

# STRING INVERTER

HYX-S2K/2K5/3K/3K6-S2



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



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# 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-S2K-S2
- HYX-S2K5-S2
- HYX-S3K-S2
- HYX-S3K6-S2

## 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](http://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

### 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.

## 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 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 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-S(2-3.6)K-S2 is a single-phase string inverter, the main function is to convert the DC power generated by the PV modules into AC power and feed the electrical energy into the grid.

- HYX-S2K-S2
- HYX-S2K5-S2
- HYX-S3K-S2
- HYX-S3K6-S2

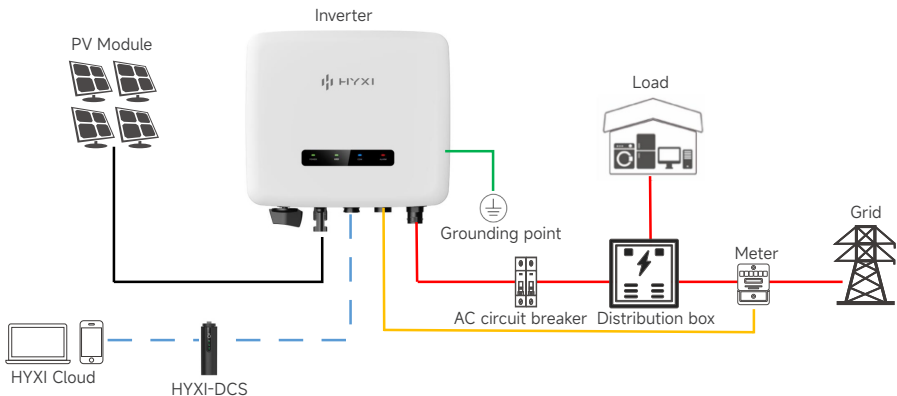
### 2.2 System Diagram

The PV grid-connected power generation system is composed of PV modules, inverter, meter, load and grid.

The inverter is the core component of the PV grid-connected power generation 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 PV grid-connected inverter, and feeds this energy into the grid.

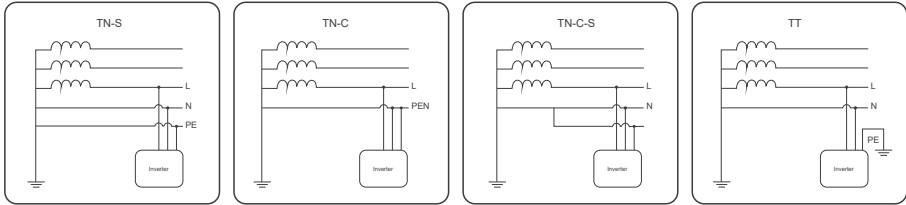
The photovoltaic grid-connected inverter is only applicable to solar PV power generation grid-connected systems, and only uses crystalline silicon solar cells with ungrounded positive and negative electrodes as DC input.



### 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 shortcircuited, 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 Nameplate Description

**HYXI**

**Model: HYX-S2K**  
**Product: Single Phase String Inverter**

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**Input (DC)**

Max. Input Voltage: d.c.690V  
 Rated Input Voltage: d.c.360V  
 Start Voltage: d.c.40V  
 MPPT Voltage Range: d.c.40-560V  
 Max. Current per MPPT: d.c.20A  
 Isc PV(absolute max.): d.c.25A

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**Output (AC)**

Rated Output Power: 3000W  
 Max. Continuous Apparent Power: 3000VA  
 Max. Continuous Current: a.c.30XA  
 Rated Grid Frequency: 50/60Hz  
 Rated Grid Voltage: L/N/PE, a.c.220/230/240V  
 Power Factor: 0.8leading-0.8lagging

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**General Data**

Operating Temperature Range: -25 to +60°C  
 Protection Degree: IP66  
 Max. Operating Altitude: 4000m  
 Topology: Non-Isolation  
 Protection: Class I

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016-111000-000000  
 SN: XXXXXXXXXX  
 Made in China  
 Zhejiang Hyxi Technology Co., Ltd. support@hyxipower.com  
 Building 1, No.57 Jiainger Rd., Changhe St., Hangzhou, China

Hyxi trademarks, product types and product models.

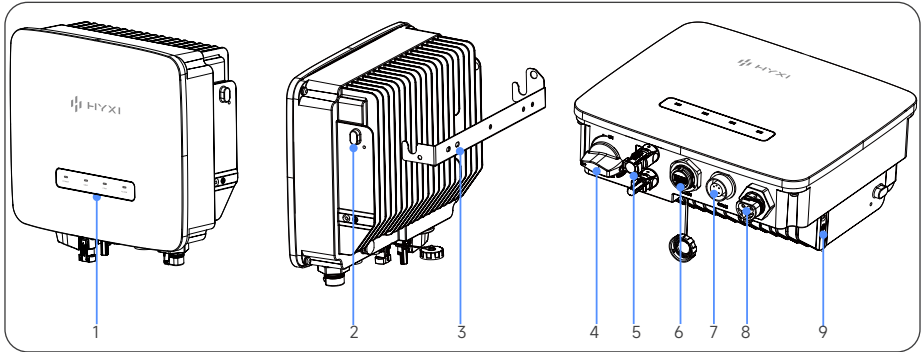
Product technical parameters

Safety symbols and certification marks

Contact information and serial numbers

\* This label is for illustrative purpose only, please refer to the actual content.

## 2.5 Product Appearance



No.	Item	Description
1	LED Indicator Panel	Indicates the current operating status of inverter
2	Mounting Handle	Mounting the inverter
3	Mounting Bracket	Mounting the inverter
4	DC Switch	On/Off DC input
5	DC Input Terminal (PV+/PV-)	Photovoltaic string input
6	COM.1	HYX-DCS port
7	COM.2	RS485 communication port
8	AC Output	AC output to grid
9	PE	Grounding port

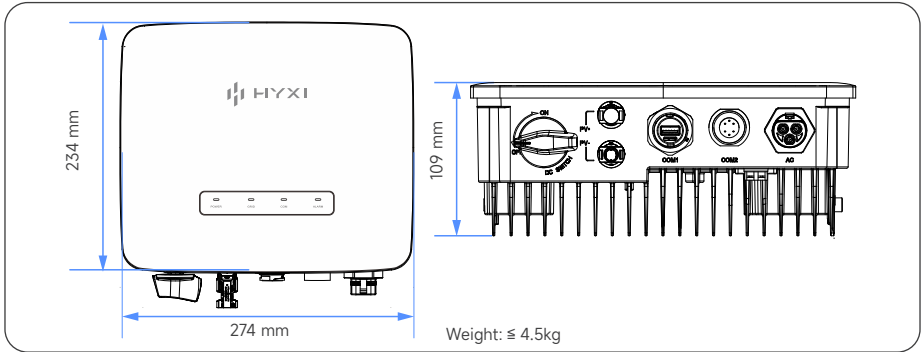
## 2.6 Symbol Description

Symbol	Description
	There is a fatal danger of high voltage ! Disconnect power for at least 30 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.

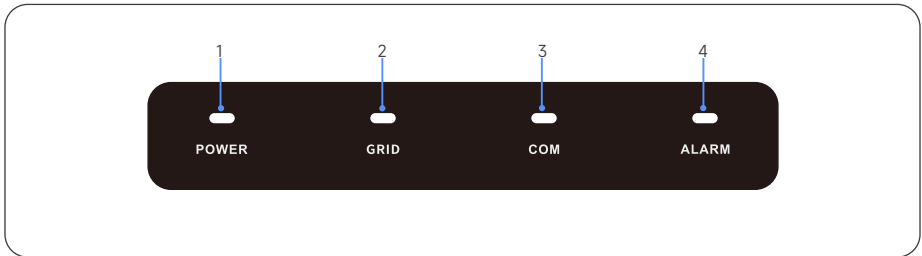


Grounding point.  
Reliably grounded before connecting to the power supply.

## 2.7 Dimensions & Weight



## 2.8 LED Indicator

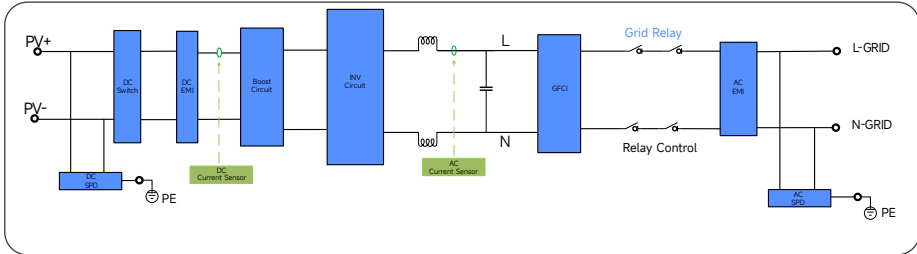


No.	Indicator	Status	Description
1	POWER	ON	Inverter Powered ON
		OFF	Inverter Powered OFF
2	GRID	ON	Grid Normal
		Blink 1	Grid Abnormal
		Blink 2	Grid Disconnected
3	COM	ON	COM. Normal
		OFF	Meter COM. Fault
4	ALARM	OFF	Normal
		Blink 1	Inverter Internal Alarm
		Blink 2	Other Alarm

Blink: 1 time flashing, interval 1.5 seconds; Blink 2: 2 times flashing, interval 0.2 seconds.

## 2.9 Description of Principles and Functions

### Schematic Diagram



### Description of Principles

Item	Description
DC Switch	The DC switch is used to safely cut off the DC current when necessary to ensure the safe operation of the inverter and the safety of personnel.
EMI Filter	The EMI filter filters out electromagnetic interference inside the inverter to ensure that the inverter can meet the requirements of EMC standards.
DC Input	The DC input is equipped with two MPPTs to ensure maximum power even under different PV input conditions.
Inverter	The inverter unit converts the DC power into grid-compliant AC power and feeds it into the grid.
AC Filter	The AC filter filters the high frequency component of the inverter output current to ensure that the output current meets the grid requirements.
Output Relay	The output relay isolates the inverter AC output from the grid and keeps the inverter safely off the grid in case of inverter or grid failure.
AC Surge Protector	The AC surge protector provides a drain circuit for overvoltage energy on the AC side to prevent AC side overvoltage from damaging the inverter’s internal circuit.

### 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 HXYI APP to meet various needs or to optimize its operation.

Communication Interface	<ul style="list-style-type: none"><li>• The inverter provides a communication accessory port for accessing the communication module and uploading monitoring data to the monitoring backend via wireless communication.</li><li>• 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.</li></ul>
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.
Earth Fault Alarm	The device gives an alarm if there is a grounding fault. If the AC side is poorly grounded or not grounded, the LED indicator turns red.

# 3 Inspection & Storage

## 3.1 Safe Transport of the Inverter

When transporting the inverter, the original or equivalent packaging should be used, and the maximum layers for original carton is six, as this ensures safe transport.

## 3.2 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.

## 3.3 Inverter Storage

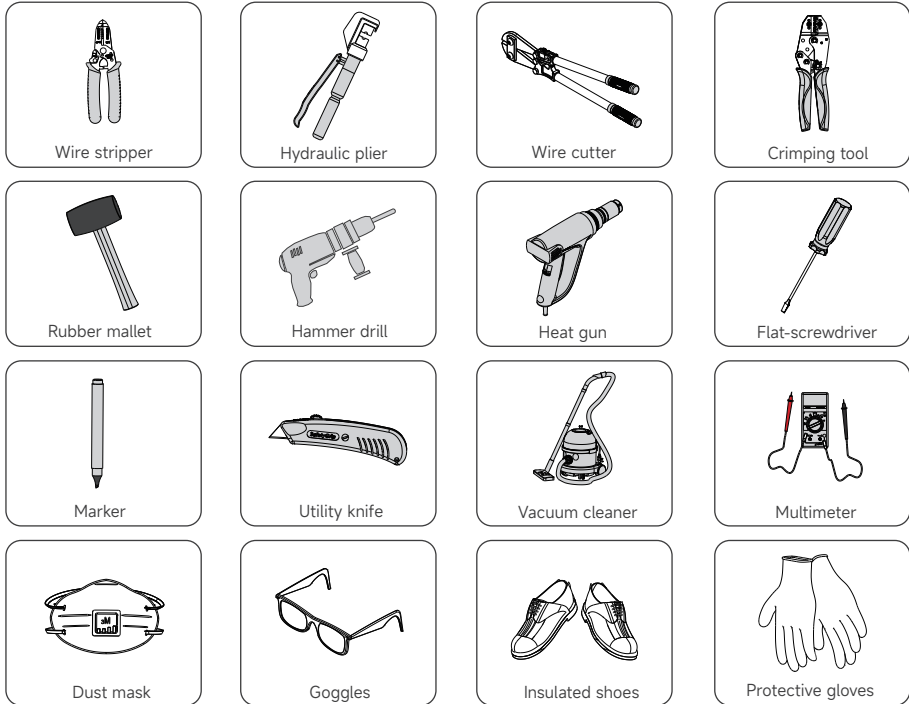
If the inverter is not immediately put into use, it is necessary to meet the following requirements when storing the inverter:

- 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  $-30^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  and the relative humidity should be kept at 0% ~ 100%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.

# 4 Pre-Installation Preparation

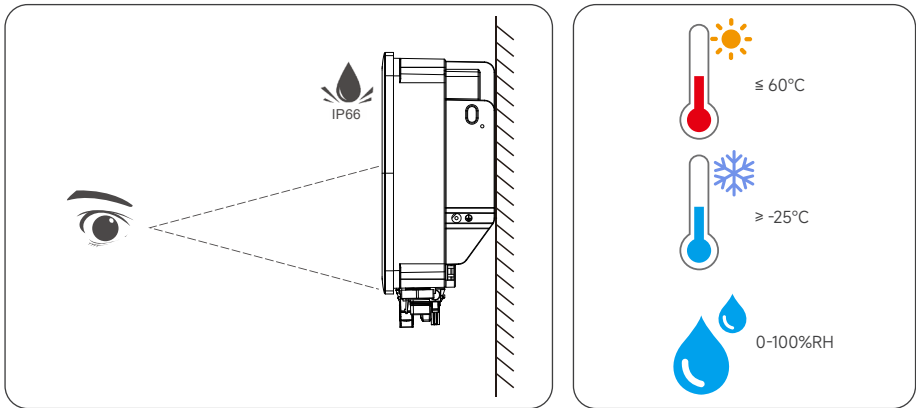
## 4.1 Installation Tools

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



## 4.2 Installation Environment

- The inverter 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:  $-25$  to  $+60^{\circ}\text{C}$  ; Humidity should meet:  $0 \sim 100\%$  RH.
- Avoid direct sunlight, rain and snow on the inverter, and choose a sheltered place for the installation to extend the life of the inverter.
- Make sure the inverter is ventilated and dissipated smoothly, please install the inverter in a ventilated environment.
- The inverter will generate some noise during operation, so it is not recommended to install it in the living area.

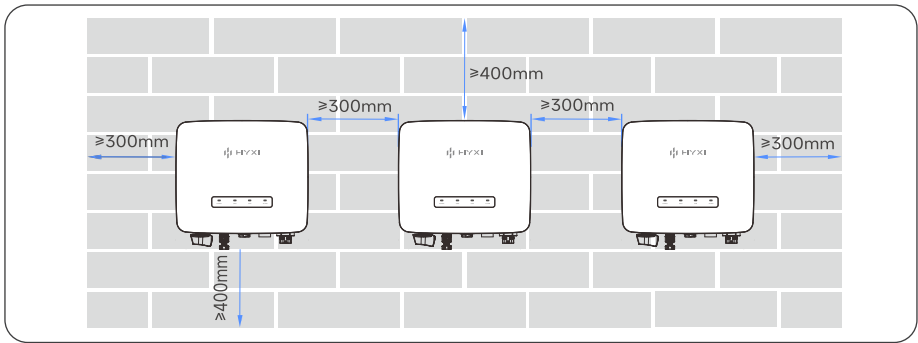


### 4.3 Installation Angle

- The mounting carrier has a load-bearing capacity of at least 4 times the weight of the inverter, and the carrier has fireproof characteristics.
- It is recommended that the inverter be installed vertically or tilted back  $\leq 15^\circ$  to facilitate the heat dissipation of the machine.
- Do not tilt the inverter forward, backward, upside down, horizontally or sideways.

### 4.4 Installation Space

Make sure there is enough space around the inverter to ensure ventilation. The installation space requirements for a single inverter are shown in the figure below.



# 5 Mechanical Installation

## 5.1 Installation Precautions

### ⚠ DANGER

- Before installing the inverter, be sure that the inverter is free of any electrical connections.
- Make sure to avoid the utility alignments in the wall before drilling holes to avoid any danger.

### ⚠ 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 contusive injuries.
- The equipment heat sink must be kept uncovered to ensure adequate cooling inside the equipment.

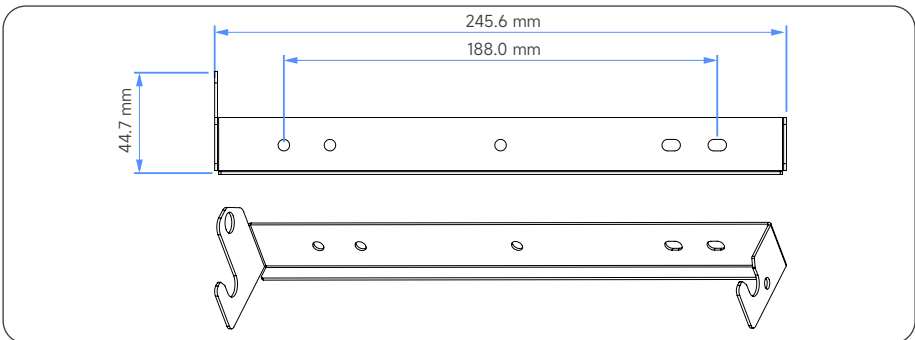
## 5.2 Handling the Inverter

Before installation, the inverter needs to be removed from the packing box and moved to the selected installation site, when moving the inverter, the following guidance instructions need to be observed:

- Always pay attention to the weight of the inverter.
- Use the handles on both sides of the inverter to lift the inverter.
- One or two installers move the inverter together, or use a suitable moving tool.
- Do not loosen the unit unless it is securely fastened.

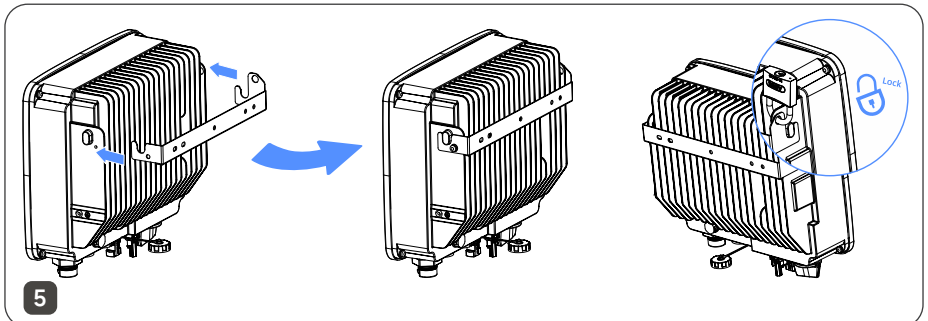
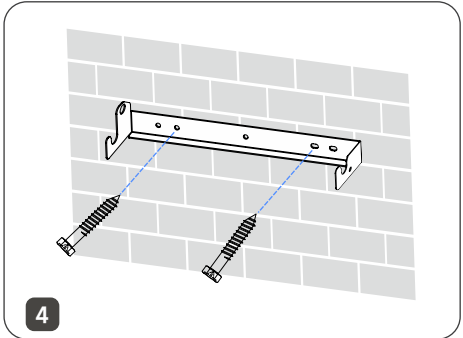
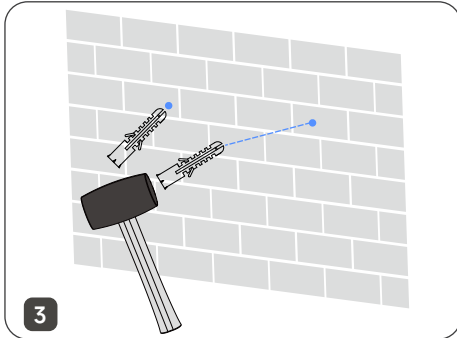
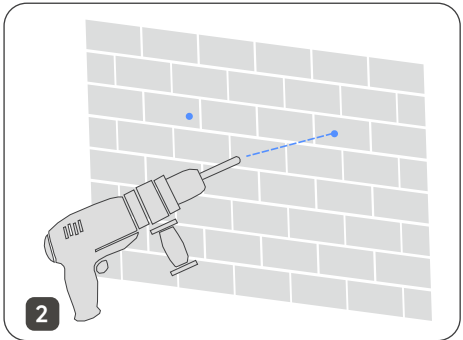
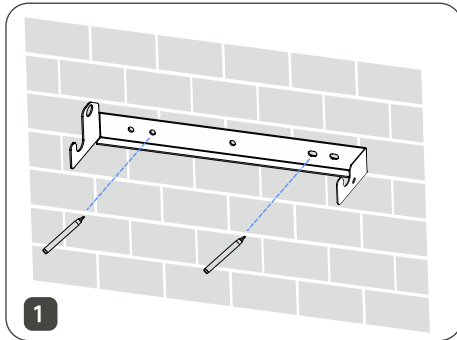
## 5.3 Installing the Inverter

### Bracket Dimension:



**Installation procedure:**

- Step 1:** Place the bracket horizontally on the wall, recommend to select the hole position shown in the picture and mark the drilling position.
- Step 2:** Drill holes at the location shown, the depth of the hole is about 70 mm.
- Step 3:** Place the expansion tube into the holes.
- Step 4:** Place the bracket, and secure it with self-tapping screws.
- Step 5:** Hang the inverter to the bracket, ensure the inverter is securely fastened to the mounting lugs of the bracket, and finally lock them.



## 6 Electrical Connection

### DANGER

- High voltage may be present in the inverter.
- 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 PV power generation system must be firmly connected, intact, well insulated and of appropriate specifications.

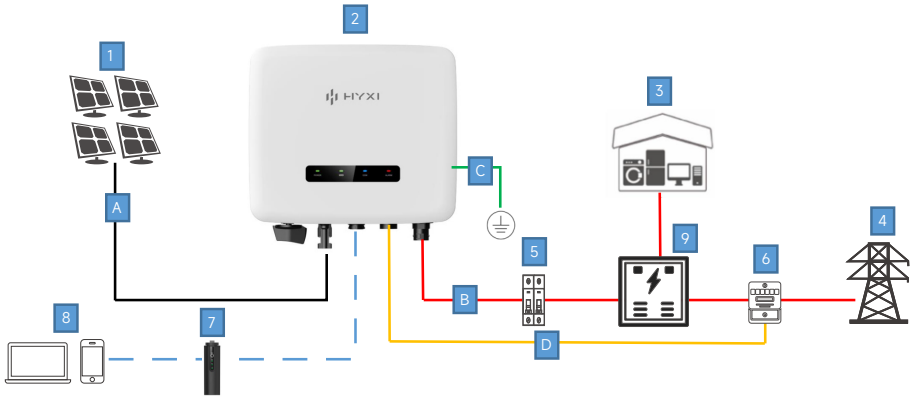
### WARNING

- Since the inverter is transformerless, the positive and negative terminals of the PV string must not be grounded, otherwise the inverter will not operate properly.
- Before connecting the AC side, the PV string and the communication connection, please make an external ground connection.
- The ground connection of the external protective earth terminal is not a substitute for the connection of the PE terminal in the AC wiring, but must ensure that both are reliably grounded. Otherwise, HYXI will not take any responsibility for the possible consequences.

### CAUTION

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

## 6.1 Electrical Connection Overview



No.	Item	No.	Item
1	PV Module	5	AC Circuit Breaker
2	HYX-S(2-3.6)K-S2	6	Meter
3	Load	7	HYX-DCS
4	Grid	8	HYXI Colud
9	Distribution Box		

No.	Cable	Type	Specification
A	DC Cable	Common outdoor PV cable in the industry	Conductor crosssectional area: 4-6 mm <sup>2</sup> Cable outer diameter: 5.5-9 mm
B	AC Cable	Not using the PE equipotential point at the AC output port: two-core (L and N) outdoor copper cable Using the PE equipotential point at the AC output port: three-core (L, N, and PE) outdoor copper cable	Conductor crosssectional area: 4-6 mm <sup>2</sup> Cable outer diameter: 10-21 mm
C	Additional grounding cable	Single-core outdoor copper cable and M4 OT terminal	Conductor crosssectional area: - Combined crimping of cables on the port: 0.2-0.35 mm <sup>2</sup> - Crimping the cables on the port without combining them: 0.2-1 mm <sup>2</sup>
D	Communication Cable	Outdoor shielded twisted pair cable	/

## 6.2 Grounding Connection

### ⚠ WARNING

- In the PV power generation system, all non-current-carrying metal parts and equipment enclosures should be grounded (e.g., PV mounting structures, etc.).
- The external grounding terminal of a single inverter shall be grounded nearby.
- When there are multiple inverters, the external grounding terminals of all inverters and the grounding points of PV mounting should be connected to the equipotential line (depending on the site conditions) to ensure that the external grounding of all inverters is grounded.
- Please ensure that the grounding procedure has been completed before any other operation.
- The cross-sectional area of the secondary grounding cable must be the same as the cross-sectional area of the PE core in the AC cable.

### ℹ NOTICE

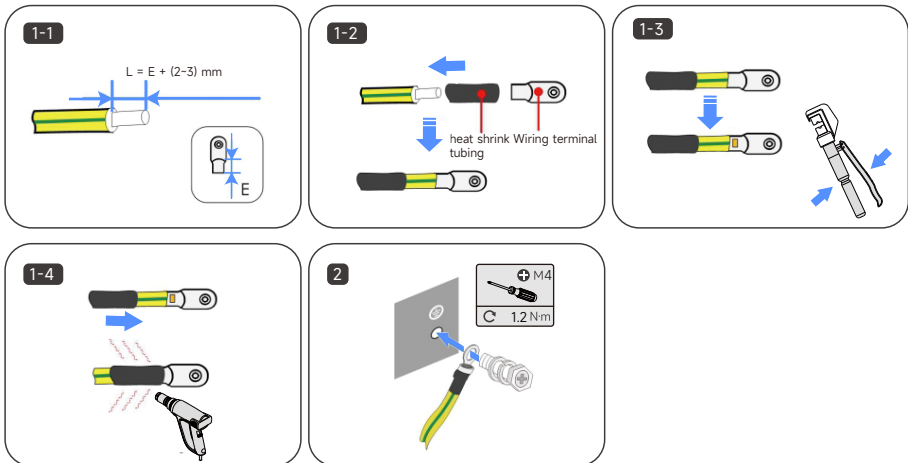
- The secondary grounding cable and terminal block are to be prepared by users.

### Grounding procedure:

**Step 1:** Make the cable and crimp the terminal block.

**Step 2:** Remove the screws from the grounding terminal and use a screwdriver to secure the cable.

**Step 3:** Apply silicone or paint to the grounding terminal to improve its corrosion resistance.



## 6.3 AC Side Connection

### ⚠ DANGER

- Before connecting to the grid, make sure that the grid voltage and frequency meet the requirements of the inverter, please refer to the "Technical Data" for detailed parameters. Otherwise, contact the power company to solve the problem.
- Inverters can only be connected to the grid with the local power company's access permit.
- To ensure that the inverter can be safely disconnected under load, each inverter must be equipped with a separate two-pole AC circuit breaker as protection device. AC breaker recommended specification: 2P, effective value of current: 30A.
- Multiple inverters must not share a single AC circuit breaker.
- No load may be connected between the inverter and the AC circuit breaker.

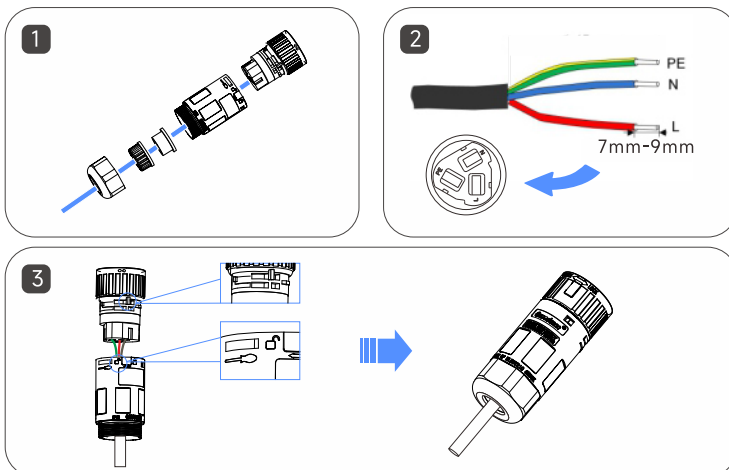
### ⚠ WARNING

- The inverter is equipped with an integrated comprehensive leakage current monitoring unit. When the inverter detects leakage current greater than the allowed value, it will be quickly disconnected from the power grid. If the leakage protection switch is installed outside, the working current must be  $\geq 30\text{mA}$ .

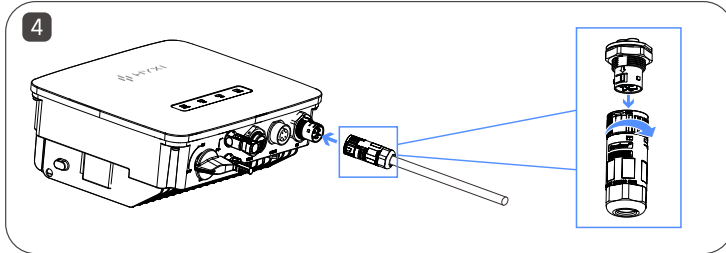
**Step 1:** Pass the AC cable through the AC connector as shown in the figure below.

**Step 2:** Strip 7-9mm of insulation from the AC cable, crimp it into the AC connector, and use a screwdriver to tighten the cable. Torque: 1.2N·m.

**Step 3:** Align the top positioning clip of the AC connector with the bottom lock clip (as shown in the box in the figure), rotate it to the right until it clicks into the locked position, and then tighten the bottom waterproof nut to complete the AC connector assembly.



**Step 4:** Insert the assembled AC connector into the AC port of the inverter, rotate it to the right until it reaches the "LOCK" position to complete the AC wiring installation.



## 6.4 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

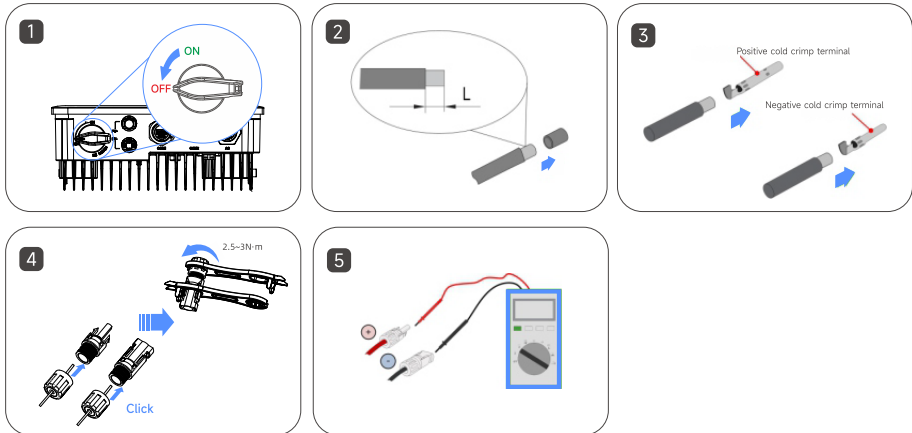
- Before connecting the PV module to the inverter, ensure that the PV module is well insulated from the ground.
- During the installation and operation of the inverter, ensure that the positive pole or negative pole of the PV string is not short-circuited to the ground. If short circuit occurred, it 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 !
- When the input voltage ranges from 560 to 600V, the inverter will switch to the standby state. When the voltage resumes to the MPPT operating voltage range, i.e. 80-560V, the inverter will back to normal operation.

## Assembling DC Connectors

- Step 1:** Turn the DC switch to "OFF" manually, and make sure the inverter is powered off.
- Step 2:** Strip all DC cable insulation by approximately 7 mm.
- Step 3:** Use hydraulic plier to crimp the cable ends of the terminals.
- Step 4:** Insert the cable through the cable sealing sleeve, insert it into the insulating sleeve and fasten it, and pull the cable gently to make sure it is tightly connected. Use 2.5-3N·m force to tighten the sealing sleeve and insulation sleeve.
- Step 5:** Use a multimeter to check the correct polarity of the PV cable.



### ⚠ 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

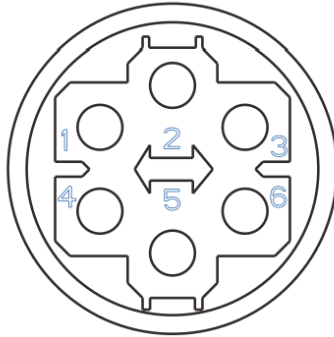
- If the DC input polarity is reversed, the inverter will be in a fault or alarm condition and will not operate properly.

## 6.5 Communication Connection

### 6.5.1 Description of Communication Connection

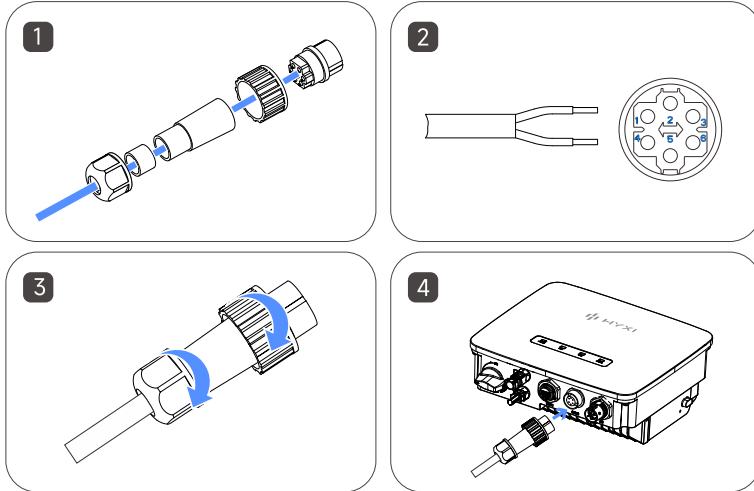
#### PIN definition

Port	Pin	Description	Function
RS485-1	1	RS485 A1 RS485 different signal +	Connect smart meter
	2	RS485 B1 RS485 different signal -	
RS485-2	3	RS485 A2 RS485 different signal +	Reserve RS485 communication
	4	RS485 B2 RS485 different signal -	
CT	5	AC current sensor +	CT signal input
	6	AC current sensor -	

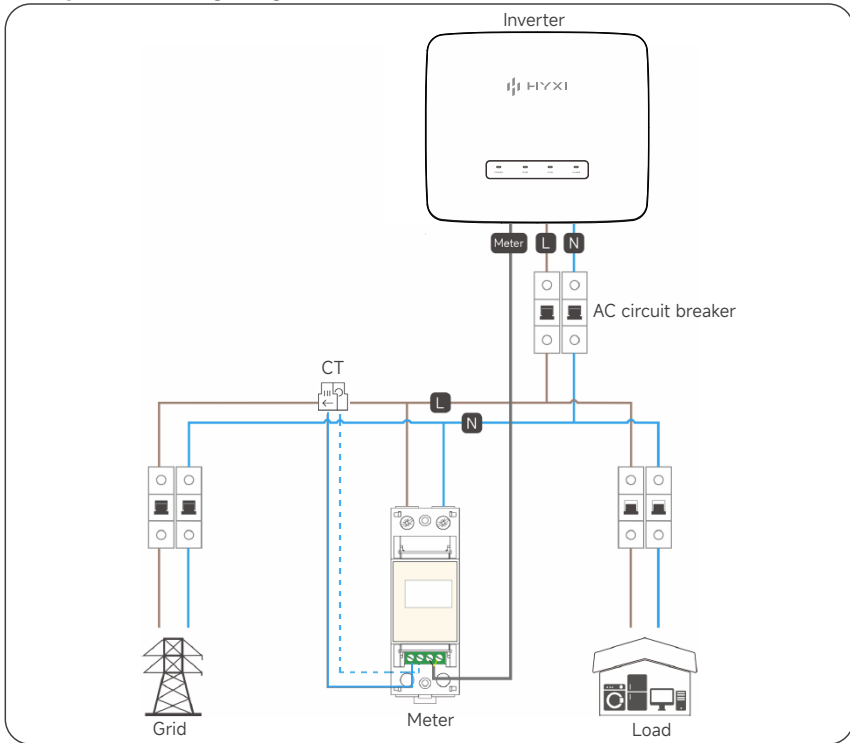


### Communication Connection Steps

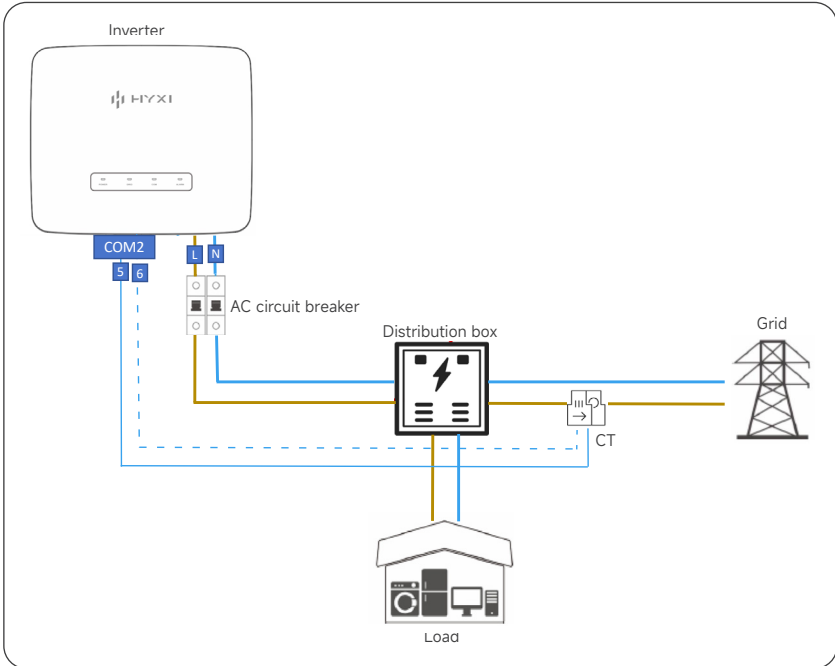
- Step 1:** Pass the RS485 communication cable through in sequence as shown in the figure below.
- Step 2:** Crimp the cable to the corresponding PIN on the wiring terminal.
- Step 3:** Sequentially tighten the waterproof nut and swivel nut.
- Step 4:** Insert the assembled communication terminal into the COM2 port at the bottom of the inverter.



### 6.5.2 Zero-Export Wiring Diagram Electricity Meter Wiring (Single Inverter)

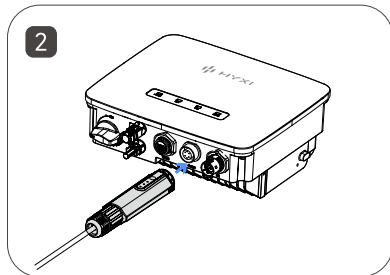
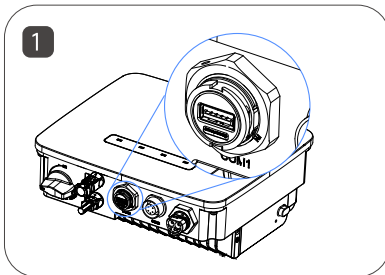


### CT Wiring (Single Inverter)



### 6.6 DCS Connection

- Step 1:** Remove the waterproof cover at the communication terminal of the inverter.
- Step 2:** Insert DCS into the corresponding communication terminal at the bottom of the inverter and tighten it to ensure it is secure.



# 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 Inverter

**Step 1:** Make sure that all items checked in section 7.1 are satisfied.

**Step 2:** Close the grid-connected AC circuit breaker and turn on the built-in DC switch of the inverter.

**Step 3:** Observe the LED status of the inverter. (Refer to 2.8 LED Indicator for details)

## 7.3 Power-Off the Inverter

### CAUTION

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

**Step 1:** Use HXYI APP to issue a shutdown command.

**Step 2:** Disconnect the external AC circuit breaker and prevent reconnection due to misuse.

**Step 3:** Disconnect the external DC circuit breaker and turn the DC switch of the inverter to "OFF".

**Step 4:** Wait for at least 5 minutes until the internal capacitor is completely discharged.

**Step 5:** Use a current clamp to check the DC cable to make sure there is no current.

## 7.4 Disassembling the Inverter

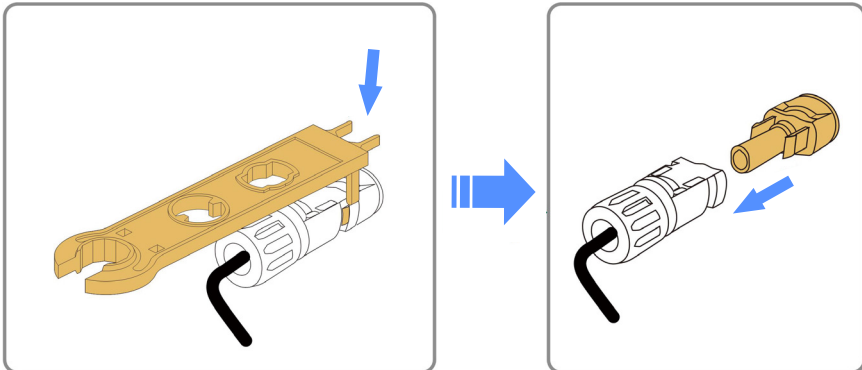
### ⚠ CAUTION

- Danger of burns and electric shocks!
- After disconnecting the inverter from the grid and the PV modules, wait at least 5 minutes before touching the internal conductive components.

### ℹ NOTICE

- Before dismantling the inverter, both AC and DC must be powered off.
- If the inverter has more than two DC terminals, the outer DC connector needs to be removed before the inner DC connector can be removed.

**Step 1:** Refer to "6. Electrical Connection" and follow the steps in reverse order to disconnect all electrical connections from the inverter. To remove the DC connector, use the MC4 wrench to loosen the locking part of the DC connector and install the waterproof plug.



**Step 2:** Refer to "5. Mechanical Installation" and follow the steps in reverse order to remove the inverter.

**Step 3:** If necessary, remove the mounting bracket.

**Step 4:** If the inverter is to be put into use at a later date, store the inverter properly as described in "3.3 Inverter Storage".

## 7.5 Disposing of the Inverter

### ⚠ CAUTION

- Some parts of the inverter, 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 the solar photovoltaic grid-connected power generation system, the inverter can automatically complete the operation of grid-connected power generation and stop-start without human control.

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

## 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	<ul style="list-style-type: none"> <li>• Observe whether the inverter is firmly installed, and whether there is damage or deformation.</li> <li>• Listen to the inverter for abnormal sounds.</li> <li>• When the system is connected to the grid, check various variables.</li> <li>• Check whether the inverter housing is heating normally, and use a thermal imager to monitor the system heating.</li> </ul>	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	<ul style="list-style-type: none"> <li>• Check whether the system cable connection is loose and the inverter wiring terminals are loose.</li> <li>• Check the cable for damage, especially if there are cuts on the skin that contact the metal surface.</li> </ul>	Once every six months
Safety functions	<ul style="list-style-type: none"> <li>• Check the inverter LED indicators and system shutdown function.</li> <li>• Simulate the shutdown and check the shutdown signal communication</li> <li>• Check the warning label and replace it if necessary.</li> </ul>	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 Technical Parameter

Product Model	HYX-S2K-S2	HYX-S2K5-S2	HYX-S3K-S2	HYX-S3K6-S2
<b>PV Input</b>				
Max. Input Power [W]	3200	4000	4800	5760
Max. Input Voltage [V]			600	
Nominal Input Voltage [V]			360	
Start-up Voltage [V]			40	
MPPT Operating Voltage Range [V]			40-560	
MPPT Full Load Voltage Range [V]	200-450	240-450	280-450	300-450
Max. Input Current Per MPPT [A]			20	
Max. Short-circuit Current [A]			30	
Number of MPP Trackers			1	
Max. Input Number Per MPPT			1	
<b>AC Output</b>				
Nominal Output Power [W]	2000	2500	3000	3600
Max. Apparent Power [VA]	2200	2750	3300	3600
Nominal Output Voltage [V]			1 / N / PE, 220 / 230 / 240V	
Nominal AC Grid Frequency [Hz]			50 / 60	
Nominal Output Current [A]	9	11.3	13.6	16.3
Max. Output Current [V]	10	12.5	15	16.3
Adjustable Power Factor		0.8 leading...0.8 lagging		
THDi		< 3%		
<b>Efficiency</b>				
Max. Efficiency		98.3%		
European Weighted Efficiency		97.6%		
MPPT Efficiency		99.9%		
<b>Protection</b>				
Active Anti-islanding Protection		Yes		
Residual Current Monitoring		Yes		
DC Switch		Yes		
AC Short-circuit Protection		Yes		
AC Over Voltage Protection		Yes		
AC Over Current Protection		Yes		
DC Surge Protection		Type II		
AC Surge Protection		Type II		
Ground Fault Detection		Yes		
AFCI		Yes		
<b>General Data</b>				
Operating Temperature Range [°C]		-25 ~ +60°C		
Relative Operating Humidity [RH]		0 ~ 100%		
Max. Operating Altitude [m]		4000		
Cooling		Natural Cooling		

Product Model	HYX-S2K-S2	HYX-S2K5-S2	HYX-S3K-S2	HYX-S3K6-S2
Display		LED + App (LCD Optional)		
Communication		RS485 / 4G (Optional) / WIFI		
Weight [kg]		< 4.5		
Topology		Non-Isolated		
Dimensions (W*H*D) [mm]		274*234*109		
Degree of Protection		IP66		
Overvoltage Level		PV II / AC III		

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## 10.2 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-HYX-S2K/2K5/3K/3K6-S2 User Manual\_V1.0-202604\_EN  
The manual is subject to change without notice while the product is being improved.



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