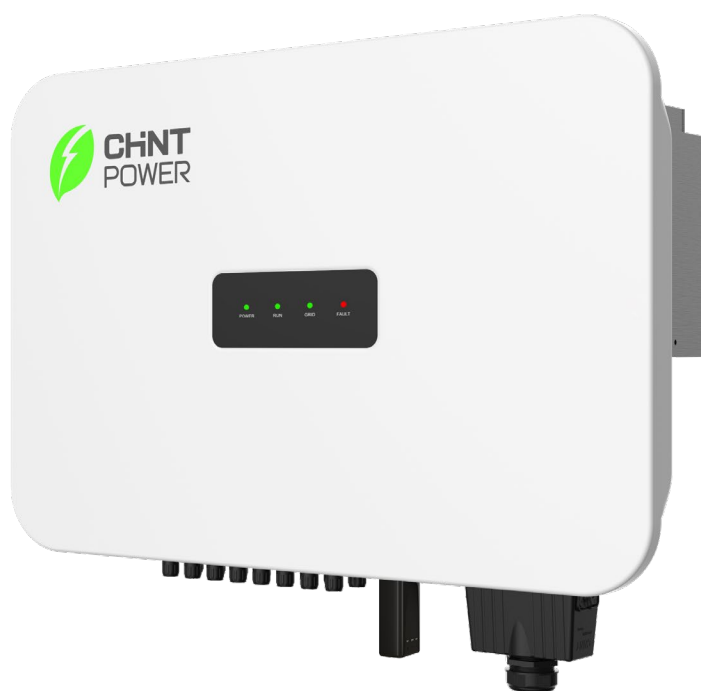


Installation and Operation Manual

For Three-Phase Grid-tied PV Inverter

Applicable to

SCA30K-T-EU and SCA36K-T-EU



Shanghai Chint Power System 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

Symbols	Meanings
	HIGH VOLTAGE! This equipment works with high voltages. All works on the equipment must only be performed as described in this document.
	HIGH ENERGY! Risk of electric shock from energy stored in capacitor. Do not remove cover until 10 minutes after disconnecting all sources of supply.
	HOT SURFACE! Hot surfaces. To reduce the risk of burns. Do not touch.
	For more details please see the user manual.
	WARNING: For continued protection against risk of fire, replace only with same type and ratings of fuse. Refer to instruction manual for details.
	EARTH GROUND! This symbol marks the location of a grounding terminal, which must be securely connected to the earth through the PE (protective earthing) cable to ensure operational safety.
	RoHS SYMBOL In accordance with 2011/65/EU regulations, the inverter imposes restrictions on the use of specific hazardous substances in electrical and electronic equipment.
 	Certification This inverter has passed certification of CE and TUV organization.
	Phase information of the inverter.

1.3. Safety Precautions of Operating the PV Inverter

DANGER!



Before opening the inverter housing for maintenance, you must first disconnect the grid-side AC power supply and PV-side DC power supply, and ensure that the high-voltage energy inside the equipment has been completely released!

Generally, you must cut off all connections to the inverter for at least 10 minutes before you can maintain and operate the equipment.

WARNING!



All operations and connections please professional engineering and technical personnel!

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.

CAUTION!



Please check the wall bracket again before hanging up to make sure that the wall bracket is firmly on the supporting surface.

For continued protection against risk of fire, replace only with same type and ratings of fuse. Disconnect supply before changing fuse.

NOTICE!



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.

NOTICE!



After unpacking the inverter, keep all its interfaces sealed always, before and after connecting wires.

NOTICE!



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.

IMPORTANT!



Before choosing a 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.

Please ensure that the entire system complies with national standards and applicable safety regulations before running the inverter.

2. General Introduction

2.1. Photovoltaic Grid-tied System

SCA30K-T-EU and SCA36K-T-EU series inverters are designed for using with grid-tied PV systems. The PV system is generally made up 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.

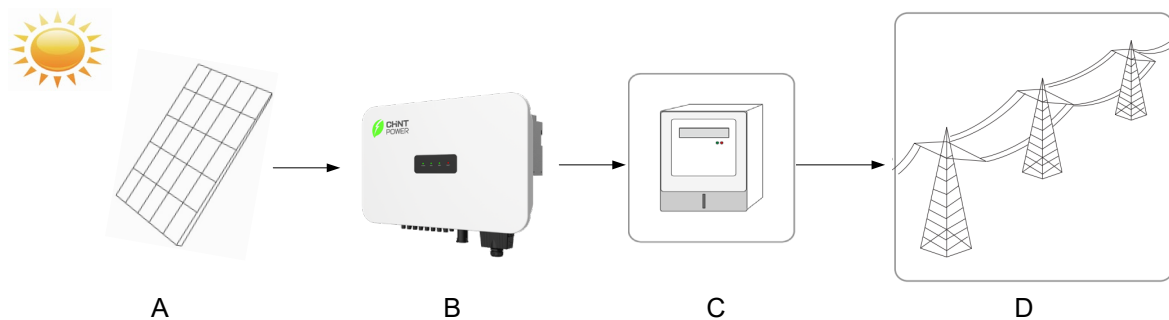


Figure 2-1 Grid-tied PV system

Item	Name	Description
A	PV Module	Monocrystalline silicon, polycrystalline silicon, non-ground PV module
B	PV Inverter	SCA30K-T-EU and SCA36K-T-EU Inverters
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 Components of Grid-tied PV system

2.2. Product Dimensions and Appearance

NOTICE!

SCA30K-T-EU inverter has 3 MPPTs (6 inputs) and no external fans.



SCA36K-T-EU inverter has 4 MPPTs (8 inputs) and is equipped with external fans.

Apart from these differences, the installation and electrical connection procedures are the same for both models. The following instructions will use the SCA36K-T-EU inverter as an example, with the differences highlighted where applicable.

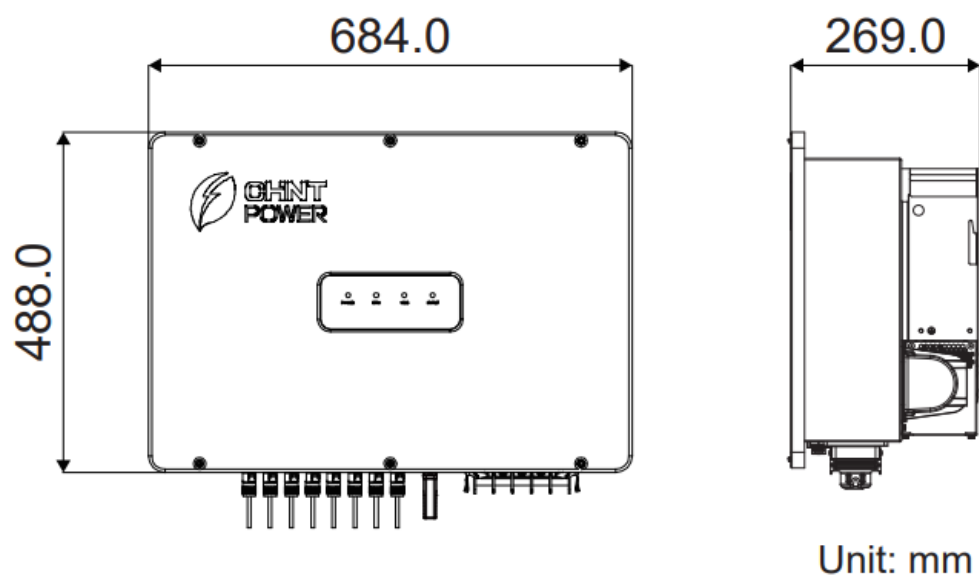


Figure 2-2 Inverter Dimensions

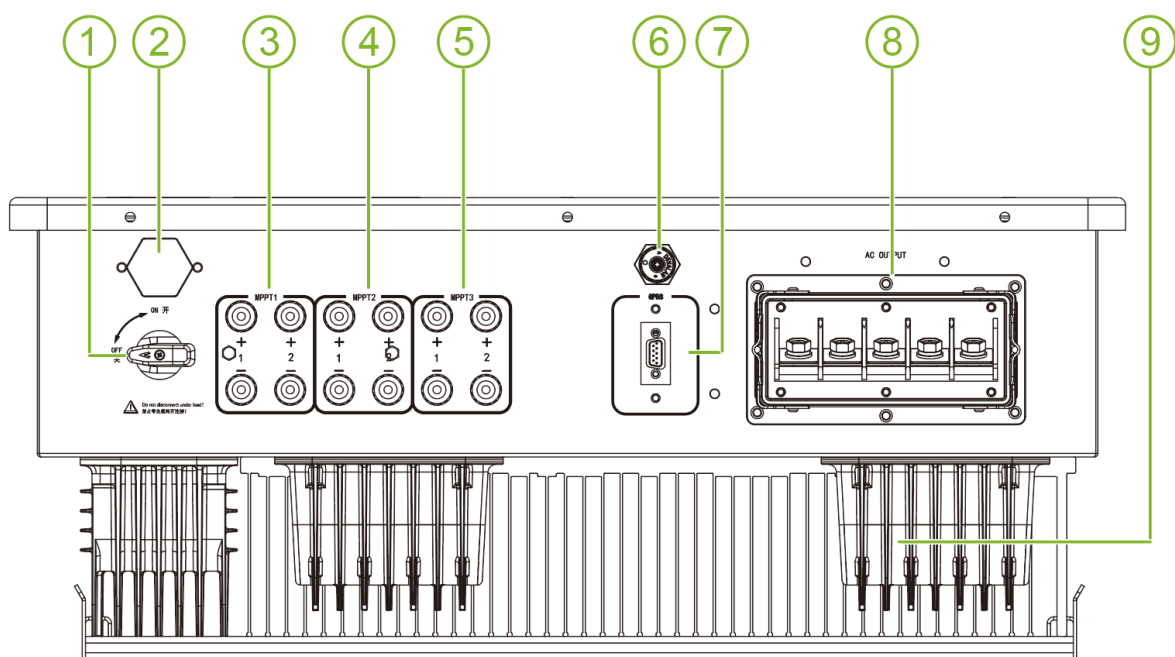


Figure 2-3 Product Appearances of SCA30K-T-EU

No.	Name	Function
1	DC Switch	Cut off DC power supply safely
2	Vent valve	Release pressure
3	DC MPPT 1	Connect to PV modules
4	DC MPPT 2	Connect to PV modules
5	DC MPPT 3	Connect to PV modules
6	Communication interface	For RS485 communication
7	Wi-Fi Dongle interface	For local control and remote monitoring
8	AC outlet terminal	AC cable outlet port
9	Radiator	Lowering the operating temperature of the inverter

Table 2-2 Main Components of SCA30K-T-EU

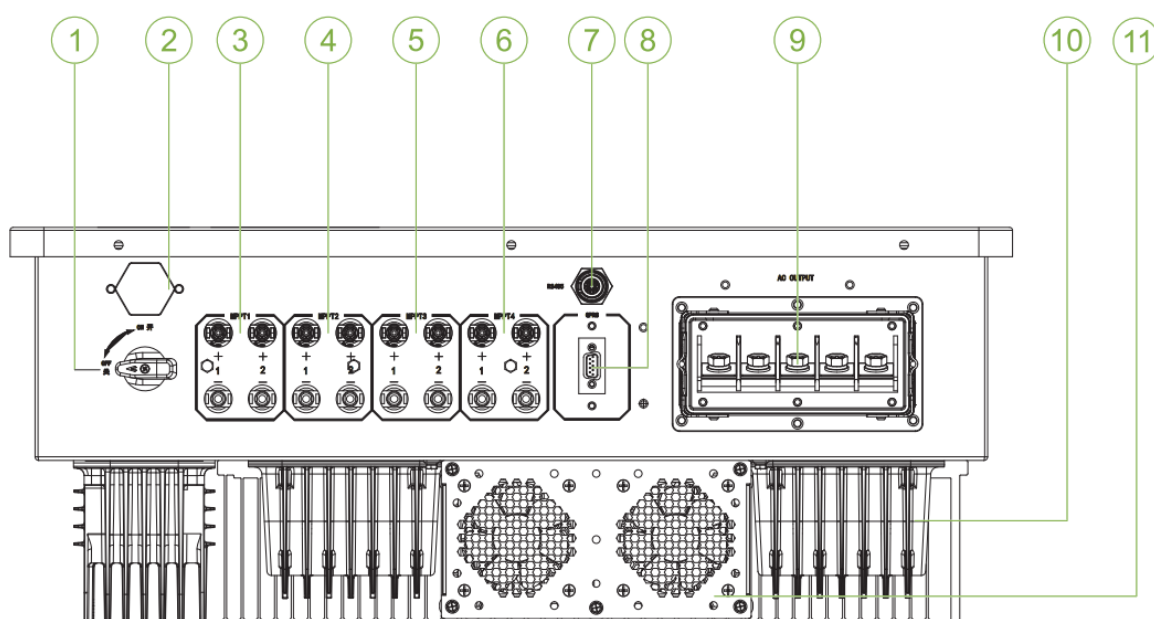


Figure 2-4 Product Appearances of SCA36K-T-EU

No.	Name	Function
1	DC Switch	Cut off DC power supply safely
2	Vent valve	Release pressure
3	DC MPPT 1	Connect to PV modules
4	DC MPPT 2	Connect to PV modules
5	DC MPPT 3	Connect to PV modules
6	DC MPPT 4	Connect to PV modules
7	Communication interface	For RS485 communication
8	Wi-Fi Dongle interface	For local control and remote monitoring
9	AC outlet terminal	AC cable outlet port
10	Radiator	Lowering the operating temperature of the inverter
11	Fan	Cooling of the temperature of the radiator

Table 2-3 Main Components of SCA36K-T-EU

2.3. LED Indicator

The LED display on the SCA30K-T-EU and the SCA36K-T-EU inverter is as shown below.

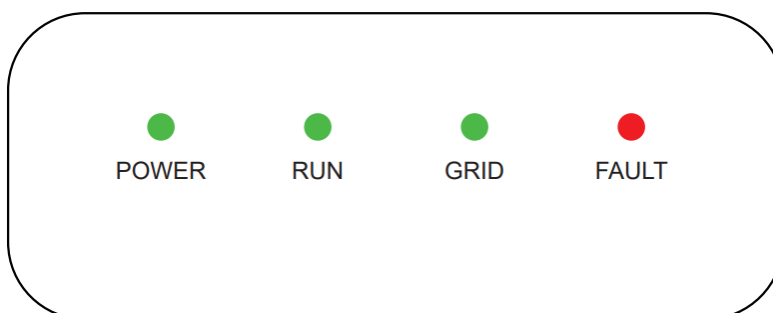


Figure 2-5 LED display of the inverter

Indicators and their indications are shown below:

LED Icon	Name	Status	Indication
POWER	Working power indicator	ON	Normal PV power supply (voltage is high enough to start up auxiliary power unit)
		OFF	Power supply not working
RUN	Grid operation indicator	ON	In grid-tied power generation state
		Flash	Derated running status (light up 0.5s, light off 1.6s)
		OFF	In other operation status or power supply not working
GRID	Grid status indicator	ON	Grid is normal
		OFF	Power supply not working or abnormal grid (red indicator flashes)
FAULT	Fault status indicator	ON	Indicates permanent faults
		Slow flash	Indicates alarms (light up 0.5s, light off 2s), device is running
		Fast flash	Protective action (light up 0.5s, light off 0.5s)
		OFF	No fault or power supply not working
4 LEDs		Flash	ARC, LCD, or DSP upgrading

Table 2-4 Indicators Description

2.4. Product Protection Functions

- Short circuit protection
- Input to ground insulation resistance monitoring
- Output voltage and frequency monitoring
- Ground leakage current monitoring
- DC component monitoring of output current
- Anti-island protection
- Input and output overvoltage protection
- Input and output 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 2-5, and the detail explanation is as table 2-6.

Inverter Type	ARC protection device type
SCA30K-T-EU	F-I-AFPE-1-4/2-2
SCA36K-T-EU	F-I-AFPE-1-4-2

Table 2-5 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
x (x=4, 4/2)	x=4: Each detection channel has four input ports x=4/2: One detection channel has four input ports, the other channel has two input ports.
2	Two detection channels

Table 2-6 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. Schematic Diagram and Circuit Design

The electrical schematic diagram of inverter is as shown in Figure 2-6 and Figure 2-7. 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.

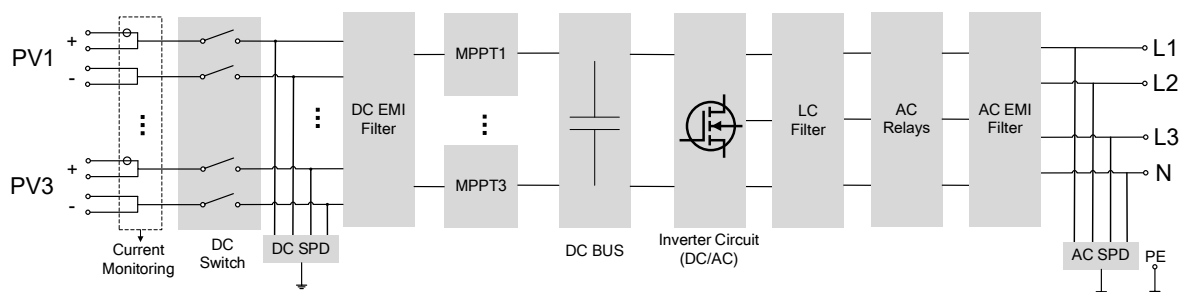


Figure 2-6 Schematic Diagram of SCA30K-T-EU Inverter

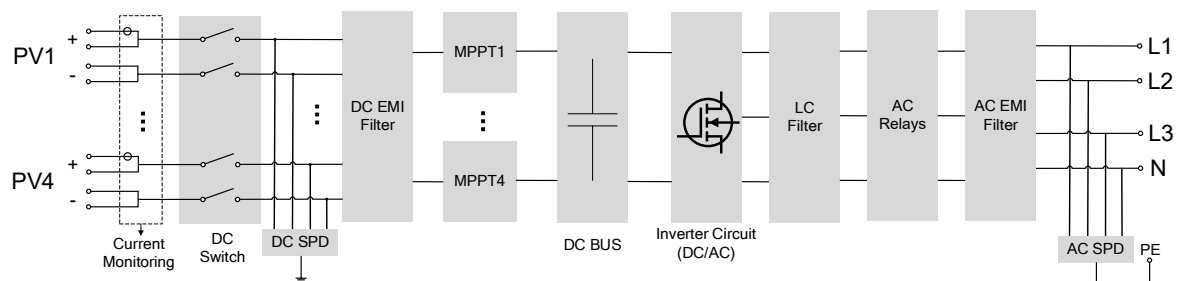


Figure 2-7 Schematic Diagram of SCA36K-T-EU Inverter

3. Mechanical Installation

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

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

3.2. Unpacking for Inspection

Before performing installation, check the product for any obvious damages or if the items on the delivery list are complete. Contact your supplier if any problem is found. The delivery list is as below:

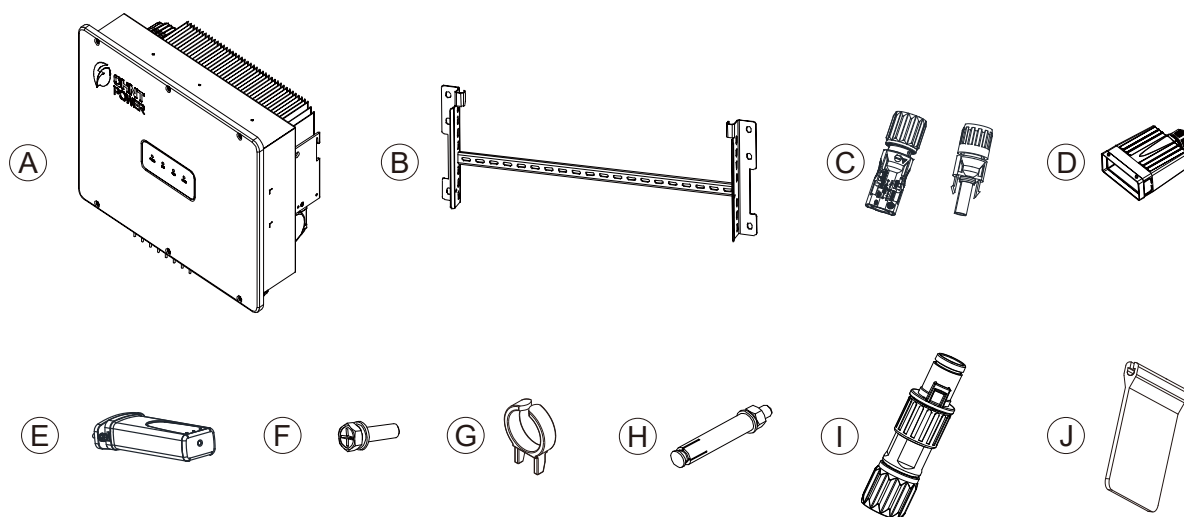


Figure 3-1 Delivery list

No.	Accessories	Qty.	Remark
A	Inverter	1	/
B	Mounting bracket	1	Install inverter

C	DC connector	6+6	SCA30K-T-EU: 6 (male) + 6 (female)
		8+8	SCA36K-T-EU: 8 (male) + 8 (female)
D	AC connector cover	1	Connect AC cables and protect AC terminals
E	Wi-Fi Dongle	1	For communication and monitoring
F	M6X16 Screw	3	Two for fastening inverter and mounting bracket; one for installing external grounding cable.
G	Unlock tool for DC connector	1	To unlock DC input connectors
H	Expansion bolts	6	For attaching mounting bracket to wall
I	RS485 Connector	1	Connect RS485 cable
J	Spacer	4	Separate the phases of AC output terminal
	Documents	1	Quick guide

Table 3-1 Delivery list description

IMPORTANT!



Before unpacking, check whether the packaging box and all safety signs, warning labels, and nameplates on the packaging box and the product are intact. These signs must always be clearly visible and cannot be removed or covered until the product is scrapped.

If the packaging box, various labels, nameplates are damaged or the accessories are incomplete, please contact the dealer.

3.3. Installation Precautions

- Check that the product's 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.
- Enough 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.
- Install the inverter away from flammable and explosive substances.
- Salt spray settlement is related to the characteristics of seawater, sea wind, precipitation, air humidity, topography, and forest cover in adjacent seas. Therefore, the inverter cannot be installed outdoors in salt-damaged areas (mainly refer to coastal areas within 500m of the coast).
- Inverter generates noise during operation. 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.
- 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 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.
- 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 Requirements

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.

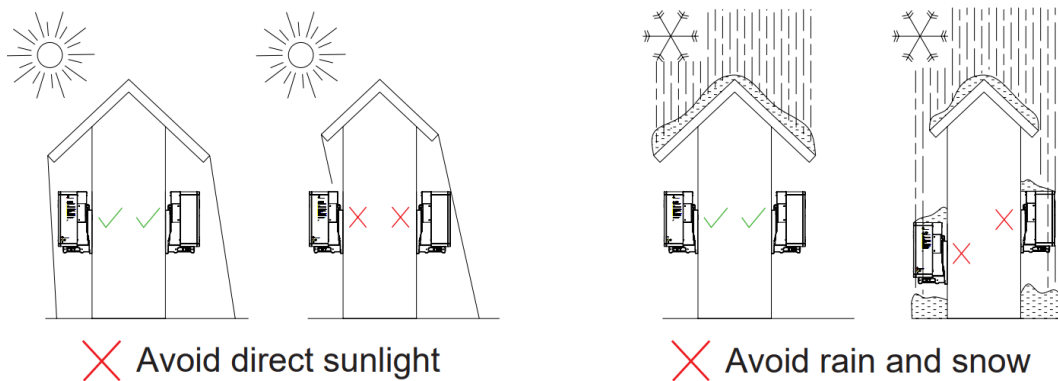


Figure 3-2 Installation Environment Recommendations

3.4.2. Installation Space Requirements

During planning and installing the inverter, appropriate clearances shown as below shall be reserved to ensure sufficient ventilation and heat dissipation. The inverter shall be more than 300 mm distant from its left or right objects, 500 mm from upper objects, 600 mm from lower objects, and 1000 mm from its front objects. In addition, no objects shall be put between two inverters to prevent any influences on heat dissipation.

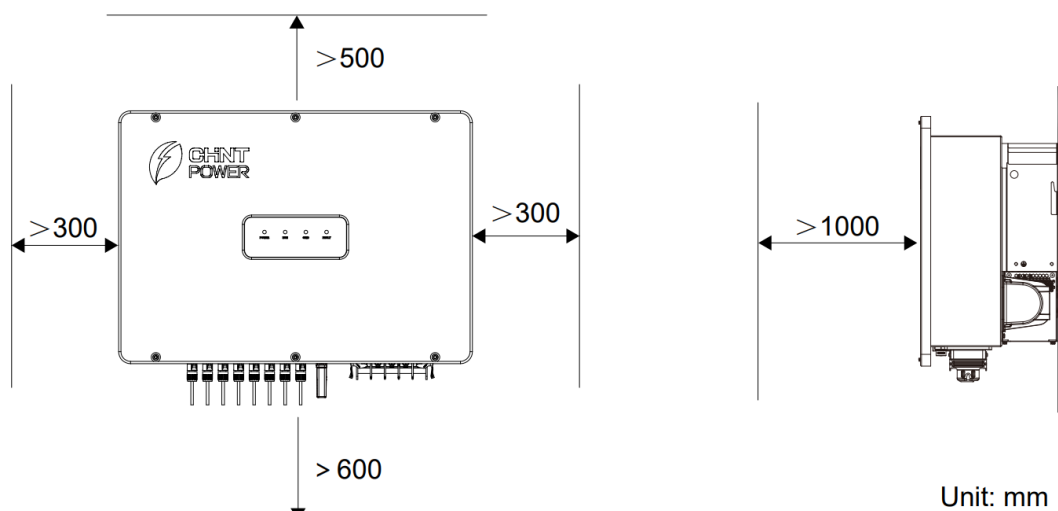


Figure 3-3 Installation space requirements

3.4.3. Installation Mode Requirements

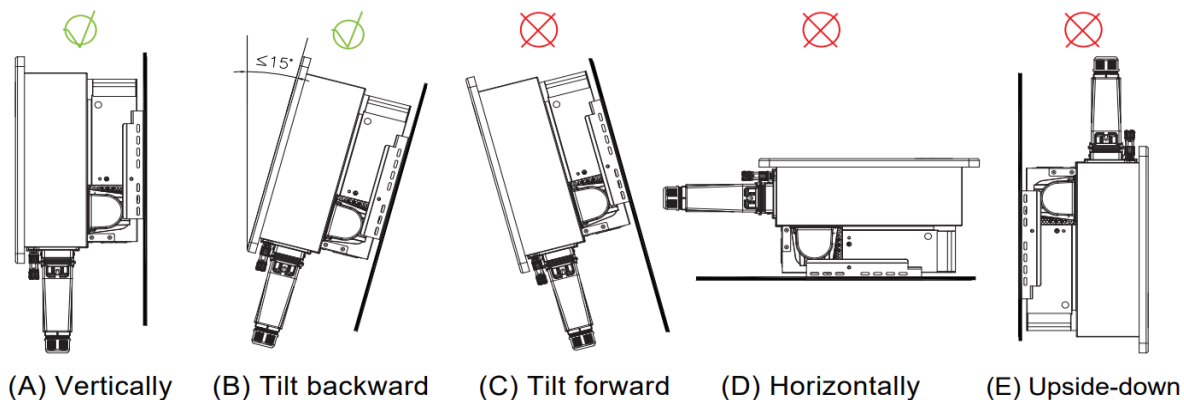


Figure 3-4 Installation mode requirements

- (A) If the location permits, install the inverter vertically.
- (B) If the inverter cannot be mounted vertically, it may be tilted backward by lower than 15 degrees from the vertical direction.
- (C) Do not mount the inverter leans forward.
- (D) Do not mount the inverter horizontally.
- (E) Do not mount the inverter upside down.



NOTICE!

Make sure that the mounting structure (bearing wall, rack, etc.) is capable to bear the weight of the inverter.

3.5. Installation Procedures

Follow the steps below to install the inverter:

1. Mark the positions of mounting holes on the mounting structure according to the size of mounting bracket.

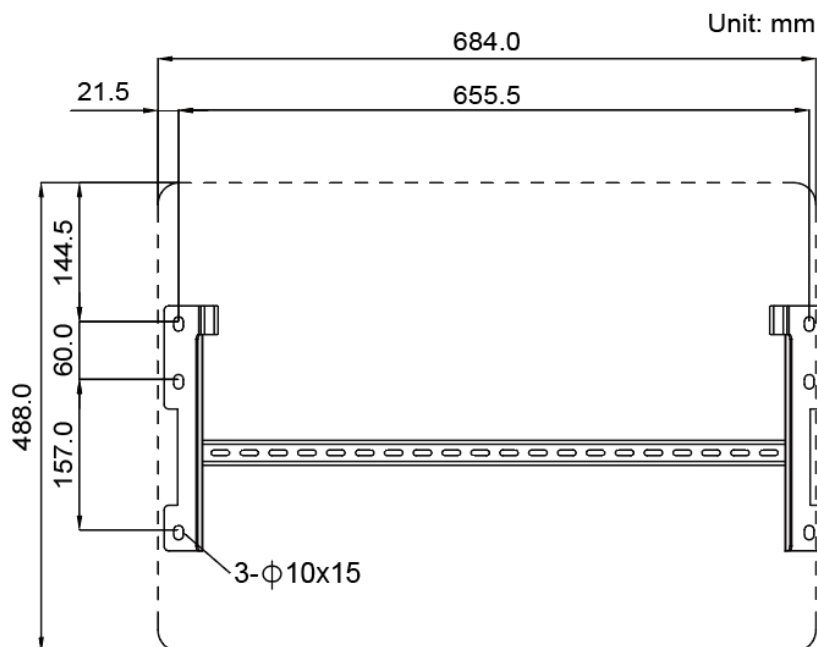
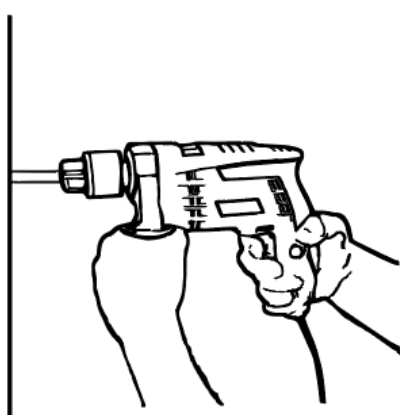
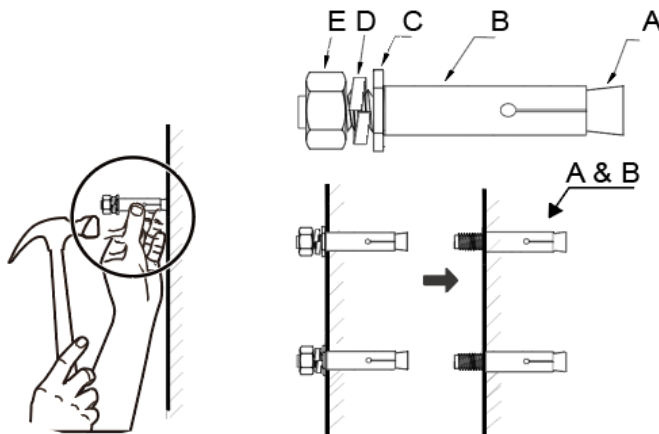


Figure 3-5 Mark positions of mounting holes

2. Drill six holes with a depth of 65 mm with a $\Phi 12$ mm drill at the marked position. Knock all the six expansion bolts into mounting holes, remove nuts (E), spring washers (D) and flat washers (C), leaving their tubes (B) and bolts (A) in the wall.



Drill holes on marked position



Install expansion bolt

Figure 3-6 Drill holes and drive expansion bolts into holes



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. Lead the six pairs of nuts (E), spring washers (D), and flat washers (C) through screw holes of mounting brackets and lock them to fasten mounting brackets onto the wall with a torque value of 153 kfg.cm.

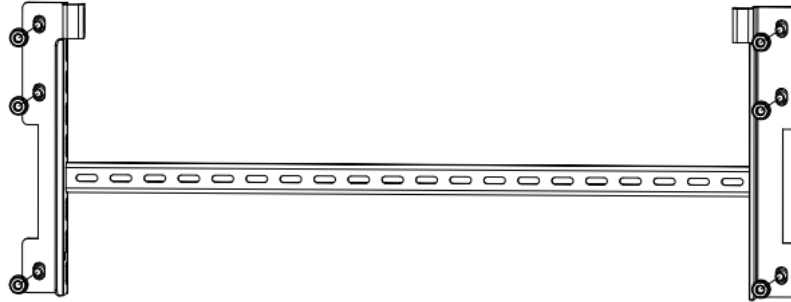


Figure 3-7 Fasten the mounting bracket

4. Hang the slots of the inverter onto the hooks of the mounting bracket.

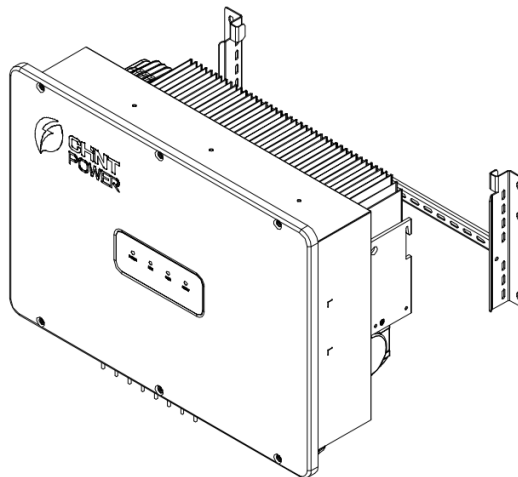


Figure 3-8 Hang the inverter host



CAUTION!

Ensure the mounting bracket is properly installed before hanging the inverter on the bracket.

5. Use two M6X16 screws to fasten the inverter on the mounting bracket. Tools required:
No.10 hexagon socket wrench, torque value: 51 kgf.cm.

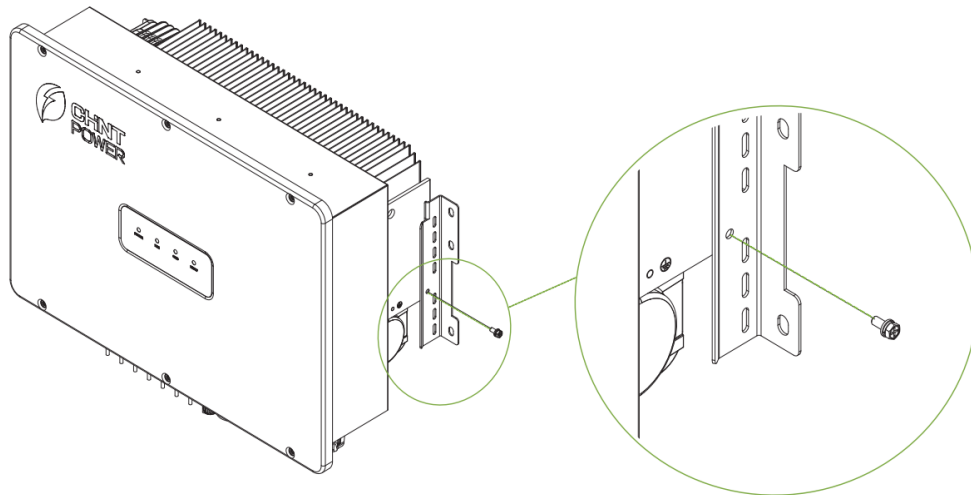


Figure 3-9 Fix inverter on backplane bracket

3.6. Installation Check

1. Ensure slots of the inverter is aligned with hooks of mounting bracket.
2. Ensure the inverter is hung steadily on the mounting bracket.
3. Ensure the inverter is locked on the mounting bracket with M6 screws.

4. Electrical Connection

DANGER!



- The cables shall be connected in accordance with the National Electrical Code and all other applicable local codes or jurisdictions.
- All cable connections must be made while ensuring that the equipment is free from any damage. Otherwise, it may cause electric shock or fire.
- The use of cables in high-temperature environments may result in insulation aging or damage. The distance between the cables and heat-generating devices or the surrounding area of the heat source should be at least 30 mm.

4.1. Cable Specification

All the cables shall be connected in accordance with the following specifications.

Cable	Type	Outer dia. (mm)	Conductor Cross-sectional area(mm ²)
AC	Multi-core cables specialized for outdoor use	16 - 38	<ul style="list-style-type: none"> • Copper core cable: 16-50 • Aluminum alloy cable: 35-50
DC	Industry common PV cables (Type: PV1-F)	5.0 - 7.2 ¹	4 - 6
PE ²	Cables specialized for outdoor use	NA	<ul style="list-style-type: none"> • 16 for (Phase wire CSA16 - 35) • Phase wire CSA/2 (Phase wire CSA>35)
RS485	4-core cables specialized for outdoor use	5 - 6	0.21 - 0.32

Table 4-1 Cable Specification

Note 1: For selection exceeds the given range, please consult Chint for feasibility.

Note 2 The specifications are valid only when the phase wire and PE wire use the same material. If otherwise, ensure that the cross section of the PE wire produces a conductance equivalent to that of the wire specified in the table.

Other sizes of grounding cables that meet local standards and safety regulations can also be used for grounding connections. But Chint Power shall not be held liable for any damage caused.

4.2. Tools Required and Torque Value

No	Tools	Usages	Torque
1	No.17 hex. socket wrench	Fixing AC output terminals, PE, and N terminals	61.18 kgf.cm
2	No.10 hex. socket wrench	Fixing external ground terminal	50.99 kgf.cm
3	No.2 Philips screwdriver	Fixing Wi-Fi Dongle	10.20 kgf.cm
4	Diagonal pliers	Making cables	-

5	Wire stripper	Making cables	-
6	Crimping Tool	Making cables	-

Table 4-2 Tools Required and Torque Value

4.3. Electrical Cable Connection

NOTICE!



- Pay attention to watertight during construction.
- Cables of the same type should be bundled together, and different types of cables should be arranged separately, with no intertwining or crossing allowed.
- 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.
- Please read carefully and refer to Chapter 9 Technical Data before wiring.

4.3.1. AC Wiring and Grounding (Protection Earthing)

Follow the steps below to connect AC cable and PE cable:

1. Insert the four spacers into baffle gaps between different phases.

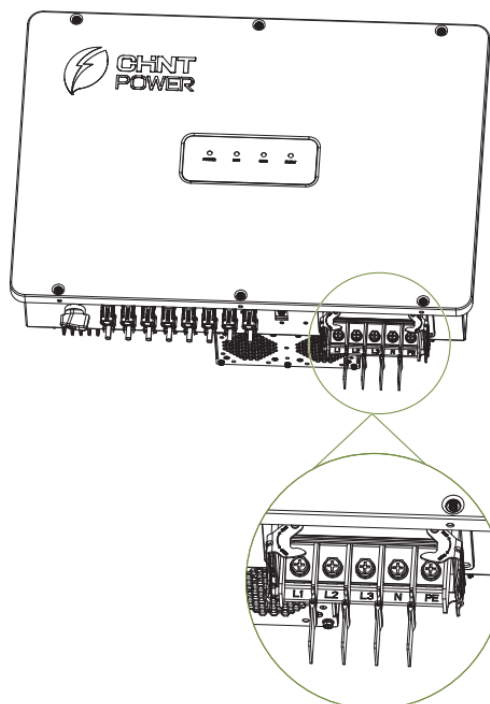


Figure 4-1 AC Output terminals and buckles

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

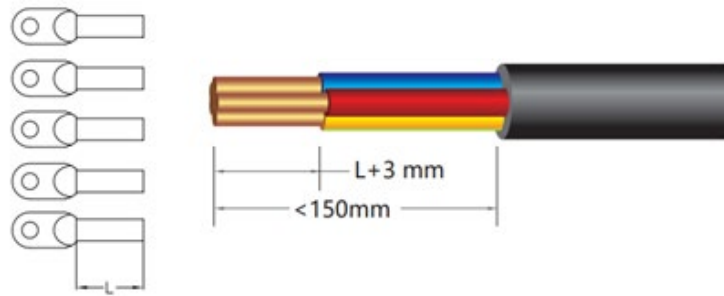


Figure 4-2 Strip AC wire

3. Loosen the locking cap from the connector, route the power cable through the locking cap of the connector and reserve appropriate wiring length. Insert the exposed core wires into the crimp area of the OT terminal and crimp the them using hydraulic pliers. Wrap the crimped area with heat shrink tubing or insulation tape, then use a hot air gun to shrink it. (Note: If using heat shrink tubing, slide it on the cable before crimping.)

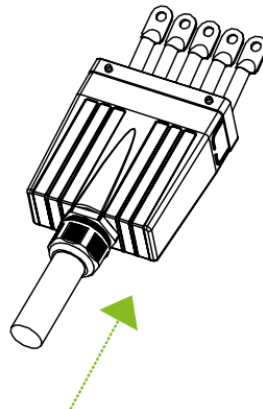


Figure 4-3 Crimp OT terminal

4. Connect ground wire to PE terminal, neutral wire to N terminal, and live wire to L1, L2, L3 terminal, tighten them using screw driver.

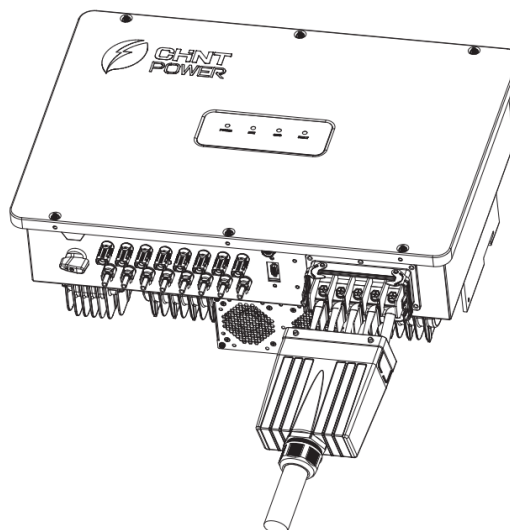


Figure 4-4 Connect wires to AC terminals


NOTICE!

Ground wire, neutral wire and live wires shall be corresponding to PE, N, L1/L2/L3 terminals. If connect them incorrectly, the inverter may work abnormally.

5. After adjusting cable length, insert the connector cover into base slot. Pull the two buckles on the two sides of the terminal base to the lugs on the two sides of the connector cover. Finally, tighten the locking nut on the connector cover.

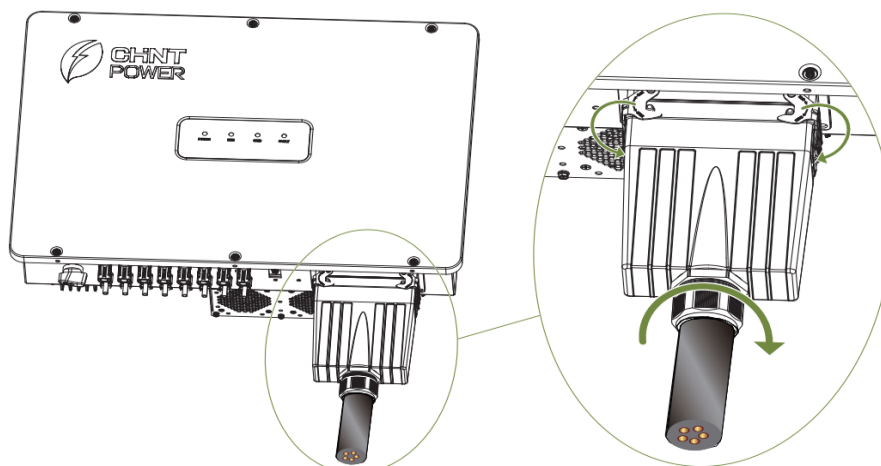


Figure 4-5 Tighten connector cover

The L1/L2/L3/N output cables of the PV Inverter shall be connected to power grid via independent 4-pole AC circuit breaker, to make sure the inverter can be disconnected safely from the power grid should an overcurrent event occur. In addition, you can choose the AC circuit breaker as per the following specifications.

Inverter	Current value of AC circuit breaker
SCA(30/36)K-T-EU	60A/80A

6. Use one M6 screw to connect and tighten the secondary protection ground wire. Tools: No. 10 socket wrench, torque: 51 kgf.cm.

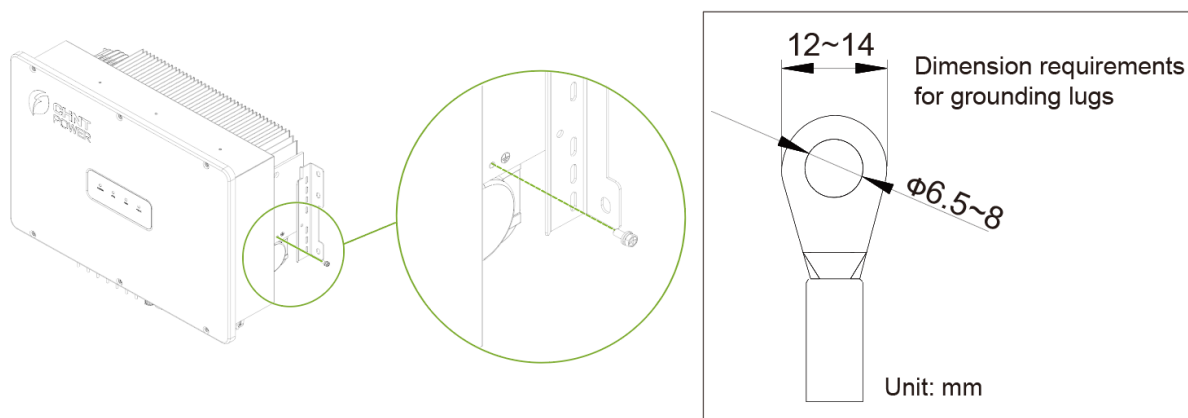


Figure 4-6 Tighten the secondary ground wire

NOTICE!

- The connection of secondary protection ground wire cannot be replaced by that of PE terminal among the AC connection. Both shall be grounded correctly. CHINT will not bear any responsibility for the possible consequences caused by the omission.
- To enhance the corrosion resistance of the terminal, it is recommended to apply silicone or paint externally to the grounding terminal after the installation of the protective ground connection.
- During installation, try to keep the AC output cables close together, and during installation, keep the AC output cables close to the protective ground cables.
- Additionally, during installation, endeavor to keep the AC output cables close to the DC input cables. Failure to seal the gaps in the output terminals as required, leading to machine malfunctions, will result in our company not providing a warranty and assuming no responsibility.

4.3.2. DC Wiring

To deliver on the optimum performance of the PV Inverter, please read the following guidelines before performing any DC connections.

- Confirm DC input configuration and make sure the maximum DC open voltage of each PV module shall be lower than 1100Vdc in any condition. (Pay attention that the open voltage of the PV arrays is lower than 1100V in the lowest ambient temperature, considering the negative voltage temperature coefficient of the battery plate.)
- Before connecting DC cables, make sure the PV modules in the same input area shall be consistent, including type, the number of battery plates, dip and azimuth.
- The short circuit current from each PV string shall be lower than 45A.

4.3.2.1. DC Cable Connection

Check the polarity before terminating the DC cables of PV strings according to the following steps, as shown in figure 5-7:

- Use a multi-meter to measure the PV strings' cable ends and check the polarity.
- The positive (+) terminal of cable should match the positive (+) terminal of inverter's DC input.
- The negative (-) terminal of cable should match the negative (-) terminal of inverter's DC input.

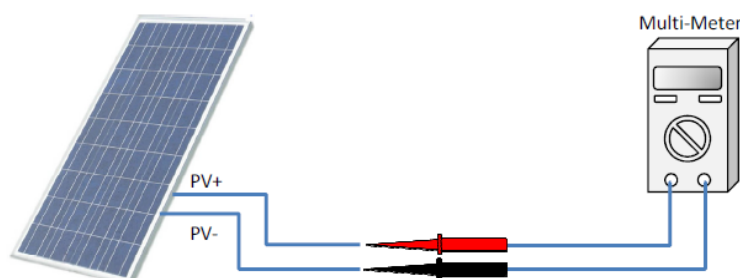


Figure 4-7 Polarity Check


NOTICE!

It is important to use a multi-meter to check the polarity of the DC input cables to avoid any risk of reverse polarity.

Perform cable connection as per the following steps:

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

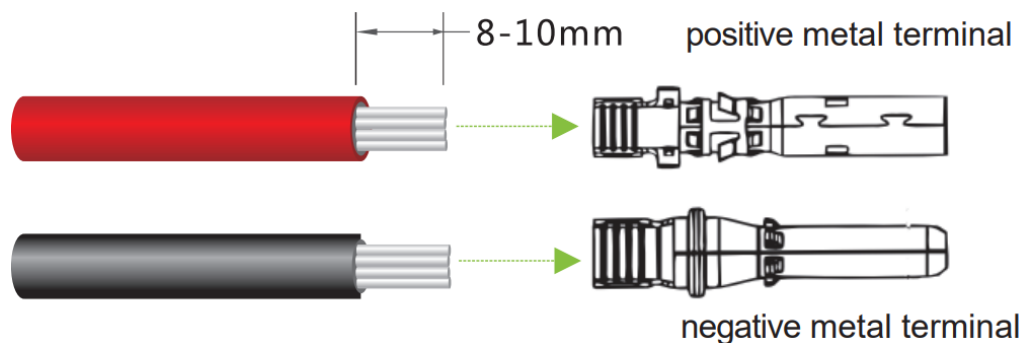


Figure 4-8 Strip DC wire

2. Insert the exposed areas of the positive and negative power cables into metal terminals of the positive and negative connectors respectively. Crimp the metal terminals using Amphenol H4TC0002 or Devalan D4ZCY001 crimping tool.

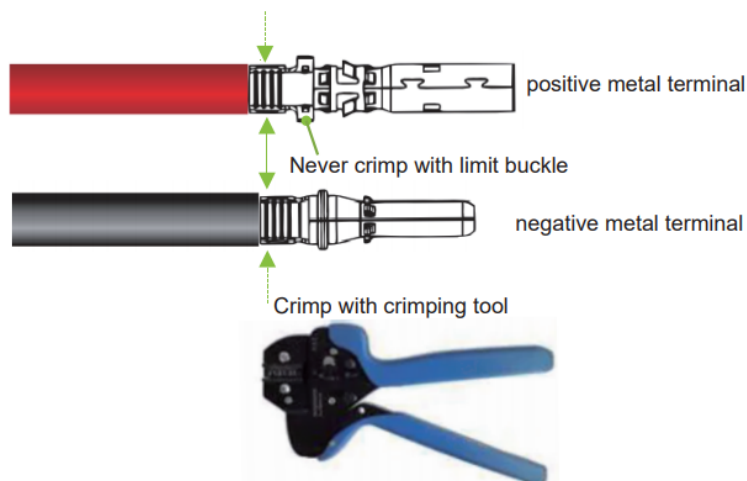


Figure 4-9 Crimp power cables

3. Insert the crimped positive and negative power cables into the corresponding positive and negative connectors until a "click" sound is heard. Tighten the locking nuts of the positive and negative connectors.

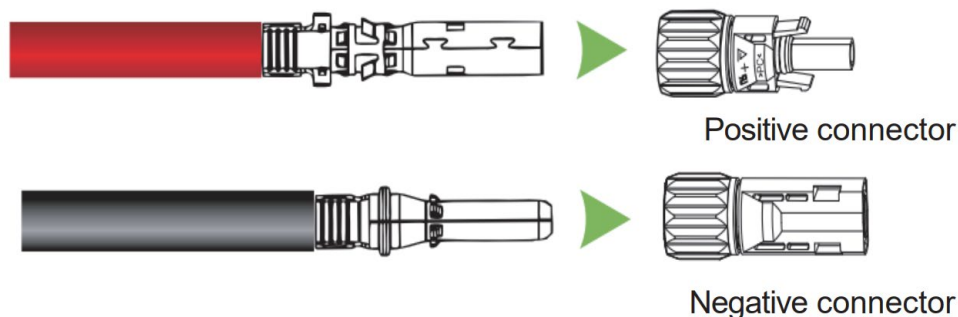


Figure 4-10 Insert power cables to connectors


NOTICE!

The connector used for the DC input shall be standard accessory comes with the inverter, or the same model from the same manufacturer. Otherwise, poor contact may occur, affecting normal use.

4. Insert the positive and negative connectors into their corresponding terminals of the inverter until a "click" sound is heard.

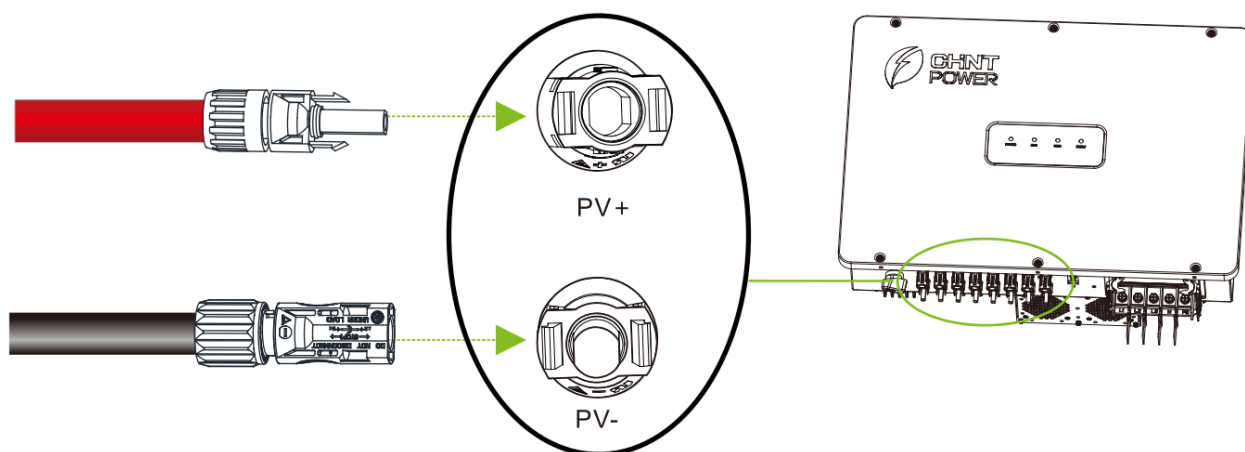


Figure 4-11 Insert the connectors into corresponding terminals


NOTICE!

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

After completing all wiring steps, it is recommended to bind the cables approximately 300 to 350 mm away from the DC connectors and AC connector (refer to Fig. 4-12). This can help prevent swaying or movement of the cables, which may loosen the connectors and potentially affect the protection degree of the inverter.

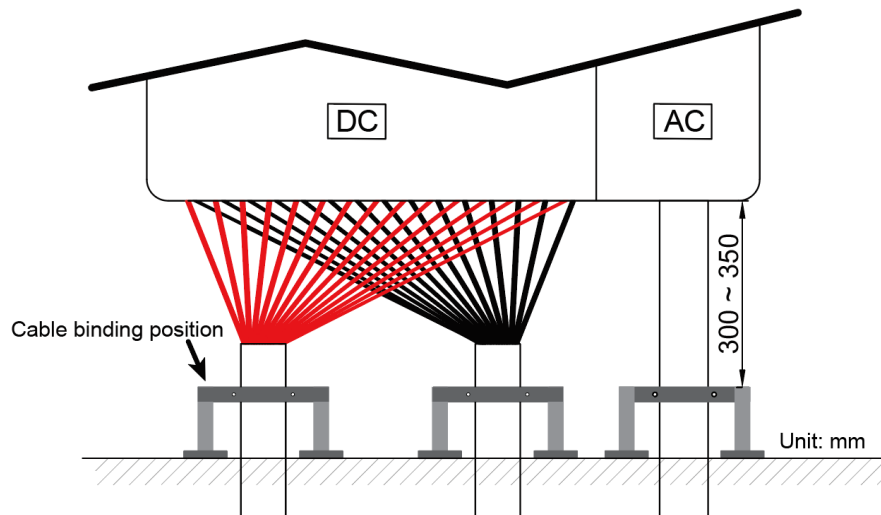


Figure 4-12 Bind cables

4.3.3. Communication Connection

4.3.3.1. Connect RS485 Cable

Follow the steps below to connect RS485 cable:

1. Strip off RS485 wire by referring to AC cable stripping. Loosen the tightening nut of the RS485 connector by hand.

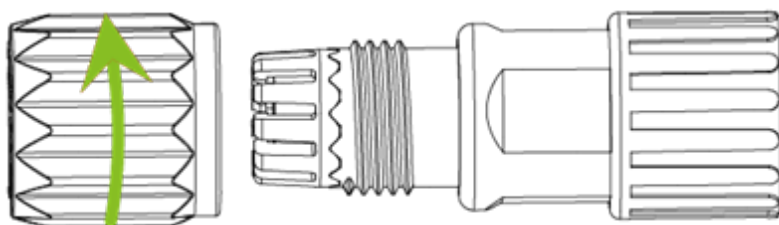


Figure 4-13 Loosen the tightening nut

2. Route a 4-core RS485 communication cable through the tightening nut and adapter sleeve of the RS485 connector. Strip off the cable insulation layer according to the Figure 5-13.

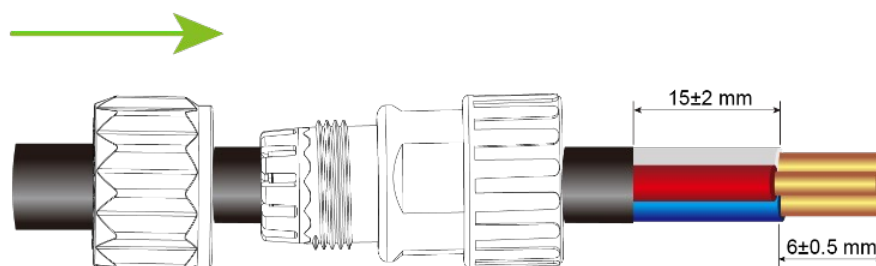


Figure 4-14 Route a 4-core RS485 communication cable

3. Crimp communication wires to correct ports of RS485 connector.

- a) For single inverter: lead one 4-core RS485 COM cable through RS485 connector, connect +12V wire to port 1, GND wire to port 2, RS485+ wire to port 3, and RS485- wire to port 4.

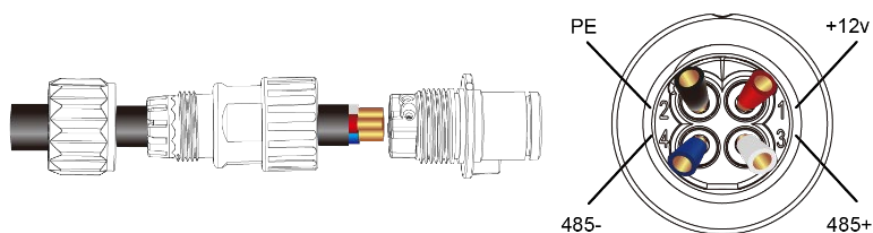


Figure 4-15 Crimp communication wires

- b) For multiple inverters: when multiple inverters connect in daisy-chain, lead RS485 COM cables through RS485 connector. Strip 60mm cable insulation layer, connect two RS485+ wires to port 3, and two RS485-wires to port 4.
4. Tighten the screws with a screwdriver, torque value: 5.10-6.12 kfg.cm.

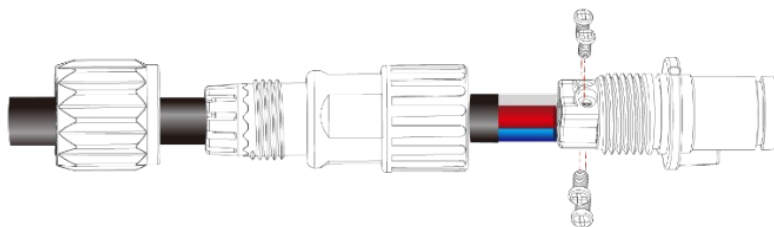


Figure 4-16 Tighten the screws

5. First, tighten the wiring plug by hand, torque value: 12.24 - 15.30 kgf.cm. Then adjust the cable length, tighten the tightening nut by hand, torque value: 26.51 - 29.57 kgf.cm.

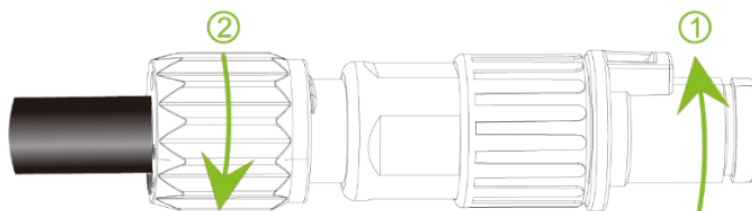


Figure 4-17 Tighten the RS485 connector

6. Align the raised positioning bar on the RS485 connector with the slot on the RS485 communication interface of the inverter, and fully insert. When you hear a "click" sound, it indicates a successful connection.

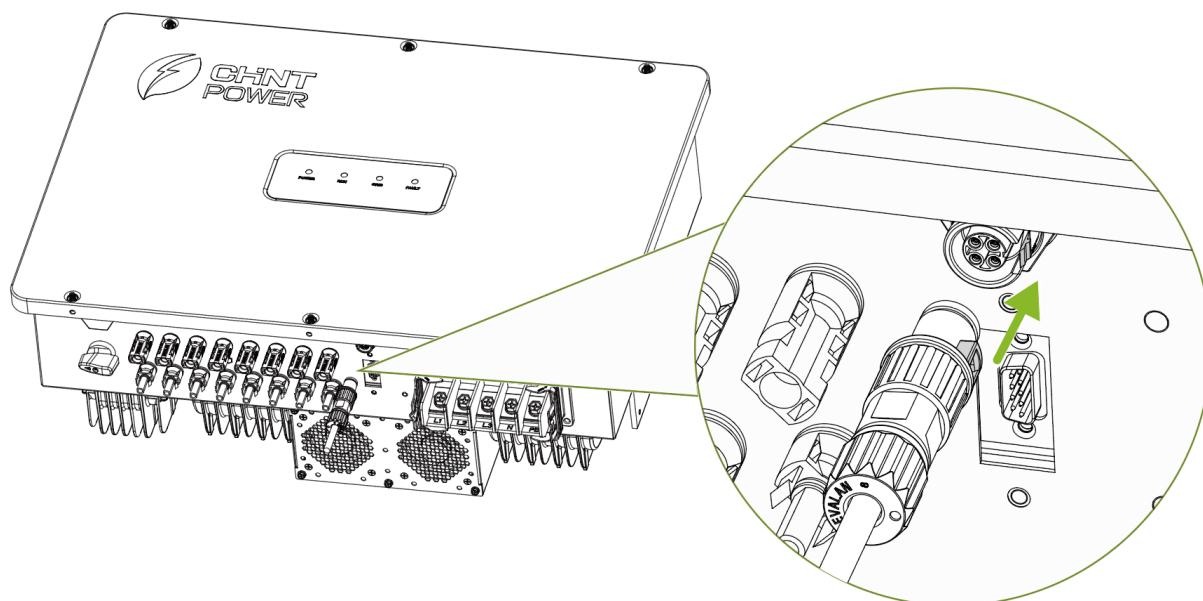


Figure 4-18 Insert RS485 connector

4.3.4. Install Wi-Fi Dongle

Follow the steps below to install the Wi-Fi dongle:

1. Remove two screws fixed on the communication cover with a No.2 Philips screwdriver to expose the communication interface.
2. Install Wi-Fi Dongle onto the communication interface and fasten the Wi-Fi Dongle firmly with No.2 Philips screwdriver, torque value: 10.20 kgf.cm.

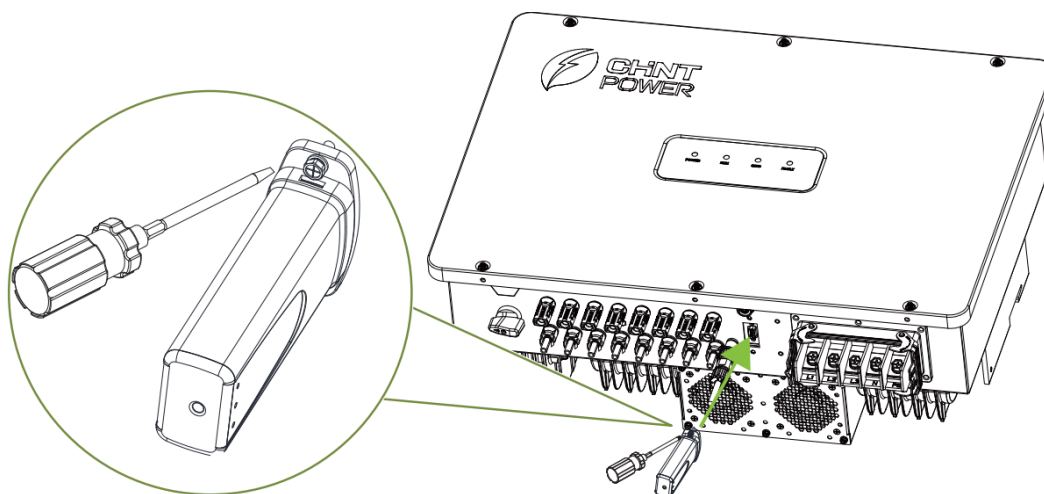


Figure 4-19 Install Wi-Fi Dongle

4.3.5. Anti-Backflow for Single Inverter

Note: Anti-Backflow is a standard function of SCA30/60-T-EU Inverter, which can be enabled or disabled based on user requirements.

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 **4.3.5 Connect RS485 Cable**.

After completing the wiring procedures, the relevant configuration need to be set in the MatriCloud App, please see **6.2.1 Anti-Backflow Parameter Configuration in MatriCloud**.

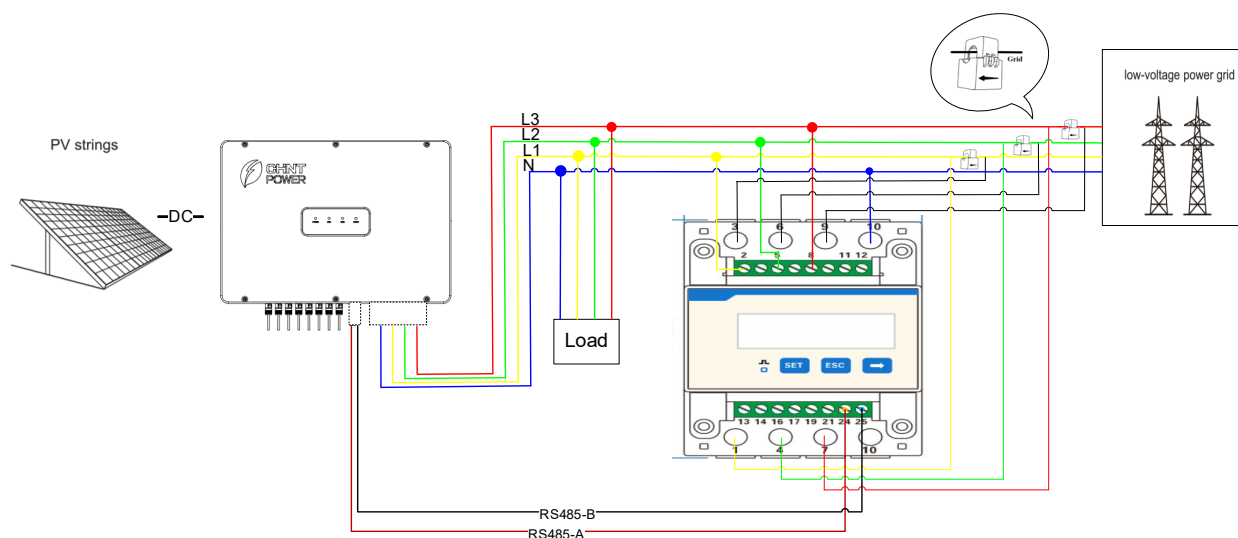


Figure 4-20 Three phase four wire: via current transformer

5. Inverter Commissioning

WARNING!



- Please follow the guidelines below before performing any on-grid operation to eliminate possible dangers.
 - When the equipment is powered on for the first time, it is imperative that professionals correctly configure the parameters.
 - Before operating in grid-connected mode, adhere to the following guidelines to identify and eliminate potential hazards, ensuring safety.
-

5.1. Pre-commissioning Checks and Preparation

5.1.1. Mechanical Installation Inspection

Perform the following inspections by referring to chapter 3 Mechanical 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 Inspection

Perform the following inspections by referring to chapter 3 Mechanical Installation.

- 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.
- 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 1050V.

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. Turn on the AC side circuit breaker or fuse switch disconnecter.
2. Turn on the DC side circuit breaker. (Start from step 3 if no circuit breakers are available.)
3. Set the inverter DC switch to the "ON" position. When the PV array produces enough power, the inverter LED POWER indicator will be lit, and the inverter will enter the self-check state in turn.
4. Set up App initializing in sequence according to the procedures introduced in chapter 6 to ensure the inverter can work smoothly.

6. App Interface and Setting

6.1. App Download

Users can download Matricloud APP of iOS version at Apple store or Android version in Google store or scan the QR code (Support Android 8.0 and iOS 13.0 or later).




6.2. App Quick 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 contents are applicable to SCA(30/36)K-T-EU series inverters, we just take SCA36K-T-EU as instance.
- This section provides a brief introduction to MatriCloud App operations, For more detailed steps about MatriCloud App, please refer to the *MatriCloud App User Manual*.

Users can perform the following procedures to set the App easily. First, open the Bluetooth function on your phone:

1. Open the MatriCloud APP, click  to select right server, and click  to select the language.

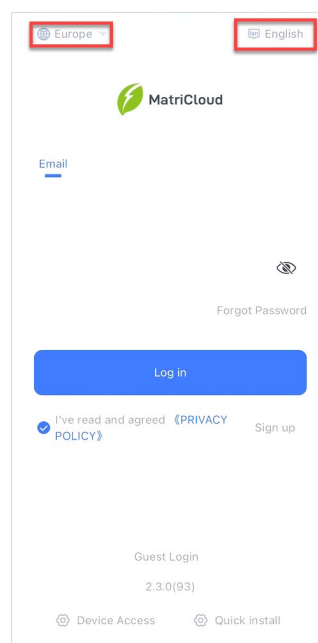


Figure 6-1 Server and Language Configuration

- Click “Device Access” and then "Bluetooth Connect" button to open the device name list. Choose the correct device name and then you will be directed to the Home interface
Note: The device name "XXXXXXX" is the last 8 digits of SN on the communication module label. **Note:** NFC function is now unavailable.

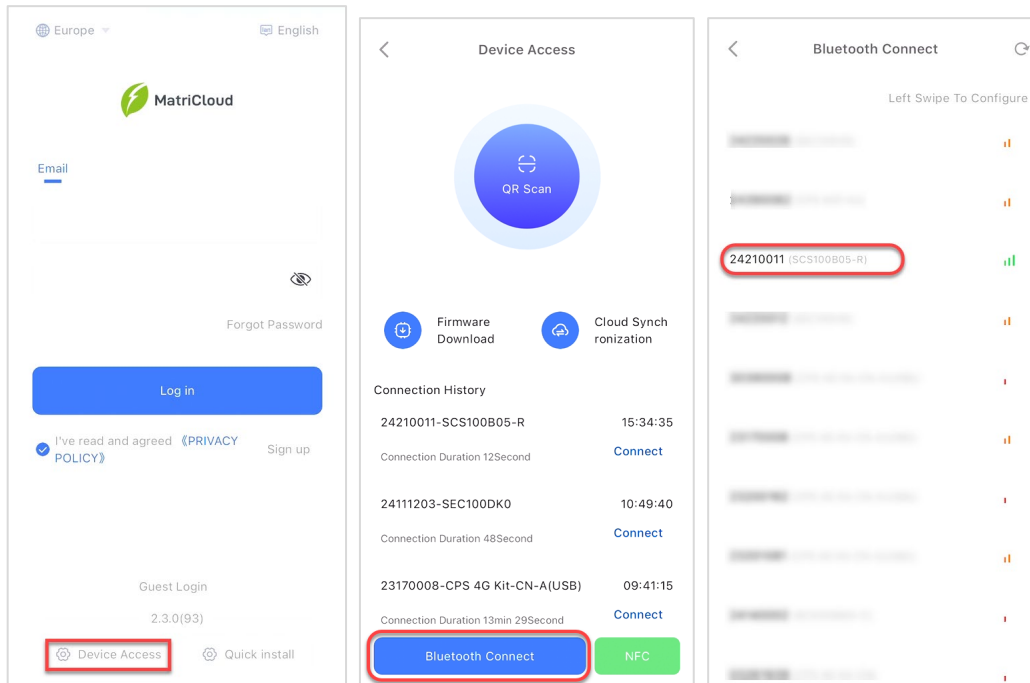


Figure 6-2 Device access

- Home interface: After connected successful, you will be directed to the “Home” interface. The “Home” interface displays the basic information of the inverter, such as model, S/N, energy flow chart, and the real-time data (Summary of the day, DC, AC, Other, version, etc.).

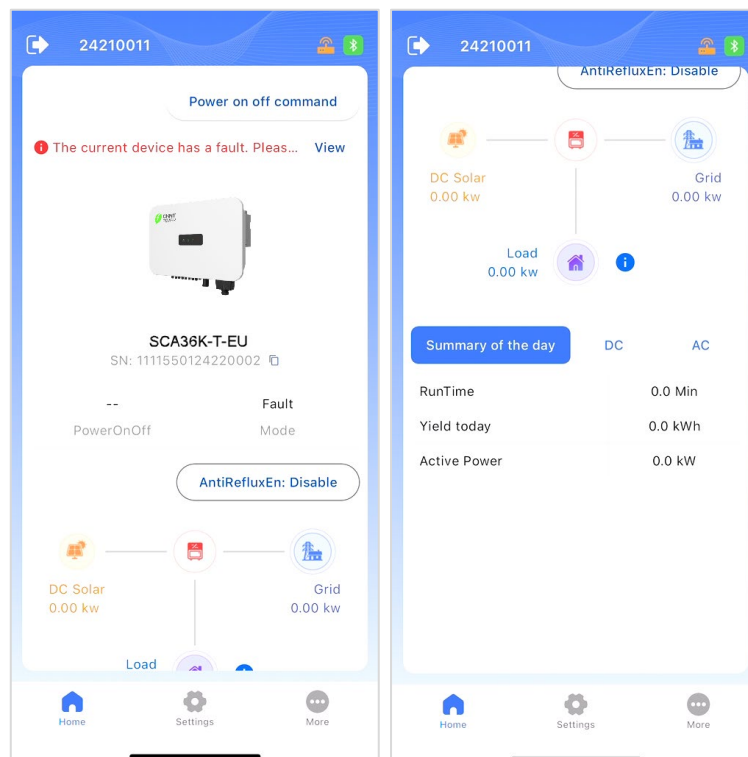


Figure 6-3 “Home” Interface

4. Click “Settings” on the main interface to access the register configuration interface. (If password needed, enter “1111”).

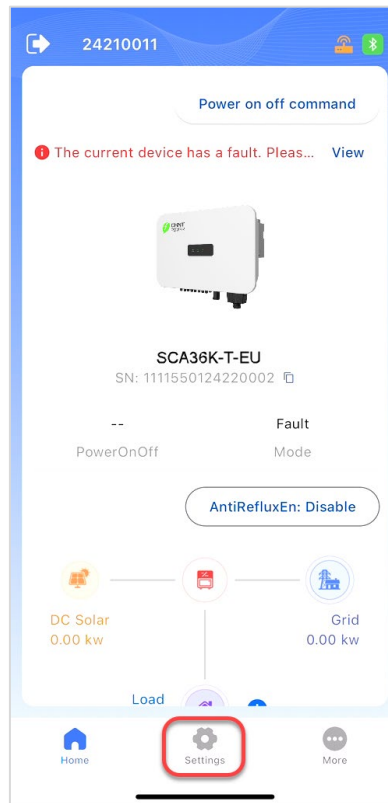


Figure 6-4 Click “Settings”

The register parameters include Input Register Map (Only Read) and Hold Register Map (Read and Write).

Note: Register parameters must be modified according to the communication protocol under the guidance of the technical engineer.

- **Input Register Map (Only “READ”)**

- Input Register Data Mapping
- Lcdless Information Area
- Grid Status Information Data Area
- Inverter Output Status Information Data Area
- Inverter Internal Status Information Data Area
- Inverter Fault Status Information Data Area

- **Hold Register Map (READ and WRITE)**

- Power dispatching
- Grid Protection Parameters
- Active Power Derating Parameters
- Reactive power Derating Parameters
- LVRT/HVRT
- Others Parameters

- Enable/disable control Parameters
- Control Commands
- Inverter Basic Information
- LcdLess Basic Parameters

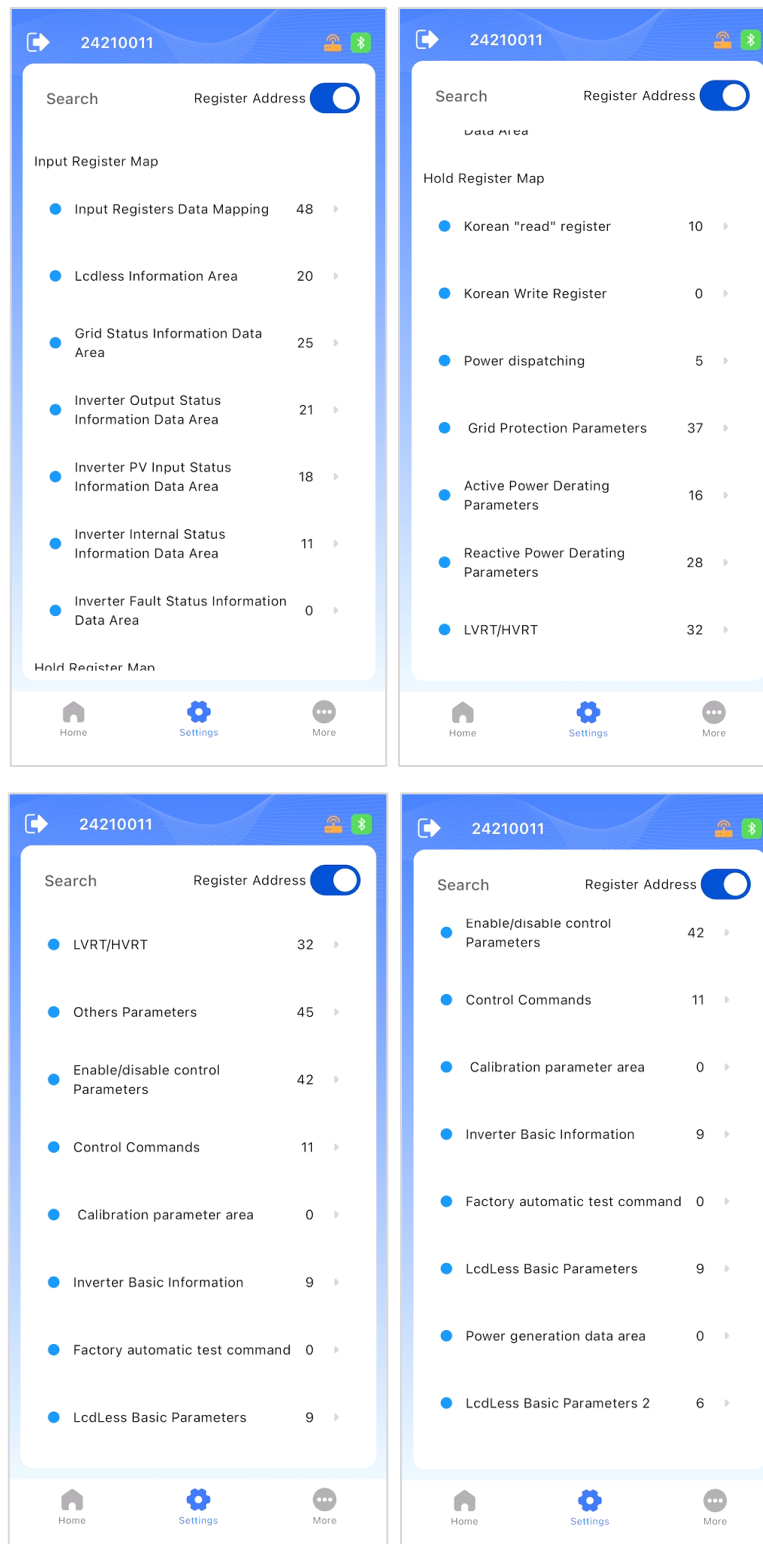


Figure 6-5 Register Parameters

5. Click "Settings -> Inverter Basic Inforamtion" to set the Standard Value, Netural Line

Setting, PV Input Mode, Rated Voltage information. Alternatively, you can configure Neutral Line Setting and Rated Voltage in the “More” interface (refer to Step 7-8).

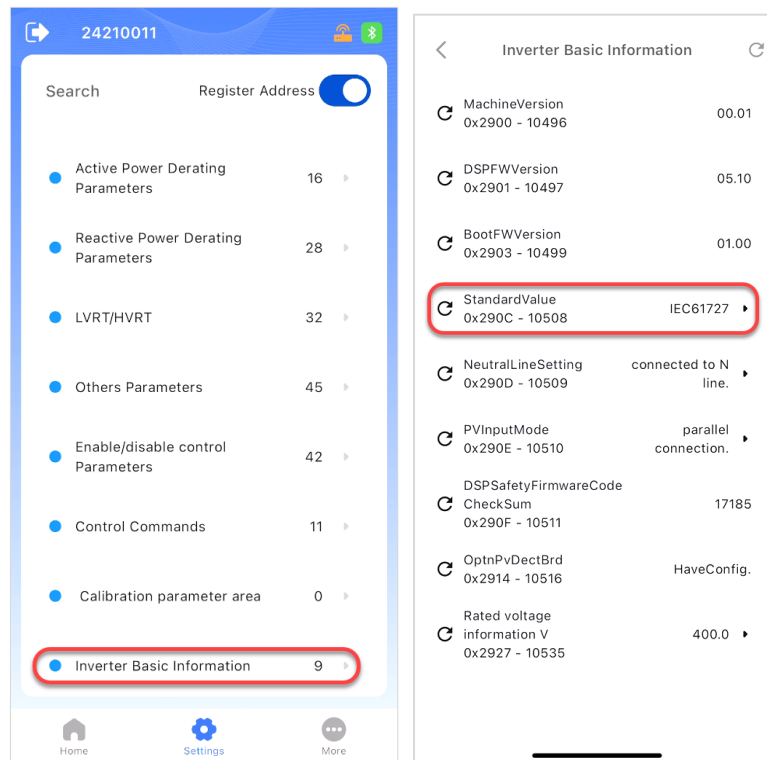


Figure 6-6 Standard Value Configuration

- You can enable/disable or configure the following parameters in the “Control Commands” group: Power on/off the device, force restart, recover to factory defaults, AutoTest(CEI), MPPT scan, ARC detection, ARC clean, PFSetValueRemote, PSetPercentRemote, QSetPercent Remote.

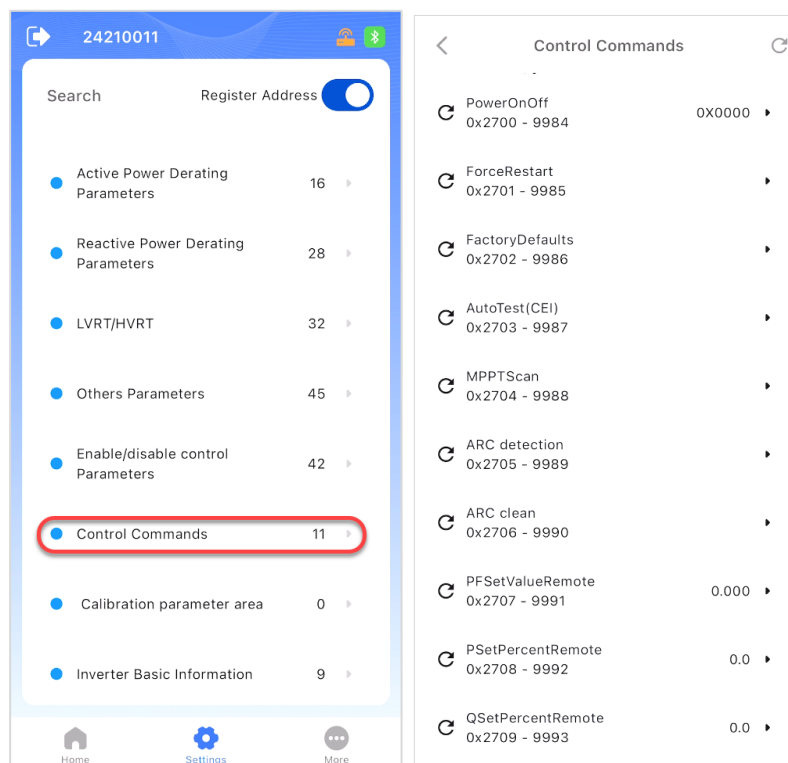


Figure 6-7 Control Commands

7. More: Click “More” on the navigation bar, you will be directed to the more interface. You can configure basic parameters, view fault history, view running logs, upgrade firmware, check yield statistics, and configure the gateway.

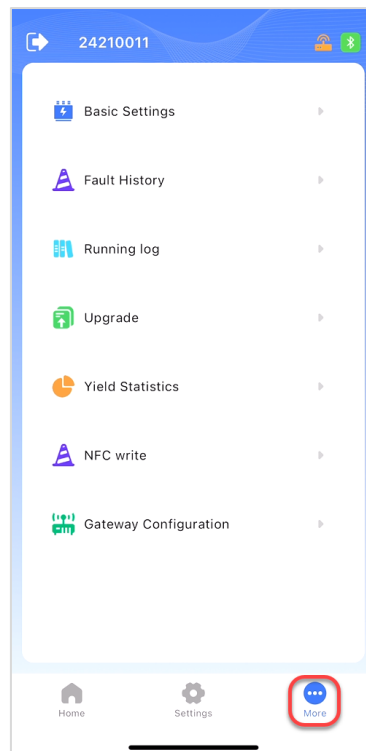


Figure 6-8 Click “More”

8. Click “Basic Settings” (If password needed, enter “1111”) to configure the basic parameters, such as rated voltage information, neutral line setting, RS485 external communication address and baud rate configuration, time setting, password setting, and, etc.

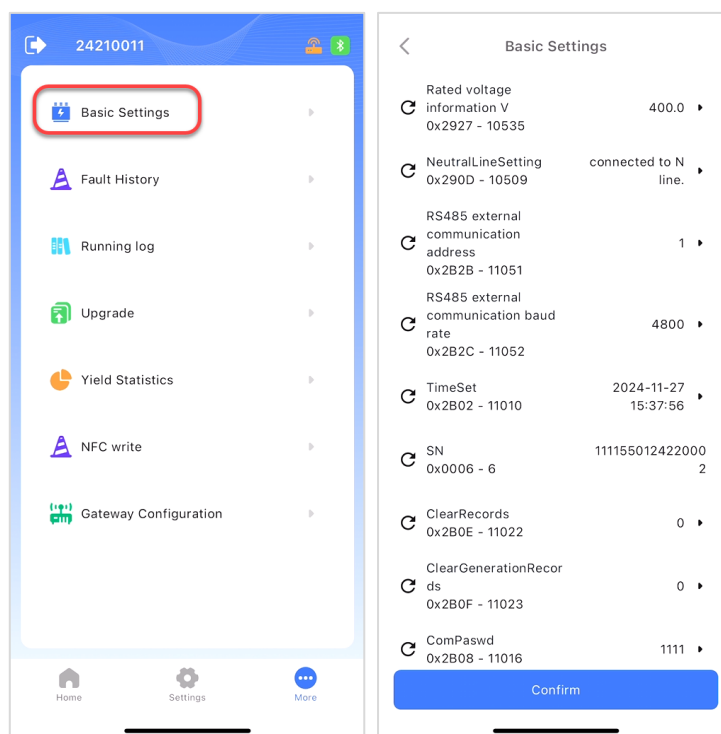


Figure 6-9 Basic Settings

9. Additionally, in the Home interface, you can click the “Power on off command” in the top-right corner to power on or power off the inverter.



Figure 6-10 Power on and Power off the inverter

10. If a fault occurs, click the red text on the main interface to view the fault details. Follow the troubleshooting list in Chapter 8 Troubleshooting to resolve the issue. Then restart the inverter. If the issue persists, please contact customer service for assistance.

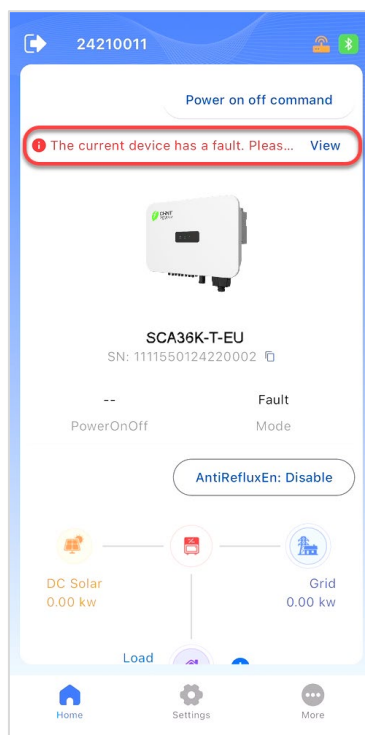


Figure 6-11 View fault information

For more detailed operations about MatriCloud App, please refer to the *MatriCloud App User Manual*.

6.2.1. Anti-Backflow Parameter Configuration in MatriCloud

After completing the anti-backflow wiring as per **4.3.5 Anti-Backflow for Single Inverter**, the following configurations need to be set in the MatriCloud App.

1. There are two access points to enable the anti-backflow function:

- Navigate to “Home”, click “AntiRefluxEn” button, select “Single Anti-refluxEn”.
- Alternatively, navigate to “Settings > Enable/disable control parameters”, set the “AntiRefluxEn” parameter to “Single anti-refluxEn”.

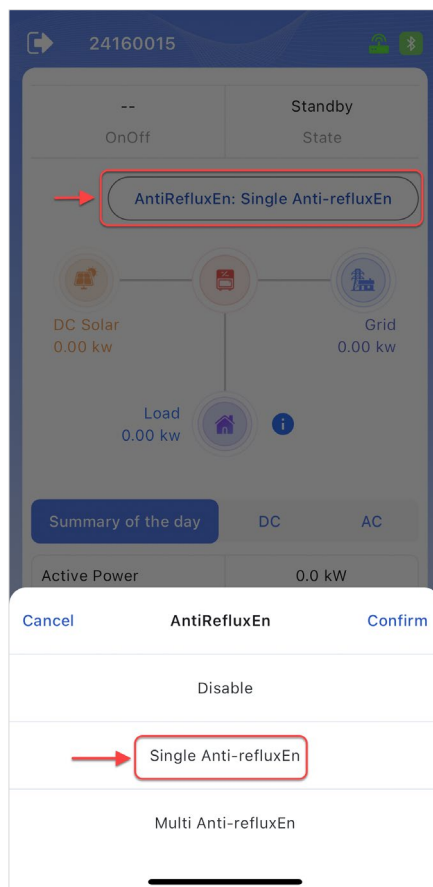


Figure 6-12-a Enable anti-backflow through “Home” Interface

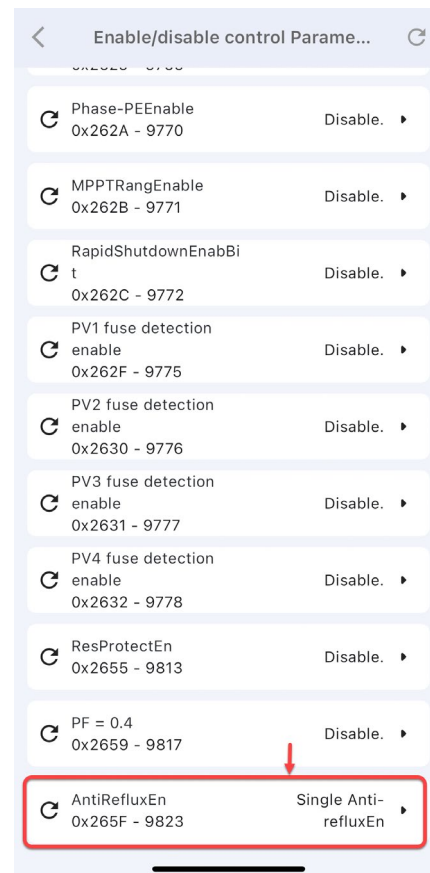


Figure 6-12-b Enable anti-backflow through “Settings > Enable/disable control parameters”

2. Select meter type: navigate to “Setting > LcdLess Basic Parameter2”, set “MeterType” parameter to “DTSU666”.

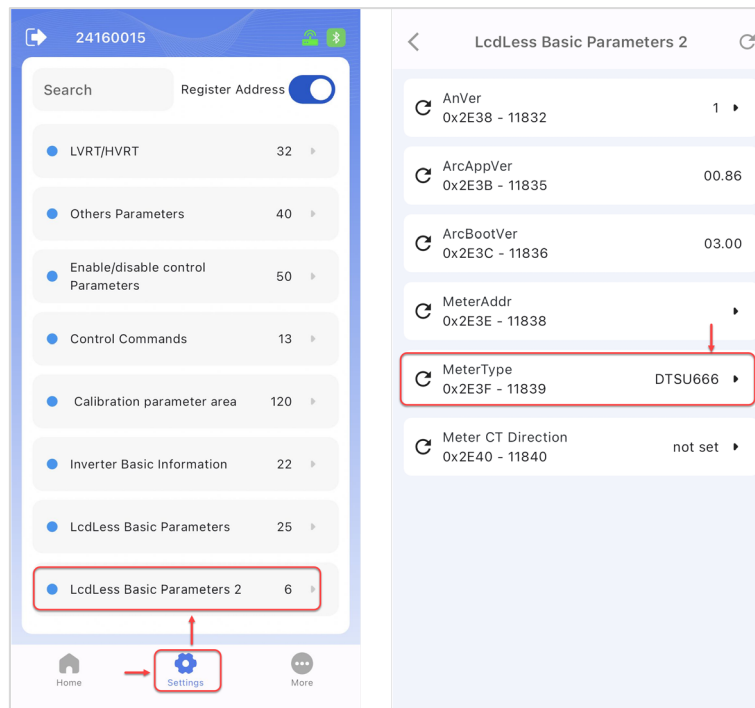


Figure 6-13 Configure meter type

3. Disable the anti-backflow function: There are two access points to disable the anti-backflow function:
 - Navigate to “Home”, click “AntiRefluxEn” button, select “Disable”.
 - Alternatively, navigate to “Settings > Enable/disable control parameters”, set the “AntiRefluxEn” parameter to “Disable”.

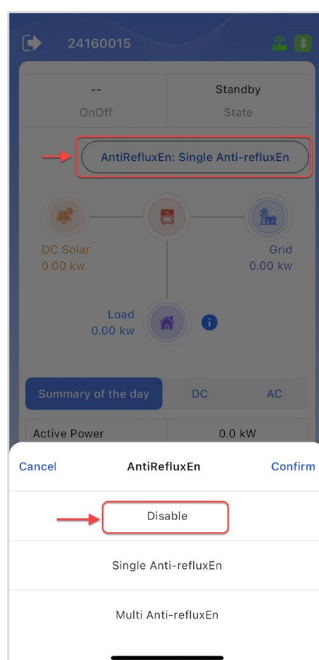


Figure 6-14-a Disable anti-backflow through “Home” Interface

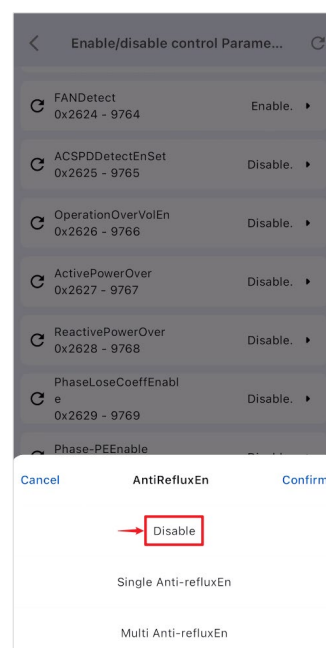


Figure 6-14-b Disable anti-backflow through “Settings > Enable/disable control parameters”

4. After disabling the anti-backflow function, the active power dispatching value must be set to achieve full power output of the inverter: navigate to “Setting > Power dispatching”, and set the “PSet” parameter to 100.0.

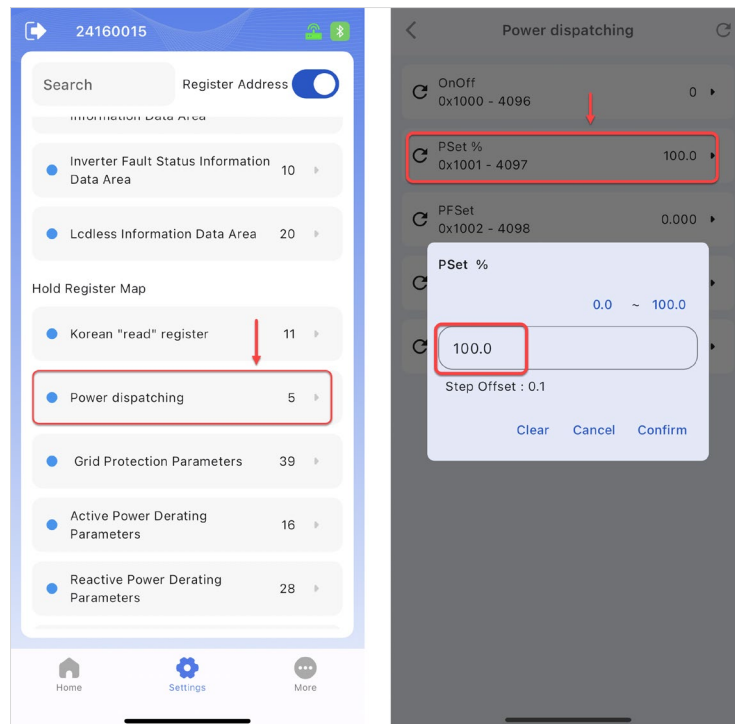


Figure 6-15 Reset the value of PSet

7. Maintenance and Replace

WARNING!



- Before starting any product maintenance, the inverter should be stopped running, the AC circuit breaker connected to the grid and the PV input on the DC side shall be all disconnected, and then wait at least 10 minutes before starting any operation.
- These servicing instructions are for use by qualified personnel only.
- To reduce the risk of electrical shock, do not perform other servicing other than those specified in the operation instructions unless you are qualified to do so.

7.1. Check Electrical Connections

- Check all the cable connections as a regular maintenance inspection every 6 months or once a year.
- Check the cable connections. If loose, please tight all the cables acc. to section 5 Electrical Connection.
- Check for cable damage, especially whether the cable surface is scratched or smooth. Repair or replace the cables if necessary.

7.2. Clean Radiator

- To ensure good heat dissipation of the radiator, it is necessary to check the inverter or its surrounding regularly.
- Ensure the radiator is not dirty heavily and not covered by other objects. If any, remove it immediately.

7.3. Replace the Inverter



IMPORTANT!

Make sure the external AC breaker and DC switch of inverter are turned off.

Replace the inverter in reverse order relative to the installation steps in section 3.5 Installation Procedures.

1. Use a No.10 hexagon socket wrench to remove the two M6X16 screws.
2. Remove the inverter from its mounting bracket.
3. Replace the new inverter on the mounting bracket and fasten it.

8. Troubleshooting

8.1. LED Indicator Troubleshooting

If the LED light indicates any faults, please perform troubleshooting according to the Table 8-1.

LED status	Solutions
Warnings	<ol style="list-style-type: none"> 1. Turn off the external AC breaker. 2. Switch the DC switch to OFF position. 3. Check the PV input voltage and polarity.
Common (restorable) faults	<ol style="list-style-type: none"> 1. Turn off the external AC breaker. 2. Switch the DC switch to OFF position. 3. Check if the grid voltage is normal. 4. Check if the cable connection of AC side is correct and secure.
Unrecoverable fault	Refer to Table 8-2 to 8-4 for troubleshooting.

Table 8-1 Troubleshooting based on LED Lights

8.2. Common Fault and Troubleshooting

DANGER!



- Please disconnect the inverter from AC grid and PV modules before opening the equipment. Make sure hazardous high voltage and energy inside the equipment has been discharged.
- Do not operate or maintain the inverter until at least 10 minutes after disconnecting all sources of DC and AC.

The inverter will be shut down automatically if the PV power generation system fails, such as output short circuit, grid over-voltage/under-voltage, grid over-frequency/under-frequency, high environmental temperature or internal malfunction of the machine. The fault information will be displayed on the APP interface.

The troubles can be identified and resolved based on the definitions, possible causes and recommended solutions listed in the following table. There are generally three types of faults: warning, protection, and hardware fault. Proper analysis is recommended before contacting after-sales service.

Fault Codes	Solutions
CommErr	Definition: Communication inside inverter fails
	Possible causes: <ul style="list-style-type: none"> • Terminal block connectors of internal communication wires have

	<p>poor contact</p> <p>Recommended solutions:</p> <ol style="list-style-type: none"> 1. Observe for 5 minutes and see whether the alarm will be eliminated automatically. 2. Switch off 3-phase working power supply and then reboot the system. 3. Contact after-sales service personnel.
IntFanErr	<p>Recommended solutions:</p> <ol style="list-style-type: none"> 1. Observe for 5 minutes and see whether the alarm will be eliminated automatically. 2. Check for foreign objects on radiator. 3. Switch off 3-phase work power supply and then reboot the system. 4. Contact after-sales service personnel.
Warn0030 (EepromErr)	<p>Definition:</p> <p>Internal alarm</p> <p>Recommended solutions:</p> <ol style="list-style-type: none"> 1. Observe for 5 minutes and see whether the alarm will be eliminated automatically. 2. Contact after-sales service personnel.
Warn0040 (DC SPD fault)	<p>Recommended solutions:</p> <ol style="list-style-type: none"> 1. Observe for 5 minutes and see whether the alarm will be eliminated automatically. 2. Check if DC SPD is damaged. 3. Contact after-sales service personnel.
Warn0050 (TempSensorErr)	<p>Recommended solutions:</p> <ol style="list-style-type: none"> 1. Observe temperature display. 2. Switch off 3-phase working power supply and then reboot the system. 3. Contact after-sales service personnel.

Table 8-2 Troubleshooting list of warning faults

Fault Codes	Solutions
Protect0090 (Bus over voltage)	<ol style="list-style-type: none"> 1. Turn off DC switches and external AC breaker. 2. Wait for 1 minute between OFF and ON for all energy to discharge. 3. If inverter cannot clear fault, replace inverter.
Protect0070 (Bus under voltage)	<ol style="list-style-type: none"> 1. Turn off DC switches and external AC breaker. 2. Wait for 1 minute between OFF and ON for all energy to discharge. 3. If inverter cannot clear fault, replace inverter.

GridV.OutLim	<ol style="list-style-type: none"> 1. Make sure the grid connection is good. 2. Restart the inverter again. 3. If inverter cannot clear fault, replace inverter.
Protect0020 (Grid relay error)	<ol style="list-style-type: none"> 1. Turn off DC switches and external AC breaker. 2. Wait for 1 minute between OFF and ON for all energy to discharge. 3. If inverter cannot clear fault, replace inverter.
TempOver (Over-temperature protection)	<ol style="list-style-type: none"> 1. Confirm that external ambient temperature is within the specified range of operating temperature. 2. Check whether radiator is covered by other objects. 3. Check whether the location of installation is appropriate or not. 4. Observe for 30 minutes and see whether the alarm will be eliminated automatically. 5. Contact after-sales service personnel.
Protect0170 (DCI high)	<ol style="list-style-type: none"> 1. Raise limit of DCI_{max} (for example, 400mA) to allow inverter more room to adjust in transient condition to cope with imbalance of impedance and voltage between Grid phases. 2. After raising limit, if inverter cannot clear fault, replace inverter.
IsolationErr (Insulation resistance low)	<ol style="list-style-type: none"> 1. Check wires of PV and ground. 2. Restart to see if inverter can clear fault. 3. Contact after-sales service personnel.
GFCIErr (leakage current high)	<ol style="list-style-type: none"> 1. Check wires of PV and ground: 2. Restart to see if inverter can clear fault. 3. Contact after-sales service personnel.
Protect0150 (Mini MCU Fault)	<ol style="list-style-type: none"> 1. Turn off DC switches and external AC breaker. 2. Wait for 1 minute between OFF and ON for all energy to discharge. 3. If inverter cannot clear fault, replace inverter.
Protect0100 (The sensor fault of leakage current)	<ol style="list-style-type: none"> 1. Turn off DC switches and external AC breaker. 2. Wait for 1 minute between OFF and ON for all energy to discharge. 3. If inverter cannot clear fault, contact after-sales service personnel.
Reverse PVx electrode (x=6/8)	<ol style="list-style-type: none"> 1. Turn DC Switch OFF 2. Use meter to find out which PV string is connected in reverse polarity. Correct PV string connection if necessary. 3. Contact after-sales service personnel.
High PVx Input voltage (x=6/8)	<ol style="list-style-type: none"> 1. Check if its input voltage is within 1100V. 2. Turn off DC switches and external AC breaker. 3. Wait for 1 minute between OFF and ON for all energy to discharge. 4. Contact after-sales service personnel.

Protect0230 (Inverter open-loop self-test fault)	<ol style="list-style-type: none">1. Turn off DC switches and external AC breaker.2. Wait for 1 minute between OFF and ON for all energy to discharge.3. If inverter cannot clear fault, replace inverter.
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Table 8-3 Troubleshooting list of protection faults

Fault Codes	Solutions
Fault 0010~0150	<ol style="list-style-type: none">1. Turn off DC switches and external AC breaker.2. Wait for 1 minute between OFF and ON for all energy to discharge.3. If inverter cannot clear fault, replace inverter.

Table 8-4 Troubleshooting list of hardware faults

9. Technical Data

Model	SCA30K-T-EU	SCA36K-T-EU
DC Input		
Max. DC Voltage	1100 Vdc	
MPPT Operating Voltage Range ¹	200 – 1000 Vdc	
Start Voltage	250 Vdc	
Rated DC Voltage	615 Vdc	
Number of MPPT	3	4
Number of DC Connection Sets per MPPT	2	2
Max. Input Current per MPPT	30 A	
Max. DC short-circuit current per MPPT	45 A	
DC Disconnection type	Integrated Switch	
AC Output		
Rated AC Power	30 kW	36 kW
Max. AC Power	33 kVA	39.6 kVA
Rated AC Voltage	380 / 400 V	
AC Voltage Range ²	277 – 520 V	
Grid Connection Type	3 / N / PE	
Max. AC Current	50 A	60 A
Grid Frequency	50 / 60 Hz	
Grid Frequency Range	45 – 55 / 55 – 65 Hz	
Power Factor (cos φ)	> 0.99 (± 0.8 adjustable)	
Current THD	< 3%	
System Data		
Topology	Transformerless	
Max. Efficiency	98.15%	98.73%
Euro Efficiency	97.91%	98.05%
Consumption at Night	< 15 W	
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	
Environment Data		

Ingress Protection	IP66	
Cooling Method	Cooling Fans	
Operating Temperature ³	-25°C to +60°C	
Ambient Humidity	0 – 100%	
Altitude ⁴	4000 m	
Display and Communication		
Display	LED + APP (Bluetooth)	
Communication	RS485 / Wi-Fi (Standanrd) and 4G (Optional)	
Mechanical Data		
Dimensions (W x H x D)	684 x 488 x 269 mm	
Weight	37 kg	37.5 kg
DC Connection Type	MC4 (Max. 6 mm ²)	
AC ConnectionType	OT/DT Termainal (Max. 35 mm ²)	
Safety		
Certifications	IEC/EN 61000, IEC/EN 62109-1/2, IEC 61727, IEC 62116, IEC 63027, IEC/EN 62920, C10/11, CEI 0-21, EN 50549-1/2, NC RfG, NTS 2.1, RD 647, RD 1699, RD 413, UNE 217002, UTE C15-712-1, VDE-AR-N 4105, TOR Erzeuger Typ A/B	

Note: The characteristic curves in this document are for reference only. Please refer to the actual situation.

1. Inverter full power operating range is 200-1000Vdc. Below and above this range there is a linear de-rating of the inverter output power. DC input voltage linear de-rating is illustrated in the figure below:

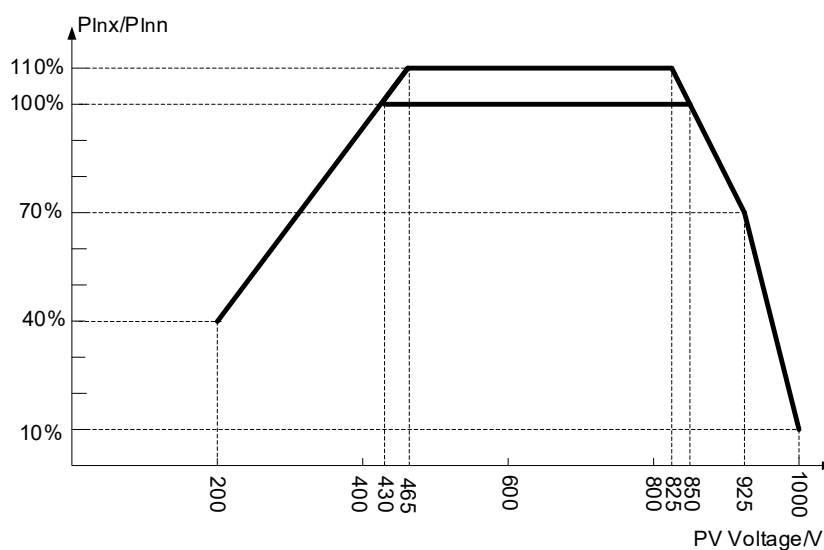


Figure 9-1 DC input voltage de-rating

2. AC Output Voltage De-rating: Inverter AC output voltage operating range is from $0.8 \times U_n$ to $1.1 \times U_n$ (U_n : standard grid rated value). AC output voltage linear de-rating is illustrated in the figure below:

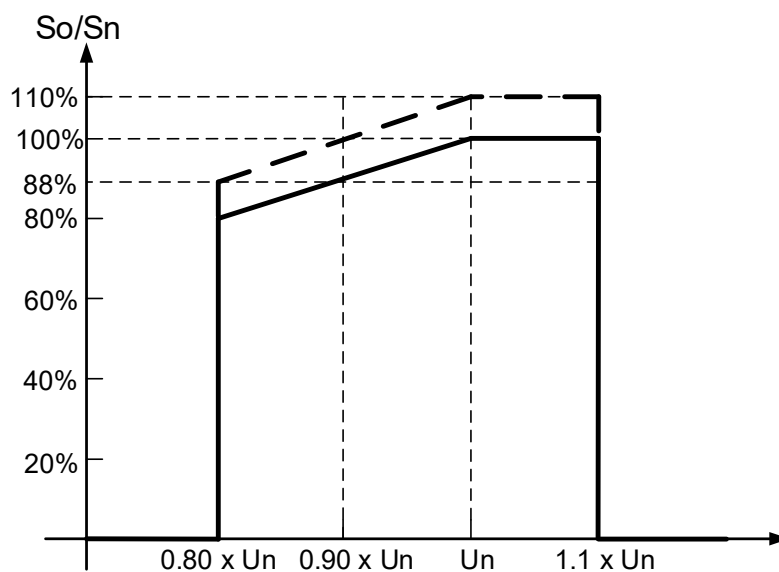


Figure 9-2 AC output voltage de-rating

3. Temperature De-rating: When the installation temperature rises, the inverter output power needs to be de-rated. De-rating needs to be performed according to the figure below:

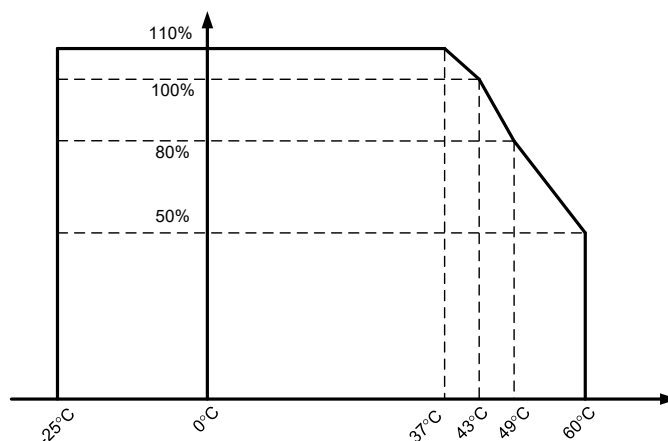


Figure 9-3 SCA30K-T-EU temperature dependency de-rating @PV=615V

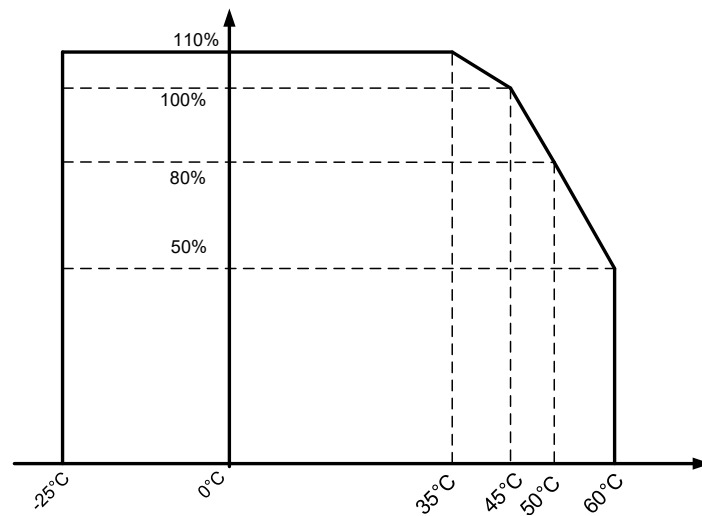


Figure 9-4 SCA36-T-EU temperature dependency de-rating @PV=615V

4. Altitude de-rating: The altitude and output power de-rating details are illustrated in the figure below.

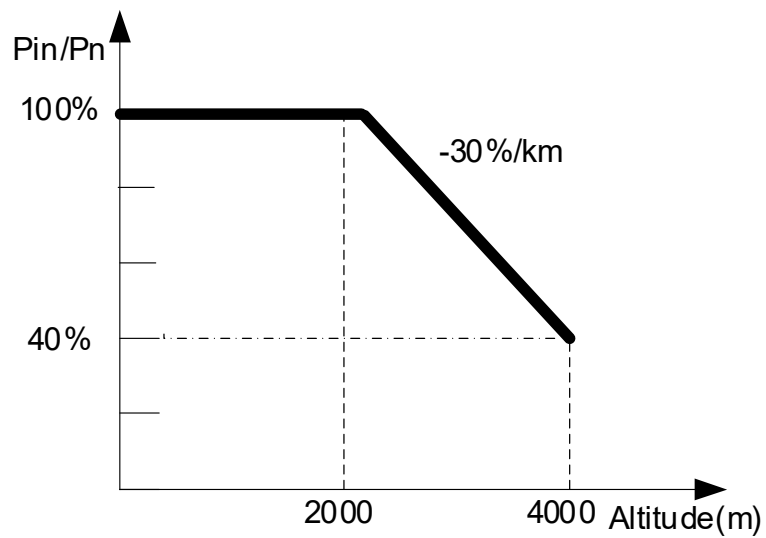


Figure 9-5 Altitude de-rating

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. Improper commissioning, testing, operation, maintenance or installation performed by 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 power;
 - 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;
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 commissioning, 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 (Warranty Clauses)

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



The product cannot be disposed of as or together with household wastes.

When it is end of service life, please dispose in accordance with the local applicable regulation and standard, to prevent environment pollution, property losses or personal injury.

More information, please consult your distributors, installers, or product manufacturer.

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