone comes with Bluetooth

使用蓝牙需要手机位置权限，以及打开手机自带蓝牙



Select search Bluetooth click for matching, and query the BMS real-time information after matching.
选择搜索蓝牙点击进行匹配，匹配完成后即可查询BMS实时信息。



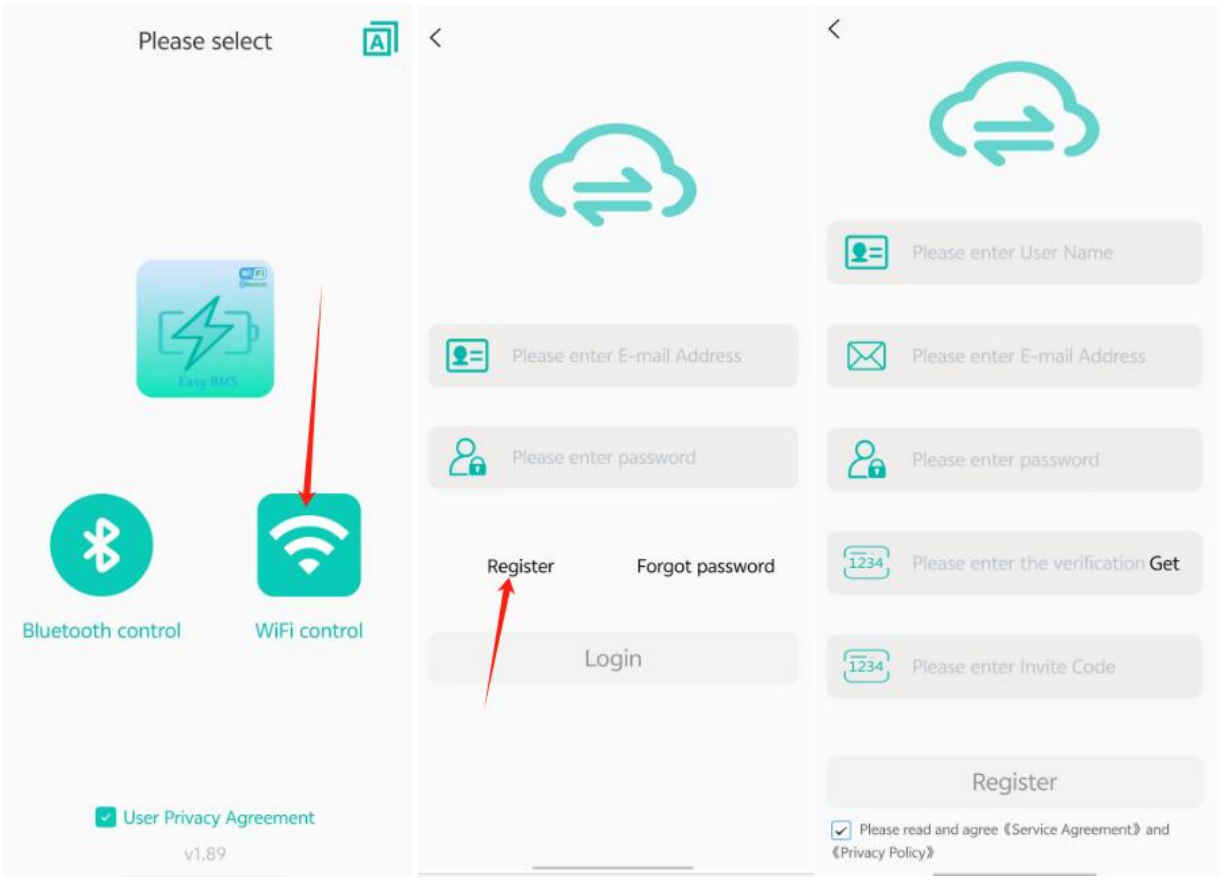


This page can modify the parameter setting, inverter protocol selection, PACK serial number (Bluetooth name), BMS parameter setting (battery parameters, SOC), BMS firmware upgrade (remote upgrade BMS program), language switch (app Chinese and English switch), BMS software version: V (hardware version, software version, protocol version! Unmodifiable)

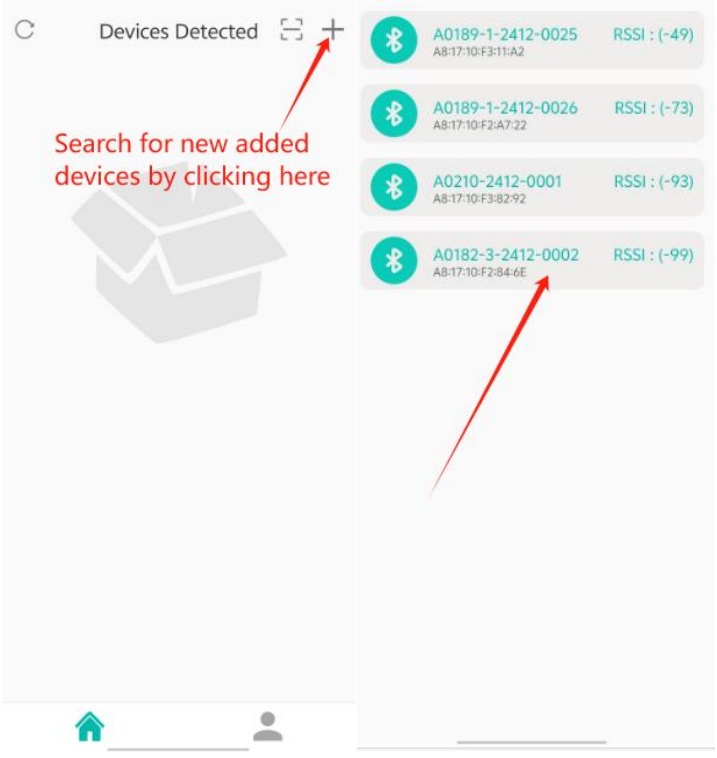
此页面可修改参数设置，逆变器协议选择，PACK序列号（蓝牙名称），BMS参数设置（电池参数，SOC），BMS固件升级（远程升级BMS程序），语言切换（app中英文切换），BMS软件版本：V（硬件版本，软件版本，协议版本！不可修改）

II WIFI attended mode WIFI连接方式
Only the 2.4G frequency band network is supported 仅支持2.4G频段网络

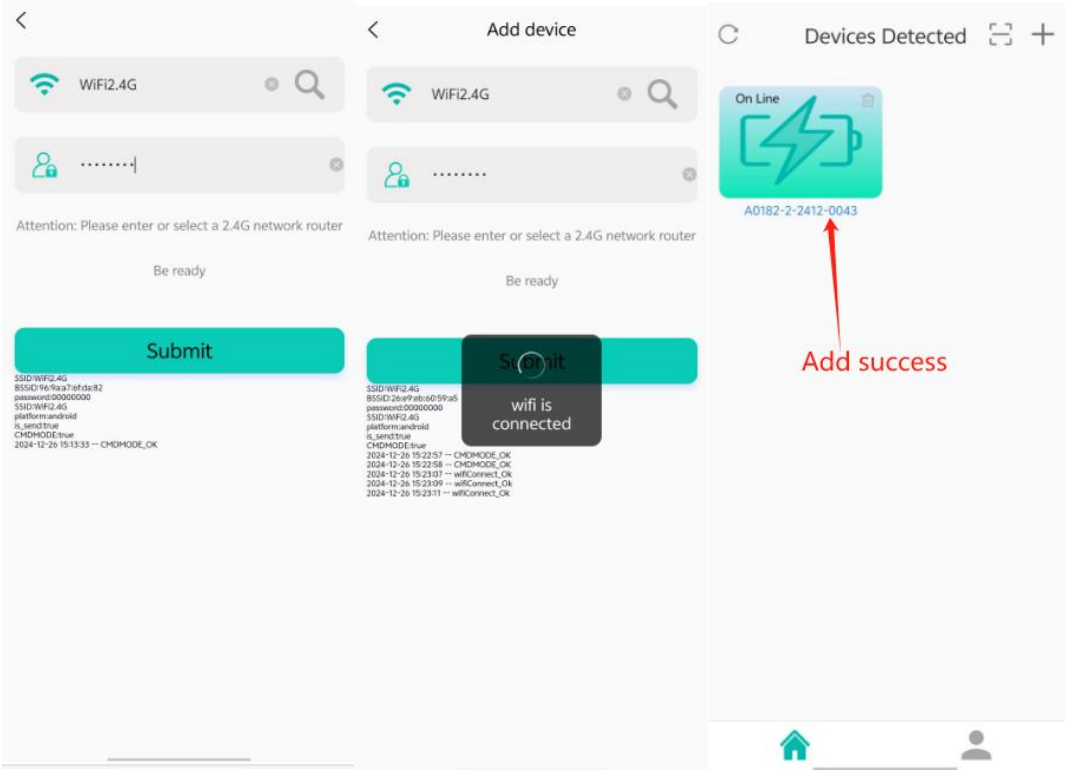
II-1. Open the app, click the WIFI remote connection, and register the account number (registration invitation code: C 9 DH 2)
打开app，点击WIFI远程连接，注册账号（注册邀请码：C9DH2）



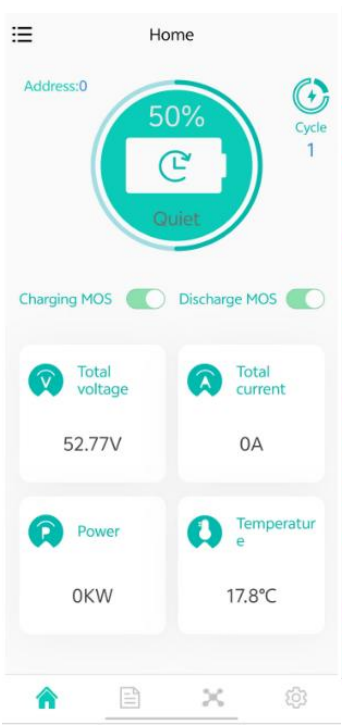
II-2. Add a new equipment and select the corresponding serial number (battery traceability code)
添加新设备，选择对应序列号（电池追溯码）



II-3. Local WIFI account password (only 2.4G band network)
手机连接本地WIFI账号密码（仅支持2.4G频段网络）

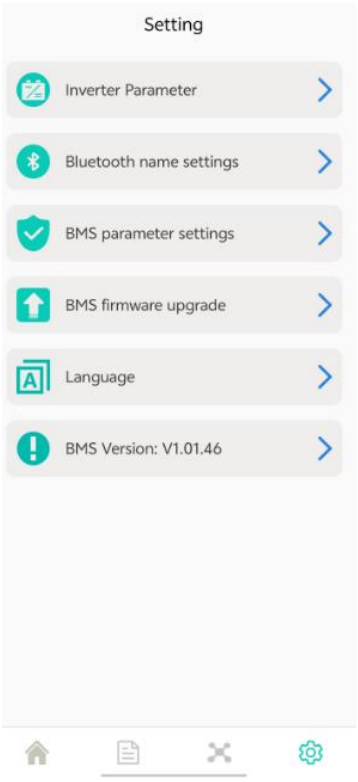


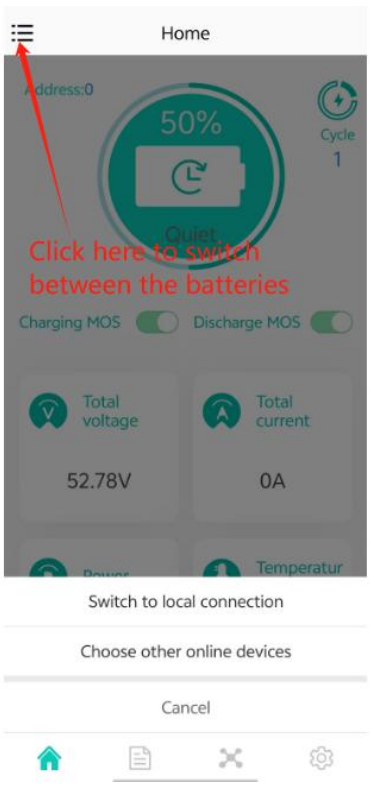
II-4. The WIFI matching is complete
WIFI匹配完成


Home
Address:0
50%
Quiet
Cycle
1
Charging MOS
Discharge MOS
Total voltage
52.77V
Total current
0A
Power
0KW
Temperatur e
17.8℃


PackInfo
50%
SOC
100%
SOH
52.77V
Voltage
0A
Current
Cell voltage
More >
Maximum voltage No: 14
Maximum voltage: 3300mV
Minimum voltage No: 4
Minimum voltage: 3297mV
Temperature
More >
Maximum temperature No: 3
Maximum temperature: 17.9℃
Minimum temperature No: 4
Minimum temperature: 16.7℃
MOS temperature: 17.8℃
Ambient temperature: 18.7℃
Alarm
Historical alarm data


ParallelInfo
1
ParallelNumber
1
OnlineNumber
50%
SOC
100%
SOH
52.77V
Voltage
0A
Current
Cell voltage
Maximum voltage No: 0
Maximum voltage: 3299mV
Minimum voltage No: 0
Minimum voltage: 3297mV
Temperature info
Maximum temperature No: 0
Maximum temperature: 18.1℃
Minimum temperature No: 0
Minimum temperature: 16.7℃
MOS temperature: 17.8℃
Ambient temperature: 18.7℃


Setting
Inverter Parameter
Bluetooth name settings
BMS parameter settings
BMS firmware upgrade
Language
BMS Version: V1.01.46


Home
Address:0
50%
Quiet
Cycle
1
Click here to switch between the batteries
Charging MOS
Discharge MOS
Total voltage
52.78V
Total current
0A
Switch to local connection
Choose other online devices
Cancel

3.8 Communication 通讯

Equipped with an RS232 interface for communication with the upper computer; Equipped with an RS485 interface for parallel communication within BMS group, capable of parallel communication with multiple units; The RS485 and CAN communication specifications for communication with the inverter or terminal need to refer the communication protocol manual.

具有与上位机通讯的RS232 接口;具有BMS 组内并联通信RS485 接口，可以进行多机并联通讯；具有与逆变器或终端通讯的RS485 和CAN通讯规范需参考通讯协议说明

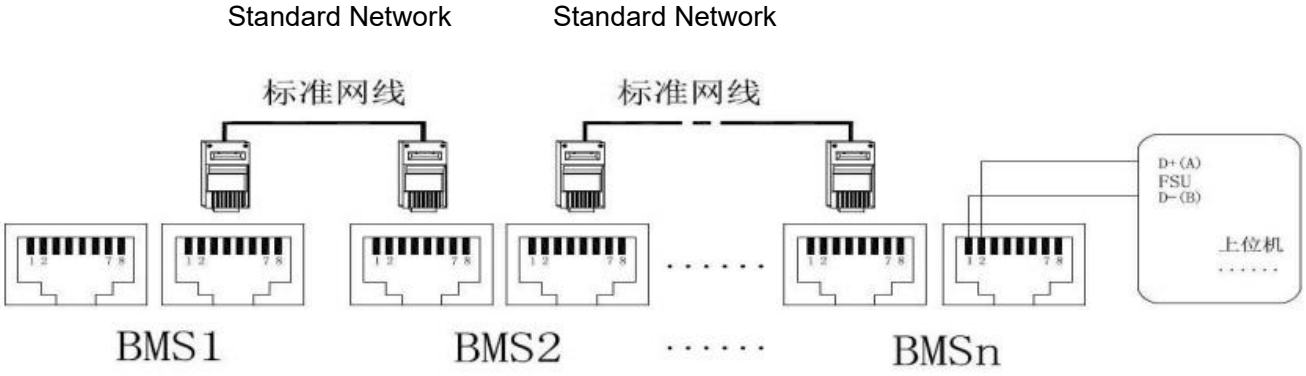
Parallel interface 并机接口

The BMS battery packs are connected in parallel via the RS485 bus, and can also communicate with devices that have an RS48 bus. The RS232 interface enables communication with a PC or other smart terminal, allowing human-machine interaction with any battery pack connected in parallel on the RS85 bus. The multi-machine parallel bus interface is shown in the following figure.

BMS 电池包间通过 RS485 总线并联通讯，亦可与具有 RS485 总线的设备通讯，而 RS232 接口实现与 PC 或者其它智能终端通讯，人机交互 RS485 总线所并联的任一电池包信息，多机并联总线接口见下图所示。

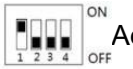
When battery work in parallel, main pack and slave packs need address as follows:

当电池并联工作时，主电池组和从电池组需要如下地址：



3.9 DIP switch settings 拨码设置

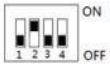
(1) When performing multi-machine parallel communication operations, it is necessary to first configure the DIP switch addresses of each PACK. The DIP uses BCD code format, and the address defined as 0 is

(The black dots represent the OFF state, and the blanks represent the ON state. The same applies below.),  Address 1

Address 2 

Other addresses will be inferred by analogy.

(2) The master machine needs to be set to 1, and the slave machines need to be set from 2-15

（1）在进行多机并联通讯操作时，需要先进行各PACK的拨码地址配置。拨码采用BCD码格式，地址地址o  （黑点是OFF状态，空白是ON 状态，以下同），地址1,  地址2，  其他地址以此类推。

（2）主机需要拨为1，从机拨为2-15。

Address	DIP Swtich			
QTY	#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

3.10 Definition of indicator lights
LED 指示灯定义

I Capacity indication
容量指示

State	Charge						Discharge					
Capacity indicator	L1●	L2●	L3●	L4●	L5●	L6●	L1●	L2●	L3●	L4●	L5●	L6●
0～ 16%	On	Off	Off	Off	Off	Off	On	Off	Off	Off	Off	Off
16～33%	On	On	Off	Off	Off	Off	On	On	Off	Off	Off	Off
33～50%	On	On	On	Off	Off	Off	On	On	On	Off	Off	Off
50～66%	On	On	On	On	Off	Off	On	On	On	On	Off	Off
66～83%	On	On	On	On	On	Off	On	On	On	On	On	Off
83～100%	On	On	On	On	On	On	On	On	On	On	On	On

状态	充电						放电					
容量指示灯	L1●	L2●	L3●	L4●	L5●	L6●	L1●	L2●	L3●	L4●	L5●	L6●
0～16%	常亮	灭	灭	灭	灭	灭	常亮	灭	灭	灭	灭	灭
16～33%	常亮	常亮	灭	灭	灭	灭	常亮	常亮	灭	灭	灭	灭
33～50%	常亮	常亮	常亮	灭	灭	灭	常亮	常亮	常亮	灭	灭	灭
50～66%	常亮	常亮	常亮	常亮	灭	灭	常亮	常亮	常亮	常亮	灭	灭
66～83%	常亮	常亮	常亮	常亮	常亮	灭	常亮	常亮	常亮	常亮	常亮	灭
83～100%	常亮	常亮	常亮	常亮	常亮	常亮	常亮	常亮	常亮	常亮	常亮	常亮

II **S**tatus indicator

状态指示灯

System state	Normal/Alarm/Protection	RUN	ALM	SOC LED						Note
		●	●	●	●	●	●	●	●	
Shutdown	Sleep	Off	Off	Completely Off						
Standby	Normal	Flash 1	Off	According to the power indicator						Standby mode
	Alarm	Flash 1	Off							Temperature alarm ALM flashes 3
Charge	Normal	Flash 2	Off							
	Alarm (excluding temperature)	Flash 2	Off							Temperature alarm ALM flashes 3
	Overcharge protection	Flash 1	Off							Overcharge protection ALM is turned off
	Overtemperature, undervoltage,overcurrent protection	Flash 1	Flash 2							
	Current limit	On	Off							
Discharge	Normal	On	Off							
	Alarm	On	Flash 3							Discharge overcurrent alarm ALM Off

	Over discharge	Flash 1	Off		Overdischarge protection ALM Off
	Over temperature, under temperature, over-current Short circuit and reverse connection protection	Flash 1	Flash 2		
Lose efficacy	Fault	Off	On	Completely Off	Fault refers to damage to BMS voltage sampling device, charging MOS, and temperature sensor hardware Faults.

系统状态	正常/告警/保护	RUN	ALM	电量 LED	说明
		●	●	● ● ● ● ● ●	
关机	休眠	灭	灭	全灭	
待机	正常	闪烁 1	灭	依据电量指示	待机状态
	告警	闪烁 1	灭		温度告警ALM 闪 3
充电	正常	闪烁 2	灭		
	告警（不含温度）	闪烁 2	灭		温度告警ALM 闪 3
	过充保护	闪烁 1	灭		过充保护ALM 灭

	过温、欠温、过流保护	闪烁 1	闪烁 2		
	限流充电	常亮	灭		
放电	正常	常亮	灭		
	告警	常亮	闪烁 3		放电过流告警ALM 灭
	过放保护	闪烁 1	灭		过放保护ALM 灭
	过温、欠温、过流、短路、反接保护	闪烁 1	闪烁 2		
失效	故障	灭	常亮	全灭	故障指BMS 电压采样器件、充电MOS损坏，温度传感器断线等硬件故障

III Flash instructions

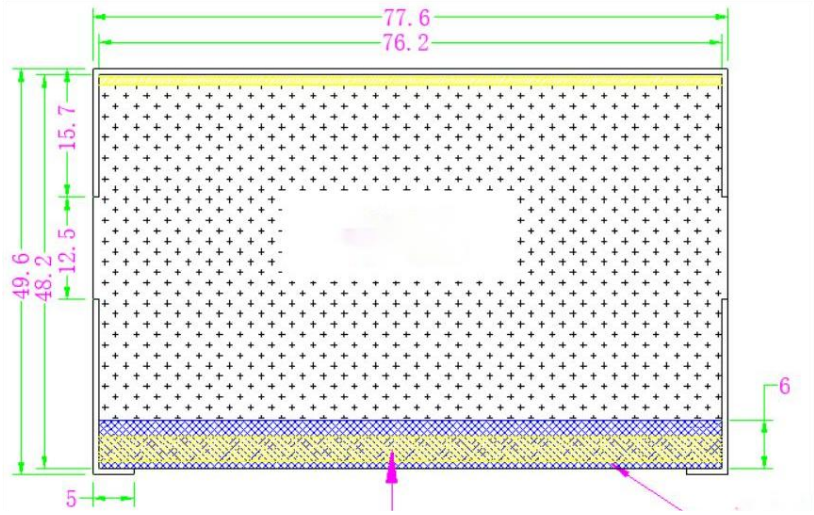
闪烁说明

Flash mode	On	Off
Flash 1	0.25 S	3.75 S
Flash 2	0.5 S	0.5 S
Flash 3	0.5 S	1.5 S

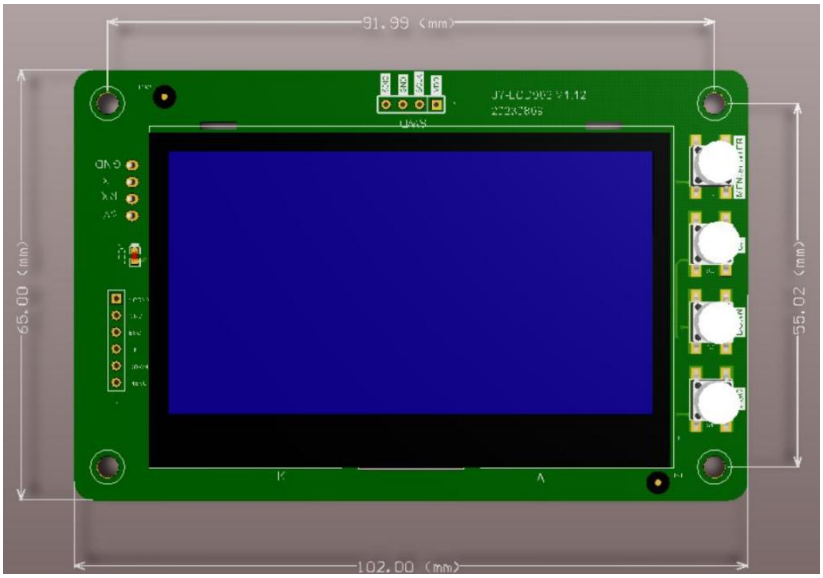
闪动方式	亮	灭
闪烁 1	0.25 S	3.75 S
闪烁 2	0.5 S	0.5 S
闪烁 3	0.5 S	1.5 S

4.LED size chart　LED尺寸图

1) LCD Size chart LCD尺寸表



2) Reference of real figure实数参考



3) Brief 简述

This LCD is a 128X64 dot matrix black and white display, which can be connected to our home storage series BMS through UART communication, and can read battery voltage, current, temperature, alarm information, etc.

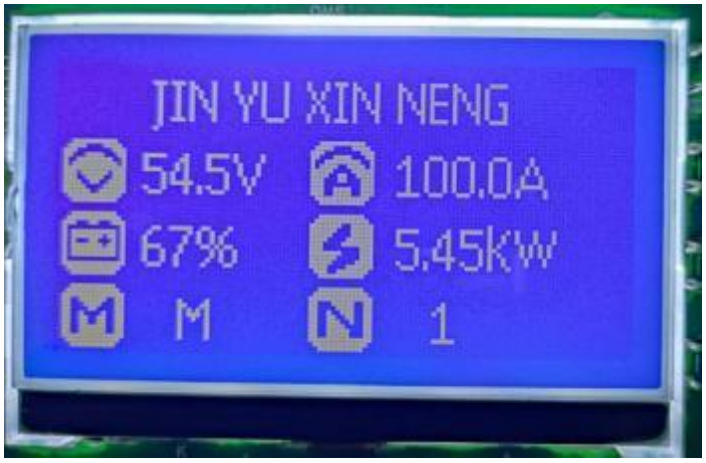
本 LCD 是一款 128X64 点阵式黑白显示屏，可以通过 UART 通讯连接我司家储系列 BMS，可读取电池的电压，电流，温度，告警信息等。

4) Function introduction 功能介绍

Main page information 主页面信息

1-Display as host/master battery

做为主机时显示，

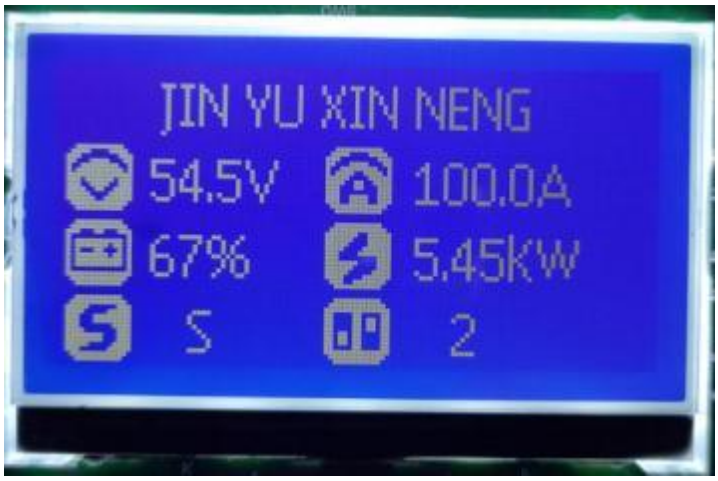


M=Master. N=number, N= 1 indicating number of slave battery is 1.

图标,内为M后根字目也为M，N处显示为N，后面的数字带表并机的数量，即1台并机，

2-Display as slave battery

做为从机时显示，



S=Slave battery. The last Number 2 indicates the add of slave battery is 2.

图标,内为 S 后根字目也为 S，图标处显示为拨码图标.，后面的数字带表本机的地址，即接改电池的址为 2

3-Menu page information 菜单页面信息

4-Menu page information 子菜单页面信息

5-Menu page information 子页面信息

6-Build instructions 按建说明

MENU/ ENTER ---菜单/确认，

1，Press key to enter submenu while on home page 在主页时按键可进入子菜单

2，When entering the menu list, it is the confirmation key, and pressing the key can enter the sub-options 进入菜单列表时为确认键，按键可进入子选项

UP---Move cursor key up, move submenu or option 下移光标键，移动子菜单或选项

DOWN---Move cursor key down, move submenu or option 下移光标键，移动子菜单或选项

ESC---Exit submenu to main page or option to menu 退出/返回键，退出子菜单到主页或选项到菜单/

5.0 Safety Precaution 安全预防措施

5.1 When Using battery使用电池时

Danger of High Voltage高压危险

The high voltage power supply offer the equipment power, wet object contact high voltage power supply directly or indirectly , can cause fatal danger.

高压电源直接或间接为设备供电，湿物接触高压电源，会造成致命危险.

Using a special tool使用专用工具

Working in high voltage and ac power, be sure to use a special tool instead of individual tools.

在高压和交流电源下工作，一定要使用专用工具而不是单独的工具.

Static - free无静电

Static electricity would damage veneer on the electrostatic sensitive components, before touching the plug - in, circuit board or chips, be sure to use correct electrostatic prevention measures.

静电会损坏静电敏感部件上的贴面，在接触插头、电路板或芯片之前，请务必使用正确的静电防护措施.

Disconnect the power supply in operation断开运行电源

When operate the power supply, you must first cut off power supply, power operation is prohibited.

操作电源时，必须先切断电源，严禁带电操作.

Dc short circuit dangerous直流短路危险

Power system provides dc regulated power supply. Dc short circuit could cause fatal damage to the e quipment.

电力系统提供直流稳压电源。直流短路会对设备造成致命的损坏

5.2 While Charging电池充电时

CAUTION注意

The temperature range over which the battery can be charged is 0°C to 45°C. Charging the battery at temperatures outside of this range may cause the battery to become hot or to break. Charging the battery outside of this temperature range may also harm the performance of the battery or reduce the battery's life expectancy.

可对蓄电池充电的温度范围为0°C至45°C 。在此温度范围之外对蓄电池充电可能会导致蓄电池发热 或断裂。在该温度范围之外对蓄电池充电也可能会损害蓄电池的性能或降低蓄电池的预期寿命.

5.3 When Discharging the Battery电池放电时

DANGER危险

Do not discharge the battery using any device except for the specified device. When the battery is used in devices aside from the specified device it may damage the performance of the battery or reduce its life expectancy, and if the device causes an abnormal current to flow, it may cause the battery to become hot and cause serious injury.

不要使用指定设备以外的任何设备放电。当电池用于指定设备以外的设备时，可能会损坏电池的性能或降低电池的预期寿命，如果设备导致异常电流流动，可能会导致电池发热并造成严重伤害

CAUTION注意

The temperature range over which the battery can be discharged is -20°C to 60°C. Use of the battery outside of this temperature range may damage the performance of the battery or may reduce its life expectancy.

电池可放电的温度范围为-20°C至60°C 。在此温度范围之外使用电池可能会损坏电池的性能或降低 电池的预期寿命.

5.4 Safety Gear安全防护装备

			
Insulated gloves绝缘手套	Safety goggles安全护目镜	Safety shoes安全鞋	SafetyHelmet安全头盔

6.0 Troubleshooting故障排除

If the battery does not operate correctly, please solve the problem by using the table below.

如果电池不能正常工作，请使用下表解决问题

Symptom症状	**Possible cause可能原因**	**Remedy处理方法**
No indication and alarm in the front display panel前显示面板无指示和报警	Sleeping mode 休眠模式	Press Reset to normal mode 按RST键到正常模式
No indication and alarm in the front display panel even Reset still no reaction 前显示面板无指示和报警，即使复位仍无反应	Battery voltage too low 电池电压过低	Charge battery immediately 立即给电池充电
Red LED Flashing when Standby 待机时红色运行灯闪烁	Battery cell low voltage 电池单节电压低	Charge battery immediately 立即给电池充电
Red LED Flashing when charging 充电时红色运行灯闪烁	Alarm for protection when charging 充电报警	BMS show alarm, protect and adjustment BMS显示警报、保护和调整
Red LED Flashing when Discharging 放电时红色运行灯闪烁	Battery voltage too low and will shutdown 电池低电压告警即将保护	Charge battery immediately 立即给电池充电
RED LED Lighting continuous 红色运行灯一直常亮	Battery wrong 电池错误	Need to repair 需要维修

7.0 Storage and Maintenance储存和维护

7-1. Storage存储

Before storing, charge the battery at least 7 hours. Store the Battery covered and upright in a cool, dry location. Recommend long-term storage temperature is 15°C -25°C . During storage, recharge the battery in accordance with the following table 储存前，请至少给电池充电7小时。将电池盖好直立存放在阴凉干燥的地方。建议长期储存温度为15°C-25°C 。在存放期间，请按照下表对电池重新充电：

Storage Temperature	Recharge Frequency	Charging Duration
0°C - 40°C	Every 3 months	1-2 hours

7-2. Maintenance维护

The battery system operates with hazardous voltages. Repairs may be carried out only by qualified maintenance personnel. 电池系统在危险电压下工作。维修只能由合格的维修人员进行.

Even after the unit is disconnected from the mains, components inside are still connected to the battery cells which are potentially dangerous即使在装置与电源断开连接后，内部部件仍与可能存在危 险的电池连接.

Before carrying out any kind of service and/or maintenance, disconnect the batteries and verify that no current is present and no hazardous voltage exists in the terminals.在进行任何类型的维修和/或维护 之前，断开电池并确认端子中没有电流和危险电压.

Only major persons are adequately familiar with batteries and with the required precautionary measuresmay replace batteries and supervise operations. Unauthorized persons must be kept well away from the batteries.只有专业人员才能充分熟悉电池和所需的预防措施，可更换电池并监督操作，未经授权的 人员必须远离电池.

Verify that no voltage between the battery terminals and the ground is present before maintenance or repair. In this product, the battery circuit is not isolated from the input voltage. Hazardous voltages may occur between the battery terminals and the ground.确认电池端子和接地之间没有电压，然后维护或修理。在本产品中，电池电路不与输入电压隔离。电池端子和接 地之间可能会产生危险电压.

Batteries may cause electric shock and have a high short-circuit current. Please remove all wristwatches, rings and other metal personal objects before maintenance or repair, and only use tools with insulated grips and handles for maintaining or repairing.电池可能会导致触电并产生高短路电流。 在维护或修理前请全部取掉手表、戒指和其他金属个人物品，只能使用带绝缘握把和手柄的工具进行维 护或修理.

When replace the batteries, install the same number and same type of batteries. 更换电池时，请安装相同数量和类型的电池

When replace the parallel batteries, make sure the new battery is full charged. 更换并联电池时，确保新电池充满电

Do not open or destroy batteries. Escaping electrolyte can cause injury to the skin and eyes. 不要打开或损坏电池。电解液溢出会对皮肤和眼睛造成伤害

8. Product Responsibilities and Consulting 产品责任和咨询

1) We will not be liable for the accidents resulting from operation breaking this specification and user manual.我们对因操作违反本规范和用户手册而导致的事故不承担责任.

2) We will not send separate notice, provided that the contents of this specification are changed due to improvement of product quality or technological upgrading; provided that you want to understand the latest information of this product, please contact us

本说明书内容如因产品质量的提高或技术的升级而发生变化，恕不另行通知；如您想了解本产品的最新信息，请与我们联系.

3) The shelf life of this product is within 60 months after it is delivered; we will maintain the product, which is in the warranty period for free of charge, provided that it has any product quality problems within the specified operation range; we may replace the relevant parts, if we fail to maintain it, so as to achieve the purpose of sustainable use without performance reduction; our after-sales service personnel will propose the specific maintenance and troubleshooting methods.本产品的保质期为交货后60个月内，产品在保修期内，如有任何产 品，我们将免费维修。在规定的操作范围内出现质量问题；如果我们不能维护，我们可以更 换相关部件，以达到持续使用的目的而不降低性能；我们的售后服务人员将提出具体的维护 和故障排除方法.

In case of any questions, please contact us: +86-13713150988

如有任何疑问，请联系我们：+86-13713150988

Appendix:附件

Tools工具

The following tools are required to install the battery pack　　安装时请准备如下工具

electric screw driver 电动螺丝刀

Phillips screwdriver bit
十字螺丝刀批头

M10 / M12 套筒

Forklift 叉车

M8开口扳手

液压钳

钳流表 Clamp meter

剥线钳 Stripper

斜口钳Slanting pliers

卷尺 Tape measure

美工刀Box Cutter

钉锤Nail Hammer