User Manual

SINGLE PHASE ALL-IN-ONE STORAGE SYSTEM

HYX-H(3-12)K-HSA2
BAT-Q7/9



Carefully read this inverter user instructions before using.
Read and save these instructions.

© ZHEJIANG HYXI TECHNOLOGY CO., LTD. All rights reserved.

This document cannot be copied fully or partially, transferred, or distributed in any form without the prior written permission of ZHEJIANG HYXI TECHNOLOGY CO., LTD (hereinafter referred to as "HYXI").

TRADEMARKS



and other HYXI trademarks are the trademarks or registered trademarks of HYXI All other trademarks mentioned herein are the properties of their respective owners.

Contents

About the Manual 1
Overview 1
Scope of Application 1
For Readers 1
Use of the Manual 1
Use of Symbols 2
1 Safety Precautions 3
1.1 General Safety 3
1.2 Public Grid 4
1.3 Photovoltaic String 4
1.4 Inverter 5
1.5 Personnel Requirements 5
2 Product Overview 6
2.1 Product Description 6
2.2 System Diagram 6
2.3 Supported Grid Forms 7
2.4 Product Appearance 8
2.4.1 System Appearance 8
2.4.2 Inverter Appearance 9
2.4.3 Battery Appearance 10
2.5 Dimensions & Weight 11
2.6 Symbol Description 14
2.7 LED Indicator 15
2.8 Description of Functions 15
3 Inspection & Storage 16
3.1 Unpacking and Inspection 16
3.1.1 Packing List of the Inverter 16
3.1.2 Packing List of the Battery 17
3.1.3 Packing List of the Base (Floor-mounting) 17
3.1.4 Packing List of the Base (Wall-mounting) 17
3.2 Storage 18
3.2.1 Inverter Storage 18
3.2.2 Battery Storage 18
4 Pre-Installation Preparation 19
4.1 Installation Tools 19

4.2 Additionally Required Cables 20
4.3 Installation Environment 20
4.4 Installation Angle 21
4.5 Installation Space 21
5 Mechanical Installation 22
5.1 Installation Precautions 22
5.2 Floor-Mounting 23
5.3 Wall-Mounting 37
6 Electrical Connection 48
6.1 Grounding Connection 49
6.2 AC Side Connection (GRID and BACKUP) 50
6.3 DC Side Connection 56
6.4 Communication Connection 60
6.4.1 Description of Communication Connection 60
6.4.2 Communication Connection Steps 62
6.4.3 Communication Wiring Diagram 67
6.4.4 DRM 71
6.5 DCS Connection 72
6.5.1 4G Module 72
6.5.2 LAN Module 73
6.5.3 Wi-Fi Module 73
7 System Commissioning 74
7.1 Checking before Power-On 74
7.2 Power-On the System 74
7.3 Power-Off the System 74
7.4 Disposing of the System 75
8 Maintenance 75
8.1 Maintenance Precautions 75
8.2 Routine Maintenance 76
9 Human-Computer Interaction 77
9.1 Installing the App 77
9.2 APP Configuration 77
10 Appendix 78
10.1 Inverter Technical Parameters 78
10.2 Battery Technical Parameters 82
10.3 Contact Information 83

About the Manual

Overview

This manual provides the user with product information, detailed installation and use, troubleshooting and daily maintenance of the PV storage inverter.

It does not contain all information about the PV system.

To ensure the proper installation and use of the inverter and its superior performance, before handling, installation, operation and maintenance of the inverter, please read the instruction manual in detail and follow it.

Please read the operating instructions in detail and follow all safety precautions in the instructions.

Scope of Application

This manual is intended for the following devices:

- HYX-H3K-HSA2
- HYX-H3K6-HSA2
- HYX-H4K-HSA2
- HYX-H4K6-HSA2
- HYX-H5K-HSA2
- HYX-H6K-HSA2
- HYX-H8K-HSA2
- HYX-H9K9-HSA2
- HYX-H10K-HSA2
- HYX-H12K-HSA2
- BAT-Q7
- BAT-Q9

For Readers

This manual is intended for professional technicians who need to install, operate and maintain the inverter and for users who need to check the inverter parameters.

All installation operations must be carried out by professional technicians and only by professional technicians.

Use of the Manual

Please read the manual carefully before using the product, the content of the manual will be updated and corrected, but it is inevitable that there is a slight discrepancy or error with the actual product. Users should refer to the actual product purchased and obtain the latest version of the manual by downloading from www.hyxipower.com or through sales channels.

The latest version of the manual is available for download at or through sales channels.

Use of Symbols

To ensure user safety and property protection during product use, relevant information is provided and highlighted with the following symbols.

⚠ DANGER

- Indicates a high potential hazard that, if not avoided, could result in death or serious injury.

⚠ WARNING

- Indicates a moderate potential hazard that could result in death or serious injury if not avoided.

⚠ CAUTION

- Indicates a low potential hazard which, if not avoided, could result in moderate or minor injury.

NOTICE

- Indicates a potential risk which, if not avoided, could result in the equipment not functioning properly or in property damage.

1 Safety Precautions

1.1 General Safety

This series of inverters is elaborately designed and rigorously tested to meet applicable national and international safety standards. Even so, as with all electrical and electronic equipment, proper safety precautions must be strictly followed during installation to reduce personal injury risks and guarantee safe installation.

Please carefully study and strictly follow all instructions in the official user manual and relevant regulatory requirements before installing the inverter. This document cannot replace any local, provincial, national regulations and safety codes related to inverter installation, electrical safety and usage.

HYXI accepts no liability for any outcomes caused by failure to abide by the storage, transport, installation and operating rules stated in this document, including but not limited to:

- The complete unit and its components are out of the free warranty period.
- Damage occurring during transportation.
- Faults or damage resulting from improper installation, modification or misuse.
- Operation under extreme harsh environments beyond the scope specified in this manual.
- Equipment failure or damage caused by unauthorized installation, repair, modification or disassembly conducted by personnel not affiliated with our official service organization.
- Installation and application beyond the limits specified in applicable international standards.
- Damage induced by abnormal natural environmental conditions.

NOTICE

- The "DANGER", "WARNING", "CAUTION", and "NOTICE" items in the manual do not include all safety precautions that should be observed. All work should be carried out in combination with the actual situation on site.
- This equipment should be used in an environment that meets the requirements of design specifications, otherwise it may cause equipment failure, and the resulting equipment functional abnormalities or component damage, personal safety accidents, property losses, etc., are not within the scope of equipment quality assurance.
- The installation, operation and maintenance of the equipment should comply with local laws, regulations and codes. The safety precautions in the manual, The safety precautions in the manual are only supplementary to the local laws and regulations.
- If an external residual current device (RCD) (type A is recommended) is mandatory, the switch must be triggered at a residual current of 300 mA(recommended). RCD of other specifications can also be used according to local standard.

1.2 Public Grid

NOTICE

- All electrical connections must meet local and national electrical standards.
- The inverter may only be connected to the grid with the permission of the local electricity authority.

1.3 Photovoltaic String

DANGER

- When performing electrical connection work, you must wear personal protective equipment.
- Use a multimeter DC block to measure the positive and negative DC cable polarity to ensure that the polarity is correct; and the voltage is within the allowable range.
- After the DC cable is connected, please make sure that the cable is tightly connected and not loose.

DANGER

PV modules for non-isolated inverters

- Non-isolated inverters shall be provided with installation instructions that require PV modules that have an IEC 61730 Class A rating.

1.4 Inverter

⚠ DANGER

- Before plugging or unplugging the PV connector or AC connector, please use a multimeter to measure to make sure there is no there is no voltage or current.
- Make sure that the voltage and frequency of the grid connection point are in accordance with the grid connection specification of the inverter.
- Do not open the inverter housing when the inverter is operating or energized to protect personnel and property safety.
- After removing all electrical equipment and disconnecting the inverter, wait at least 5 minutes for the internal capacitors to discharge.
- The protective ground of the inverter must be securely connected and, for multiple inverters, ensure that all inverters are connected to the protective ground.
- When multiple inverters are installed, ensure that all inverter enclosures are connected equipotentially to the protective ground. Install the equipment first.
- The protective ground is installed first; the protective ground is removed last when the equipment is dismantled.

⚠ WARNING

- After the inverter is installed, labels and warning signs shall be clearly visible, and obscuring, altering or damaging them is prohibited.
- After the inverter is shut down, there is still a risk of burns, after the inverter has cooled down, wear protective gloves before operation.

1.5 Personnel Requirements

NOTICE

- The personnel responsible for the installation and maintenance of HYXI equipment must first undergo strict training to understand the various safety precautions and master the correct operation methods.
- Only qualified professionals or trained personnel are allowed to install, operate and maintain the equipment.
- The personnel who operate the equipment, including operators, trained personnel, professionals should have the special operating qualifications required by the local country, such as high voltage operation, special equipment operation qualification, etc.

2 Product Overview

2.1 Product Description

HYX-H(3-12)K-HSA2 is a single-phase stackable all-in-one inverter, the main function is to convert the DC power generated by the PV string into AC power for load use, storage to the battery and output to the grid. BAT-Q7 and BAT-Q9 are matching battery packs, offering 7 kWh and 9 kWh capacities, respectively.

Inverter Models

- HYX-H3K-HSA2
- HYX-H3K6-HSA2
- HYX-H4K-HSA2
- HYX-H4K6-HSA2
- HYX-H5K-HSA2
- HYX-H6K-HSA2
- HYX-H8K-HSA2
- HYX-H9K9-HSA2
- HYX-H10K-HSA2
- HYX-H12K-HSA2

Battery Models

- BAT-Q7
- BAT-Q9

Item	Description
HYX	Brand name
H	Hybrid
K*	Capacity
H	High voltage
S	Single phase
A	All-in-one system
2	2nd generation
BAT	Battery
Q	Stackable battery
7/9	A capacity of 7kWh or 9kWh

*The power output of the inverter depends on the number of batteries.

2.2 System Diagram

The PV hybrid system is composed of PV modules, inverter, battery, meter, load and grid. The inverter is the core component of the system.

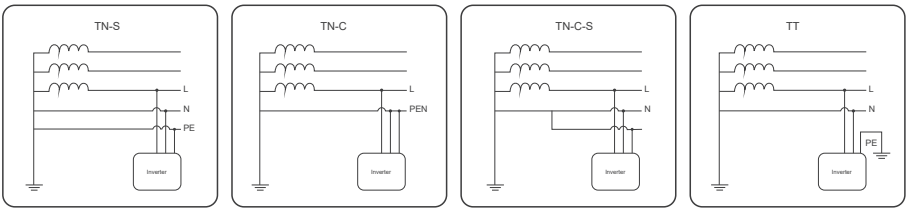
The solar energy is transformed into DC energy by the PV modules, and then transformed into sinusoidal AC energy with the same frequency and phase as the public grid by the hybrid inverter.

The hybrid inverter is used by crystalline silicon solar cells with ungrounded positive and negative poles as the DC input, battery pack as DC input.

2.3 Supported Grid Forms

The grid forms supported by hybrid inverters are TN-S, TN-C, TN-C-S, TT.

The voltage requirement of N to PE is less than 30V



⚠ WARNING

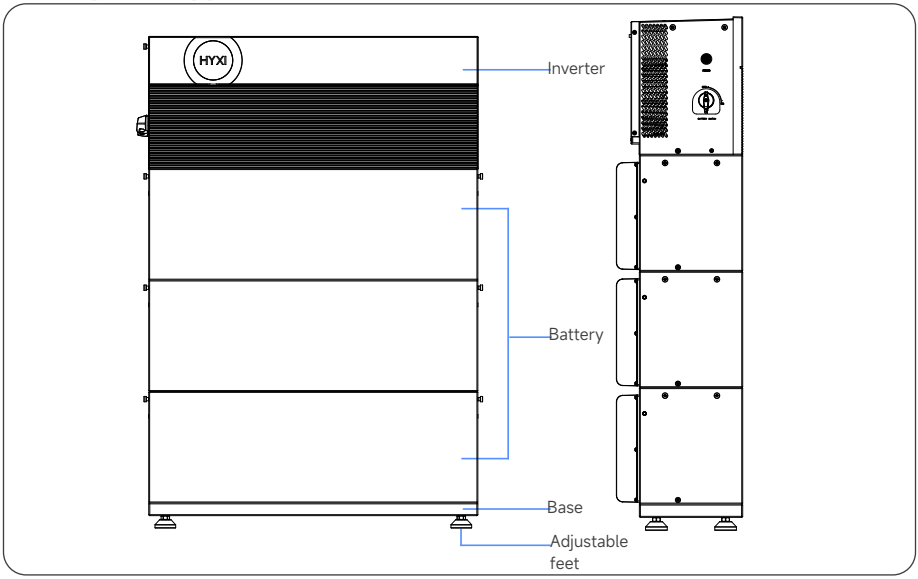
- The inverter is only applicable to the hybrid system described in this manual.
- Since the inverter is transformerless type, it is required that both the positive and negative terminals of the PV module cannot be grounded, otherwise the inverter will not operate normally.
- During the installation and operation of the inverter, please make sure that the positive or negative pole of the PV module will not be short-circuited to the ground, if short-circuited, it may if short-circuited, it may cause the inverter AC / DC short circuit, resulting in equipment damage, and the resulting damage will not be covered by the warranty.

⚠ CAUTION

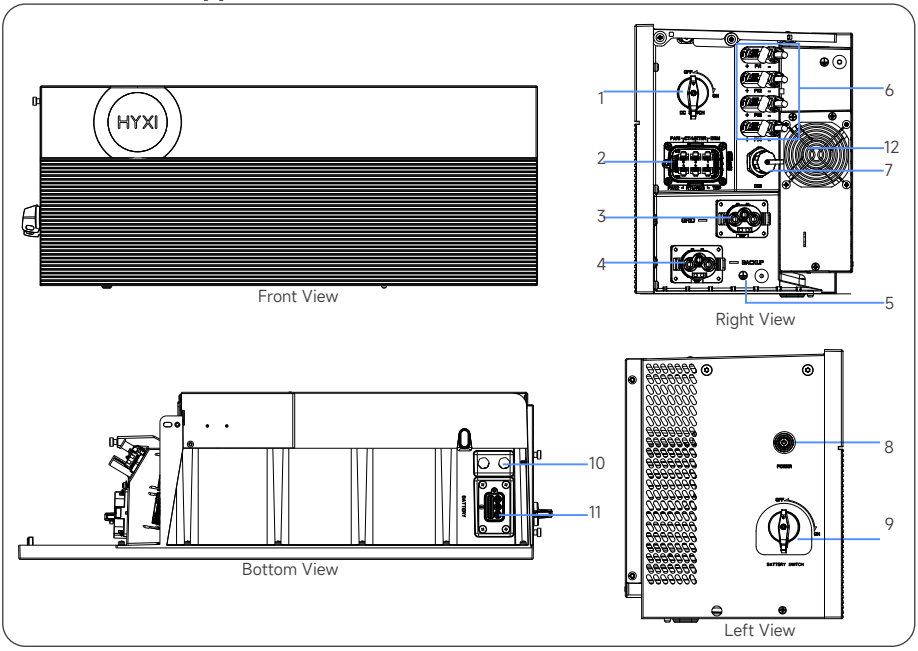
- For TT type grids, the zero line voltage to ground must be less than 30V.
- Never connect local loads, such as household appliances, lighting loads, etc., between the inverter and the AC circuit breaker.

2.4 Product Appearance

2.4.1 System Appearance

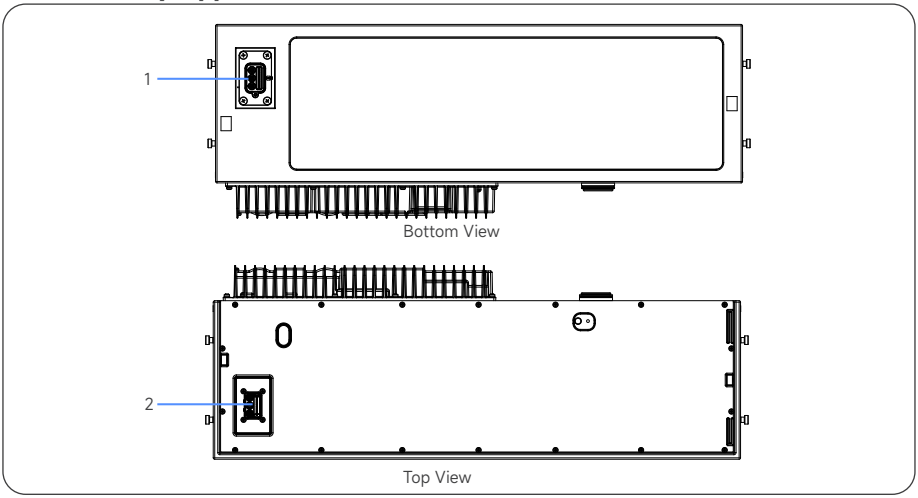


2.4.2 Inverter Appearance



No.	Name	Description
1	DC Switch	Connecting or disconnecting PV
2	Communication Port	Including PAR1, PAR2, CT/ METER, RTU/RSD, DRM, TCP
3	Grid Port	Connecting to grid
4	Backup Port	Connecting to load
5	Grounding Point	Connecting to PE cable
6	PV Terminal	Connecting to PV
7	DCS	Connecting to DCS
8	Power Button	Turn on/off the system
9	Battery Switch	Turn on/off the battery
10	Vent Valve	/
11	Battery Port	Connecting to battery
12	Fan	For 3~6K, there is no fan. For 8-12K, there is one fan.

2.4.3 Battery Appearance



The ALL-IN-ONE storage system has two models of batteries: BAT-Q7 and BAT-Q9, consisting of 7 and 9 pieces of 314Ah cells respectively, with battery capacities of 7kWh and 9kWh. Each battery pack is equipped with a built in BMS module that monitors cell voltage, temperature, and the overall pack current, and accurately calculates the battery's SOC and SOH. Once any abnormality such as over temperature, over discharge, or short circuit is detected, the system triggers an alarm, cuts off the circuit, and protects the user's electrical safety. In addition, an integrated DCDC module supports the mixed use of new and old batteries and allows flexible capacity expansion, with a single battery tower supporting up to 6 expansion packs. The battery pack and inverter are connected via floating terminals. The battery communicates internally with the inverter to upload data and execute commands issued by the inverter.

For detailed technical parameters of the battery, please refer to “10.2 Battery Technical Parameters”.

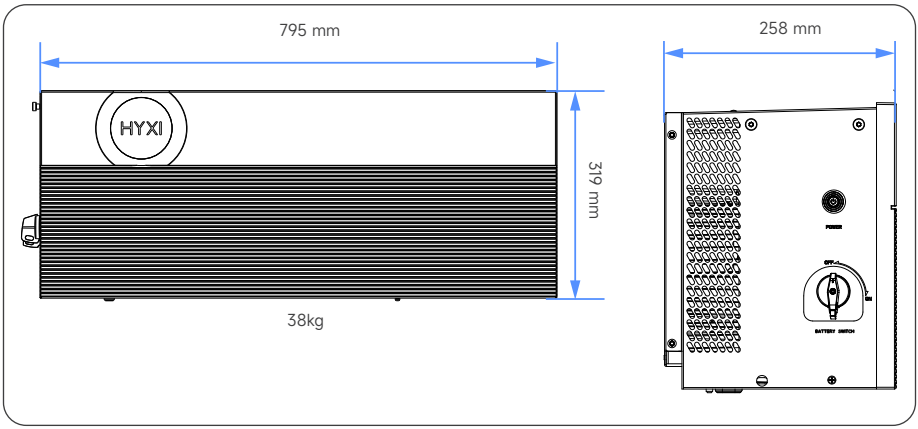
No.	Name	Description
1	Battery Port	Connecting to battery
2	Battery / Inverter Port	Connecting to battery or inverter

NOTICE

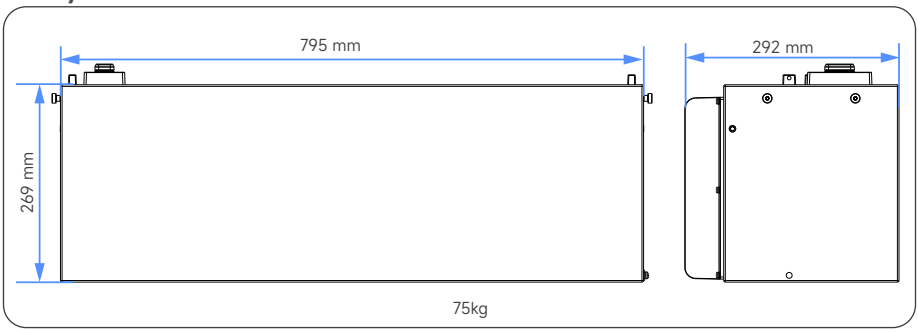
- The battery system has a non-resettable function to stop operation. If the voltage, current, temperature and other information reach the system lock threshold, the system will enter the system lock state. In this state, the system cannot be restored by restarting the system or any other operation. Please contact the professional operating personnel of this product and then ask them to release the system lock state.

2.5 Dimensions & Weight

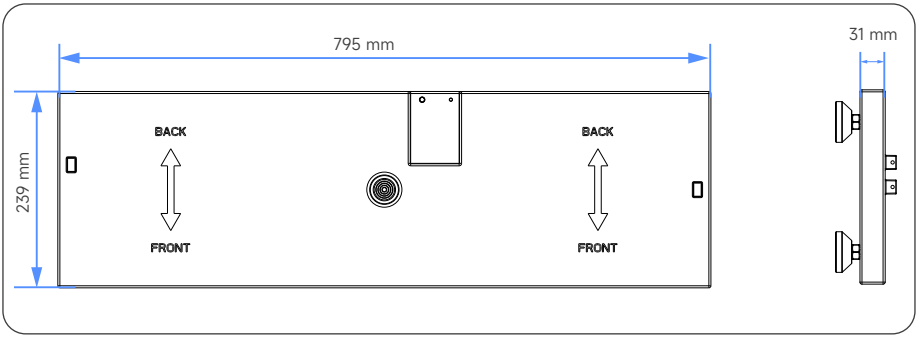
Inverter



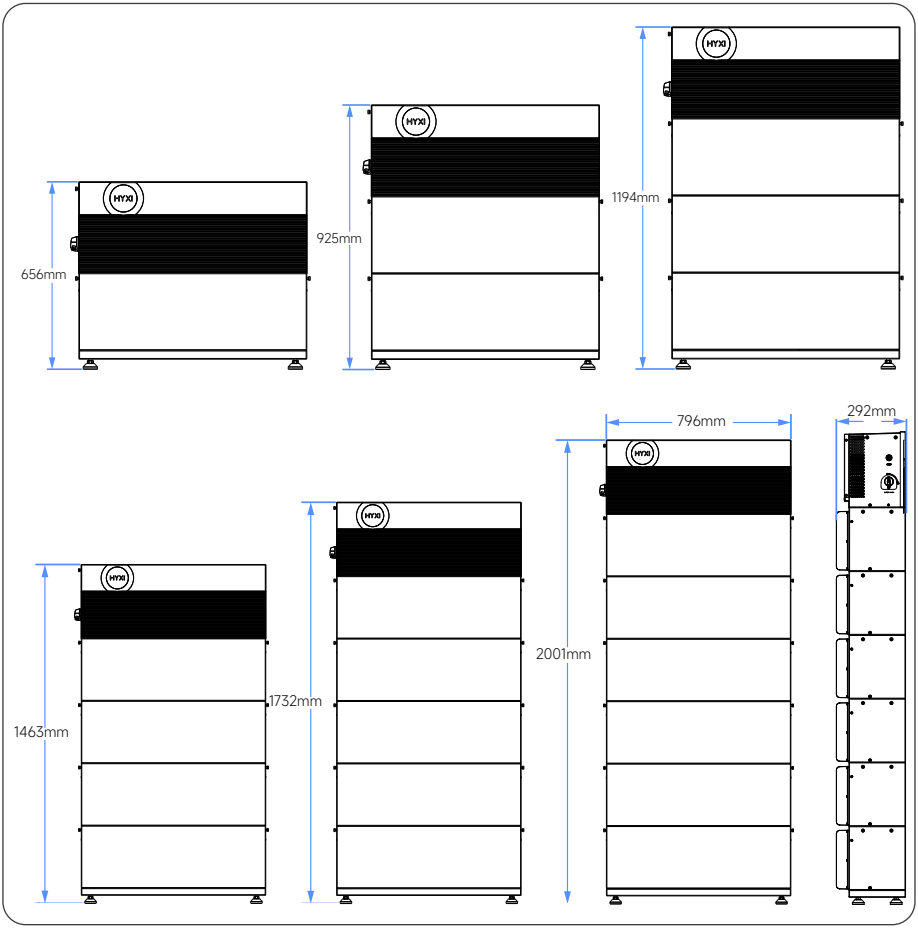
Battery



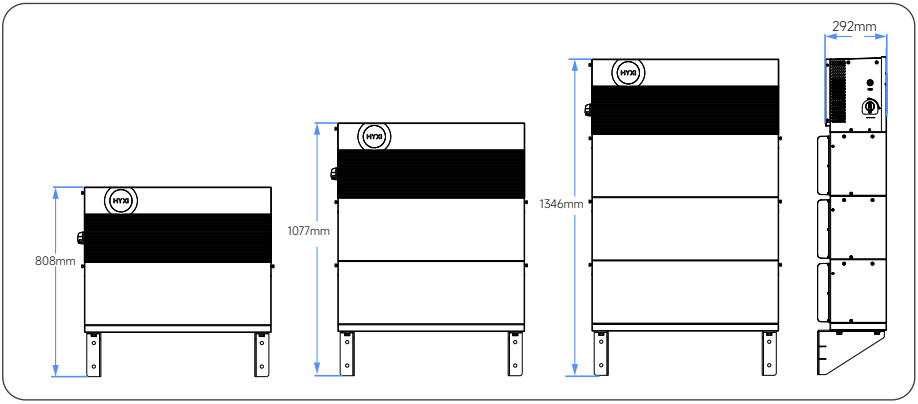
Base



System (Floor-mounting)



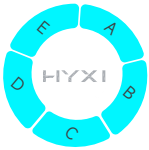
System (Wall-mounting)



2.6 Symbol Description

Symbol	Description
	There is a fatal danger of high voltage ! Disconnect power for at least 5 minutes before servicing the inverter.
	Do not touch the inverter housing while it is in operation.
	Beware of electric shock ! High voltage exists when the equipment is in operation, so when operating the equipment, make sure the equipment is powered off.
	Risk of danger ! There are potential hazards when the equipment is in operation, please take precautions when operating the equipment.
	Observe enclosed documentation.
	CE certification mark. The inverter complies with the regulations of CE.
	Do not dispose of the product together with the household waste.
	Grounding point. Reliably grounded before connecting to the power supply.

2.7 LED Indicator

RGB Light	Description	Status
	The indicator light illuminates toward zone E from the current zone, and then breathes again.	Charging
	The indicator light fades toward zone A from the current zone, and then breathes again.	Discharging
	The indicator light changes according to battery level.	Battery level
	The indicator light breathes from zone A to zone E.	Upgrading firmware
	The indicator light changes to orange-yellow.	Warning
	The indicator light changes to green, and users can set its color as desired.	Off-grid
	The indicator light changes to blue, and users can set its color as desired.	On-grid

2.8 Description of Functions

The inverter converts DC power into AC power that meets the requirements of the grid and feeds it into the grid. The functions of the inverter can be summarized as follows:

Item	Description
Data Storage	The inverter stores operating information, fault records, and other system information.
Parameter Configuration	Users can configure the parameters of the inverter via HYXI APP to meet various needs or to optimize its operation.
Communication Interface	• The inverter provides a communication accessory port for accessing the communication module and uploading monitoring data to the monitoring backend via wireless communication. • When the communication equipment is successfully established, users can view inverter-related information and configure its operating parameters, protection parameters, etc., via the HYXI Smart Energy Management Platform.
Protection Functions	The inverter is equipped with protection functions, including islanding protection, DC reverse connection protection, AC short circuit protection, leakage current protection, surge protection, etc.

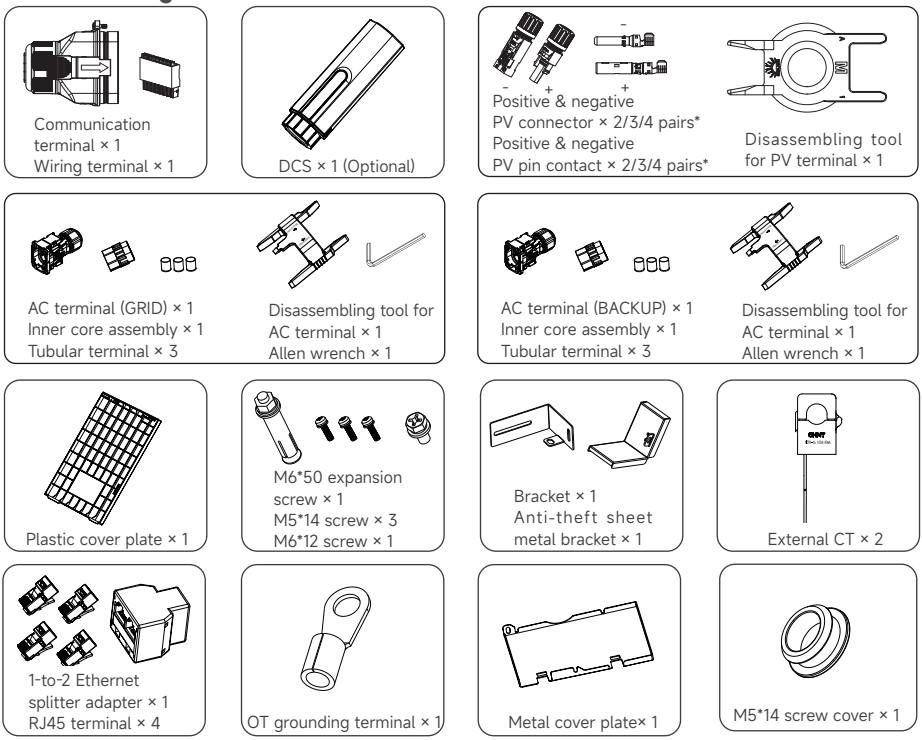
3 Inspection & Storage

3.1 Unpacking and Inspection

The equipment has been completely tested and strictly inspected before leaving the factory, but it may still be damaged during transportation, please make a detailed inspection before signing the product.

- Check whether there is any damage to the packing box.
- Check if the goods are complete and in accordance with the packing list.
- Unpack and check if the equipment inside is intact.
- If there is any damage or incomplete goods, please contact with the shipping company or directly with Zhejiang HYXI Technology Co., Ltd.
- Provide photos of the damage to facilitate the provision of services.

3.1.1 Packing List of the Inverter



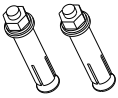
NOTICE

- For 3-6kW inverters, 2 pairs of positive and negative connectors and pin contacts are provided. For 8kW inverter, 3 pairs. For 9.9-12kW inverters, 4 pairs.

⚠CAUTION

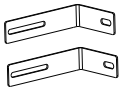
- Do not mix the GRID and BACKUP connectors. The connector marked with the letter "N" is the GRID connector, and the connector marked with the letter "Y" is the BACKUP connector

3.1.2 Packing List of the Battery


M6*50 expansion screw × 2


M5*14 screw × 2


M6*12 screw × 2


Bracket × 2


M5*14 screw cover × 2

3.1.3 Packing List of the Base (Floor-mounting)


M6*50 expansion screw × 1


M6*12 screw × 1

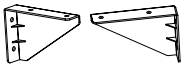

Bracket × 1


Handle × 1 pair

3.1.4 Packing List of the Base (Wall-mounting)


M12*110 expansion screw × 4


M12*24 screw × 4


Right and left bracket × 1 pair


Handle × 1 pair

3.2 Storage

3.2.1 Inverter Storage

If the inverter is not immediately put into use, it is necessary to meet the following requirements when storing the inverter:

- Do not remove the outer packaging of the inverter.
- The inverter needs to be stored in a clean and dry place and protected from dust and water vapor.
- The storage temperature should be kept at -30°C to +60°C and the relative humidity should be kept at 5% ~ 95%RH.
- When stacking multiple inverters, it is recommended that they be placed in the same number of layers as originally shipped.
- Please place the inverters carefully to avoid personal injury or equipment damage caused by tipping the equipment.
- Avoid chemically corrosive substances, otherwise it may corrode the inverter.
- During the storage period, regular inspection is required. If insects and rodents bite the inverter or damage the packaging, the packaging material should be replaced in time.
- After long-term storage, the inverter needs to be inspected and tested by professionals before it can be put into use.
- Please do not dispose of the original packaging of the equipment. It is better to store the equipment in the original box after it is dismantled.

3.2.2 Battery Storage

- The battery enclosure has an IP66 protection rating and could be installed indoors and outdoors.
- The battery has no ventilation requirements.
- The battery enclosure should be installed in a location free from the risk of water (standing water, submersion, etc.). The installation location must be well drained.
- The product needs to be installed on a level surface.

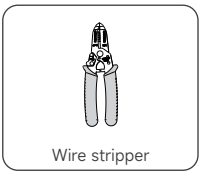
The following places are not allowed to be installed:

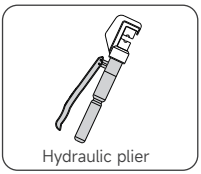
- In environments where the temperature is less than -20°C or more than 55°C .
- Places where humidity and condensation exceed 95%.
- Places where salt and humid air can penetrate.
- Flooded areas.
- Earthquake areas - additional safety measures are required here.
- Locations at altitudes above 4000 meters.
- Explosive atmospheres.
- Locations with prolonged exposure to sunlight.
- Places where the ambient temperature changes drastically.
- Humid rooms.
- Locations with highly flammable materials or gases.
- Locations with a potentially explosive atmosphere.

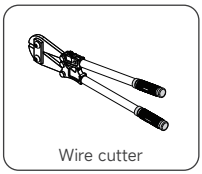
4 Pre-Installation Preparation

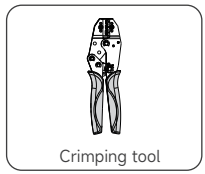
4.1 Installation Tools

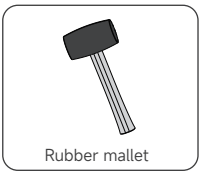
Installation tools include, but are not limited to, the following recommended tools. And if necessary, other auxiliary tools can be used on site.


Wire stripper

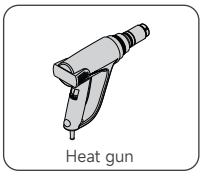

Hydraulic plier

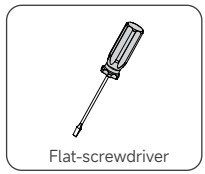

Wire cutter

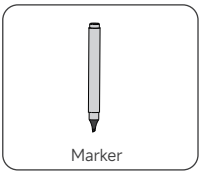

Crimping tool

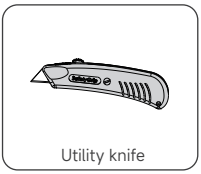

Rubber mallet

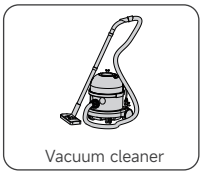

Hammer drill

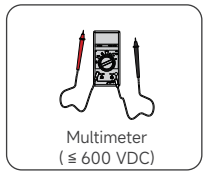

Heat gun

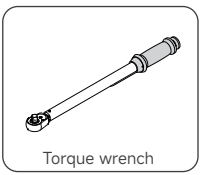

Flat-screwdriver

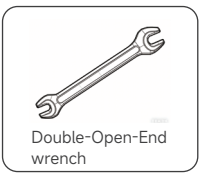

Marker

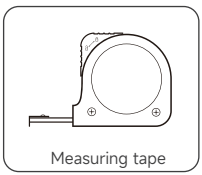

Utility knife

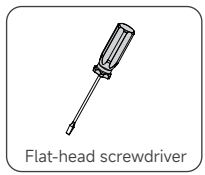

Vacuum cleaner

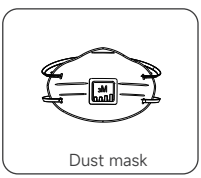

Multimeter
(≦ 600 VDC)

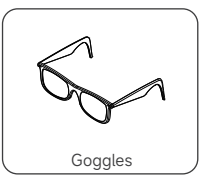

Torque wrench


Double-Open-End wrench


Measuring tape


Flat-head screwdriver


Dust mask


Goggles


Insulated shoes


Protective gloves

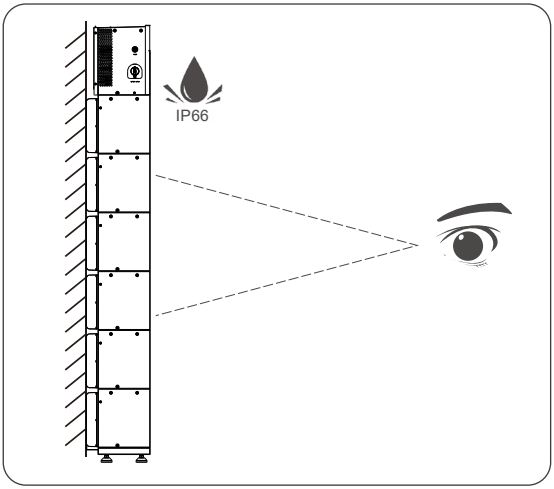
4.2 Additionally Required Cables

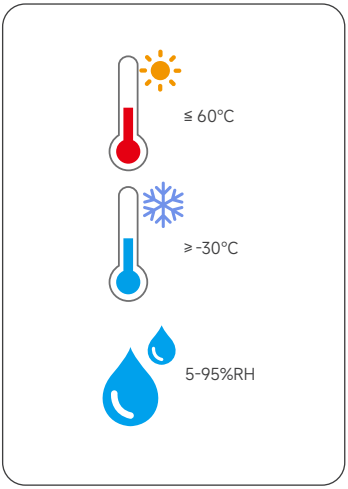
Required Material	Type	Conductor Cross-section
PV cable	Copper cable	4-6 mm^2
Grid cable		10-16 mm^2
PE cable*		10-16 mm^2
Backup cable		10-16 mm^2
Micro-breaker	/	63A

*The PE cable must have the same cross-sectional area as the AC cable.

4.3 Installation Environment

- The system has IP66 protection level and can be used for indoor or outdoor installation.
- The installation location should be convenient for electrical connection, operation and maintenance.
- No flammable and explosive materials should be present in the installation environment.
- It must not be installed in a location that is accessible to children.
- Temperature should meet: -30 to +60°C ; Humidity should meet: 5 ~ 95% RH.
- Avoid direct sunlight, rain and snow on the inverter, and choose a sheltered place for the installation to extend the life of the system.
- Make sure the system is ventilated and dissipated smoothly, please install the system in a ventilated environment.
- The system will generate some noise during operation, so it is not recommended to install it in the living area.





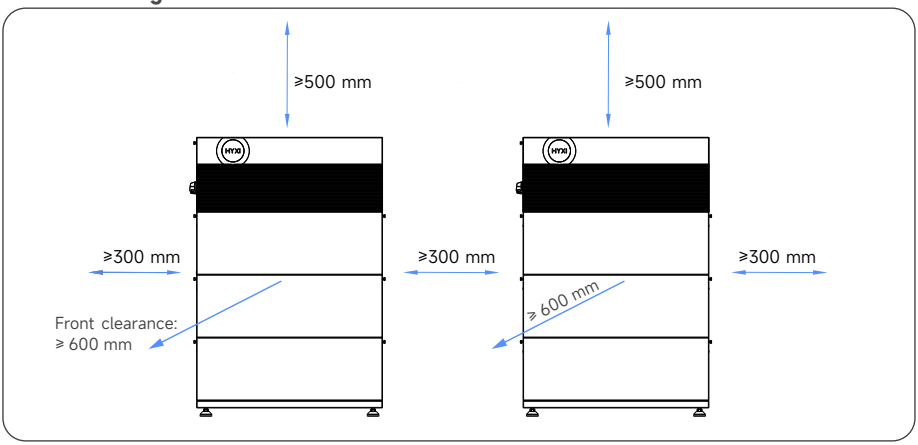
4.4 Installation Angle

- The walls and floors should meet the load-bearing requirements of the equipment, and the carrier should have fireproof characteristics.
- Do not tilt the system forward, backward, upside down or sideways.

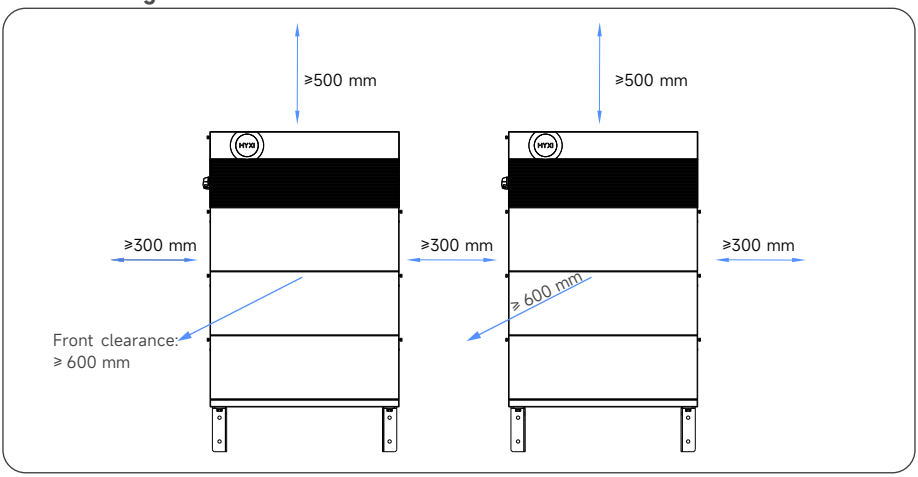
4.5 Installation Space

When installing this product, make sure there is no other equipment (except for the installation of necessary equipment, masking devices) and flammable and explosive materials around, and reserve sufficient installation space as shown in the following figure (for example, the highest stacking method of this product) to ensure installation, heat dissipation, safety and other needs.

Floor-mounting



Wall-mounting



5 Mechanical Installation

5.1 Installation Precautions

DANGER

- Before installing the system, be sure that the system is free of any electrical connections.
- Make sure to avoid the utility alignments in the wall before drilling holes to avoid any danger.
- Before drilling, please make sure to avoid the pre-buried utility lines in the wall to avoid danger.
- To prevent dust from entering human respiratory tract or eyes when drilling holes, personnel should wear appropriate protective gear.

CAUTION

- The instructions in the manual must be followed when handling and placing the equipment.
- Improper handling of the equipment may result in minor, serious or destructive injuries.
- The equipment heat sink must be kept uncovered to ensure adequate cooling inside the equipment.

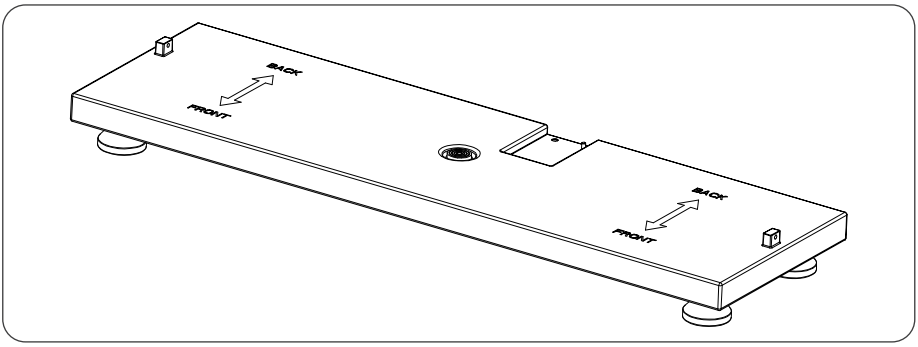
NOTICE

- The battery is heavy. There is a risk of injury if the battery is not lifted or dropped properly during transportation or during installation or removal.
- Two or more people must lift and transport the inverter and battery.
- The electrical connection must be complete and firm, and the installation position and direction of the CT on the grid side must be correct (the arrow on the CT points to the grid side), otherwise the current will not be detected; in addition, if you need to realize the backflow prevention, the CT should be installed on the main road of the grid.
- The installer should wear protective equipment.

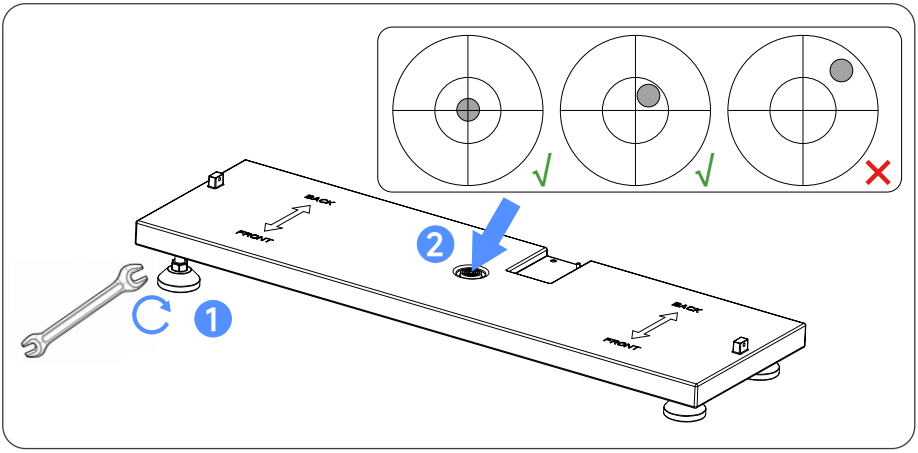
5.2 Floor-Mounting

Base Installation

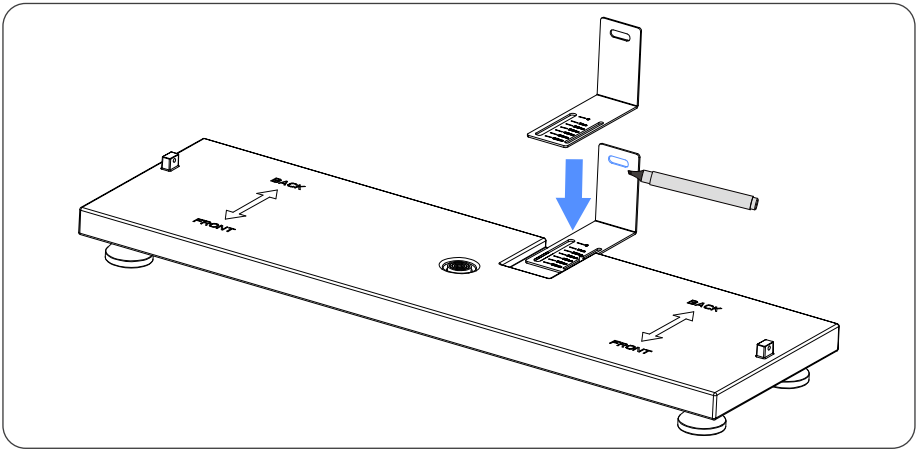
Step 1: Take the base from the packaging, confirm the orientation based on the screen printed on the base, then place it on the ground.



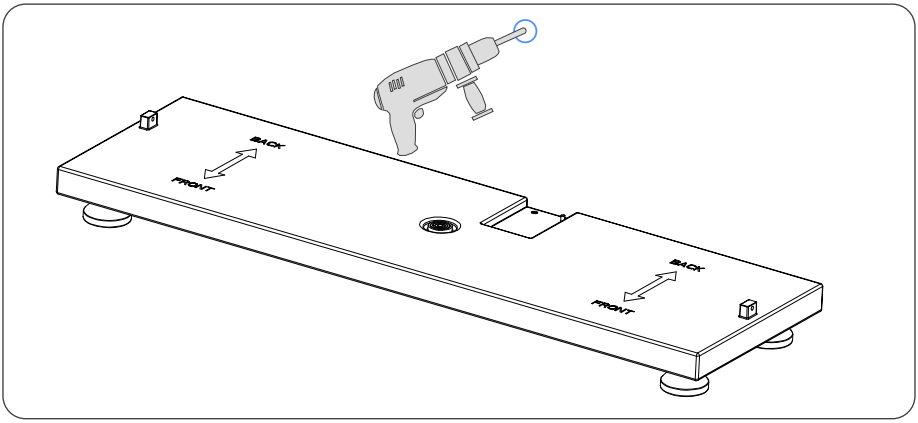
Step 2: The base is equipped with a built-in level and adjustable feet. Rotate the adjustable feet to modify the base height and center the spirit level bubble.



Step 3: Take the bracket from the packaging, and then place the bracket on the base. Do not secure the base; mark drilling hole on the wall with a marker.



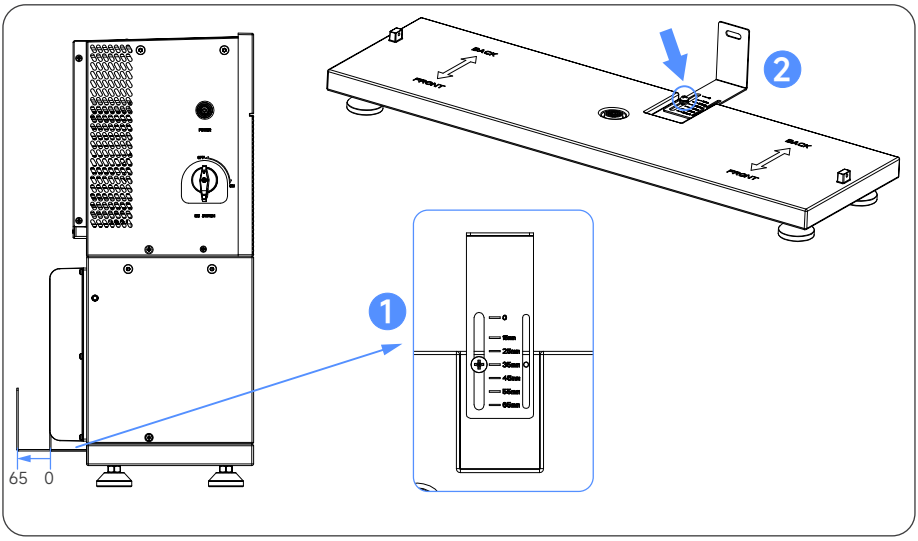
Step 4: Remove the bracket and use a hammer drill to drill a hole in the wall to a depth of 35~40 mm. (∅ 10 drill bit)



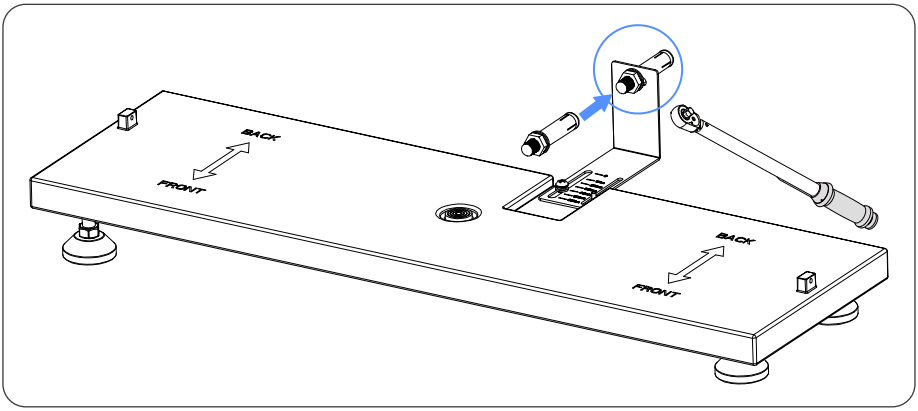
NOTICE

- When drilling holes, please cover the device to prevent dust from falling into it.

Step 5: Determine the distance between the base and the wall based on the screen printed on the bracket (supporting a clearance of 0–65 mm), then use the M6×12 screws from the packaging to mount the bracket onto the base.(Torque: 6 N·m)

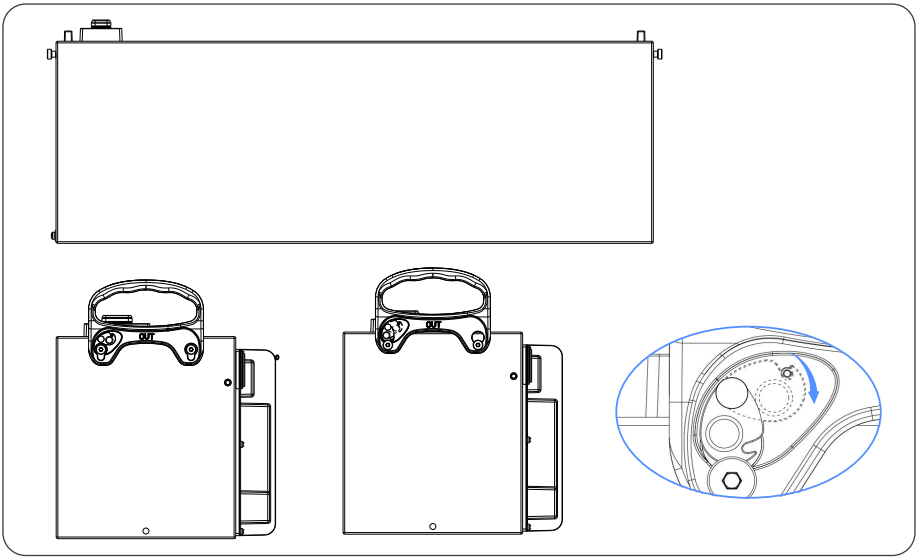


Step 6: Use M6*50 expansion screw to secure the bracket to the wall (Torque: 12 N·m).

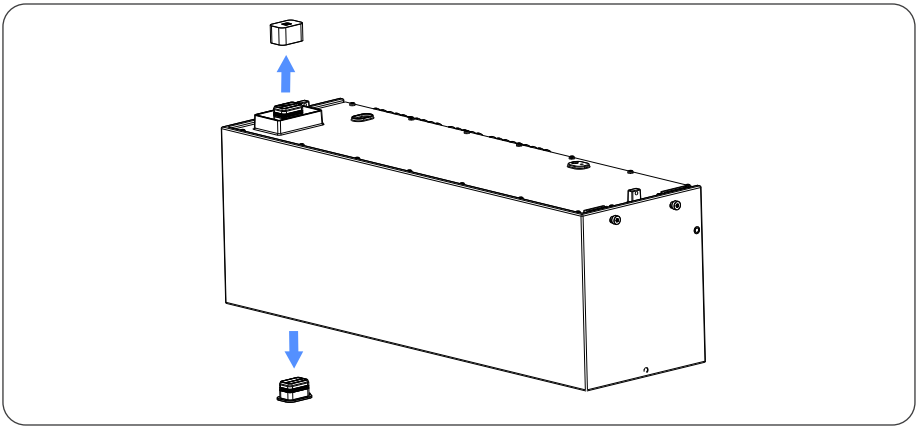


Battery Installation

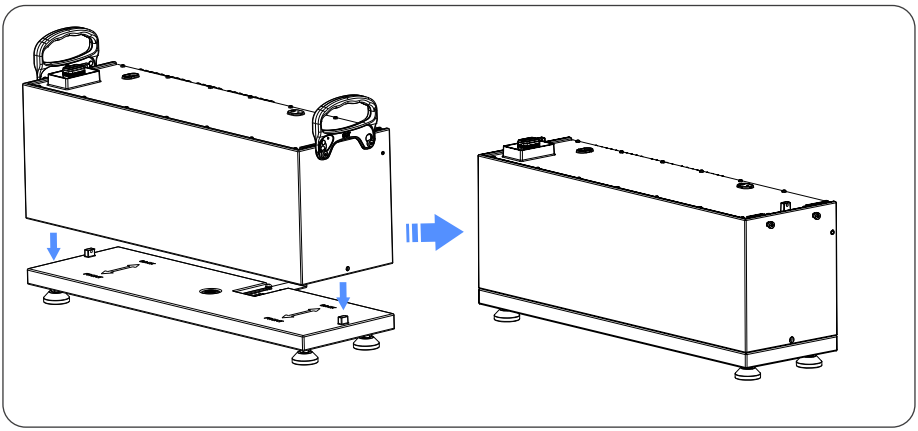
Step 7: Secure the handle at the designated position shown in the figure below, rotate the handle stop clockwise to lock it in place, preventing the handle from falling off. Then lift the battery from the packaging.



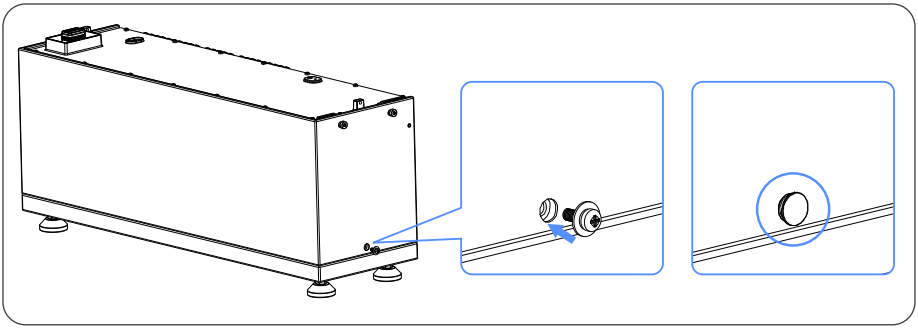
Step 8: Remove the dustproof covers from the upper and lower battery terminals.



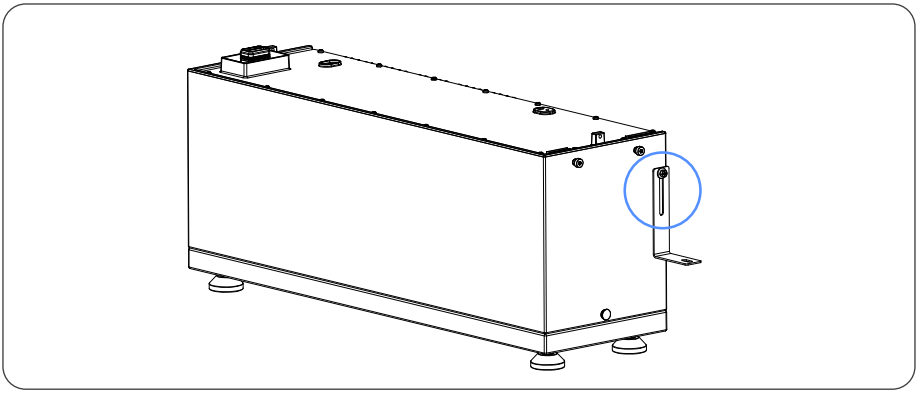
Step 9: Stack the battery on the base.

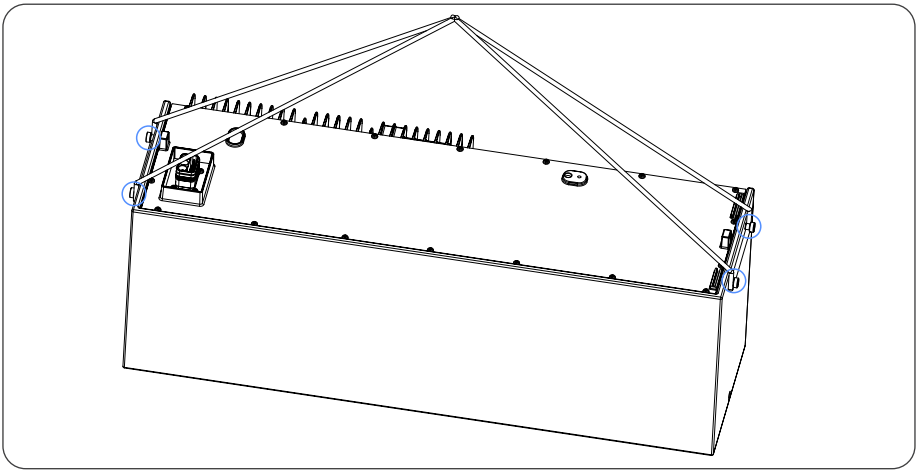


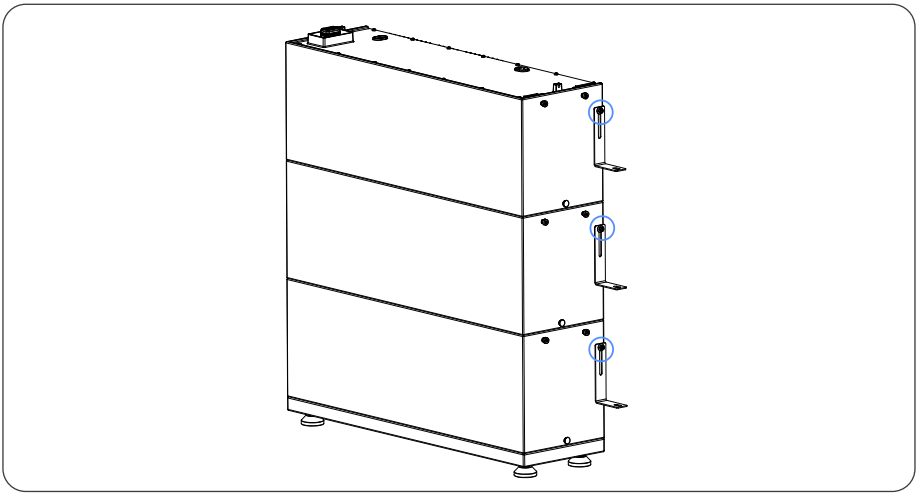
Step 10: Use M5*14 screws to secure the battery and base, with the screws on both the left and right sides.



Step 11: Pre-secure the battery brackets on both sides: Use M6*12 screws to pre-secure the bracket to the battery. Do not secure the screws. Repeat the above steps until all batteries are installed. If installing more than three battery packs, please use a crane.

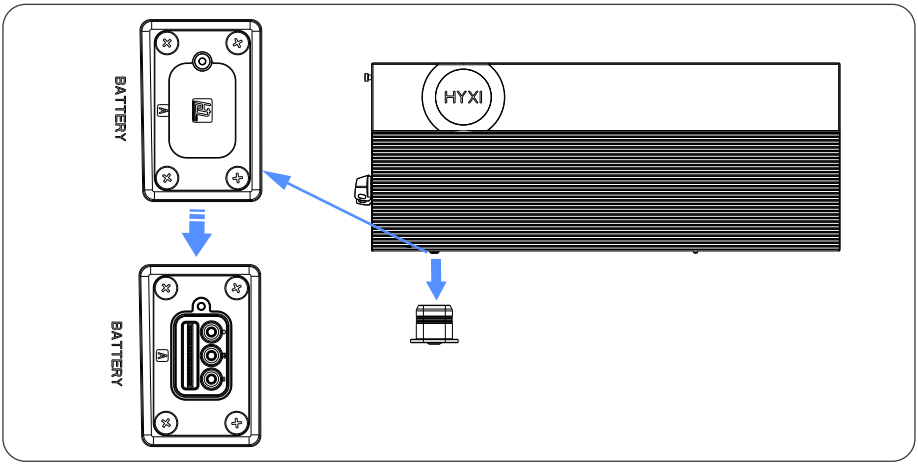




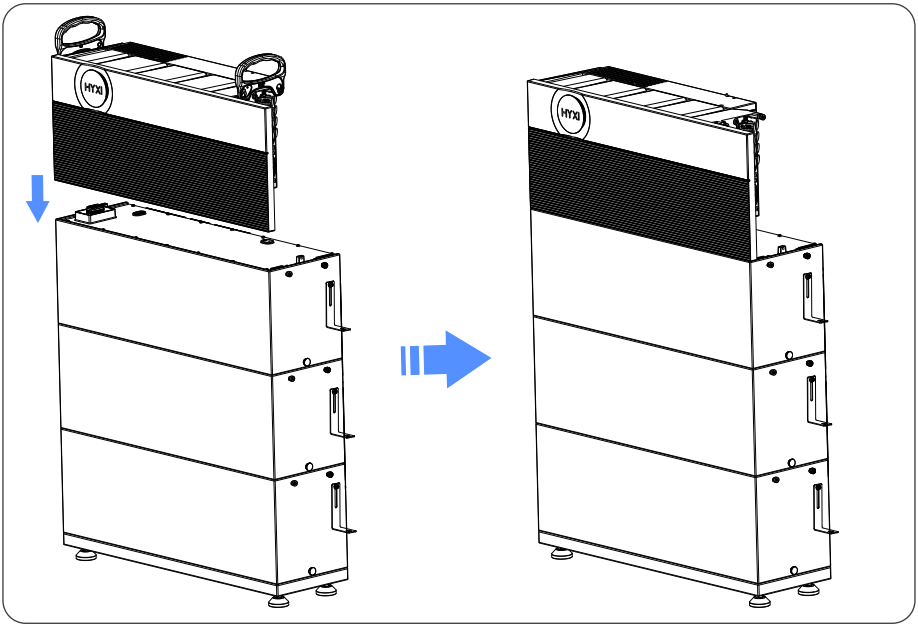


Inverter Installation

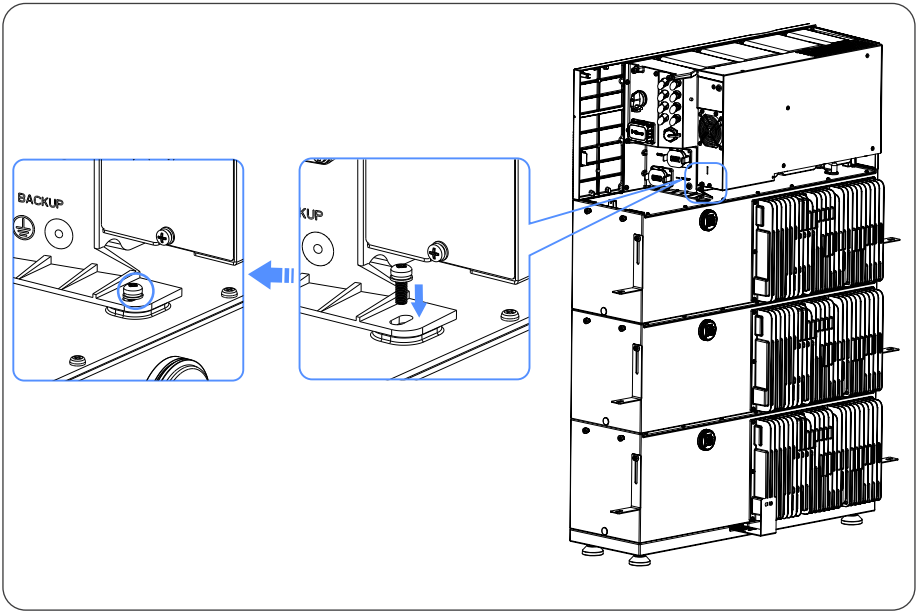
Step 12: Remove the dustproof covers from the inverter's battery terminal.

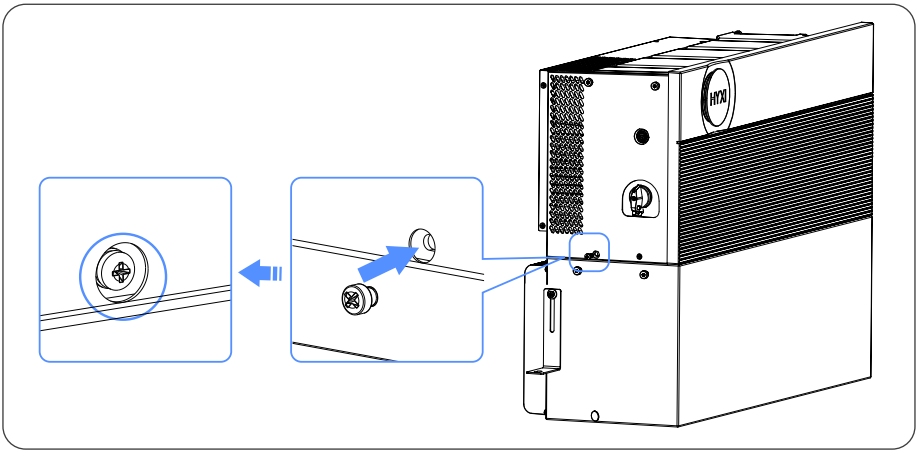


Step 13: Stack the inverter on the battery.

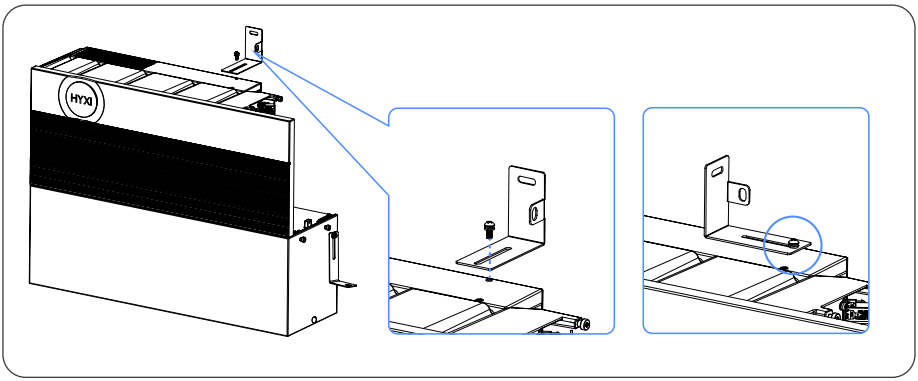


Step 14: Use M5*14 screws to secure the inverter to the battery (Torque: 5 N·m). Install one screw on each side (left and right).

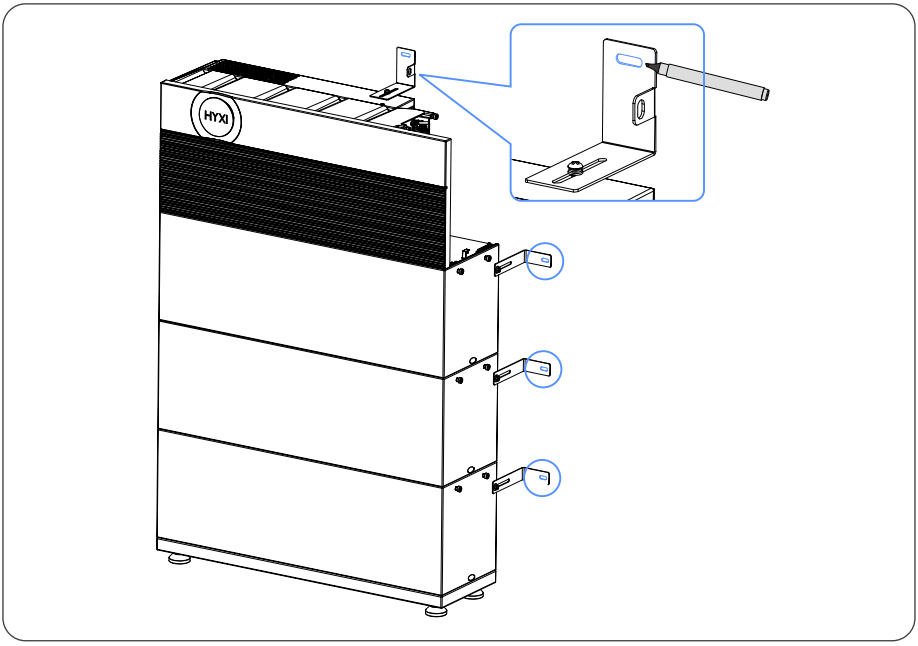




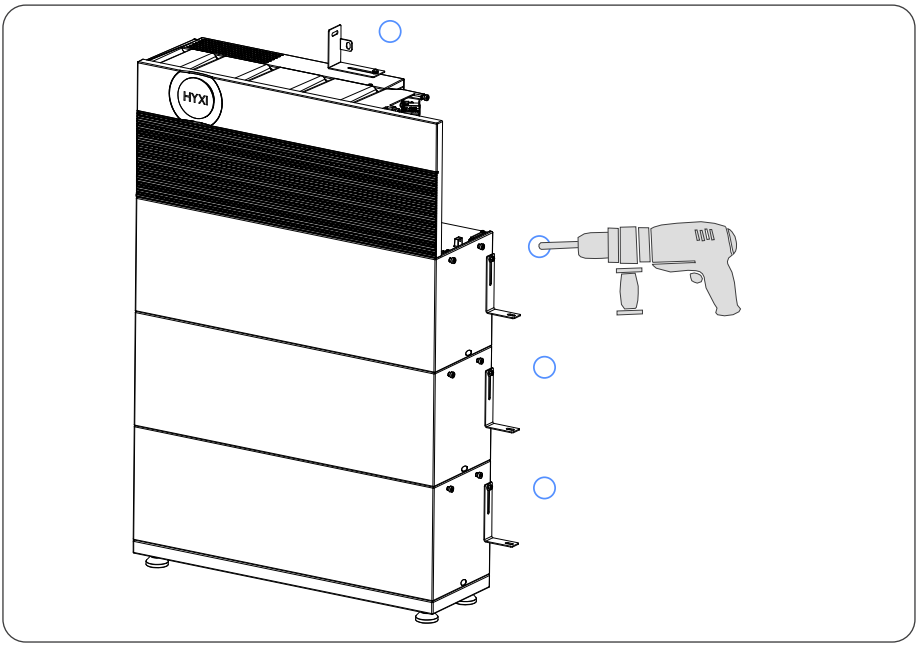
Step 15: Use M6*12 screw to pre-secure the bracket to the inverter, do not secure it.



Step 16: Use the bracket for positioning, and then mark the drilling holes with a marker.



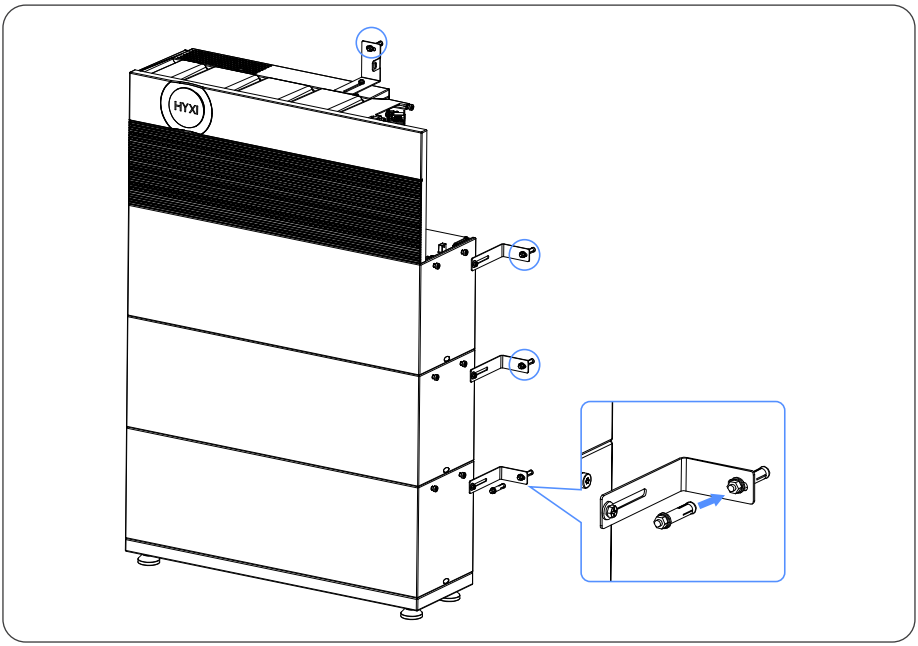
Step 17: Use a hammer drill to drill holes in the wall to a depth of 35~40 mm. (∅ 10 drill bit)



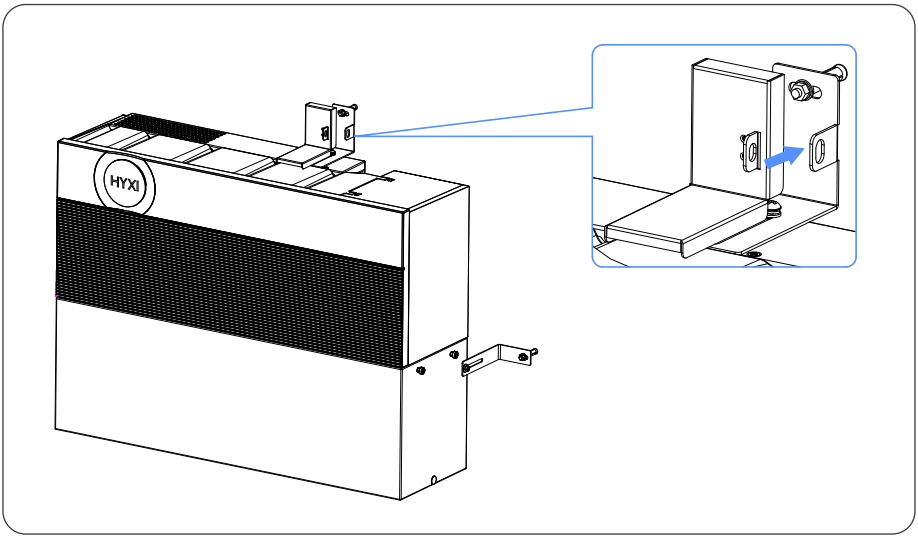
NOTICE

- When drilling holes, please cover the device to prevent dust from falling into it.

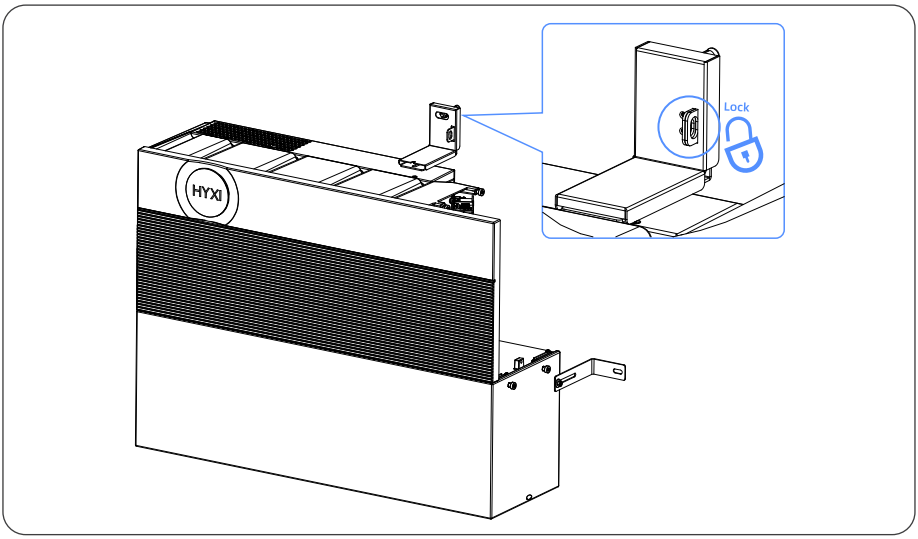
Step 18: Secure the M6*50 expansion screws.



Step 19: Take the anti-theft bracket from the packaging, and then install it on the bracket.



Step 20: Install an anti-theft lock.

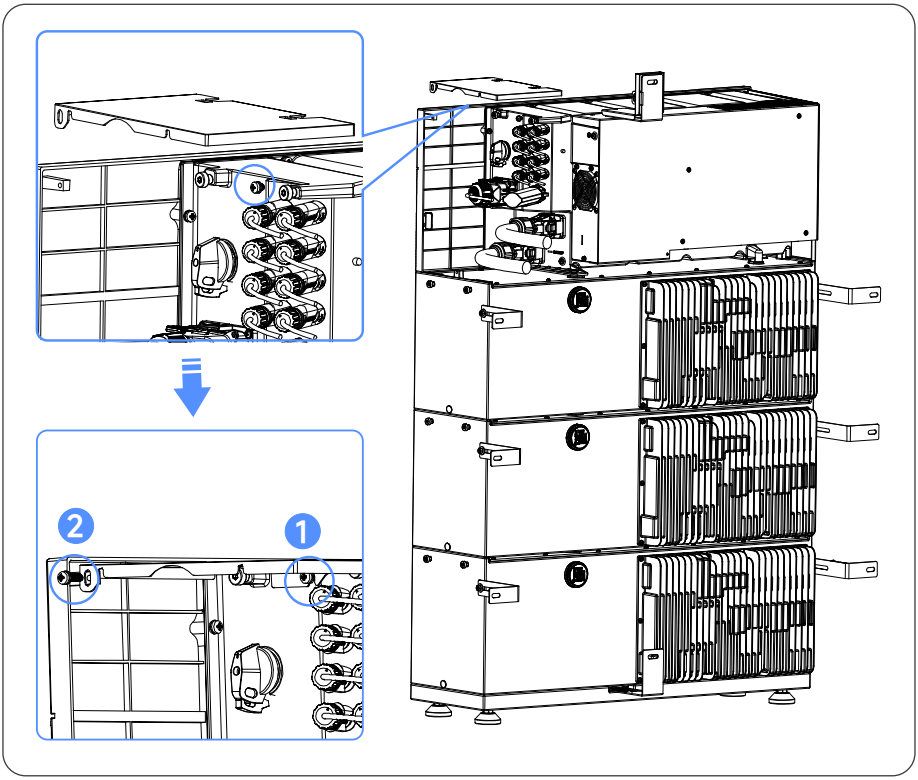


Cover Plate Installation

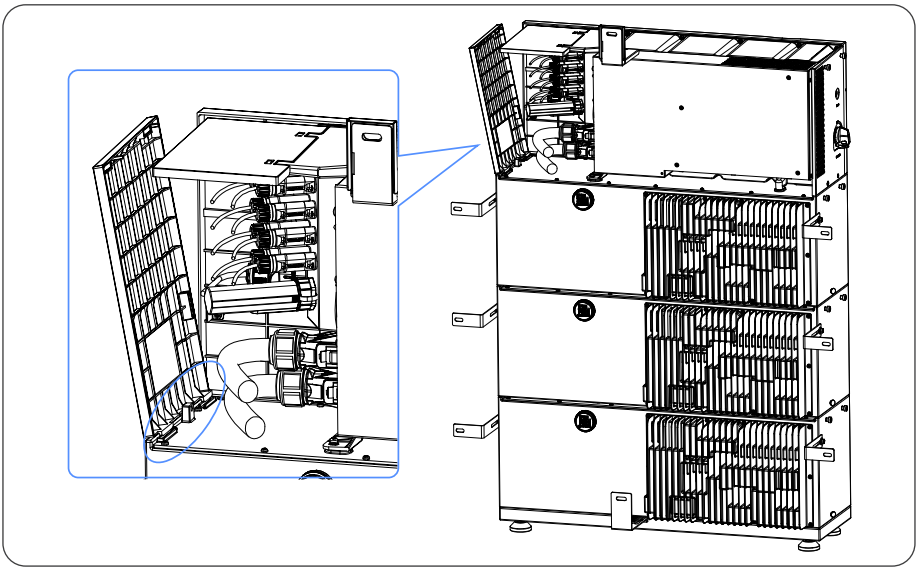
NOTICE

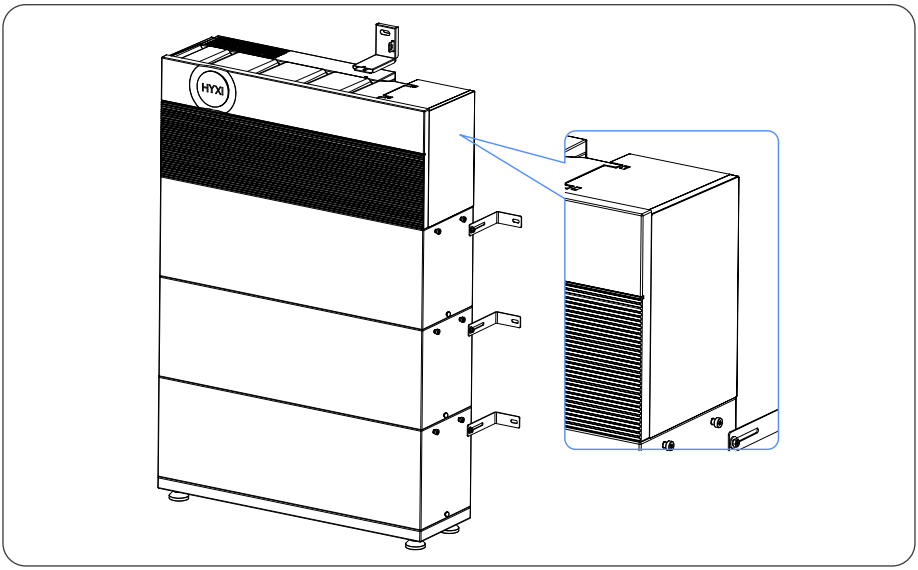
- Install the cover plate after all wiring installations are complete.

Step 21: Take the metal cover plate from the packaging, and then loosen the screw on the inverter, but do not remove it. Insert one side of the metal cover plate between the inverter and the screw, and then tighten the screw. Take the M5*14 screw from the packaging and fasten the other side of the metal cover plate to the inverter. (Torque: 5 N·m)



Step 22: Take the plastic cover plate from the packaging, insert the plastic cover plate into the slot on the battery's top cover, and attach the other side to the metal cover plate that was just installed.





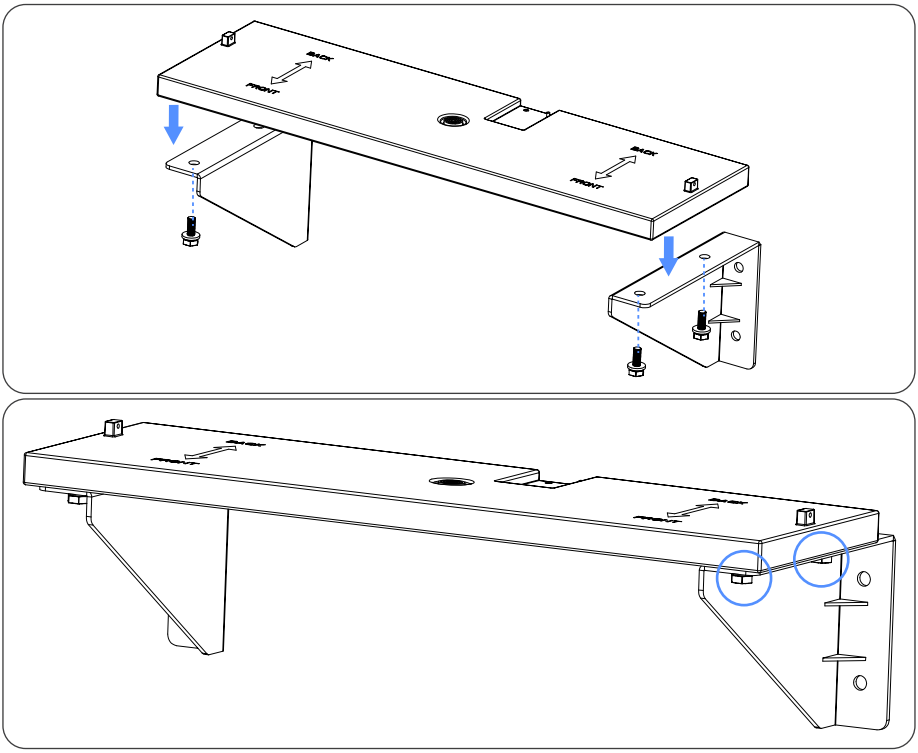
5.3 Wall-Mounting

⚠ DANGER

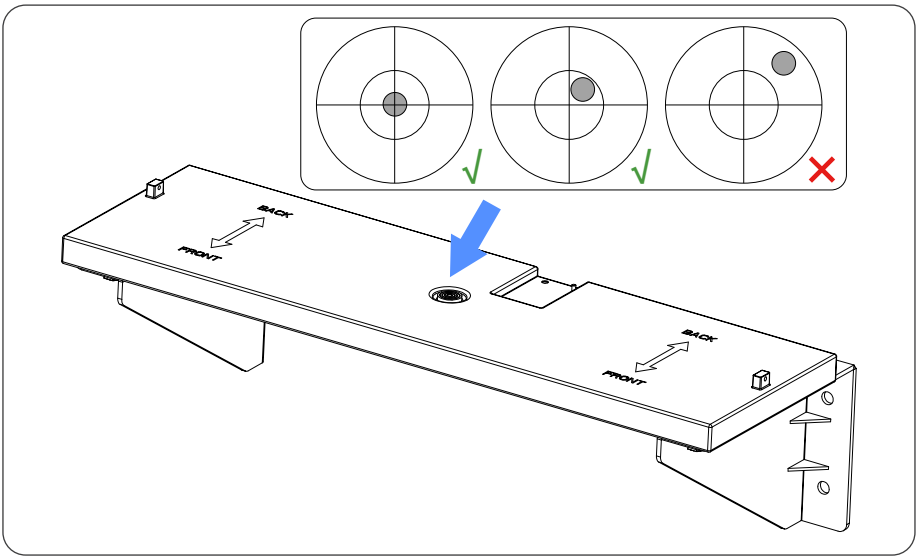
- For wall-mounted installation, the wall shall be solid concrete.

Base Installation

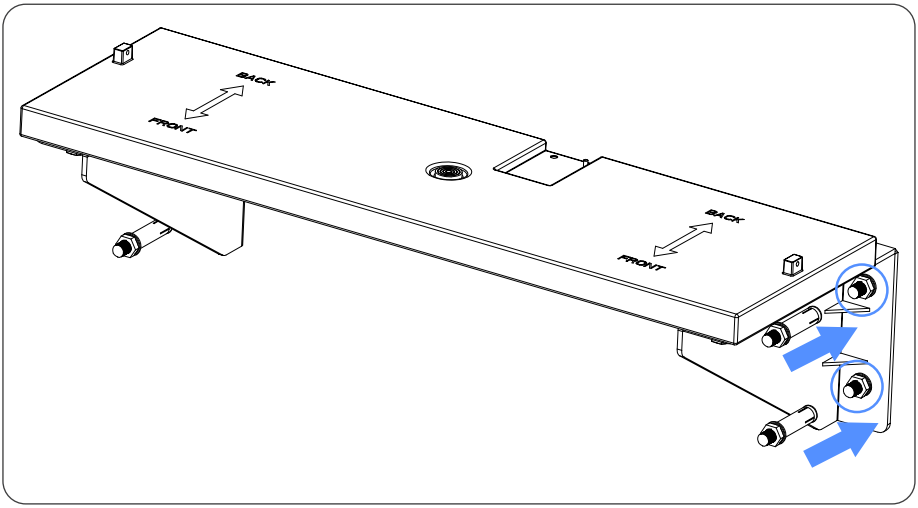
Step 1: Take the base from the packaging, confirm the orientation based on the screen printed on the base, then take the right and left bracket from the packaging, and use the M12*24 screws to secure the brackets on the base. (Torque: 22-28 N·m)



Step 2: The base is equipped with a built-in level; center the spirit level bubble.

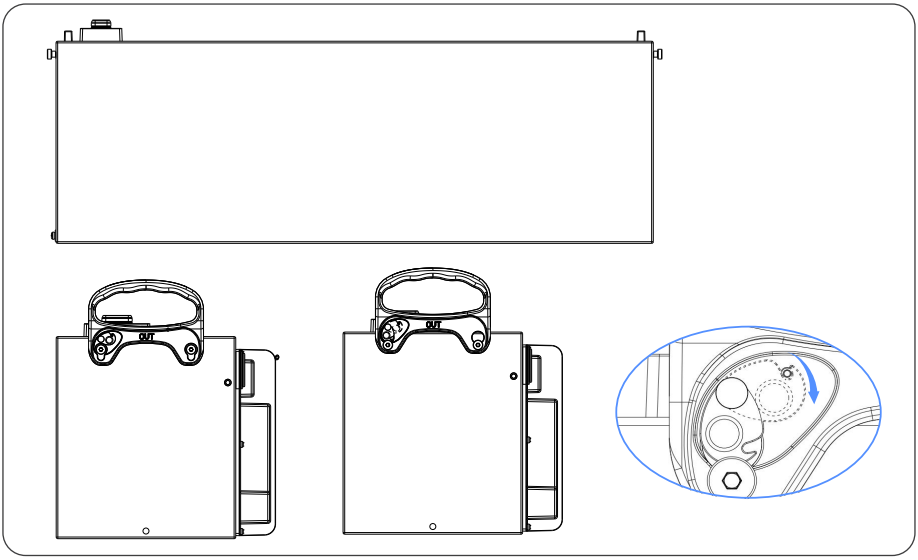


Step 3: Make sure the distance between the base and the ground is higher than 300mm. Use M12*110 expansion screw to secure the bracket to the wall (Torque: 70-80 N·m) The depth of drilling holes should be 85~90 mm. (∅ 16 drill bit)

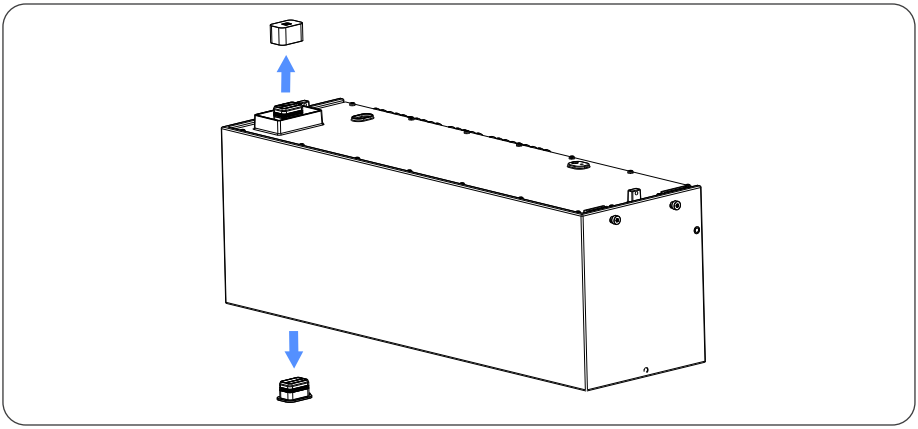


Battery Installation

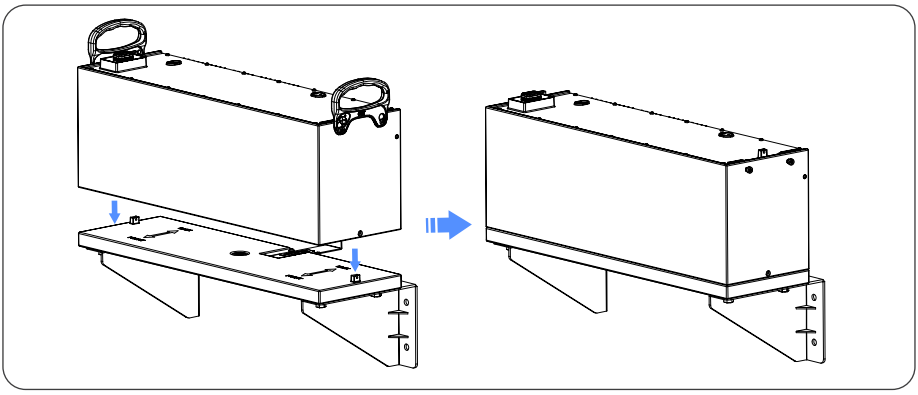
Step 4: Secure the handle at the designated position shown in the figure below, rotate the handle stop clockwise to lock it in place, preventing the handle from falling off. Then lift the battery from the packaging.



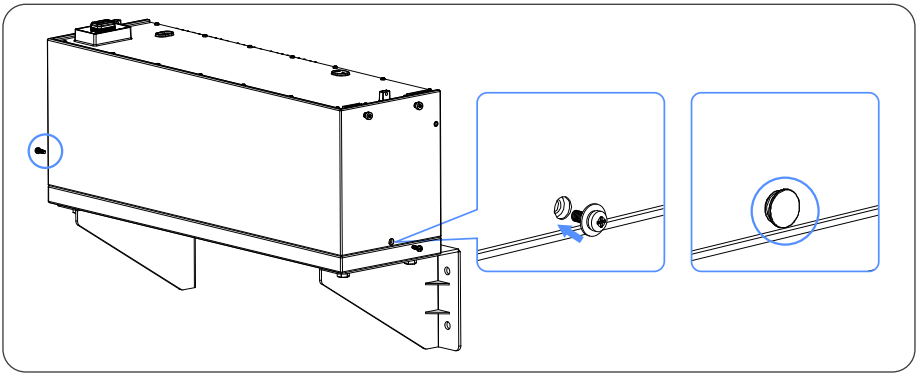
Step 5: Remove the dustproof covers from the upper and lower battery terminals.



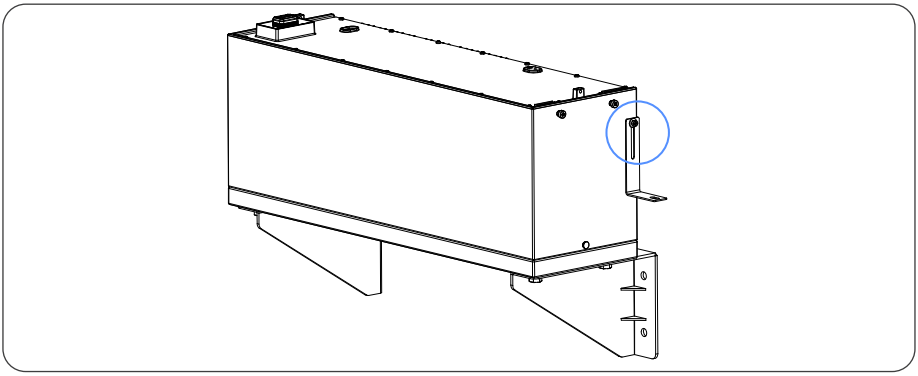
Step 6: Stack the battery on the base.

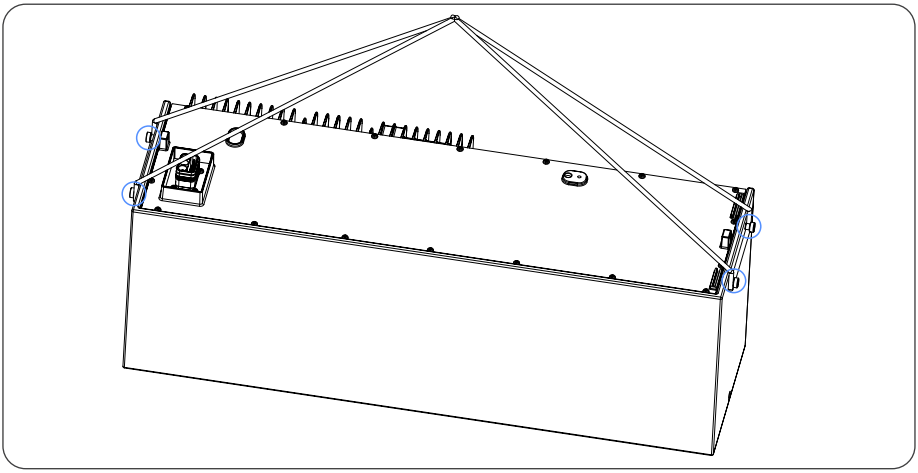


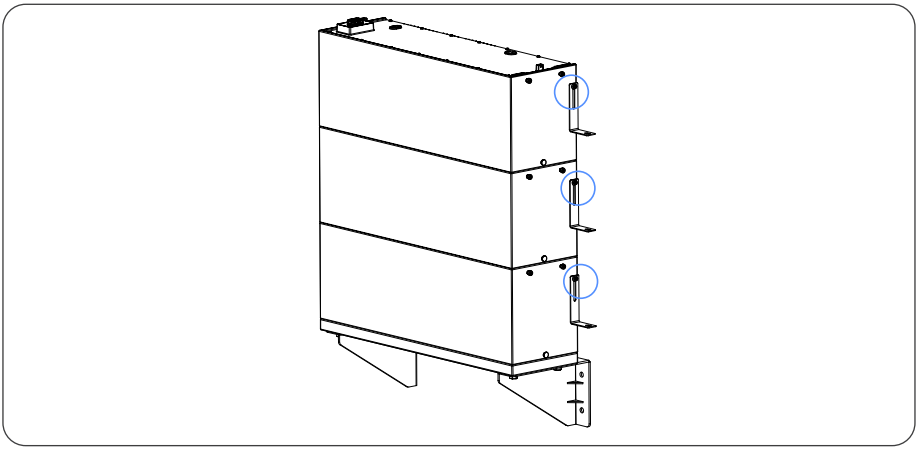
Step 7: Use M5*14 screws to secure the battery and base, with the screws on both the left and right sides.



Step 8: Pre-secure the battery brackets on both sides: Use M6*12 screws to pre-secure the bracket to the battery. Do not secure the screws. Repeat the above steps until all batteries are installed. If installing more than three battery packs, please use a crane.

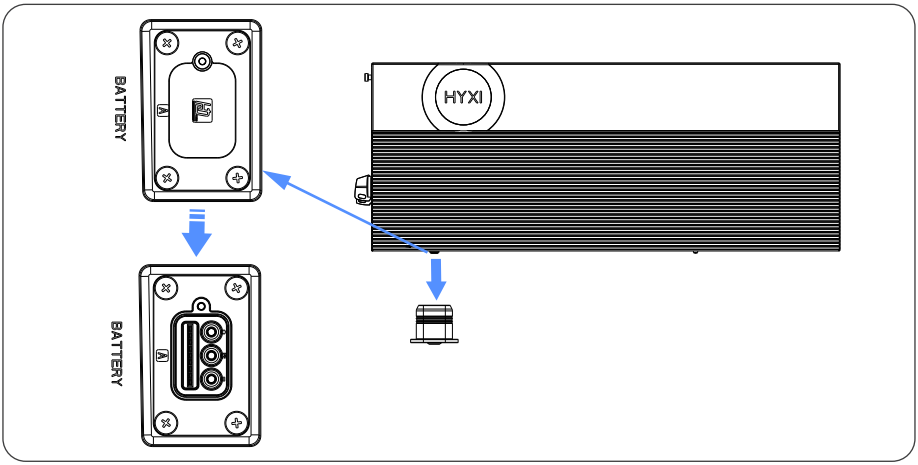




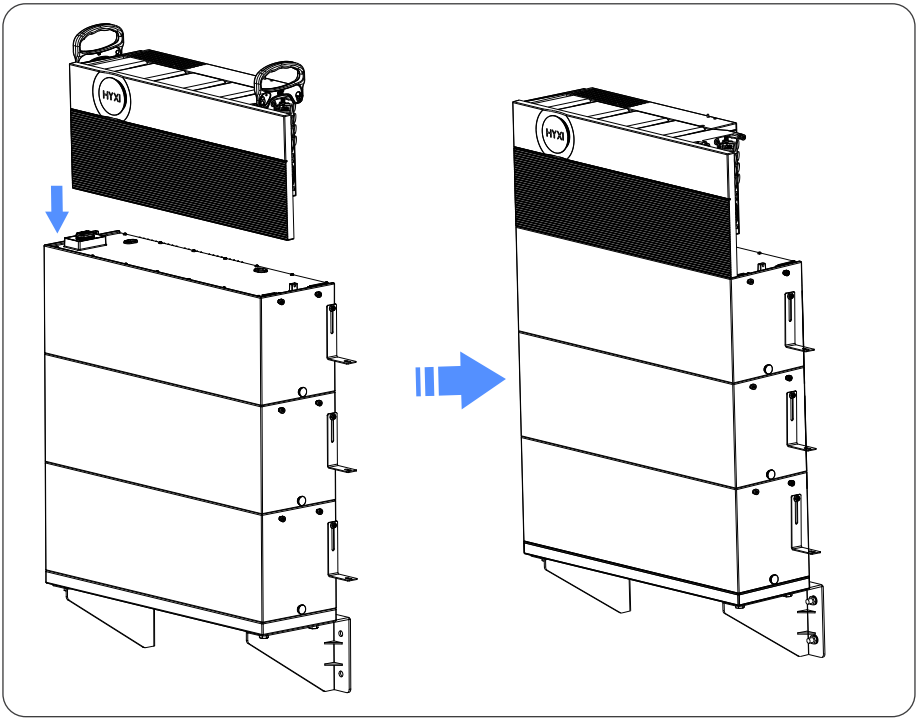


Inverter Installation

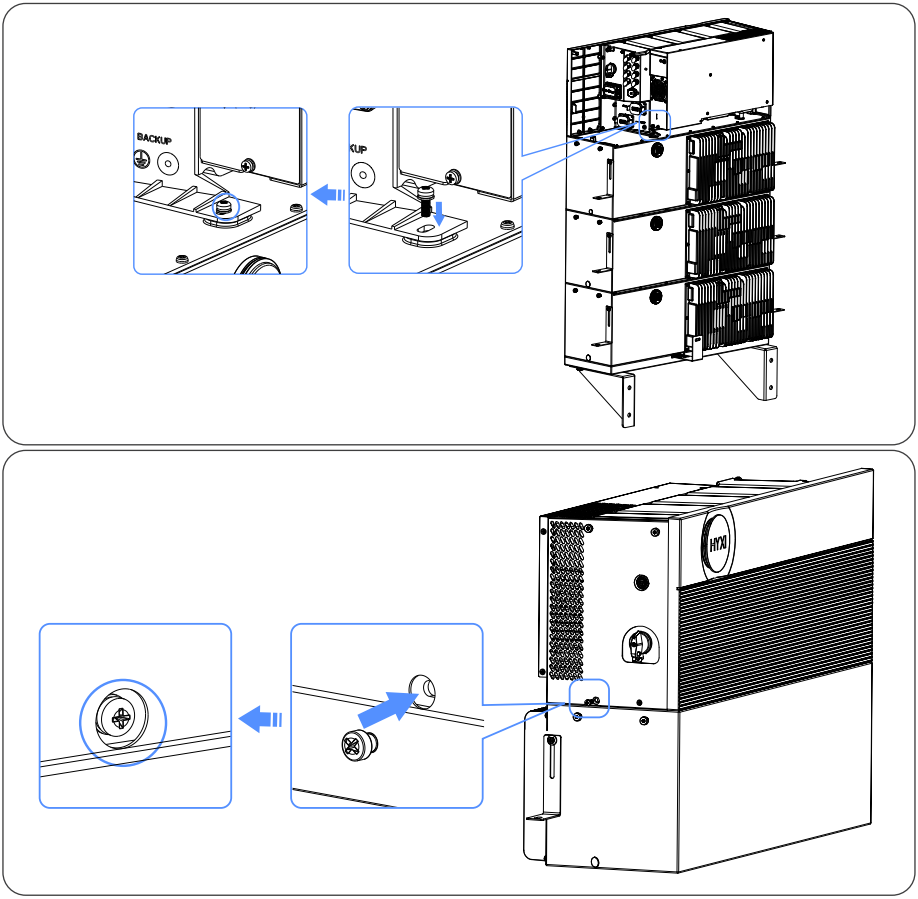
Step 9: Remove the dustproof covers from the inverter's battery terminal.



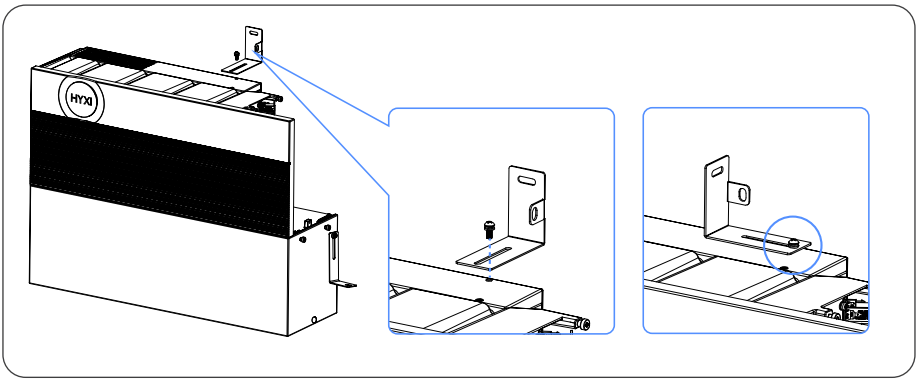
Step 10: Stack the inverter on the battery.



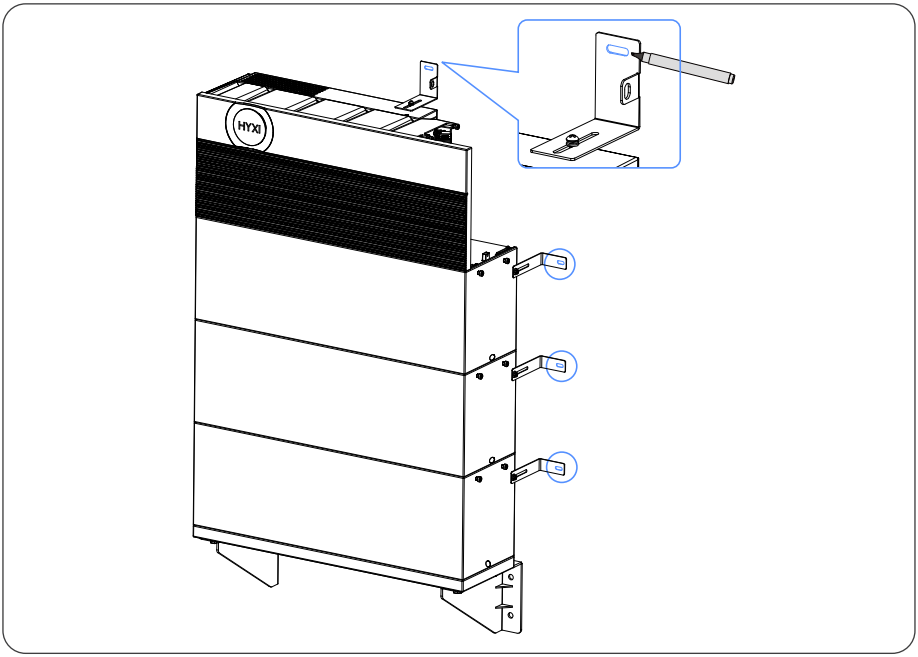
Step 11: Use M5*14 screws to secure the inverter to the battery (Torque: 5 N·m). Install one screw on each side (left and right).



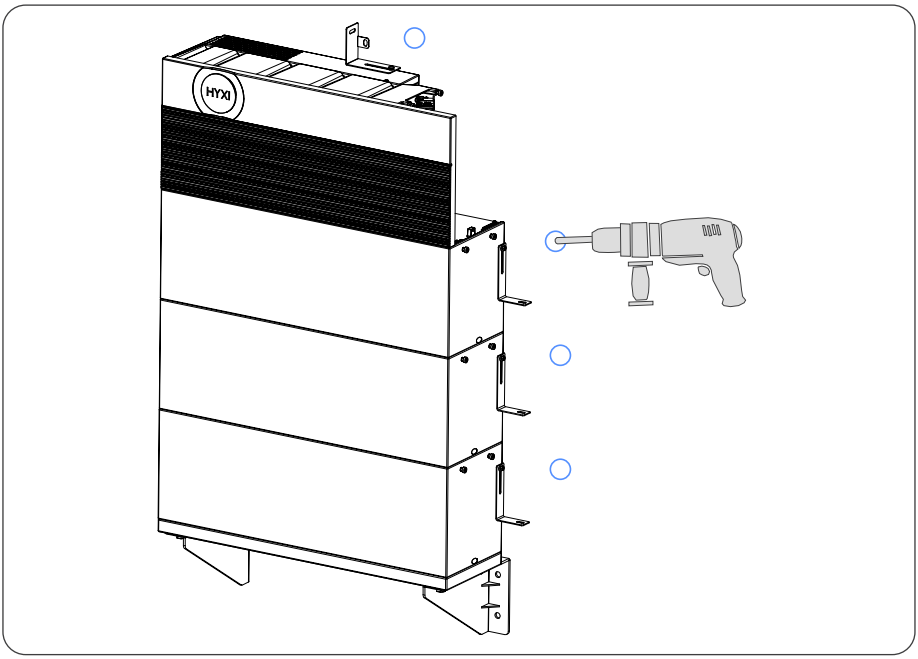
Step 12: Use M6*12 screw to pre-secure the bracket to the inverter, do not secure it.



Step 13: Use the bracket for positioning, and then mark the drilling holes with a marker.



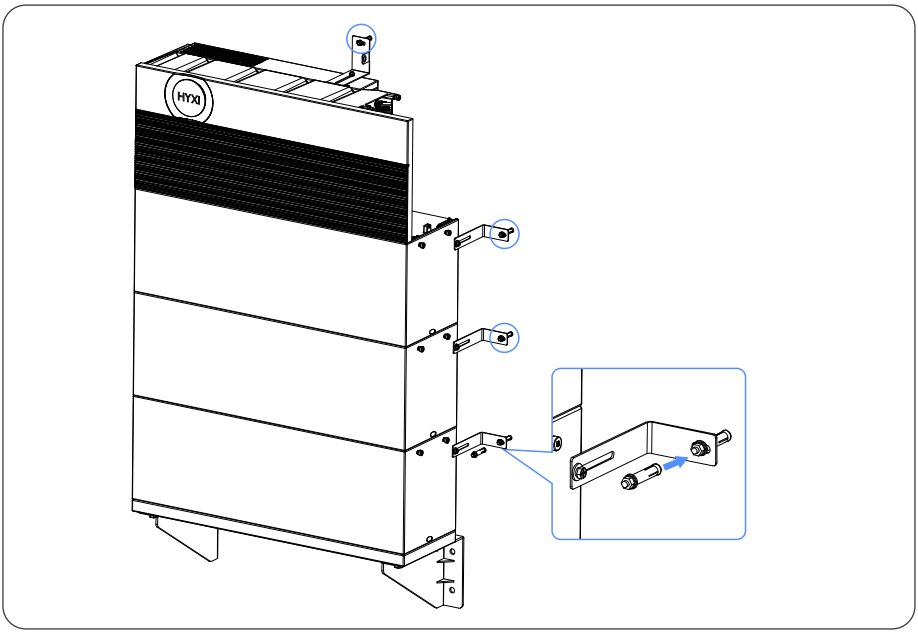
Step 14: Use a hammer drill to drill holes in the wall to a depth of 35~40 mm. (∅ 10 drill bit)



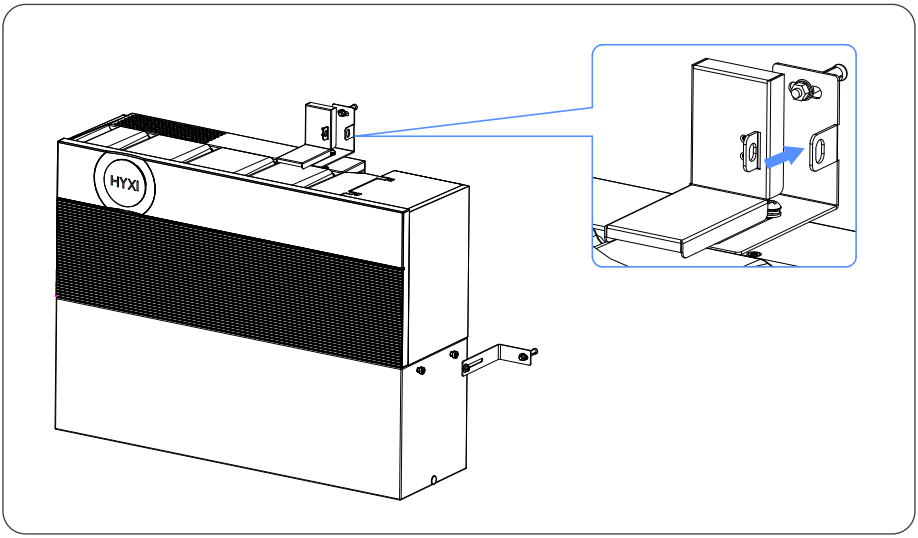
NOTICE

- When drilling holes, please cover the device to prevent dust from falling into it.

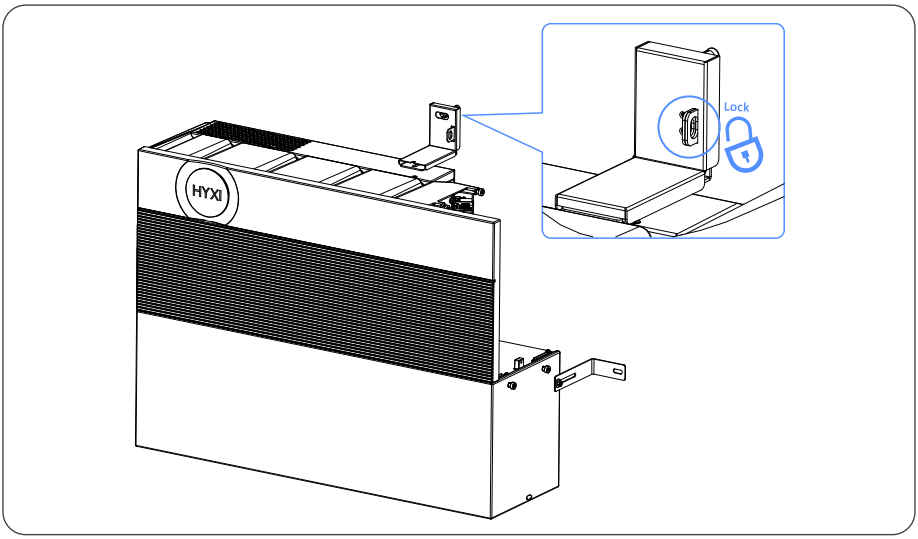
Step 15: Secure the M6*50 expansion screws.



Step 16: Take the anti-theft bracket from the packaging, and then install it on the bracket.



Step 17: Install an anti-theft lock.



Cover Plate Installation

NOTICE

- Install the cover plate after all wiring installations are complete.
- The installation method is the same as that for the floor-mounting cover plate; please refer to the installation steps for the cover plate installation of floor-mounting.

6 Electrical Connection

⚠ DANGER

- High voltage may be present in the system.
- Exposure of the PV module to sunlight will generate dangerous voltages.
- Do not close the AC/DC circuit breaker before completing the electrical connection and prevent misconnection.
- Make sure that all cables are not energized before making electrical connections.

⚠ WARNING

- Any improper operation during wiring may result in equipment damage or personal injury or death.
- The wiring operation must be done by professional technicians only.
- The cables used in the system must be firmly connected, intact, well insulated and of appropriate specifications.

⚠ WARNING

- Before connecting the AC side, the PV string and the communication connection, please make an external ground connection.

⚠ CAUTION

- The wiring process must follow the relevant rules of the local power grid and the relevant safety instructions of system.
- All electrical installations must comply with the electrical standards of the country and region where they are installed.
- The system can be connected to the grid only after obtaining the permission of the local power department.

6.1 Grounding Connection

⚠ WARNING

- Ensure that the grounding procedure has been completed before any other operation.

Grounding procedure:

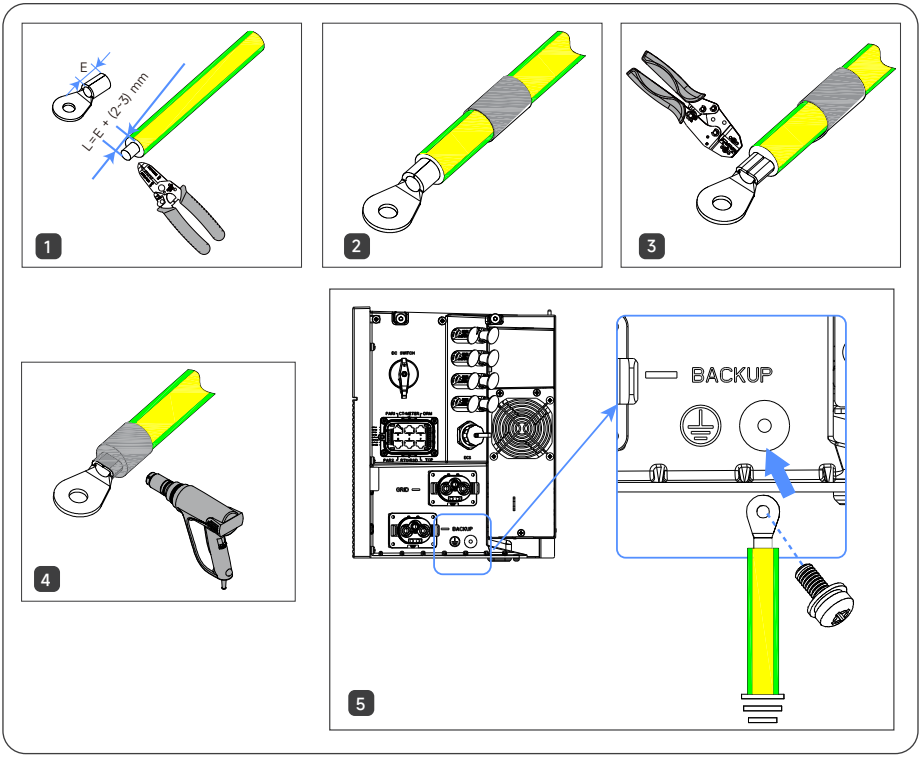
Step 1: Strip the insulation layer of the grounding cable as shown in the figure below.

Step 2: Insert the heat shrink tubing and OT terminal into the grounding cable.

Step 3: Use a crimping tool to crimp the OT terminal.

Step 4: Wrap the wire crimping area with the heat shrink tubing, and then heat it with a heat gun.

Step 5: Use M5*14 screw to secure the grounding cable. (Torque: 5 N.m)

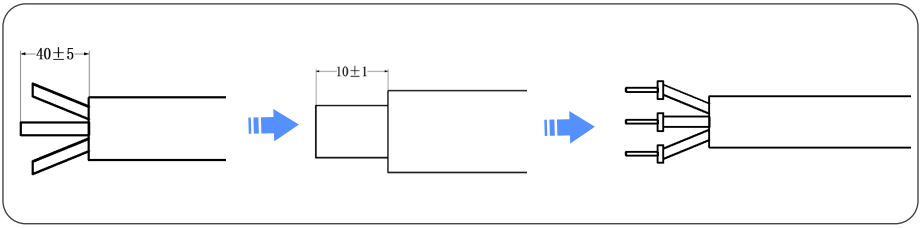


6.2 AC Side Connection (GRID and BACKUP)

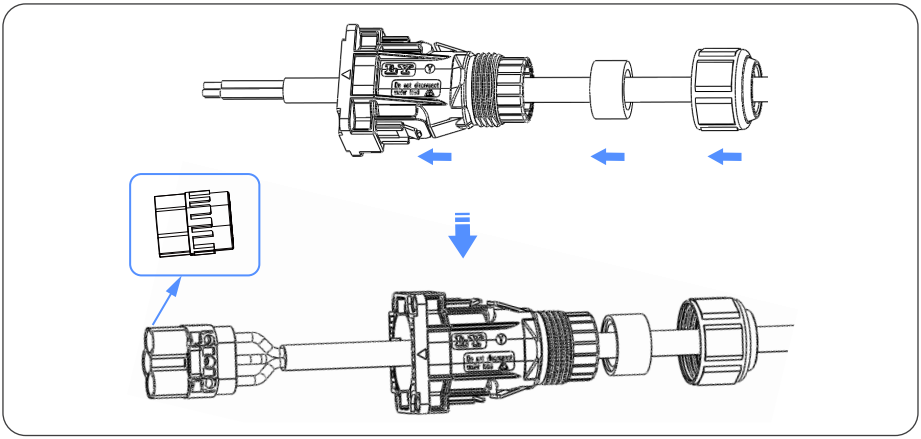
DANGER

- Before connecting to the grid, make sure that the grid voltage and frequency meet the requirements of the system, please refer to the "Technical Data" for detailed parameters. Otherwise, contact the power company to solve the problem.
- The system can only be connected to the grid with the local power company's access permit.

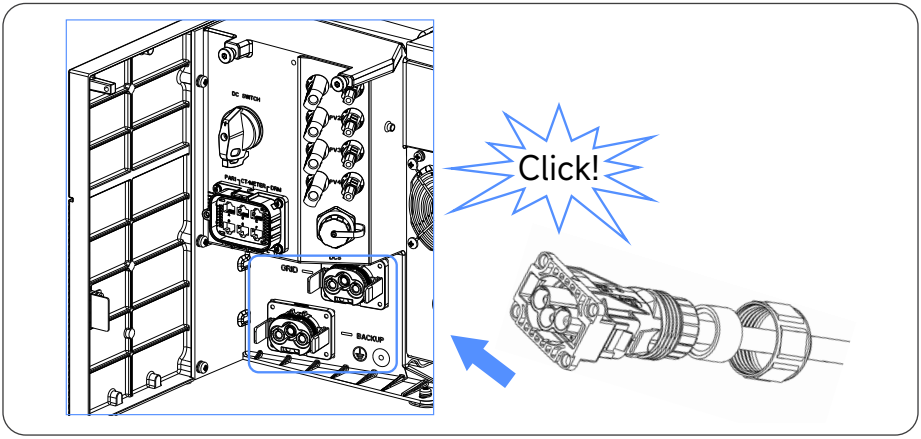
Step 1: Strip 40±5mm of the cable sheath, and then strip 10±1mm of the insulation layer from each wire core. Insert the tubular terminal into the wire core and crimp it with tubular terminal pliers.



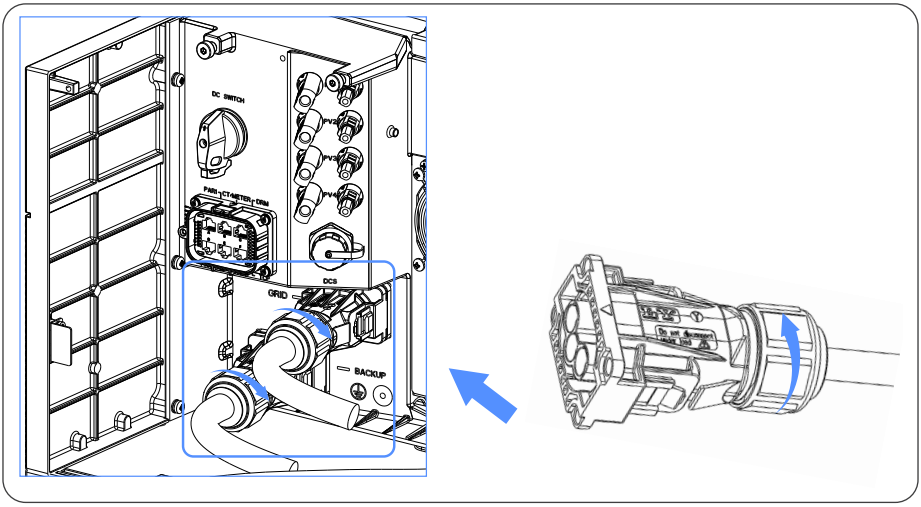
Step 2: Pass the cable through the swivel nut, sealing plug, and connector in sequence. Then connect the wire core to the corresponding inner core assembly and tighten the screw to secure the connection (Torque: 1.2~2.0 N·m).



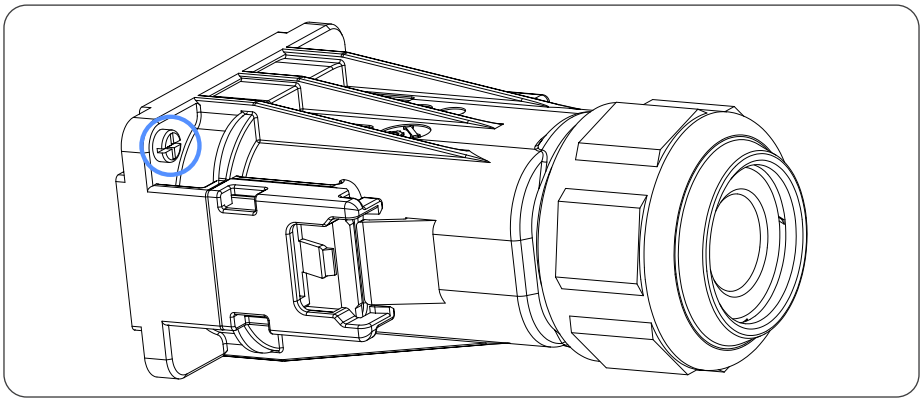
Step 3: Insert the assembled AC connector into the inverter's Grid and Backup ports. A click sound indicates successful installation.



Step 4: Assemble the sealing plug and the swivel nut in sequence, and then tighten the swivel nut. (Torque: 2.0~2.5 N·m).

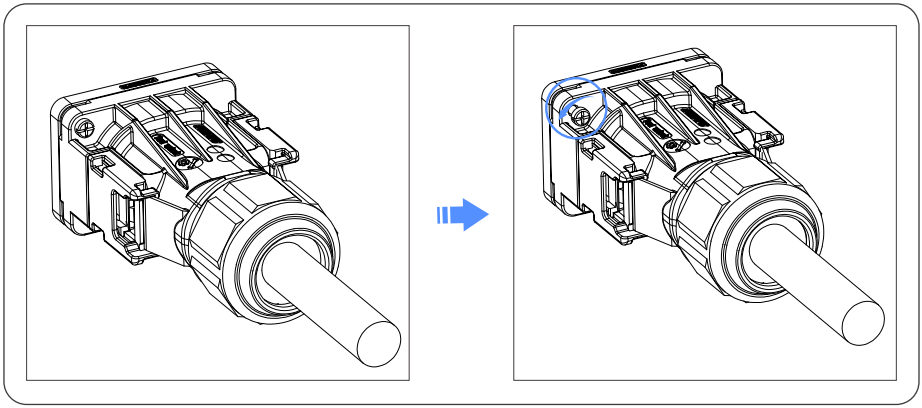


Step 5: Secure the screw on the AC connector. (Torque: 2.0~2.5 N·m).

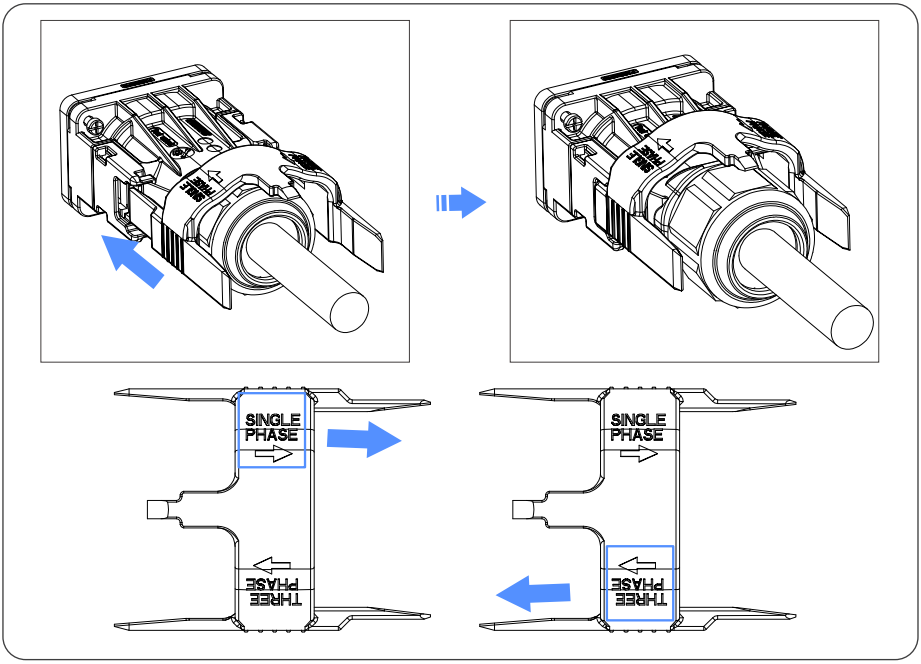


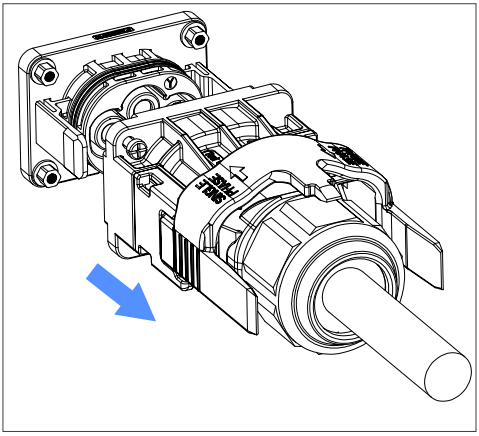
Disassembling the AC Terminal

Step 1: Loosen but not remove the screw on the AC connector.

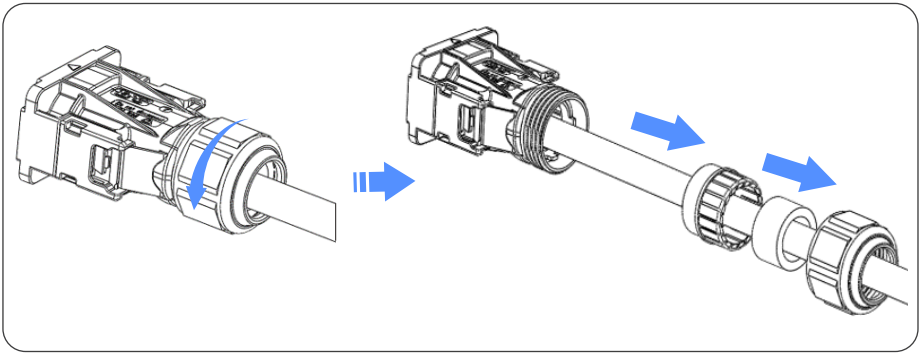


Step 2: Insert the disassembling tool for AC terminal into the position shown for the AC terminal below, insert the tool all the way in, and pull out the AC connector. (Use single-phase side for single-phase devices, and three-phase side for three-phase devices)

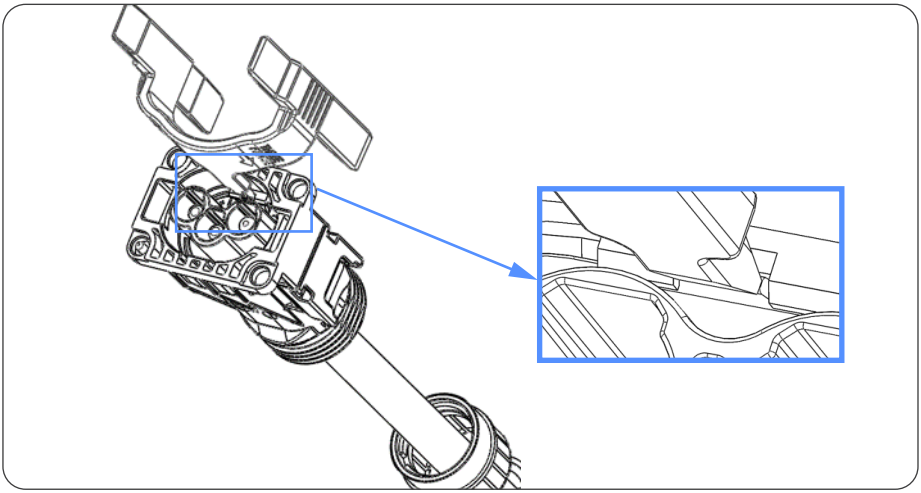




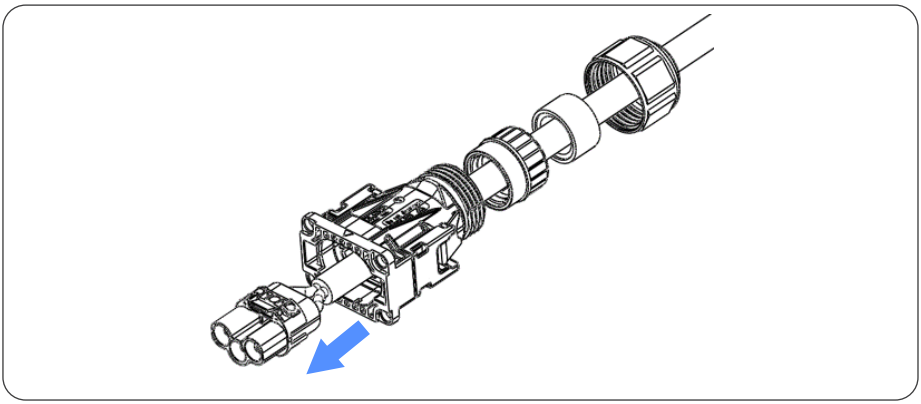
Step 3: Rotate the swivel nut of the AC connector counterclockwise, and then disassemble the swivel nut, sealing plug, and clamp in sequence.



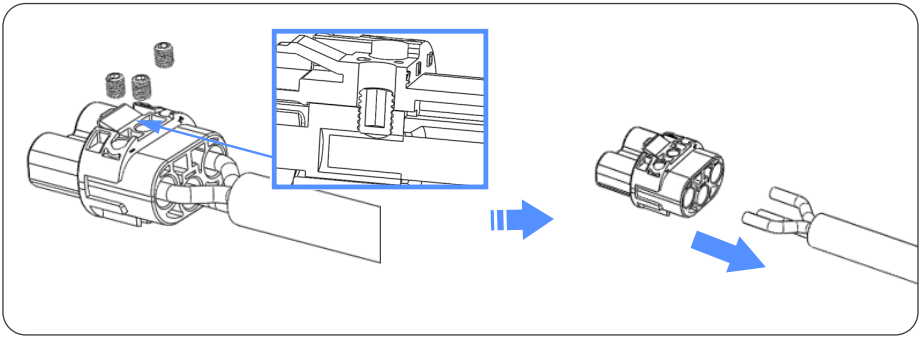
Step 4: Use the disassembling tool to open the clip between the inner core assembly and the AC connector housing.



Step 5: Remove the inner core assembly from the AC connector housing.



Step 6: Use a hex wrench to loosen the screws securing the cable and remove it.



6.3 DC Side Connection

⚠ DANGER

- Electric shock hazard !
- Pay attention to safety before electrical connection, as PV modules exposed to sunlight will generate dangerous voltages.

⚠ WARNING

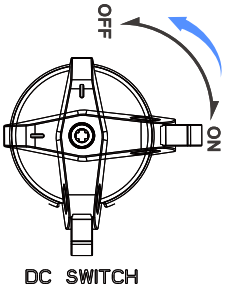
- Before connecting the PV module to the inverter, ensure that the PV module is well insulated from the ground.
- During the installation and operation of the inverter, ensure that the positive pole or negative pole of the PV string is not short-circuited to the ground. If short circuit occurred, it may cause AC and DC short circuit of the inverter, resulting in equipment damage, and the resultant damage will not be covered by the warranty.

⚠ CAUTION

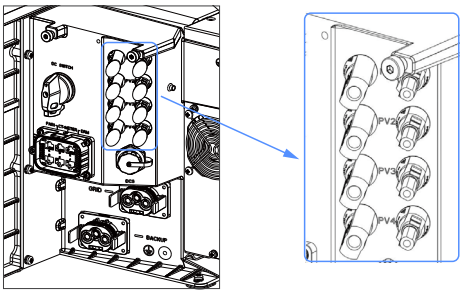
- Make sure that the voltage and maximum short-circuit current of each PV string are within the allowable range of the inverter, for more details please refer to the "Technical Data".
- PV modules of different brands or models are mixed in the same PV string, or connected in different directions in the same PV string angle or inclination of photovoltaic modules may not damage the inverter, but will lead to system performance degradation !

Assembling DC Connectors

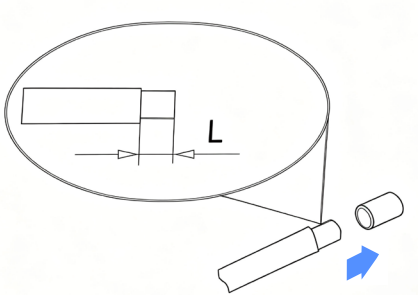
Step 1: Turn the DC switch to "OFF", and make sure the system is powered off.



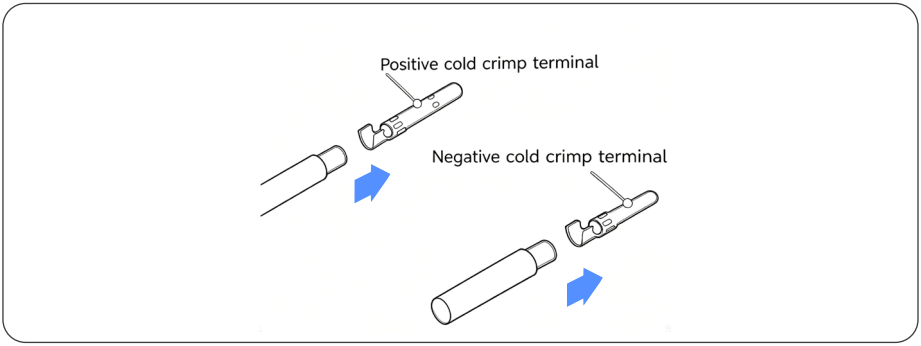
Step 2: Remove the dustproof caps from the PV terminals.



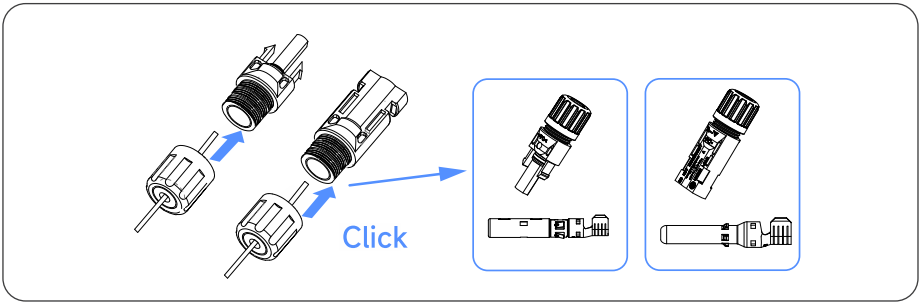
Step 3: Strip 10±1mm of the cable sheath.



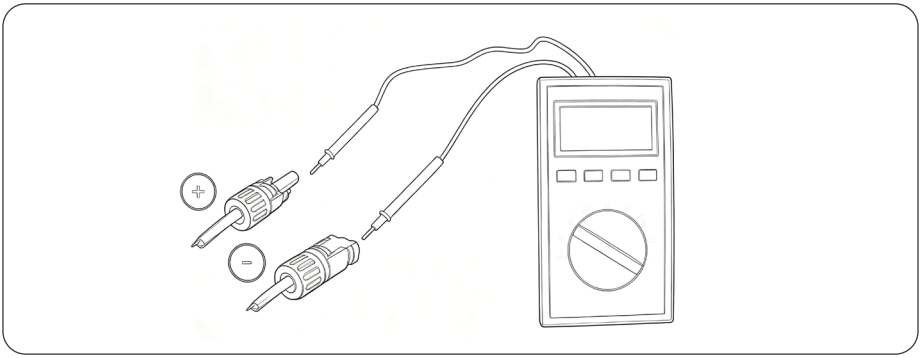
Step 4: Insert the stripped cable into the PV pin contact, and ensure the PV cable and PV pin contact are of the same polarity. Then crimp it with a crimping tool.



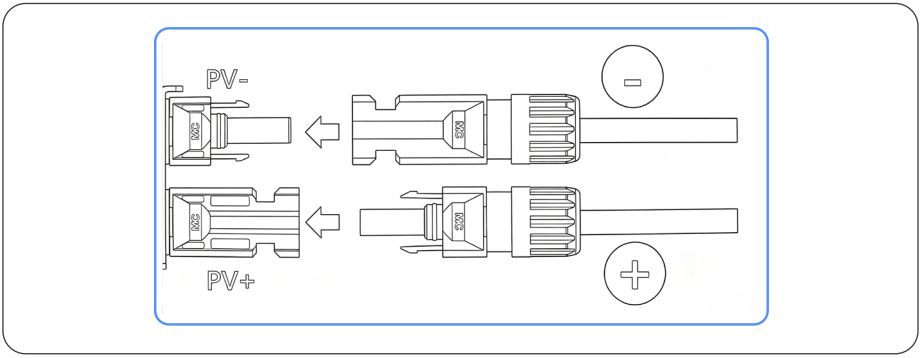
Step 5: Thread the crimped PV cable through the swivel nut, and insert the PV cable into the corresponding negative and positive connector. A "click" will be heard if it is successfully connected.



Step 6: Use a multimeter to check the correct polarity of the PV cable, and ensure the open circuit-voltage does not exceed the input limit of 600 V.



Step 7: Connect the PV connectors to the PV terminals of the inverter, and make sure the PV+ is connected to the PV+ of the inverter and the PV- to the PV- of the inverter.



⚠ DANGER

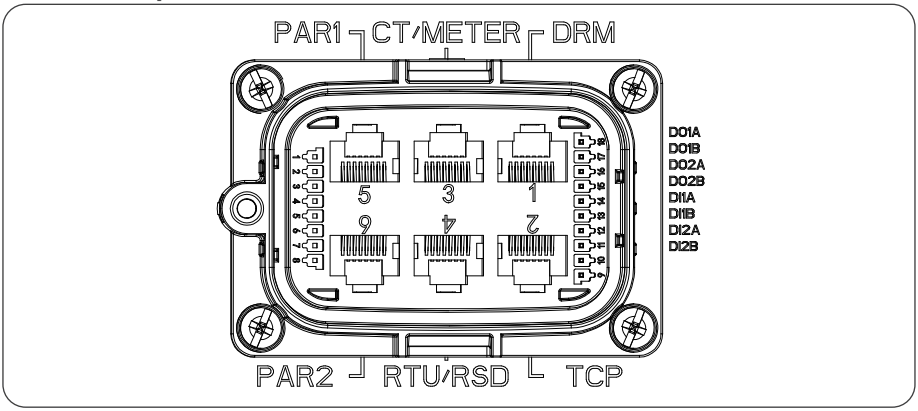
- High voltage may be present in the inverter!
- Make sure that all cables are not energized before performing electrical operations.
- The AC circuit breaker switch must not be closed until the inverter electrical connections are complete.

⚠ CAUTION

- If the DC input polarity is reversed, the inverter will be in a fault or alarm condition and will not operate properly.

6.4 Communication Connection

6.4.1 Description of Communication Connection



PIN 11-18

Pin	Description	Function
18	DO1A	Dry Contact A1
17	DO1B	Dry Contact A2
16	DO2A	Dry Contact B1
15	DO2B	Dry Contact B2
14	DI1A	ARM_DI_1A
13	DI1B	GND_DI_1
12	DI2A	ARM_DI_2A
11	DI2B	GND_DI_2

DRM

Pin	Description	Function
1	DRM1/5	DRM voltage sampling signal
2	DRM2/6	
3	DRM3/7	
4	DRM4/8	
5	REF GE/0	DRM voltage reference signal
6	COM LOAD/0	DRM voltage sampling signal
7	V+	DRM voltage reference signal
8	V-	

TCP

Pin	Description	Function
1	Ethernet_DAT+	Ethernet signal
2	Ethernet_DAT-	
3	Ethernet_DBR+	
4	Ethernet_DC+	
5	Ethernet_DC-	
6	Ethernet_DBR-	
7	Ethernet_DD+	
8	Ethernet_DD-	

CT/METER

Pin	Description	Function
1	CT_AP_OUT	A-phase positive sampling signal of the external CT of the meter
2	CT_AN_OUT	A-phase negative sampling signal of the external CT of the meter
3	CT_BP_OUT	B-phase positive sampling signal of the external CT of the meter
4	CT_CP_OUT	C-phase positive sampling signal of the external CT of the meter
5	CT_CN_OUT	C-phase negative sampling signal of the external CT of the meter
6	CT_BN_OUT	B-phase negative sampling signal of the external CT of the meter
7	CT_RS485_A	RS485 communication A of external electricity meter
8	CT_RS485_B	RS485 communication B of external electricity meter

RTU/RSD

Pin	Description	Function
1	RS485_PLC_A(RSD)	RS485_A signal for communication with fast shutdown device
2	RS485_PLC_B(RSD)	RS485_B signal for communication with fast shutdown device
3	RS485_A_RTU	RS485_A signal for communication with RTU
4	CAN_H_RSV	Reserved CAN signal
5	CAN_L_RSV	Reserved CAN signal
6	RS485_B_RTU	RS485_B signal for communication with RTU
7	NC	/
8	NC	/

PAR1

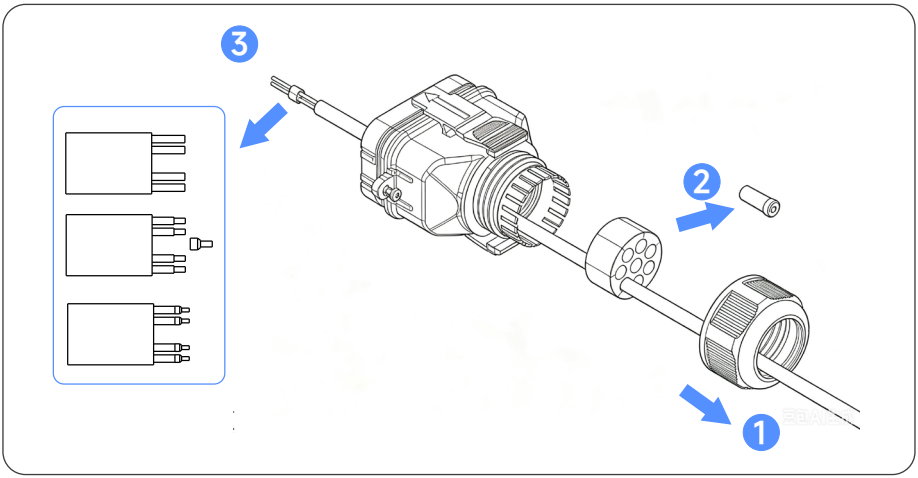
Pin	Description	Function
1	NC	/
2	NC	/
3	RS485_GRID_A (ARM_Parallel)	ARM Parallel Control via RS485_A
4	DSP_CAN_H	DSP Parallel Control via CAN
5	DSP_CAN_L	DSP Parallel Control via CAN
6	RS485_GRID_B (ARM_Parallel)	ARM Parallel Control via RS485_B
7	NC	/
8	NC	/

PAR2

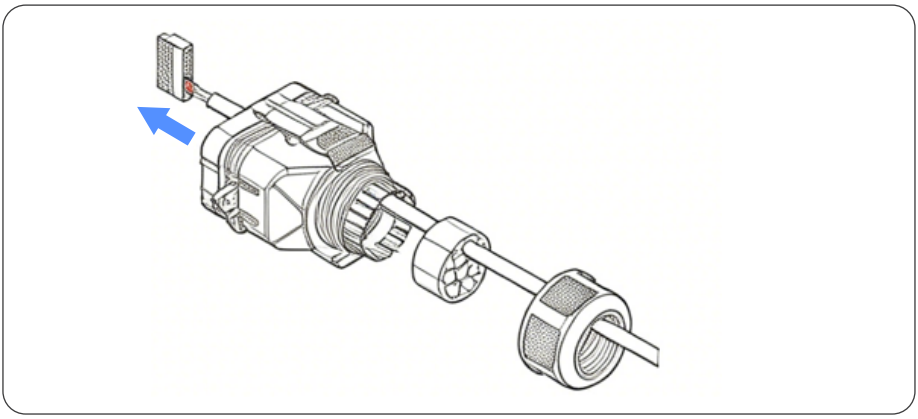
Pin	Description	Function
1	NC	/
2	NC	/
3	RS485_GRID_A (ARM_Parallel)	ARM Parallel Control via RS485_A
4	DSP_CAN_H	DSP Parallel Control via CAN
5	DSP_CAN_L	DSP Parallel Control via CAN
6	RS485_GRID_B (ARM_Parallel)	ARM Parallel Control via RS485_B
7	NC	/
8	NC	/

6.4.2 Communication Connection Steps

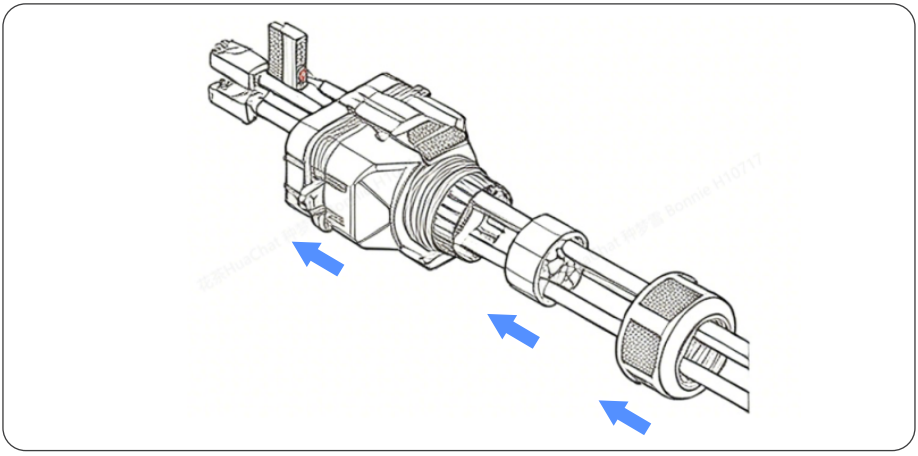
Step 1: Unscrew the swivel nut, remove the plug, and then crimp the tubular terminal: Strip 50±5mm of the cable sheath, then strip 15±1mm of the insulation layer from each wire core. Insert the tubular terminal into the wire core and crimp it with tubular terminal pliers.



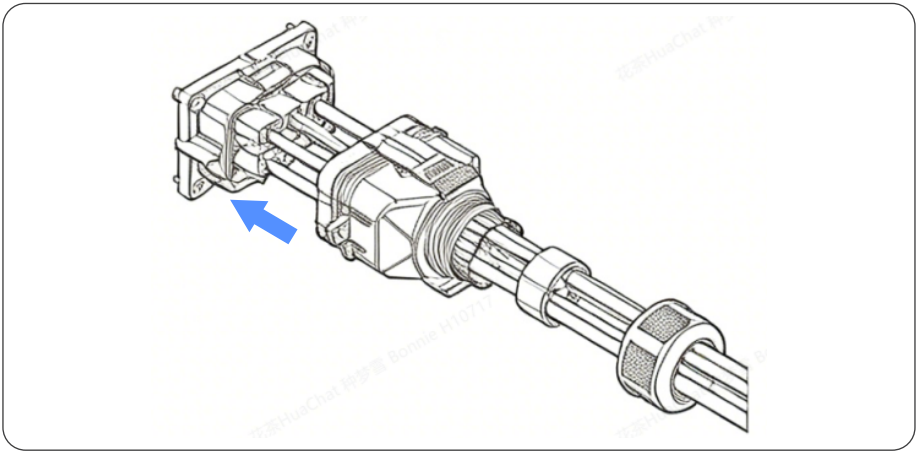
Step 2: Insert the cable with the crimped tubular terminal into the plug-in terminal block.



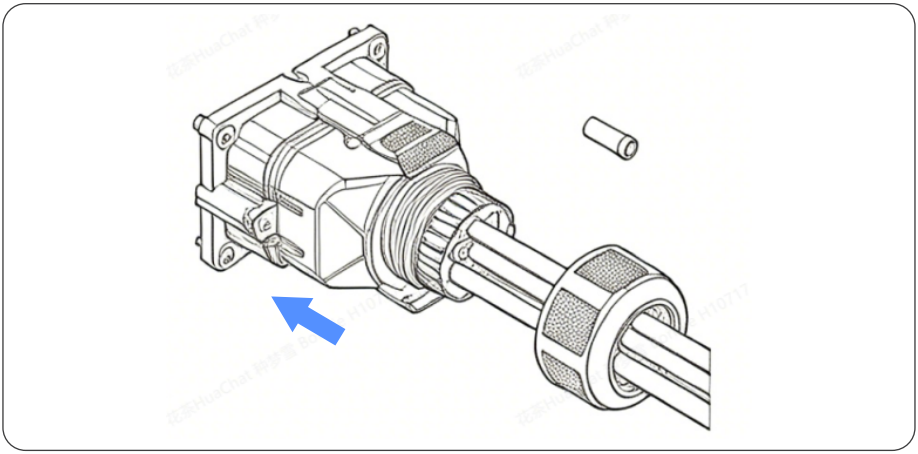
Step 3: Thread the network cable through the swivel nut, the sealing plug, and the connector housing in sequence.



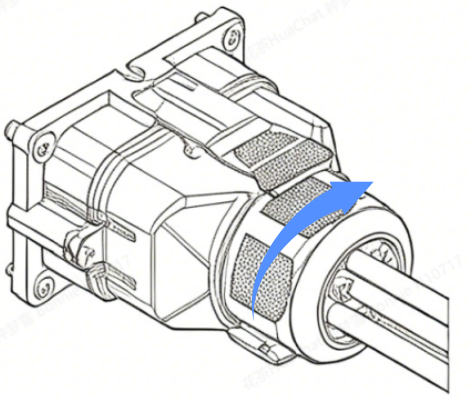
Step 4: Insert the RJ45 terminals and the plug-in terminal block into the communication port of the inverter.



Step 5: Insert the connector housing into the connector, and seal the unused terminals with plugs.

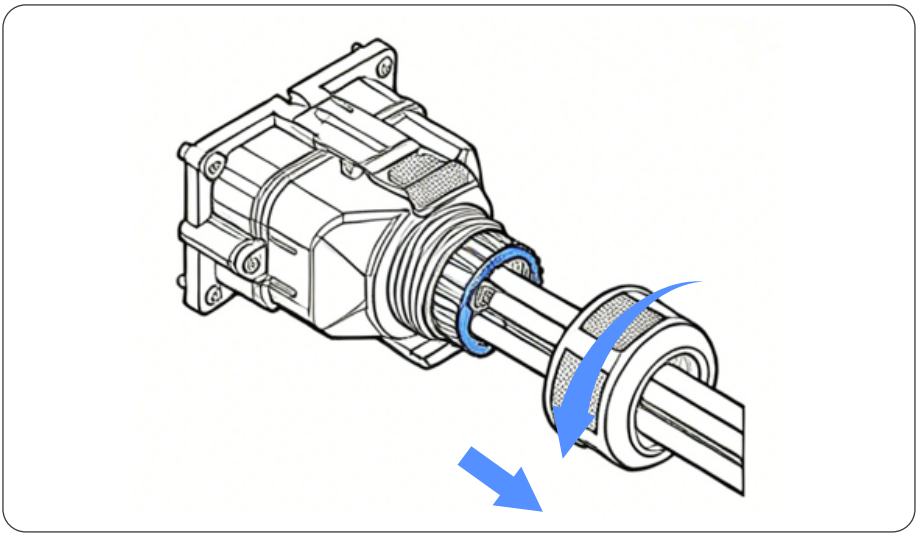


Step 6: Tighten the swivel nut (Torque: 2.5 N.m±0.1)

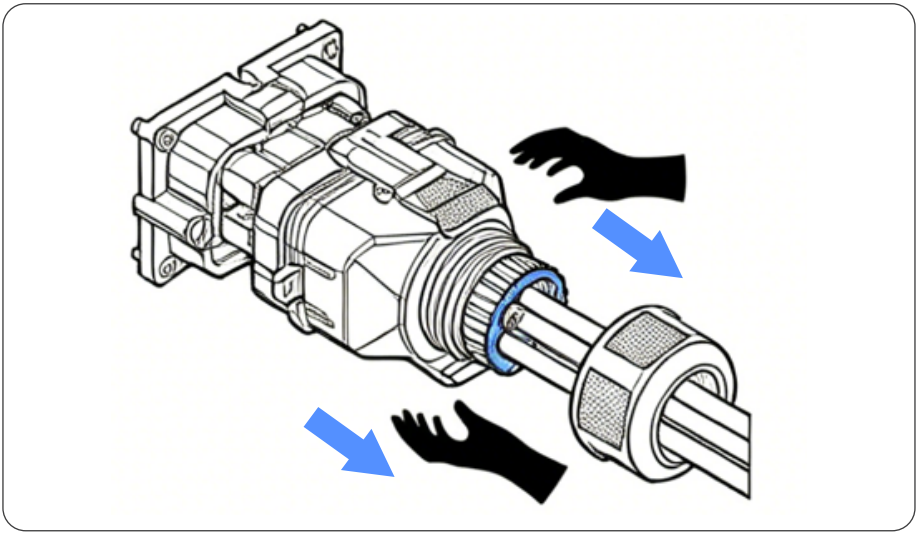


Disassembling the Communication Terminal

Step 1: Loosen the swivel nut.



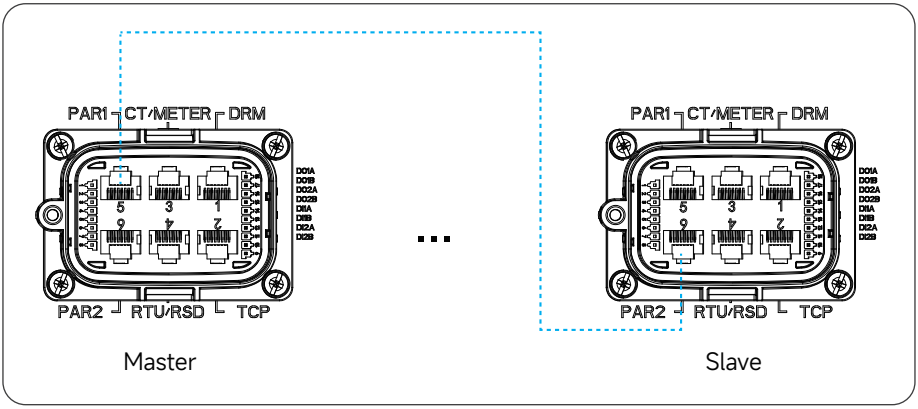
Step 2: Pinch the wing-shaped clip and pull the connector housing backward to separate the connector from the connector housing.



6.4.3 Communication Wiring Diagram

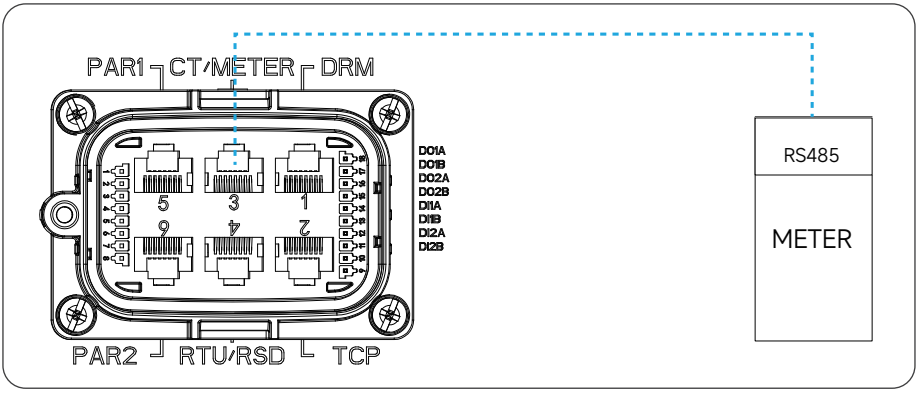
Parallel Connection

Parallel operation is used in scenarios requiring higher power. In this case, several devices need to be connected in parallel. The specific wiring is as follows:



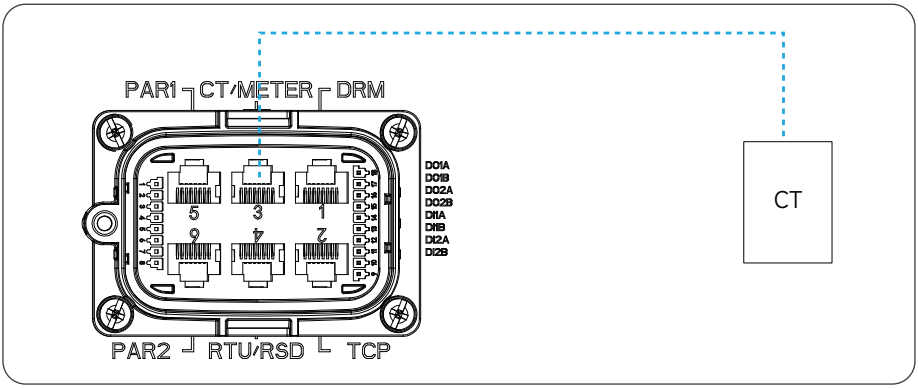
Meter Connection

This electricity meter is for scenarios requiring an external meter. Only 2 pins are needed, connect to the 2 pins of RS485. Refer to the pin definitions for details. The specific wiring is as follows:



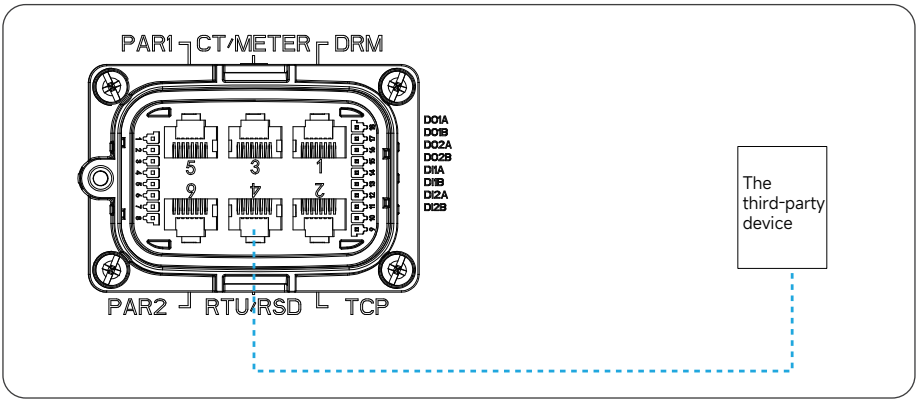
CT Connection

CT is for scenarios requiring an external CT. Refer to the pin definitions for details, and ensure that the pins on both ends of the network cable are identical. The specific wiring is as follows:



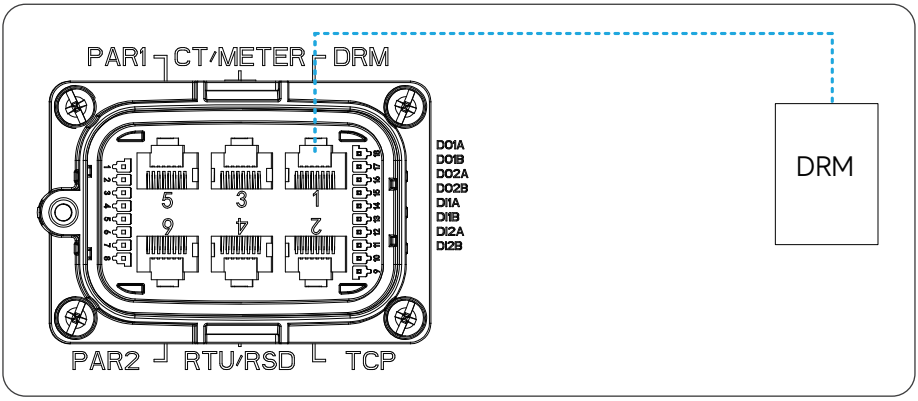
The Third-party Device Connection

The third-party device is used in scenarios requiring external third-party equipment, such as VPP boxes, charging piles, RSDs, etc. This third-party device only requires 2 pins; please connect it to the 2 pins of RS485. Refer to the pin definitions for details. The specific wiring is as follows:



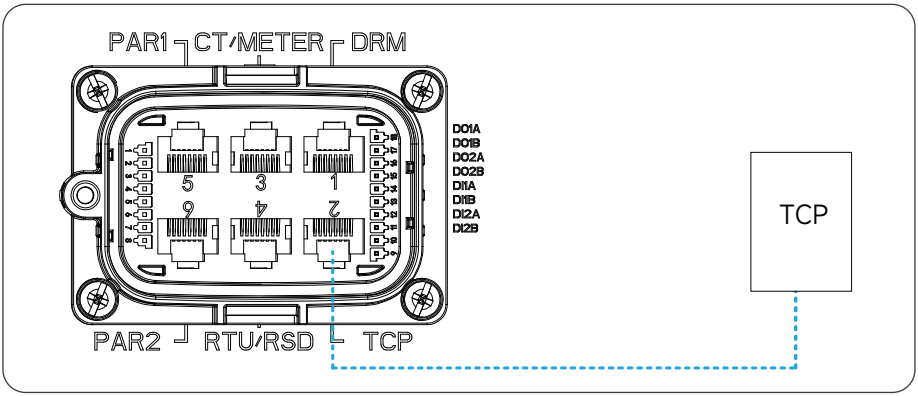
DRM Connection

DRM is used in scenarios requiring an external DRM device to coordinate with grid control. The specific wiring is as follows:



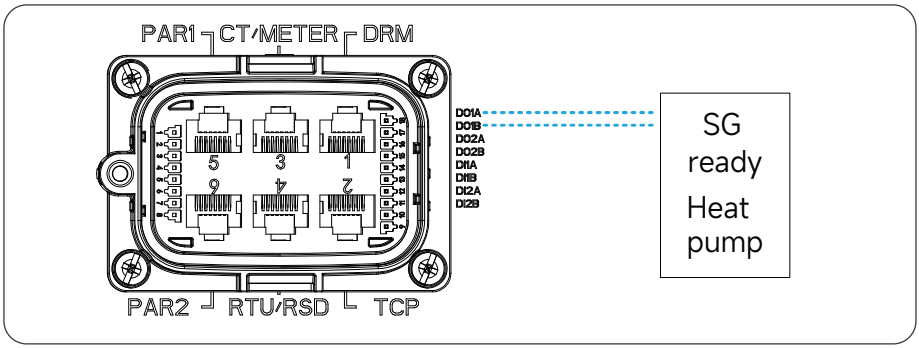
TCP

DRM is used in scenarios that require an external TCP device, such as VPP. The specific wiring is as follows:



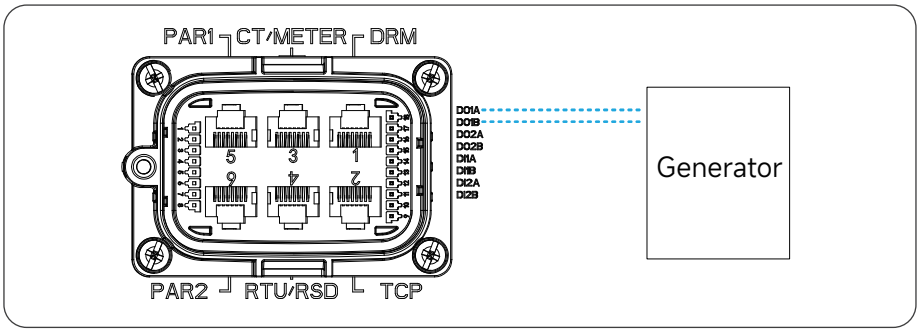
SG Ready

It is used in scenarios requiring an external SG ready heat pump. The specific wiring is as follows:



Generator

It is used in scenarios requiring an external generator, and used for generator start/stop control. The specific wiring is as follows:



6.4.4 DRM

The DRM function is designed to support several demand response modes by certain control signals.

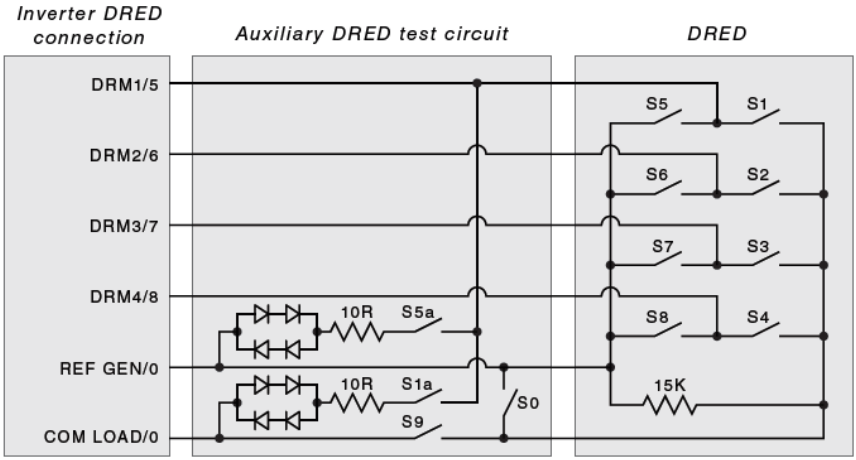
For Australia and New Zealand

According to AS/NZS 4777.2, the inverter needs to support the function of demand response mode (DRM). With the use of an external control box, active or reactive power regulation can be realized in a timely and fast manner, and the inverter can work stably during the process of regulation.

Demand Response Modes

Function	Description
DRM0	Operate the disconnection device
DRM1	Do not consume power
DRM2	Do not consume at more than 50% of rated power
DRM3	Do not consume at more than 75% of rated power AND supply reactive power if capable
DRM4	Increase power consumption (subject to constraints from other active DRMs)
DRM5	Do not generate power
DRM6	Do not generate at more than 50% of rated power
DRM7	Do not generate at more than 75% of rated power AND absorb reactive power if capable
DRM8	Increase power generation (subject to constraints from other active DRMs)

DRED Connection Circuit



6.5 DCS Connection

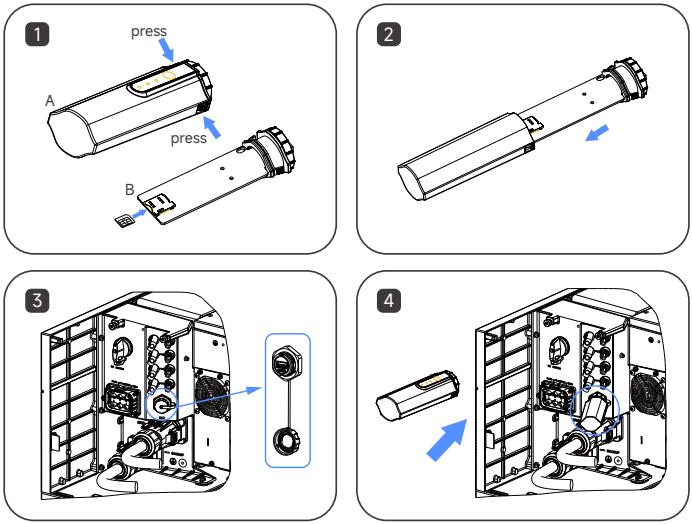
6.5.1 4G Module

Step 1: Insert the SIM card into the DCS;

Step 2: Install the waterproof cover of DCS;

Step 3: Remove the waterproof cover of the DCS port;

Step 4: Insert DCS into the DCS port, and make sure it is securely connected.



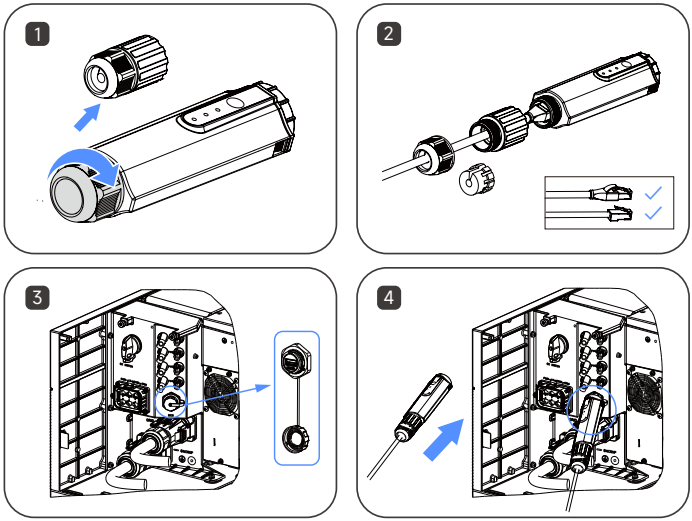
6.5.2 LAN Module

Step 1: Replace the bottom plug of DCS with the LAN plug;

Step 2: Insert the network cable into the DCS;

Step 3: Remove the waterproof cover of the DCS port;

Step 4: Insert DCS into the DCS port, and make sure it is securely connected.



6.5.3 Wi-Fi Module

The inverter features a built-in Wi-Fi module. After installing the app, scan the QR code on the device to bind it.

7 System Commissioning

7.1 Checking before Power-On

- Check that the installation location of the inverter meets the requirements of Section 4.2 Installation Requirement and ensure easy installation, disassembly, operation and maintenance of the inverter.
- Check that the mechanical installation of the inverter meets the requirements of Section 5 Mechanical Installation.
- Check that the electrical connections to the inverter meet the requirements of Section 6 Electrical Connection.
- Check that all switches are in the "OFF" position.
- Make sure no construction tools, etc. are left on the top of the machine or in the junction box (if the machine has one).
- AC circuit breakers are selected in accordance with this manual and local standards.
- All safety signs and warning labels are securely attached and clearly visible.
- Check that the PV module open circuit voltage meets the requirements of the DC side parameters of the inverter.

⚠ CAUTION

- To ensure the safe, normal and stable operation of PV power generation system, all newly installed, renovated and repaired grid-connected PV generation system and its grid-connected inverter must be inspected before operation.

7.2 Power-On the System

Step 1: Turn on the DC switch.

Step 2: Turn on the battery switch.

Step 3: Long press the power button for 3 seconds.

7.3 Power-Off the System

⚠ CAUTION

- After the system has been shut down, there is still a risk of burns. It is necessary to wear protective gloves before operating the system.
- It is necessary to shut down the system when maintenance or repair work needs to be performed. Follow the steps below to disconnect the system from the AC and DC power sources, as failure to do so may result in injury or damage to the equipment.

Step 1: Long press the power button for 5 seconds.

Step 2: Turn off the battery switch.

Step 3: Turn off the DC switch.

7.4 Disposing of the System

⚠ CAUTION

- Some parts of the system, such as capacitors, may cause environmental pollution. Do not dispose of this product with household waste, and dispose of it in accordance with the regulations for disposal of electronic waste used at the installation site.

8 Maintenance

In order to ensure and extend the service life of the system, in addition to using the system in strict accordance with the contents of this manual, it is necessary to perform the necessary routine maintenance and repair of the system.

8.1 Maintenance Precautions

⚠ DANGER

- Disconnect the grid-side AC circuit breaker, then disconnect the DC switch.
- Wait at least 5 minutes until the internal components are discharged before performing maintenance or service operations.
- Use test equipment to verify that no voltages or currents are present.

⚠ CAUTION

- When performing electrical connections and maintenance, post warning signs to prevent non-personnel from entering the electrical connection or maintenance area.
- Restart the inverter only after troubleshooting faults that affect the safety performance of the inverter.
- The inverter does not contain service parts inside, do not replace the internal components of the inverter without permission.
- Please contact HYXI after-sales service for maintenance, unauthorized disassembly of the machine HYXI will not assume any warranty and joint and several responsibilities.

8.2 Routine Maintenance

Inspection content	Inspection method	Maintenance interval
Save inverter operation data	Use monitoring software to read the inverter data in real time and regularly backup the data recorded by the monitoring software. Save the operation data, parameters, and logs of the inverter recorded in the monitoring software to a file. Check the monitoring software and view various parameter settings of the inverter through the hand-held keyboard.	Once every three months
Inverter operation condition	• Observe whether the inverter is firmly installed, and whether there is damage or deformation. • Listen to the inverter for abnormal sounds. • When the system is connected to the grid, check various variables. • Check whether the inverter housing is heating normally, and use a thermal imager to monitor the system heating.	Once every six months
Inverter cleaning	Check the humidity and dust in the environment around the inverter, and clean the inverter if necessary.	Once every six months
Electrical connection	• Check whether the system cable connection is loose and the inverter wiring terminals are loose. • Check the cable for damage,especially if there are cuts on the skin that contact the metal surface.	Once every six months
Safety functions	• Check the inverter LED indicators and system shutdown function. • Simulate the shutdown and check the shutdown signal communication • Check the warning label and replace it if necessary.	Once every six months

9 Human-Computer Interaction

9.1 Installing the App

Method 1

Download and install the HYXI App through the following application stores:

- App Store (iOS)
- Google Play

Method 2

Scan the following QR code to download and install the HYXI App according to the prompt information:

NOTICE

- Requires App version 6.0.7 or higher.

9.2 APP Configuration

For specification configuration, please scan the following QR code to check HYXI APP_User Manual.

10 Appendix

10.1 Inverter Technical Parameters

Product Model	HYX-H3K-HSA2	HYX-H3K6-HSA2	HYX-H4K-HSA2	HYX-H4K6-HSA2	HYX-H5K-HSA2
PV Input					
Max. PV Input Power [W]	6000 (3000/3000)	7200 (3600/3600)	8000 (4000/4000)	9200 (4600/4600)	10000 (5000/5000)
Max. PV Input Voltage [Vd.c.]	600				
MPPT Voltage Range [Vd.c.]	80~560				
Start-up Voltage [Vd.c.]	50				
Max. PV Input Current [Ad.c.]	20/20				
Max. Input Short-Circuit Current Isc [Ad.c.]	30/30				
Number of MPPT	2				
Number of String per MPPT	1				
Battery Output / Input					
Battery Type	Lithium-ion				
Battery Voltage Range [Vd.c.]	380~560				
Rated Voltage [Vd.c.]	420				
Max. Charge/Discharge Current [Ad.c.]	29				
AC On-Grid Output					
Nominal Output Power [W]	3000	3600	4000	4600	5000
Max. AC Output Apparent Power [VA]	3300	3960	4400	5060	5500
Max.Input Apparent Power [VA]	14490				
Rated AC Output Voltage/Range [Va.c.]	220 or 230 or 240/183~276				
Rated AC Frequency/Range [Hz]	50/45~55 or 60/55~65				
Bypass [Aa.c.]	63				
Rated AC Output Current [Aa.c.]	13.6/13.0/12.5	16.4/15.7/15.0	18.2/17.4/16.7	20.9/20.0/19.2	22.7/21.7/20.8
Max. AC Output Current [Aa.c.]	15.0/14.3/13.8	18.0/17.2/16.5	20.0/19.1/18.3	23.0/22.0/21.1	25.0/23.9/22.9
Max.Input Current [Aa.c.]	63				
Power Factor Range	>0.99 / 0.8 leading to 0.8 lagging				
DC Current Injection	<0.5 % In				
THDi (Rated Power)	<2%				
AC Off-Grid Input					
Grid Type	L/N/PE, 220 or 230 or 240/183-276V				
Rated Frequency [Hz]	50/45-55 or 60/55-65				
Rated Output Apparent Power [VA]	3000	3600	4000	4600	5000
Max. Continuous Output Apparent Power [VA]	3300	3960	4400	5060	5500
Max. Peak Output Apparent Power [VA] [s]	6000VA,10s	7200VA,10s	8000VA,10s	9200VA,10s	10000VA,10s
Max. Output Current [Va.c.]	15.0/14.3/13.8	18.0/17.2/16.5	20.0/19.1/18.3	23.0/22.0/21.1	25.0/23.9/22.9
Transfer Time [ms]	0				

Product Model	HYX-H3K-HSA2	HYX-H3K6-HSA2	HYX-H4K-HSA2	HYX-H4K6-HSA2	HYX-H5K-HSA2
THDi (Rated Power)			<3%		
Efficiency					
Max. Efficiency			98.60%		
European Efficiency			98.20%		
MPPT Efficiency			99.90%		
BAT Charged by AC Max. Efficiency			97.70%		
BAT Discharged to AC Max. Efficiency			97.70%		
Other Technical Specification					
Display			LED & APP		
Ingress Protection			IP66		
Operating Ambient Temperature Range [℃]			-30 ~ +60℃		
Humidity			5 % ~ 95 %(No Condensing)		
Max. Operating Altitude [m]			4000		
Inverter Dimensions (W × H × D) [mm]			796 × 319 × 258		
Inverter Weight [kg]			<38		
Cooling Concept			Natural Cooling		
Communication			Wi-Fi/4G/LAN/CAN/RS485		
Noise Emission [dB(A)]			<30		
Mounting Method			Floor-mounted/Wall-mounted		
Standard					
Safety			IEC 62109-1/-2		
EMC	IEC 62619, UN 38.3, IEC/EN 61000-6-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3, IEC/EN 61000-6-4				
Grid Connection Standard	VDE 4105, IEC 61727/62116, VDE 0126, AS 4777.2, CEI 0 21, EN 50549-1, G 98, G 99, C 10-11, UNE 217002, NBR 16149/16150				

Product Model	HYX-H6K-HSA2	HYX-H8K-HSA2	HYX-H9K9-HSA2	HYX-H10K-HSA2	HYX-H12K-HSA2
PV Input					
Max. PV Input Power [W]	12000 (6000/6000)	16000 (5333/5333/5333)	20000 (5000/5000/5000/5000)	20000 (5000/5000/5000/5000)	24000 (6000/6000/6000/6000)
Max. PV Input Voltage [Vd.c.]	600				
MPPT Voltage Range [Vd.c.]	80~560				
Start-up Voltage [Vd.c.]	50				
Max. PV Input Current [Ad.c.]	20/20	20/20/20	20/20/20/20	20/20/20/20	20/20/20/20
Max. Input Short-Circuit Current Isc [Ad.c.]	30/30	30/30/30	30/30/30/30	30/30/30/30	30/30/30/30
Number of MPPT	2	3	4	4	4
Number of String per MPPT	1				
Battery Output / Input					
Battery Type	Lithium-ion				
Battery Voltage Range [Vd.c.]	380~560				
Rated Voltage [Vd.c.]	420				
Max. Charge/Discharge Current [Ad.c.]	29				
AC On-Grid Output					
Nominal Output Power [W]	6000	8000	9999	10000	12000
Max. AC Output Apparent Power [VA]	6600	8800	9999	11000	13200
Max.Input Apparent Power [VA]	14490				
Rated AC Output Voltage/Range [Va.c.]	220 or 230 or 240/183~276				
Rated AC Frequency/Range [Hz]	50/45~55 or 60/55~65				
Bypass [Aa.c.]	63				
Rated AC Output Current [Aa.c.]	27.3/26.1/25.0	36.4/34.8/33.3	45.4/43.4/41.6	45.4/43.5/41.7	54.5/52.2/50.0
Max. AC Output Current [Aa.c.]	30.0/28.7/27.5	40.0/38.3/36.7	45.4/43.4/41.6	50.0/47.8/45.8	60.0/57.4/55.0
Max.Input Current [Aa.c.]	63				
Power Factor Range	>0.99 / 0.8 leading to 0.8 lagging				
DC Current Injection	<0.5 % In				
THDi (Rated Power)	<2%				
AC Off-Grid Input					
Grid Type	L/N/PE, 220 or 230 or 240/183-276V				
Rated Frequency [Hz]	50/45-55 or 60/55-65				
Rated Output Apparent Power [VA]	6000	8000	9999	10000	12000
Max. Continuous Output Apparent Power [VA]	6600	8800	9999	11000	13200
Max. Peak Output Apparent Power [VA] [s]	12000VA,10s	16000VA,10s	16000VA,10s	16000VA,10s	16000VA,10s
Max. Output Current [Va.c.]	30.0/28.7/27.5	40.0/38.3/36.7	45.4/43.4/41.6	50.0/47.8/45.8	60.0/57.4/55.0
Transfer Time [ms]	0				
THDi (Rated Power)	<3%				
Efficiency					
Max. Efficiency	98.60%				
European Efficiency	98.20%				
MPPT Efficiency	99.90%				

Product Model	HYX-H6K-HSA2	HYX-H8K-HSA2	HYX-H9K9-HSA2	HYX-H10K-HSA2	HYX-H12K-HSA2
BAT Charged by AC Max. Efficiency	97.70%				
BAT Discharged to AC Max. Efficiency	97.70%				
Other Technical Specification					
Display	LED & APP				
Ingress Protection	IP66				
Operating Ambient Temperature Range [℃]	-30 ~ +60℃				
Humidity	5 % ~ 95 %(No Condensing)				
Max. Operating Altitude [m]	4000				
Inverter Dimensions (W × H × D) [mm]	796 × 319 × 258				
Inverter Weight [kg]	<38				
Cooling Concept	Natural Cooling	Smart Cooling			
Communication	Wi-Fi/4G/LAN/CAN/RS485				
Noise Emission [dB(A)]	<30	<45			
Mounting Method	Floor-mounted/Wall-mounted				
Standard					
Safety	IEC62109-1/-2				
EMC	IEC 62619, UN 38.3, IEC/EN 61000-6-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3, IEC/EN 61000-6-4				
Grid Connection Standard	VDE 4105, IEC 61727/62116, VDE 0126, AS 4777.2, CEI 0 21, EN 50549-1, G 98, G 99, C 10-11, UNE 217002, NBR 16149/16150				

10.2 Battery Technical Parameters

Product Model	BAT-Q7	BAT-Q9
Battery Data		
Battery Type	LiFePO4	
Cell Capacity [Ah]	314	
Cycle Life	10000	
Total Energy Capacity [kWh]	7.03	9.04
Usable Energy Capacity [kWh]	6.7	8.6
Depth of Discharge [%]	100	
Max. Charge / Discharge Power [kW]	3.5	4.6
Rated Charge / Discharge Power [kW]	3.5	4.6
Peak Charge / Discharge Power (10 seconds) [kW]	7.0	9.2
Max. Output Current [A]	9.3	12
For Use With Single Phase Inverters		
DC-DC Voltage Range [Vd.c.]	380 ~ 560	
Rated Voltage [Vd.c.]	420	
Rated Charge/Discharge Current [Ad.c.]	8.33	10.95
Max. Charge/Discharge Current [Ad.c.]	9.21	12.10
General Data		
Weight [kg]	68±2	79±2
Dimensions (W × H × D) [mm]	795 × 269 × 292	
Storage Temperature Range [°C]	-25 ~ +60	
Operating Temperature Range [°C]	-20 ~ +55	
Relative Humidity Range [%]	5 ~ 95	
Max. Operating Altitude [m]	4000	
Cooling Concept	Natural Cooling	
Ingress Protection	IP66	
Installation method	Floor-mounted/Wall-mounted	
Number of Modules per Controller	1 ~ 6	
Safety	IEC 62619	
EMC	IEC 61000-6-1/2/3/4	
Transportation	UN 38.3	

10.3 Contact Information

If you have any questions about this product, please contact us.

In order to provide you with faster and better after-sales service, we need your assistance in providing the following information.

- Equipment model : _____
- Serial number of the equipment: _____
- Fault code / name: _____
- A brief description of the fault phenomenon: _____

_____

_____

_____

Version: UM_HYX-H(3-12)K-HSA2 User Manual_V1.1-202608_EN
The manual is subject to change without notice while the product is being improved.



Zhejiang Hyxi Technology Co., Ltd.

Address: Building 1, No. 57 Jiang'er Road, Changhe Street, Binjiang District, Hangzhou, Zhejiang Province, China

Website: www.hyxipower.com

E-mail: support@hyxipower.com