



ML280-51.2-W05 USER MANUAL

1 Instructions

1.1 Range of Application

The product should be used in compliance with local standards, laws and regulations, because any non-compliance with the use may lead to personal injuries and property loss.

The drawings provided in this Manual are used to explain the concepts related to the product, including product information, installation guide, electrical connection, system debugging, safety information, common problems and maintenance, etc.

The internal parameters of this product have been adjusted before delivery. No internal parameters can be changed without permission. Any unauthorized changes to the settings will invalidate the warranty, and the Company will not be liable for any loss resulting therefrom.

This Manual and other related documents are an integral part of the product and should be kept properly for onsite installation personnel and related technical personnel to consult.

Symbols	Description
	Indicate a hazard with a high level of risk which, if not avoided, will result in death or serious injuries.
	Indicate a hazard with a medium level of risk which, if not avoided, could result in death or serious injuries.
	Indicate a hazard with a medium level of risk which, if not avoided, could result in death or serious injuries.
	Warning information about device or environment safety. If not avoided, equipment damage, data loss, performance degradation or other unanticipated results may be resulted in. The "NOTICE" does not involve any personal injuries.

2 Safety Precautions

2.1 Safety Symbols

This product contains the following symbols, please pay attention to identifying.

Symbols	Description
	Observe enclosed documentation
	Danger. Risk of electric shock!
	Danger of high voltages. Danger to life due to high voltages in the Energy storage system
	Hot surface
	CE certification
	Do not touch the product in 5mins after shutdown
	Comply with RoHS standard
	This sign indicates that waste electrical and electronic equipment (EEE) and batteries (if any) should be collected and disposed of separately and not disposed of as unsorted municipal waste.

2.2 General Safety

2.2.1 Important Notice

Before installing, operating and maintaining the device, please read this Manual first and follow the symbols on the device and all the safety precautions in this Manual. The matters indicated with "DANGER", "CAUTION", "ATTENTION" and "NOTICE" in this Manual do not represent all the safety matters to be observed, but are only the supplements to all the safety precautions. The Company will not be liable for any violation of general safety operating requirements, or any violation of safety standards for the design, production and use of the device. The device must be used in an environment that meets the requirements of the design specifications. Otherwise, the device may fail, and the abnormal device function or component damage, personal safety accident, and property loss arising from this are not covered within the quality assurance scope of the device. When installing, operating, and maintaining the device, the local laws, regulations, and codes shall be followed. The safety precautions in this Manual are only supplements to local laws, regulations, and codes. The Company shall not be liable for any of the following circumstances.

- The device is not run under the conditions of operating described in this Manual.
- The installation and operating environment is beyond the requirements of relevant international or national standards.
- The product is disassembled or changed, or the software code is modified without authorization.
- The operation instructions and safety warnings related with the product and in the documents are not followed.

- Damage of the device is caused by abnormal natural environment (force majeure, such as earthquake, fire, and storm).
- Transportation damage is caused during customer's own transportation.
- The storage condition does not meet the requirements of the product related documents and cause damage.

2.2.2 General Requirements

✓	Operating when the power is on is strictly prohibited during installation.
✓	It is strictly prohibited to install, use, and operate any outdoor equipment or cables (including but not limited to transporting equipment, operating equipment and cables, plugging and removing signal ports connected to the outdoor, working at altitude, and outdoor installation) in severe weather, such as thunder, rain, snow, and gale level 6.
✓	In case of any fire, evacuate the building or equipment area and press the fire alarm bell or dial the fire call. Under any circumstances, re-entry into a burning building is strictly prohibited.
✓	Under no circumstances should the structure and installation sequence of the device be changed without the manufacturer's permission.
✓	The battery terminal components shall not be affected during transportation. And, the battery terminal bolts shall not be lifted or transported.
✓	It is strictly prohibited to alter, damage or block the marks and nameplates on the device.
✓	The composition and working principle of the entire photovoltaic power generation system, as well as the relevant standards of the country/region where the project is located shall be known fully.
✓	After the device is installed, the empty packing materials, such as cartons, foam, plastics, and cable ties, shall be removed from the device area.

2.2.3 Personnel Safety

- When operating the device, appropriate personal protective equipment shall be worn. If any fault that may lead to personal injury or damage of the device is found, immediately terminate the operation, report to the responsible person, and take effective protective measures.
- Before using any tools, learn the correct method of using the tool to avoid injuries and damage of the device.
- When the device is running, the temperature of the case is high, which may cause burns. Therefore, do not touch the case.
- In order to ensure personal safety and normal use, reliable grounding should be carried out before use.
- Do not open or damage the battery. The electrolyte released is harmful to skin and eyes, so avoid touch it.
- Do not place irrelevant items on the top of the device or insert them into any part of the device.
- Do not place flammable items around the device.
- Never place the battery in the fire to avoid explosion and prevent the personal safety from

being endangered.

- Do not place the battery module in water or other liquids.
- Do not short-circuit the battery terminals, because short-circuiting of the battery may cause combustion.
- The battery may pose a risk of causing electric shocks and large short-circuit currents. When using the battery, the following precautions should be paid attention to:
 - a) The metal objects, such as watch and rings, shall be removed.
 - b) Tools with insulated handles should be used.
 - c) Rubber gloves and shoes should be worn.
 - d) The charging power supply shall be disconnected before connecting or disconnecting terminals of the battery.
 - e) Check whether the battery is accidentally grounded. If the battery is accidentally grounded, remove the power supply from the ground.
- Do not clean the internal and external electrical components of the cabinet with water or detergent.
- Do not stand, lean or sit on the device.
- Do not damage any modules of the device.

2.2.4 Electrical safety

- Do not perform improper operations. Improper operations may cause fire or electric shock.
- Do not install or remove power cables with power on. When the core of the power cord touches the conductor, it will generate an arc or spark.
- Can cause fire or eye injury.
- If the power input to the device is permanently connected, an easily accessible disconnection device should be installed outside the device.
- Before electrical connection of the device, if live parts may be encountered, disconnect the corresponding breaker at the front of the device.
- You must perform this operation before connecting the AC power supply if the High Leakage Current mark is affixed to the power terminal of the device
- The protective grounding terminal of the device shell must be grounded first to prevent the leakage current of the device from causing electric shocks to the human body.
- Before installing or removing a power cable, turn off the power switch.
- Before connecting a power cable, ensure that the label on the power cable is correct.
- Before powering on the device, ensure that the electrical connection of the device is correct.
- If the device has multiple inputs, disconnect all inputs before performing operations on the device.

3 Product introduction

3.1 Product overview

The battery management system is used for charge and discharge management, condition monitoring and safety protection of lithium-ion battery packs.

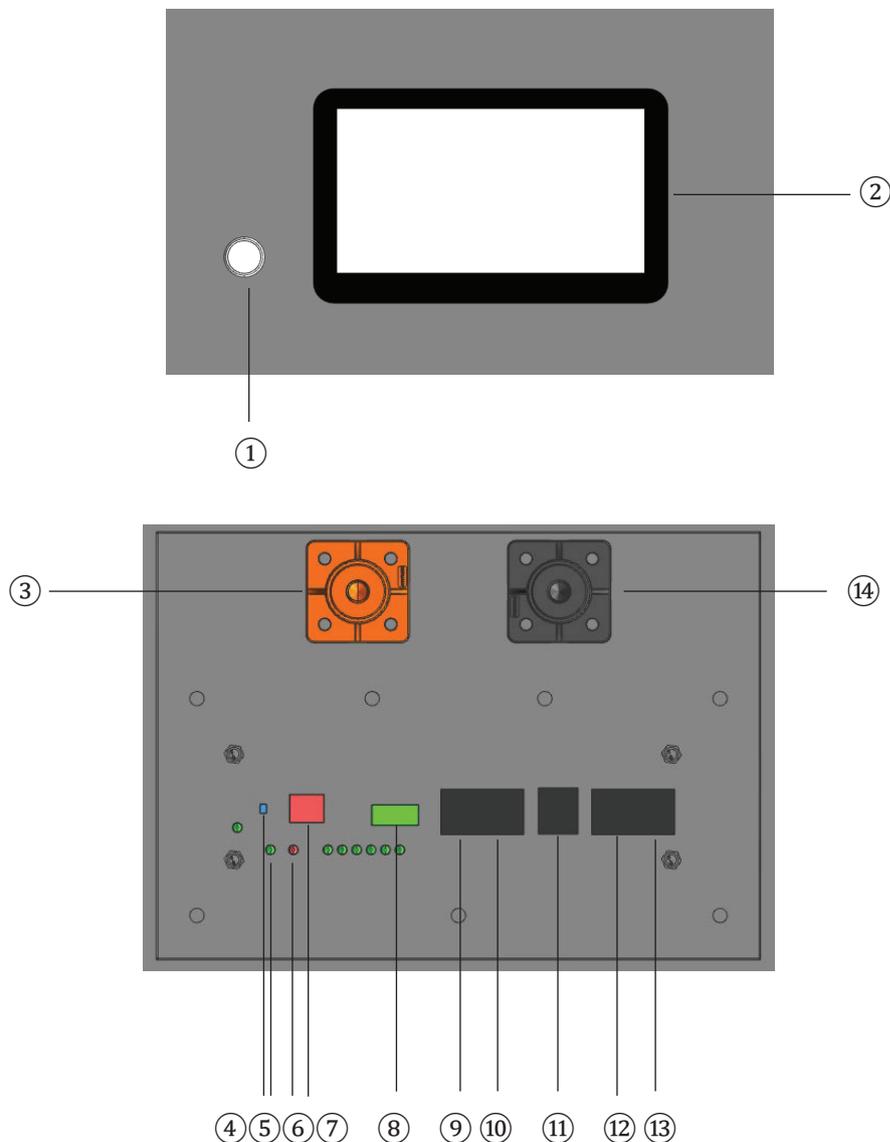
3.2 Battery Specification

No.	Item	Parameter	Remark
1	Rating Voltage	51.2V	
2	Capacity	280Ah	0.2C discharge after full charge
3	Minimum Capacity	$\geq 280\text{Ah}$	0.2C discharge after full charge
4	Communication Mode	RS232、CAN、RS485	
5	Charge Voltage	$56\text{V}\pm 0.2$	
6	maximum Charge Current	$\leq 200\text{A}$	
7	Impedance	$\leq 30\text{m}\Omega$ (Max)	
8	Charging Mode	CC/CV	Constant Current/Constant Voltage
9	Charging Method	Standard Charging 0.5C	Charging Current:140A
10	Charging Time	About 2 Hours	Standard Charging

3.3 Functional characteristics

- Highly integrated analog front end
- adjustable overcurrent protection
- isolated power supply circuit
- has a variety of sleep and wake up modes
- Integrated serial IC
- Low power consumption
- High voltage accuracy ($\leq 10\text{mV}$)
- Dual RS485 communication
- High current accuracy ($\leq 2\%@\text{FS}$)
- The parameter is adjustable
- 4-way battery temperature detection ($\leq 2^\circ\text{C}$)
- Buzzer alarm function
- SOC estimation
- SOH estimation
- LED status indicator
- with charge balancing function
- Short circuit protection

3.4 Panel Operation Instructions



NO.	Description	Silk-screen	Remark
1	Output ON/OFF	ON/OFF	Switch breaker
2	LCD		Display screen
3	Battery+	+/+	Positive terminal
4	Run indicator light	RUN	Displaystate information
5	ALM alarm indicator light blinking	ALM	Red-trouble-light on
6	ON/OFF button	RESET	Reset key
7	ADS Dialer	ADS	Display connection address
8	Dry contact	Main connector	
9	RS485 port	RS485	RS-485connection port-A RS485
10	CAN port	CAN	CAN communication port
11	RS232 port	RS232	RS232 communication port
12	RS485A port	RS485	RS-485connection port-A RS485
13	RS485B port	RS485	RS-485connection port-B RS485
14	Battery-	-/-	Negative terminal

3.5 Communication Interface Defination

3.5.1 Communication interface description

① RS232 Communication

The BMS can communicate with the host computer through the RS232 interface, thereby allowing the host computer to monitor various battery information, including battery voltage, current, temperature, status, and battery production information, etc. The default baud rate is 9600bps.

② CAN Communication

The default baud rate is 500K. This interface is used for communication with the inverter. When this battery is the host, it can summarize the data from the slave devices and communicate with the inverter.

③ Parallel RS485 Communication

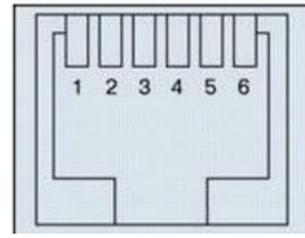
It can view the information of the PACK. The default baud rate is 9600bps. If you need to communicate with the monitoring device through RS485, the monitoring device should act as the host and poll data based on the address. The address setting range is 2 to 15.

④ Independent RS485 Communication

The default baud rate is 9600bps. This interface is used for communication with the inverter. When this battery is the host, it can summarize the data from the slave devices and communicate with the inverter.

RS232- RJ11 socket	
RJ11 pin	Definition specification
1、 2、 6	NC
3	TX
4	RX
5	GND

RS232 ports



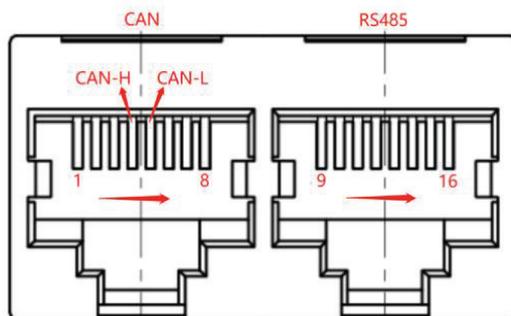
Description of the RS232 interface

CAN -- RJ45 socket		RS485 -- RJ45 socket	
RJ45 pin	Definition specification	RJ45 pin	Definition specification
1、 3、 6、 7、 8	NC	9、 16	RS485-B1
4	CAN-H	10、 15	RS485-A1
5	CAN-L	11、 14	GND
2	GND	12、 13	NC

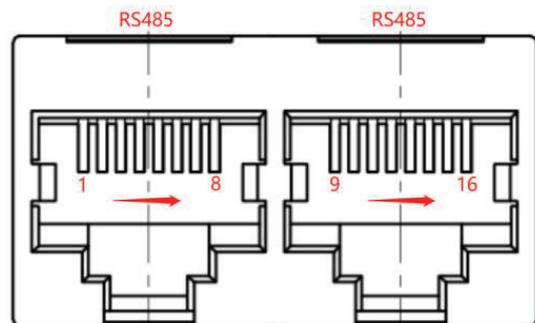
CAN-RS485 ports

RS485 -- RJ45 socket		RS485 -- RJ45 socket	
RJ45 pin	Definition specification	RJ45 pin	Definition specification
1、 8	RS485-B	9、 16	RS485-B
2、 7	RS485-A	10、 15	RS485-A
3、 6	GND	11、 14	GND
4、 5	NC	12、 13	NC

Parallel communication interface



CAN and RS485 ports



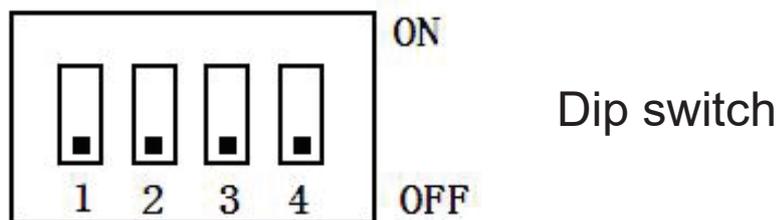
Parallel communication port

3.6.1.1 Parallel RS485 Communication

Dip switch Settings:

When packs are used in parallel, you can use the DIP switch on the BMS to set the address to distinguish different packs. Do not set the address to be the same the switch is defined in the

following table. In parallel mode, the host whose DIP address is 1 by default is a host.



Address	Dip switch Settings			
	#1	#2	#3	#4
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

4 System Installation

4.1 Preparations Before Installation

4.1.1 Inspections

Inspection of outer package

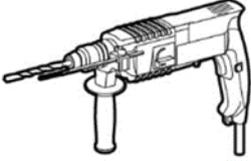
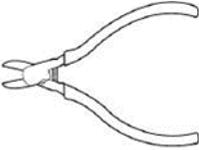
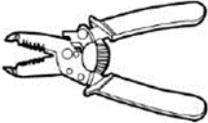
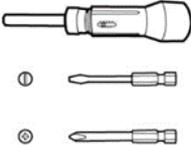
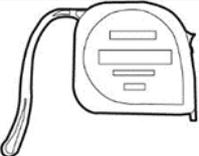
Before opening outer package of the energy storage, check if there is any visible damage on the outer package, such as holes, cracks or other signs of possible internal damage, and check the type of energy storage. If there is any abnormality on the package or model of the energy storage

is inconsistent, do not open it and contact us as soon as possible.

Inspection of deliverables

After opening outer package of the energy storage, check if the deliverable is complete and whether there is any visible external damage. If any items are missing or damaged, please contact us.

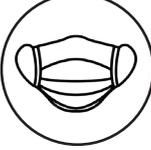
4.1.2 Tools

Type	Tools		
Installation tool			
			
			

4.1.3 Personal Protective Equipment

Do not wear conductive objects such as watches, bracelets, bracelets, rings, and necklaces during installation, operation, and maintenance.

Use special insulation tools during installation, operation, and maintenance. For example, wear insulation gloves, safety marks, safety goggles, safety hats, and safety shoes. As shown in the following picture:

Type	Tools		
Personal Protective Equipment			
			

4.2 Selection of Installation Location

4.2.1 Installation Environment Requirements

Prohibited Installation Areas (Including but not limited to the following):

- Humid environments: such as bathrooms, showers, near swimming pools
- High temperature area: close to heat source, boiler or direct sunlight
- Flammable and explosive places: gas stations, chemical storage areas
- Confined space: unventilated basement, small storage room



It is prohibited to install in closed, unventilated, lack of fire protection facilities or difficult for fire personnel to reach the place.

NOTE: Do not install them in a place that is easy to touch.

Do not install in areas where flammable and explosive materials are stored.

Do not install it outdoors in areas with salt damage..

Do not install in the place where children can touch.

Recommended installation conditions:

Argument	Demand
Operating temperature	-20°C ~ 75°C
Storage temperature	-20°C ~ 75°C
Working humidity	15%~85%
Storage humidity	15%~85% (non-condensing)
Altitude	≤2000 m (if the altitude exceeds the threshold for derating)

4.2.2 Installation Space Requirements

Floor Mount: The battery should be placed in the right position first, and the installation site should be smooth, and the product does not require installation.

5 System Debugging

5.1 Inspections Before Power-on

- Prior to installation, unpacking to check the quantity of the parts and battery appearance.
- Measure the battery voltage with a multimeter. The general factory voltage of the battery is

50V-53V.

- Prior to wiring, check the anode and cathode of the battery and the anode and cathode terminals shall not be connected reversely.
- 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.
- Do not put any article made of the metal conductive material together with the battery or assemble it into the battery box.

5.2 Power-On of Battery Module

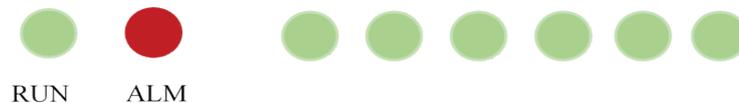
5.2.1 Power-on Sequence

After the battery is connected to the inverter, please power on in the following order.

First, Turn on the breaker switch, if there are multiple battery modules, turn on all the breaker switches.

Secondly, turn on the battery switch button and the battery starts to work. If there are multiple modules, please turn on the power switch one by one according to the address sequence.

5.2.2 System Status Indication



System	Events	RUN	ALM
POWER OFF	Power Off	OFF	OFF
Steady	Normal	Blinking1	OFF
	Alarm	Blinking1	Blinking3
Charging	Normal	ON	OFF
	Alarm	ON	Blinking3
	Over Charge Protection	ON	OFF
	High temperature, Over Current	OFF	ON
Discharging	Normal	Blinking3	OFF
	Alarm	Blinking3	Blinking3
	Over Discharge Protection	OFF	OFF
	Over Current, Short Current	OFF	ON
Lose effectiveness		OFF	ON

LED blinking description

Blinking	LED ON	LED OFF
Blinking1	0.25s	3.75s
Blinking2	0.5s	0.5s
Blinking3	0.5s	1.5s

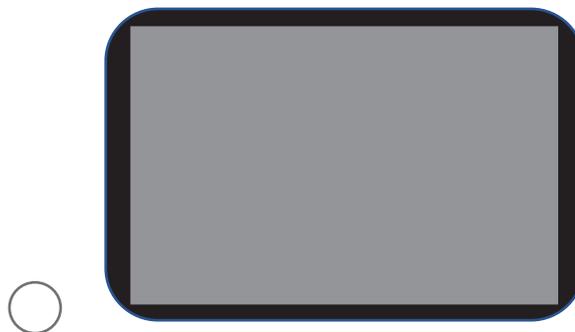
5.2.3 Capacity Indicator

Capacity indicator LED	SOC
	0% ~ 17%
	18% ~ 33%
	34% ~ 50%
	51% ~ 66%
	67% ~ 83%
	84% ~ 100%

5.2.4 LCD Screen

5.2.4.1 Page Introduction

The main screen interface of this BMS is composed of a panel and switches.



5.2.4.2 Detailed Information

1.Display rendering:



2.Functional Specifications:

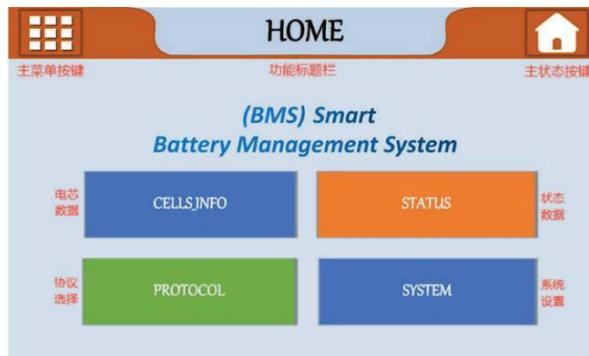
Primary Status Interface

The welcome screen automatically transitions to this interface after 3 seconds upon power-on, and immediately reverts to this interface following any screen wake-up from sleep mode.

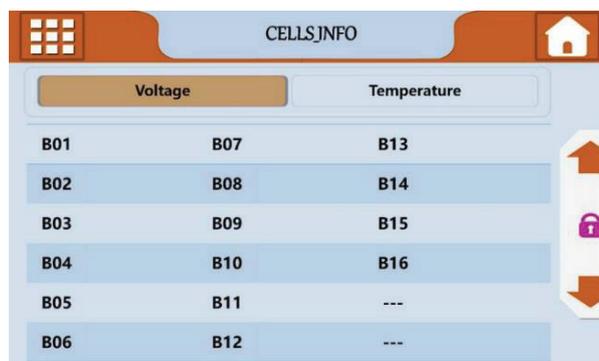


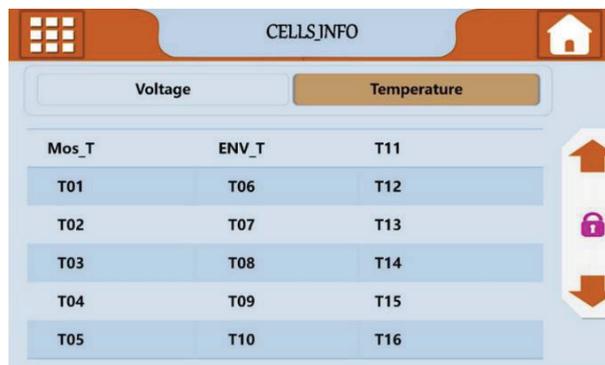
Home Page

When the main menu button is clicked, the page will jump to the main interface, As shown in the figure below :

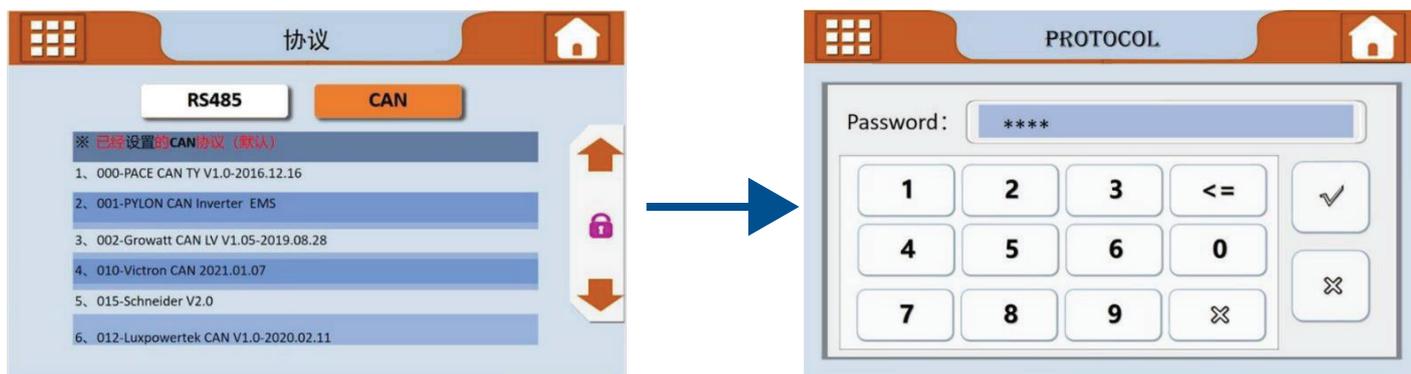


Cell Information Page





Protocol Selection Page



System Settings Page



5.2.4.3 Supplementary description

- 1) Each item is “》” or “--” as a beginning, among them “》” shows the current cursor position, press DOWN key can move the cursor position; with “》” end of the project, the content of the said project has not shown, press ENTER key can enter the corresponding page.
- 2) In a dormant state, press any key, can activate the screen.

Under normal operation condition, with no keystrokes 1 minutes later, system will enter a state of dormancy/shut down. Shut down/dormancy state, press any key, screen can be activated.

5.2.4.4 Term description

BMS: Battery Management System
 SOC: State of Charge

SOH: State of Health
 SCP: Short Circuit Protection
 OTP: Over-Temperature Protection
 UTP: Under-Temperature Protection
 OC: Over-Current
 OCP: Over-Current Protection
 UV: Under-Voltage
 UVP: Under-Voltage Protection
 OV: Over-Voltage
 OVP: Over-Voltage Protection
 OT: Over-Temperature
 OTP: Over-Temperature Protection

5.2.4.5 Battery Communication Protocol

The supported inverter and battery manufacturer communication protocols are as follows, and will be continuously updated.

Battery/Inverter brand	CAN protocol	485 protocol
Marvel	√	√
PACE	√	√
Pylon	√	√
Growatt	√	√
Victron	√	
SE	√	√
Goodwe	√	
Studer	√	
Luxpower	√	√
Sofar	√	
SRD	√	
SMA	√	
PV	√	
JINLANG	√	
MEGAREVO	√	
MUST	√	
Voltronic		√
WOW		√

5.3 WI-FI Function

5.3.1 Register and Login

Use email account, password and verification code to create a new account.

Note: Please select the real country and region for the new account according to the actual situation. This is very important. Once the selected and created successfully, the subsequent devices added through the account distribution network will automatically connect to the server node consistent with the account.



5.3.2 Add Device

5.3.2.1 Reset Wi-Fi

The Wi-Fi module restores the factory so that the device is in a discoverable state:

Press the reset button 10-13s for a long time, and the LED light will be displayed as follows: Press the reset button for a long time to make the water light run again, and release the button when all the lights are on for 5s and go out.

5.3.2.2 Search Device

Click "Add" and "+" to enter the search page and search for the device (this step requires enabling the functions of "Bluetooth", "positioning" and "Wi-Fi" of the mobile phone, otherwise subsequent operations cannot be completed).



5.3.2.3 Connect Network

Click the device found in 4.2.2, select the device to be connected, and then select the Wi-Fi to be connected. After confirming the password, click Next to enter the waiting page for the distribution network.

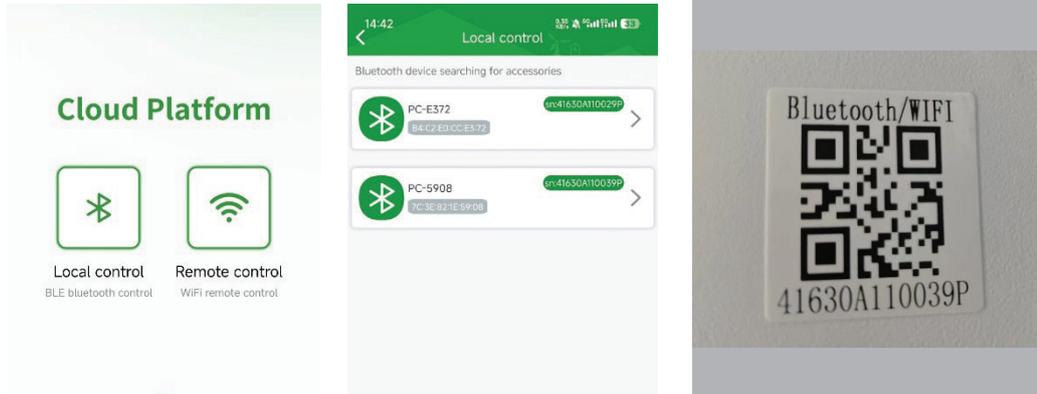
Note: The phone needs to connect to this Wi-Fi first, and the module only supports 2.4G Wi-Fi.



5.4 Bluetooth Function

5.4.1 Add Device

When the device is in the state to be distributed to the network, click Local Control, and the device to be matched will be automatically searched for. The device control page is displayed by viewing the SN code on the right of the product.



5.5 Sleep Mode

If the battery is neither charged nor discharged, it will automatically enter sleep mode after a period of time. After entering sleep mode, BMS will turn off LCD and Wi-Fi module to save power. If you want to continue using it, please turn the power button on and off again.

6 Electrical Connection



Before electrical connection, please ensure that the switches of the energy storage are in the "OFF" state. Otherwise, the high voltage of the device may cause electric shock.



The operations related to electrical connections must be carried out by professional electrical technicians. When carrying out electrical connections, the operator must wear personal

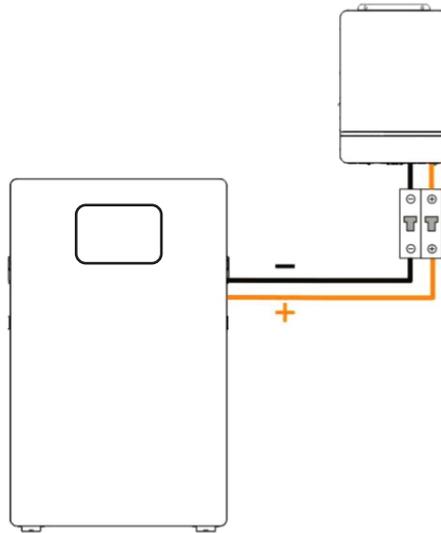
6.1 Preparation of Cables

NO.	Cables	Description	Recommended specifications	Source
1	Power Cables	Used for the charging and discharging connection of the equipment		Provide with the product together
2	Signal Line	Signal cable between battery modules or between battery		Provide with the product together

		and inverter		
--	--	--------------	--	--

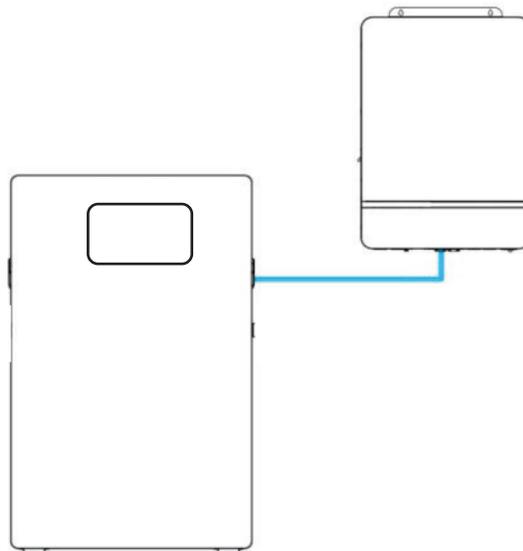
6.1.1 Connecting Power Cord

When connecting the battery wiring, please make sure that the battery switch is off and the indicator light is off.



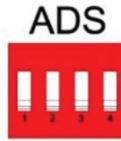
6.1.2 Connecting Signal Line

The signal line shall be used to connect RS485-Inverter interface for battery module and inverter. The communication port of the some brand inverter needs to be connected to the RS485 interface.



6.1.3 Energy Storage Battery Module Address Setting

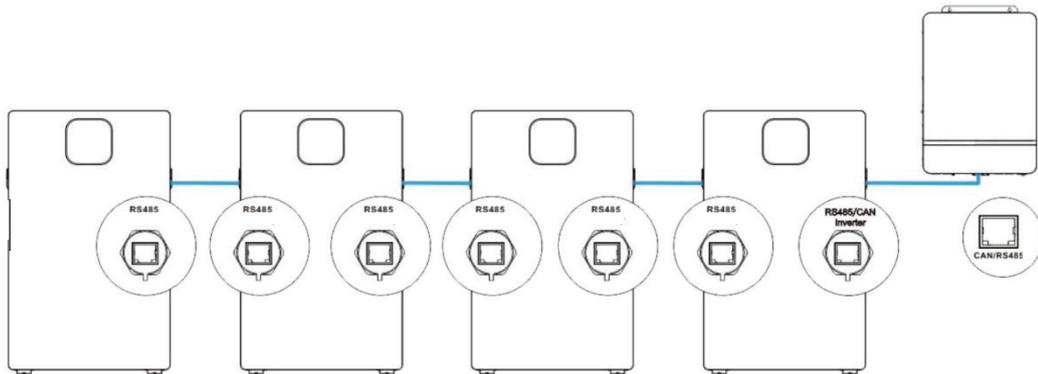
When using a single battery, please set the address to 0.



6.2 Electrical Connection Of Multiple Battery Modules

6.2.1 Connecting Signal Line

If there are multiple batteries, you need to connect the communication line of each battery. Battery and battery connection use RS485-RS485 interface, battery and inverter connection need RS485-Inverter interface.



6.2.2 Energy Storage Battery Module Address Setting

If multiple energy storage battery modules are used in parallel, the address of the energy storage battery module needs to be set. The address should be set as 1~15, and the address of each module cannot be repeated.

The setting of the dip code address is detailed in 3.6.1.1

7 System Maintenance

Scheduled maintenance:

- Monthly: Check vents for blockage
- Quarterly: Clean the dust on the surface of the device
- Each year: A professional conducts a system health check

Running status of system:

- Observe whether the energy storage appearance is damaged or deformed.
- Listen to whether the energy storage has any abnormal sound during running.
- When the energy storage is running, check whether the indicator of the energy storage

battery is correct.

Electrical connection:

- Check if any cable connection is off or loose.
- Check if any cable is damaged, and especially if there are cuts on the sheath where the cable contacts with the metal surface.
- Check if the unused DC input terminals, energy storage terminals, COM ports, and covers are locked.
- Half a year after first debugging and testing, and once every six months to one year thereafter.

Grounding reliability:

- Check if the grounding cable is grounded reliably.
- Half a year after first debugging and testing, and once every six months to one year thereafter.

NOTE: After the system is powered off, the case still has residual power and heat, which may cause electric shocks or burns. Therefore, protective gloves should be worn before operating the energy storage 5 minutes after the system is powered off. Maintenance operations on energy storage should be performed only after ensuring that all indicator lights of the energy storage are off.

8 Faults Handling

Symptom	Possible causes	Solution
The indicator light and LCD does not work	Battery is sleeping mode	Press the power button to wake up
All indicators of the battery are off	The battery power is low/ The battery is sleeping mode	Charge/restart
The indicator is blinking red	The battery is too warm	Suspend the service and contact after-sales service
The battery cannot be charged	The charger is improperly connected	Check that the cable connector is secure
Battery overcurrent protection fault	Short circuit	Check whether there is a short circuit in the battery wiring
APP displays communication interruption	Weak network signal	Restart the router or switch the communication mode

9 Safety Information

- The equipment should be stored in a dry, well-ventilated and clean environment.
- The installation and usage environment must comply with international, national and local standards related to lithium-ion batteries, and local laws and regulations must be followed.
- To prevent battery short circuits, do not directly connect the positive and negative terminals of the battery. Maintenance of the battery while it is powered on is prohibited.
- To avoid battery damage or fire, prevent the battery from mechanical vibration, dropping, collision, puncture or strong impact. To prevent overheating or electrolyte leakage, ensure that the battery terminals do not come into contact with other metal objects.
- Disassembling, modifying or damaging the battery is prohibited, such as inserting foreign

- objects into the battery, squeezing the battery or immersing it in water or other liquids.
- Do not use damaged batteries (such as those damaged by dropping, collision, swelling or shell denting), as such damage may cause electrolyte leakage or release of flammable gas. If electrolyte leakage or battery deformation occurs, immediately contact the installer or professional maintenance personnel to remove or replace the battery. Damaged batteries should not be stored near other equipment or flammable materials and kept away from non-professionals.
 - The equipment operates at a relatively high temperature. Do not install it in easily accessible locations. To prevent fires caused by high temperatures, do not block the ventilation holes or the cooling system.
 - In backup power scenarios, do not use the power supply for medical equipment, control equipment, computer systems of public importance, near medical equipment or other similar devices.

10 Emergency Guide

If the battery smokes or catches fire, evacuate immediately and call the fire department. Professional personnel should handle the situation on site. Firefighters need to wear heat-resistant equipment. After extinguishing the fire, continue to spray water to cool down and monitor for 24 hours. Before disassembling, ensure there are no signs of temperature rise. Disassembled batteries should be placed in a fire sand box or salt water.

In case of electric shock, immediately cut off the power supply, wear professional insulating equipment and use insulating tools to separate the victim from the power source. If the injury is severe, call for medical rescue immediately. Contact the distributor or installer to dispatch professional maintenance personnel to troubleshoot.

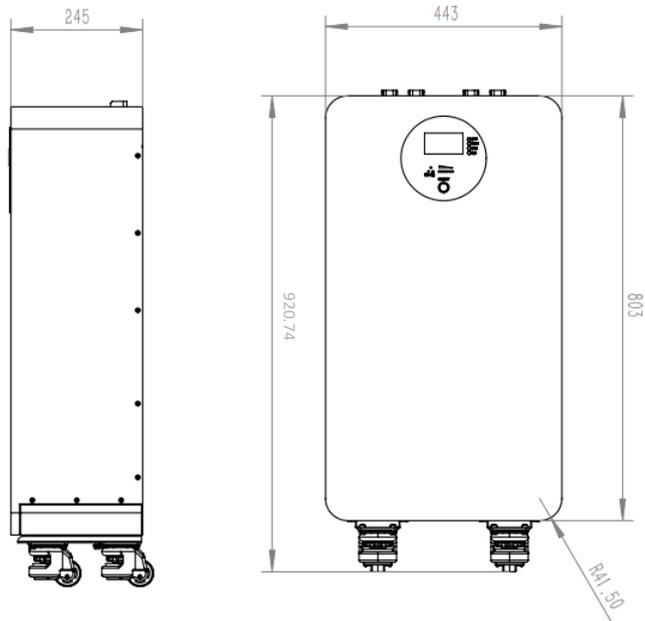
If the battery leaks, stop the operation of the energy storage system immediately, evacuate to a safe area and contact professional personnel for handling. Avoid contact with the electrolyte and released gas.

After the battery fire is extinguished, the battery should be handled by professional personnel. Fire water may cause pollution. Please notify the environmental protection department for disposal.

11 Product Dimensions and Packaging

11.1 Product Dimensions

The external dimensions of the energy storage battery module and power module are 920.74*443*245mm.



11.2 Package Dimensions

The packaging size of a single energy storage battery module is 1040*600*430mm.

