Battery Box
High Voltage LFP
Stackable Battery Box
User Manual



BXA-8kwh-1P
BXA-8kWh-2P
BXA-8kWh-3P
BXA-8kWh-4P

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NOTICE

The information in this user manual is subject to change due to product updates or other reasons. This guide cannot replace the product labels or the safety precautions in the user manual unless otherwise specified. All descriptions here are for guidance only.

CHANGE HISTORY

Changes between documents are cumulative. The latest document contains all the updates made in previous versions.

- V1.0 2025-12-18: First Issue.

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1 NOTE ON THIS MANUAL

1.1 Applicable Model

This manual applies to the listed system models below:

Battery Box (DC/DC Series):

- BXA-8kWh-1P
- BXA-8kWh-2P
- BXA-8kWh-3P
- BXA-8kWh-4P

In case of one unit, there are 3 parts of the system, which includes High Voltage Box HBA431, Battery Module(s) BXA-8kWh and base.

It describes the information, installation, electrical connection, commissioning, and maintenance and troubleshooting of the product. Please read it carefully before operating.

1.2 Target Group

This manual applies to qualified electricians. The qualified electricians have to be familiar with the product, local standards, and electric systems. The tasks described in this manual should only be performed by qualified electricians.

1.3 Symbols in the Manual

Important instructions contained in this manual should be followed during installation, operation and maintenance.



DANGER

Indicates a hazard with a high level of risk that, if not avoided, will result in death or serious injury.



WARNING

Indicates a hazard with a medium level of risk that, if not avoided, could result in death or serious injury.



CAUTION

Indicates a hazard with a low level of risk that, if not avoided, could result in minoror moderate injury.



NOTICE

Indicates a situation that, if not avoided, could result in equipment or property damage.

1.4 Explanation of Labels

The follow types of warning and safety symbols appearing on the product are described below:



Caution
Failing to observe warnings indicated in this manual may result in injury.



Danger to life due to electric shock
The product operates at high voltages. All work on the product must be carried out by qualified persons only.



Risk of burns due to hot surfaces
The product can get hot during operation. Avoid contact during operation. Allow the product to cool down sufficiently before carrying out any work.



Heavy objects. Life with care.



Keep the battery from open fire or ignition sources.



Recyclable product components.



This side up. The package must always be transported, handled, and stored upright, with the arrows pointing upwards.



Do not stack more than five identical packages on top of each other.

WEEE designation



Do not dispose of the product together with the household waste but in accordance with the locally applicable disposal regulations for electronic waste.



Handle the package/product with care, and do not tip it over or throw it.



Observe the documentation
Observe all documentation supplied with the product.



Keep dry
The package/product must be protected from excessive humidity and stored covered.

CE mark of congormity
The product complies with the requirements of the applicable EU directives.

2 SAFETY



WARNING

Please strictly follow these important instructions in the manual and the label on the products during the Installation, communication, operation and maintenance. Incorrect operation or work may cause:

- Injury or death to the operator or a third party.
- Damage to the product and other properties

The safety instructions in this manual are only supplements and cannot cover all the precautions that should be followed. Perform operations considering actual onsite conditions. When installing, operating, and maintaining the product, comply with local laws and regulations. The safety precautions in this manual are only supplements to local laws and regulations.



NOTICE

WHES shall not be held liable for any damage caused by violation of general safety operation requirements, general safety standards, or any safety instruction in this manual.

Operations on the product, including but not limited to, handling, installing, wiring, powering on, maintenance, and use of the product, must not be performed by unqualified personnel. WHES shall not be held liable for any damage to the product resulting from operations done by unqualified personnel.

2.1 General Safety

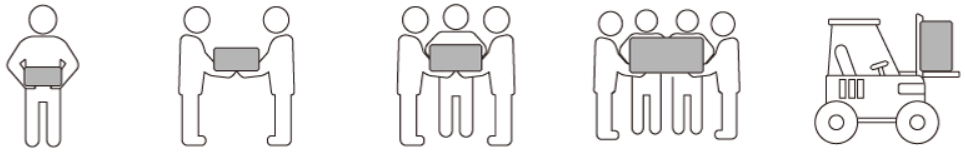
Please strictly follow these safety instructions in the user manual during the operation.

- Do not expose the battery module to open flame or place the system near flammable materials or irritating chemicals or vapor. It may lead to fire or explosion in case of accident.
- Store in a cool and dry place with ample ventilation:

  12 months@-20℃-25℃;

  3 months@25℃-40℃;

  7 days@40℃-60℃.
- If long-temm storage is required, the battery system should be recharged every 6 months, and no less than 85% of SOC should be charged.
- Be cautious to prevent injury when moving heavy objects.



< 18 kg (< 40 lbs) | 18–32 kg (40–70 lbs) | 32–55 kg (70–121 lbs) | 55–68 kg (121–150 lbs) | > 68 kg (> 150 lbs)

- Do not connect power terminal reversely.
- All power supplies must be disconnected during maintenance.
- Please contact the supplier within 24 hours if there is something abnormal.
- Do not use any neutral detergent to clean the product.
- Do not expose battery to flammable or irritating chemicals or vapor.
- Do not paint any part of battery, including any internal or external components.
- Do not connect battery with PV solar wiring directly.
- Do not install or use this product beyond provisions of the manual.
- Direct or indirect damages caused by the above reasons are not covered by warranty claim.

2.2 Before Connecting

- Please check the external packaging condition before unpacking. If it is damaged, contact corresponding local retailer.
- After unpacking, please check the products and spare parts according to spare parts list. If the product is damaged or missing, please contact your local retailer.
- The battery system should be installed with the specified matching inverter.
- Before installation, be sure to cut off the grid power and make sure battery is in turned-off mode.
- It is prohibited to connect the battery and AC power directly.
- Embedded BMS in the battery is designed for 24VDC.
- All electrical wiring must be connected in accordance with local regulations.
- Please ensure that electrical performance of battery system is compatible with the equipment used.
- The installation onsite shall be equipped with fire-fighting facilities that meet relevant requirements, such as fire sand, dry powder fire extinguisher, etc.

2.3 In Using

- If battery system needs to be moved or repaired, power must be cut off and battery is completely shut down.
- It is prohibited to connect battery with different types of battery.
- Do not connect battery to faulty inverter.
- In case of fire, only dry powder fire extinguisher can be used, liquid fire extinguishers are prohibited.
- Do not open, repair or disassemble the battery except WHES personnel or other authorized personnel. The company shall not bear any liability or responsibility caused by violation of any safety operation or design standard, production standard, equipment safety standards or any other standards or requirements.

2.4 Response to Emergency Situations

2.4.1 Battery Leakage

If the battery pack leaks electrolyte, avoid contact with the leaking liquid or gas. If one is exposed to the leaked substance, immediately perform the actions described below:

- Inhalation: Evacuate contaminated area and seek medical aid.
- Contact with eyes: Rinse eyes with flowing water for 15 minutes and seek medical aid.
- Contact with skin: Wash affected area thoroughly with soap water and seek medical aid.
- Ingestion: Induce vomiting and seek medical aid.

2.4.2 On Fire



DANGER

DO NOT USER WATER. Only dry powder fire or carbon dioxide extinguisher can be used; if possible, move the battery module to a safe area before it catches fire.

2.4.3 Wet Batteries

If the module is wet or submerged in water, do not let people access it, then contact WHES or an authorized dealer for technical support. Cut off all power switch on inverter side.

2.4.4 Damaged Batteries

Damaged batteries are dangerous and must be handled with utmost care. They are not fit for use and may pose a danger to people or property. If the module seems to be damaged, pack it in its original container, then return it to authorized

dealer.



DANGER

Damaged batteries may leak electrolyte or produce flammable gas. Never try to repair the damaged batteries even if you are a qualified electrician.

3 INTRODUCTION

3.1 Product Overview

Battery Box (DC/DC Series) is a new energy storage system, which consists of a high voltage box and battery expansion modules. It can store and release the electric energy according to the requirements of the solar energy storage system. The input and output ports of Myrtillo are high voltage direct current ports.

This manual contains important instructions for Battery Box (DC/DC Series) high-voltage energy storage system that should be followed during installation and maintenance.

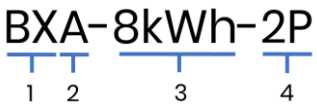
This manual applies to the listed system models below:

Battery Box (DC/DC Series):



- BXA-8kWh-1P
- BXA-8kWh-2P
- BXA-8kWh-3P
- BXA-8kWh-4P

Model description



No.	Referring to	Description
1	Equipmet Type	BX: Battery Box
2	Version Code	A: First version
3	One Battery Box Rated Capacity	8kWh: the battery box rated capacity is 8kWh
4	System Composition	2P: Two battery boxes in parallel, 16kWh

3.2 Features

Scalable:

- 8kWh per battery module, scalable from 8kWh to 32kWh per unit.

- Max. 2 units in parallel, up to 64kWh capacity range.

Smart:

- Built-in modular energy optimizer enables compatibility of old and new battery modules.
- Supports intelligent heating module, providing a wider operating temperature range.

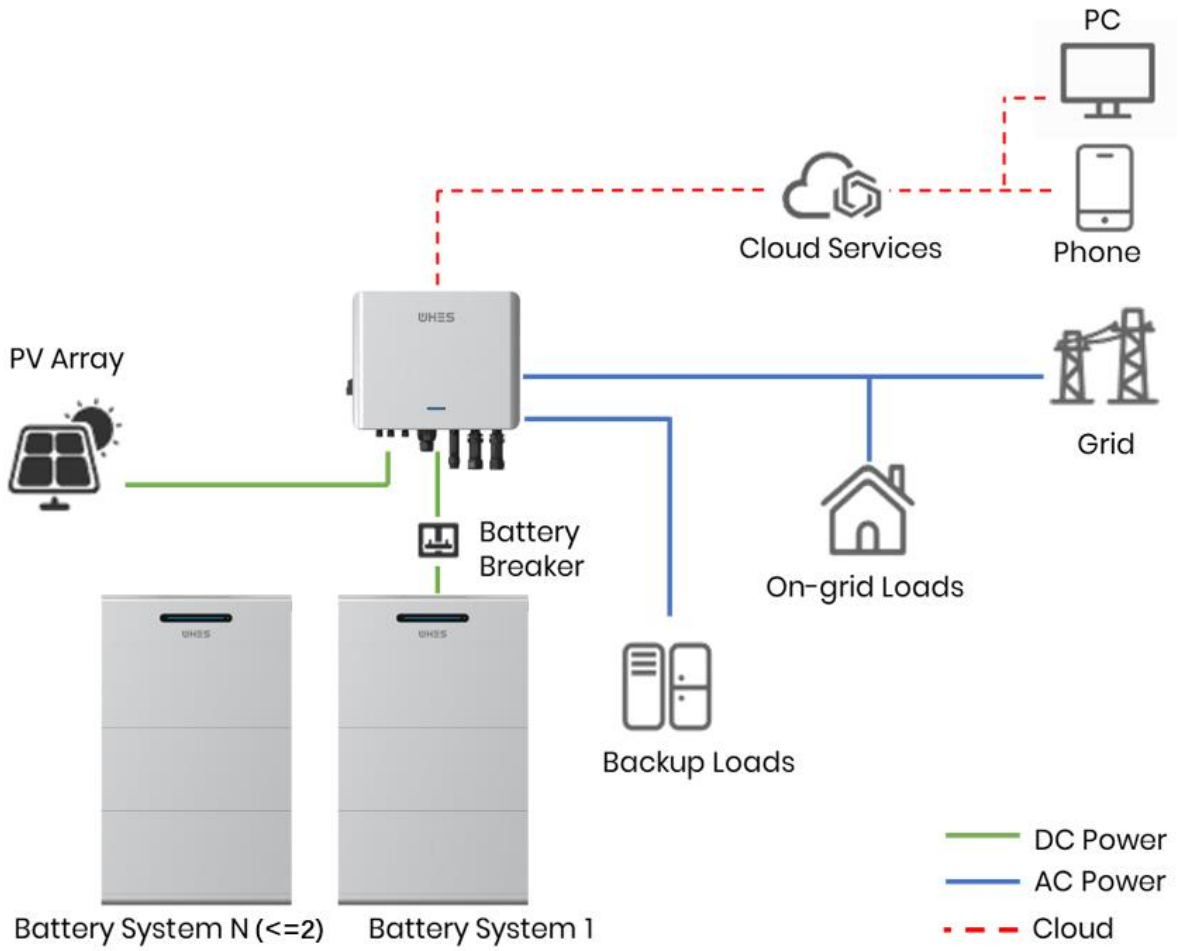
Safe:

- Multi-layer protection design, including built-in aersol fire suppression system and built-in key gas detection system.
- Physical and electrical dual isolation for enhanced safety.

Convenient:

- Integrated plug-in terminal, saving 75% installation time between modules.
- IP66, indoor or outdoor application.

3.3 Application Scenarios

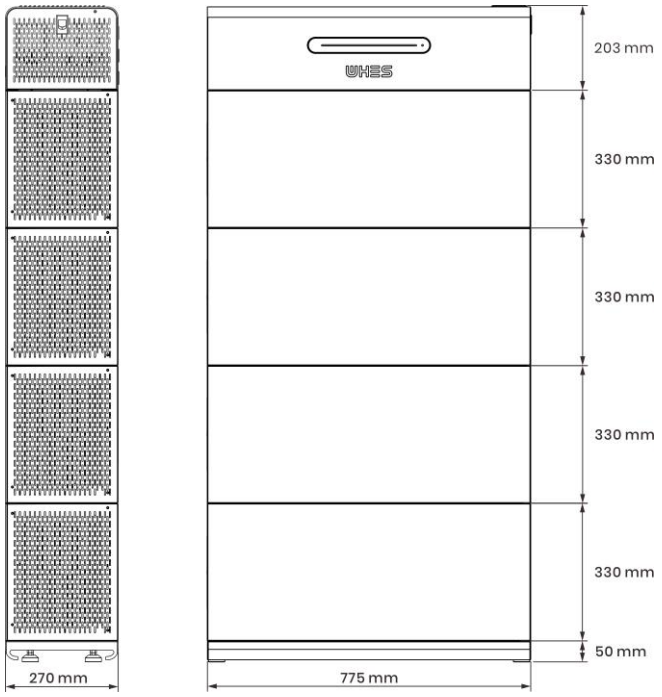


- Please refer to WHES Approved Inverter Options Statement. Only inverters listed

officially are allowed to be connected to Battery Box (DC/DC Series).

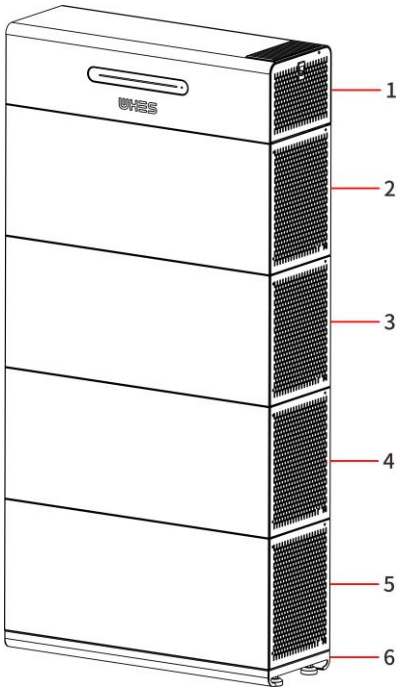
- A max of two battery systems can be parallel connected in one energy storage system.

3.4 Dimensions



3.5 Indicator Status and Communication Port

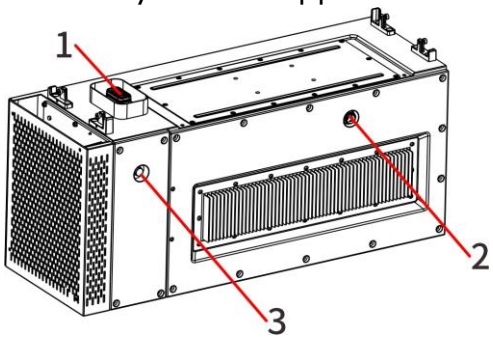
- Battery system appearance



NOTICE
Ensure that the high voltage box is installed above the battery boxes. Do not install any battery box above the high voltage box .
This manual will show you the installation and electrical connection of 4 battery boxes.

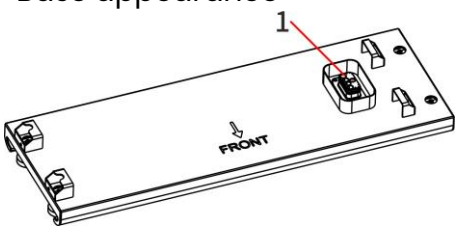
NO.	Parts
1	BMS Controller
2, 3, 4, 5	Battery module
6	Base

- Battery module appearance



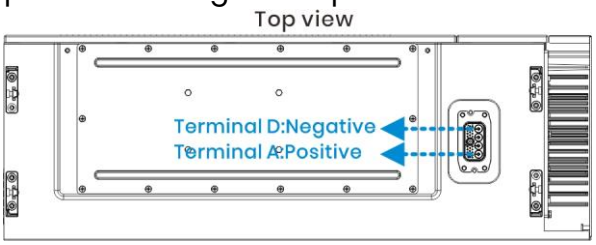
NO.	Parts
1	Guided quick connector
2	Explosion-proof valve
3	Leak valve

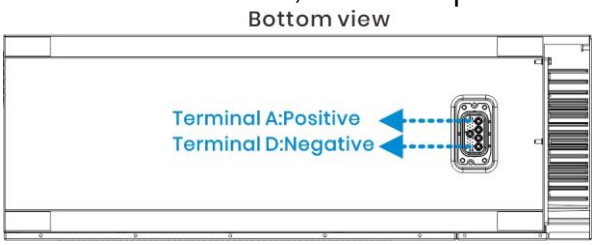
- Base appearance



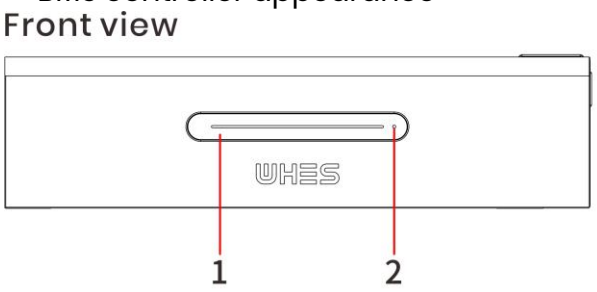
NO.	Parts
1	Guided quick connector
6	Base

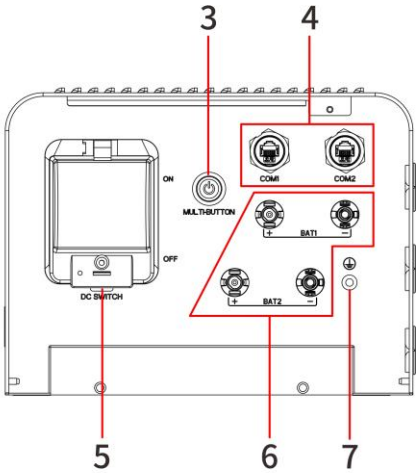
The definition of the guided quick connectors are as follows. The power terminals of the top and bottom guided quick connector are one-to-one matched, with a foolproof design.

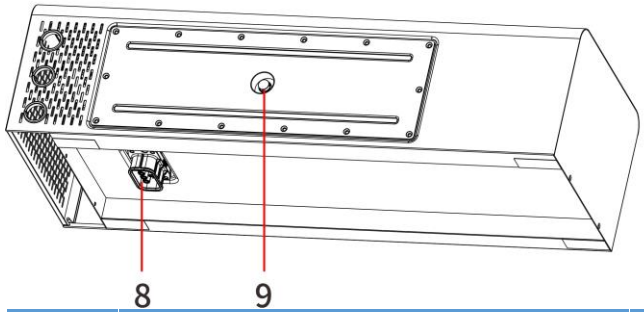




- BMS controller appearance







No.	Name	Definition
1	SOC indicator	Please see the detail description below this section

2	Status indicator	Please see the detail description below this section
3	Multifunction button	Power on/off mode: Power on: After turning on the DC Switch, press and hold the button for more than 1 seconds to start the system. Power off: When the system is powered on, turn off the DC Switch, then press and hold for more than 5 seconds to turn off the system. Black start mode: When there is no PV and grid, press and hold for more than 1 seconds to start the system and drive the inverter to work.
4	Communication terminal(COM)	Be used to communicate with inverter or parallel operation
5	DC breaker	The master switch of the battery system, you must switch on it before power on the system; Short circuit protection
6	DC terminal (BAT)	Connect battery system with Inverter
7	Grounding point	System ground connection
8	Guided quick connector	Battery module power and communication interface
9	Leak valve	Battery box safety protection device

Run/Fault

Green LED lighting to show the battery system is Normal

Red LED lighting to show the battery system is Fault.

Status	Mode	Run/Fault	Remark
Power off	Power off	○	Light is off
Checking	System is initializing	●	1-Second intervals
Run	Standby/Charge/Discharge	●	Light is on
Fault	Fault	●	System is stopping, and check the problem

SOC

Blue LEDs are used to show the battery's remaining capacity.

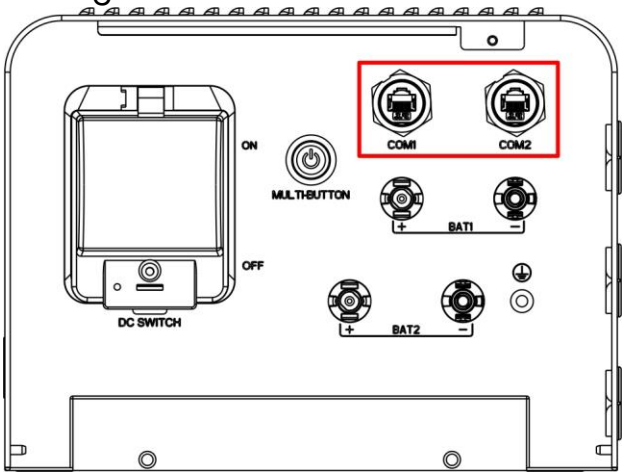
State		Charging/Discharging			
Capacity Indicator LED		L4	L3	L2	L1
SOC	SOC＜5%				
	5≤SOC < 25%				
	25≤SOC < 50%				
	50≤SOC < 75%				
	75≤SOC < 100%				

Note

The indicator light is flashing at 2s intervals.

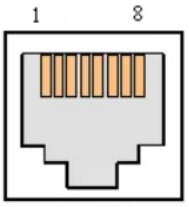
The SOC indicator light is off.

The SOC indicator light is on.



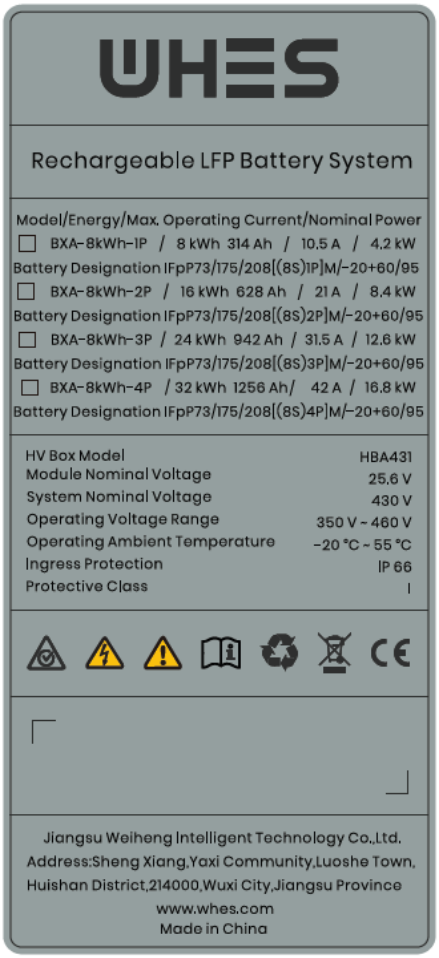
COM1/2 RJ45 Socket

Pin	Definition
1	NC
2	NC
3	CANL
4	CANH
5	P_CANL
6	P_CANH
7	NC
8	NC

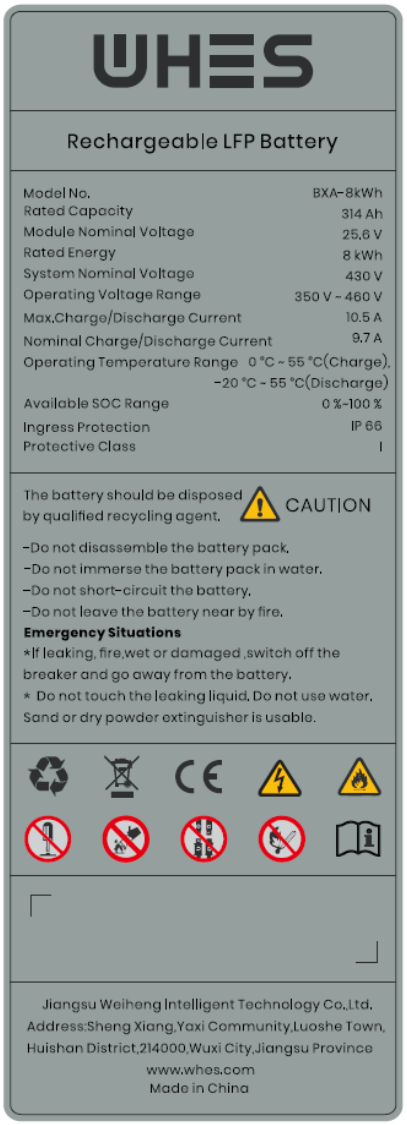


3.6 Product identity definition

High voltage box nameplate:



Battery box nameplate:



3.7 Techincal Data

Model	BXA-8kWh-1P	BXA-8kWh-2P	BXA-8kWh-3P	BXA-8kWh-4P
System Data				
Product Name	Rechargeable LFP Battery system			
Battery Type	LFP, 3.2 V / 314 Ah			
Configuration	1P(1P8S)	2P(1P8S)	3P(1P8S)	4P(1P8S)
Rated Capacity	314 Ah / 8 kWh	628 Ah / 16 kWh	942 Ah / 24 kWh	1256 Ah / 32 kWh
Usable Battery Capacity	8 kWh	16 kWh	24 kWh	32 kWh
Depth of Discharge[1]	100%			
Rated Battery Voltage	430 V			
Voltage Range	350...460 V			
Upper Limit Charging Voltage	460 V or 3.52 V/cell			
Lower Limit Discharging Voltage	350 V or 2.95 V/cell			

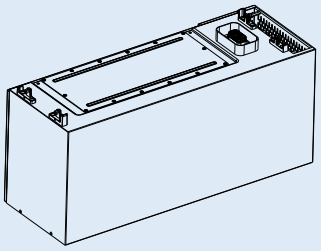
Standard Discharging Cut Off Voltage	350 V or 2.95 V/cell			
Recommended Charging/ Discharging Current	9.7 A	19.4 A	29.1 A	38.8 A
Max. Charging/Discharging Current	10.5 A	21 A	31.5 A	42 A
Standard Charging/Discharging Power	4.2 kW	8.4 kW	12.6 kW	16.8 kW
Standard Charging Method	At 25±5°C,charging at constant power 4.2kW until cell voltage reaches 3.48V, then charging power stepwisely reducted until cell voltage reaches 3.52V.	At 25±5°C,charging at constant power 8.4kW until cell voltage reaches 3.48V, then charging power stepwisely reducted until cell voltage reaches 3.52V.	At 25±5°C,charging at constant power 12.6kW until cell voltage reaches 3.48V, then charging power stepwisely reducted until cell voltage reaches 3.52V.	At 25±5°C,charging at constant power 16.8kW until cell voltage reaches 3.48V, then charging power stepwisely reducted until cell voltage reaches 3.52V.
Standard Disharging Method	Discharging at constant power 4.2kW until cell voltage reaches 2.95V.	Discharging at constant power 8.4kW until cell voltage reaches 2.95V.	Discharging at constant power 12.6kW until cell voltage reaches 2.95V.	Discharging at constant power 16.8kW until cell voltage reaches 2.95V.
General Data				
Dimensions (W*D*H/mm)	775*270*580	775*270*910	775*270*1240	775*270*1570
Weight	Battery Module: 78kg; High Voltage Module and Base: 17kg			
	95 kg	173 kg	251 kg	329 kg
Charge Ambient Temperature Range	0°C...+55°C			
Disharge Ambient Temperature Range	-20°C...+55°C			
Derating method	Cell Temperature deratng (1P-8038W): When MaxCellTemp ≥ 45°C, the derating is reduced to 0.35P. When MaxCellTemp ≥ 46°C, the derating is reduced to 0.25P. When MaxCellTemp ≥ 47°C, the derating is reduced to 0.1P. When MaxCellTemp ≥ 48°C, the derating is reduced to 0.05P.			
	Terminal temperature derating (1P-8038W): When MaxCellTemp ≥ 47°C, the derating is reduced to 0.35P. When MaxCellTemp ≥ 49°C, the derating is reduced to 0.25P. When MaxCellTemp ≥ 51°C, the derating is reduced to 0.1P. When MaxCellTemp ≥ 52°C, the derating is reduced to 0.05P.			
	Cell voltage derating (1P-8038W): When MaxCellVolt > 3480mV, the voltage is progressively reduced to 0.45/0.4/0.3/0.2/0.1P every 10 seconds.			
	Transformer temperature derating (1P-4200W): When TransTemp > 135°C, the rating is reduced to 0.5P. When TransTemp > 160°C, charging and discharging are prohibited.			
Storage Temperature Range	-30°C...+60°C			
Relative Humidity	5%...95%			
Altitude	3000 m (derated above 2000 m)			
Cooling	Natural Convection			
Noise	< 25 dB			
Ingress Protection	IP66			
Display	LED/APP			
Protective Class	I			
Firefighting	Aersol			
Communication	CAN			
Installation	Floor-standing (standard)			

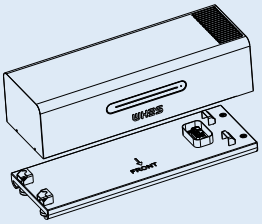
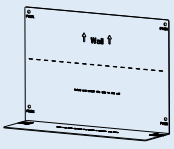
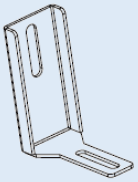
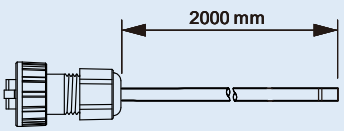
Made in China

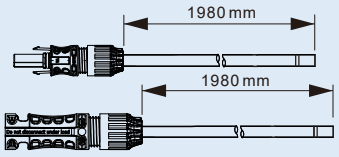
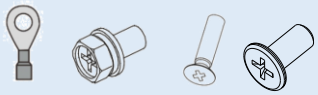
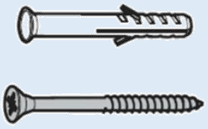
*1 Test conditions: 100% depth of discharge, 0.2c rate charge & discharge averagely at 25°C, at the beginning of life

4 INSTALLATION

4.1 Packing List

DC/DC Series Battery Module	
	
1 x BXA-8kWh	
	
4 x M4*10 Flat-head Screws	1 x Quality Certificate

DC/DC Series BMS Controller		
		
1× HBA431		
		
1 × Perforated Cardboard	2 x Wall Mounting Plates	1 × RJ45 Connector Harness

		
1 × Positive DC Connector Harness 1 × Negative DC Connector Harness	1 × OT5-5 Terminal 1 × M5*10 Hexagonal Screw 4 × M4*8 Flate-head Screws 2 × M5*10 Ultra-thin Head Screws	2 × Plastic Wall Anchors 2 × ST6×55 Self-tapping Screws
		
1 x Quick Installation Guide	1 x Quality Certificate	1 x Warranty Card

4.2 Installation Location and Environment

4.2.1 General

Install the equipment on a surface that is solid enough to bear the product weight. Evaluate the load-bearing capacity of the installation surface before installation.

The battery box is suitable for both indoor and outdoor installation and uses natural ventilation for heat dissipation. Install the battery box in a clean, dry, and adequately ventilated location where air can circulate freely around the unit.

Avoid confined or poorly ventilated spaces. Do not obstruct the ventilation openings, air passages, or system panels. Maintain sufficient clearance around the battery box to allow adequate airflow, heat dissipation, installation, inspection, and maintenance.

The battery system should not be installed in the following locations:

- ◆Habitable rooms;
- ◆Ceiling or wall cavities;
- ◆On roofs not suited for the purpose;
- ◆Access/exit areas or under stairs/access passages;
- ◆Places where freezing temperatures can occur, such as garages, carports, or other places such as wet rooms;

- ◆Humid or salty environments;
- ◆Seismic-prone areas—additional safety measures are needed;
- ◆Sites higher than 3000 meters above sea level;
- ◆Explosive atmospheres;
- ◆In direct sunlight or places susceptible to significant changes in ambient temperature.

4.2.2 Location Restrictions

The battery system should not be installed:

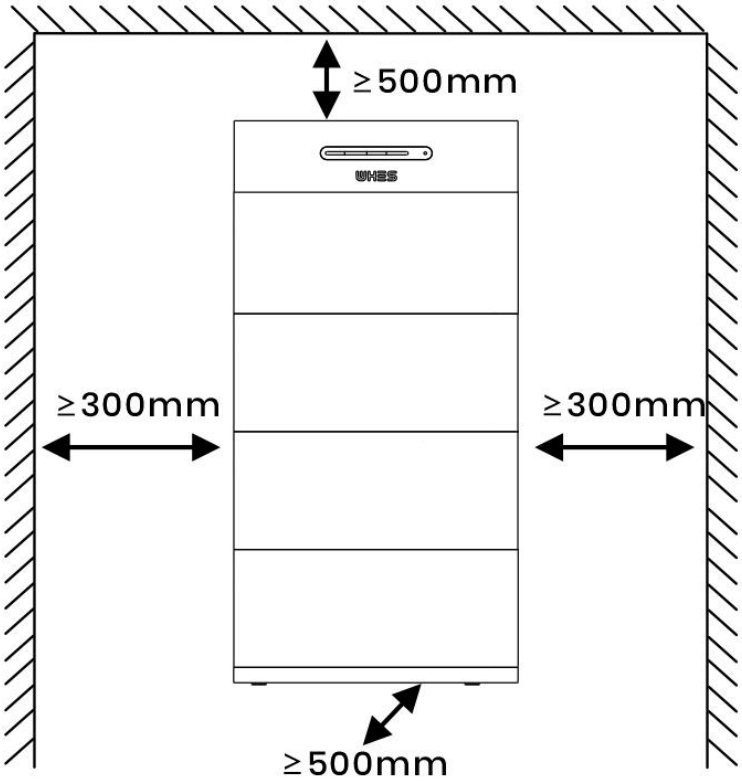
(1) Within 600 mm of any heat source, such as hot water units, gas heaters, air conditioning units, or any other similar appliances. Avoid installing the battery system where hot air from a heat source or other equipment is discharged directly toward the battery box.
(2) Within 600 mm of any exit;
(3) Within 600 mm of any window or ventilation opening;
(4) Within 900 mm of access to 120/240 VAC connections;
(5) Within 600 mm of the side of any other device.
(6) In any enclosed, sealed, or poorly ventilated location where natural airflow around the battery box is restricted;
(7) In any location where the ventilation openings or heat-dissipation areas of the battery box may be blocked or obstructed.

Leave at least 1 meter of clearance between the battery box and any emergency exits when installing the device in corridors, lobbies, or hallways to ensure a safe exit.

4.2.3 Barriers to Habitable Rooms

Ensure a suitable non-combustible barrier is set up between the battery box and any installation walls or structures when installing the battery box on a wall or structure connected to a living space to protect against the spread of fire to living spaces. A non-combustible barrier should be installed between the battery box and the surface of the wall or structure it is being mounted to if the surface itself is not made of a suitable non-combustible material. Increase the distance between the battery box and any other nearby structures or objects if there is less than 30 mm between the battery box and the wall or structure separating it from living spaces.

The following spaces around the battery box must remain empty:



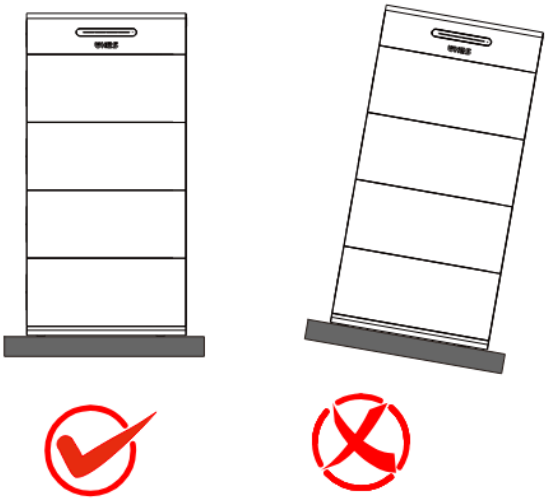
The clearance is a recommendation. If there is a local standard for the installation of energy storage system, please define the clearance refer to the standard.

4.2.4 Choosing an Installation Location

NOTICE

Carefully select an appropriate installation location based on the following rules to protect the Battery Box and facilitate maintenance.

Rule 1. Do not install the system at forward tilted, back tilted, side tilted, horizontal, or upside-down positions.



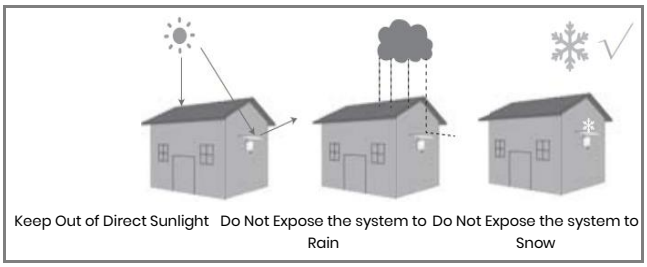
Rule 2. Install the system on a solid brick-concrete structure or concrete wall or

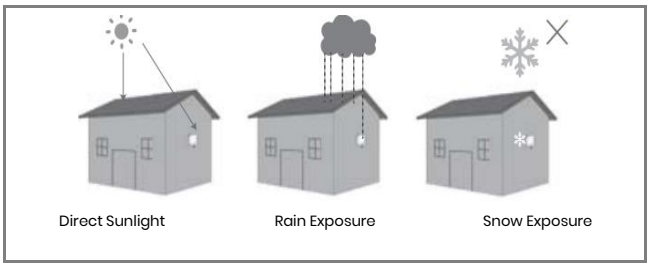
floor. If other types of walls and floors are used, they must be made of fire-retardant materials and meet the load-bearing requirements of the equipment.

Rule 3. During installation, ensure that there is no other equipment (except related Weiheng equipment and awnings) or flammable or explosive materials around the system. Reserve sufficient clearances for heat dissipation and safety isolation.

Rule 4. The temperature and humidity at the installation site should be within the appropriate range.

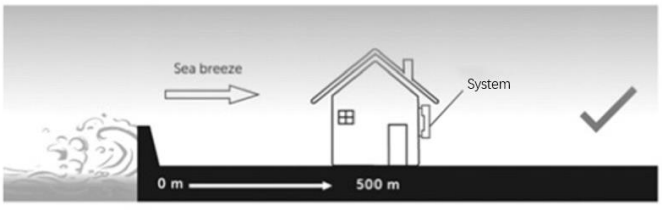
Rule 5. The system installation location should be protected from direct sunlight or bad weather like snow, rain, or lightning.

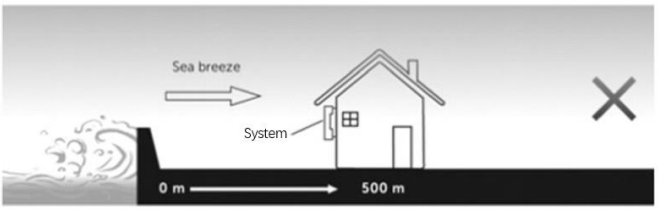




Rule 6. Installing the system at eye level will make maintenance more convenient.

Rule 7. Install the system at least 500 meters away from the coast and avoid being directly exposed to the sea breeze.





Rule 8. The product label should be clearly visible after installation.

Rule 9. Do not install the system in the snow or rain. If installation in the snow or rain is unavoidable, ensure the system and distribution box are protected and kept dry.

Install the system away from strong magnetic fields to avoid electromagnetic interference. When installing the system next to radio or wireless communication equipment operating below 30 MHz: 1. Install the system at least 30m away from the wireless equipment. 2. Attach a low-pass EMI filter or a multi-winding ferrite core to the system DC input cable or AC output cable.

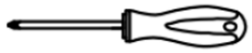
4.2.5 Installation Steps

The system must not be installed near flammable or explosive

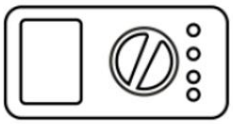
WARNING materials or near equipment with strong electromagnetic fields.

The system should only be installed on concrete or other non-combustible surfaces.

Installation Tools:



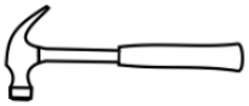
Screwdriver



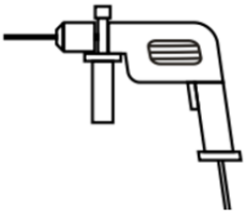
Multimeter



Wire stripper



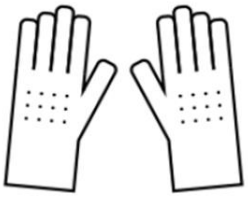
Claw hammer



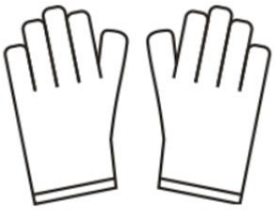
Hammer drill



Diagonal plier

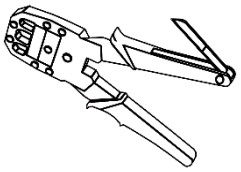


Insulating gloves



Protective gloves



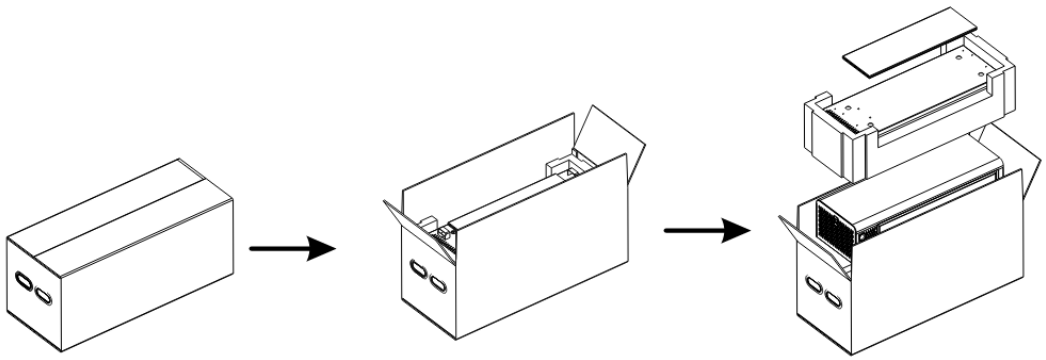


Crimping pliers

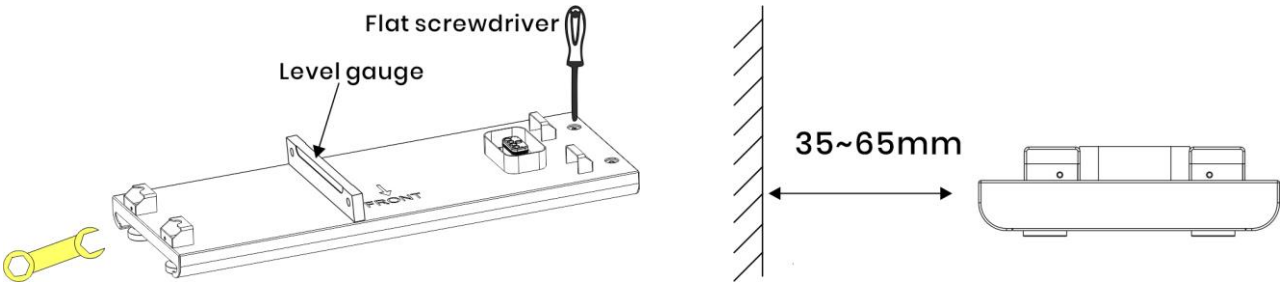
CAUTION

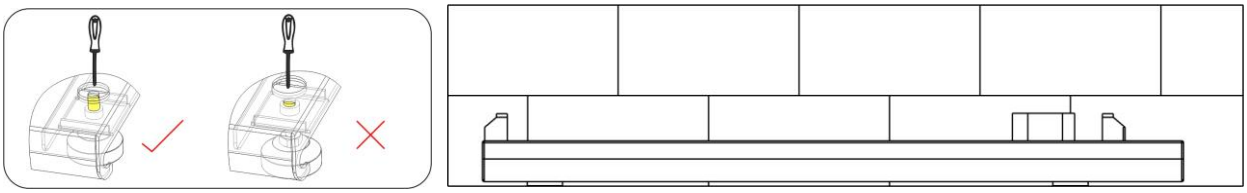
- Follow local electric safety and installation policy, a suitable breaker between battery system and inverter is required.
- All installation and operation must follow local electric standard and requirements.
- When battery modules are paralleled, the system should be powered off before installation operation.

Step1： Take out the BMS controller and base from the package.



Step2： Place the base on the ground and adjust the height of the bottom support leg with a screwdriver to ensure that the base is horizontal.





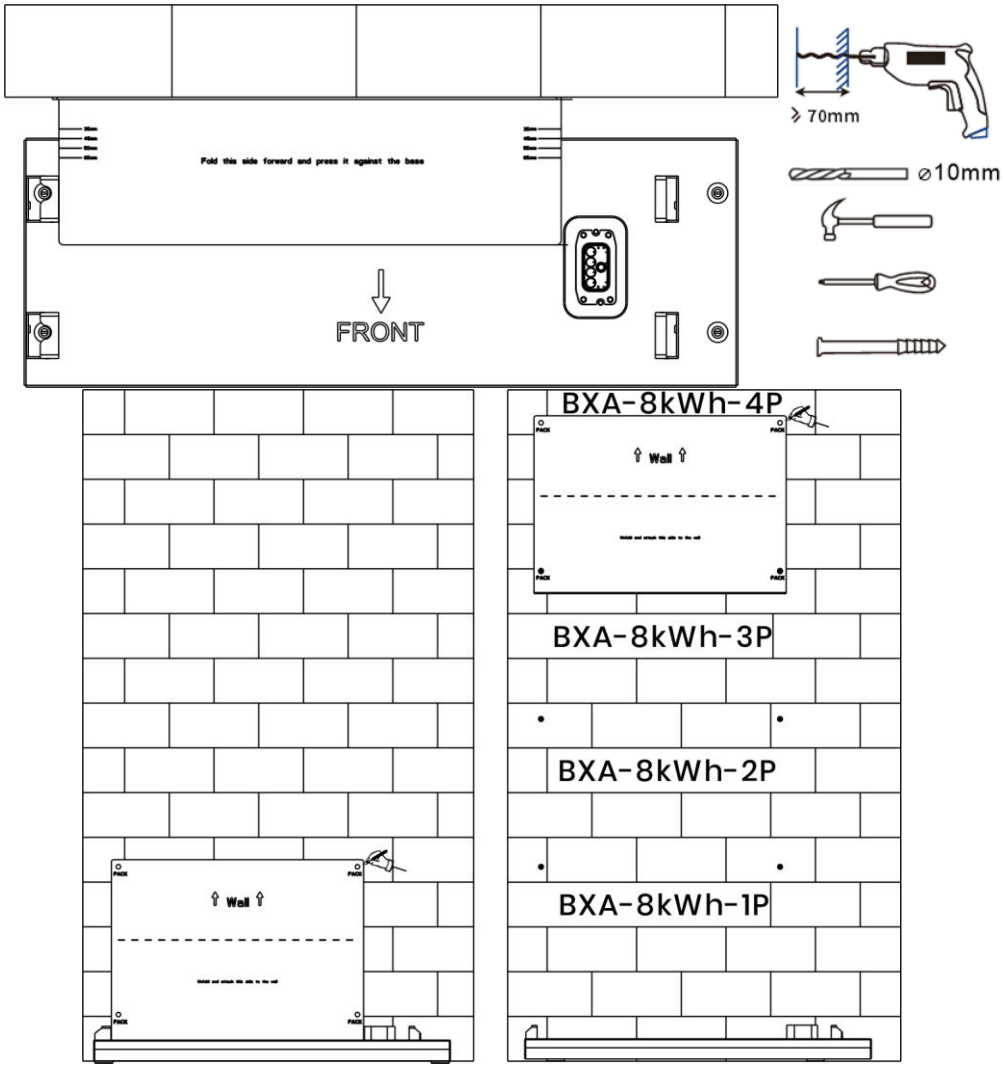
CAUTION

- The height of the foot adjusting screw must exceed the base mounting nut.

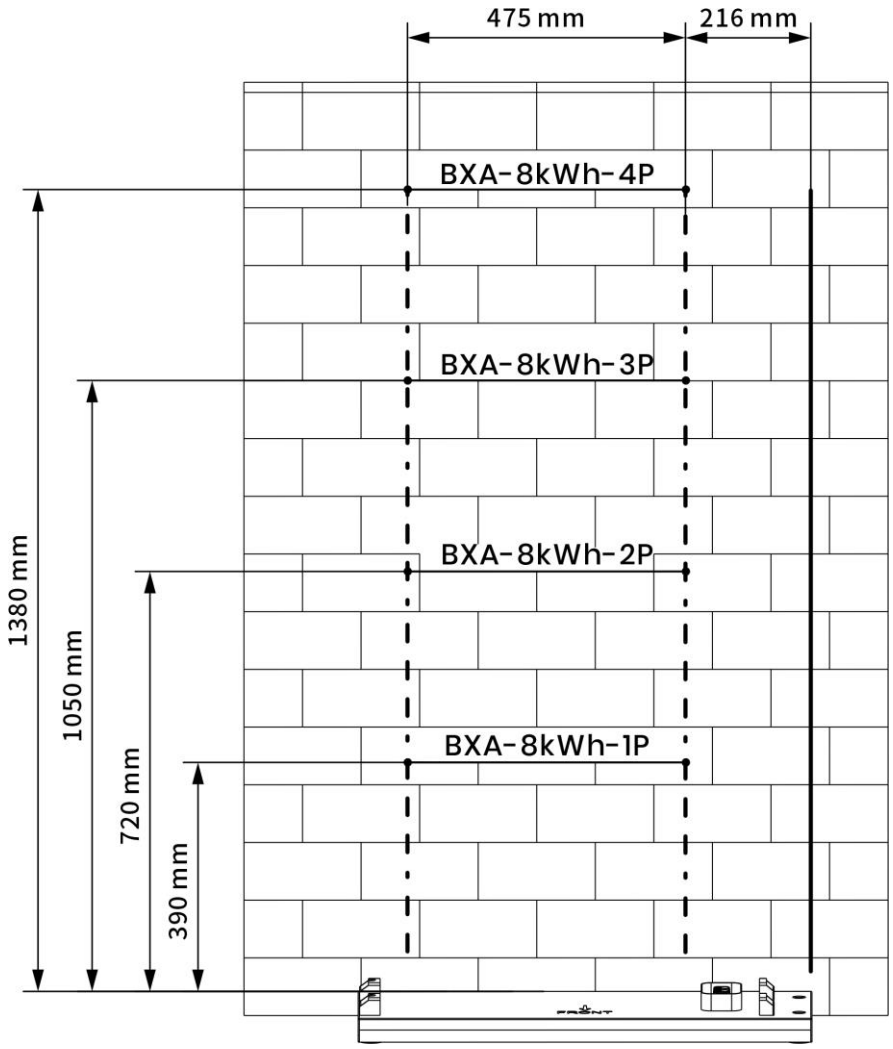
Step3： Drill the positioning holes.

Unfold the positioning cardboard and place it tightly against the wall and the base. Use the positioning lug at the top left corner of the base as the positioning point for the cardboard. The positioning cardboard should be perpendicular to the wall and base. Mark the first battery positioning holes on the wall with a marker.

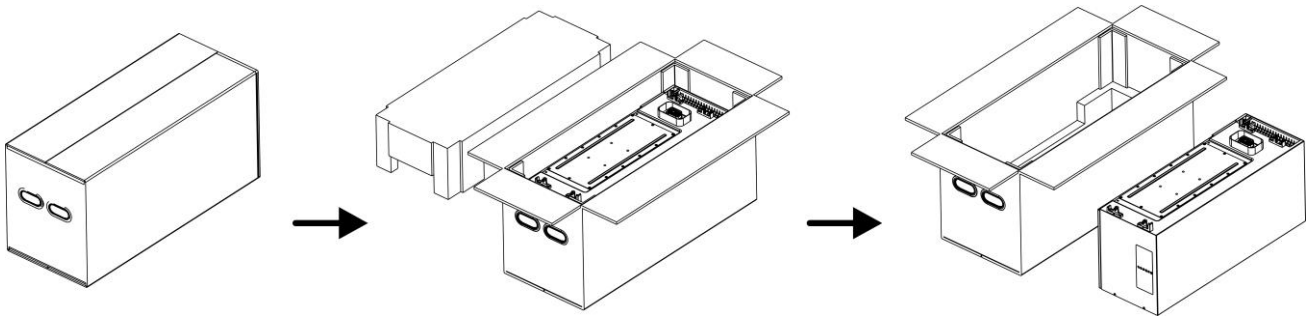
When marking the second battery positioning holes, align the two holes on the bottom of the positioning cardboard with the first set of positioning holes marked on the wall. Mark the second battery positioning holes on the wall again. Repeat the previous step for the third and fourth battery positioning holes.



The reference positions for the holes are as follows:

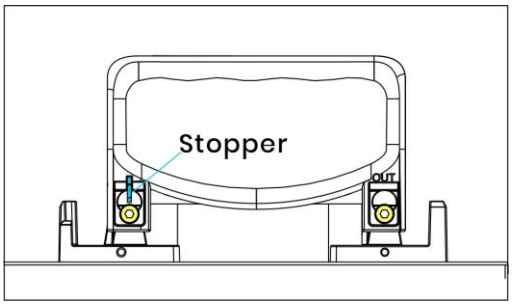


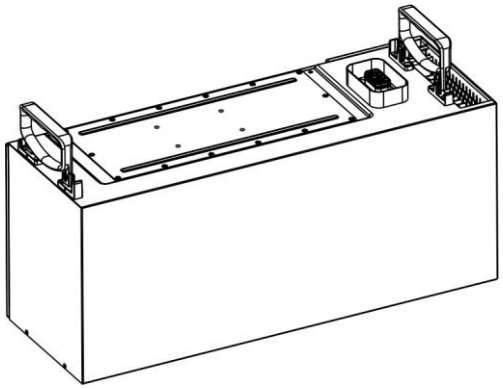
Step4: Take out the battery module from the package



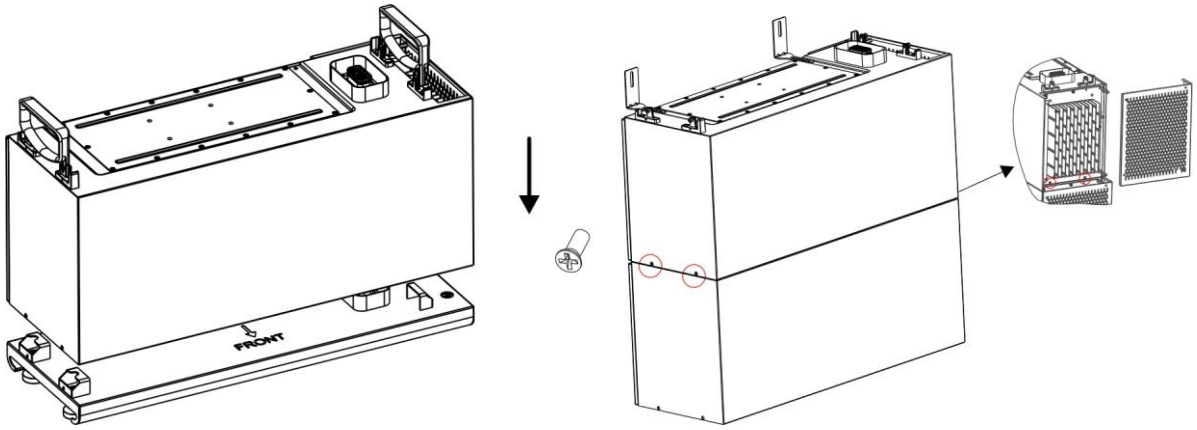
CAUTION

- Be cautious to prevent injury when moving heavy objects.
- Use lifting handles to move an energy storage module. Do not move it directly with your hands.
- The stopper must be kept in a vertical position before handling.

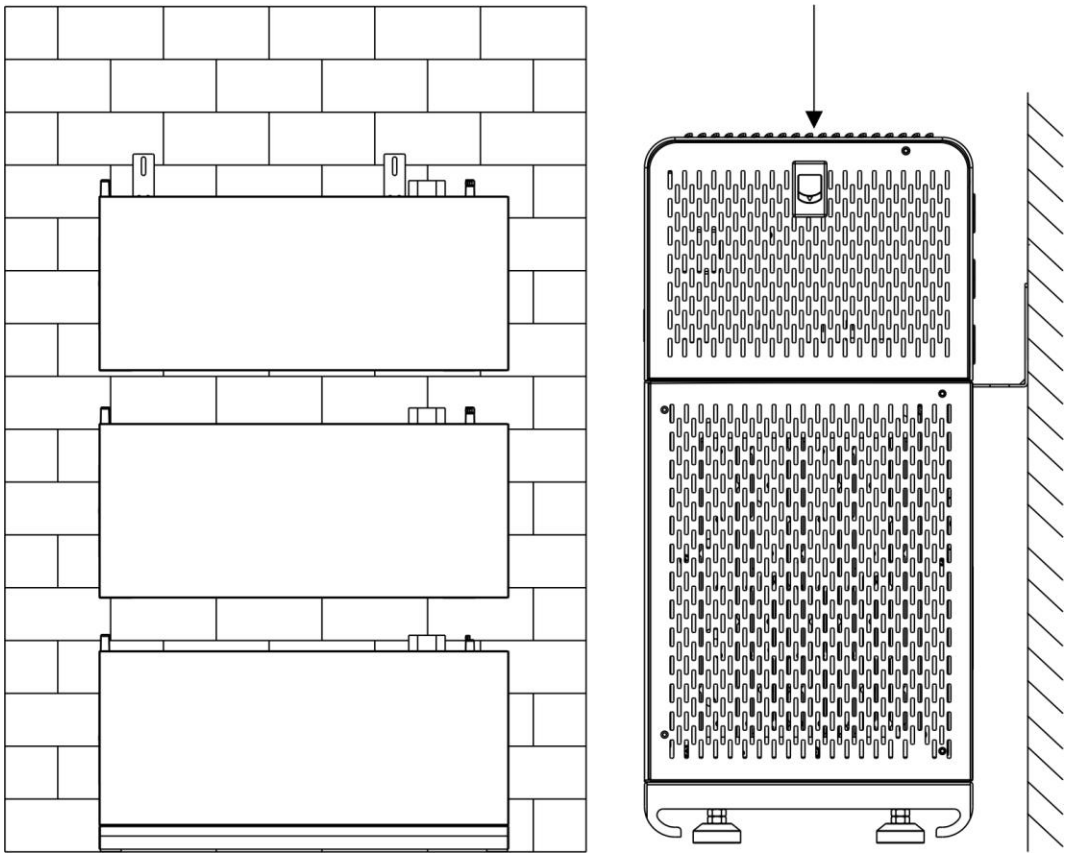




Step5： Install the first battery module, stack the battery module on the base, Fix the module on both sides with screws.



Step6： Install all battery modules in sequence, secure the screws on both sides, fix the last battery module to the wall, and then install the BMS controller on top of the battery module, securing it to the battery module on both sides with screws.



- If multiple persons need to move the battery module together, determine the manpower and work division with consideration of height and other conditions to ensure that the weight is equally distributed.
- If two persons or more move the battery module together, ensure that the battery module is lifted and landed simultaneously and moved at a uniform pace under the supervision of one person.
- Wear personal protective gears such as protective gloves and shoes when manually moving the equipment.

CAUTION

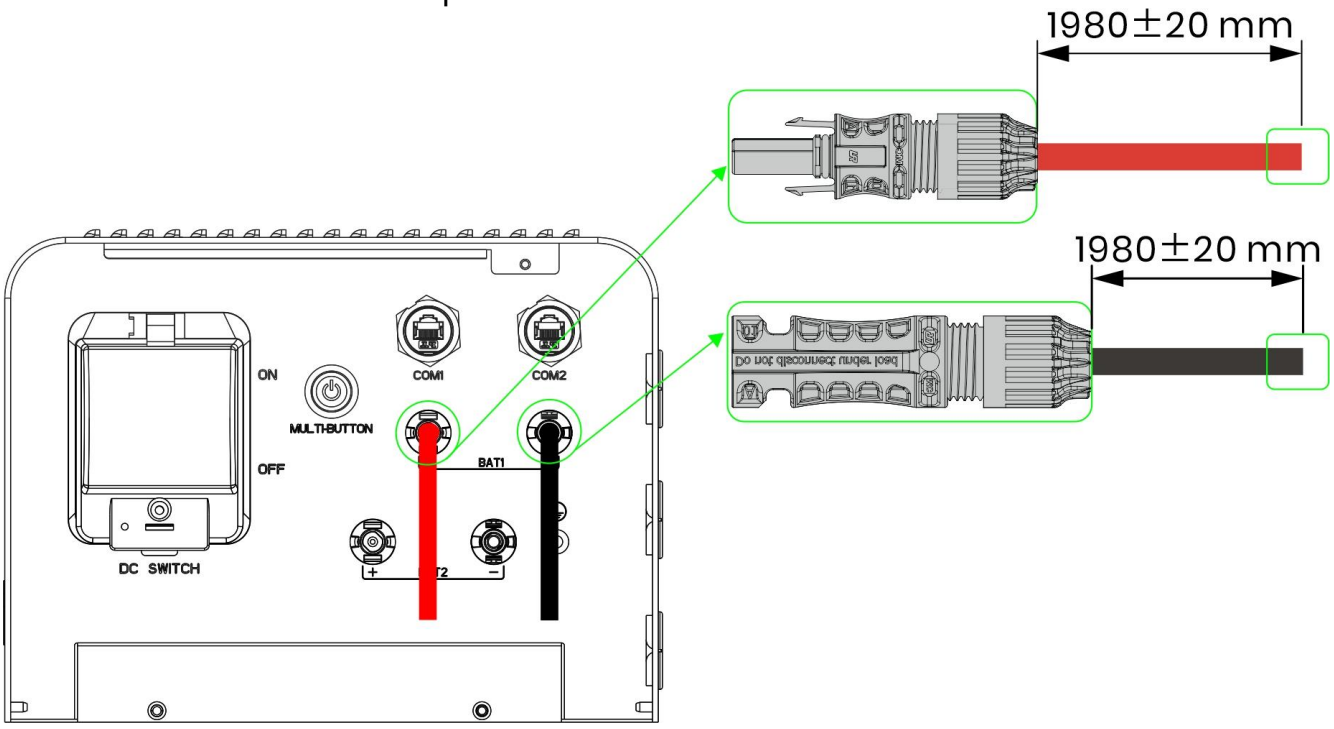
- To move the battery module by hand, approach to the battery module, squat down, and then lift the battery module gently and stably by the force of the legs instead of your back. Do not lift it suddenly or turn your body around.
- Do not quickly lift the battery module above your waist. Place the battery module on a workbench that is half-waist high or any other appropriate place, adjust the positions of your palms, and then lift it.
- Move the battery module stably with balanced force at an even

and low speed. Put down the battery module stably and slowly to prevent any collision or drop from scratching the surface of the equipment or damaging the components and cables.

- When moving the battery module, be aware of the workbench, slope, staircase, and slippery places. When moving the battery module through a door, ensure that the door is wide enough to move the battery module and avoid bumping or injury.
- When transferring the battery module, move your feet instead of turning your waist around. When lifting and transferring the battery module, ensure that your feet point to the target direction of movement.

Step7 : Connect the ground cable, power cable and communication cable between PCS and battery.

- **Power cable** connection process is as below:

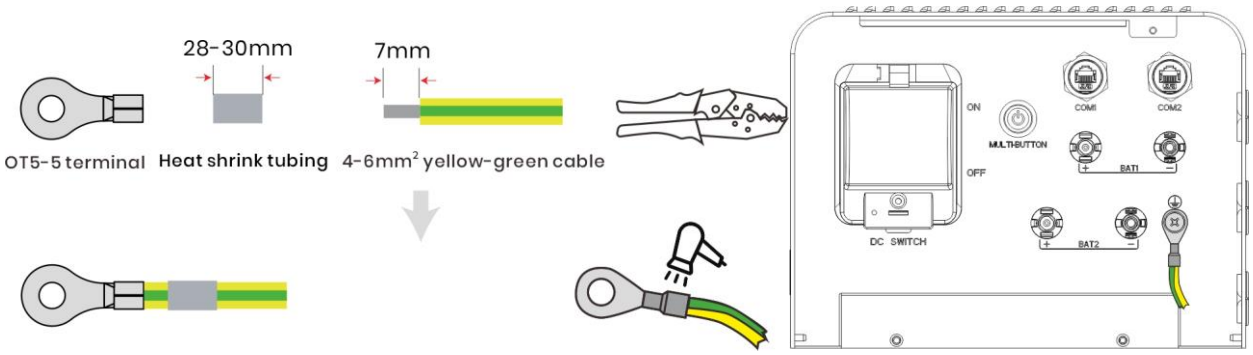


NOTICE

- For instructions on connecting the inverter's BAT positive (+) and negative (-) connectors, please refer to the inverter Quick Installation Guide.
- Before installation, make sure that the positive/negative wiring harness has been completed.

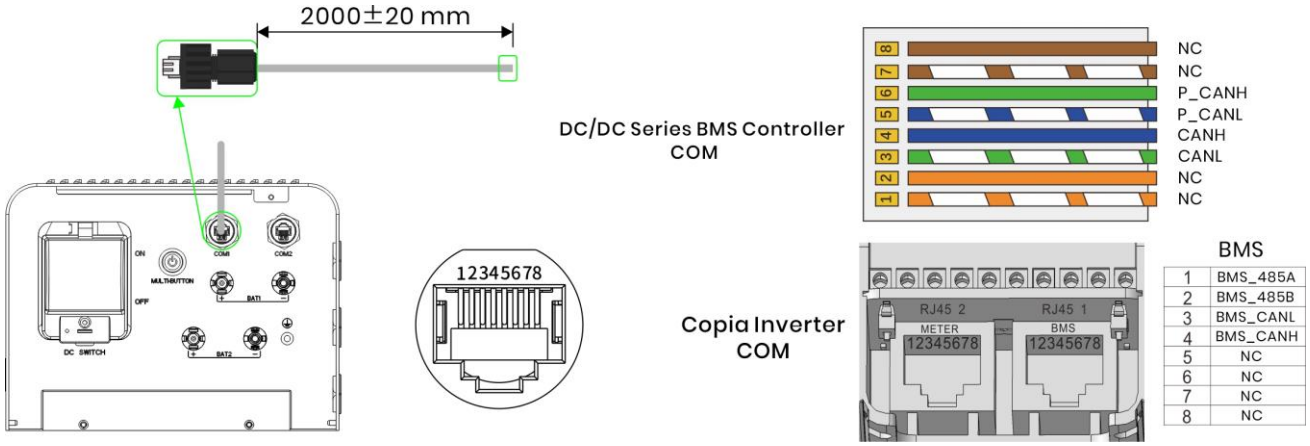
- **PE cable** connection process is as below:

Use M5 screw for the PE connection and tighten it to a torque of 2.5 ± 0.5 N·m.

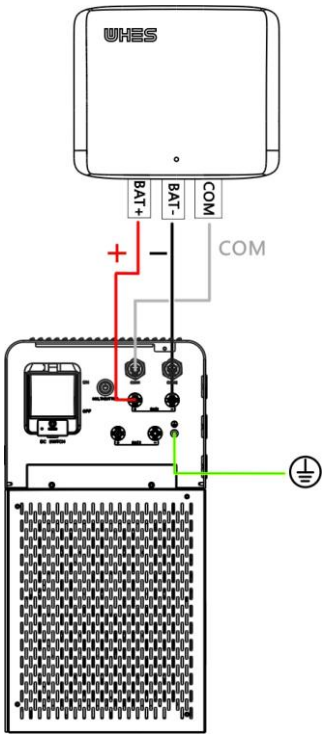


NOTICE

Ground cable shall be connected to ground plate on grid side this prevents electric shock. if the original protective conductor fails.



For third-party inverters, please refer to the COM port definition in the user



Cable Type	Cable Specification
BAT+/BAT-	6-10mm²
PE	4-6mm²

*The actual wire size shall be determined based on the operating currents of both the inverter and the battery.

manual for wiring.

5 System Operation

5.1 Check Before Turning ON

Please check the following before turning on to avoid the battery system being damaged.

No.	Check Item
1	Double check the power cable, communication cable, PE cable are connected correctly and securely.
2	Make sure the voltage of the inverter/PCS is same level with the battery system before connection.
3	Unused ports and terminals are sealed.

5.2 Turn ON the Battery System

NOTICE

The DC breaker between the inverter and the battery, and between the two batteries (parallel solution), shall be installed in accordance with local laws and regulations.

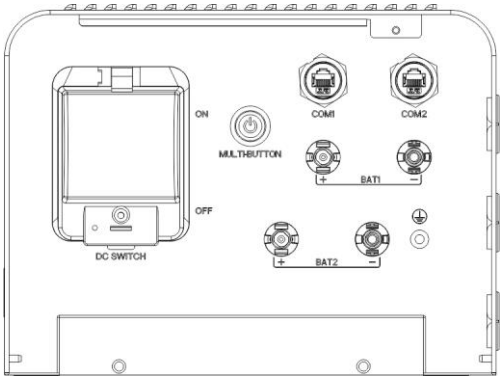
DANGER

Risk of electric shock from stored energy. Wait 15 seconds after disconnecting all sources of supply before maintenance.

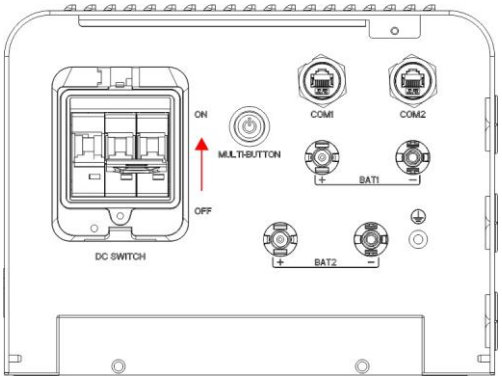
Step1: If necessary, turn on the breaker between the inverter and the battery system.

Step2: Open protect cover of the DC switch (Pic1). And turn on the DC switch (Pic2). Press and hold the multi-button for more than 1 seconds to start the battery.

Step3: Turn on the inverter in the system following the user manual of the inverter.



Pic1



Pic2

5.3 Paralleled battery systems

Step1： If necessary, turn on the breaker between the inverter and the battery system.

Step2： Turn on the breakers between the battery systems.

Step3： Open protect cover of the DC switch. Then turn on the DC switch in turn. Press and hold the multi-button of the master cluster (connected to the inverter) for more than 1 second to start the battery.

Step4： Turn on the inverter in the system following the user manual of the inverter.

5.4 Turn off the Battery System

When failure or before service, must turn the battery storage system off:

Step1： Turn off the inverter or power supply on DC side.

Step2： Turn off the switch between PCS and battery system.

Step3： Open protect cover of the DC switch. Switch the DC breaker to off position. Then press and hold the multi-button for more than 5 seconds to turn off the system.

NOTICE

- One battery system shall just have one master, all the others are slaves. The one on the extreme side connected to inverter is the master battery.
- It is forbidden to switch off the Isolating Switch during charging and discharging.

6 Remarks

6.1 Recycle and Disposal

In case a battery (normal condition or damaged) needs disposal or needs recycling, it shall follow the local recycling regulation (i.e. Regulation (EC) N° 1013/2006 among European Union) to process, and using the best available techniques to achieve a relevant recycling efficiency.



6.2 Maintenance

1) It is required to charge the battery at least once every 6 months, for this charge maintenance make sure the SOC is charged to higher than 85%.
2) Check installation environment such as dust, water, insect etc. Make sure it is suitable for IP65 battery system. Connection of power connector, grounding point, power cable and screw are suggested to be checked every year

6.3 Declaration of conformity

The battery system described in this document complies with the applicable European directives. The certificate is available in the download area of our websites.