

Three Phase Grid-Tied PV Inverter User Manual

SCA50K-T-EU
SCA60K-T-EU



Shanghai Chint Power Systems Co., Ltd.

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0 Preface

Thank you for choosing a Chint Grid-tied PV Inverter (hereinafter referred to as “PV Inverter” or “Inverter”) developed by Shanghai Chint Power System Co., Ltd. (hereinafter referred to as “CHINT”).



IMPORTANT!

Please read this manual carefully and make sure that you have understood all the contents thoroughly before you start any operation.

Main Contents

This Installation and Operation manual contains important information, safety guidelines, detailed planning and setup information for installation, as well as information about configuration, operation and troubleshooting. Be sure to read this manual carefully before using it.

Target Readers

- Plant owner
- Project engineer
- Installation engineer
- Maintenance engineer

Installation, commissioning, troubleshooting, and maintenance of the inverter must be done only by qualified personnel. If you encounter any problems during above-mentioned operation, please check the user manual carefully. You can also contact your local dealer or supplier for help if the problem still exists.

Manual Management

Please keep this user manual on hand for quick reference.

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1 IMPORTANT SAFETY INSTRUCTIONS

(SAVE THESE INSTRUCTIONS)








PLEASE READ THIS USER MANUAL CAREFULLY BEFORE THE INSTALLATION AND OPERATION OF THIS PV INVERTER. CHINT RESERVES THE RIGHT TO REFUSE WARRANTY CLAIMS FOR EQUIPMENT DAMAGE IF USERS FAIL TO INSTALL THE EQUIPMENT ACCORDING TO THE INSTRUCTIONS IN THIS MANUAL.

FAILURE TO FOLLOW THESE INSTRUCTIONS AND OTHER RELEVANT SAFETY PROCEDURES MAY RESULT IN VOIDING OF THE WARRANTY AND/OR DAMAGE TO THE INVERTER OR OTHER PROPERTY!


1.1 Warnings and Symbols in this Document







Symbols	Meanings
	DANGER! DANGER indicates a hazardous situation with high level of risk which, if not avoided, will result in death or serious injury.
	WARNING! WARNING indicates a hazardous situation with medium level of risk which, if not avoided, could result in death or serious injury.
	CAUTION! CAUTION indicates a hazardous situation with low level of risk which, if not avoided, could result in minor or moderate injury.
	NOTICE! NOTICE indicates a hazardous situation which, if not avoided, could result in equipment working abnormally or property loss.
	IMPORTANT! INSTRUCTION indicates important supplementary information or provides skills or tips that can be used to help you solve a problem or save you time.

1.2 Markings on the Product

	<p>Hot Surfaces:</p> <p>To reduce the risk of burns. Do not touch.</p>
	<p>Risk of Electric Shock:</p> <p>Risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.</p>
	<p>CAUTION:</p> <p>Risk of electric shock from energy stored in capacitor. Do not remove cover until 10 minutes after disconnecting all sources of supply.</p>
	<p>WARNING:</p> <p>Electric shock hazard. The DC conductors of this photovoltaic system are underground and may be energized.</p>
	<p>CAUTION:</p> <p>Risk of Electric shock:</p> <ul style="list-style-type: none"> a) Both AC and DC voltage sources are terminated inside this equipment. Each circuit must be individually disconnected before servicing. b) When the photovoltaic array is exposed to light, it supplies a DC voltage to this equipment.
	<p>WARNING:</p> <p>Electric shock hazard. The DC conductors of this photovoltaic system are normally ungrounded but will become intermittently grounded without indication when the inverter measures the PV array isolation.</p>
	<p>High touch current is available, the protective grounding connection must be reliable.</p>

1.3 Safety Precautions of Operating the PV Inverter

	<p>DANGER!</p> <p>Before opening the inverter housing for maintenance, you must first disconnect the grid-side AC power supply and PV-side DC power supply, and</p>
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	<p>ensure that the high-voltage energy inside the equipment has been completely released!</p> <p>Generally, you must cut off all connections to the inverter for at least 10 minutes before you can maintain and operate the equipment.</p>
	<p>WARNING!</p> <p>All operations and connections please professional engineering and technical personnel!</p> <p>To prevent the risk of electric shock during equipment maintenance or installation, please ensure that all DC and AC power has been separated from the equipment, and ensure that the equipment is reliably grounded.</p>
	<p>NOTICE!</p> <p>The inverter is specially designed to integrate the generated AC power into the public grid. Do not directly connect the AC output terminal of the device to private AC power equipment. The inverter does not support battery panel grounding. If grounding is necessary, a transformer must be added to the AC side.</p>
	<p>NOTICE!</p> <p>Please do not install the inverter in a place exposed to direct sunlight, so as not to reduce the conversion efficiency due to high temperature and to ensure the long-term service life of the inverter.</p>
	<p>CAUTION!</p> <p>Please check the wall bracket again before hanging up to make sure that the mounting bracket is firmly on the supporting surface.</p> <p>For continued protection against risk of fire, replace only with same type and ratings of fuse. Disconnect supply before changing fuse.</p>
	<p>During operation, consider that the noise emitted based on the environment could possibly exceed the legal thresholds (less than 80 dBA), therefore, suitable ear protection must be worn.</p>
	<p>IMPORTANT!</p> <p>Before choosing a power grid code, please contact your local power supply company. If the inverter is set to work under the wrong grid regulations, the power supply company may cancel the operation permit of the equipment.</p> <p>Please ensure that the entire system complies with national standards and applicable safety regulations before running the inverter.</p>

2 General Introduction

2.1 Photovoltaic Grid-Connected System

SCA50K-T-EU and SCA60K-T-EU series inverters are designed for using with grid-tied PV systems. The PV system consists of of PV modules, PV inverter and AC power distribution equipment, as shown in Figure 2-1. The solar energy is converted by PV modules to DC power, and then converted by the inverter to AC power with the same frequency and phase as the AC grid. Now the AC power can be supplied in all or in part to local loads, with the remaining power fed to the grid.

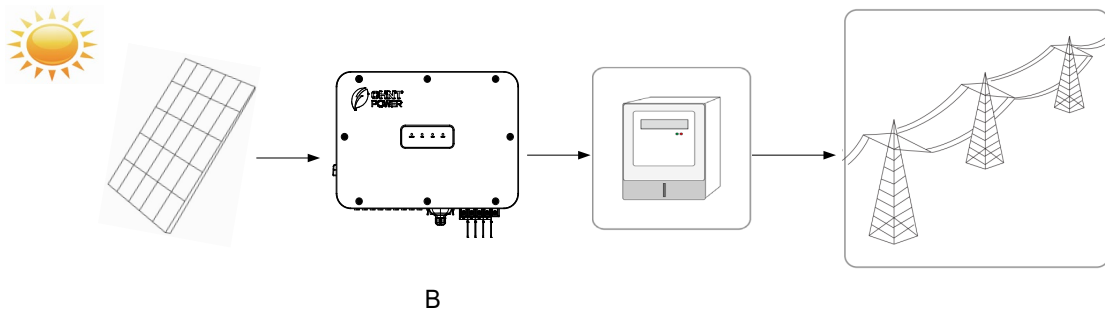


Figure 2-1 Grid-connected PV Power Generation System

No.	Description	Notes
A	PV Modules	Monocrystalline silicon, polycrystalline silicon, non-ground PV module
B	PV Inverter	SAC50K-T-EU SAC60K-T-EU
C	AC distribution system	Device such as AC circuit breaker, AC combiner box, metering device
D	Public Grid	Isolation transformer and power grid: support TT, IT, TN-S, TN-C, and TN-C-S system

Table 2-1 Description of Grid-connected PV Power Generation System

2.2 Product Dimension and Appearance

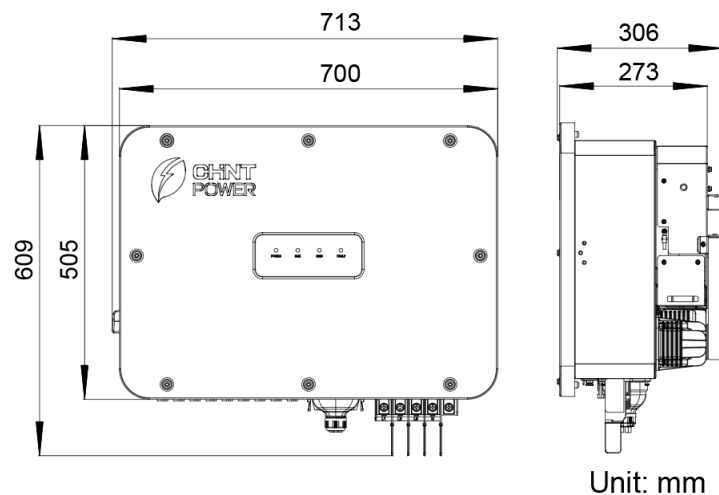


Figure 2-2 Dimensions of the Inverter

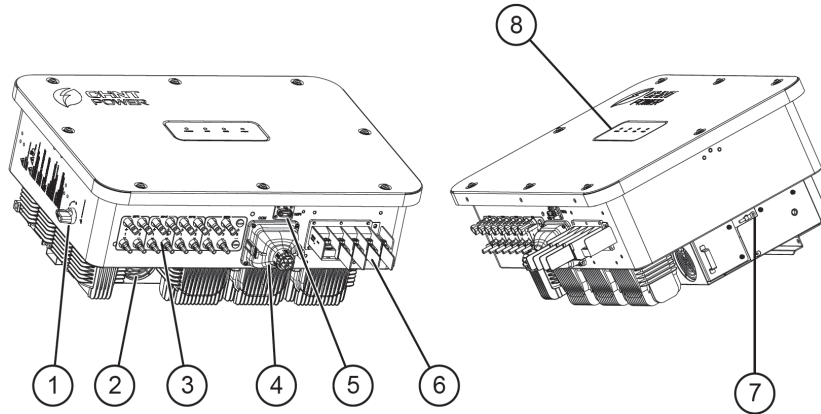


Figure 2-3 External Appearance of the Inverter

No.	Name	Function
1	DC Switch	Turn off the DC side power supply
2	Fan	Cool the inverter
3	MPPT DC Input Port	Connect DC input cables
4	Communication Port	Connect communication cables
5	Wi-Fi Port	Connect communication module
6	AC output terminal	Connect the AC output cables
7	External protective grounding hole	Connect the secondary protective grounding cable
8	LED Indicator	Indicates the running status of the inverter

Table 2-2 Description of Inverter Appearance

2.3 LED Indicator

The LED display on the inverter is as shown below.

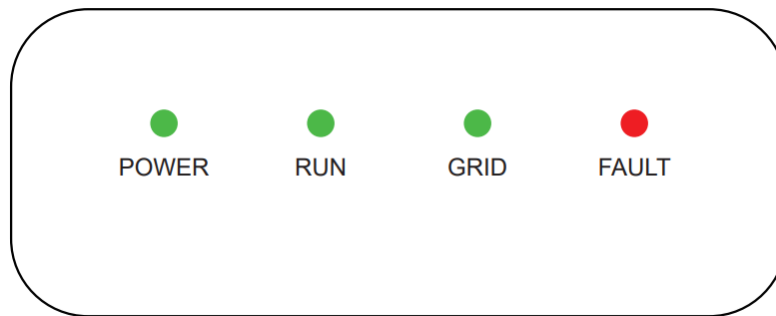


Figure 2-4 LED Display of the Inverter

Indicators and their indications are shown below:

The meanings of the LED indicator is shown in table below:

LED	Name	Status	Meaning
POWER	Grid connection indicator	On (Green)	PV power supply is normal and enough to turn on back-up power
		Off	No power supply
RUN	On-grid run indicator	On (Green)	In on-grid generation status
		Off	In off-grid status or no power supply
GRID	Grid status indicator	On (Green)	Grid is normal
		Off	Grid is abnormal
FAULT	Fault indicator	On (Red)	Fault
		Flash	Alarm(on for 0.5s, off for 0.5s)
		Off	No fault or no power supply
All lights flash			LCD or DSP upgrade



NOTICE!

Only all the indicators are off means that there is no working power supply.



NOTICE!

The switch or breaker of DC/AC side cannot be turned off when the inverter or PCS is in grid-connected running state, or the inverter or PCS may have failure risk.

You can turn off the inverter by mobile App.

2.4 Product Protective Functions

- ✓ Short circuit protection
- ✓ Input ground insulation impedance monitoring
- ✓ Output voltage, frequency monitoring
- ✓ Ground current leakage monitoring
- ✓ DC component of the output current monitoring
- ✓ Anti-island protection
- ✓ Input and output overvoltage protection
- ✓ Input overcurrent protection
- ✓ Ambient temperature monitoring
- ✓ Module temperature monitoring
- ✓ Arc protection
- ✓ Power limitation

2.5 Night Power Supply Function

This function enables the inverter to be upgraded at night without affecting the daytime power supply. It's crucial to maintain uninterrupted communication during nighttime. This helps prevent communication failures or shutdowns caused by faults or a lack of PV power at night. Additionally, it facilitates 24-hour monitoring of grid and load data.

2.6 ARC Detection Protection

This inverter arc detection protection conforms to IEC 63027 standard, arc protection device type is as table 2-3, and the detail explanation is as table 2-4.

Inverter Type	ARC protection device type
SCA50K-T-EU	F-I-AFPE-1-4-2
SCA60K-T-EU	F-I-AFPE-1-4-2

Table 2-3 ARC protection device type

Letter	Meaning
F	Full covered
I	Integrated
AFPE	Provide detection and interruption function

1	Each input string port connects to one PV array
4	Each detection channel has four input ports
2	Two detection channels

Table 2-4 Arc protection device letter meanings

- **ARC Protection:** This function detects if arcing is occurring on the DC side of the inverter. When an ARC fault is detected, the inverter will shut down immediately. If the number of recordings is less than 5 times in 24 hours, wait for 5 minutes, the inverter will restart automatically and grid connection. If it reaches 5 times, check whether the DC cables or connections have proper insulation. If the insulation is normal, the fault alarm must be manually cleared.
- **ARC Clear:** This function is used to clear the “ARC protection-Occurring” fault manually. The “ARC protection-Occurring” fault alarm needs to be cleared via the MatriCloud App or the monitoring platform.
- **ARC Self-test:** This function is used to detect whether there is any fault in the ARC board. The inverter automatically performs the ARC self-test every day before normal operation, and if there is a fault, the alarm “ARC board fault-Occurring” appears.

2.7 Topological Principle and Description

The electrical schematic diagram of inverter is as shown in figure below. PV input goes through the lightning protection circuit and DC EMI filter circuit and then through the previous BOOST circuit to achieve maximum power tracking and boost functions. The inverter uses three-level technology to convert the DC voltage into a three-phase AC voltage, filters out high frequency components through an output filter, and then outputs high-quality AC power through a two-stage relay and an EMI filter. In addition, a string detection function is added.

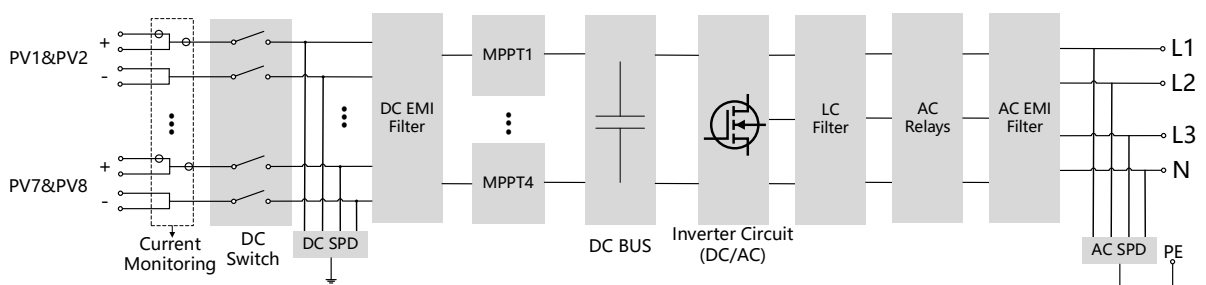


Figure 2-4 Schematic diagram of inverter

3 Mechanical Installation



IMPORTANT!

The following content is the installation instructions of the inverter, please read carefully and follow the steps to install this product.

3.1 Storage before Unpacking

If the inverter is not immediately installed upon arrival, the following requirements should be met when storing the inverter:

- Do not remove the outer packing of the inverter.
- Store it in a clean, dry place to prevent dust and moisture intrusion.
- During the storage period, regular inspections are necessary (it is recommended to check at least once every three months). If packing damage is detected, replace the packaging materials promptly.
- Keep the packing box away from corrosive substances to avoid damaging the inverter casing.
- If the inverter has been stored for more than 1 year, perform an inspection and a test by professional personnel before putting it into operation.
- Do not stack multiple inverters beyond the "Stacking Limit" indicated on the outer packing.

Note: Any damage to the inverter caused by improper storage is not covered by the warranty.

3.2 Unpacking for Inspection

Before installation, please check whether the following items are included in the box:

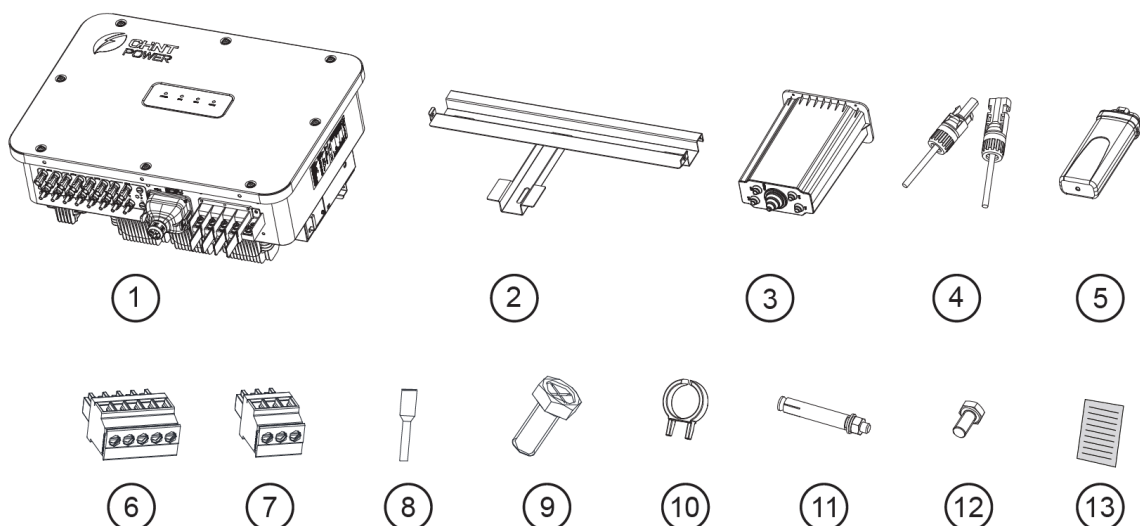


Figure 3-1 Scope of supply

No.	Name	QTY	Notes
1	PV Inverter	1	Last input port is reserved.
2	Mounting bracket	1	Hang the inverter
3	AC terminal cover	1	Protect AC busbar
4	DC input connector	16	DC male and female connector: 8+, 8-
5	Communication module	1	For communication between app and inverter
6	5-Pin terminal	2	Connect RS485 cable
7	3-Pin terminal	1	Connect RS485 cable
8	Cord terminal	9	Crimp RS485 cable
9	M6x16 screw	1	Grounding
10	Unlock tool for DC input connector	1	Remove the DC input connector
11	Expansion screw	4	Fix the mounting bracket on the wall
12	M4x12 combined screw	2	Fix inverter onto mounting bracket
13	Document	1	Quick guide

Table 3-1 Delivery List

3.3 Installation Precautions

- Check that the product environmental specifications (protection degree, operating temperature range, humidity and altitude, etc.) meet the requirements of the specific project location.
- Make sure that the power grid voltage is within the normal range of the Grid Code chosen. Ensure that you have been authorized by the local electricity supply authority to connect to the grid.
- Installation personnel must be qualified electricians or those who have received professional training.
- Wear and use proper PPE (personal protective equipment) during installation.
- Sufficient space must be provided to allow the inverter cooling system to operate normally.
- Install the inverter away from flammable and explosive substances, and prohibit old, sick, disabled people and children from approaching.
- The equipment should be installed in an area far away from liquids; It is strictly prohibited to install it below water pipes, air vents, and other locations that are prone to condensation; It is strictly prohibited to install below the air conditioning outlet, ventilation outlet, machine room outlet window, and other locations that are prone to water leakage, to prevent liquid from entering the equipment and causing equipment malfunction or short circuit.
- When installing, if drilling is required, please make sure to avoid the water and electricity wiring inside the wall.
- Make sure the installation condition doesn't exceed the temperature limits specified for the inverter, to prevent undesirable power loss.
- Do not install the inverter near an electromagnetic source which can compromise the normal operation of electronic equipment.
- The characteristics of salt mist are easily affected by factors such as seawater, sea breeze,

precipitation, relative humidity, terrain, and forest range near the coast. Therefore, inverters should not be installed outdoors in salt affected areas (within 500m from the coast).

- The inverter may generate noise during operation, please do not install it in a place that affects daily life.
- The installation height of the inverter should be easy to observe the LED indicator panel, as well as facilitate electrical connection, operation, and maintenance.
- The PV Array is not grounded (floating).
- The bottom power and communication interfaces of the inverter should not bear any weight, and should not be directly in contact with the ground.
- Static electricity may damage the electronic components of the inverter, so anti-static measures should be taken during the replacement or installation process.
- Each inverter must be equipped with an AC circuit breaker and should not be shared among multiple inverters.
- Reverse engineering, decompiling, disassembling, dismantling, modifying, implanting, or any other derived operations on the device software are strictly prohibited. It is also prohibited to study the internal implementation of the device, obtain the device software source code, steal intellectual property rights, or disclose any performance testing results of the device software.
- If the gap of the output terminal is not blocked according to the requirements, resulting in machine failure, our company does not carry out warranty, and bear any responsibility.
- Cables of the same type should be bundled together, and different types of cables should be arranged separately, with no intertwining or crossing allowed.
- Under no circumstances should the device structure, installation sequence, or any other aspect be modified without the permission of the manufacturer.

For detailed specification ranges and limits, see Chapter 9 Technical Data.

3.4 Installation Requirements

3.4.1 Installation Environment Recommendations

It is recommended to install inverter under a shelter to avoid direct sunlight, rain and snow accumulation, to prevent from triggering power derating, increasing inverter failures or reducing its service life.

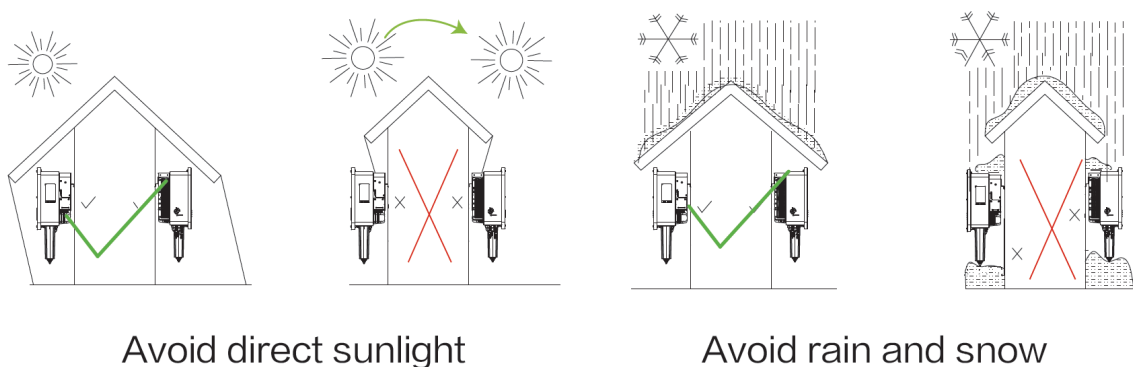


Figure 3-2 Installation environment recommendations

3.4.2 Installation Mode Requirements

The inverter shall be installed following the modes as below:

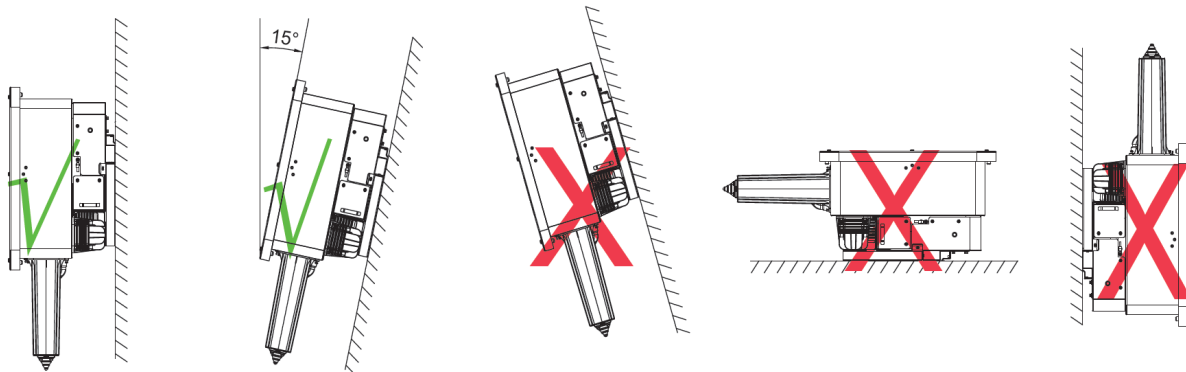


Figure 3-3 Installation mode requirements

No.	Installation Mode	Instruction
A	Vertical	If the installation location allows, install the inverter vertically.
B	Lean Back $\leq 15^\circ$	If the inverter cannot be mounted vertically, it may be tilted backward by lower than 15 degrees from vertical direction.
C	No Forward	Do not mount the inverter leaning forward.
D	No Horizontal	Do not mount the inverter horizontally.
E	No Upside-down	Do not mount the inverter upside down.

Table 3-2 Installation mode requirements

3.4.3 Installation Space Requirements

Appropriate clearances shall be reserved to ensure sufficient ventilation and heat dissipation. If the inverters are installed in relatively enclosed space, these clearances shall be increased properly to maintain well ventilated condition. In addition, no objects shall be put in-between two inverters to prevent any negative influences on heat dissipation.

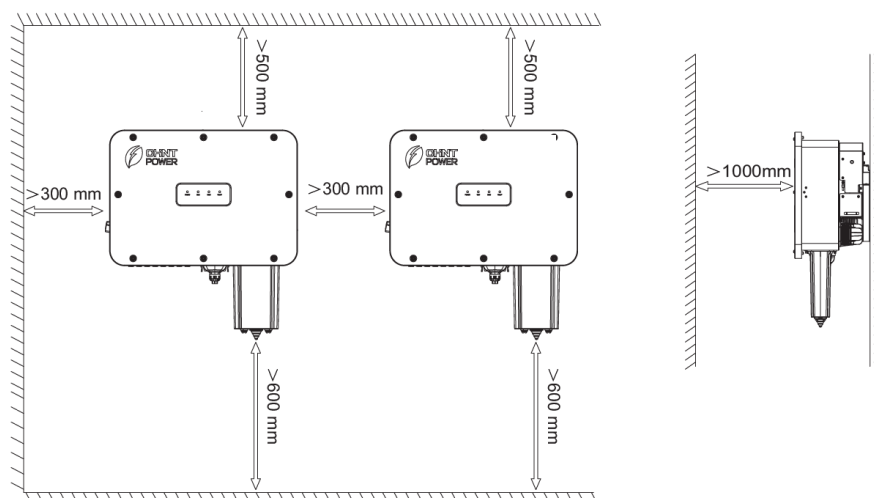


Figure 3-4 Installation space recommendations

NOTICE:


- The distance between two parallel inverters must be > 300 mm, and good ventilation should be ensured.
- If the surroundings are relatively closed, please increase this distance appropriately.
- There must be no object placed between two or more inverters.

3.5 Installation Procedures

1. Place the mounting bracket horizontally on the wall and mark the punching position with marker pen.

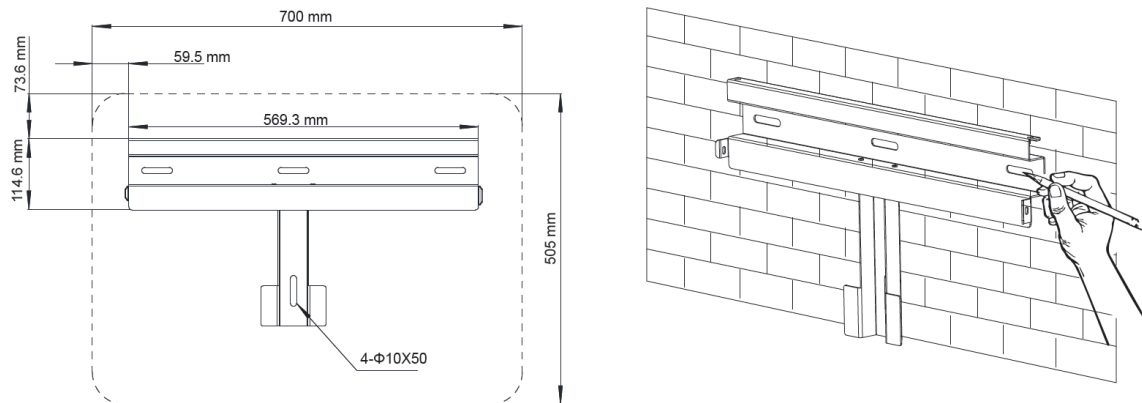


Figure 3-5 Mark the punching position

2. Use a percussion drill ($\Phi 12$ mm bit) to drill a hole of 70 mm depth. Use the rubber hammer to knock in the four expansion tubes.

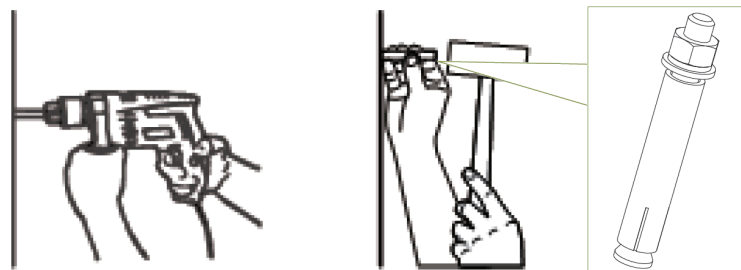


Figure 3-6 Drill holes and install the expansion tube


CAUTION!

To prevent dust from entering the respiratory system or getting into the eyes during drilling, operators should wear protective goggles and dust masks.

3. Screw off the four nuts from the expansion tubes. Locate the four holes of mounting bracket at the expansion tubes. Tighten the four nuts with an adjustable wrench. Torque: 12.3 N.m.

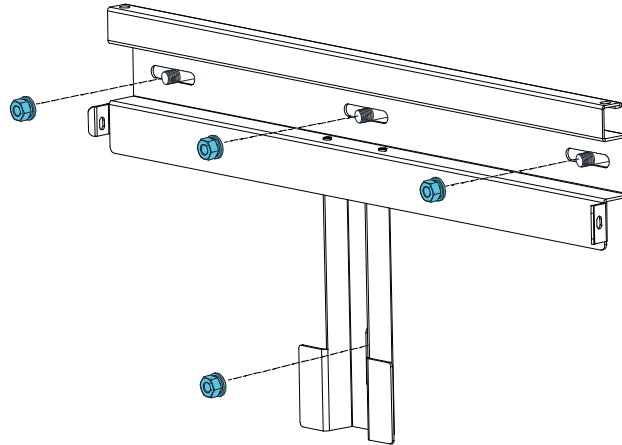


Figure 3-7 Fix the mounting bracket

4. Hang the inverter onto the mounting bracket.

- Machine Lifting: Install two lifting eyebolts (M10, prepared by customer), lift the inverter onto mounting bracket by slings (The minimum angle between the two slings should be less than 90 degrees.).

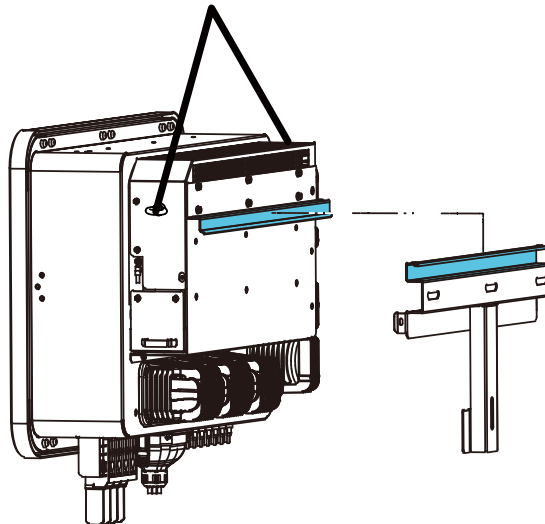


Figure 3-8 Machine lifting

- Manual lifting: 2 people hang the inverter by lifting indicated positions.

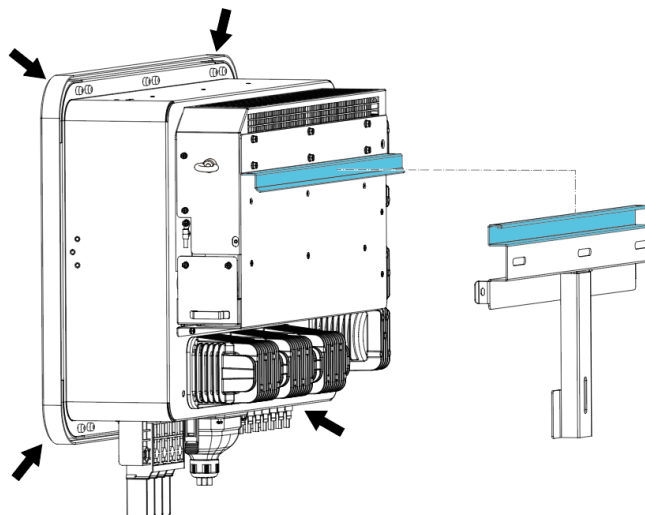


Figure 3-9 Manual lifting

CAUTION:

- The inverter is appropriately 50.5 kg (≈ 111.3 pounds).
- Confirm that the mounting bracket is installed on the support plane firmly before hanging the inverter.
- It is recommended to have at least two operators to hang the inverter.

5. Tighten the two M4x12 screws to fix the inverter and mounting bracket. Tool: PH2 screwdriver, torque: 1.6 N.m.

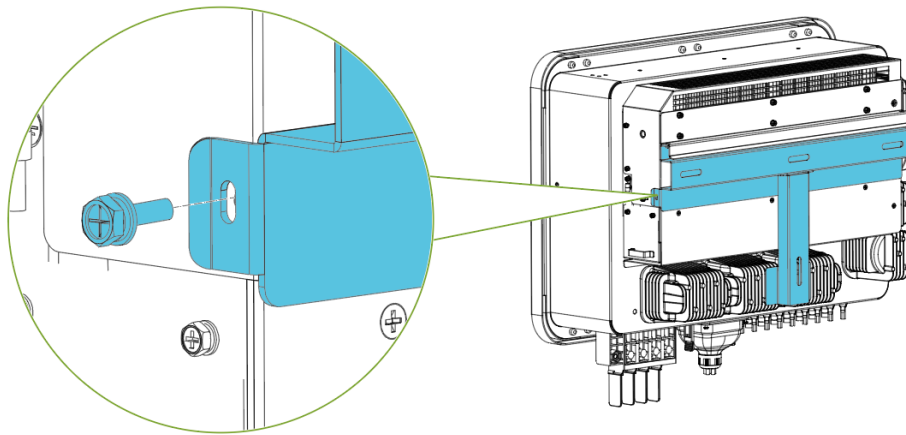


Figure 3-10 Fix the inverter and mounting bracket

6. It is recommended to install two anti-theft locks (prepared by customer) on the two sides to lock the inverter on the mounting bracket.

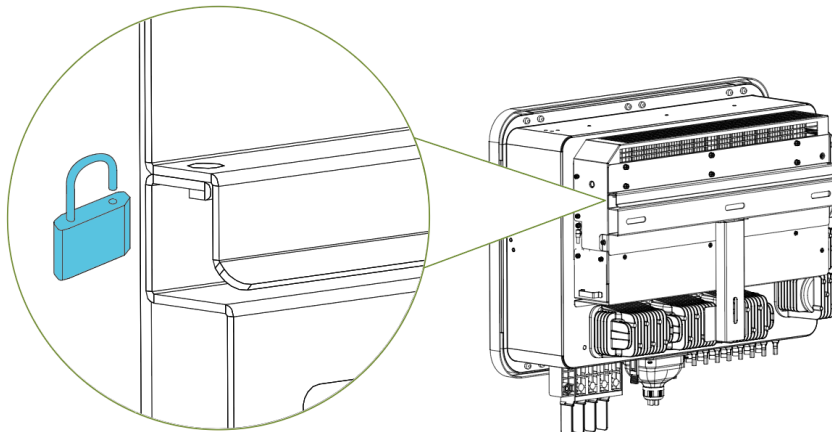


Figure 3-11 Install the anti-theft lock

4 Electrical Connection



DANGER!

Before electrical connection, please confirm that the AC and DC terminals are all power down to prevent the high voltage electrical shot.



NOTICE!

Before connecting the cables, refer to the Chapter 9 Technical data.

4.1 Cable Specification

Prepare the connecting cables of the inverter as the table below:

Name	Cable Type	Cable Outer Diameter (mm)	Cross-Sectional Area (CSA) (mm ²)
DC Cable	General PV cables (1100 V standard)	5.0 – 7.2 ^{*a}	4 - 6
AC Cable	Multi-core outdoor cable	<40	<ul style="list-style-type: none"> • L1, L2, L3, and N: 35 – 70^{*b} • PE: CSA of phase wire conductor / 2
	Single-core outdoor cable	10 – 15	
PE Cable	Outdoor special cable	N/A	CSA of phase wire conductor / 2 ^{*c}
Communication Cable	Outdoor shielded twisted pair	6 - 7 ^{*d}	0.2 - 1

Table 4-1 SCA50~60K-T-EU Cable specifications

Note:

- a. For selection exceeds the given range, please consult CHINT for feasibility.
- b. 70 mm² only for aluminum or copper-clad aluminum wire. According to National Electrical Code, NFPA 70, the rated current of conductor size for copper 50 mm²(AWG 0) is approximate to that of conductor size for aluminum or copper-clad aluminum wire 70 mm²(AWG 000).
- c. Use copper wire only.
- d. If the communication cable is smaller than the given range, the cable needs to be glued or treated to ensure sealing and waterproofing.

4.2 Tools Required and Torque Values

No.	Tool	Usage	Torque
1	No.13 socket wrench	Fix the AC OT terminal	5.5 N.m
2	PH0 screwdriver	Fix cord terminal, grounding OT terminal and 3-PIN & 5-PIN terminal	0.6-0.8 N.m

3	PH2 screwdriver	Fix AC cover	2.0 N.m
		Fix communication cover	1.6 N.m
3	Diagonal pliers	Cut cables	-
4	Wire stripper	Remove the insulation layer from cables	-
5	Crimping pliers	Crimp the OT terminal and cable wire core	-

Table 4-2 Tools and torque

4.3 Connection Ports

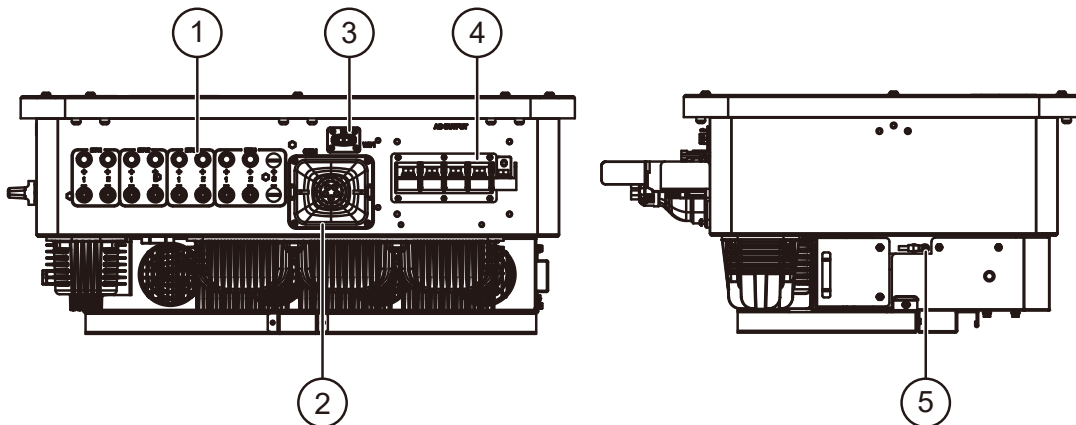


Figure 4-1 Connectin Ports

No.	Name	Function
1	MPPT DC input port	Connect DC cables
2	Communication port	Connect communication cables
3	Wi-Fi port	Connect the communication module
4	AC output terminal	Connect the AC output cables
5	External protective grounding hole	Connect the secondary protective grounding cable

Table 4-3 External interfaces and internal connection points

4.4 Protective Grounding Cable Connection

There are two kinds of grounding methods for this inverter: AC grounding and external grounding (Note: When multiple inverters connected in daisy-chain mode, every inverter shall be grounded separately).

- AC grounding (Required): Connect PE wire to internal grounding stud located on the right side of the AC busbar, refer to **4.5 AC Cable Connection** for more information.
- External grounding (Optional): Connect grounding cable to external grounding hole located at the side of the inverter (Note: After wiring, external grounding position needs to be coated with glue or paint).

Follow the steps below for external grounding:

1. Remove an appropriate length of insulation layer from the PE cable.

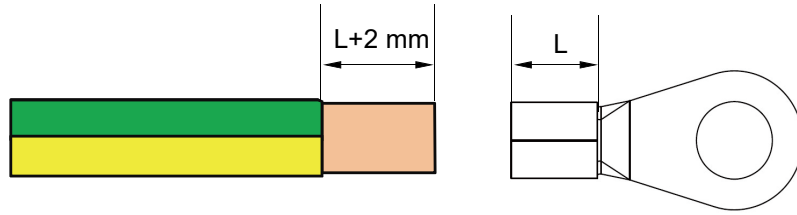


Figure 4-2 Strip PE cable

2. Insert the exposed wire core into the crimping area of the OT terminal, use crimping pliers to crimp the OT terminal.

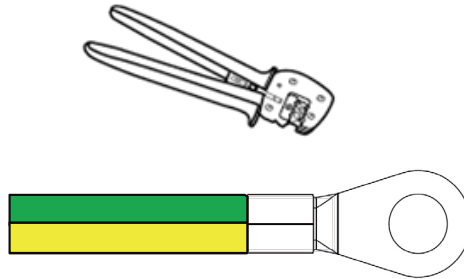


Figure 4-3 Crimp PE cable

3. After crimping, wrap the wire crimping area with heat shrink tube and use hot air gun to seal the tubes.

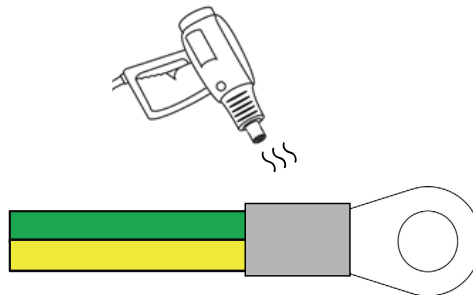


Figure 4-4 Sealing the OT terminal and PE cable

4. Tighten the M6x15 screw to fix the PE cable. Tool: No2 cross screwdriver. Torque: 1.6 N.m.

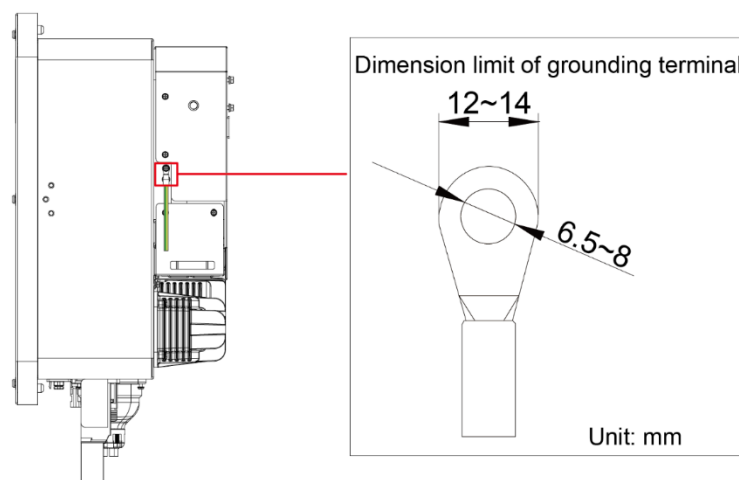


Figure 4-5 External Grounding



WARNING:

The secondary protective grounding connection cannot replace the AC grounding connection, both of them must be reliably grounded.

If not, CHINT will not assume any responsibility for any possible consequences.

AC output (L1/L2/L3/N) cables of every inverter are connected to AC grid through the 4 pole AC breaker to make sure the inverter can be safely disconnected from AC grid. Please choose the AC breaker referring to the following table.

Inverter	Inverter AC breaker current parameter
The whole series inverters	150A

Table 4-4 Specification of AC Breaker Selection

4.5 AC Cable Connection

Follow the steps below to connect the AC cables:

1. Select the suitable holes according to the cables type, then cut the seal ring according to the cable outer diameter.



CAUTION!

To avoid water ingress, the hole diameter shall not be greater than the cable diameter.

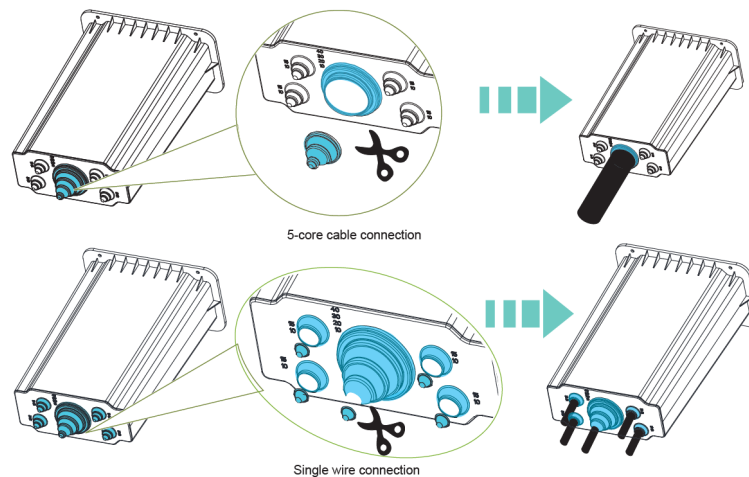


Figure 4-6 Cut seal ring

2. Remove an appropriate length of the jacket and insulation layer from the 5-core cable.

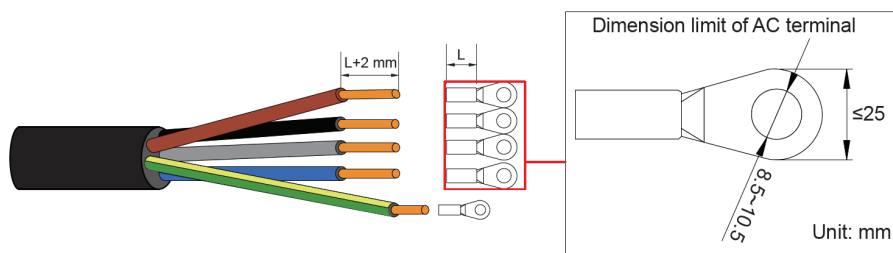


Figure 4-7 Strip wire

NOTICE:

- The PE cable length is required to be 2 cm longer than phase cable (L1, L2, L3 & N).
- The colors of wires in the following figure are for reference only, and the selection of cable should comply with local cable standards.

3. Insert the exposed wire core into the crimp area of the OT terminal, then use crimping pliers to crimp the OT terminal.

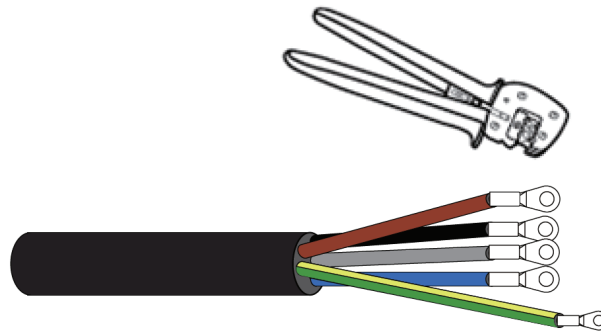


Figure 4-8 Crimp OT terminal

4. Wrap the wire crimp area with heat shrink tube, then use hot air gun to seal the tubes.

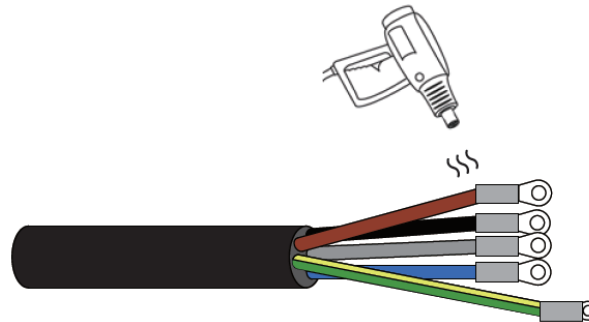


Figure 4-9 Seal the OT terminal and cables

5. Ensure the spacers are connected to baffle gaps between different phases. Remove the screws, align the OT terminals and the screw holes, then tighten the screws again.

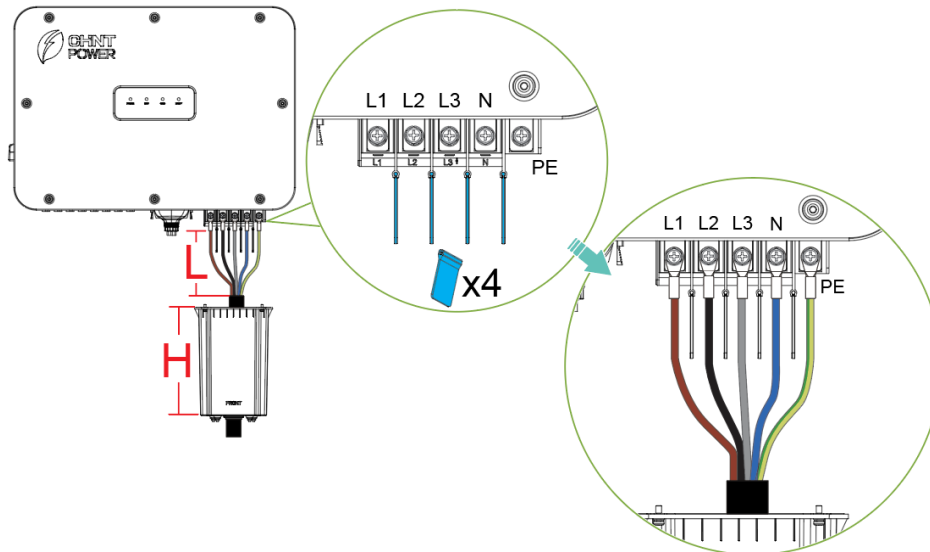


Figure 4-10 Connect AC cables


NOTICE:

Stripping length L shall be at least 50mm shorter than the height H of AC cover

6. Install the AC cover and tighten the four screws on the AC cover.

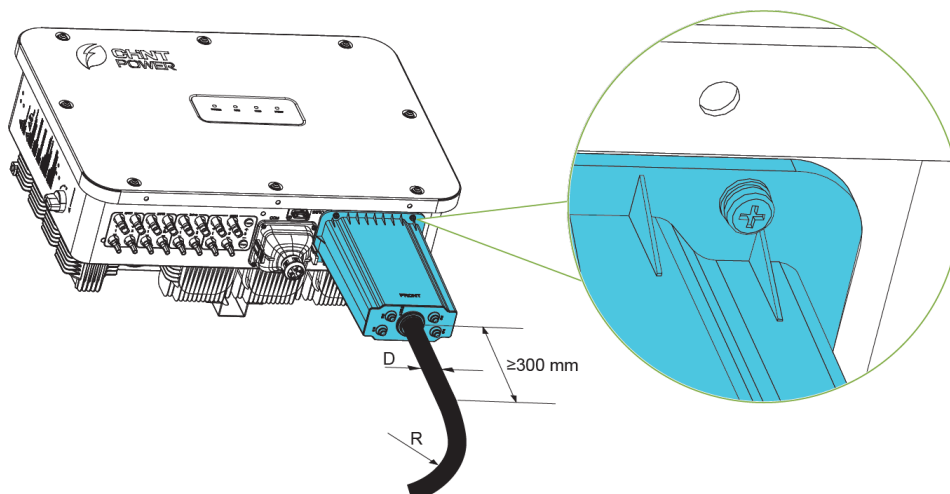


Figure 4-11 Install the AC cover


NOTICE:

The outgoing cable should maintain a vertical length of at least 300mm.

The bending radius (R) of the cable must be greater than 20 times its cable outer diameter (D) to prevent breakage due to excessive stress.

4.6 DC Cable Connection

In order to get the best results from your PV inverter, please follow the following guidelines:

- Refer to Figure 4-12 to confirm the DC input configuration, ensuring that the maximum open-circuit voltage of each photovoltaic module is lower than 1100 Vdc

under any conditions (considering the negative temperature coefficient of the battery panel, special attention should be paid to the lowest ambient temperature. The open circuit voltage of the photovoltaic array is lower than 1100V).

- Before making DC connection, it is necessary to make sure that the photovoltaic modules of the same input area should be the same, including the same model, the same number of panels, the same inclination angle, and the same azimuth.
- The short-circuit current of each string is less than 50A.

Before connecting the PV module cable to the inverter, please follow these steps:

- Use a multimeter to measure both ends of the photovoltaic module cable to determine the positive and negative terminals.
- Connect the positive (+) cable of the photovoltaic module to the positive (+) input terminal of the inverter.
- Connect the negative (-) cable of the photovoltaic module to the negative (-) input terminal of the inverter.



NOTICE!

To avoid reverse connection of the cables, please use a multi-meter to check the positive and negative polarity of the DC input cables.

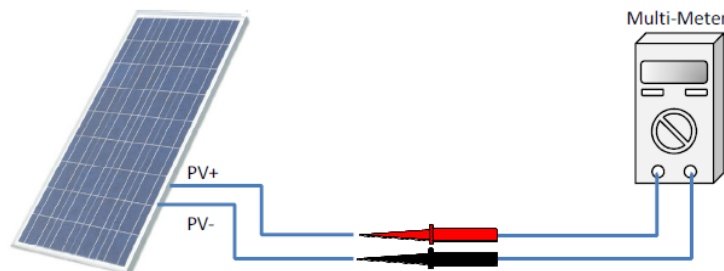


Figure 4-12 DC cable polarity detection

The production of the DC input cable: Professionals will crimp the metal terminals of the DC input connector (as shown in Table 4-4) with special tools.

No.	Photos	Usage
1		Positive pole for DC cable
2		Negative pole for DC cable

Table 4-5 Metal Terminal of DC Connector

Follow the steps below to connect the AC cables:

1. Remove an appropriate length of the jacket and insulation layer from the DC input cable of PV strings.

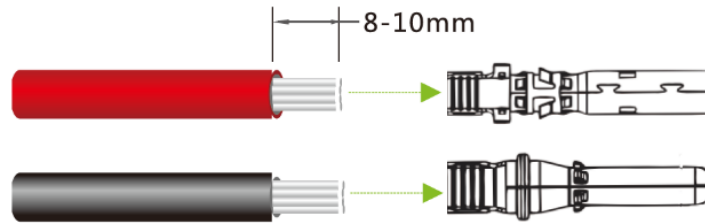


Figure 4-13 Remove jacket and insulation layer

2. Insert the exposed areas of positive and negative power cables into the metal terminals respectively and crimp them using a professional crimping tool, such as Amphenol H4TC0002 or Devalan D4ZCY001..

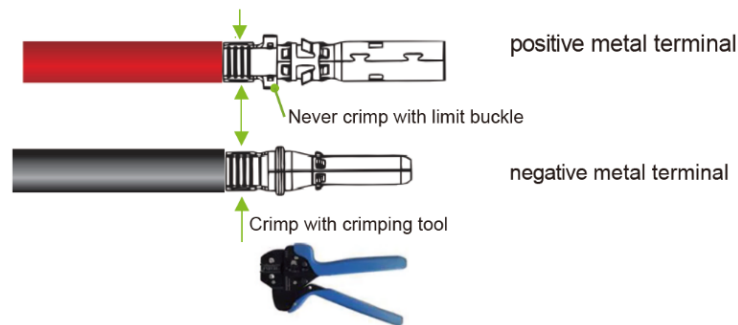


Figure 4-14 Crimp terminals

3. Insert the crimped DC cables into the corresponding positive and negative DC connectors until a “click” sound is heard. Then, tighten the locking nuts of the connector.

NOTICE:



The connector used for the DC input must be supplied randomly, or the same model of the same manufacturer. Otherwise, poor contact may occur, affecting normal use.

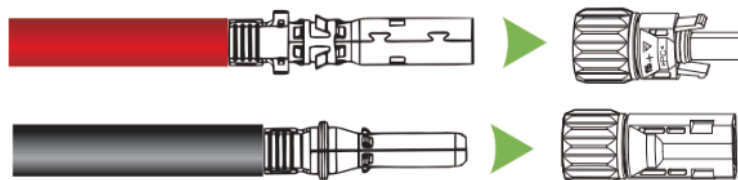


Figure 4-15 Insert DC cables to DC input connectors

4. Measure the cable ends of PV strings using a multi-meter. Ensure that the polarities of the DC input power cables are correct.

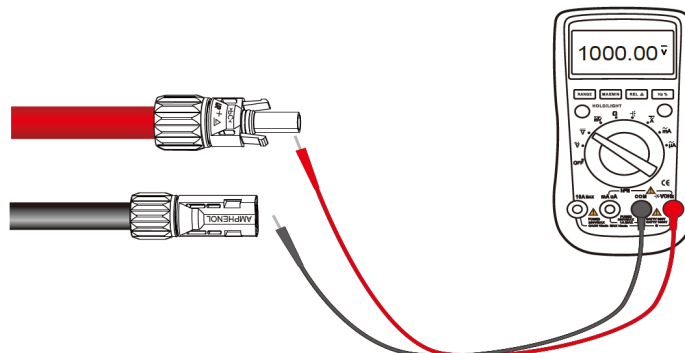


Figure 4-16 Measure DC cables

5. Insert connector (1) into fuse connector (2) until a "click" sound is heard. Then insert fuse

connectors into correct PV connectors of the inverter until a "click" sound is heard.

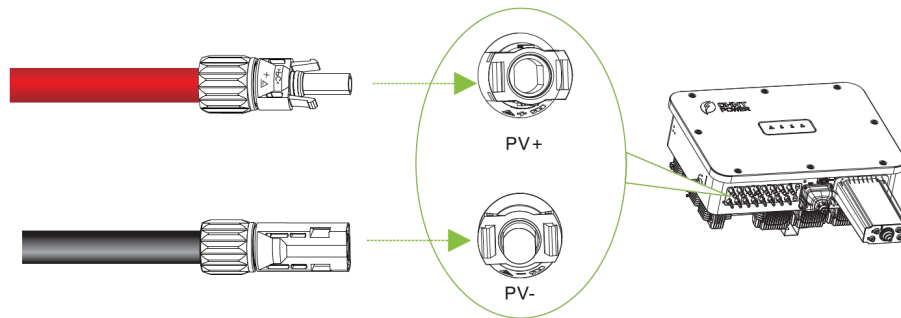


Figure 4-17 Connect the DC connectors to Inverter

NOTICE!

Before connecting the DC connectors, the following must be confirmed:

- The grounding wire must be connected well.
- The DC switch must be in the OFF state.

NOTICE!

Make marks on all positive and negative power cables to identify their correct strings (such as PV1+, PV1-, PV2+, PV2-). Make sure all strings are connected to corresponding ports according to port names printed on the device, to avoid wrong connection. Otherwise, it may result in device damages or property.

NOTICE!

During installation of PV string and inverter, if positive or negative PV string is short to the ground because the distribution cable is not connected or routed according to relevant requirements, the AC/DC short circuit may be caused during the operation of the inverter, resulting in device damage. The resulting equipment damage is not covered by the equipment warranty.

After completing all wiring steps, it is recommended to bind the cables approximately 300 mm to 350 mm away from the DC connectors and AC connector (refer to the figure below). This can help prevent swaying or movement of the cables, which may loosen the connectors and potentially affect the protection degree of the inverter.

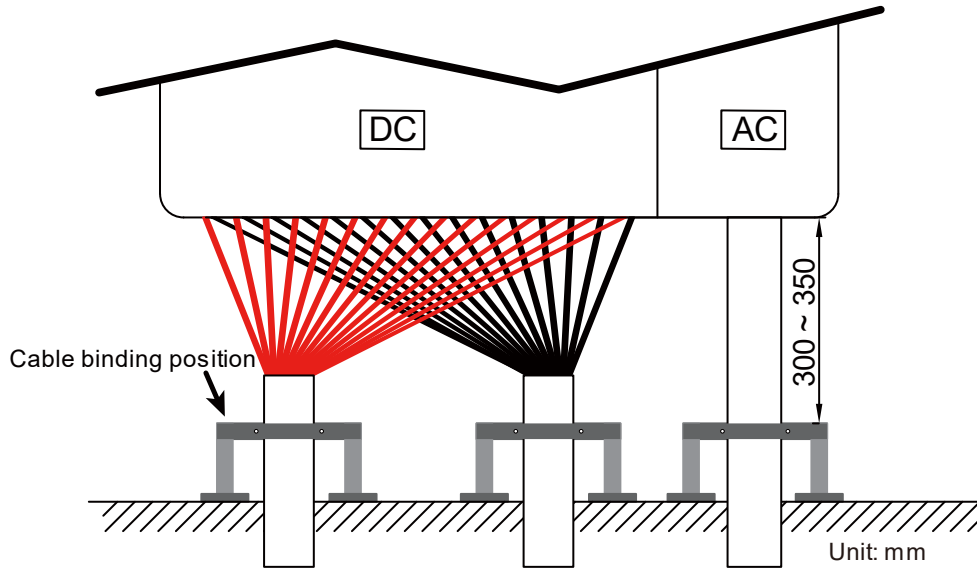


Figure 4-18 Bind Cables

4.7 RS485 Communication Connection

Follow the steps below to connect the communication cable:

1. Remove the cover: Press buckles on both sides of the cover to remove it.

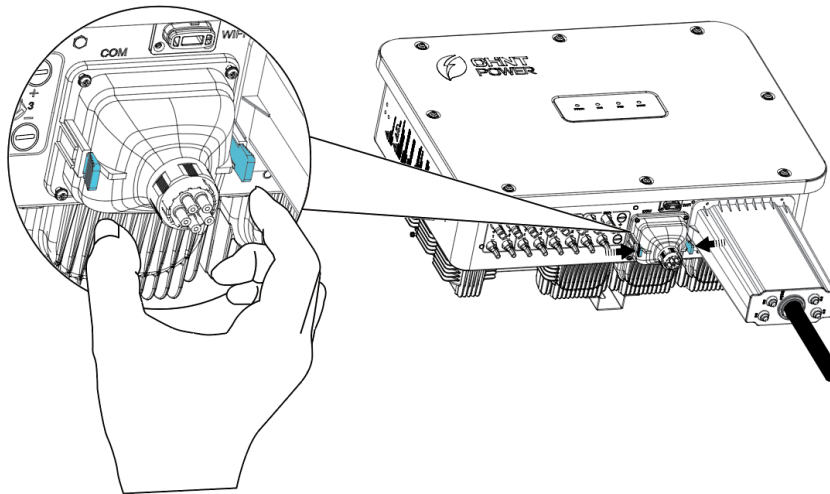


Figure 4-19 Remove the over

2. Prepare the communication cable: Unscrew locking nut (1) and unplug silicone plug (2) , and then pass communication cable through locking nut (1), silicone plug (2) and cover (3).

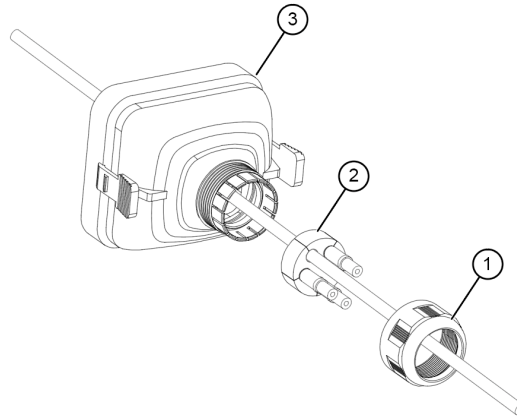


Figure 4-20 Prepare communication cable

3. Strip off insulation layer (length:7-8mm) from communication cables, then insert exposed wire into cord terminal (1), use crimping plier (2) to crimp the cord terminal. Insert cord terminals into 3PIN terminal (3), use PH0 screwdriver to tighten screws. Install cord terminals to 5PIN terminal in the same way.

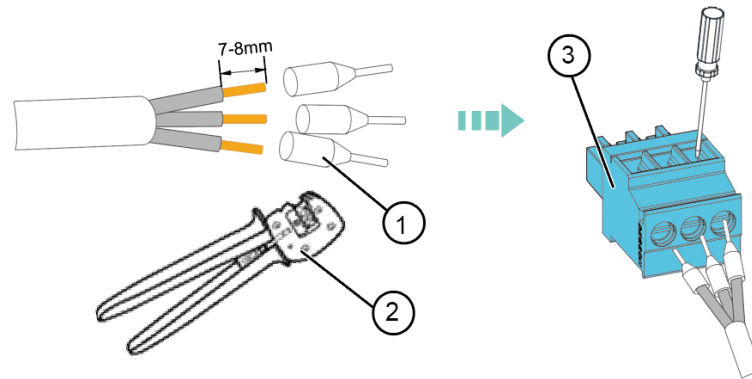
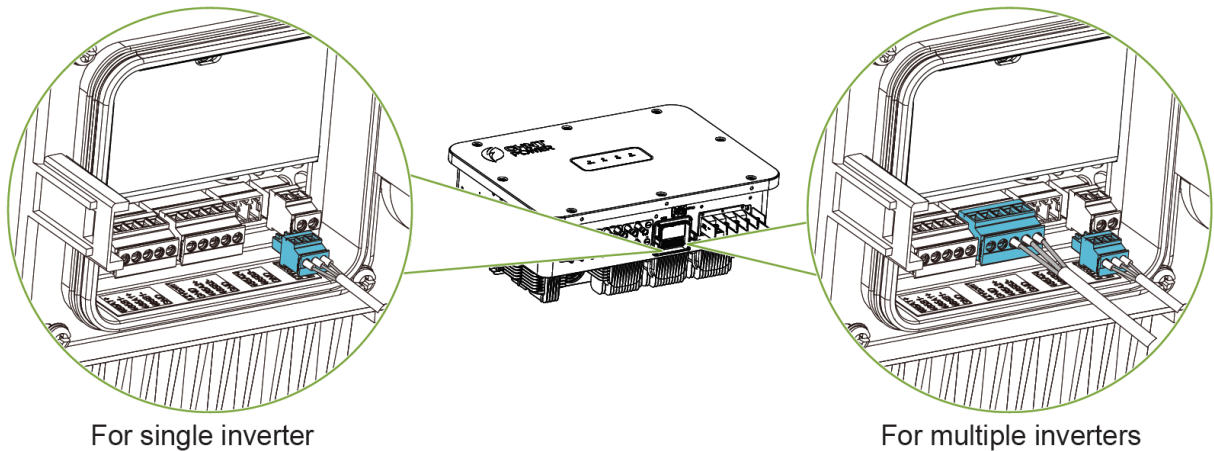


Figure 4-21 Insert crimped cable to 3-Pin terminal

4. Insert 3-Pin terminal and 5-Pin terminal to inverter:
 - a) For single inverter: Simply insert 3-Pin terminal to correct interface. For multiple inverters in network: insert the 5-pin terminal and 3-pin terminal to the correct interfacs



For single inverter

For multiple inverters

Figure 4-22 Connect pin terminal to single inverter

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Definition	485A1+	485B1-	485A1+	485B1-	GND	12VCom1	GND	485A2+	485B2-	GND	485A2+	485B2-	GND	12VCom2	KEY
Function	1st pair of 485_1 signal ports		2nd pair of 485_1 signal ports		Communication grounding	12Vdc power supply	Power supply grounding	1st pair of 485_2 signal ports		Communication grounding	2nd pair of 485_2 signal ports		Communication grounding	12Vdc power supply for dry node; help achieve dry node function	Dry connect

Table 4-6 Pin Definitions

- b) If there are multiple inverters in the network and the last inverter is more than 200m and less than 1000m distant from Gateway, insert 5-Pin terminal and 3-Pin terminal to correct interfaces. Then, connect these inverters in daisy-chain mode as below. Use either RS485_1 or RS485_2 consistently for all connections; do not mix the two interfaces. For detailed information about Gateway connection, refer to the specific manual of Gateway (Note: If Gateway requires 12V power supply, connect PIN 6-7).

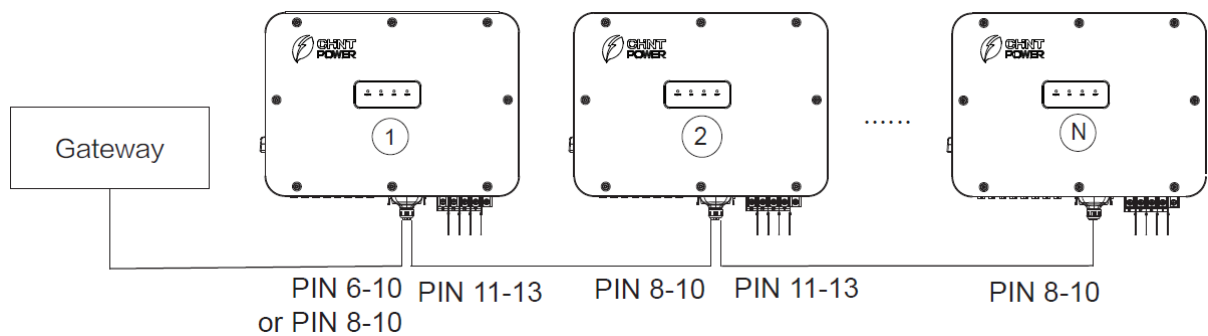


Figure 4-23 Connect pin terminals to multiple inverters

5. Install communication cable cover and tighten the locking nut. **Note:** Cable outlets need to be sealed if necessary to ensure watertighting.

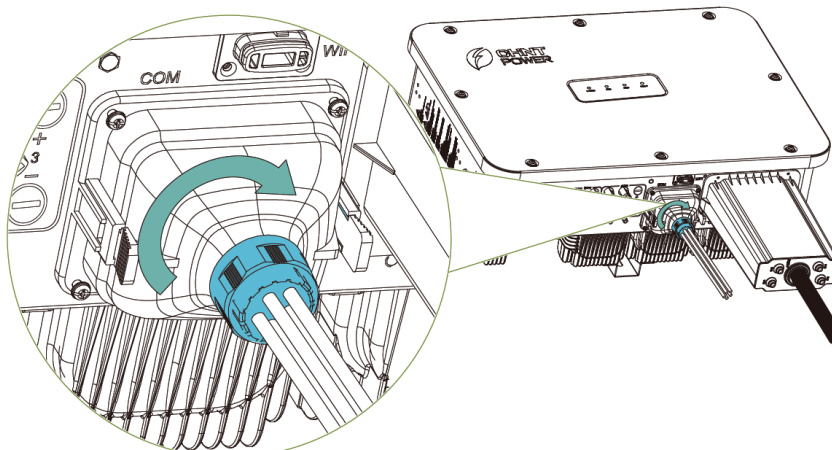


Figure 4-24 Secure the cover

4.8 Communication Module Installation

Insert the communication module into the Wi-Fi port until you hear a "click" sound.

Note: The indicator of communication module faces outward.

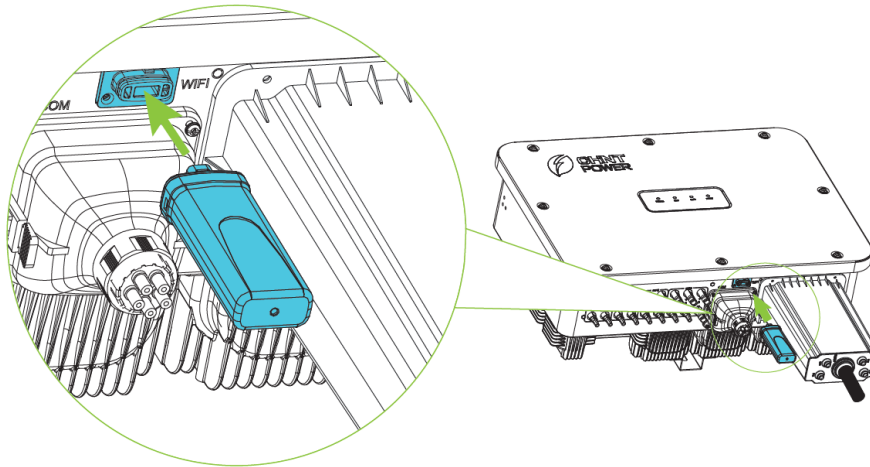


Figure 4-25 Insert communication module

4.9 Anti-Backflow for Single Inverter



NOTICE!

- Anti-Backflow is a standard function of SCA50/60-T-EU Inverter, which can be enabled or disabled based on user requirements.
- This section describes anti-backflow wiring configurations for single inverter. For multi-inverter anti-backflow function, refer to *Smart Power Controller User Manual*.

Follow the diagram below to perform the single anti-backflow wiring:

1. Before performing any electrical connections, ensure the meter is intact and all cables are de-energized.
2. Connect the L1, L2, L3, N lines from the grid side to the meter.
3. Connect the CT (Current Transformer) to the meter.
4. Install the CT onto the corresponding phase line in the direction of current flow.
5. Connect the RS485 communication cable to the inverter, refer to Section **4.7 RS485 Communication Connection**.

After completing the wiring procedures, the relevant configuration need to be set in the MatriCloud App, please see **6.3.2 Anti-Backflow Parameter Configuration in MatriCloud**.

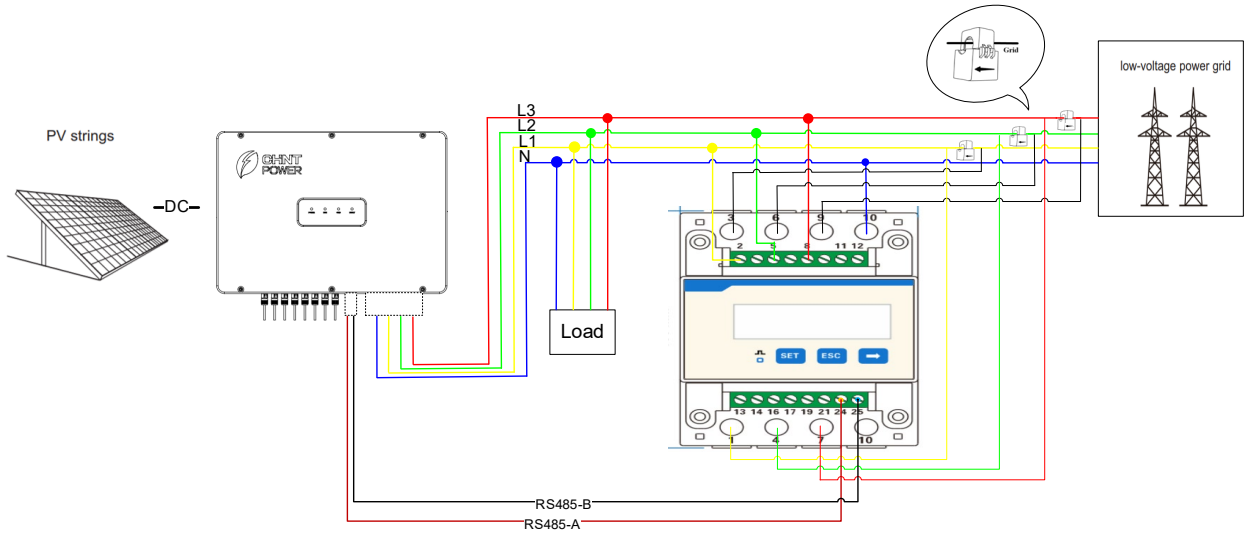


Figure 4-26 Three phase four wire: via current transformer

5 Inverter Commissioning

5.1 Pre-Commissioning Checks

5.1.1 Mechanical installation

Perform the following inspections by referring to chapter 3 Installation.

- Make sure all the mounting brackets are secure.
- Make sure all the screws have been tightened to the specified torque values.

5.1.2 Electrical Connections

Perform the following inspections by referring to chapter 4 Electrical Connection

- Confirm that all cables are connected firmly and reliably and there are no wrong or missing connections.
- The cables are placed reasonably and will not be mechanically damaged.
- Pay special attention to whether the positive and negative polarity of the DC cable on the input side is correct.
- Turn the DC Switch to the "OFF" position.
- Make sure the AC circuit breaker is appropriately sized.
- Test and check that the AC voltage is within the normal operating range.
- Make sure the DC open circuit voltage of input strings is less than 1100V.

5.2 Inverter Commissioning Steps

Complete the test and inspection before operation. Confirm that there is no error.

Follow the steps below to test run the inverter.

1. Close the AC side circuit breaker;
2. Close the DC side circuit breaker (If there is no DC circuit breaker, skip this step);
3. Set the inverter DC switch to the "On" position. When the solar array produces enough power, the inverter LED power indicator will be lit and the inverter will enter the self-check state in turn.

6 App Interface Introduction and Setting

6.1 App Download

Download the App from Apple Store (iOS) or Google Play (Android), or scan the QR code. Requires Android 8.0+ or iOS 13.0+.





6.2 App Connection and Configuration

NOTICE!



- The mobile phone should remain within a visible distance of 5 meters from the inverter; otherwise, the communication signal quality between the App and the inverter cannot be guaranteed.
- The following content applies to both SCA50K-T-EU and SCA60K-T-EU series inverters. The SCA60K-T-EU is the primary example in this document.
- This section provides a brief introduction to MatriCloud App operations, For more detailed steps about MatriCloud App, please refer to *MatriCloud Platform Mobile App: Local Operation Guide*.

After powering on, follow these steps to configure it via the App:

1. Ensure Bluetooth is enabled on your mobile device and within effective range.
2. Open the MatriCloud APP, click  to select right server, and click  to select the language.

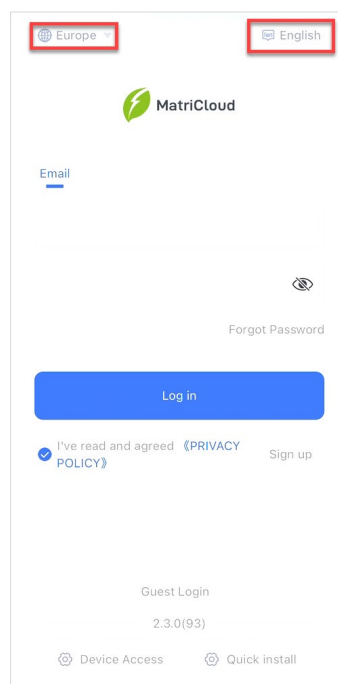


Figure 6-1 Set language and area

3. Click **“Quick Install”**.

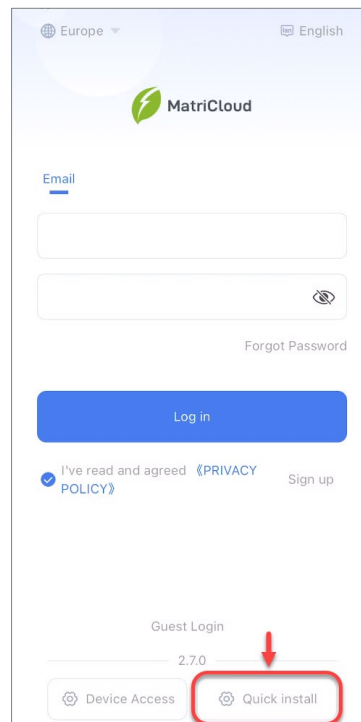


Figure 6-2 Quick Install

4. Click **“Bluetooth Connect”**.

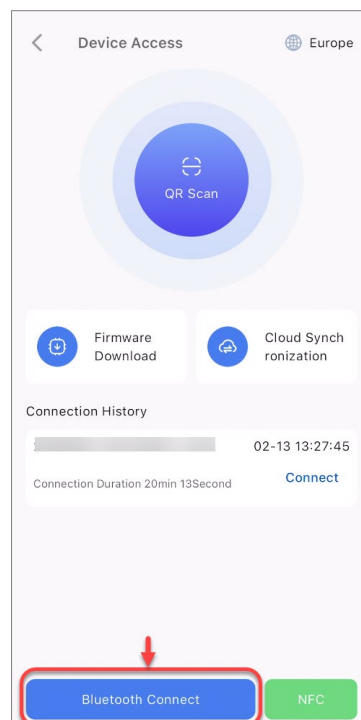


Figure 6-3 Bluetooth Connect

5. On the Bluetooth pairing interface, select the Bluetooth name formatted as “Last 8 digits of communication module SN (Device Model)”, e.g., “24340169(CPS 4G Kit-CN-A(USB))”.

Note: The serial number (SN) can be found on the communication module’s physical label. The Bluetooth name begins with the last 8 digits of the SN.

Alternatively, you can click “QR Scan” to scan the QR code of the communication module.



Figure 6-4 Select a gateway to connect

6. Excute the quick installation procedure as follows:

- a) Check all cables are properly connected.
- b) Configure parameters (e.g. grid code, rated voltage, rated frequency, etc.,).
- c) Set up network connection.
- d) When all steps are completed correctly, click “**Complete and Reboot**” to finish the quick installation.

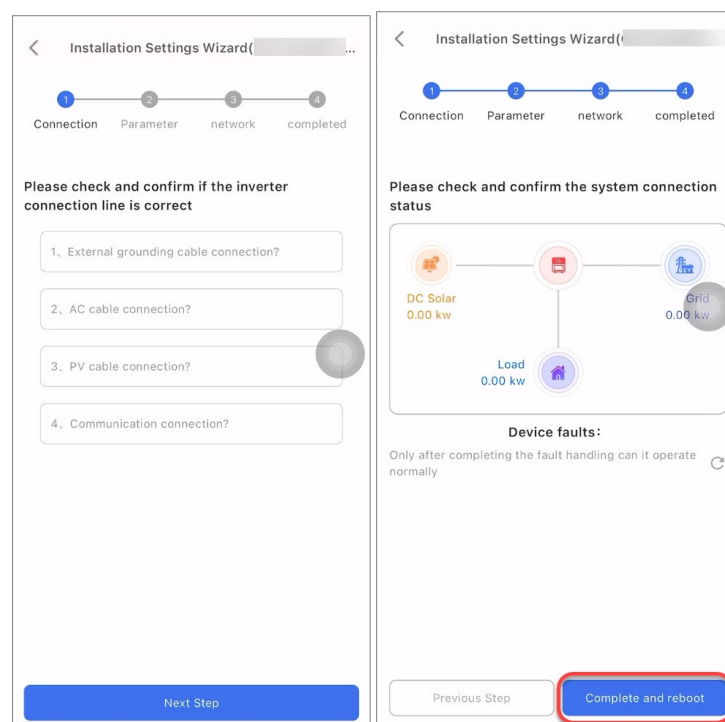


Figure 6-5 Excute the quick installation procedure

- Upon completion of the Quick Install process, the App will automatically switch to the Device Access interface. Click **“Device Access”**.

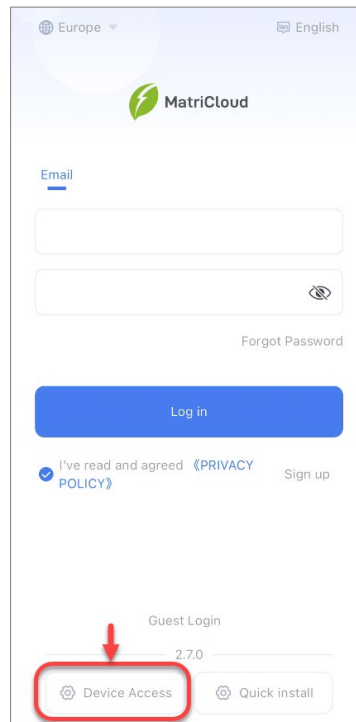


Figure 6-6 Tap Device Access

- Click **“Bluetooth Connect”** to open the Bluetooth list.

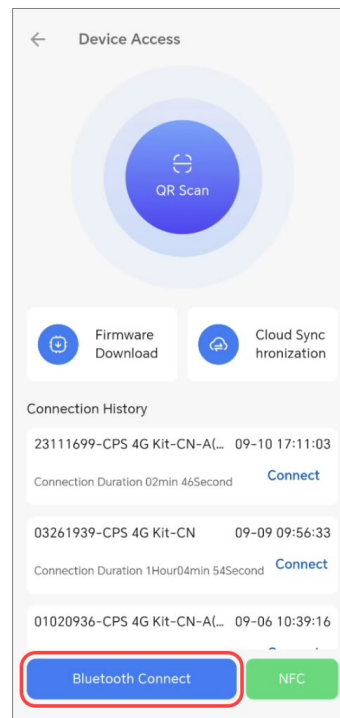


Figure 6-7 Tap Bluetooth Connect

- Select the communication module installed on the inverter to pair.



Figure 6-8 Select Bluetooth to connect

- After a successful connection, the App redirects to the main interface, which displays the device's basic information, operational status, energy flow visualization, and real-time metrics including PV power, DC, AC values, and so on.



Figure 6-9 Home Interface

- Click "**Settings**" to change register parameters. If password needed, enter "1111".

Note: Register parameters must be modified according to the communication protocol under the guidance of the engineer. The following parameters are available:

 - Input Register Data Mapping
 - Input Registers Data Mapping
 - Grid Status Information Data Area
 - Inverter Output Status Information Data Area
 - Inverter PV Input Status Information Data Area

- Inverter Fault Status Information Data Area
- Hold Register Map
 - Power Dispatching
 - Grid Protection Parameters
 - Active Power Derating Parameters
 - Reactive Power Derating Parameters
 - ARC Parameters
 - Other Parameters
 - Enable/Disable Control Parameters
 - Control Commands
 - Inverter Basic Information
 - Lcdless Basic Parameters
 - Inverter Basic Information

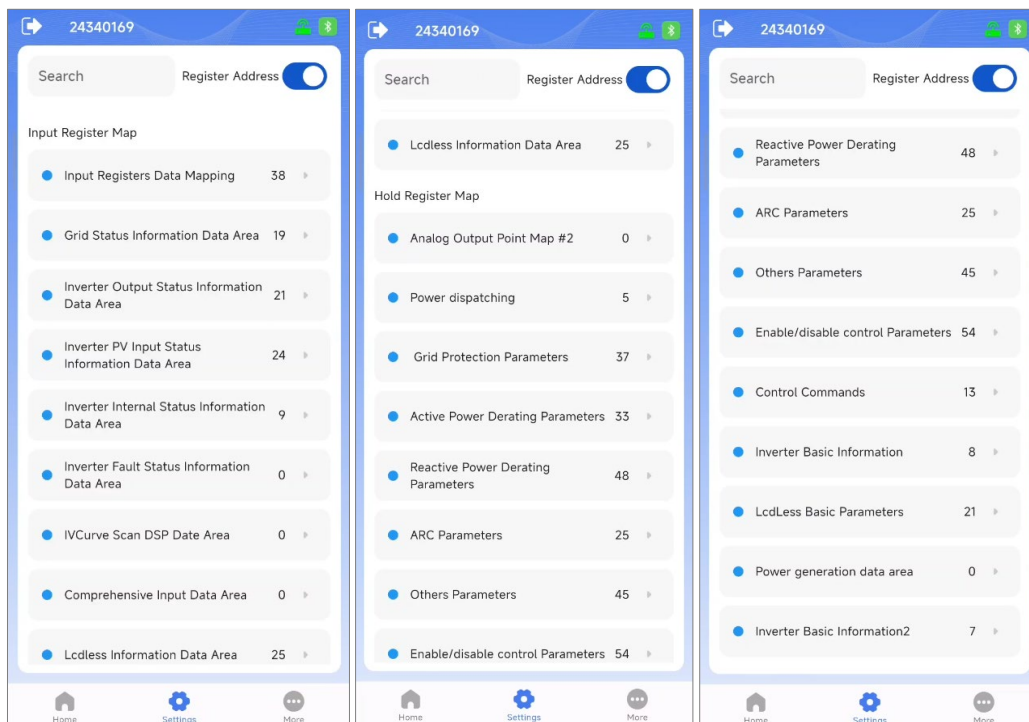


Figure 6-10 Register Parameters

12. Click **"More"** on the navigation menu to access the advanced settings interface, where you can configure the followings:

- Basci Settings: configure basic paramters such as Grid Connection Rule, PV Input Mode, Neutral Line Settings, Modbus Address, Baud Rate, and system time.
- Fault History: view the current fault and history fault.
- Running log: view the inverter operation logs.

- Upgrade: upgrade the firmware.
- Yield Statics: PV yield data by hour, day, and month.
- NFC write: Not available in this release.
- Gateway Configuration: To configure the parameters of the gateway.

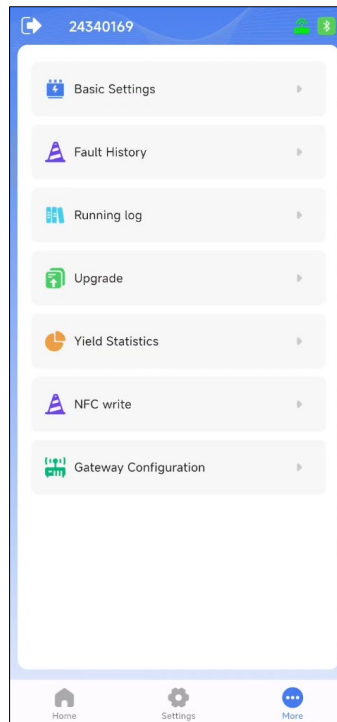


Figure 6-11 Basic settings

13. You can power on or power off the inverter in the main interface or the "Settings" > "Control Commands" interface.

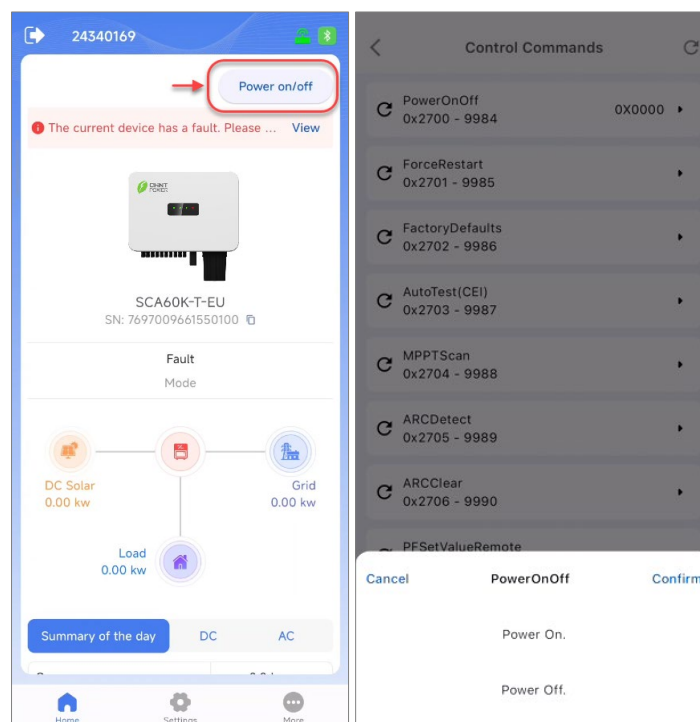


Figure 6-12 Power on and Power off

14. If a fault occurs, click the red text on the main interface to view the details. Firstly, clear the fault according to the troubleshooting list in user manual. After troubleshooting, restart inverter. If the fault persists, contact customer service.

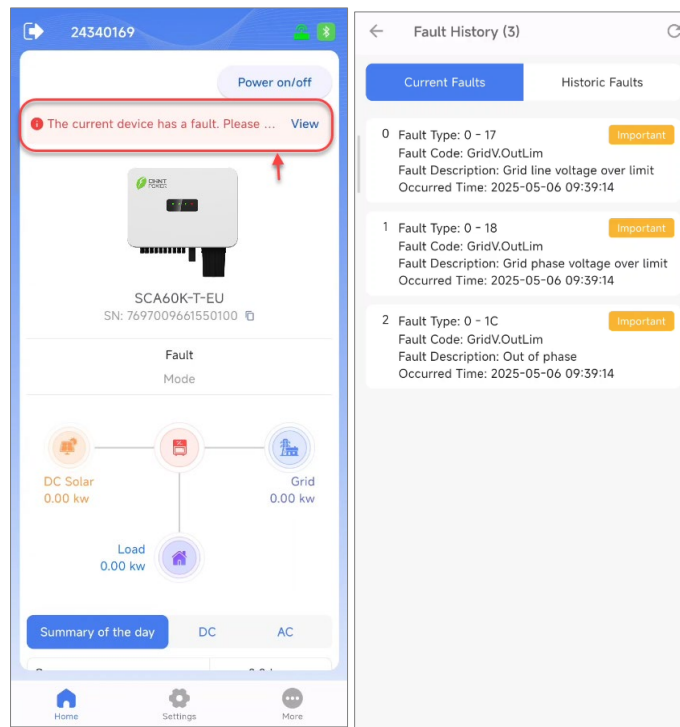


Figure 6-13 Check Faults

6.3 Main Function Configuration

6.3.1 PID

Configure PID protection through the following steps:

1. Go to **“Settings” > “Control Commands”**.

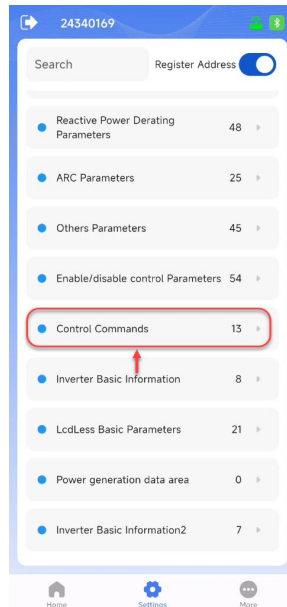


Figure 6-14 Go to "Control Commands"

2. Set the **“PidEnable”** parameter to **“PidDayNightEnable”**.

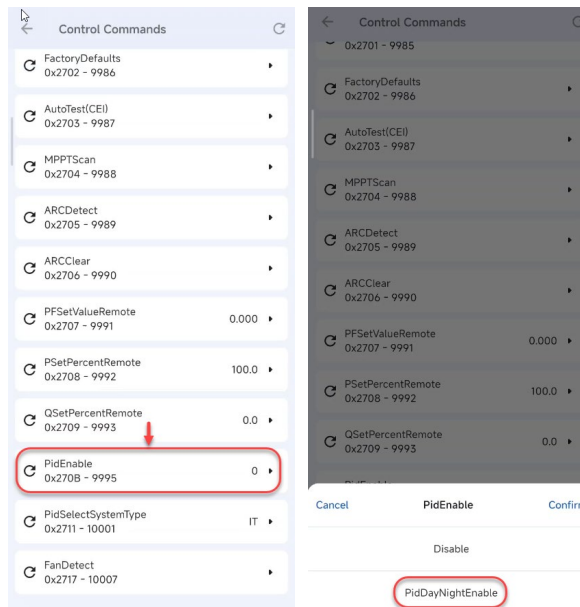


Figure 6-15 Enable PID

3. Set PID system type.

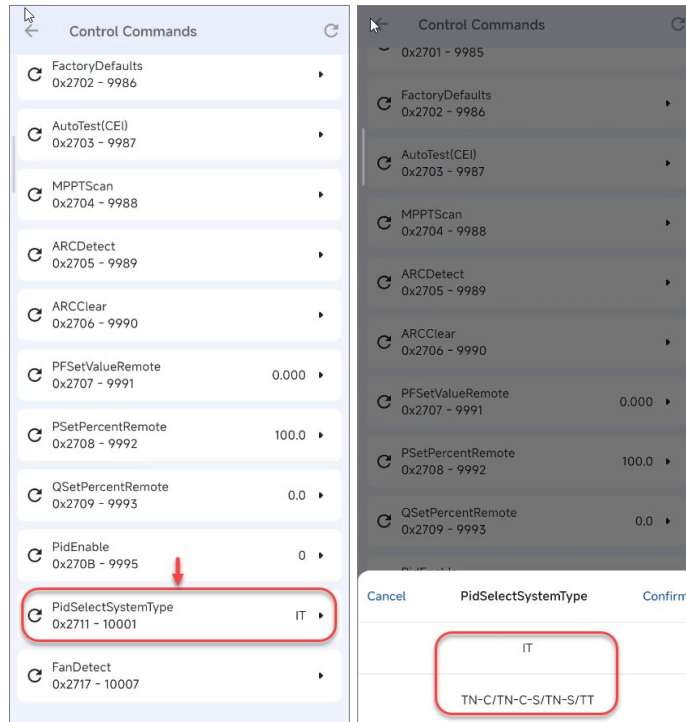


Figure 6-16 Configure PID type

4. Go to **“Settings”** > **“LcdLess Basic Parameters”** to PID other parameters configuration.

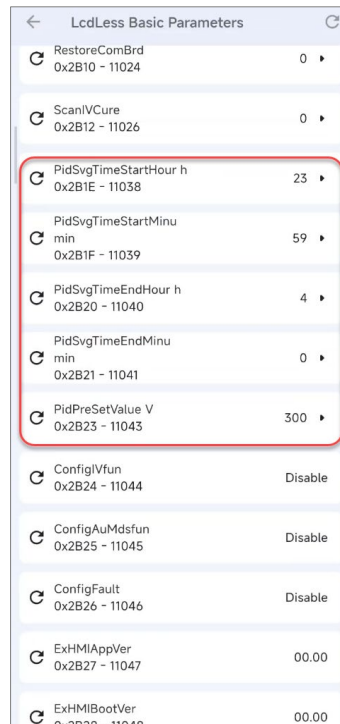


Figure 6-17 PID other parameters configuraiton

6.3.2 Anti-Backflow Parameter Configuration in MatriCloud

After completing the anti-backflow wiring as per **4.9 Anti-Backflow for Single Inverter**, the following configurations need to be set in the MatriCloud App.

Follow the setp below to enable Anti-Backflow function:

1. Go to **“Setting”** > **“Enable/disable control parameters”**.

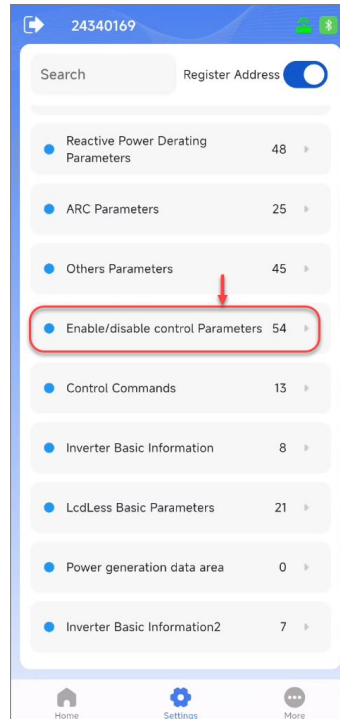


Figure 6-18 Go to Enable/disable control paraemters group

2. Set the **“AntiRefluxEn”**parameter to **“Single Anti-RefluxEn”**.

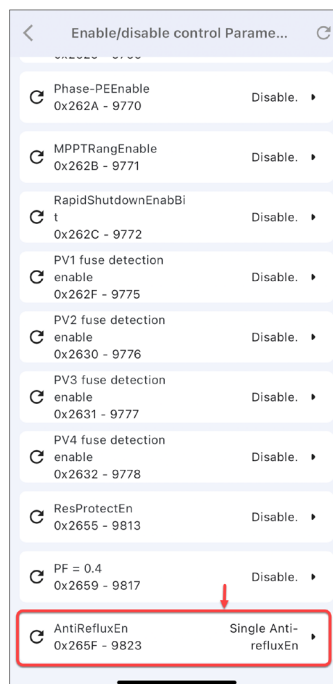


Figure 6-19 Enable Single Anti-RefluxEn

3. Configure meter type: Go to **“Setting”** > **“Inverter Basic Inforamtin2”**, set **“MeterType”**

parameter to “DTSU666”.

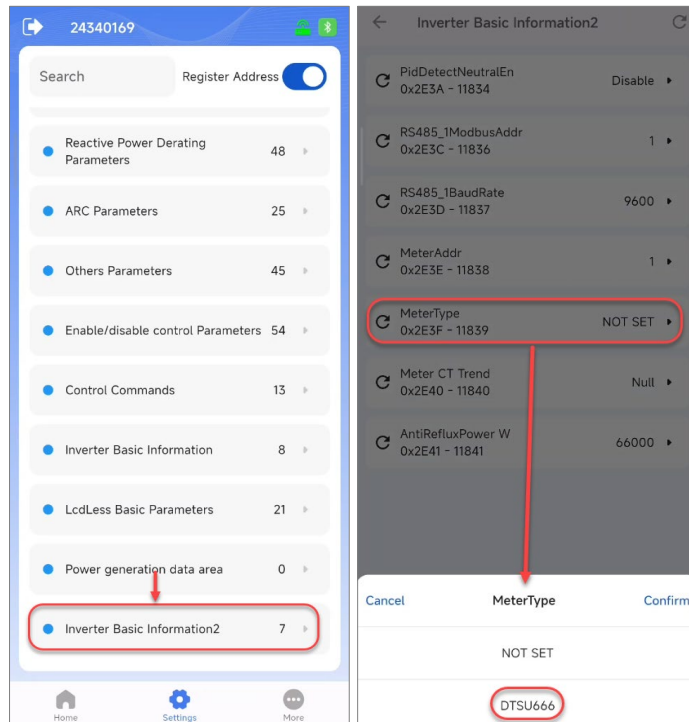


Figure 6-20 Configure meter type

4. Configure meter CT Trend: Set according to the actual orientation of the meter.

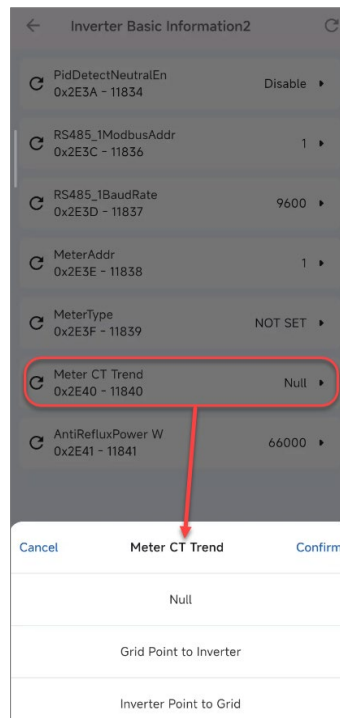


Figure 6-21 Configure meter CT trend

7 Troubleshooting

7.1 LED Indicator

If the LED light indicates any faults, please perform troubleshooting according to the following table.

LED indicator fault status	Troubleshooting method
Indicating alarms	<ol style="list-style-type: none"> 1. Disconnect the outside AC breaker. 2. Turn the DC switch to "OFF". 3. Check the voltage and polarity of PV input.
Indicating general (recoverable) failures	<ol style="list-style-type: none"> 1. Disconnect the outside AC breaker. 2. Turn the DC switch to "OFF". 3. Check the grid voltage and check if the breaker cables are rightly and firmly connected.
Indicating permanent and unrecoverable failure	Contact to after-sale service.

Table 7-1 LED indicator troubleshooting

7.2 App Fault Troubleshooting

Type	Fault code	Solutions
Warning	Internal Communication Failure	<ol style="list-style-type: none"> 1. Observe for 10 minutes to see if the inverter can automatically eliminate this alarm; 2. Disconnect the DC and AC switch, then let the system receive power again; 3. Contact after-sales service personnel
	External Fan Alarm	<ol style="list-style-type: none"> 1. Observe for 10 minutes to see if the inverter can automatically eliminate this alarm; 2. Check on the spot whether there are foreign objects on the fan blades; 3. Disconnect the DC and AC switch, then let the system receive power again; 4. Contact after-sales service personnel
	Internal Fan Alarm	<ol style="list-style-type: none"> 1. Observe for 10 minutes to see if the inverter can automatically eliminate this alarm; 2. Disconnect DC and AC switch, then let the system receive power again; 3. Contact after-sales service personnel
	Protection 0030	<ol style="list-style-type: none"> 1. Observe for 10 minutes to see if the inverter can automatically eliminate this alarm;

Type	Fault code	Solutions
	(Eeprom fault)	2. Contact after-sales service personnel
	Protection 0050 (Temperature Sensor Abnormal)	1. Check the temperature display value 2. Disconnect AC and DC switch, then let system receive power again 3. Contact after-sales service personnel
Protection	Protection 0090 (Bus Voltage High)	1. Restart the inverter, disconnect the AC and DC connections, wait for 10 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Protection 0070 (Bus High Voltage Difference)	1. Restart the inverter, disconnect the AC and DC connections, wait for 10 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Grid voltage abnormality	1. Check whether the AC input voltage of the inverter is normal 2. Disconnect DC and AC switch, then restart the inverter 3. Contact after-sales service personnel
	Voltage frequency abnormality	1. Check whether the AC input voltage of the inverter is normal 2. Disconnect DC and AC switch, then restart the inverter 3. Contact after-sales service personnel
	Protection 0020 (Grid-tied relay protection)	1. Restart the inverter, disconnect the AC and DC connections, wait for 10 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Over-temperature protection	1. Check whether the external ambient temperature is within the working range of the inverter 2. Check if the fan and air outlet are blocked 3. Check whether the installation environment and spacing meet the requirements, and whether the heat dissipation meets the requirements 4. Observe for 30 minutes to see if the fault is automatically eliminated 5. Contact after-sales service personnel
	Protection 0010 (Inverter current bias fault)	1. Turn off DC switch and AC circuit breaker, wait for 10 minutes to discharge and then turn it on. 2. Contact after-sales service personnel.
	Protection 0180 (Inverter	1. Turn off DC switch and AC circuit breaker, wait for 1 minute to discharge and then turn it on.

Type	Fault code	Solutions
	current DC component bias fault)	2. Contact after-sales service personnel.
	Protection 0170 (DCI current is too high)	1. Set the maximum DCI to its highest allowable value (Go to Settings > Others Parameters in the MatriCloud App. Configure your settings here) 2. Restart the inverter to observe whether the fault is automatically eliminated 3. Contact after-sales service personnel
	Insulation impedance is too low	1. Check whether the PV cable and ground cable are normal 2. Restart the inverter and observe whether the fault is automatically eliminated 3. Contact after-sales service personnel
	Leakage current is too high	1. Check whether the PV cable and ground cable are normal. 2. Restart the inverter and observe whether the fault is automatically eliminated 3. Contact after-sales service personnel.
	Protection 0150 (MiniMCU fault)	1. Disconnect the AC and DC connections, wait for 10 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Protection 0100 The leakage current sensor is abnormal	1. Disconnect the AC and DC connections, wait for 10 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Reverse MPPTx Input (x=1,2,3,4)	1. Disconnect the AC and DC connections and exchange the positive and negative poles of the reverse branch circuit 2. Restart the inverter and observe whether the fault is automatically eliminated. 3. Contact after-sales service personnel
	MPPTx input voltage is too high (x=1,2,3,4)	1. Check if the PV input voltage is within the range of 1100V 2. Restart the inverter, disconnect the AC and DC connections, wait for 10 minutes to discharge and then turn it on 3. Contact after-sales service personnel
	Protection 0230 Start-up inverter open loop self-check failure	1. Disconnect the AC and DC connections, wait for 10 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Resonance protection	1. Disconnect the AC and DC connections, wait for 10 minutes to discharge and then turn it on

Type	Fault code	Solutions
		2. Contact after-sales service personnel
	Protection 0510	1. Check if the PV input voltage is within the range of 1100V. 2. Disconnect the AC and DC connections, wait for 10 minutes to discharge and then turn it on 3. Contact after-sales service personnel
	Protection 0470	1. Check if N cable is grounded, and if the live cable is connected to N cable mistakenly. 2. Restart the inverter and observe whether the fault is automatically eliminated 3. Contact after-sales service personnel

8 Maintenance and Replace

WARNING:



Before starting any product maintenance, the inverter must be stopped running, the AC circuit breaker (connected to the grid) and the PV input on the DC side must be all disconnected, and then wait at least 10 minutes before starting any operation.

8.1 Maintenance

8.1.1 Electrical connection check

Check all the cable connections as a regular maintenance inspection every 6 months.

- Check if the cable connection is loose tighten the cables refer to section 3.2;
- Check if the cables are damaged, especially whether the cable surface is scratched or smooth. Repair or replace the cables if necessary.

8.1.2 Clean the Air Vent Filter

The inverter can become hot during normal operation. So the inverter uses built-in cooling fans to provide sufficient air flow to help in heat dissipation.

In order to ensure good ventilation and heat dissipation of the inverter, it is necessary to check the air inlet and outlet regularly.

Ensure that air inlets and outlets are not blocked and clean the vent with soft brush or vacuum cleaner if necessary.

8.1.3 Replace the Cooling Fan

If the internal temperature of the inverter is too high or abnormal noise is heard assuming the air vent is not blocked and is clean, it may be necessary to replace the external fans.

IMPORTANT!



- Please contact CHINT to get the authorization for replacing the fans. Fan brand: DELTA, model: QFR0812MJ-00 series.
 - Please disconnect the AC & DC power before replacing the fans.
-

1. Remove the two screws of the fan bracket, and pull out the fan mounting bracket. Tool: PH2 screwdriver;

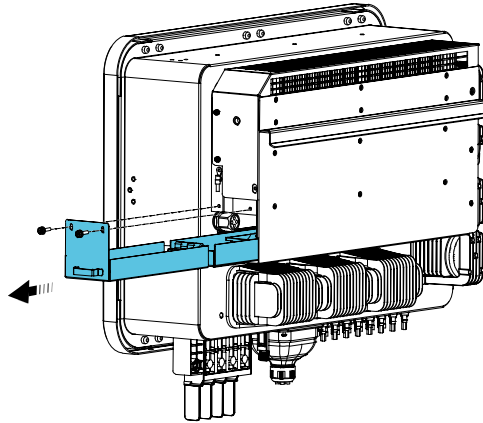


Figure 8-1 Pull out the fan bracket

2. Disconnect the watertight cable connector from cooling fan as shown in the figure below, and pull out the fan bracket.

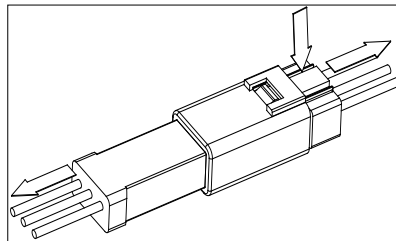


Figure 8-2 Disconnect the connector

3. Remove the four screws and replace the fan. Tool: PH2 screwdriver.

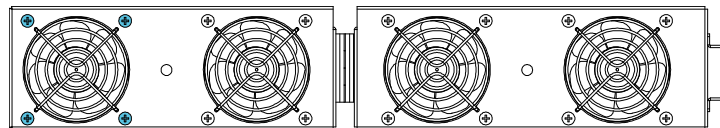


Figure 8-3 Remove the screws of the fan

4. Install a new fan on the bracket and tighten the four screws as figure 8-3. Tool: PH2 screwdriver, torque: 1.0-1.2 N.m.
5. Place the connectors and cables in the slot of the fan bracket, push the fan bracket into the inverter and tighten the two screws. Tool: PH2 screwdriver, torque: 1.6 N.m.

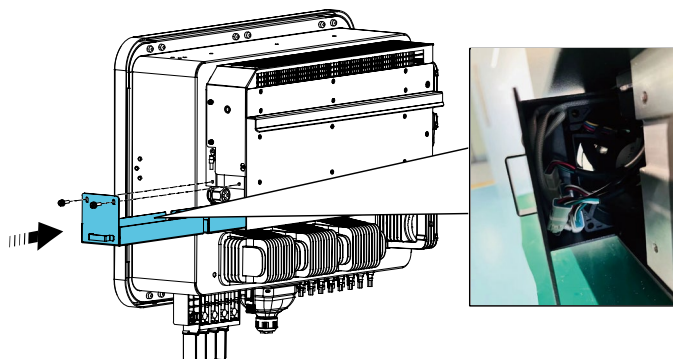


Figure 8-4 Push the fan bracket into the inverte

8.2 Replace the Inverter



IMPORTANT!

Make sure both the AC breaker and dc switch are turned off.

1. Disconnect all the cables, refer to section 4 Electrical connection;
2. Remove the two screws. Tool: PH2 screwdriver.

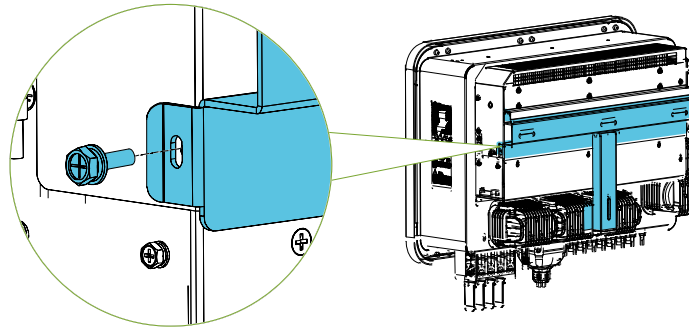


Figure 8-5 Remove the screws

3. Remove the anti-theft lock to unlock the inverter and the mounting bracket.

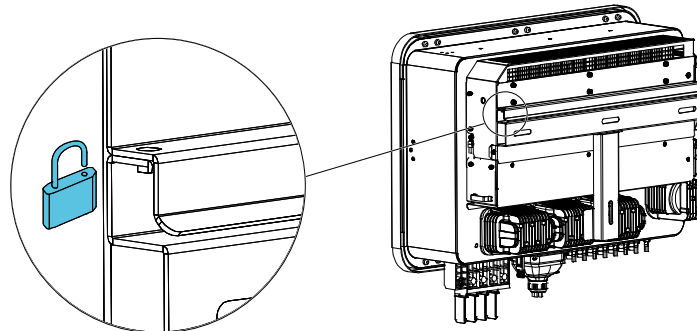


Figure 8-6 Remove the anti-theft lock

4. Hang the inverter from the mounting bracket.
5. Hang the new inverter on the mounting bracket and tighten the two screws to fix the inverter and mounting bracket. Tool: PH2 screwdriver, torque: 1.6 N.m.

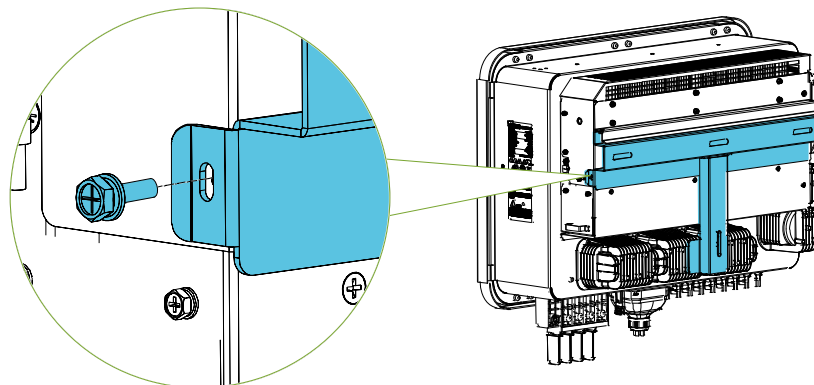


Figure 8-7 Fix the new inverter

9 Technical Data

Model	SCA50K-T-EU	SCA60K-T-EU
DC Input		
Max. DC Input Voltage	1100 Vdc	
MPPT Operating Voltage Range	200-1000 Vdc	
Start Voltage/Power	250 Vdc	
Rated DC Input Voltage	620Vdc	
Number of MPPT	4	
Number of DC Connection Sets per MPPT	2	
Max DC Input Current per MPPT	40A	
Max. DC Short-Circuit Current per MPPT	50A	
DC Disconnection Type	Intergrated switch	
AC Output		
Rated AC Output Power	50 kW	60 kW
Max AC Output Power	55 kVA	66 kVA
Rated AC Output Voltage	380 V / 400 V	
Grid Connection Type	3 / (N) / PE	
Max. AC Output Current	83.6 A	100.3 A
Grid Frequency	50 / 60Hz	
Grid Frequency Range	45-55 / 55-65Hz	
Power factor	>0.99(±0.8 adjustable)	
Current THD	<3%	
System Parameters		
Topology	Transformerless	
Max Efficiency	98.49%	98.48%
Europe Efficiency	98.44%	98.21%
Protection		

DC Reverse Connection Protection	Yes
AC Short Circuit Protection	Yes
Leakage Current Protection	Yes
24h Grid Monitoring	Yes
Ground Fault Monitoring	Yes
Surge Protection	DC Type II / AC Type II
AFCI	Yes
PID Recovery	Yes
Environmental Data	
Ingress Protection	IP66
Cooling Method	Cooling fan
Operating temperature	-30°C to + 60°C
Operating	0-100%, No condensation
Operating altitude	4000 m
Display and Communication	
Display	LED+APP (Bluetooth)
Communication	RS485 / Wi-Fi (Standard) & 4G / Ethernet (Optional)
Structural parameters	
Dimensions (WxHxD)	713 x 609 x 306 mm
Weight	50.5 kg
Safety	
Certifications*	IEC/EN 61000, IEC/EN 62109, IEC 61727, IEC 62116, IEC 63027, IEC 61683, IEC/EN 62920, VDE4105/4110, CEI 0-16/21, EN50549, NC RfG, PTPIREE, NTS V2.1, RD 647, RD 413, RD 1699, UNE 217001/217002

10 Quality Assurance

10.1 Liability Exemption

1. Exceed the quality assurance period of the product.
2. Cannot provide product serial number or the SN is not clear/complete.
3. Damage during transportation/storage/handling.
4. Misuse, abuse, intentional damage, negligence or accidental damage.
5. Equipment damage caused by improper pre operation inspection, debugging, testing, operation, maintenance, or installation by the customer, including but not limited to:
 - Failure to meet safe operating environment or system requirements of external electrical parameters provided in written document;
 - Failure to operate the covered product in accordance with the product's operating manual or user guide;
 - Relocate and reinstall systems not in accordance with the requirements of CHINT;
 - Unsafe electrical or chemical environment or other similar kind of conditions; Direct failure caused by wrong voltage or faulty power system;
 - Unauthorized disassembly of the products, or unauthorized modification of the product or provided software;
 - Entrust maintenance personnel not designated by the CHINT to repair and disassemble the products.
6. Entrust installation, maintenance personnel not designated by the CHINT to install, repair and disassemble the products;
7. Damages caused by ignoring the safety warnings in the manual or break the rules in relevant statutory safety regulations;
8. Damages caused by operating environment beyond the requirements of the product user manual or failure to install, use and maintain the equipment according to the requirements of the product user manual.
9. Unforeseen disasters or irresistible accidents (including but not limited to acts of public enemies, acts of government agencies or domestic or foreign institutions, vandalism, riots, fires, floods, typhoons, explosions or other disasters, epidemic or quarantine restrictions, labor disturbances or labor shortages, accidents, cargo embargoes or any other events beyond the control of CHINT).
10. The lightning protection measures have not been implemented or are not in accordance with standards (Photovoltaic systems' lightning protection measures should comply with the relevant national and IEC standards; otherwise, it may result in damage to photovoltaic devices such as modules, inverters, distribution facilities, etc., due to lightning strikes).
11. Other circumstances that are not covered by the company's after-sales warranty agreement.

10.2 Quality Clause

1. For products that fail during the warranty period, our company will repair or replace new products free of charge;
2. Customer shall present the invoice of the product and date of purchase. At the same time, the trademark on the product should be clearly visible, otherwise we have rights to refuse quality assurance;
3. The unqualified product under replacement should be returned to our company;
4. It is necessary to provide a reasonable time for the company to overhaul the equipment;
5. For more warranty terms, refer to the applicable standard warranty policy in place at time of purchase.

If you have any questions about the photovoltaic Grid-tied inverter, please contact us, we will be very happy to help you.

11 Recycling

Distributors or installers should contact the inverter manufacturer after removing the inverter from the photovoltaic module and follow the instructions.



The inverter cannot be disposed of as household waste.

When the inverter's service life expires, please dispose of it in accordance with the electrical waste disposal laws applicable to the installation location.

You can contact the inverter manufacturer or distributor for handling

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