iHome-B5-HD02

User Manual

Foreword

Summaries

For Australian market, an overcurrent protection and isolation device between parallel batteries and between inverter and battery system.

Thank you for choosing the iHome-B5-HD02 series (hereinafter referred to as iHome-B5-HD02)!

This document gives a description of the iHome-B5-HD02, including the features, performance, appearance, structure, working principles, installation, operation and maintenance, etc.

Please save the manual after reading, in order to consult in the future.

NOTE

The figures in this manual are just for reference, for details please see the actual product.

Suitable Model

- iHome-B5-HD02

NOTE

The energy storage system iHome series install up to eight batteries. For special illustration, the following take iHome-B5-HD02 as an example.

Symbol Conventions

The manual quotes the safety symbols, these symbols used to prompt users to comply with safety matters during installation, operation and maintenance. Safety symbol meaning as follows.

Symbol	Description
DANGER	Alerts you to a high risk hazard that will, if not avoided, result in serious injury or death.
WARNING	Alerts you to a medium low risk hazard that could, if not avoided, result in moderate or minor injury.
CAUTION	Alerts you to a low risk hazard that could, if not avoided, result in minor injury.

Symbol	Description
	Anti-static prompting.
	Be care electric shock prompting.
TIP	Provides a tip that may help you solve a problem or save time.
NOTE	Provides additional information to emphasize or supplement important points in the main text.

Contents

1 Safety Description

This chapter mainly introduces the safety announcements. Prior to performing any work on the device, please read the user manual carefully, follow the operation and installation instructions and observe all danger, warning and safety information.

1.1 Safety Announcements

CAUTION

Before operation, please read the announcements and operation instructions in this section carefully to avoid accident.

The promptings in the user manual, such as "Danger", "Warning", "Caution", etc. don't include all safety announcements. They are just only the supplement of safety announcements when operation.

NOTE

Any device damage caused by violating the general safety operation requirements or safety standards of design, production, and usage will be out of Chelion's guarantee range.

1.1.1 Use Announcements

DANGER

Don't touch terminals or conductors that connected with grid to avoid lethal risk!

DANGER

There is no operational part inside the battery pack. Please do not open the crust of the battery pack by yourself, or it may cause electric shock. The battery pack damage caused by illegal operation is out of the guarantee range.

DANGER

Damaged device or device fault may cause electric shock or fire!

- Before operation, please check if the battery pack is damaged or has other danger.
- Check if the external device or circuit connection is safe.

DANGER

Before checking or maintenance, if the DC side and AC side is power down just now, it is necessary to wait for 5 minutes to ensure the inner device is completely discharged, and then the operation can be performed.

DANGER

The surface temperature of the battery pack may reach to 60℃. During running, please don't touch the surface to avoid scald.

CAUTION

No liquid or other objects are allowed to enter the battery pack, or, it may cause the battery pack damage.

CAUTION

In case of fire, please use dry power fire extinguisher. If using liquid fire extinguisher, it may cause electric shock.

1.1.2 Symbol Illustration

Table1-1 Inverter symbol illustration

Symbol	Illustration
	Beware of a danger zone This symbol indicates that the product must be additionally grounded if additional grounding or equipotential bonding is required at the installation site.
	Beware of electrical voltage The product operates at high voltages.
	WEEE designation Do not dispose of the product together with the household waste but in accordance with the disposal regulations for electronic waste applicable at the installation site.
	Observe the documentation.
	CE marking The product complies with the requirements of the applicable EU directives.
	Danger to life due to high voltages in the inverter, observe a waiting time of 5 minutes. High voltages that can cause lethal electric shocks are present in the live components of the inverter. Prior to performing any work on the inverter, disconnect it from all voltage sources as described in this document.
	Beware of hot surface

Symbol	Illustration
	The product can get hot during operation.

1.1.3 ESD Protection

CAUTION

To prevent human electrostatic damaging sensitive components (such as circuit board), make sure that you wear an anti-static wrist strap before touching sensitive components, and the other end is well grounded.

1.1.4 Grounding Requirements

WARNING

High leakage risk! The battery pack must be grounded before wiring. The grounding terminal must be connected to ground, or, there will be the risk of electric shock when touching the battery pack.

- When installing, the battery pack must be grounded first. When dismantling, the grounding wire must be removed at last.
- Don't damage the grounding conductor.
- The device must be connected to protection grounding permanently.
- Before operation, check the electrical connection to ensure the battery pack is grounded reliably.

1.1.5 Moisture-proof Protection

CAUTION

Moisture incursion may cause the battery pack damage!

Observe the following items to ensure the battery pack works normally.

- When the air humidity is more than 95%, don't open the door of the battery pack.
- In the wet or damp weather, don't open the door of the battery pack to maintain or repair.

1.1.6 Safety Warning Label Setting

In order to avoid accident for unwanted person gets close to the battery pack or makes improper operation, observe the following requirements while installing, maintaining or repairing.

- Set warning marks where the switches are to avoid switching them on improperly.
- Set warning signs or safety warning belt in the operation area, which is to avoid human injury or device damage.
- When the port of battery pack is not in use, please don't remove the corresponding waterproof cover.

1.1.7 Electrical Connection

Electrical connection must be performed according to the description in the user manual and the electrical schematic diagram.

WARNING

Grid-tied generation should be allowed by the local power supply department and the related operation should be performed by professionals.

All electrical connection must meet the related country and district standard.

1.1.8 Measurement under Operation

CAUTION

There exists high voltage in the device. If touching device accidently, it may cause electric shock. So, when perform measurement under operation, it must take protection measure (such as wear insulated gloves, etc.)

The measuring device must meet the following requirements:

- The range and operation requirements of measuring device meet the site requirements.
- The connections for measuring device should be correct and standard to avoid arcing.

1.2 Safety Precaution for Battery Pack

1.2.1 General Safety Precautions

- Overvoltage or wrong wiring can damage the battery pack and cause deflagration, which can be extremely dangerous.
- All types of breakdown of the battery may lead to a leakage of electrolyte or flammable gas.
- Battery pack is not user serviceable. High voltage is present in the device.
- Read the label with Warning Symbols and Precautions, which is on the right side of the battery pack.
- Do not connect any AC conductors or PV conductors which should be only connected to the inverter directly to the battery pack.
- Do not charge or discharge the damaged battery.
- Do not damage the battery pack in such ways as dropping, deforming, impacting, cutting or penetrating with a sharp object. It may cause a leakage of electrolyte or fire.
- Do not expose battery to open flame.

1.2.2 Response to Emergency Situations

The battery pack consists of multiple batteries to form a high-voltage system, if it fails, there is a high-voltage risk. Chelion company cannot guarantee the absolute safety of the battery pack, so you need to pay attention to the following matters:

1. If a user happens to be exposed to internal materials of the battery cell due to damage on the outer casing, the following actions are recommended.

- Inhalation: Leave the contaminated area immediately and seek medical attention.
- Eye contact: Rinse eyes with running water for 15 minutes and seek medical attention.
- Contact with skin: Wash the contacted area with soap thoroughly and seek medical attention.
- Ingestion: Induce vomiting and seek medical attention.

2. If a fire breaks out in the place where the battery pack is installed, perform the following countermeasures.

- Fire extinguishing media

Respirator is not required during normal operations. Use FM-200 or CO_2 extinguisher for battery fire. Use an ABC fire extinguisher, if the fire is not from battery and not spread to it yet.

- Fire fighting instructions
  - If fire occurs when charging batteries, if it is safe to do so, disconnect the battery pack circuit switch to shut off the power to charge.
  - If the battery pack is not on fire yet, extinguish the fire before the battery pack catches fire.
  - If the battery pack is on fire, do not try to extinguish but evacuate people immediately.
- Effective ways to deal with accidents
  - On land: Place damaged battery into a segregated place and call local fire department or service engineer.
  - In water: Stay out of the water and don't touch anything if any part of the battery, or wiring is submerged. Do not use submerged battery again and contact the service engineer.

1.3 Requirements for Operator

CAUTION

The operation and wiring for iHome-B5-HD02 should be performed by qualified person, which is to ensure that the electrical connection meets the related standards.

The professional technicist must meet the following requirements:

- Be trained strictly and understand all safety announcements and master correct operations.
- Fully familiar with the structure and working principle of the whole system.
- Know well about the related standards of local country and district.

1.4 Environment Requirements

CAUTION

Avoid the iHome-B5-HD02 suffering directly sunshine, rain or snow to prolong the service life (detail please see 3.2.2 Installation Environment). If the installation environment does not meet the requirement, the guarantee time may be influenced.

The used environment may influence the service life and reliability of the iHome-B5-HD02. So, please avoid using the battery pack in the following environment for a long time.

- The place where beyond the specification (operating temperature: -10℃~50℃, relative humidity: 0%-95%).
- The place where has vibration or easy impacted.
- The place where has dust, corrosive material, salty or flammable gas.
- The place where without good ventilation or closed.

2 Overview

This chapter mainly introduces the device features, appearance, operating mode, etc.

2.1 Product Intro

With energy storage system iHome series, it is possible to effectively manage energy in users' home day and night. This energy storage system will provide a complete energy solution with multiple working modes which meet different application scenarios. It will bring independence and economy for energy use.

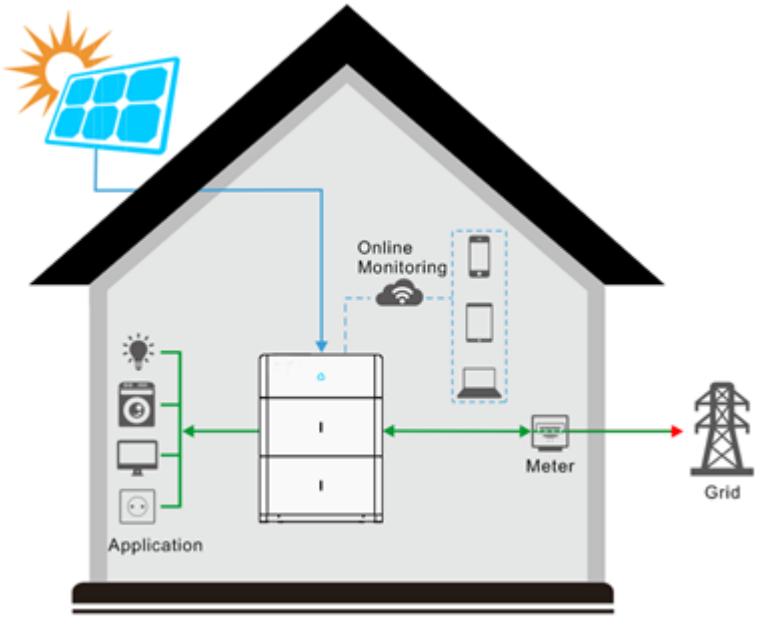


Figure2-1 Energy storage system

2.1.2 Model Meaning

Battery

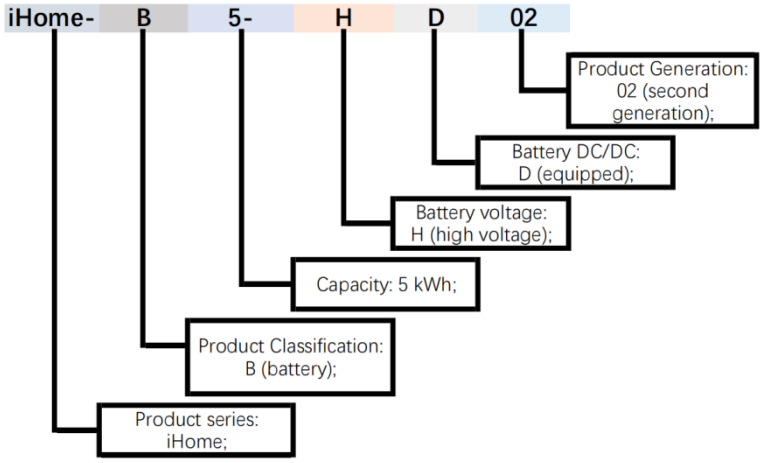


Figure2-2 Model meaning of battery

2.2 Appearance and Structure

2.2.1 Appearance

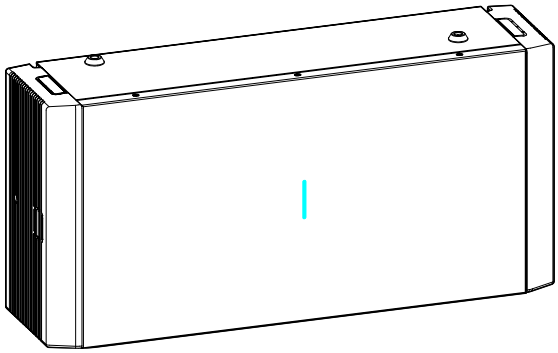


Figure2-3 Appearance of the battery

2.2.2 Size

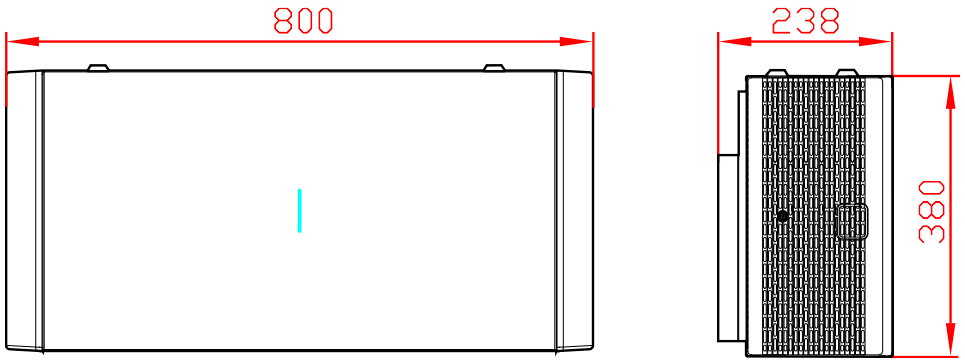


Figure2-4 Battery size (Unit: mm)

2.2.3 LED Signals

Table2-1 Illustration of the battery LED

LED display	Status	Illustration
	Blue indicator on	Battery pack is running.
	Flickers in blue and red alternately	Battery pack is running and with secondary alarm.
	Flickers in blue	Battery pack standby or off.
	Flickers in red	Battery pack standby or off, and with secondary alarm.
	Red indicator on	Battery pack abnormal and with important alarm.
	Off	Battery pack is power off.

2.2.4 Structure Layout Illustration

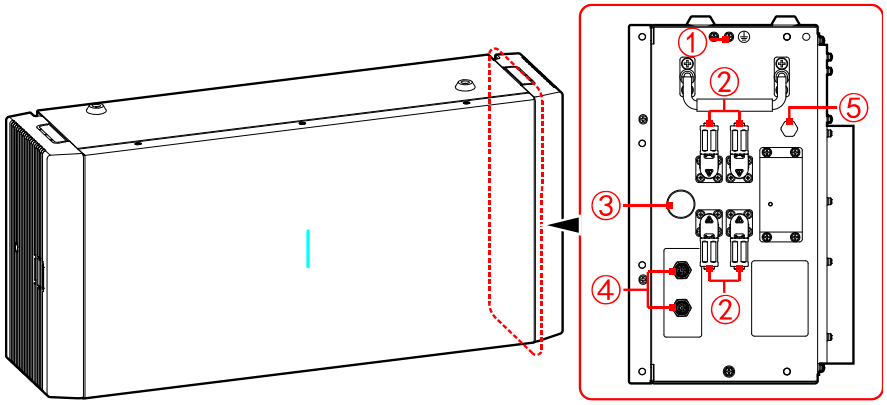


Figure2-5 Battery structure layout illustration

Table2-2 Battery terminals illustration

NO.	Mark		Illustration
①	⏚		Grounding terminal
②	BATT.	+	Battery port
		-	
③	POWER		Battery ON/OFF button
④	COM		Battery communication port
⑤	\		Breather valve

3 Installation

This chapter introduces the installation of the device, including installation process, installation preparation, transportation and unpacking, installation procedure, electrical connection and checking, etc.

3.1 Installation Process

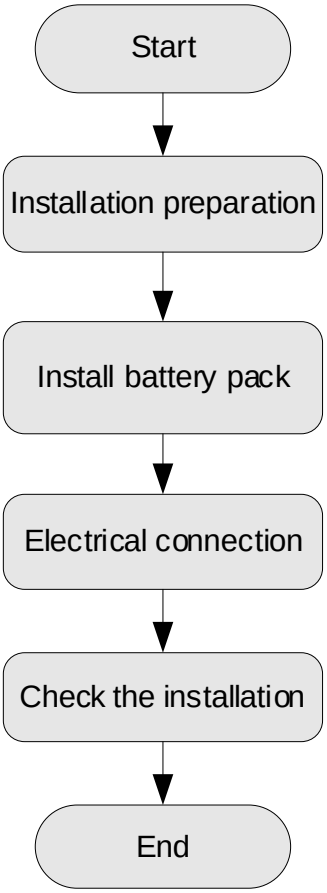
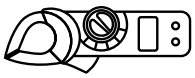
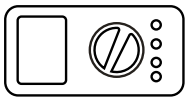
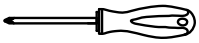
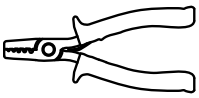
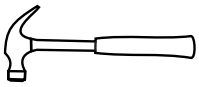
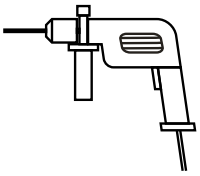
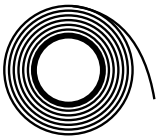
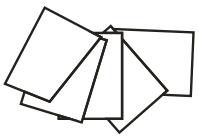
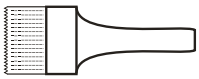
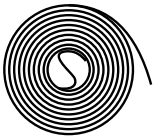
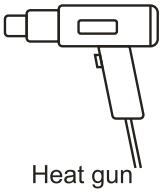
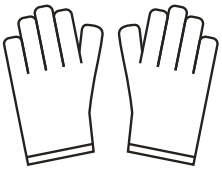
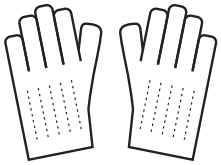
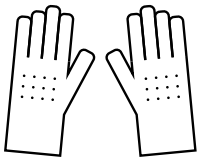
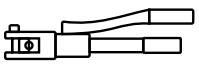
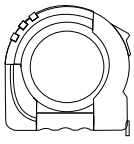


Figure3-1 Installation process

3.2 Installation Preparation

3.2.1 Tools

Tools			
 Clamp meter	 Multi-meter	 Label paper	 Phillips screwdriver
 COAX crimping tool	 Diagonal pliers	 Wire stripper	 Claw hammer
 Hammer drill	 Insulation tape	 Cotton cloth	 Brush
 Heat shrink tubing	 Heat gun	 Electrician's knife	 Protective gloves
 ESD gloves	 Insulated gloves	 Hydraulic pliers	 Cable tie
 Tape	 Levelling instrument	 Goggles Torque wrench	Torque wrench

CAUTION

The installation tools must be insulated to avoid electric shock.

When installing, please wear safety gloves and safety shoes.

When installing, please ware safety goggles and a dust mask to prevent dust from entering your eyes.

3.2.2 Installation Environment

- Do not install the iHome-B5-HD02 product in the place with poor ventilation.
- Do not install the iHome-B5-HD02 product in the place where has flammable or explosive materials.
- Ensure that there has sufficient fresh-air supply around the iHome-B5-HD02 product.
- The iHome-B5-HD02 product must be installed on the wall or supporter with enough bearing capacity.

NOTE

1. The iHome-B5-HD02 product is rated at IP65 for outdoor and indoor installation. But if the iHome-B5-HD02 product is installed under directly sunshine, its temperature will rise quickly, so, do not install the iHome-B5-HD02 product under directly sunshine.
2. It is suggested to install the iHome-B5-HD02 product under shade as shown in Figure3-2 to max the iHome-B5-HD02 product lifespan and efficiency.
3. For easy viewing and operating the iHome-B5-HD02 product please consider the visibility of the indicators during installation.

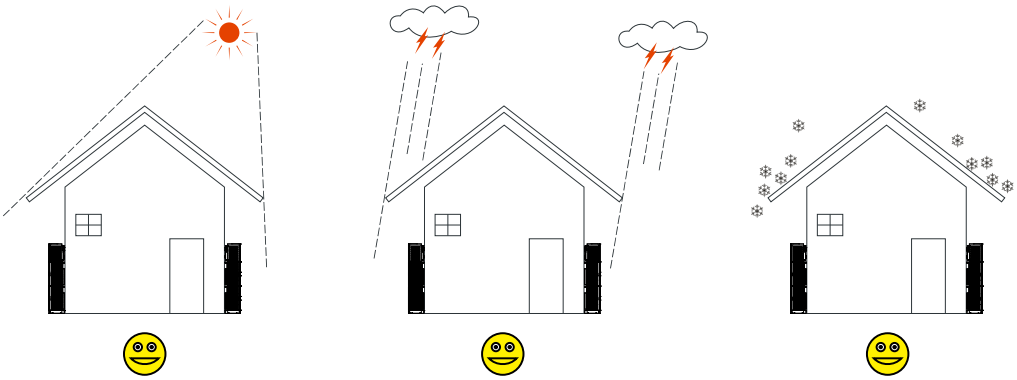


Figure3-2 Recommended installation environment

3.2.3 Installation Space

Keep at least 500mm from the left and right side of the device to other objects, keep at least 300mm from the top of the device to ceiling and keep at least 300mm from front of the device to other objects, which is good for heat dissipation, as shown in Figure3-3

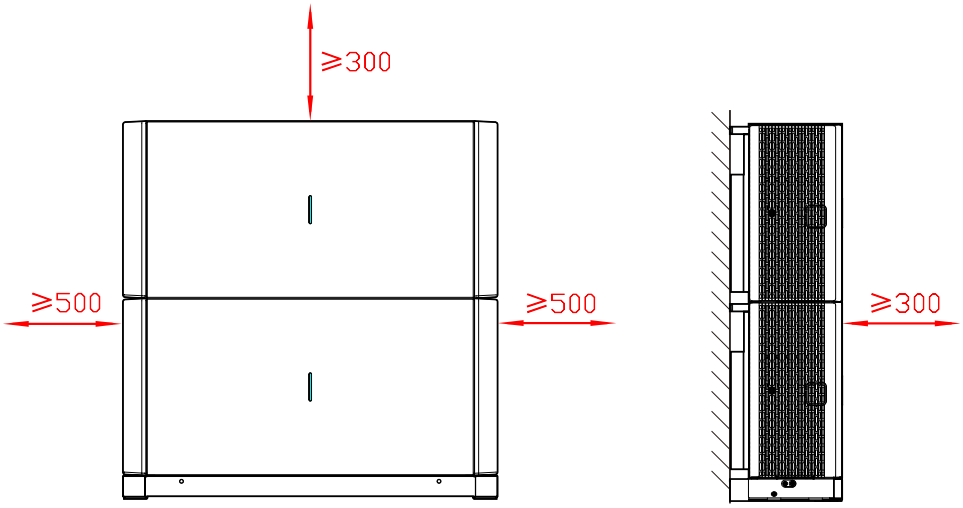


Figure3-3 Installation space (unit: mm)

3.3 Transportation and Unpacking

3.3.1 Transportation

The device should be transported by trained professional.

CAUTION

During transporting, please take care and avoid impacting or dropping.

3.3.2 Unpacking and Checking

NOTE
Select the unpacking site in advance. In principle, the unpacking site should be as close to the installation site as possible.

The device has been tested and checked strictly, but it still may be damaged during transporting, so, please check it carefully.

- Inspect the device's appearance, if any shipping damage is found, report it to the carrier and your local dealer immediately.

- Check if the types of the accessories are complete and correct. If there is any discrepancy, take notes and contact Chelion company or local office immediately.

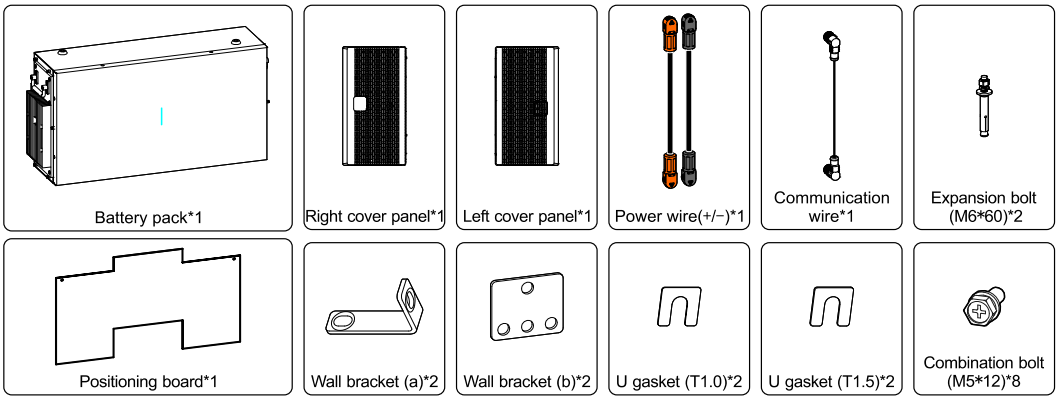


Figure3-4 Battery pack packing list

NOTE

The smart meter is optional and is provided upon order.

CAUTION

If the battery pack needs to be stored for a long time after unpacking, it is necessary to pack the device by original package and save properly.

If the battery needs to be stored for a long time, it is necessary to take half a year to charge.

3.4 Mechanical Installation

WARNING

The battery is very heavy, so it needs to transported and installed by proper auxiliary tools. There is a risk of injury if the battery pack is not handled properly during transporting.

CAUTION

Keep the installed place far away from the tube of water, electricity or gas, which is to avoid affect the installation.

CAUTION

When installing, please wear safety gloves and safety shoes.

Step 1 Determine the installation place.

1. Install auxiliary tool.

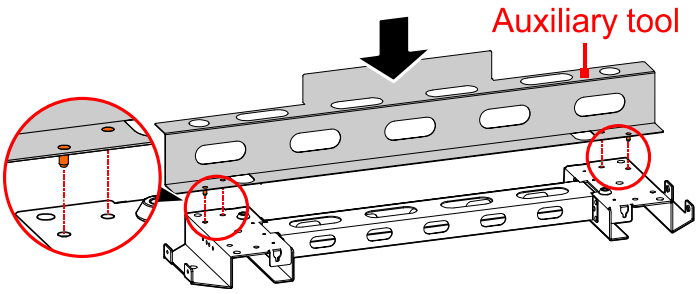


Figure3-5 Install auxiliary tool

2. Push the auxiliary tool against the wall

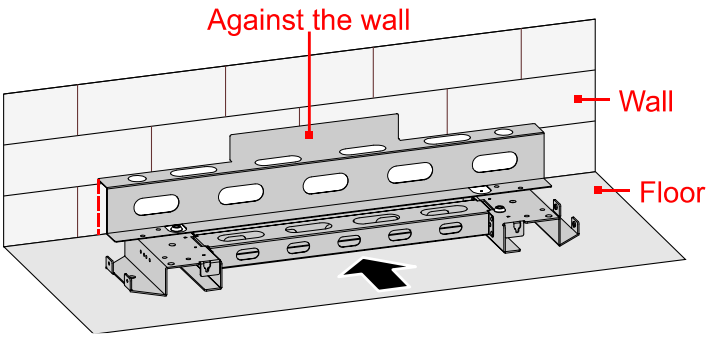


Figure3-6 Auxiliary tool against the wall

Step 2 Mark the mounting holes of base module and battery packs.

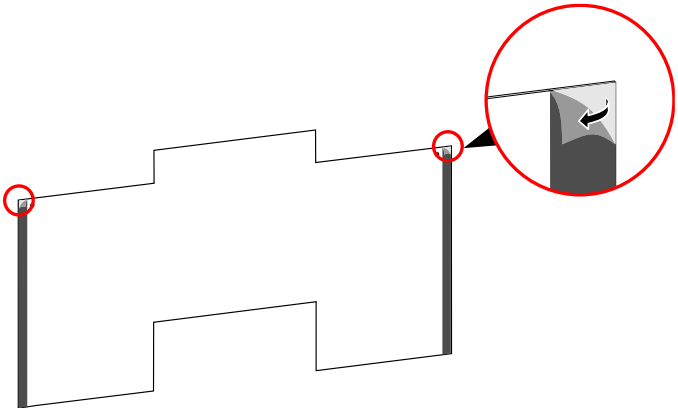


Figure3-7 Tear back glue

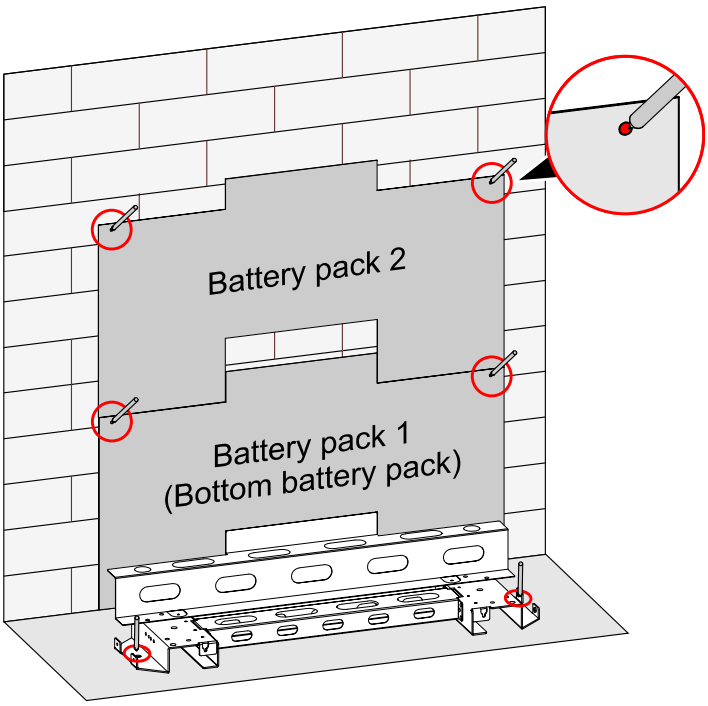


Figure3-8 Mark the installation holes

Step 3 Remove the position boards and auxiliary tool.

Step 4 Drill four holes on the wall and drill two holes in the floor, for detail specification please see Table3-1.

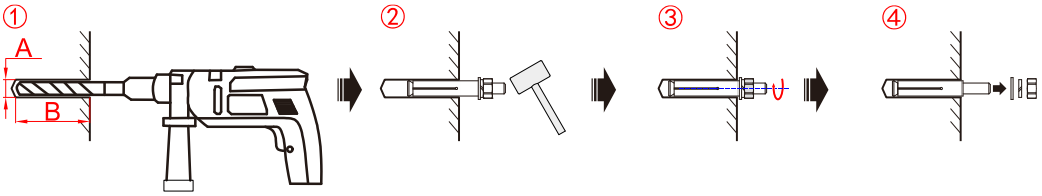


Figure3-9 Install the expansion bolt

Table3-1 Expansion bolt specification

Item	Base module	Battery pack
Expansion bolt	M10	M6
A	Φ12.5mm	Φ8mm
B	75mm~80mm	40mm~45mm

CAUTION

During drilling, please ware safety goggles and a dust mask to prevent dust from entering your eyes.

After drilling, please clean the scrap in the installation holes, and then perform the installation.

CAUTION

Ensure that the installed floor is flat and horizontal. If not, please use gasket to make the floor horizontal. Ensure that the installed wall is flat and horizontal (flatness within 4mm) and the installed floor horizontal angle is 0°. If not, please use gasket to make the floor horizontal.

Keep the installed place far away from the tube of water, electricity or gas, which is to avoid affect the installation.

After drilling, please clean the scrap in the installation holes, and then perform the installation.

Step 5 Fix the base module to the installed floor, as shown in Figure3-7.

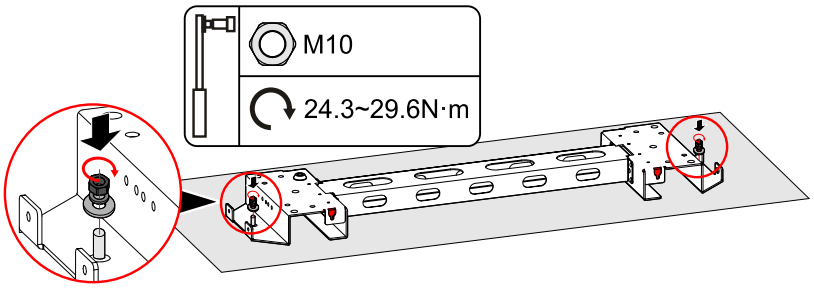


Figure3-8 Fix the base module

Step 6 Lead the cover plate into the base module and fix it with screws, as shown in Figure3-10, Figure3-11.

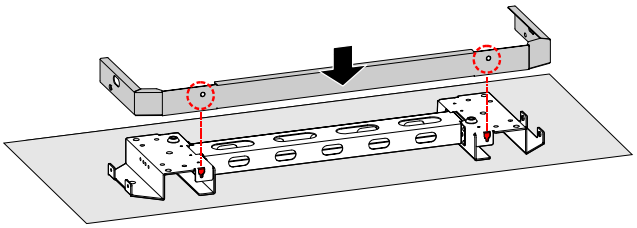


Figure3-10 Install the cover plate

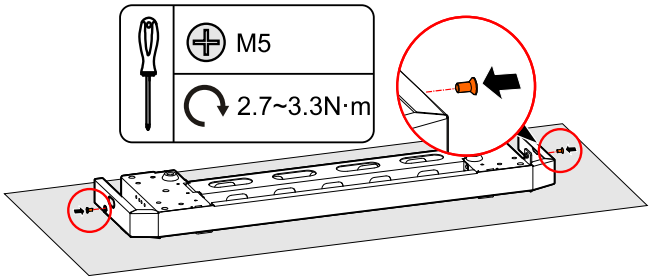


Figure3-11 Fasten the cover plate

NOTE

If the device is installed on the low-lying position and may have the risk of soaking by rain, we suggest selecting the support to lift the device to avoid damage for the device. The installation of support is as follows.

2. Mark the installation holes, as shown in Figure3-13.

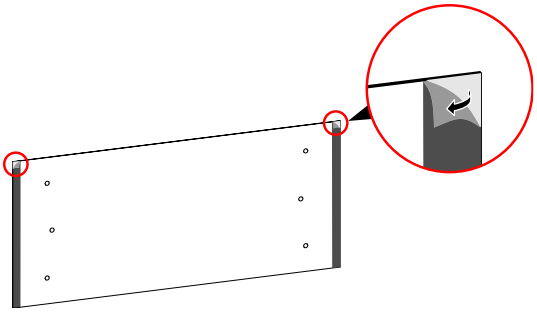


Figure3-12 Tear back glue

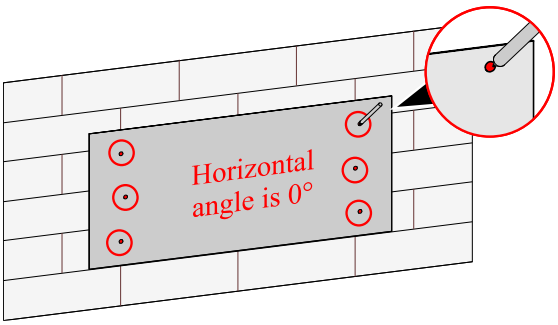


Figure3-13 Mark the installation holes

3. Install the expansion bolts, as shown in Figure3-14.

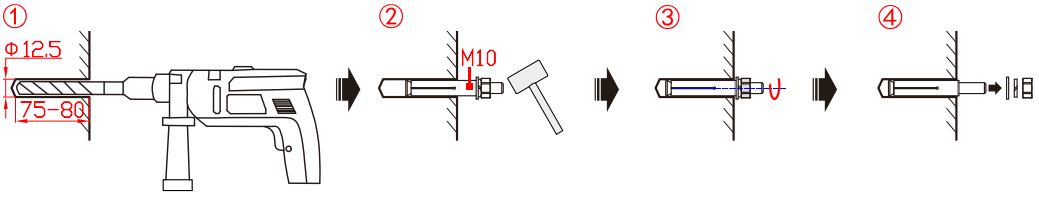


Figure3-14 Install the expansion bolt (unit: mm)

4. Fix the assembled base by expansion bolt M10, as shown in Figure3-15.

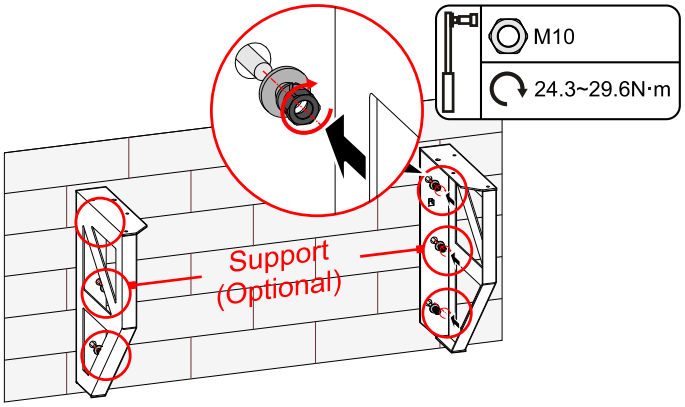


Figure3-15 Mark the installation holes

5. Assemble the support and base by screws M5, as shown in Figure3-16.

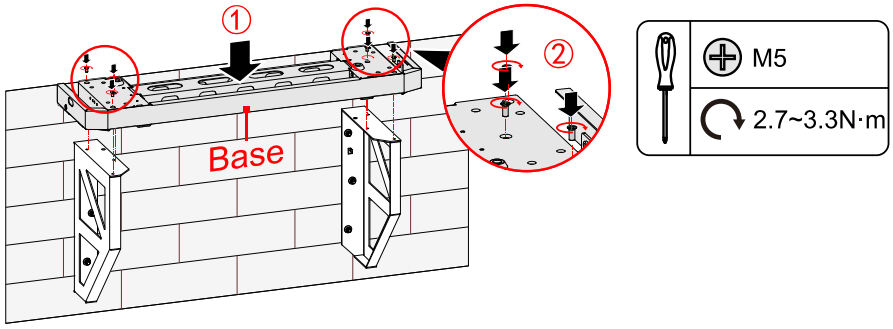


Figure3-16 Assemble the support and base

CAUTION

During drilling, please ware safety goggles and a dust mask to prevent dust from entering your eyes.

After drilling, please clean the scrap in the installation holes, and then perform the installation.

NOTE

The installation holes of base with support is the same as that of standard configured base, in above figure, we take standard configured base as an example to illustrate.

Step 7 Install battery packs.

1. Fix the bottom battery pack with base by wall bracket b, as shown in Figure3-17.

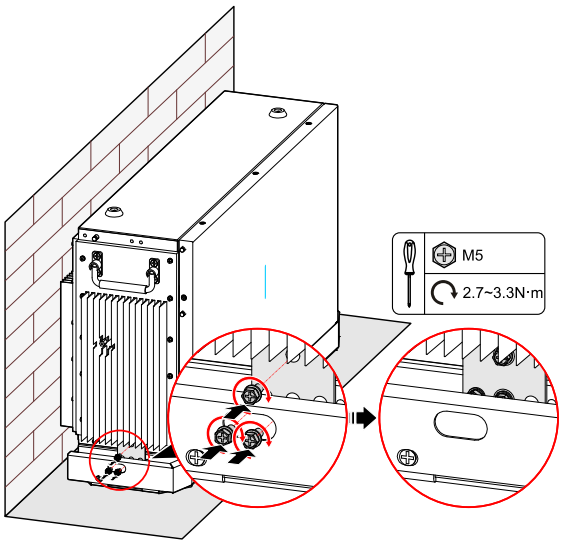


Figure3-17 Fix the bottom battery pack with base

2. Fix the wall bracket a of bottom battery pack1, as shown in Figure3-18.

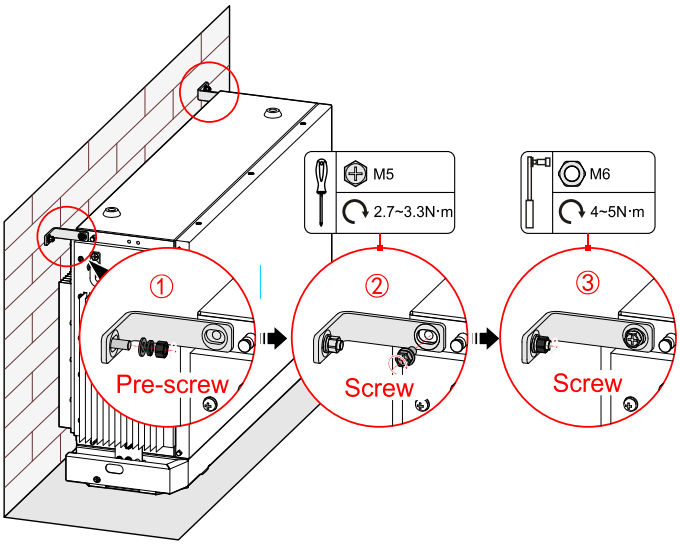


Figure3-18 Fix the wall bracket a

3. Place the battery against the wall, the bottom limit holes of the upper battery pack should match the screw on the top of the below battery pack, as shown in Figure3-19.

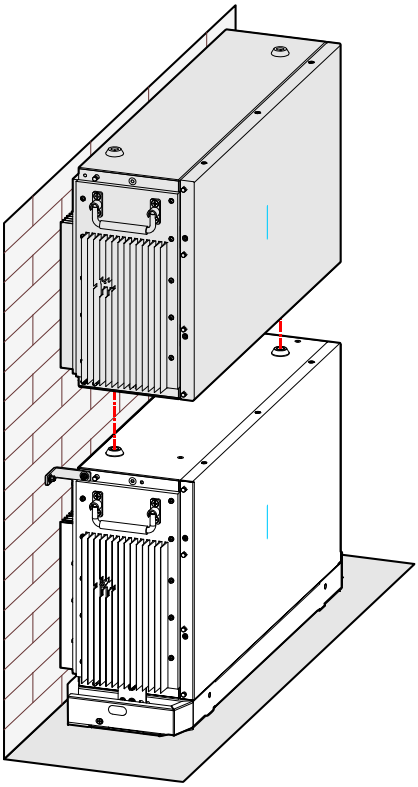


Figure3-19 Place the battery pack

4. Tighten the battery rack1 and the battery pack with screws.

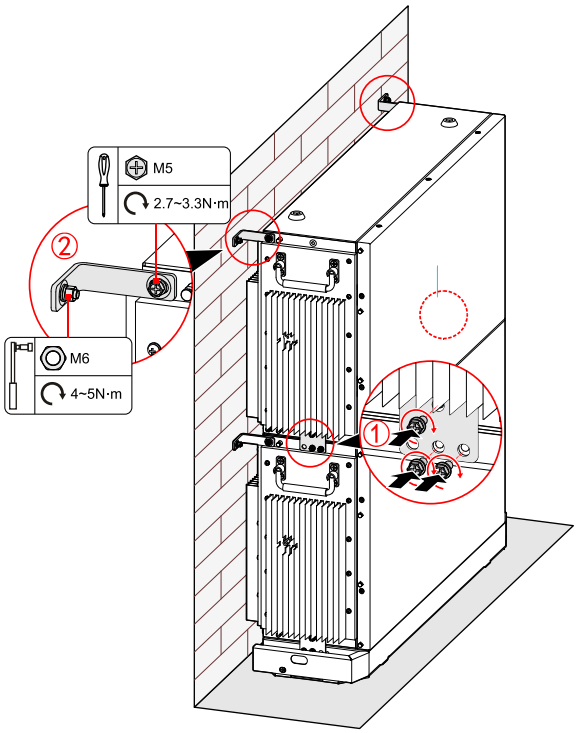


Figure3-20 Tighten the top battery pack

Install extra batteries one by one, and keep the distance between the batteries about 500 mm.

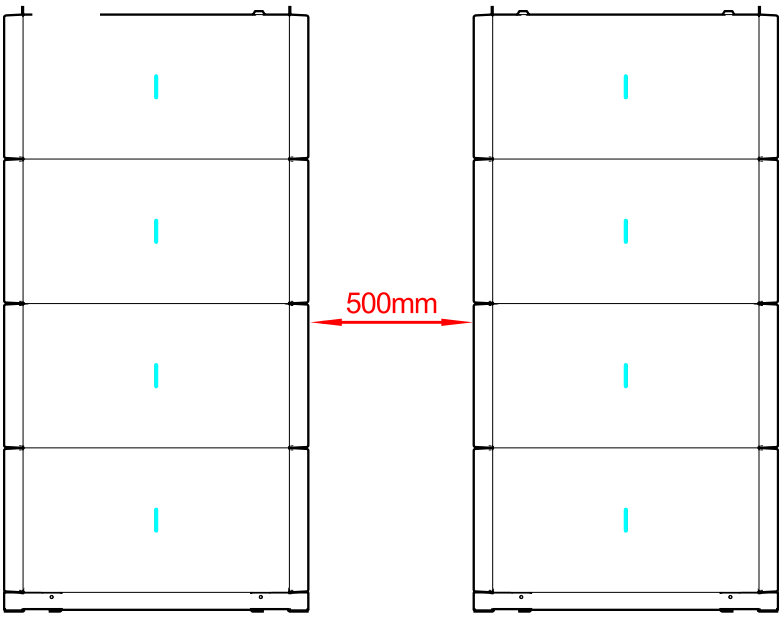


Figure3-21 Distance between the batteries

3.5 Components Requirement

Table3-2 Recommended wire specification

No.	Cable	Type	Cross-sectional area	Outer Diameter	Scope of supply
1	Battery power cable	Standard PV cable in the industry (recommended type: PV1-F)	6~10 mm^2	N/A	Integrated in the battery pack
2	Battery communic-ation cable	Standard network cable in the industry (recommended type: Cat5e, UTP, UV-resistant for outdoor use)	0.12 ~0.2 mm^2 (AWG26~AWG24)	N/A	Integrated in the battery pack
3	PV power cable	Standard PV cable in the industry (recommended type:	4 mm^2	5.5~9 mm	Purchased by the installer

No.	Cable	Type	Cross-sectional area	Outer Diameter	Scope of supply
		PV1-F)			
4	Signal cable	Standard network cable in the industry (recommended type: Cat5e, FTP, UV-resistant for outdoor use)	0.12~0.2 mm^2 (AWG26~AWG24)	4~6 mm	Purchased by the installer
5	AC power cable	Three-core (L, N and PE) outdoor copper cable	4~6 mm^2	12.6~13.9 mm	Purchased by the installer
6	PE cable	Single-core outdoor copper cable	4~10 mm^2	N/A	Purchased by the installer

3.6 Communication Port Connection

COM port

BMS communication port of the inverter is used to connect the COM port of battery pack through battery communication wire.

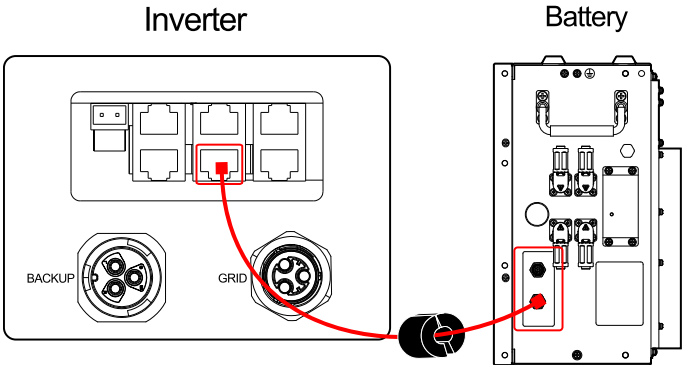


Figure3-22 COM port

3.7 Multiple Battery Connection

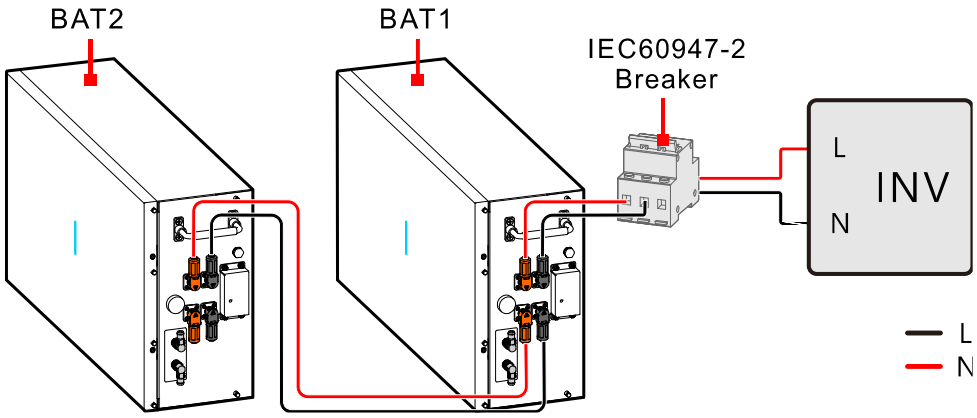


Figure3-23 Battery connection

NOTE
DC breaker which meets the IEC60947-2 should be installed for the whole battery system.

3.8 Side Cover Plate Installation

After wiring connection, install side cover plate to the inverter and battery packs as follows.

CAUTION

While fixing the cover plates, it is necessary to lead the corresponding wires go through the groove of cover plate and fasten them to avoid extruding for the wires and even cause damage for the wires and affect the normal use.

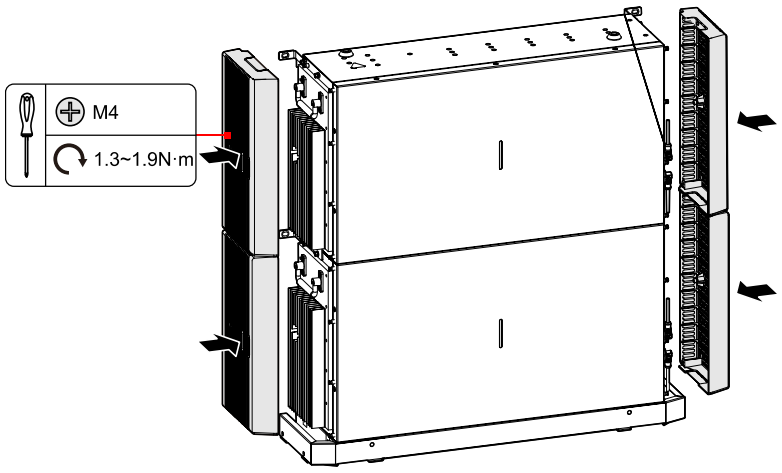


Figure3-24 Tighten the wiring cover plate

NOTE
Ensure that the installed wall is flat and horizontal. If not, please use gasket to make the wall horizontal.

----End

3.9 Check the Installation

After installation, check the following items:

- Check if the connection of DC input, AC output and communication wire are right.
- Check if the iHome-B5-HD02 product is installed firmly.
- Check if all the wiring are tightened.

3.10 Startup/Shutdown Procedure

Startup Procedure

After the battery is connected to the inverter, long press the ON/OFF button on the side of the battery for 1S, the battery front panel indicator will light up, then the battery enters the standby state. After the inverter is turned on, the battery indicator will change from flicker to constant light, and you can view and set the battery information after connecting to APP.

Shutdown Procedure

Press the side ON/OFF button twice, the battery indicator will change from constant light to flicker, at this time the battery is in standby state, after the inverter is turned off, disconnect the power completely, wait for about 2 minutes, the battery will shut down and the indicator will go out. The ON/OFF button position of the battery is shown in below.

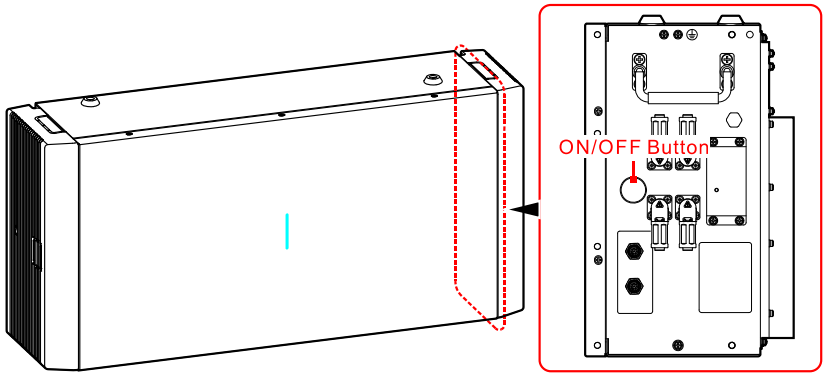


Figure3-25 Battery ON/OFF button position

Battery Setting

In the battery setting item, you can set battery charge and discharge power.

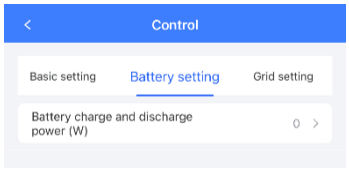


Figure3-26 Battery setting

4 Maintenance and Troubleshooting

This chapter mainly introduces the maintenance and troubleshooting for device.

4.1 Maintenance

The iHome-B5-HD02 product needn't to be maintained regularly, but the sundries or dust may influence the heat dissipation performance, so, use soft brush to clean the battery. If the LED indicator is too dirty to view, use a wet cloth to clean them.

WARNING

During running, do not touch the battery pack. The temperature of some parts on the battery pack is too high, and may cause scald injury. After shut down the battery pack and wait until it cooling down, then do the maintenance and clean.

CAUTION

Do not clean the battery pack with any solvent, abrasive material or corrosive material.

Normally, the battery pack needs no maintenance or calibration. However, in order to maintain the accuracy of the SOC, it is recommended to perform a full charge calibration for SOC (charging battery until the charging power is 0) on the battery at regular intervals (such as two weeks).

Disconnect the battery pack from all power sources before cleaning. Clean the housing, cover and display with a soft cloth.

To ensure that the battery pack can operate properly in the long term, you are advised to perform routine maintenance on it as described in this chapter.

Table4-1 Maintenance checklist

Check Item	Acceptance Criteria	Maintenance Interval
Product cleanliness	The heat sink of the battery pack is free from obstacles or dust.	Semiannually or once per year
Product visible damage	The battery pack are not damaged or deformed.	Semiannually
Product running status	1. The battery pack operates with no abnormal sound. 2. All parameters of the battery pack are correctly set. Perform this check when the battery pack is running.	Semiannually
Electrical connections	1. Cables are securely connected. 2. Cables are intact, and in particular, the cable jackets touching the metallic surface are not scratched. 3. Unused PV input terminals, unused communication ports of the inverter, power and COM terminals of the battery pack are locked by watertight caps if the product is mounted outdoor.	The first maintenance is needed 6 months after the initial commissioning. And then make it semiannually or once per year.

4.2 Troubleshooting

Before provided to client, the battery pack has been experienced for several rigorous tests to ensure reliable and optimizing operation. The troubleshooting is as shown in Table4-2.

Table4-2 Battery fault description

Check item	Fault description	Solution
Battery over-voltage	Battery over-voltage	1. Battery discharge. 2. Check the fault, if the problem is not be solved yet, please call the service center.

Check item	Fault description	Solution
Cell over-voltage	Cell battery over-voltage	1. Battery discharge. 2. Check the fault, if the problem is not be solved yet, please call the service center.
Battery under-voltage	Battery under-voltage	1. Charging the battery. 2. Check the fault, if the problem is not be solved yet, please call the service center.
Cell under-voltage	Cell under-voltage	1. Charging the battery. 2. Check the fault, if the problem is not be solved yet, please call the service center.
Battery disconnected	Battery disconnected	1. Check battery wiring. 2. Check the fault, if the problem is not be solved yet, please call the service center.
Cell temperature difference is too large	Cell battery temperature difference is too large	Wait for 30 minutes after power off. If the problem is not resolved, call for service.
Cell voltage difference is too large	Cell battery voltage difference is too large	Call for service immediately.
Cell charge over-temperature	Cell battery charge temperature is too high	1. Confirm if the ambient temperature is too high, try to lower ambient temperature. 2. Wait for 30 minutes after power off. If the problem is not resolved, call for service.
Cell charge under-temperature	Cell Battery charge temperature is too low	1. Confirm if ambient temperature is too low, try to increase ambient temperature. 2. Wait for 30 minutes after power off. If the problem is not resolved, call for service.
Cell discharge over-temperature	Cell battery discharge temperature is too high	1. Confirm if ambient temperature is too high, try to reduce ambient temperature. 2. Wait for 30 minutes after power off. If the problem is not resolved, call for service.

Check item	Fault description	Solution
Cell discharge under-temperature	Cell battery discharge temperature is too low	1. Confirm if ambient temperature is too low, try to increase ambient temperature. 2. Wait for 30 minutes after power off. If the problem is not resolved, call for service.
Battery temperature rise rate alarm	Battery temperature rises too fast	1. Confirm if ambient temperature is too high, try to reduce ambient temperature. 2. Confirm if there are obstructions around battery. 3. Wait for 30 minutes after power off. If the problem is not resolved, call for service.
SOC is too low	SOC is too low	Charging the battery.
SOH is too low	SOH is too low	Charging the battery.
Intermediate bus over-voltage	Intermediate bus over-voltage	Please call for service.
Intermediate bus under-voltage	Intermediate bus under-voltage	1. Check battery wiring. 2. Charging the battery. 3. Check the fault, if the problem is not be solved yet, please call the service center.
Output over-voltage	Output over-voltage	1. Check if the PV component input voltage of inverter is too high； 2. Check if the problem is solved after power off； 3. Check the fault after restart the inverter, if the problem is not be solved yet, please call the service center.
Battery over-current	Battery over-current	1. Check if battery voltage is normal； 2. Disconnect battery output load, check if the problem is be solved； 3. Check the fault after restart the inverter, if

Check item	Fault description	Solution
		the problem is not be solved yet, please call the service center.
Battery sampling difference	Battery sampling difference	1. Wait for a while, check if the fault is recovery. 2. Check the fault, if the problem is not be solved yet, please call for service.
Battery insulation impedance alarm	Battery insulation impedance alarm	1. If fault occurs when device power on in the morning, it may be caused by the wet weather. 2. Test impedance of ground to device by multimeter, if the impedance is not close to 0, there is a problem with the device wiring and ground wiring. 3. Test impedance of ground to BAT+/BAT- by multimeter. If the impedance is less than insulation impedance protection value, check if each port wiring is correct. 4. Install the device according to manual. 5. Check the fault, if the problem is not resolved, call for service.
Battery insulation impedance protection	Battery insulation impedance protection	1. If fault occurs when device power on in the morning, it may be caused by the wet weather. 2. Test impedance of ground to device by multimeter, if the impedance is not close to 0, there is a problem with the device wiring and ground wiring. 3. Test impedance of ground to BAT+/BAT- by multimeter, if the impedance is less than insulation impedance protection value, check if each port wiring is correct. 4. Install the device according to manual.

Check item	Fault description	Solution
		5. Check the fault after restart battery, if the problem is not resolved, call for service.
EPO	Emergency power off	1. Confirm EPO button status. 2. Restart battery, if the problem is not resolved, call for service.
Fan alarm	Fan abnormal	1. Check if the fan is blocked. 2. Check the fault, if the problem is not resolved, call for service.
Transformer temperature abnormal	Transformer temperature is too high	Wait for 30 minutes after power off. If the problem is not resolved, call for service.
Output over-load	Output over-load	1. Check for overload. 2. Check the fault, if the problem is not resolved, call for service.
Heat sink over-temperature	Heat sink over-temperature, reach the derating point	1. Check the temperature, if the temperature is too high, try to reduce the ambient temperature. 2. Make sure to install the device according to manual and there are no obstructions around device. 3. Wait for 30minutes after the system power off, restart the device, if the problem is not resolved, call for service.
Ambient over-temperature	Ambient over-temperature, reach the derating point	1. Check the temperature, if the temperature is too high, try to reduce the ambient temperature. 2. Make sure to install the device according to manual and there are no obstructions around device. 3. Wait for 30minutes after the system power off, restart the device, if the problem is not

Check item	Fault description	Solution
		resolved, call for service.
Internal abnormal	Host internal abnormal	1. Check if the inner battery module is abnormal according to related information. 2. Restart the inverter, if the problem is not resolved, call for service, please call for service.
Monitor CAN communication fault	Monitor CAN communication fault	1. Check if the wiring is correct. 2. If the problem is not resolved, call for service.
Monitor 485 communication fault	Monitor 485 communication fault	1. Check if the wiring is correct. 2. If the problem is not resolved, call for service.
Address conflict	Device address repeat	1. Check if the address is repeated. 2. Set the address according to S/N. 3. If the problem is not resolved, call for service.

5 Package, Transportation and Storage

This chapter introduces the package, transportation and storage of device.

5.1 Package

The device is packaged by carton. When packaging, pay attention to the placing direction requirements. On the side of the carton, there has warning icons, including keep dry, handle with care, up, stacking layer limit, etc. On the other side of the carton, it prints the device model, etc. On the front side of the carton, there is the logo of Chelion company and device name.

5.2 Transportation

During transporting, pay attention to the warnings on the carton. DO NOT make the device impact severely. To avoid damaging the device, place the device strictly according to the placement direction. DO NOT carry the device with the objects that is inflammable, explosive, or corrosive. DO NOT put the device in the open-air while midway transshipment. Leaching or mechanical damage by rain, snow or liquid objects is prohibited.

5.3 Storage

During storage, place the device strictly according to the direction that showed on the carton. Keep at least 20cm from the bottom of the carton to floor and keep at least 50cm from the carton to wall, heat source, cold source, windows or air inlet. The poisonous gas, inflammable or explosive or corrosive chemical objects are prohibited. Besides, strong mechanical shaking, impact or strong magnetic field is also prohibited.

During battery storage, please follow the four points below:

1. Wrap the positive and negative connector with insulating material to ensure that no metal parts are exposed to outside to avoid short circuit.

2. Battery storage temperature requirement: short-term (with one month) storage in a clean and ventilated room at -20℃~45℃, long-term (within one year) in a clean and ventilated room at 0℃~35℃ and the relative humidity of environment is 55±20%.

3. During battery storage, (SOC capacity state) should be kept above 30%. In order to prevent over discharge during long-term storage (more than three months), it should be charged regularly to ensure SOC is 30%~50%. It is recommended that the storage time after receiving the goods should not exceed half a year.

4. A battery that has been shelved for a long time needs to be charged and discharged regularly. It is recommended to perform a standard charge and discharge cycle every 3 months in the initial stage.

After storing or transporting the device beyond the work temperature, keep the device aside and make its temperature return to normal range for more than 4h before installation.

A Technical Specifications

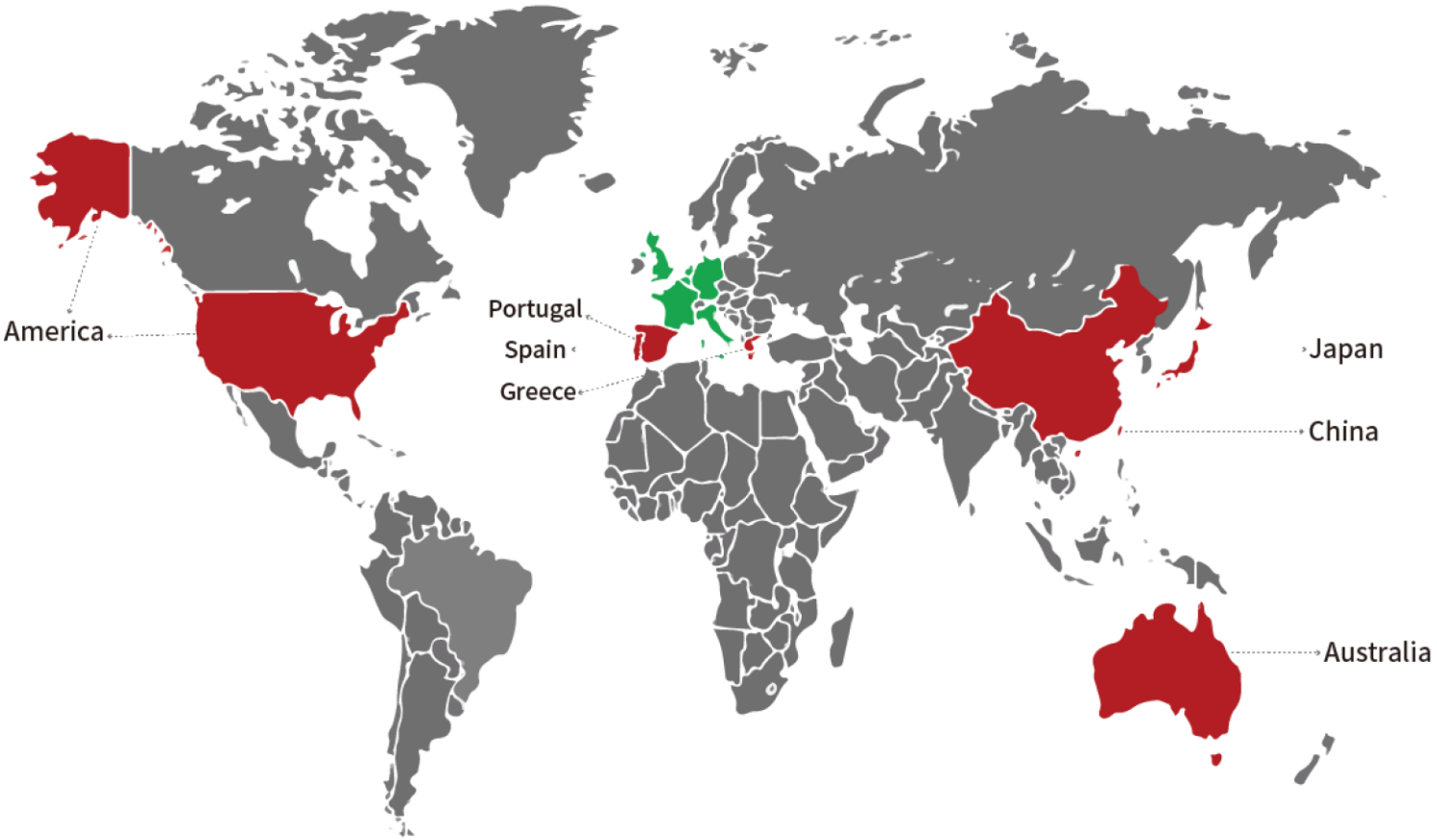
Model / Item	iHome-B5-HD02
BAT input	
Max. input voltage (V d.c.)	500
Input voltage range (V d.c.)	360~500
Voltage range with full load (V d.c.)	360-450
Max. charge current (A d.c.)	11.1
Max. discharge current (A d.c.)	11.1
BAT pack capacity	5 (5 -40) kWh, voltage range: 360-500 V d.c.
Basic parameter	
Size (W×H×D) (mm)	800*380*238
Weight (kg)	51kg
Installation	Wall-mounting
Protection degree	IP65
Operating temperature range	-20℃~50℃ (If the temperature higher than 45℃ or lower than -10℃, the inverter needs to decrease rated power to use.)
Relative humidity	0~95%
Cooling	Natural
Operating altitude	3000m (＞3000m derating)

Model / Item	iHome-B5-HD02
Noise emission (typical)	<25db (A) @ 1m
Display	LED
Communication	CAN/RS485
BAT terminal	MC4 (max.10 mm²)

● Specifications are subject to change without prior notice.

B Acronyms and Abbreviations

A	
AC	Alternating Current
AWG	American Wire Gauge
C	
CE	Conformite Europeenne
D	
DC	Direct Current
E	
EPO	Emergency Power Off
L	
LED	Light-emitting Diode
P	
PE	Protective Earthing
PV	Photovoltaic
R	
RS485	Recommend Standard485



www.chelion.com.au

Shanghai Chelion Renewable Technology Co., Ltd.
Room 2601,Tower A,Dawning Centre ,500 Hongbaoshi Road, Changning District, Shanghai, 201103,China.
Info.chelion.com
(21)-62378993
www.chelion.com

Chelion America LLC.
4675 Stevens Creek Blvd, Ste250, Santa Clara, CA 95051
tuo.cheng@chelion.us
(408)-933-3974
www.chelion.us

Chelion Australia Pty Ltd.
Suite 9, Level 11, 458 Brunswick St, Fortitude Valley, QLD, 4006, Australia
1300 208 962
https://chelion.com.au/

Chelion Japan Co., Ltd.
27F Shinjuku Square Tower, 6-22-1 NishiShinjuku, Shinjuku-ku,Tokyo,163-1127,Japan
03-6258-1677
www.chelion.jp

Chelion Iberia,S.L.
Calle José Echegaray 8, Edificio 3, 1º, 28232, Las Rozas de Madrid (Madrid), España
info@chelion.eu
+34 918398560
www.chelion.eu