ESY
SUNHM

ESYSUNHOME ESS BATTERY SYSTEM

User Guide & Installation Manual

ESY SUNHOME CO., LTD

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Made in China

CE RoHS

ESY SUNHOME CO., LTD

ESY SUNHOME started out as a lithium battery business, powered by cutting-edge battery protection systems and a proficient Research & Development team. The founder, Mr. Lee, recognized the absence of energy storage choices available to households worldwide and was enthusiastic about combining photovoltaic energy storage solutions with lithium batteries. With this vision in mind, the team embarked on the development and testing of PV home energy storage products, forming an efficient, highly qualified team of Research & Development, manufacturing, and quality control professionals with distinguished backgrounds in various fields of technology. After two years of intensive effort, the team successfully developed and tested PV home energy storage products, resulting in the official launch of the HM6 series storage system products on January 14th, 2023. ESY SUNHOME now has branches in Sydney, Australia and Munich, Germany, with a long-term objective of becoming a global brand.

Mission:
To provide safe and high quality new energy products (batteries and power supplies) for every family.

Vision:
Take the sun home.

Core Values:

Unity and hard work;
Pragmatic and far-reaching;
Innovative research and development;
Scientific and intelligent manufacturing;
Creating value for customers;
Creating opportunities;
Contributing to society.

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1 Precautions

1.1 General Statement

Statement

This manual applies to the ESYSUNHOME ESS Battery Models:

ESYSUNHOME 5KWH+
ESYSUNHOME 10KWH+
ESYSUNHOME 15KWH+
ESYSUNHOME 20KWH+
ESYSUNHOME 25KWH+
ESYSUNHOME 30KWH+

Please read this manual carefully and strictly adhere to all safety instructions during installation, operation, and maintenance. ESY SUNHOME will not be liable for any consequences arising from noncompliance with the general safety requirements or safety standards of design, production and use.

It is crucial to use this product under the specified design conditions, as any damage to parts, personal injury, or property loss resulting from improper usage will not be covered by the warranty. In addition, during installation, usage, and maintenance, all local laws and regulations must be observed. The safety instructions in this manual are supplementary to local laws and regulations.

During the installation and debugging of the battery, please use dedicated charging and discharging equipment.

ESY SUNHOME reserves the right not to assume any responsibility for consequences arising from the following:

- Expiation of free warranty of the product and its parts;
- Damage caused during transportation;
- User does not meet the national standards to install, refit or use our device;
- Noncompliance with the installation and use instructions outlined in this manual;
- Operation under harsh conditions that are not specified in this manual;
- Failure or damage caused by installation, repair, modification, or disassembly by non-authorized service personnel;
- Energy storage system failure or damage caused by the use of non-standard components or software or those that are not provided by our company;
- Noncompliance with relevant international standards for design, installation and use;
- Device damage caused by abnormal natural conditions (force majeure such as lightning strikes earthquakes, fire and storms).

1.2 Requirements for Installation and Maintenance Personnel

- The personnel to be dispatched for installing or maintaining ESY SUNHOME's devices are fully trained and knowledgeable of all safety precautions and capable of performing all operations correctly.
- Device installation, operation and maintenance must be carried out by professionals or trained personnel.
- Safety facilities must be dismantled and inspected by professionals.
- Only professionals or authorized personnel are allowed to replace equipment or components (including device software).

NOTE

Professionals: Professionals refer to individuals who have received training or have experience in equipment operation and possess professional knowledge of potential hazards and their severity in equipment installation, operation, and maintenance.
Trained personnel: refer to the personnel who have received technical training or have the necessary experience, and are aware of possible hazards in some operations and able to take protective measures to minimize hazards to themselves and others.
Operators: refer to the personnel who have access to devices except trained personnel and professionals.

1.3 Important Safety Information

- Before device installation, operation and maintenance, please read this manual carefully.
- Make sure that the product is effectively grounded before operation. The grounding resistance should be less than 0.1Ω.
- Battery installation must be carried out according to this instruction manual. During operation, comply with the relevant signs and symbols on the equipment.
- The battery terminals may be live during operation. If the battery is not connected, cover it with insulating material inside a protective cover for protection.
- If the energy storage system, consisting of the battery, needs to be connected to the grid for power supply, it must obtain approval from the local power department or comply with the relevant regulations of the user's country and local laws. Grid connection should be performed by qualified personnel.
- Use a dry powder extinguisher in case of fire. Do not use a liquid extinguisher.
- When installing the battery, installation personnel must strictly adhere to the installation standards specified in AS/NZS 5139.

2 Safety Precautions for Use

Before conducting any work, carefully read all safety instructions and always adhere to them when handling or using the battery. Failure to comply with the preventive measures described in this section may result in severe personal injury or property damage.

Explosion hazard!	
	Do not apply any excessive force to the battery. Do not subject the battery to mechanical damage (such as puncturing, deforming, stripping, etc.). Do not heat the battery or expose it to fire. Do not install the battery in potentially explosive environments. Do not submerge the battery in water or other liquids.
Fire hazard!	
	Do not place the battery near heat sources, such as direct sunlight, fireplace, non-insulated walls exposed to sunlight, hot water, or heaters. Keep ignition sources like sparks, flames, and smoking materials away from the battery.
Electric shock hazard!	
	Do not dismantle the battery. Do not handle the battery or use wet tools. Do not immerse the battery in water or expose it to moisture or liquid. Keep the battery out of reach of children and animals. Wear appropriate clothing, protective equipment, and gloves to prevent direct contact with DC voltage. Use insulated tools when working with the battery. Remove metal jewelry before dealing with the DC circuit.
Gas hazard!	
	Damaged batteries may release hazardous substances and flammable gas mixtures. Even if you are a qualified electrician, do not attempt to repair the battery.

3 Safe Transportation and Storage

3.1 Battery Transportation

- When transporting the battery, it must be packed in the original packaging to ensure the safety of the equipment during transportation.
- Upon receiving the goods, please inspect the external packaging of the battery and then open the box for a comprehensive inspection.
- If any damage to the battery occurs during transportation, please notify the shipping company. The shipping company is responsible for any equipment damage caused during transportation. If necessary, seek assistance from the installer or manufacturer.
- When handling battery weighing 50 kg or more, please use appropriate equipment or work together with multiple people.
- When storing the equipment, please use the original packaging and store it in a cool, dry, and well-ventilated area to prevent damage caused by moisture.

3.2 Battery Storage

If the battery is not installed immediately, it needs to be stored properly. When storing the equipment, use the original packaging and store it in a cool, dry, and well-ventilated area to prevent equipment damage due to moisture.

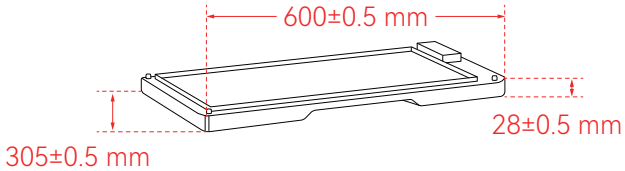
This product should be stored at an ambient temperature of -10℃ to 35℃ for no more than 6 months. The relative humidity during storage should be between 0% to 95% Rh. Store the battery in a clean and dry place, avoiding exposure to direct sunlight and rain. The storage location must be free from harmful gases, flammable/explosive products, and corrosive chemicals. Avoid mechanical impact, high voltage, high-intensity magnetic fields, and direct sunlight on the battery. Pay attention to harsh environments such as sudden cooling/heating and collisions to prevent damage to the battery.

Packaged battery modules should not be stacked more than 5 layers high, and direct stacking of unpackaged batteries is strictly prohibited.

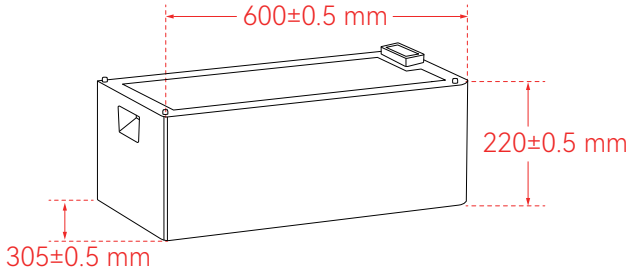
If the battery is stored for more than 3 months under specified conditions, it needs to be charged once until the system SOC reaches 50% to 80%. Please use our rechargeable products for charging. Failures and hazards caused by charging and discharging with other equipment are not covered under our warranty. For storage with SOC at 50%, a charge-discharge maintenance should be performed within 6 months to prevent irreversible capacity loss. If storage with SOC at 50% exceeds 9 months without charge-discharge maintenance, any capacity loss or other defects caused to the battery will be considered as a waiver of warranty by our company.

4 Appearance

4.1 Outline Dimensions



Base Dimensions



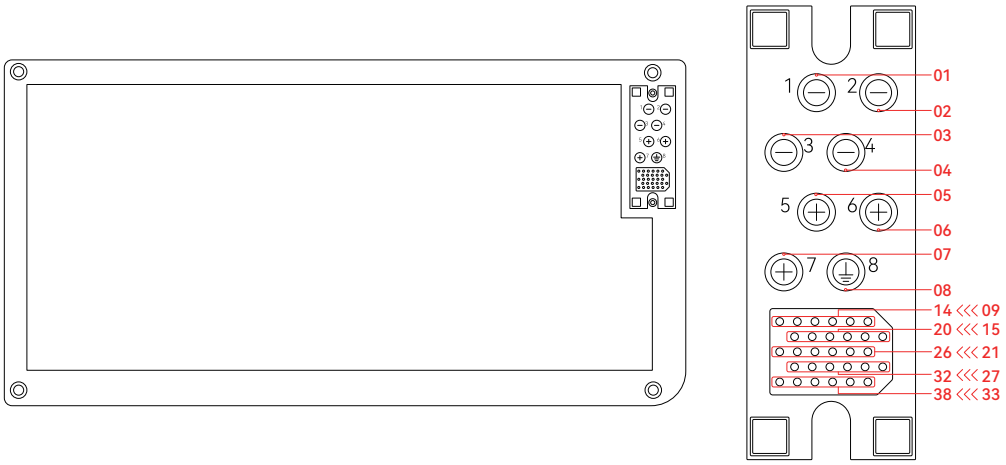
Battery Dimensions

4.2 Nameplate Identification

ESYSUNHOME 5KWH+	ESYSUNHOME: brand 5KWH+: model, indicating that the battery specification is 5KWh
	Pay attention to safety.
	Pay attention to high surface temperature.
	Be cautious of electric shock.
	Prior to attempting any repair, electrical installation or accessing any live parts, make sure that the power supply is cut off and wait for 5 min until internal capacitors are discharged to a safe voltage.
	Professional recycling is required.
	Please read this manual before using the product.
	Compliant with CE safety certification standards.
	This product is in compliance with IEC 62040 certification standards.
	This product is in compliance with RCM certification standards.

4.3 Port Description

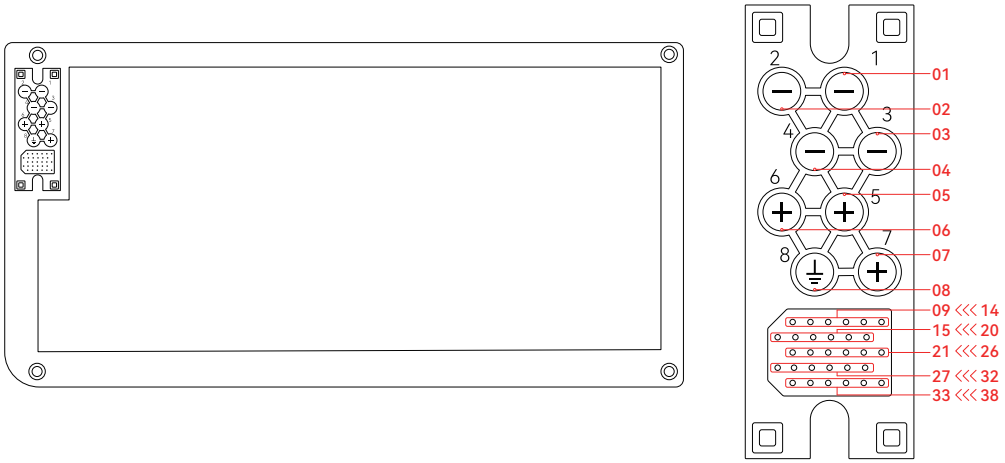
Schematic diagram of top port arrangement for battery



S/N	Mark	Purpose
01	PACK-	Battery cathode
02	PACK-	Battery cathode
03	PACK-	Battery cathode
04	PACK-	Battery cathode
05	PACK+	Battery anode
06	PACK+	Battery anode
07	PACK+	Battery anode
08	Ground wire	Ground wire of the chassis
09	RS485-B2	Battery and power supply communication port
10	RS485-A2	Battery and power supply communication port
11	GND	Ground wire
12	GND	Ground wire
13	SW-air switch	Signal cable for enabling battery discharge
14	SW-air switch	Signal cable for enabling battery discharge
15	RS485-A2	Battery and power supply communication port
16	RS485-B2	Battery and power supply communication port

S/N	Mark	Purpose
17	NC	Reserved interface
18	GND	Ground wire
19	CAN-H2	Communication Interface
20	CAN-H2	Communication Interface
21	CAN-L2	Communication Interface
22	CAN-L2	Communication Interface
23	NC	Reserved interface
24	NC	Reserved interface
25	NC	Reserved interface
26	GND	Ground wire
27	CAN-H1	Communication Interface
28	CAN-H1	Communication Interface
29	CAN-L1	Communication Interface
30	CAN-L1	Communication Interface
31	NC	Reserved interface
32	NC	Reserved interface
33	12V+	12V+
34	12V+	12V+
35	NC	Reserved interface
36	NC	Reserved interface
37	GND	Ground wire
38	GND	Ground wire

Schematic diagram of bottom port arrangement for battery



S/N	Mark	Purpose
01	PACK-	Battery cathode
02	PACK-	Battery cathode
03	PACK-	Battery cathode
04	PACK-	Battery cathode
05	PACK+	Battery anode
06	PACK+	Battery anode
07	PACK+	Battery anode
08	Ground wire	Ground wire of the chassis
09	RS485-B2	Battery and power supply communication port
10	RS485-A2	Battery and power supply communication port
11	GND	Ground wire
12	GND	Ground wire
13	SW-air switch	Signal cable for enabling battery discharge
14	SW-air switch	Signal cable for enabling battery discharge
15	NC	Reserved interface
16	NC	Reserved interface
17	NC	Reserved interface

S/N	Mark	Purpose
18	NC	Reserved interface
19	NC	Reserved interface
20	NC	Reserved interface
21	NC	Reserved interface
22	NC	Reserved interface
23	NC	Reserved interface
24	NC	Reserved interface
25	NC	Reserved interface
26	NC	Reserved interface
27	NC	Reserved interface
28	NC	Reserved interface
29	NC	Reserved interface
30	NC	Reserved interface
31	NC	Reserved interface
32	NC	Reserved interface
33	NC	Reserved interface
34	NC	Reserved interface
35	NC	Reserved interface
36	NC	Reserved interface
37	NC	Reserved interface
38	NC	Reserved interface

4.4 No AC connection on battery

The battery does not possess an alternating current (AC) interface; it has a direct current (DC) interface. There are three terminals labeled PACK+ and four terminals labeled PACK-. On the top and bottom of the battery, there are dedicated GP38 connectors that are directly connected. Please refer to the battery port diagram.

The connection between the battery and the inverter is in the form of direct current (DC). The inverter's AC interface is linked to the grid and the backup power source.

4.5 Battery Isolation Device Description

The positive output terminal P+ of the battery is controlled by the discharge control terminal SW. When there are no external connections, P+ does not output any power. Power output from the battery only occurs when the external control box or inverter is installed, and the battery switch is turned on.

Both battery terminals, P+ and P-, are isolated and covered with silicone sleeves. The protective sleeves are removed during installation, and there is no voltage output during the installation or removal process.

Batteries are intended to be installed with ESYSUNHOME HM6 which has an integrated circuit breaker for isolating the battery.

5 Product Parameters

5.1 Parameters of the ESYSUNHOME ESS Battery Models

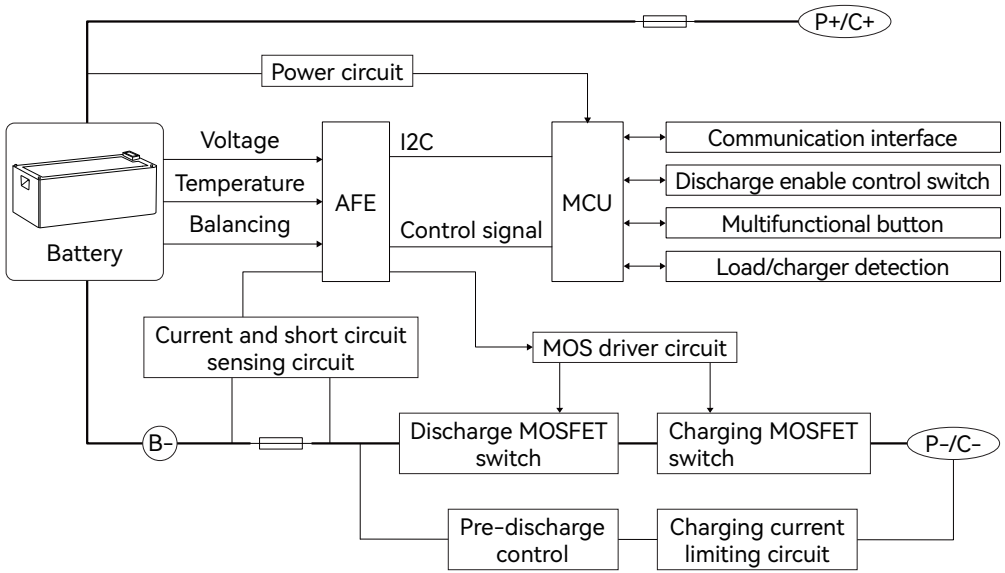
Model	ESYSUNHOME ESS Battery Models
Nominal Voltage (Vd.c.)	51.2
Battery Type	IFpP
Voltage Range (V)	40.8~57.6
Charging Voltage Declared by Manufacturer (V)	56.8
Upper limit Charging Voltage (V)	57.6
Discharging Cut off Voltage (V)	40.8
Depth of Discharge	95 %
Standard Temperature Range for Charging (℃)	3~55
Standard Temperature Range for Discharging (℃)	-20~58
Standards	IEC 62619，ISO 13849, IEC/EN 62040-1, CEC+RCM
EMC Standards	IEC 61000-6-1, IEC/EN 61000-6-3
Ingress Protection Rating	IP66
Protection Class	I
Warranty	120 months
Country of Manufacture	China

5.2 Module Parameters

Model	ESYSUNHOME 5KWH+	ESYSUNHOME 10KWH+	ESYSUNHOME 15KWH+
Number of Batteries	1	2	3
Battery Capacity (kWh)	5.12	10.24	15.36
Usable Capacity (kWh)	4.864	9.728	14.592
Rate DC Power (kW)	4.864	4.864	4.864
Rated Capacity (Ah)	100	200	300
Size (LxWxH mm)	(600±2)x(305±2)x(248±2)	(600±2)x(305±2)x(468±2)	(600±2)x(305±2)x(688±2)
Weight (kg)	57±1	107±1	157±1
Max. Continuous Charging Power (W)	4864	4864	4864
Max. Continuous Charging Current (A)	95	95	95
Max. Continuous Discharging Power (W)	4864	4864	4864
Max. Continuous Discharging Current (A)	95	95	95
Configuration	16S	(16S)2P	(16S)3P

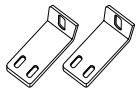
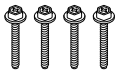
Model	ESYSUNHOME 20KWH+	ESYSUNHOME 25KWH+	ESYSUNHOME 30KWH+
Number of Batteries	4	5	6
Battery Capacity (kWh)	20.48	25.6	30.72
Usable Capacity (kWh)	19.456	24.32	29.184
Rate DC Power (kW)	4.864	4.864	4.864
Rated Capacity (Ah)	400	500	600
Size (LxWxH mm)	(600±2)x(305±2)x(908±2)	(600±2)x(305±2)x(1128±2)	(600±2)x(305±2)x(1348±2)
Weight (kg)	207±1	257±1	307±1
Max. Continuous Charging Power (W)	4864	4864	4864
Max. Continuous Charging Current (A)	95	95	95
Max. Continuous Discharging Power (W)	4864	4864	4864
Max. Continuous Discharging Current (A)	95	95	95
Configuration	(16S)4P	(16S)5P	(16S)6P

6 Circuit Structure Schematic



7 Preparation Before Installation

7.1 Packing List of Battery

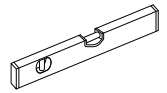
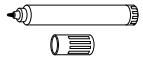
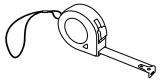
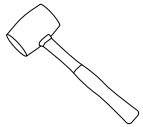
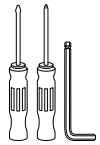
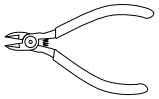
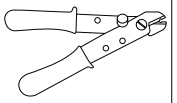
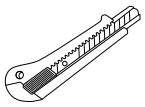
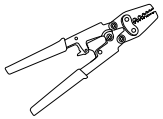
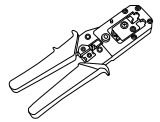
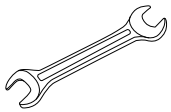
Name	Specifications	Quantity	Schematic Diagram
Battery	5KWH+ residential energy storage battery	1	
Fixing angle iron screws	M4x8 mm	2	
Waterproof connector cover	Silicone, black, matte, 110 mmx39.9 mmx9 mm	1	
Corner angle irons	L60.5x32x25 mm	2	
Handlebar screws	M4x30 mm flange hex screws	4	
Expansion tubes with screws	6 mmx40 mm	2	
Expansion screw gaskets	Inner diameter: 5mm; outer diameter: 12mm; SUS304 gasket	2	

7.2 Base of Battery

Name	Specifications	Quantity	Schematic Diagram
Bracket	600 mmx305 mmx44.1 mm	1	
Waterproof connector cover	Silicone, black, matte, 110 mmx39.9 mmx9 mm (installed on the base)	1	
Bracket mounting screws	PM4*8mm	4	

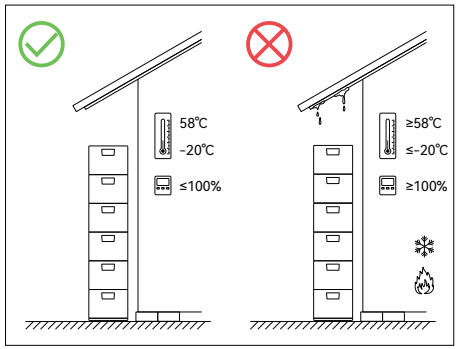
7.3 Preparation before Installation

7.3.1 Preparation of Installation Tools

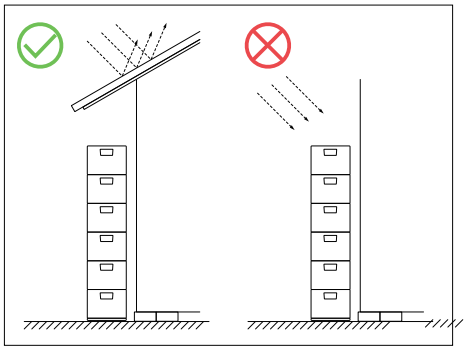
Type	Tools and Descriptions			
Installation	 Electric drill with ϕ6	 Spirit level	 Marker	 Ruler
	 Hammer	 Phillips PH1 Slotted SL2.5 Allen M2 Screwdriver	 Diagonal pliers	 Stripping pliers
	 Utility knife	 Crimping pliers	 Network cable crimping pliers	 Open-end wrench S=7mm
Safety	 Safety gloves	 Dust mask	 Goggles	

7.3.2 Selection of the Installation Environment

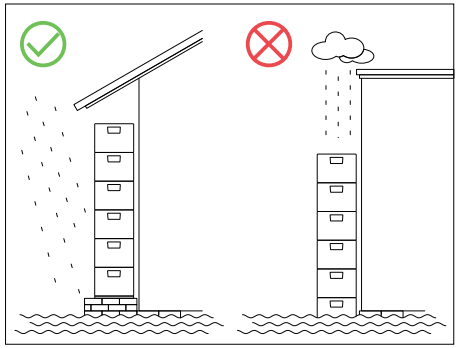
Please select the site according to the relevant requirements.



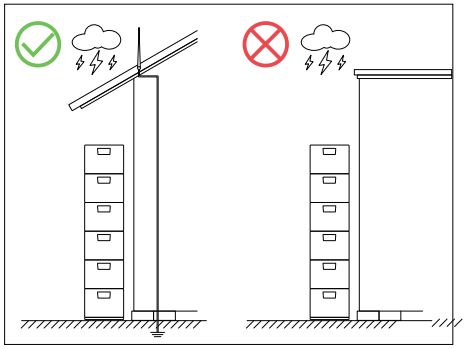
The ambient temperature should be -20 ℃ to 58 ℃and the relative humidity should be 0% to 100% (no condensation).



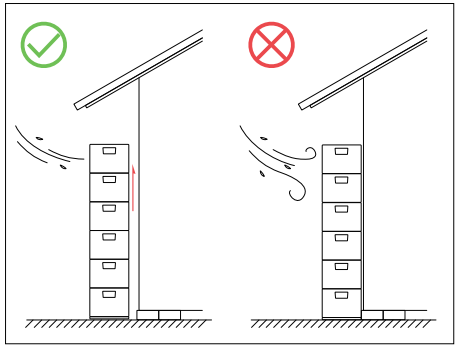
It can be installed outdoors, but must not be directly exposed to sunlight.



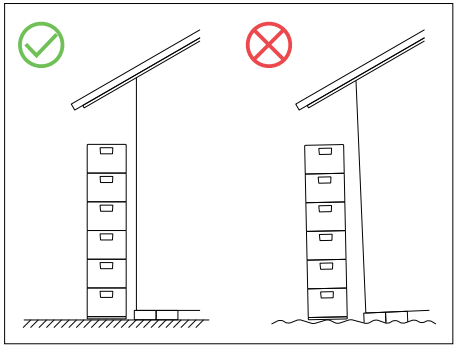
Do not install it in a wet place or in water.



Do not install it in areas prone to lightning strikes.



This product is self-cooled. To ensure proper heatdissipation, please install it in a well-ventilated place.



For stability, the product should be installed on solid and flat ground, with the wall being perpendicular to the ground.

7.3.3 Installation Safety Precautions

The installation and use environment of lithium batteries must comply with relevant international, national, and local standards, as well as local laws and regulations.

Ensure that the battery is not accessible to children and is kept away from areas of daily work or living, including but not limited to: offices, bedrooms, living rooms, music rooms, kitchens, studies, game rooms, home theaters, sunrooms, bathrooms, laundry rooms, and attics.

When installing the battery in a garage, keep it away from the driveway. It is recommended to install the battery on a wall higher than the bumper to prevent collisions.

For basement installations, maintain good ventilation. Do not place flammable or explosive materials around the battery. It is recommended to install the battery on a wall to avoid contact with water.

Install the battery in a dry and well-ventilated environment and secure it on a solid and flat surface.

Install the battery in a concealed location or install a canopy above it to protect it from direct sunlight or rain.

Install the battery in a clean environment without strong infrared radiation, organic solvents, and corrosive gases.

For areas prone to natural disasters such as floods, earthquakes, and typhoons/hurricanes, appropriate installation precautions should be taken.

Keep the battery away from ignition sources. Do not place any flammable or explosive materials around the battery.

Keep the battery away from water sources such as faucets, drains, sprinklers, etc., to prevent water ingress.

Do not install the battery in easily accessible locations, as the enclosure and heat sink temperature can be high when the battery is in operation.

To prevent overheating, ensure that the vents and cooling system are not blocked when the battery is in operation.

Do not expose the battery to flammable or explosive gases or smoke. Do not perform any operations on the battery in such environments.

Do not install the battery on a moving object such as a boat, train, or car.

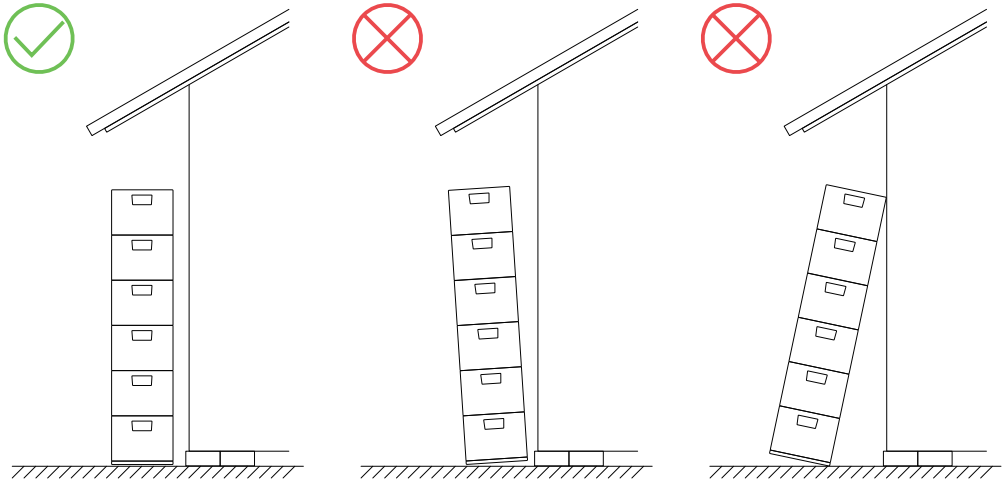
In the case of backup power, do not use the battery in the following situations:

- Vital medical equipment for human life.
- Control equipment for trains, elevators, etc.
- Computer systems with social and public importance.
- Locations near medical equipment.
- Other devices similar to those described above.

Do not install the battery in outdoor areas affected by salt, as it may corrode. This area refers to a distance of up to 500 meters from the coast or areas susceptible to sea breeze influence. Areas susceptible to sea breeze influence may vary due to weather conditions such as typhoons and monsoons, or terrain features such as dams and hills.

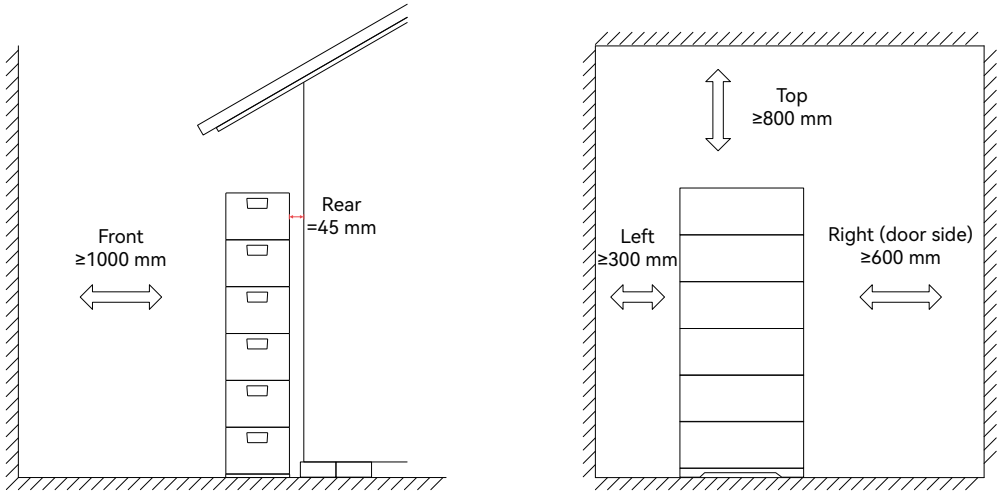
7.3.4 Selection of Installation Locations

Vertical installation, without forward or backward tilting.



The clearances around the power supply must not be less than the following:

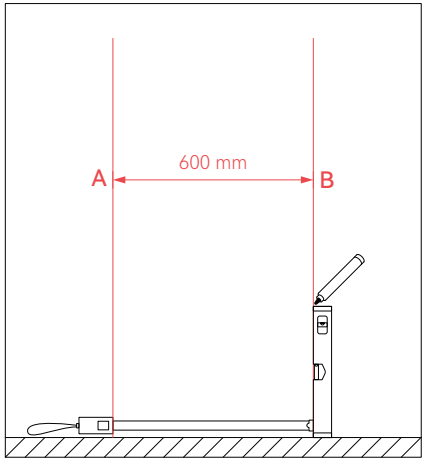
Top	Front	Rear	Left	Right (door side)
≥800 mm	≥1000 mm	=45 mm	≥300 mm	≥600 mm



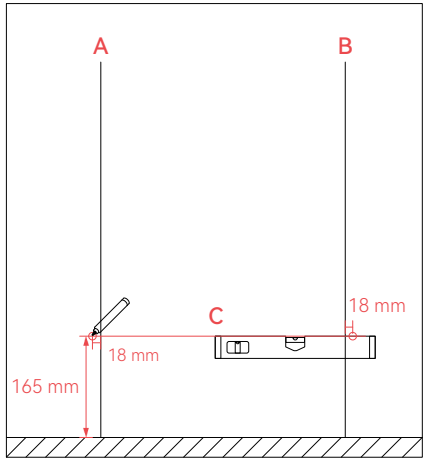
7.4 Installation

7.4.1 Location

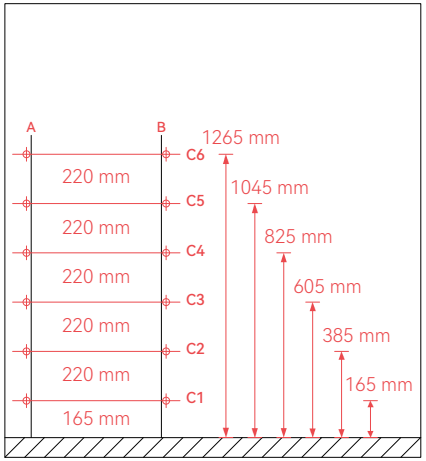
Tools: spirit level, marker, ruler



Mark and designate the left and right boundaries of the selected equipment, with a distance of 600 mm between points A and B. Secure a spirit level vertically on each side of the equipment to draw marking lines A and B, ensuring that the lines are perpendicular to the ground.



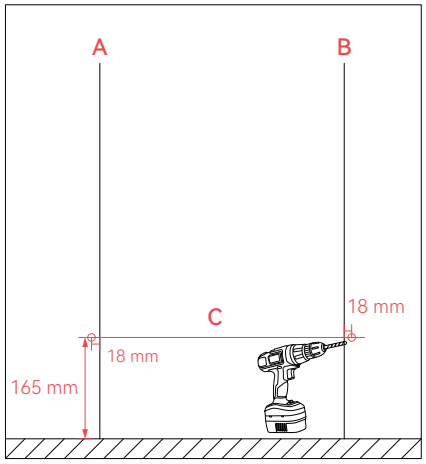
Perpendicular to marking line A, use a ruler and a laser Level to measure and draw marking line C. The distance between line C and the ground is 165 mm. Mark screw hole positions on the outer side, 18 mm away from the intersection of A, B, and C, and use a bubble Level to check if the two hole positions are in a straight line.



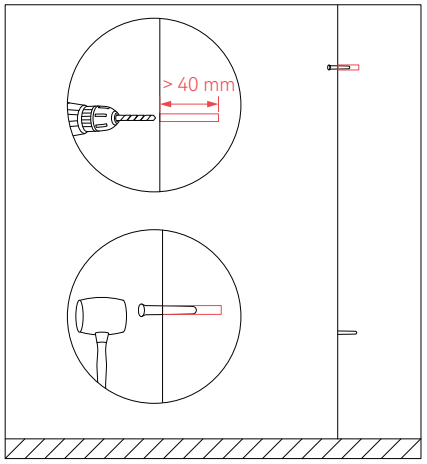
For each additional battery, add 220 mm to the existing base and make corresponding markings.

7.4.2 Drilling

Tools: electric drill (bit size: ϕ6 mm), hammer, expansion tube (6x40 mm) with screws



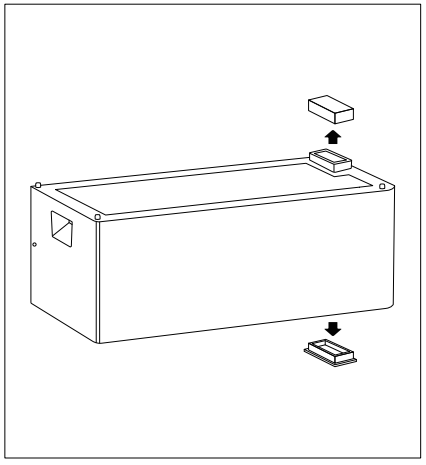
Drill three holes using the electric drill with ϕ6 mm bit as indicated in the figure.



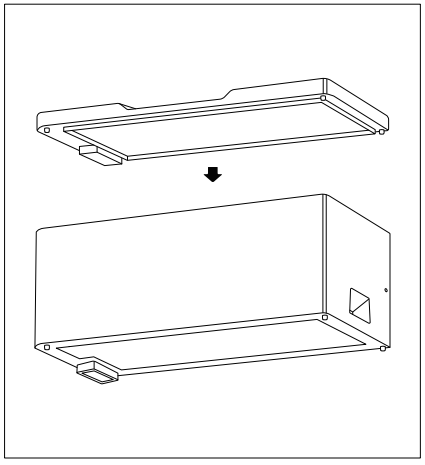
Drill a hole with depth of 40mm. Hammer the expansion tubes into the holes.

7.4.3 Bracket Installation

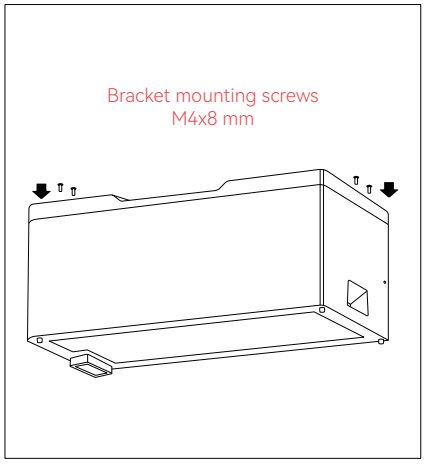
Tools: screwdriver, screws(M4x8 mm)



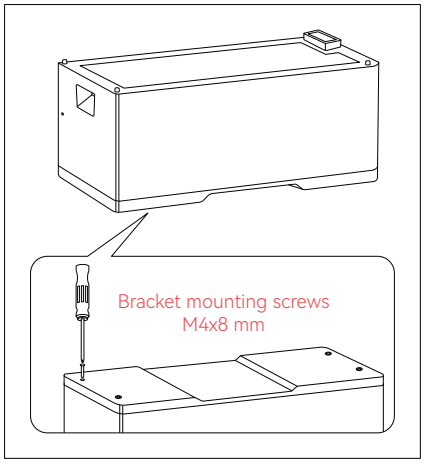
Before installation, remove the dust cover on the top and bottom to avoid damage during installation.



It is recommended to place the battery upside down on a soft surface to avoid scratches. Align the bracket's fool-proof port with the battery (Do not remove the waterproof connector cover on the bracket), and fasten the bracket with the battery.



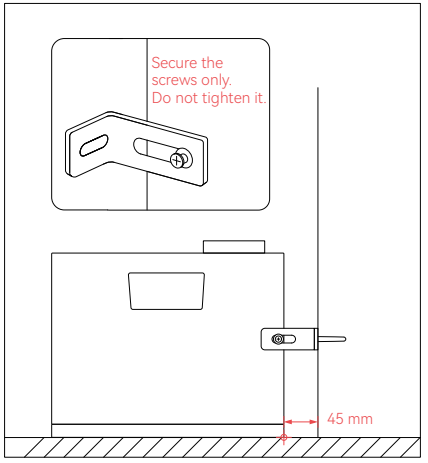
Secure four screws using the screwdriver



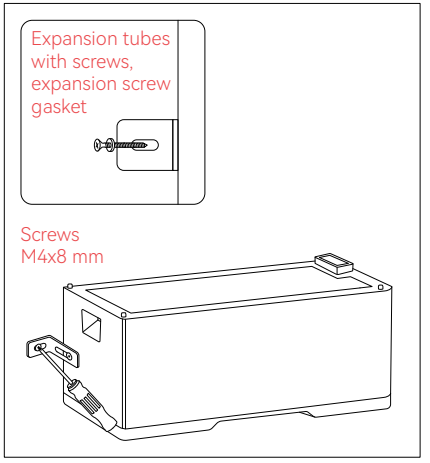
Once the installation location has been determined, tighten all screws. Ensure the bracket is properly fitted with the battery.

7.4.4 One Battery Installation

Tools: ruler, screwdriver, screws (M4x8 mm), angle iron (L79.5x32x25 mm), expansion tubes (M6x40 mm) with screws, gasket (SUS304)



Make a mark of 45mm from the wall, and align the battery(including the bracket) with the mark, fixed the angle iron to the battery, align the other end with the hole in the wall(Do not tighten the screws).



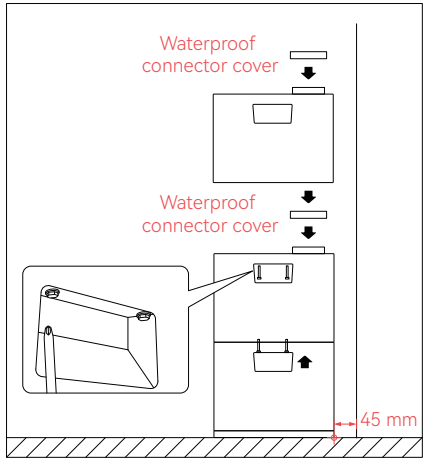
After adjusting the position of the angle iron, pass the expansion screw through the gasket and angle iron, fix it on the wall, after the angle iron is adjusted, then tighten the screws respectively.

NOTE

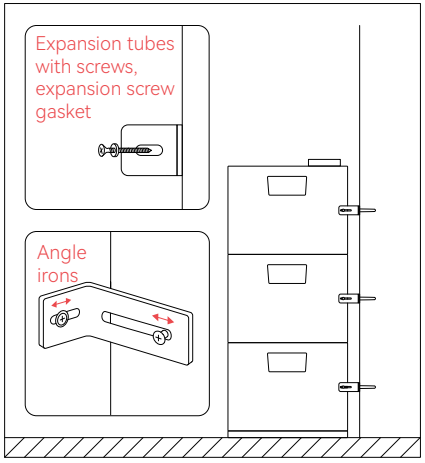
When installing a single battery, the output terminal P+ is in a closed state. It is necessary to externally connect the battery control box or inverter and then turn on the control switch to engage the discharge control terminal. Only then will the battery have voltage output to power the equipment.

7.4.5 Stacking of Multiple Batteries

Tools: ruler, screwdriver, open end wrench (7 mm), angle iron screws (M4x10 mm), angle iron (L79.5x32x25 mm), expansion tube (M6x40 mm) with screw, handlebar screws (M4x30 mm), waterproof connector cover, gasket (SUS304)



Make a mark 45 mm from the wall, align the battery with the mark. Intall the waterproof connector cover, and then stack the next battery. Once a battery is installed, secure its two sides with handlebar screws, and stack them as required.



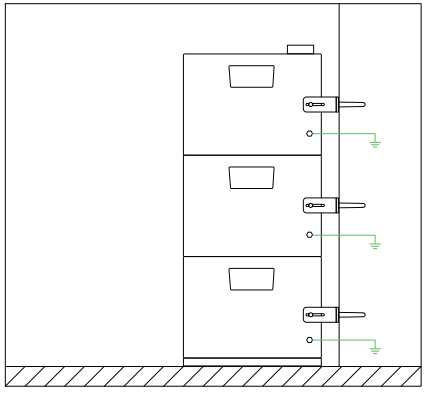
After stack all the batteries, install the angle iron on the battery, and then fix the expansion screws through the gasket and angle iron onto the wall. Fix each battery first, adjust the angle iron position, and then tighten the screws separately.

When multiple batteries are connected together to form a system, the output terminal P+ remains in a closed state. It is necessary to externally connect the battery control box or inverter and then turn on the control switch to engage the discharge control terminal. Only then will the battery have voltage output to power the equipment.

7.4.6 Battery Earthing

Please refer to the following illustration for battery earthing. Compatible inverter model for the battery: ESYSUNHOME HM6.

Tools: screwdriver

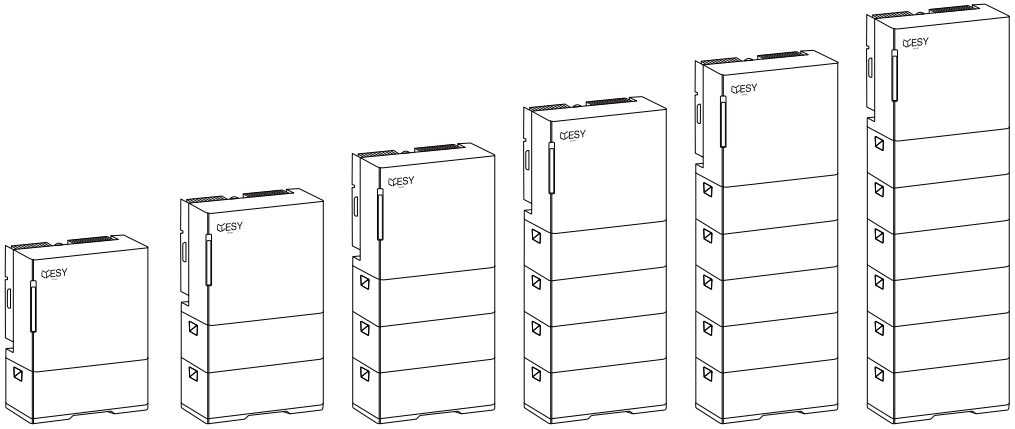


Connect the batteries and lock the angle irons onto the concrete wall. The battery has independent earthing terminal, please earth the batteries as shown in the diagram above.

7.5 DC Connection Instructions

The battery has three PACK+ ports and four PACK- ports. There are dedicated GP38 connectors on the top and bottom of the battery for direct connection. When connecting the ESYSUNHOME HM6 inverter to the battery system, align and position the inverter above the battery system. Ensure the correct direction and position.

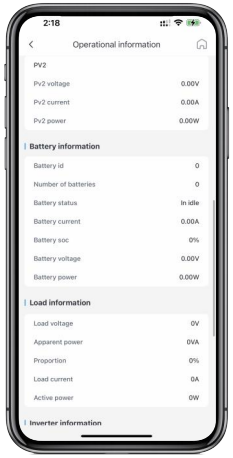
To prevent accidental discharge of the battery during transportation or installation, avoiding potential harm to individuals or property, the battery pack is equipped with a discharge control port. This port is located on the connector of battery system. Only when the battery is connected to ESYSUNHOME HM6 via stack installation, and the battery switch on the inverter is activated, can the battery discharge externally. Otherwise, the battery's external discharge function will be deactivated.



7.6 Battery and Inverter Communication

After the connection of ESYSUNHOME HM6 inverter and ESYSUNHOME battery system, please turn on the battery switch on the inverter which allows connection to the grid, photovoltaic system, and household devices. Once the power is on, the inverter will act as the main unit and initiate communication with the battery.

7.7 How to Set Up Battery Monitoring



Battery monitoring is set up through an app. When you want to view battery-related information, connect your phone to the app.

You can then access information such as the number of connected batteries, battery voltage, battery current, battery power, remaining battery capacity, and battery operating status.

8 Battery Maintenance

8.1 Startup and Shutdown Procedure

Battery startup procedure:

1. Connect the inverter to the battery;
2. Turn on the battery circuit breaker on the inverter;
3. A beeping sound indicates that the battery has been started up.

Battery shutdown procedure:

1. Dismantle all of the AC and DC cables from HM6 inverter;
2. Turn off the battery circuit breaker on the inverter;
3. Wait for the HM6 inverter lights to go out;
4. Disconnect HM6 inverter from the battery;
5. Battery will stop outputting;
6. Battery will be in dormant mode after 48 hours.

8.2 BMS-STM8S-TI

BMS-STM8S-TI is a PC host software designed for ESYSUNHOME ESS Battery Models:

ESYSUNHOME 5KWH+
ESYSUNHOME 10KWH+
ESYSUNHOME 15KWH+
ESYSUNHOME 20KWH+
ESYSUNHOME 25KWH+
ESYSUNHOME 30KWH+

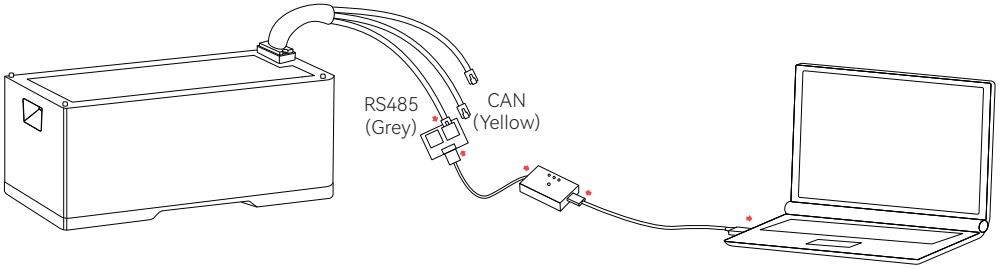
It includes functions such as battery parameter viewing, battery settings modification, fault alarm viewing, battery status viewing, etc.

User permissions:

Read only: User or inspector. These settings can be able to be viewed by the user/inspector.
Read and editing: Battery manufacturers or authorized maintenance personnel. These settings can be edited by the authorized persons. The authorized persons need to enter the correct password to enable editing permission.

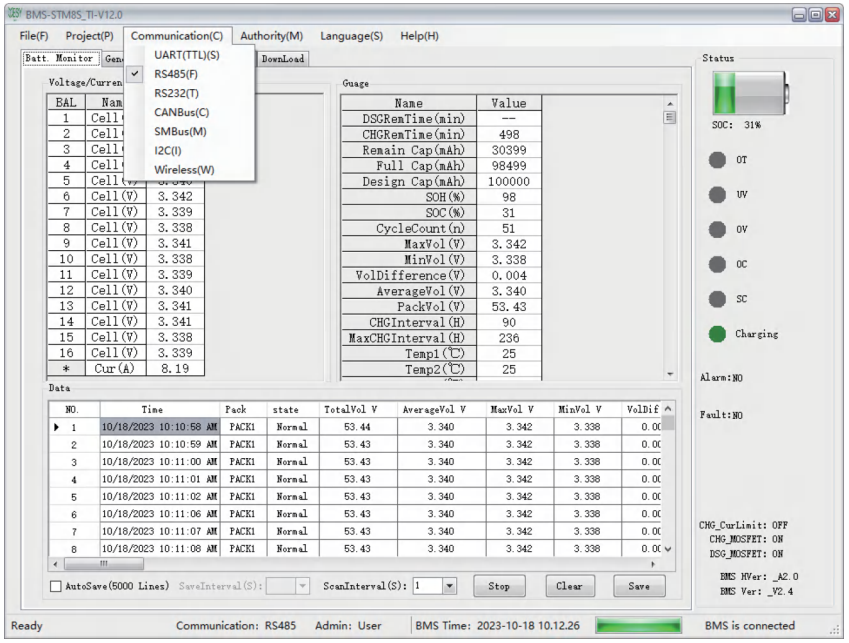
8.2.1 BMS-STM8S-TI software connection

Connect the battery and PC host software through GP 38 wire, connect the USB interface of the adapter to the computer. Use the BMS-STM8S-TI software provided with the battery to operate. Communication through RS485 or CAN.

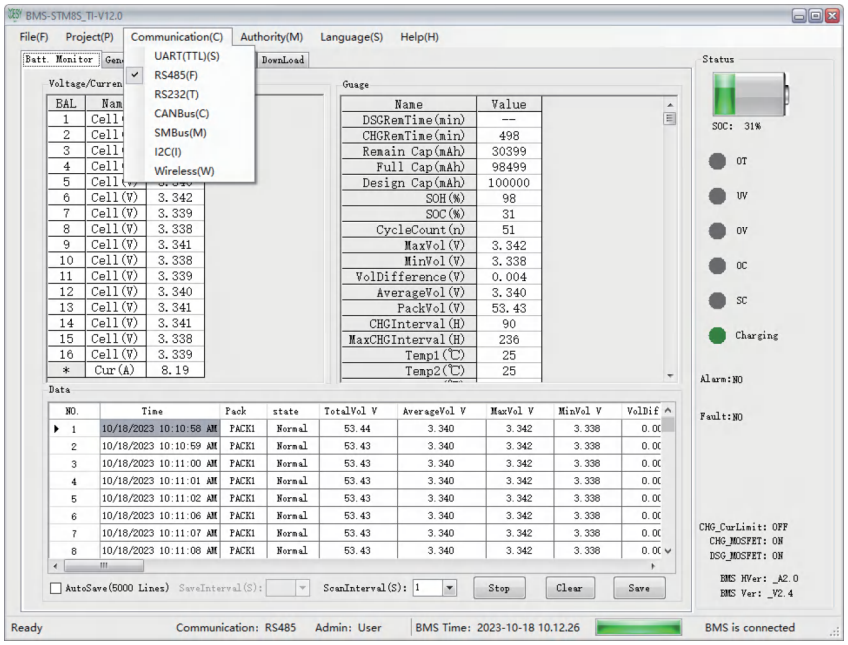


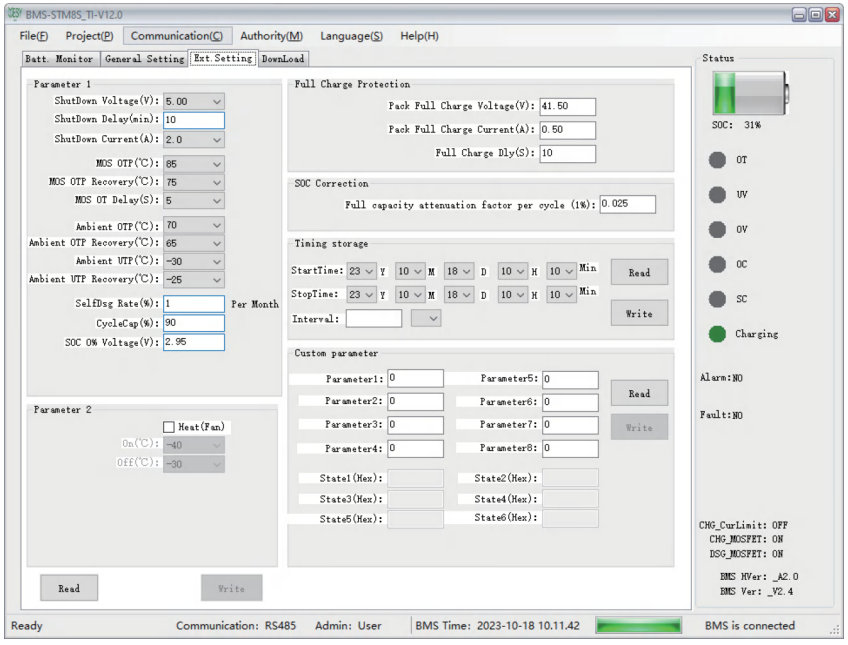
8.2.2 BMS-STM8S-TI functions operation

① Battery monitor: review the real-time data of the battery about Voltage, current, temperature, software version, battery status, etc.

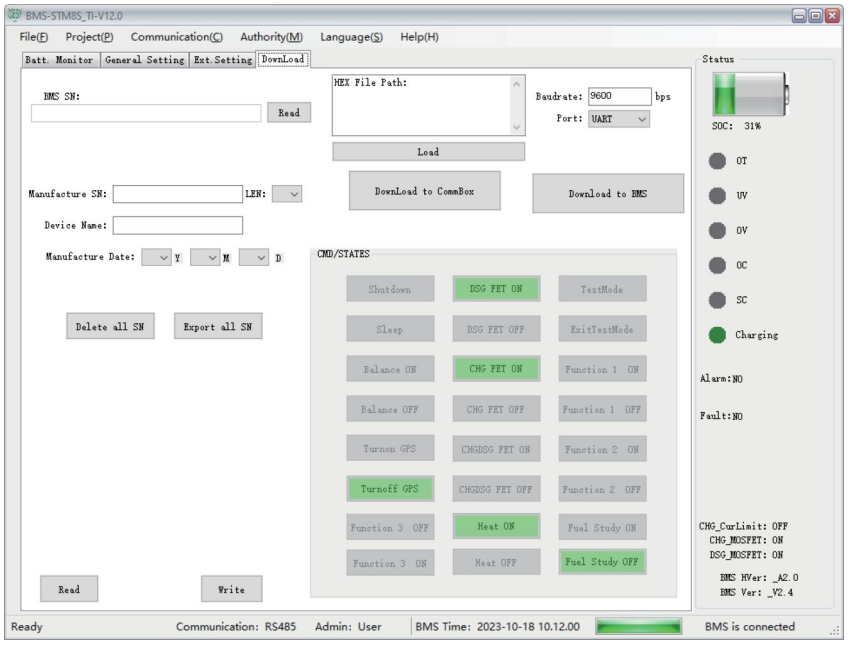


② General setting: set the parameters for the battery.





③ Download: update the software of battery, do some important configuration



8.3 Maintenance Instructions (Electrical Connection Maintenance and ESD Cleaning)

The surroundings of the battery enclosure should be kept clean, and any debris, dust, or accumulated water on the surface of the enclosure should be cleaned.

The floor of the battery installation area should be kept dry, and any accumulated water should be cleaned to prevent water damage.

The battery installation area should have proper ventilation, and any objects obstructing airflow should be moved.

High-temperature or heat-emitting objects should not be placed around the battery to avoid affecting its normal operation.

There is a ground wire inside the battery connecting to the enclosure, which is also connected to the inverter. Regularly check if the external grounding of the inverter is secure.

Attention
The battery should be kept clean, and the terminal and connectors should be cleaned regularly. Different types and capacities of batteries should not be mixed. It is recommended to use batteries of the same model. When installing or replacing the battery, remove any metal objects such as watches and rings from your hands to avoid the risk of short circuit and burns.

Warning
Battery maintenance should be performed or supervised by personnel with knowledge of batteries and with necessary precautions. Batteries can present a risk of electric shock and high short-circuit current. Do not throw batteries into fire. They may explode. Do not open or damage batteries. The released electrolyte can be harmful to the skin and eyes, and may be toxic.

9 After-sales Service

Service email: support@esysunhome.com
Or, Please contact the local installer.