Battery pack product specification Book

Battery pack model	48V330AH
nominal voltage of battery pack	51.2V
battery capacity	330Ah
Cell type	EVE 314Ah
date	2026/1/25

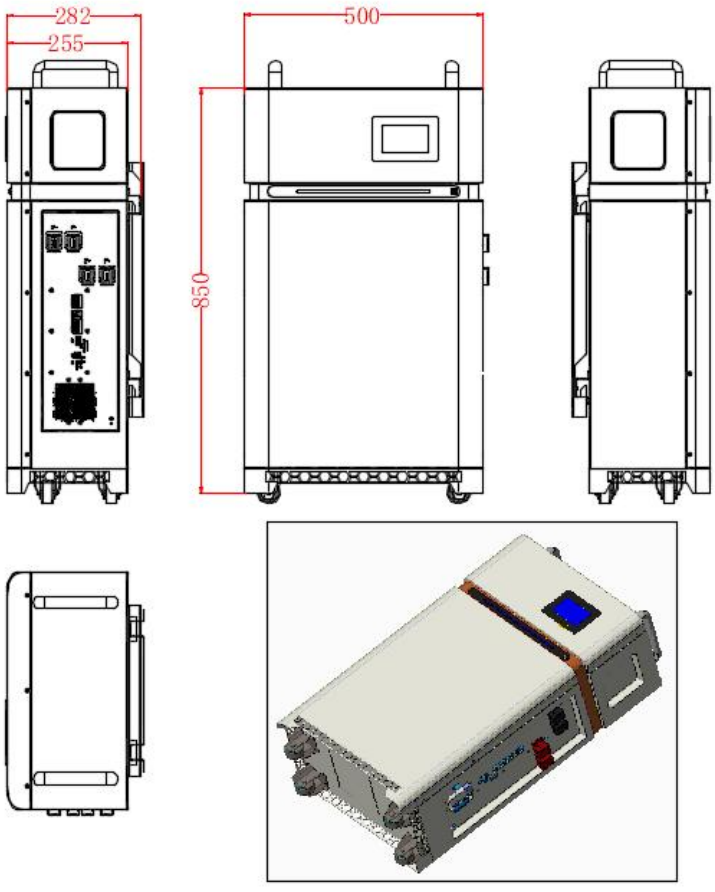
1. Product Overview

This product is a lithium iron phosphate battery pack (with BMS) consisting of 16 cell strings, designed for loads with operating currents up to 200A.

2. Product Technical Specifications

This 48V330Ah battery pack features 16S1P cells with a maximum continuous charge/discharge current of 200A. It includes Bluetooth, active equalization, dual RS485 communication, and storage capabilities, with a white casing.

2.1 Battery Pack Product Structure Diagram



2.2 Technical Parameters of Battery System

project	specifications	remarks
product model	**48V330Ah**	48V/330AH
nominal capacity	330AH	(16S1P)
nominal voltage	51.2V	3.2*16
Rated energy (Wh) ±5%	16896Wh	
display screen	4.3-inch touchscreen	
Charging method	CC-CV (Constant Current Constant Voltage)	
discharge mode	constant-current discharge	
Charge and discharge port (shared or split)	common port	
communication port	RS485/CAN	
cooling-down method	natural cooling	
charging temperature	0℃~55℃	
discharge temperature	-20℃~55℃	
storage temperature	-20℃~60℃	
storage humidity	5%~95%	
levels of protection	IP55	

Battery box dimensions (length*width*height) (mm)		850*500*282mm	
Battery weight tolerance ± 2kg		126KG	
charge	maximum continuous current	200A	CC&CV 150A
	cutoff voltage	55.2V	Recomanded voltage to set the inverters
	standard mode	The charging was carried out at the ambient temperature (25±2)℃ with constant voltage of 55.2V and constant current of 200A.	
discharge	maximum continuous current	200A	
	overcurrent protection	350A	
	cutoff voltage	48V	Recomanded voltage to set the inverters

	standard mode	The battery was discharged at a constant current of 100A to a single-cell voltage of 3V (or a total voltage of 48V) under ambient temperature conditions (25±2)℃.
matched inverter		CAN: Pylon, Deye, Goodwe, Growatt, Victron, Sofar, SMA, etc.
		RS485: Voltronic, Shuori, Pylon, etc.

3. Battery Management System (BMS)

BMS System Function Overview

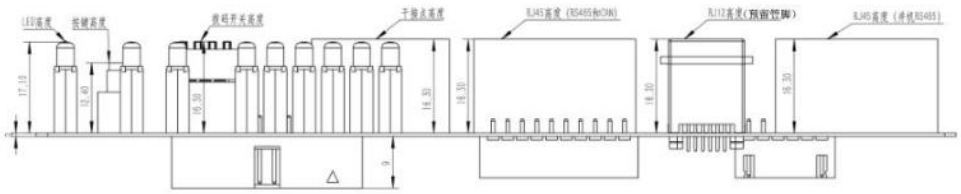
3.1 BMS System Parameter Settings

project name	Indicators	standard figures
single cell overcharge protection	overcharge protection value	3.65±0.05V
	recovery value after overcharge	3.4±0.05V
monomer over-discharge protection	over discharge protection value	2.7±0.05V
	over discharge recovery value	2.9±0.05V
	overcharge protection value	58.4±0.05V

battery pack overcharge protection	recovery value after overcharge	55.2±0.05V
battery pack over discharge protection	over discharge protection value	43.2±0.05V
	over discharge recovery value	46.4±0.05V
Over current protection	Over current protection	200A
	Over charge delay	3S
Over current protection	Over current protection	200A
	Over current delay	300S
temperature protection	high temperature protection during charging	50±2 ℃
	high temperature recovery	45±2 ℃
	cold protection during charging	2±2 ℃
	cold protection and recovery of charging	5±2 ℃
	high temperature protection for discharge	50±2 ℃

	high temperature recovery of discharge	45±2 ℃
	discharge low temperature protection	-15±2 ℃
	recovery of low temperature protection	-10±2 ℃

3.2 LED Indicator Light Description for Transfer Plate



接口板 外形尺寸

Dimensions of the interface board

LED说明(LED description)

状态（status）	正常/告警/保护 (Normal, alarm, or Protection)	ON/OFF指示	RUN	ALM	L1	L2	L3	L4	L5	L6	说明 (Instructions)
关机 (Power Off)	正常(normal)	OFF									
Balance	正常(normal)	ON	闪烁 (flicker)	OFF	依据电量显示(Battery based display)					OFF	
充电 (charging)	正常(normal)	ON	闪烁 (flicker)	OFF	依据电量显示(Battery based display)					OFF	
	过流\过温\过压\充电失败(Over current, over temperature, over voltage, charging failure)	ON	闪烁 (flicker)	闪烁 (flicker)	依据电量显示(Battery based display)					OFF	

放电 (discharge)	正常(normal)	ON	闪烁 (flicker)	OFF	依据电量显示(Battery based display)	OFF	
	过流\过温\欠压\放电失败(Over current, over temperature, under voltage, discharge failure)	ON	闪烁 (flicker)	闪烁 (flicker)	依据电量显示(Battery based display)	OFF	
其他告警 (Other alarm)	密码未修改\短路\温度异常 (Password not changed \ short circuit \ temperature	ON	闪烁 (flicker)	闪烁 (flicker)	依据电量显示(Battery based display)	OFF	

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: When the device address is set to 0, the last LED indicator L6 blinks. If the value is set to other values, the slave is off and blinks after the communication between the slave and the host is successful.

备注：ON代表LED状态为亮，OFF代表LED状态为熄灭。

Note: ON indicates that the LED is on,OFF indicates that the LED is off.

电量LED说明
（Power LED Description）

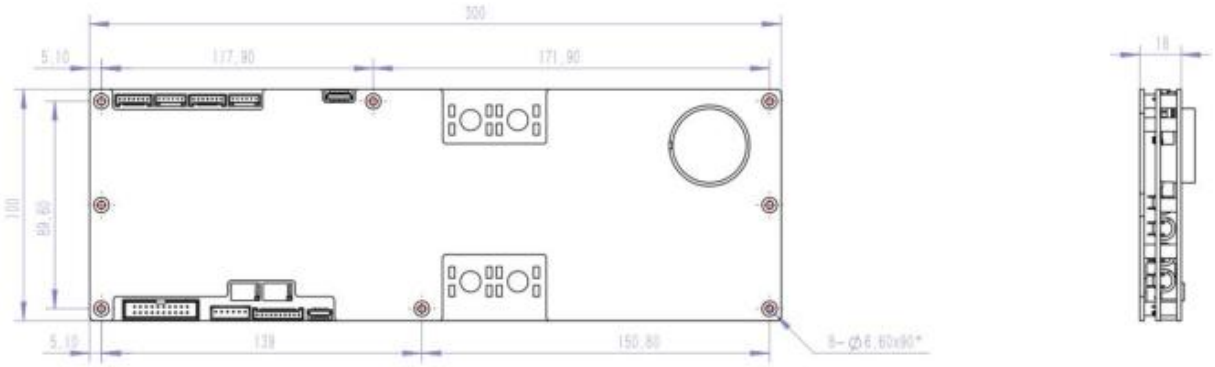
状态(status)		充电(charging)					放电(discharge)				
容量指示灯(capacity indicator light)		L5	L4	L3	L2	L1	L5	L4	L3	L2	L1
电量(Electric quantity)%	0~20%	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON
	20~40%	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	ON	ON
	40~60%	OFF	OFF	ON	ON	ON	OFF	OFF	ON	ON	ON
	60~80%	OFF	ON	ON	ON	ON	OFF	ON	ON	ON	ON
	80~100%	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON

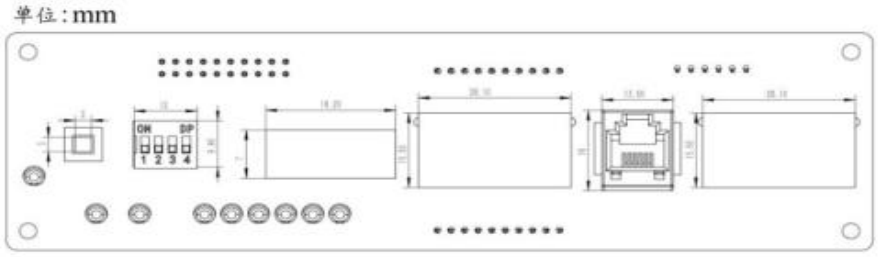
备注：ON代表LED状态为亮，OFF代表LED状态为熄灭

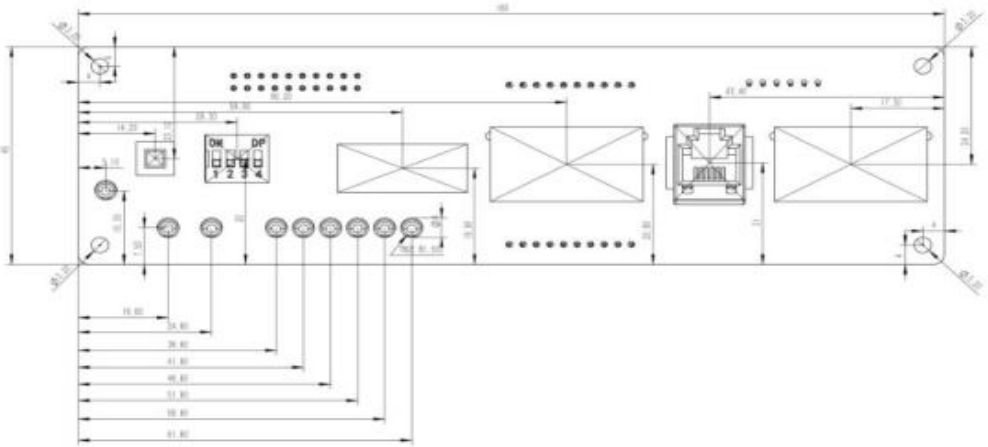
Note: ON indicates that the LED is on, OFF indicates that the LED is off

3.3 Physical Image of the Protective Plate Dimensions

The protective plate dimensions are 300mm×100mm×18mm, as shown in the figure below.







4. interface board interface definition

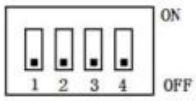
接口板接口定义(Interface board Interface definition)

干接点接口定义(Definition of a dry contact interface)		
引脚序号(Pin number)	引脚定义(Pin definition)	备注(remark)
1	COM1	
2	S1	
3	COM2	
4	S2	
CAN和RS485-1接口定义(Interface definition of CAN and RS485-1)		
引脚序号(Pin number)	引脚定义(Pin definition)	备注(remark)
1、8	RS485- B1	
2、7	RS485-A1	
3、6	GND	
4、5	NC	
1、2、3、6、8	NC	
4	CANL	
5	CANH	
7	GND	
预留接口定义(Reserved interface definition)		
引脚序号(Pin number)	引脚定义(Pin definition)	备注(remark)
1-6	NC	预留接口，暂未使用
RS485-2接口定义(Interface definition of RS485-2)		
引脚序号(Pin number)	引脚定义(Pin definition)	备注(remark)
1	RS485- B2	
2	RS485-A2	
3	GND	
4	NC	
5	NC	
6	GND	
7	RS485-A2	
8	RS485-B2	

5. Address dial switch

拨码开关设置
(Dip switch Settings)

地址(address)	拨码开关位置(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



6. Test Conditions

All test conditions, except for special cases, shall comply with standard test conditions:

Environmental temperature: 25±5℃; environmental humidity: 40%-80%RH

"Standard charging" refers to the process of first charging at a constant current of 0.2C to 57.6V under ambient temperature conditions of 25°C±5°C, followed by constant voltage charging at 57.6V.

The electric current is less than 0.02C.

The standard discharge is performed at 25°C±5°C with a constant current of 0.2C to 41.6V.

7. Electrical and Safety Performance Testing

7.1 Electrical Performance Testing

test item	testing standard	technical requirement
Discharge capacity at 25 ° C room temperature	The battery pack is first fully charged at 0.2C current under standard test conditions, then discharged at the same rate, with its discharge capacity recorded.	≥ 100% nominal capacity
-10°C low-temperature discharge capacity	The battery pack is first fully charged at 0.2C current under standard test conditions, then stored at-10 ° C for 10 hours. It is subsequently discharged at 0.2C current until the termination voltage, with the discharge capacity recorded.	≥75% of the nominal capacity
	The battery pack is first fully charged at	

Discharge capacity at 55°C	0.2C current under standard test conditions, then stored at 55 ° C for 5 hours before being discharged at 0.2C current until the end voltage, with the discharge capacity recorded.	≥95% nominal capacity
charge retention and capacity recovery	The battery pack undergoes initial capacity measurement after 0.2C-rate charging and discharging under standard test conditions. It is then fully charged under the same conditions and stored at 25 ° C ± 5 ° C for 30 days. The capacity is measured by discharging at 0.2C-rate until the termination voltage, followed by 0.2C-rate charging and subsequent 0.2C-rate discharging. This cycle is repeated three times, with the third cycle serving as the recovery capacity test.	charge retention rate ≥95%; Capacity recovery rate ≥95%
25°C ambient temperature cycle life	The battery pack is first fully charged at 0.2C current under standard test conditions, then discharged at 0.2C current. The charge-discharge cycle is continuously tested at an ambient	≥8000 times

	temperature of 25°C ± 5°C. The cycle life test is terminated when the discharge capacity reaches ≤ 80% of the initial capacity.	
55°C high-temperature cycling life	The battery pack is first fully charged at 0.2C current under standard test conditions, then discharged at 0.2C current. The charge-discharge cycle is continuously tested at an ambient temperature of 55°C ± 5°C. The cycle life test is terminated when the discharge capacity reaches or falls below 80% of the initial capacity.	≥4000 times

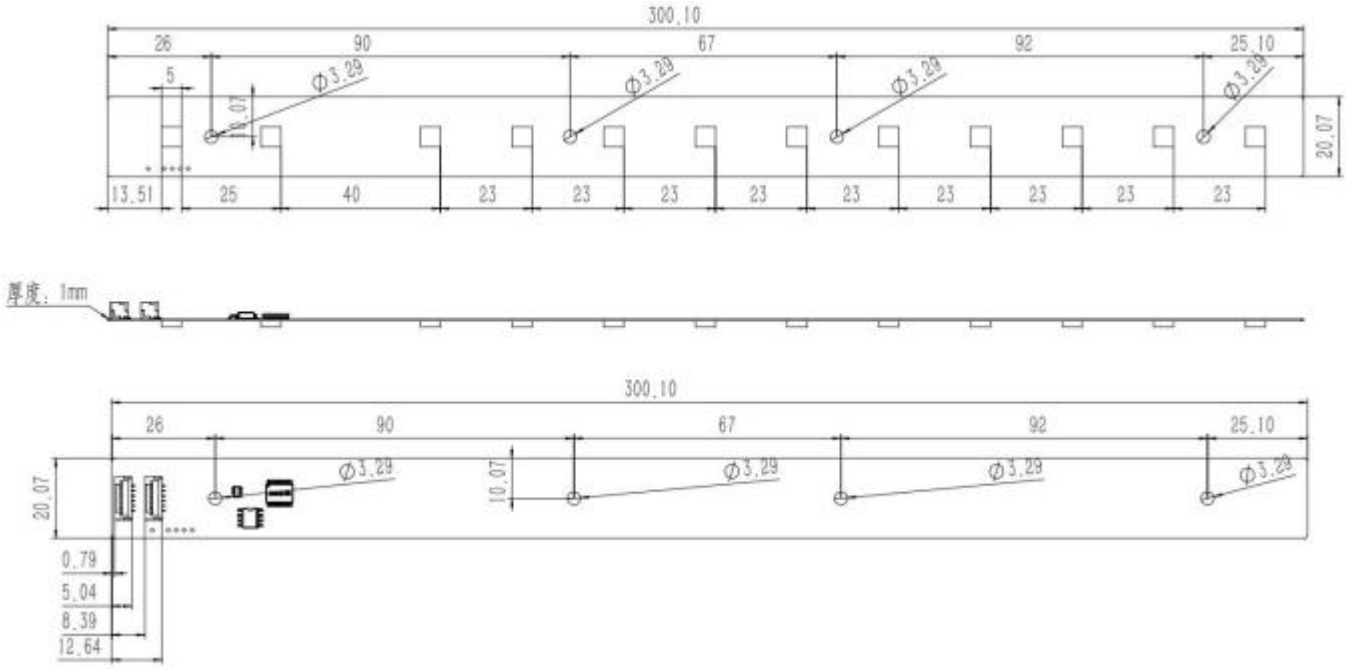
7.2 Safety Performance Testing

test item	testing standard	technical requirement
external short circuit test	The battery pack is charged under standard test conditions. The fully charged battery pack is placed in an explosion-proof box, and a wire with internal resistance less than 100mΩ is	non-flammable and non-explosive

	used to short-circuit the positive and negative terminals on the exterior of the battery pack. During the test, the surface temperature of the battery is recorded. The short-circuit duration is 10 minutes, marking the completion of the test.	
overcharge test	The battery pack is charged under standard conditions. A single cell is charged at 0.2C using a constant current and constant voltage source. After reaching 5V, the charging mode switches to constant voltage until the cutoff current drops to 0A, marking the end of the test.	non-flammable and non-explosive
over discharge test	The battery pack is charged under standard test conditions, then subjected to continuous 0.5C discharge by a load device until the voltage of a single cell drops to 0-0.5V, at which point the test is terminated.	non-flammable and non-explosive

8. light bar

8.1 Structural Diagram of the Light Strip



8.2 Light Strip Distribution

Run-Led	Alarm-Led	Led-10	Led-09	Led-08	Led-07	Led-06	Led-05	Led-04	Led-03	Led-02	Led-01
运行灯 Operation indicator light	告警灯 Alarm light	电量灯(Battery level light)									
		100%	90%	80%	70%	60%	50%	40%	30%	20%	10%

8.3 Classification of Lamp Applications

状态 status	Led1	Led2	Led3	Led4	Led5	Led6	Led7	Led8	Led9	Led10	ALM	RUN
开机自检 Power-On Self-Test	LED 颜色依次点亮，全亮后全灭换下一种颜色，方向从右到左 The LED colors light up sequentially from right to left. After all LEDs are fully lit, they turn off completely before switching to the next color.											
故障状态 Failure status	电量指示灯处，SOC 状态与故障类型依次显示 5 秒,故障类型显示为红色 At the battery indicator, the SOC status and fault type will be displayed alternately for 5 seconds each. Fault types will be shown in red.										常亮 Steady on	红/绿 Red/Green
充电状态 Charging status	显示 SOC，最大 SOC 灯到满充 SOC 灯流水 Display SOC. The lights from maximum SOC to full-charge SOC flow sequentially.											闪烁 1S Flash once per second
放电状态 Discharge status	显示 SOC，最大 SOC 灯闪烁，2 秒闪一次 Display SOC. The maximum SOC light flashes once every two seconds.											闪烁 1S Flash once per second
空闲状态 Idle status	显示 SOC Display SOC											常亮 Steady on

8.4 Fault Types

故障类型 Fault type	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	ALM	RUN
单体过放报警 Single cell over-discharge alarm	红 Red ①	---	---	---	---	---	---	---	---	---	---	绿 Green
过流报警	---	红	---	---	---	---	---	---	---	---	红	红

9 Product Packaging Requirements

9.1 The battery box shall maintain a clean appearance, free from paint peeling, scratches, deformation, or damage.

9.2 The battery must be in a powered-off sleep state before packaging.

9.3 The battery must pass visual inspection before it can be packed.

9.4 The outer packaging shall be wooden crates with clearly labeled information. The crates shall be reinforced with nails around the edges to enhance structural integrity and ensure safe transportation.

9.5 Protective wrapping must be added inside wooden boxes to prevent scratches during transportation.

9.6 The wooden box comes with an internal packing list.

10. Product Storage and Transportation

10.1 Product Storage

When the product is stored long-term without use, it should be kept in a dry, clean, and well-ventilated warehouse at 10°C to 35°C, away from flammable and explosive materials. The battery pack should be charged and maintained every three months to ensure optimal performance.

10.2 Product Transportation

The battery pack must be externally packaged before transportation. During transit, protect it from violent shaking, impacts, or compression, and shield it from sun exposure and rain.

11. Battery Usage Warnings and Precautions

To prevent battery leakage, overheating, or explosion, please follow these precautions

warn！

① It is strictly prohibited to immerse batteries in seawater or water. When not in use, they should be stored in a cool and dry environment.

② It is strictly prohibited to reverse the polarity of batteries;

③ Direct metal connection between battery terminals is prohibited to prevent short circuits.

④ It is prohibited to transport or store batteries with metal objects such as hair clips or necklaces.

⑤ It is prohibited to strike, throw, or step on batteries;

⑥ Direct welding of batteries and piercing them with nails or other sharp objects are prohibited;

pay attention to！

① It is prohibited to use or store batteries in high-temperature environments (such as under intense sunlight or in hot vehicles), as this may lead to battery overheating, ignition, functional failure, or reduced lifespan. The recommended optimal storage temperature for batteries is 10-45°C.

② It is prohibited to dispose of batteries in fire or heaters to prevent fire, explosion, and environmental pollution; discarded batteries should be returned to suppliers or battery recycling centers for disposal.

③ It is prohibited to use in areas with strong static electricity or magnetic fields, as this may damage the battery's safety protection device and create potential hazards.

④ In the event of battery leakage, if the electrolyte enters the eyes, do not rub the

area; immediately rinse the eyes with clean water and seek medical attention promptly to prevent ocular injury. If the battery emits an unusual odor, exhibits heating, discoloration, deformation, or any abnormal behavior during use, storage, or charging, immediately remove the battery from the device or charger and discontinue its use.

⑤ Directly plugging the battery's positive and negative terminals into a power outlet is prohibited. A dedicated lithium-ion battery charger must be used.

⑥ Before installation, check the battery voltage and connectors. Only use after confirming all components are functioning properly.

⑦ Battery half-life storage: If unused for three months, recharge once.

⑧ If the electrode becomes contaminated, wipe it clean with a dry cloth before use; otherwise, poor contact or functional failure may occur.

APP install