

User Manual for PV Grid-tied Inverter

SCA75K-T-SA, SCA100K-T-EU, SCA125K-T-EU



Shanghai Chint Power Systems Co., Ltd.

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0 Preface

Before starting installation and operation



This manual contains important information about product installation and safe operation, please read it carefully before use.

Thank you for choosing a photovoltaic Grid-tied inverter for Chint Power Systems (hereinafter referred to as "photovoltaic inverter" or "inverter" in this manual). Relying on innovative design and perfect quality control, Chint power system Grid-tied photovoltaic inverters have high reliable quality and are widely used in high-standard photovoltaic Grid-tied systems.

If you encounter any problems during installation or operation, please refer to this manual first. The instructions in it can solve most of the problems for you.

If the problem persists, you can contact your local dealer or representative again.






Please keep this manual in a safe place for easy reference at any time.

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

	DANGER! DANGER indicates a situation that has a high degree of potential hazard which may cause death or serious injury.
	WARNING! Indicates that there is a moderate potential hazard, which may cause death or serious injury if not avoided.
	CAUTION! Indicates that there is a low-level potential hazard, which may cause moderate or light injury to personnel.
	NOTICE! Indicates that there is a potential risk, which may cause the equipment to fail to operate normally or cause property damage.
	IMPORTANT! Indicates additional information in the manual, emphasizes and supplements the content, and may also provide tips or tricks for optimizing the use of the product, which can help you solve a problem or save your time.

1.2 Markings on the Product

	<p>Risk of Electric Shock:</p> <p>This mark indicates that there is high voltage inside the product and you must follow the instructions in the user manual when operating</p>
	<p>High Temperature DANGER:</p> <p>This logo indicates that this product complies with international safety standards, but it will generate heat during operation, so please do not touch the heat sink and the metal surface of the inverter during the operation of the inverter.</p>
	<p>Dangerous Energy:</p> <p>Pay attention to the danger of electric shock, please release the internal energy of the device according to the stipulated time.</p>
	<p>Protection Grounding:</p> <p>This mark indicates that this is a Protection ground (PE) terminal, which needs to be firmly grounded to ensure the safety of operators.</p>
	<p>RoHS Symbol:</p> <p>In accordance with 2011/65/EU regulations, the inverter imposes restrictions on the use of specific hazardous substances in electrical and electronic equipment.</p>
	<p>Certification mark:</p> <p>This inverter has passed CE Certification.</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 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 5 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>CAUTION!</p> <p>Please check the wall bracket again before hanging up to make sure that the wall 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>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>After unpacking the inverter, keep all its interfaces sealed always, before and after connecting wires.</p>

**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, in order to ensure the long-term service life of the inverter.

**IMPORTANT!**

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.

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

The inverters are suitable for various commercial and large-scale photovoltaic Grid-tied systems. Photovoltaic systems generally consist of solar cell components (PV Modules), Grid-tied inverters and AC power distribution equipment (Figure 2-1). The solar energy is converted into DC power by PV Modules, then DC power is converted into AC power with the same frequency and phase as the grid through grid-tied inverter. The whole or part of the power is supplied to the local load and the remaining power will be fed to the grid.

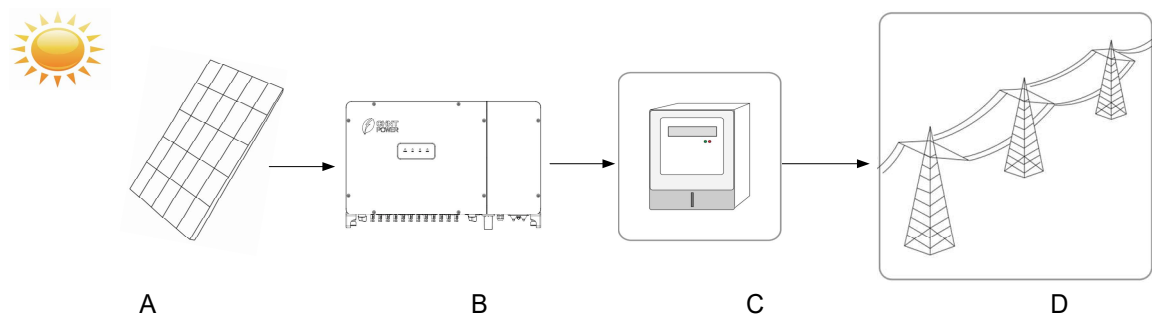


Fig. 2-1 Grid-tied PV Power Generation System

Item	Name	Description
A	PV Modules	Monocrystalline, polycrystalline silicon components, thin film batteries that do not require grounding
B	PV Inverter	SCA75K-T-SA, SCA100K-T-EU, SCA125K-T-EU
C	AC power distribution equipment	Device such as AC circuit breaker, AC combiner box and metering device
D	Public Grid	TT, TN, IT System

Table 2-1 Components of Grid-tied PV system

2.2 Product Dimensions and Main Components

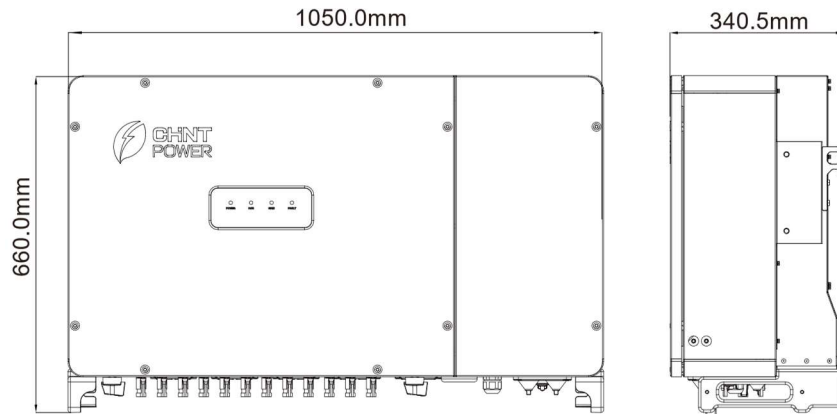


Fig. 2-2 Inverter Dimensions (the same for all the models)

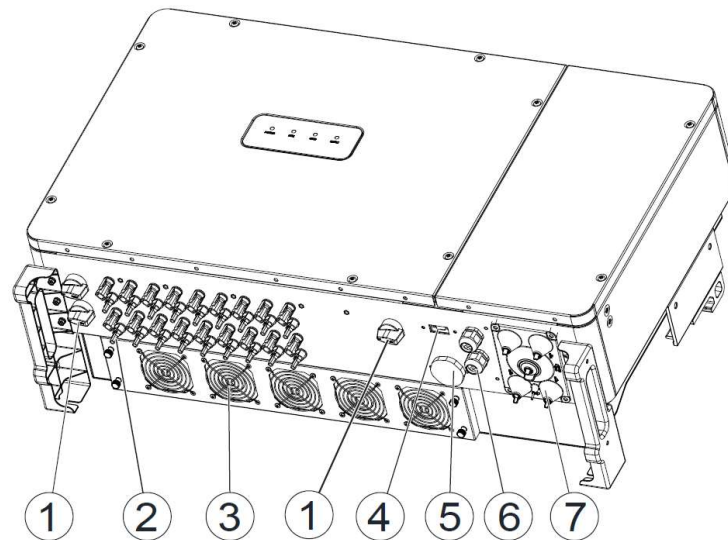


Fig. 2-3a Main Components of 75kW Inverter (9 MPPT inverter with 18 DC inputs)

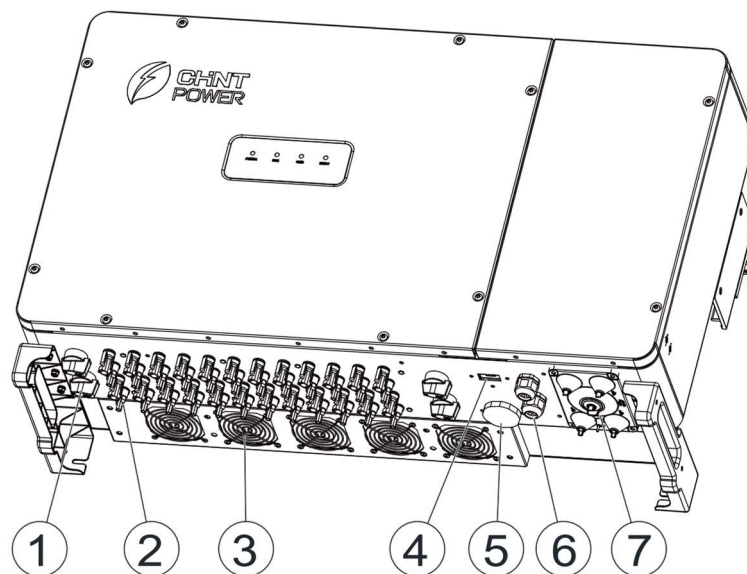


Fig. 2-3b Main Components of 100~125kW Inverter (12 MPPT inverter with 24 DC inputs)

No.	Name	Function
1	DC isolation breaker	Turn on/off DC power supply
2	PV strings connectors	Insert male/female connectors
3	Fans	Cooling the inverter
4	Communication interface	Insert communication module
5	Vent valve	Balance pressure difference
6	RS485 communication interface	RS485 communication line outlet port
7	AC sealing plate	AC cable outlet port

Table 2-2 Product Components

2.3 LED Display Panel



Fig. 2-4 LED Display Panel

The specific meaning of each indicator status is shown in table 2-3.

LED Icon	Name	Status	Meaning
POWER (Green)	Working Power Indicator	On	Has working power
		Off	No working power
RUN (Green)	Grid Operation Indicator	On	In the state of grid-connected power generation
		Flash	Derating operation status (on for 0.5s, off for 1.6s)
		Off	In other running state or no working power
GRID (Green)	Grid Status Indicator	On	Grid is normal
		Flash	The power grid is abnormal (on for 0.5s, off for 1.6s)

		Off	No power supply
FAULT (Red)	Fault Status Indicator	On	Permanent failure
		Quick Flash	General failure (on for 0.5s, off for 0.5s)
		Slow Flash	Alarm failure (on for 0.5s, off for 2s)
		Off	No fault or no working power supply
4 LEDs	Upgrade status	Flash	Upgrade firmware (on for 0.05s, off for 0.3s)

Table 2-3 LED Indicators and their indications

2.4 Product Protection Functions

- Input polarity reverse connection protection
- Short circuit protection
- Input-to-ground insulation impedance monitoring
- Output voltage and frequency monitoring
- Ground leakage current monitoring
- DC component monitoring of output current
- Anti-islanding protection
- Input and output overvoltage protection
- Input overcurrent protection
- Ambient temperature monitoring
- Module temperature monitoring
- DC arc detection and interruption

2.5 Product Circuit Structure Design

The figure below is the schematic diagram of the main circuit of the CHINT inverter. 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.

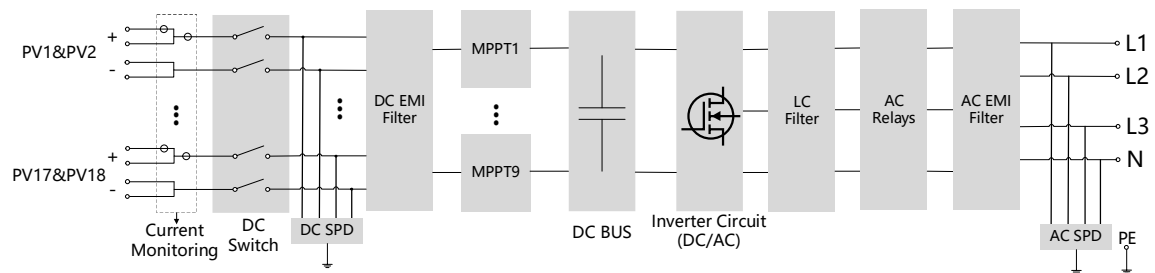


Fig. 2-5a Main Circuit Diagram of SCA75K-T-SA Inverter

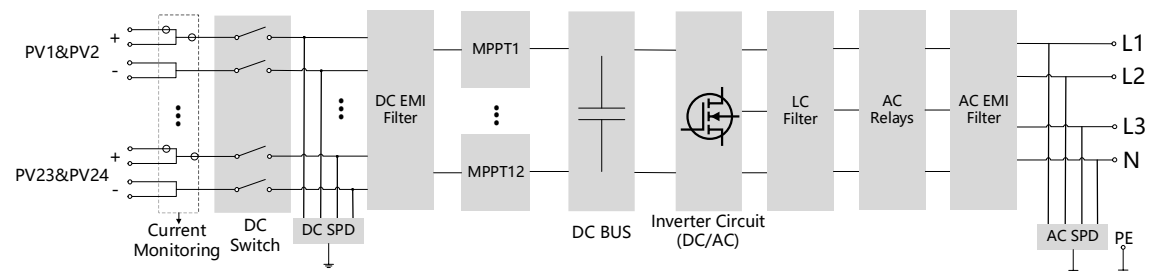


Fig. 2-5b Main Circuit Diagram of SCA100/125K-T-EU Inverter

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 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 packing materials promptly.
- Keep the packing away from corrosive substances to avoid damaging the inverter casing.
- If the inverter has been stored for more than 1 year, perform a comprehensive inspection and 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

The following content is the installation instructions of the inverter, please read carefully and follow the steps to install this product. Before installation, please check whether the following items are included in the box.

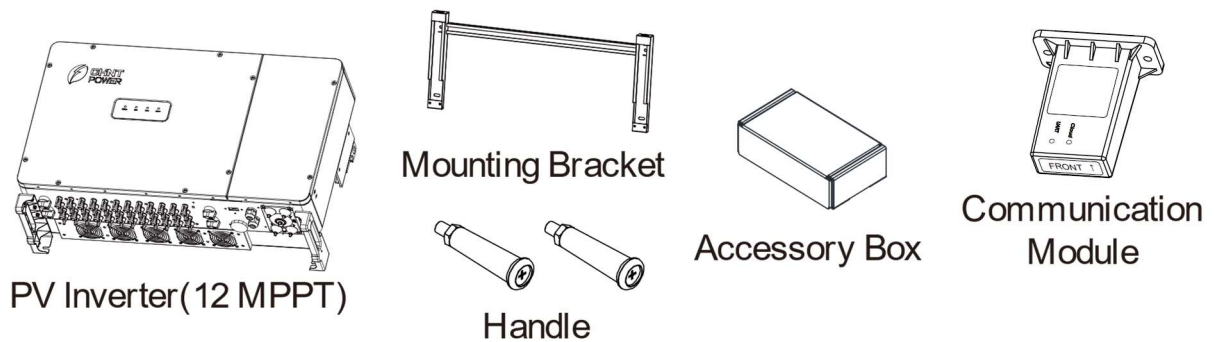


Fig. 3- 1 Scope of Supply



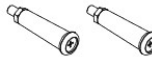





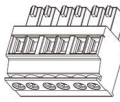



No.	Image	Description	QTY	Function
1		Inverter	1	
2		Mounting bracket	1	For mounting inverter
3		Handle	2	For mounting inverter
4		Communication Module	1	For communication and monitoring
5		Document	1	Quick guide
6		M10 Nut	4	For mounting bracket
7		Screw M10x50	4	
8		Screw M6x16	4	For fixing inverter and Grounding
9		6-Pin Terminal	1	Connect RS485 cable
10		Pan Head screw M6x18 with plastic flat washer	1	Spare for front cover
11		Unlock tool for DC connector	1	Unlock DC connector
12		DC input male connector & female connector	36/ 48	18+ & 18- for 75kW inverter; 24+ & 24- for 100-125kW inverter.

Table 3-1 Packing list

Note: Installation and wiring methods/requirements for 9 MPPT/12 MPPT inverters are all the same, 12MPPT inverter will be taken as example in the following contexts.

3.3 Installation Precautions

- 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.
- 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.
- Enough space must be provided to allow the inverter cooling system to operate normally.
- Install the inverter away from flammable and explosive substances.
- 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 PV Array is not grounded.
- 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.
- 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 Methods

Before installing the inverter, please confirm whether the supporting structure can bear the weight of the inverter, and install the inverter according to the following instructions:

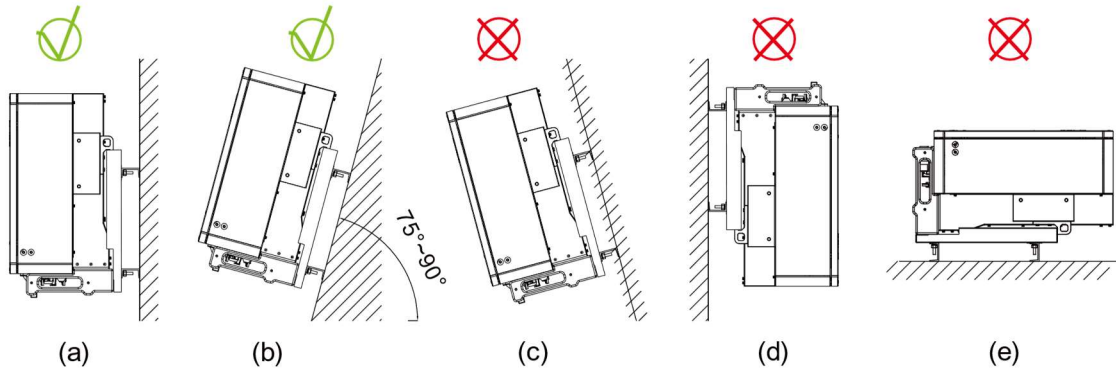


Fig. 3- 2 Inverter rack mounting methods

No.	Explanation
a	If the installation location allows, install the inverter vertically;
b	If the vertical installation cannot be guaranteed, it may be tilted backward 0 to 15 degrees from vertical direction;
c	The inverter is not allowed to be installed forward;
d	The inverter is not allowed to be installed backward;
e	The inverter is not allowed to be installed horizontally;

Table 3-2 Mounting Methods

3.4.2 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.

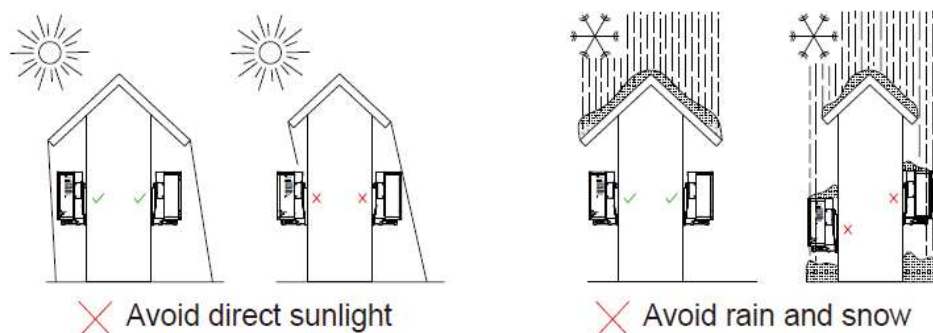


Fig. 3- 3 Installation environment requirements



NOTICE!

Direct sunlight will increase the internal temperature of the inverter, which may cause power derating, increase the failure rate, and reduce the lifespan. You can contact CHINT to purchase a dedicated sunshade.

3.4.3 Installation Clearances

During planning and installing the inverter, appropriate clearances shown as below shall be reserved to ensure enough ventilation and heat dissipation. If the inverters are installed in relatively enclosed space, this clearance 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.

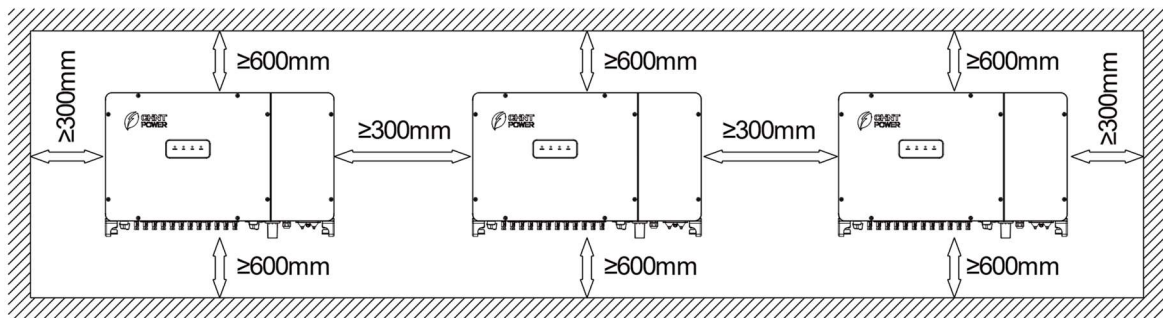


Fig. 3- 4 Installation space requirements for inverter racks



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.

3.4.4 Installation Scenarios

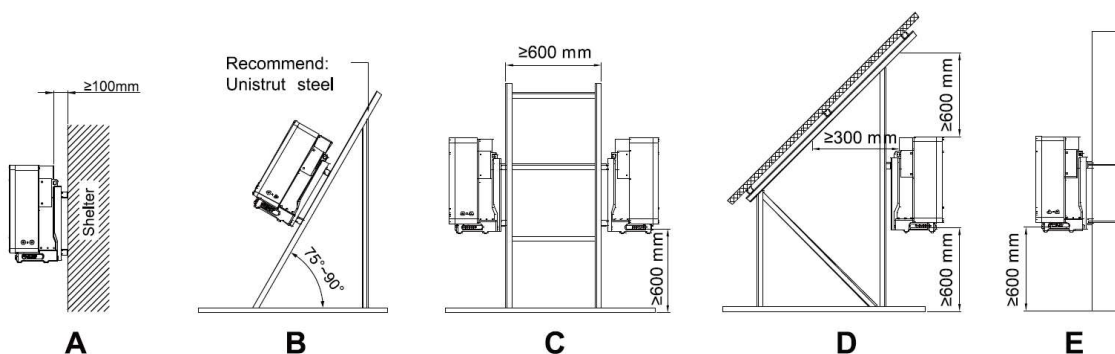


Fig. 3- 5 Installation scenarios

- A. Keep a distance between the inverter and the shade on its back to ensure good ventilation.
- B. The inverter can lean back $\leq 15^\circ$ while its back shall not be shielded to ensure good ventilation.
- C. Two inverters can be installed back to back, and proper distance shall be kept to ensure good ventilation.
- D. The inverter can be installed under the panel, while its back and top shall not be blocked to ensure good ventilation.
- E. The inverter can be installed on a single column holding rod and shall be checked to confirm a secure installation.

3.5 Installation Procedures

1. Mark the hole positions on the mounting structure according to the hole positions and sizes of the mounting bracket, as shown in Fig. 3- 6.

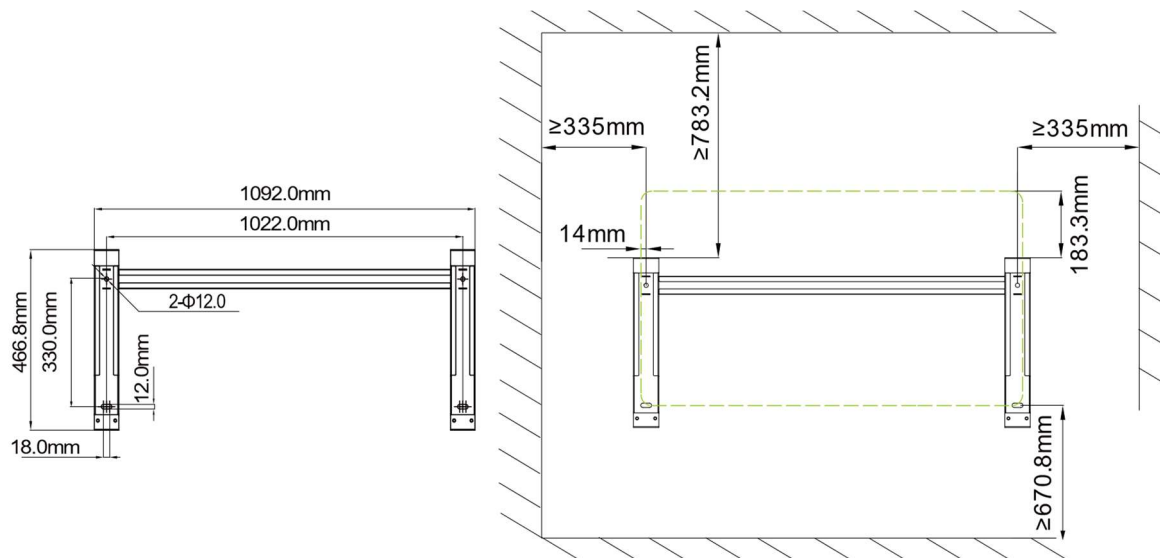


Fig. 3- 6 Mounting hole diagram

2. Drill holes with a $\Phi 12\text{mm}$ drill at the marked position. Tool: Electric drill (with $\Phi 12\text{mm}$ drill bit).
 - A. If the distance between the inverter and the shelter is more than 600mm, there is no need to install L baffle. Hang the inverter directly.

Fix the bracket (3) with the attached screws M10X50 (2), and nut M10 (1). Tool: No. 17 hex socket wrench, torque value: 230.0 kgf.cm.

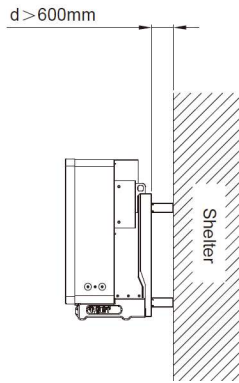


Fig. 3- 7 Shelter distance A

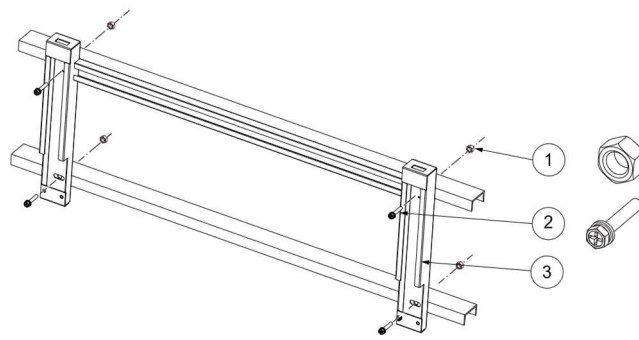


Fig. 3- 8 Fix mounting bracket

- B. If the distance between the inverter and the shelter is less than 600mm, you need to use the L baffle. Refer to Fig. 3- 10 for recommended dimensions of L baffle:

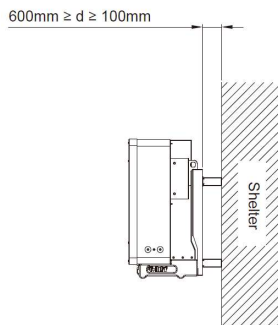


Fig. 3- 9 Shelter distance B

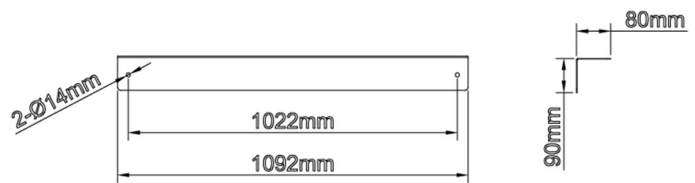


Fig. 3- 10 Recommended dimensions of L baffle

- i. Fix the L baffle to the mounting bracket with screws M10-M12 firmly.

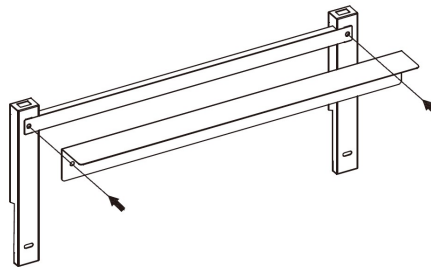


Fig. 3- 11 Fix L baffle

- ii. Fix the mounting bracket (3) with the attached screws M10X50 (2), and nut M10 (1). Tool: No. 17 hex socket wrench, torque value: 230.0 kgf.cm.

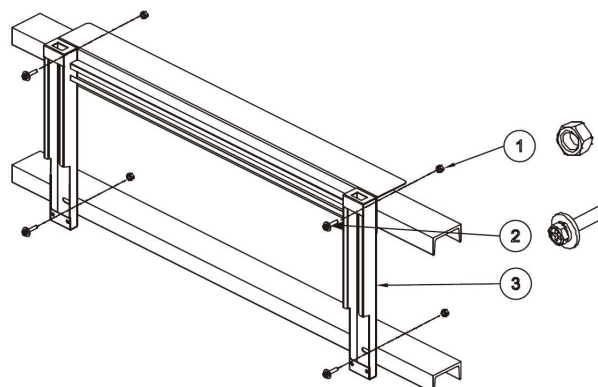


Fig. 3- 12 Fix mounting bracket


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. Install the inverter on the mounting bracket. There are two installation methods.

- Manual hanging: Two people hold the handles; two people hold the bottom surface and side holders. Hang the inverter on the mounting bracket together by four people, refer to Fig. 3- 13.
- Hoisting method: Tighten two M10 lifting eyebolts (prepared by customer) into screw holes on the both sides of inverter, and use a sling or a hanging rod (inserted through two lifting eyebolts) to lift the inverter onto the mounting bracket. The angle between the two slings must be less than 90 degrees, refer to Fig. 3- 14.


CAUTION!

The host of the inverter weighs approximately 90 kg (≈ 198.4 lb.).

Please check the mounting bracket again before hanging up, to confirm that the mounting bracket is firmly on the supporting surface.

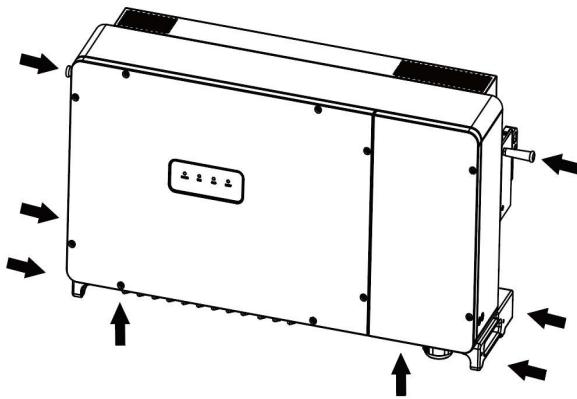


Fig. 3- 13 Hanging the inverter manually

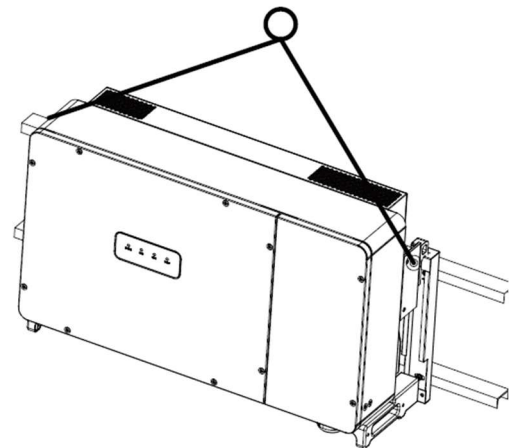


Fig. 3- 14 Hoisting the inverter

4. Use two M6X16 screws to fix inverter on mounting bracket with No.10 hexagon socket wrench, torque value: 60.0 kgf.cm.

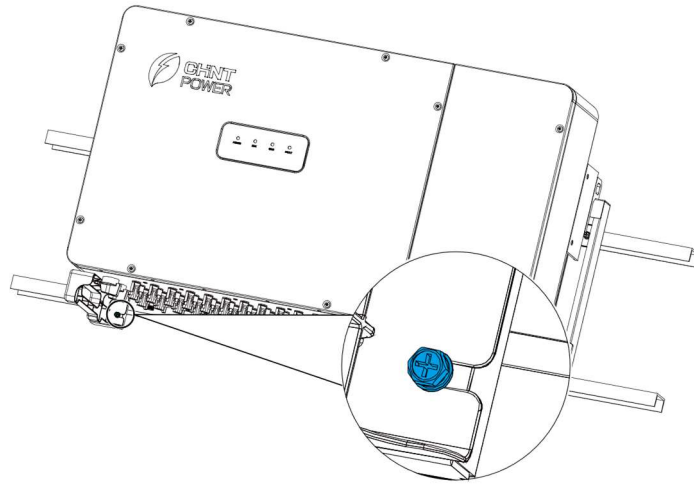


Fig. 3- 15 Inverter fixed on backplane bracket

3.6 Install Self-Check

1. Ensure that supporting points (on the rear side of the inverter) are aligned with holes of mounting bracket.
2. Ensure that the inverter is well fixed.
3. Ensure that the inverter is locked on the mounting bracket and anti-theft lock is installed.

4 Electrical Connection



DANGER!

- The cables shall be connected in accordance with the National Electrical Code and all other applicable local codes or jurisdictions.
- Before connecting all cables, ensure the equipment is free from any damage. Otherwise, it may cause electric shock or fire.
- High-temperature environments may result in insulation aging or damage of cables. The distance between the cables and heat-generating devices or the surrounding area of the heat source should be at least 30mm.
- Before performing any electrical connection, make sure both DC and AC switches are OFF. Otherwise, fatal injury can occur due to high voltage.



NOTICE!

- Please read carefully and refer to Chapter 9 Technical Data before wiring.
- 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.
- Close covers of AC wire box in time after wiring process to avoid water condensation in wire box.
- Before the first power-on operation, or before running it again after long time (6-12 months) shutdown, check if any water-sensitive label in the bottom left corner of AC wire box and that on the capacitive plate turns red. Never power on the inverter once any label turns red.
- Never damage or tamper with vent valve.

4.1 Cable Specification

The inverter external cable must be equipped with the specifications in the table below:

Name	Type	O.D. (mm)	Conductor cross-sectional area (mm ²)
DC Cable	PV cables that meet 1500V standard	5.0~7.2*	4~6
AC cable	Outdoor four-core cable (L1, L2, L3, and N)	38~64	L1, L2, L3, and N: 95~240
	Outdoor five-core cable (L1, L2, L3, N, and PE)	40~67	<ul style="list-style-type: none"> ● L1, L2, L3, and N: 95~240 ● PE: \geq Cross-sectional area of phase conductor/2
	Outdoor single-core copper cable	23~32	<ul style="list-style-type: none"> ● L1, L2, L3: 95~240 ● PE: \geq Cross-sectional area of phase conductor/2; N refer to local specification
Grounding cable	External grounding	/	Same as PE wire in AC cable
Communication cable	Communication cable UTP CAT-5e	4.5~6	3*0.2~0.75
	Shielded twisted pair		3*1~1.5

*For selection exceeds the given range, please consult CHINT for feasibility.

Table 4-1 Cable specifications

4.2 Tools Required and Torque Values

Tools and torque are as follows:

No	Tools	Usage	Torque
1	5mm hex wrench	Fixing upper cover of wire box	30.0 kgf.cm
2	18mm hexagon socket wrench	Fixing AC output terminal	200.0 kgf.cm
3	4mm hex wrench	Fixing AC sealing plate	14.0 kgf.cm
4	No.10 hexagon socket wrench	Fixing grounding terminal	60.0 kgf.cm
5	1.5mm flat-blade screwdriver	Fixing RS485 communication terminal	2.0 kgf.cm
6	Diagonal pliers	Making cables	-
7	Wire stripper	Making cables	-
8	Crimping Tool	Making cables	-

Table 4-2 Tools & Torque required for wiring

4.3 External Interfaces and Internal Connection Points

Refer to the figures below to view the internal and external interfaces of all inverter modules.

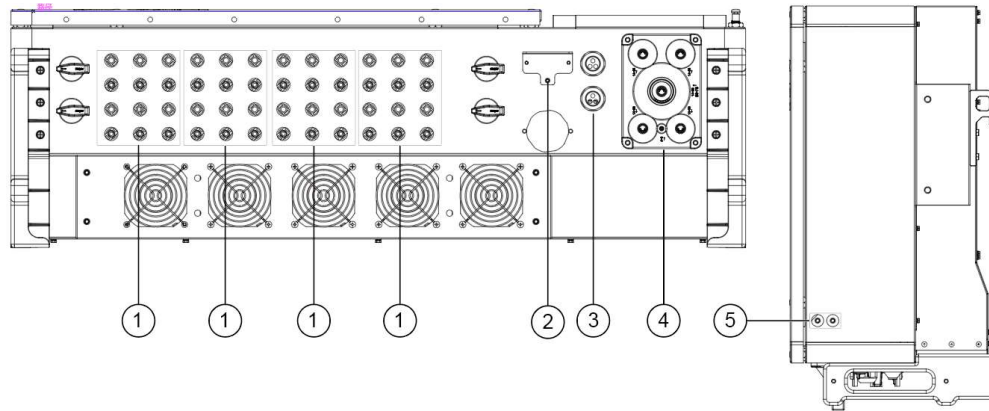


Fig 4-1 External Interface

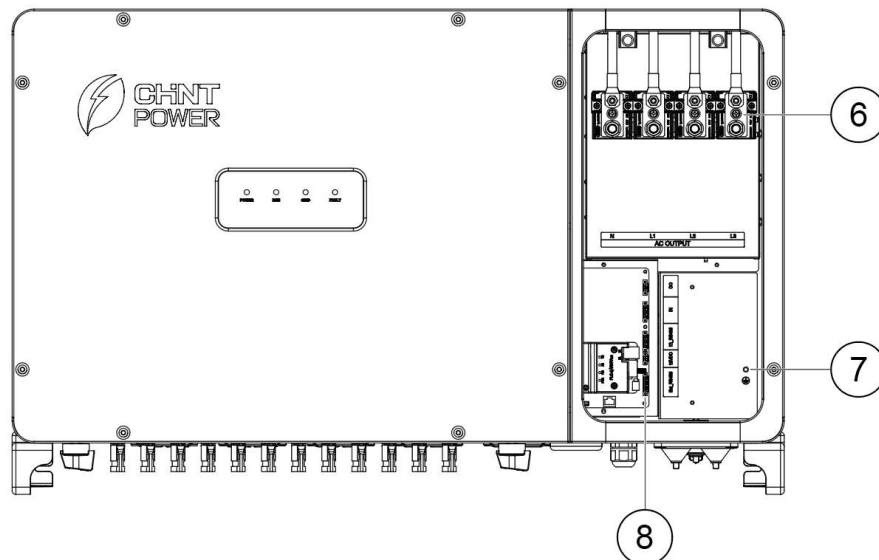


Fig. 4-2 Internal Wiring Point

No.	Description	No.	Description
1	DC Input quick plug terminal	5	External ground point (PE point)
2	Communication interface	6	AC Output terminal block
3	RS485 communication interface	7	Internal ground point
4	AC Sealing Plate	8	RS485 communication terminal (for external communication)

Table 4-3 External Interfaces and Internal Connection Points

4.4 Electrical Cable Connection

Wiring preparation

Loosen the 2 captive screws on upper cover of the wire box, and then pull right to open the upper cover.

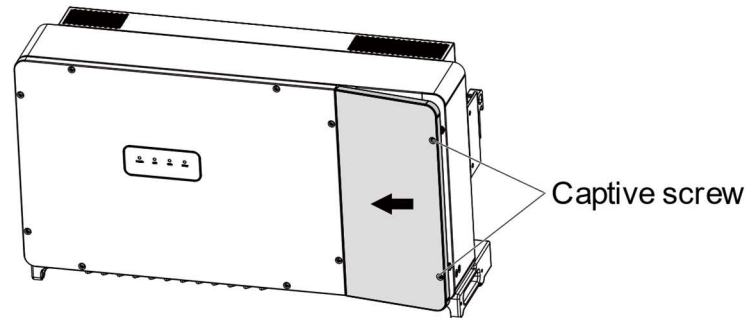


Fig. 4-3 Open upper cover of wire box

4.4.1 Grounding

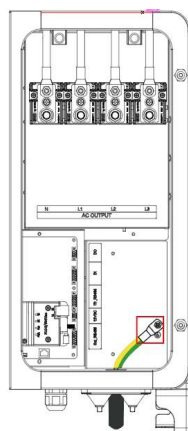
Connect grounding wire and then tighten with M6x16 screws:

- Internal grounding (required): Connect PE wire to internal grounding stud located on the lower right side of the AC busbar, as shown in Fig. 4-4 on the left.
- External grounding (optional): Connect grounding cable to external grounding hole located at the bottom of the machine next to the AC port, as shown in Fig. 4-4 on the right.

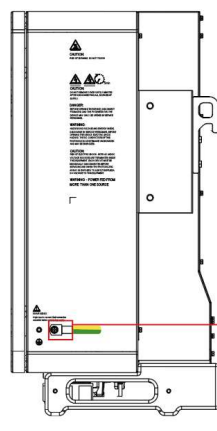


NOTICE!

- After wiring, external grounding position needs to be coated with glue or paint, to improve corrosion resistance.
- 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.



Internal Grounding



External Grounding

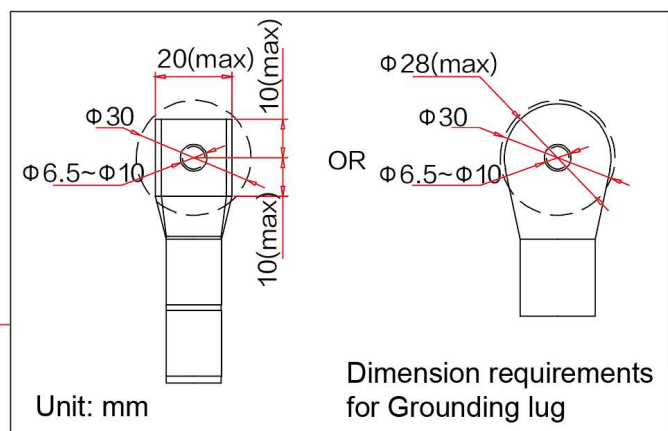


Fig. 4-4 Grounding Method

Depending on the grounding method, the wiring method is different. After the internal

grounding wire is connected, the compression nut of the cable fastening head must be tightened.

4.4.2 AC Wiring

Perform the AC wiring procedures as follows:

1. Loosen the four screws to remove the AC sealing plate from the inverter.

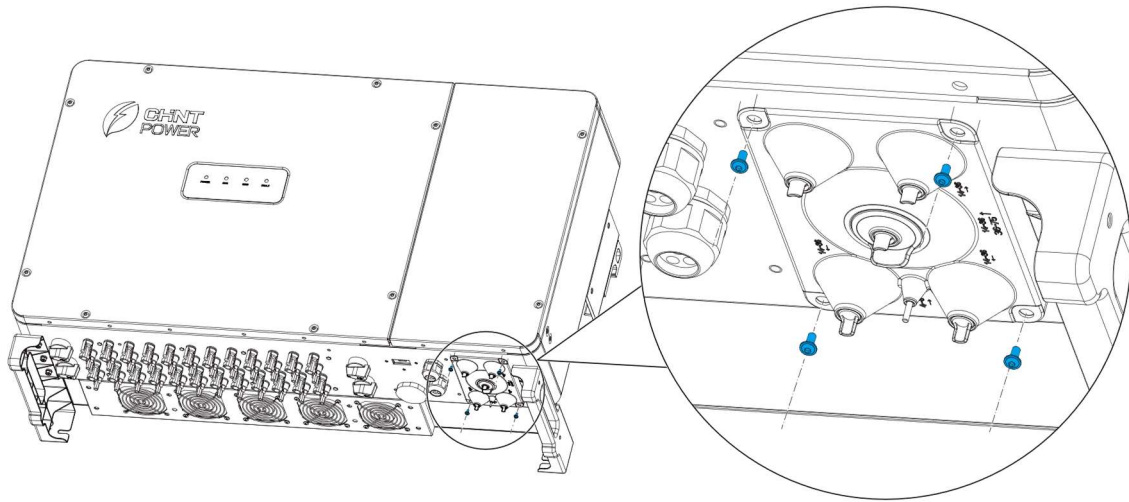


Fig 4-5 Remove AC sealing plate

2. According to cable type, pull off ring tab with hand or plier, and then route cable through the seal ring.
 - For single-core outdoor cable, refer to Fig 4-6 (A). Note: When using the middle seal ring for routing, route grounding wire through it rather than L1, L2, L3, or N wire.
 - For four-core and five-core outdoor cable, refer to Fig 4-6 (B).

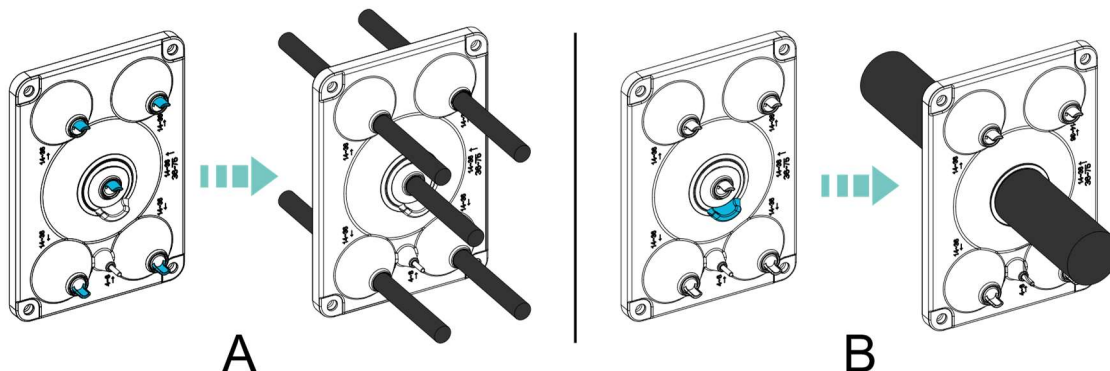


Fig 4-6 Route the cable through the seal ring



NOTICE!

The smallest seal ring of AC sealing plate is reserved. Remember its orientation before removing AC sealing plate and ensure it returns to the original position when recovering the board.

3. Remove an appropriate length of the jacket and insulation layer from the AC output cable.

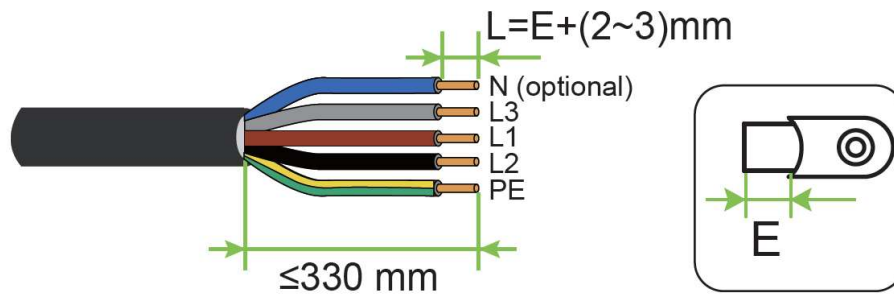


Fig. 4-7 Strip AC wires

4. Insert the exposed core wires into crimping area of OT/DT terminal, crimp them using hydraulic plier, then wrap the crimp areas with heat shrink tubing or insulation tape.

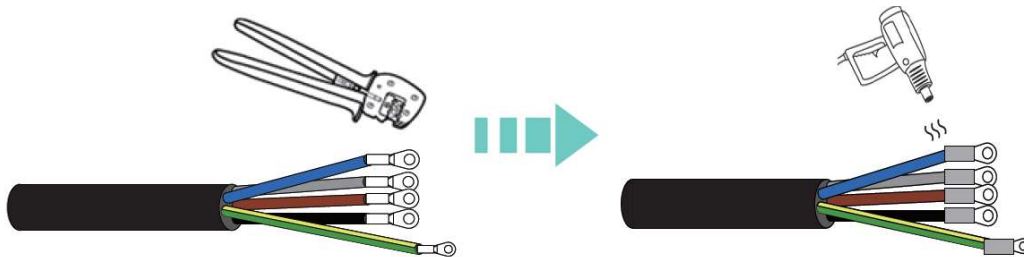


Fig. 4-8 Crimp AC wires and OT/DC terminals

NOTICE!



- Use copper terminals to match copper wires.
- Use Cu-Al bimetallic terminals or aluminum terminals with Cu-Al bimetallic washers to match aluminum wires. Outer contour of Cu-Al bimetallic washer shall be no smaller than that of OT/DT terminals. The washers shall be placed between AC copper bar and OT/DT terminals. The washers are prepared by customer, and it is recommended to purchase washers and terminals from the same manufacturer.
- Do not connect aluminum terminals directly.

5. Unplug the rubber plug (1) of transparent protection cover above the AC terminal block, to remove the transparent protection cover.

Connect OT/DT terminals to L1, L2, and L3 wiring studs (2) on the AC terminal block, tighten them with tapered washer combination nut.

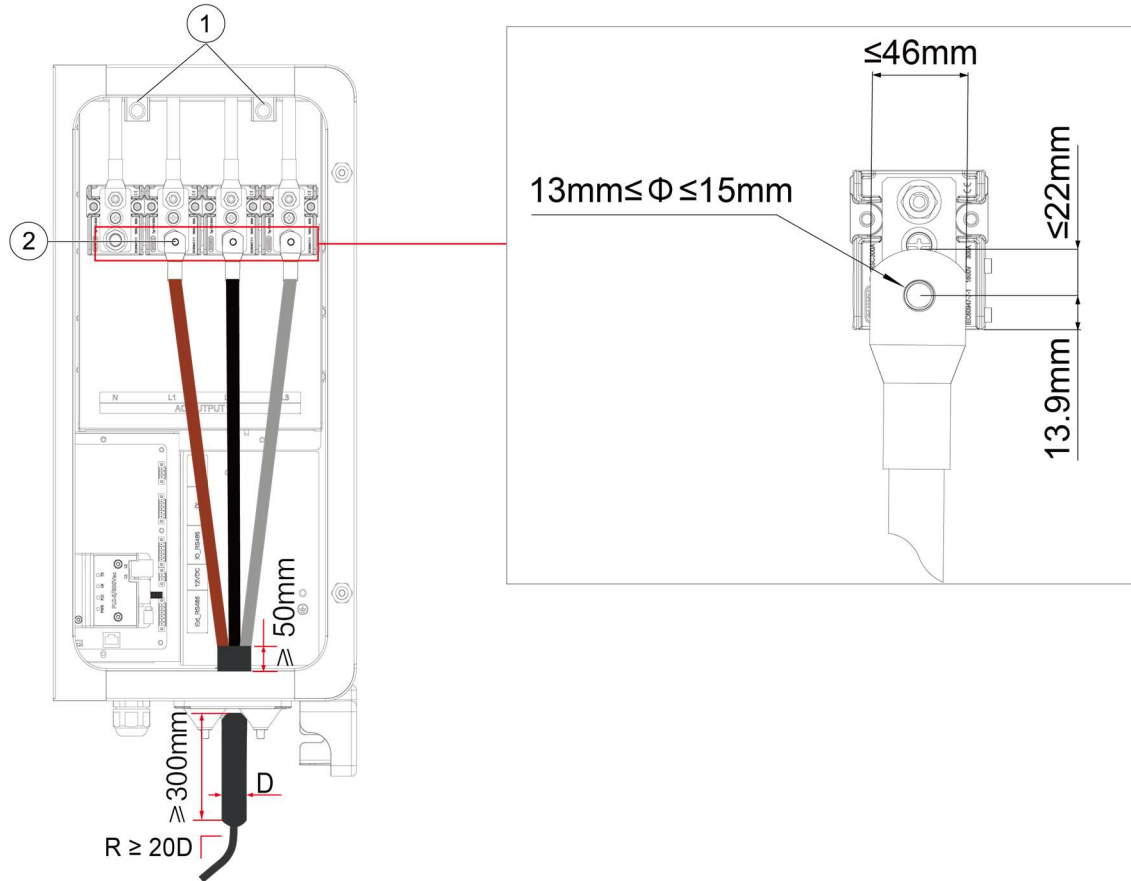


Fig. 4-9 AC Output Line Connection

NOTICE!




- The wire stripping position should be $\geq 50\text{mm}$ higher than the bottom of wire box.
- The cable outside the seal ring should be vertical for at least 300mm.
- The cable's bending radius (R) must be greater than or equal to 20 times the diameter (D) to prevent breakage due to excessive stress.
- The AC output cables outside the inverter should be arranged without force, otherwise adequate mechanical strain relief should be provided.

6. Adjust cable length, and plug the rubber plug to fix the transparent protective cover to prevent accidental contact with the AC busbars.
7. Secure the AC sealing plate to inverter using its original screws.

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 Table 4-4:

Inverter	Inverter AC breaker current parameter
SCA75K-T-SA	300A
SCA100K-T-EU	250A
SCA125K-T-EU	300A

Table 4-4 Specification of AC Breaker Selection

	NOTICE! Leakage current >1A or without leakage current function.
---	--

4.4.3 DC Wiring

To ensure the optimum performance of the inverter, please read the following guidelines before performing any DC connections:

- Confirm the DC configuration and ensure that the maximum open circuit voltage of the PV modules is lower than 1100VDC under any conditions. It is recommended that the difference between the actual MPPT voltages of each channel should not be greater than 100V.
- Before connecting the PV array to the inverter, ensure that the PV array has good insulation to ground, and ensure that the voltage and maximum short-circuit current of each PV string are within the allowable range of the inverter.
- If the polarity of the DC input cable is reversed or there is a short circuit to ground between the positive and negative poles of different MPPT, and the DC circuit breaker is already in the "ON" state, do not operate it immediately, otherwise it may cause damage to the machine. Please turn the DC circuit breaker to "OFF" and remove the DC cable to check the polarity when the string current drops below 0.5A. If there is a positive or negative error, adjust the polarity.
- It is not recommended to connect PV arrays to inverters in parallel mode, which means that each PV string is connected in parallel outside the inverter and then separately connected to the inverter.
- Do not connect the same PV string to multiple inverters, as it may cause damage to inverters.
- Mixing different brands or models of PV modules in the same MPPT, or connecting PV modules with different directional angles or inclinations in the same PV string, may not necessarily damage the inverter, but it can lead to a decrease in system performance.
- When the input voltage is between 1000V-1100V, the inverter startup process may trigger overvoltage protection; When the voltage is restored within the MPPT operating voltage range, the inverter will resume normal operation.

- Check the polarity before terminating the DC cables of PV strings according to the following steps, as shown in figure 4-10:
 - a. Use a multi-meter to measure the PV strings' cable ends and check the polarity.
 - b. The positive (+) terminal of cable should match the positive (+) terminal of inverter's DC input.
 - c. The negative (-) terminal of cable should match the negative (-) terminal of inverter's DC input.

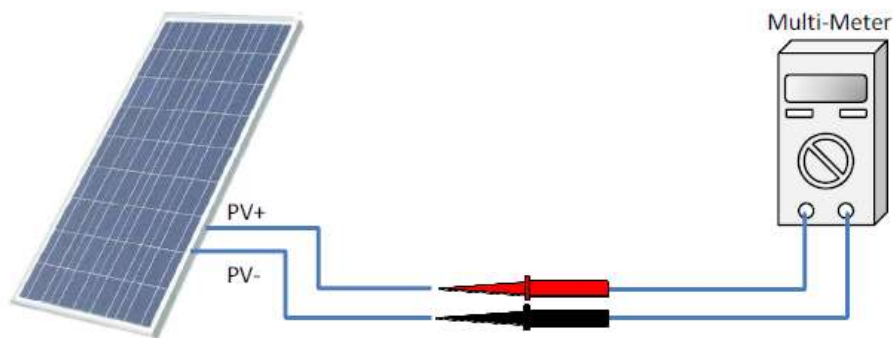




Fig. 4-10 Polarity check

	<p>NOTICE!</p> <p>It is important to use a multi-meter to check the polarity of the DC input cables to avoid any risk of reverse polarity.</p>
	<p>WARNING!</p> <ul style="list-style-type: none"> • A reversed string is extremely hazardous and will result in damage to the device damages or property when the irradiation is high. • The DC input connectors and metal terminals must be supplied randomly, or the same model of the same manufacturer. Otherwise, poor contact may occur, affecting normal use.

Perform cable connection as the following steps:

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

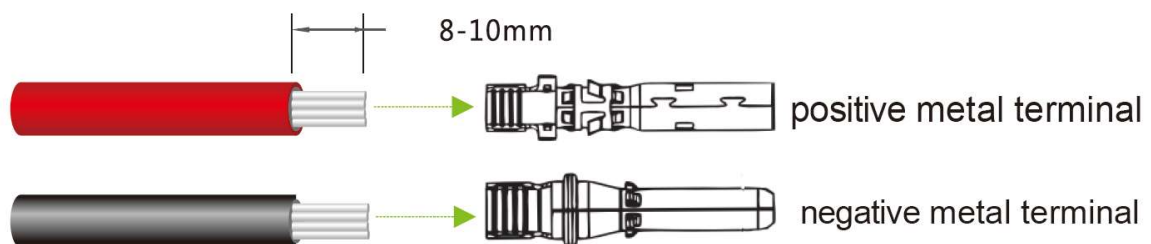


Fig. 4-11 DC Wire stripping

2. Insert the exposed areas of the positive and negative power cables into the metal terminals of the male and female connectors respectively and crimp them using a crimping tool (Amphenol H4TC0002 or Devalan D4ZCY001).

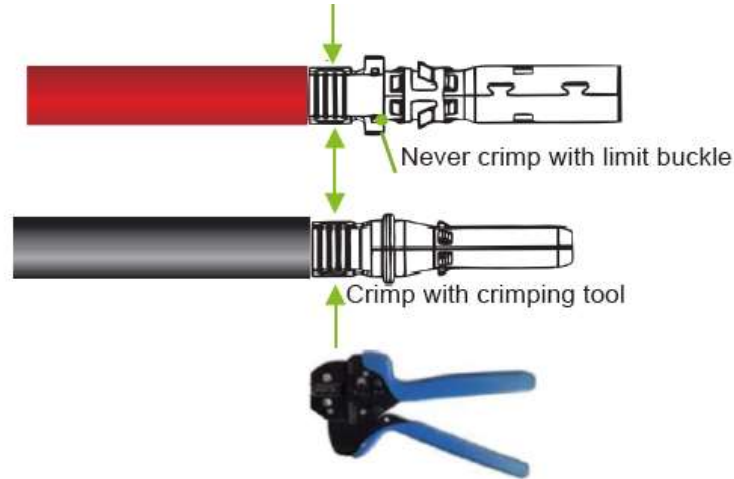


Fig. 4-12 Crimp power cables

NOTICE!



The DC input connectors and metal terminals must be supplied randomly, or the same model of the same manufacturer. Otherwise, poor contact may occur, affecting normal use.

3. Insert the crimped positive and negative power cables into the corresponding male and female connectors until a "click" sound is heard.

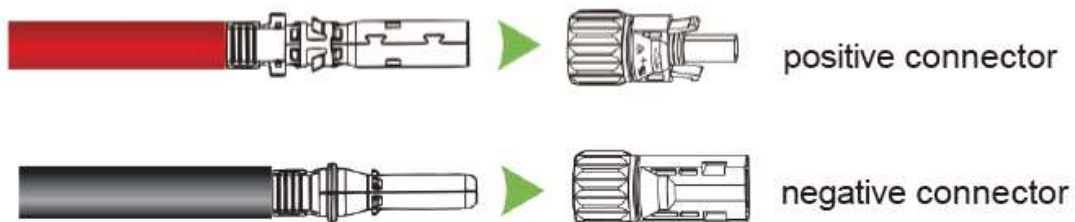


Fig. 4-13 Insert power cables to connectors

NOTICE!



- The grounding wire must be connected well.
- When PV array is exposed to light, it supplies a DC voltage to inverter, so DC switch should be in the OFF state.

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

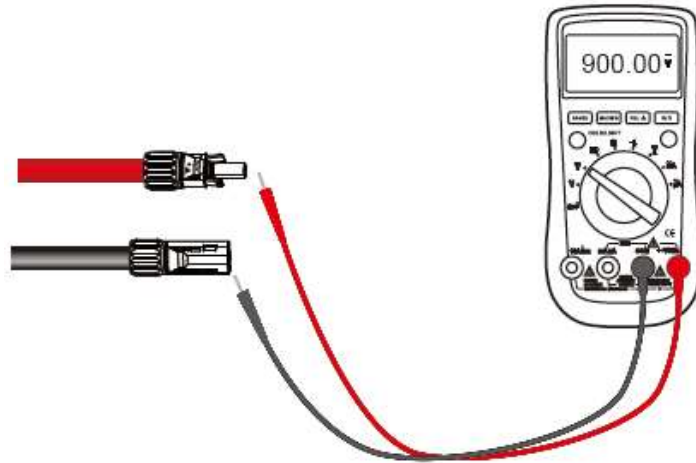


Fig. 4-14 Measure the cable ends of PV strings

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

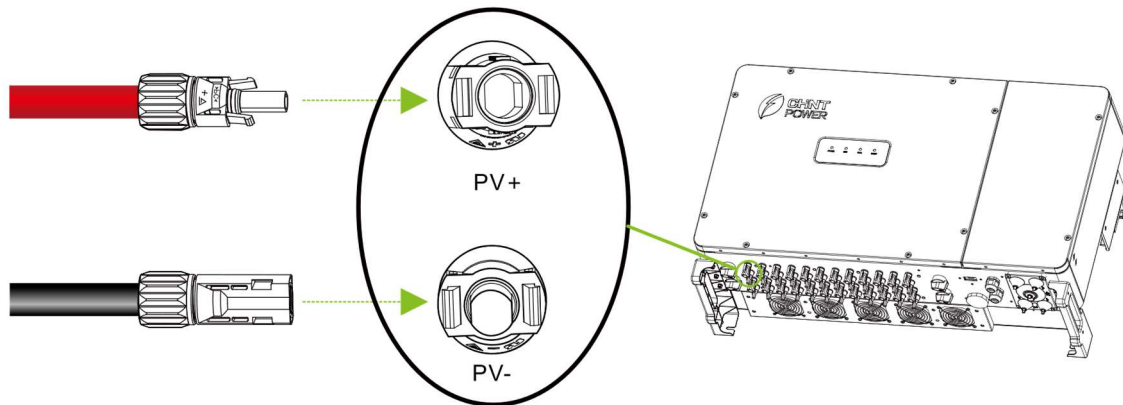


Fig. 4-15 Insert the positive and negative connectors

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 loss.

4.5 Communication Connection

WARNING!



- Make sure all DC and AC power has been disconnected before opening the wire box and ensure that hazardous high voltage and power has been discharged to avoid risk of electric shock.
- Wait at least 5 minutes before opening the wire box.

The inverter supports RS485 communication method. The RS485 communication method will be introduced in detail.

4.5.1 Communication Terminals Introduction

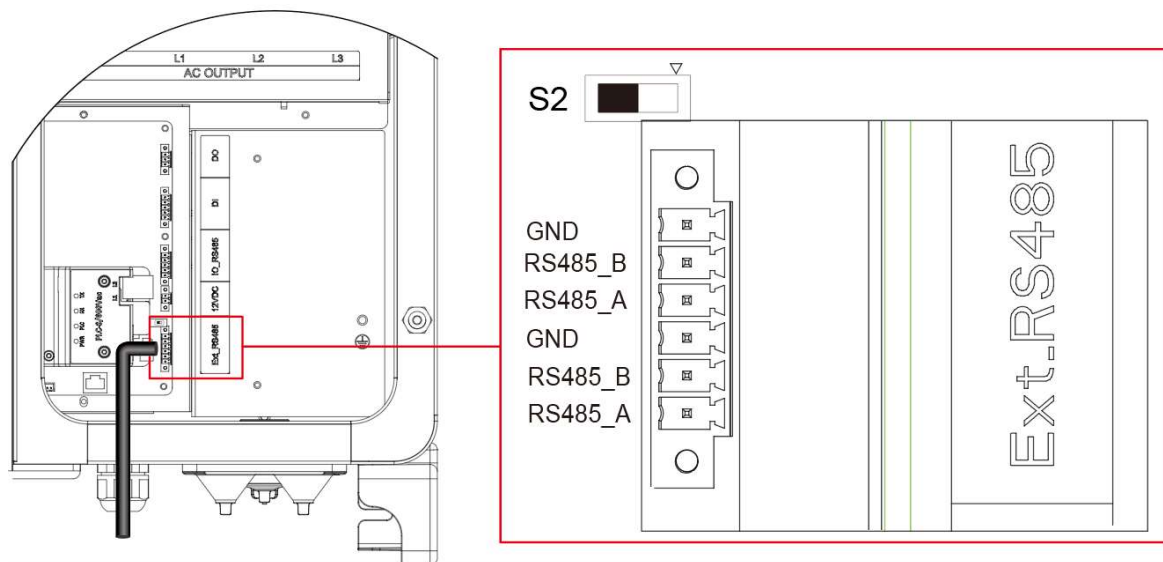


Fig. 4-16 Communication terminals

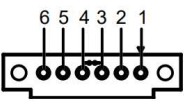

Name	Picture	Configuration
RS485 port (6pin connector)		1 - 485GND 2 - RS485- 3 - RS485+ 4 - GND 5 - RS485- 6 - RS485+
RS485 Communication 120Ω Terminal resistance selection switch S2		OFF - Disable the terminal resistor ON - Enable the terminal resistor

Table 4-5 Communication terminals Interfaces

4.5.2 RS485 Cable Connection

1. Crimp communication cables into 6-pin connector according to the pin definition of communication terminals, as shown below.
2. Insert the 6-pin connector to communication terminals.

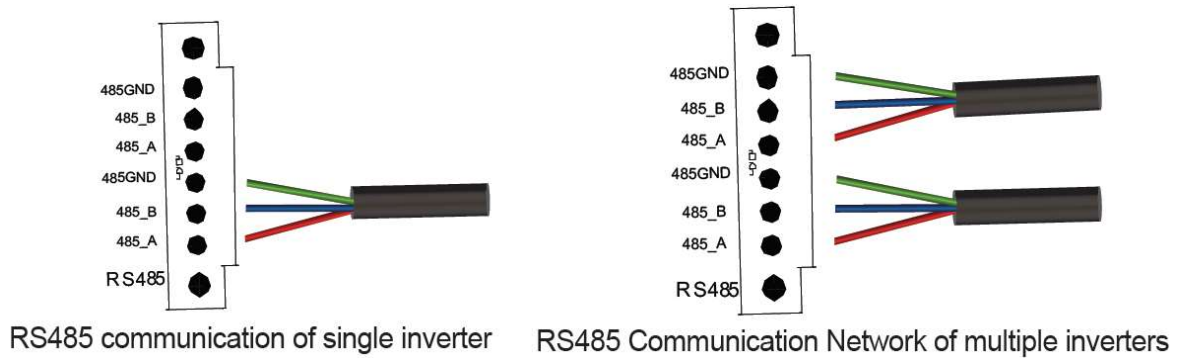


Fig. 4-17 RS485 Cable Connection

4.5.3 Communication Network

When the number of inverters in the network is large and the last inverter is more than 200m and less than 1000m from data logger, in order to improve the communication quality, it is recommended to turn the DIP switch S2 to on, which is the 120ohm terminal resistance on the communication terminals of the terminal inverter, and keep DIP switch S2 of other inverters as OFF.

NOTE: If there is only one inverter and it's more than 200m and less than 1000m distant from data logger, the Modbus termination switch should also be set to ON, otherwise, it can be set as OFF.

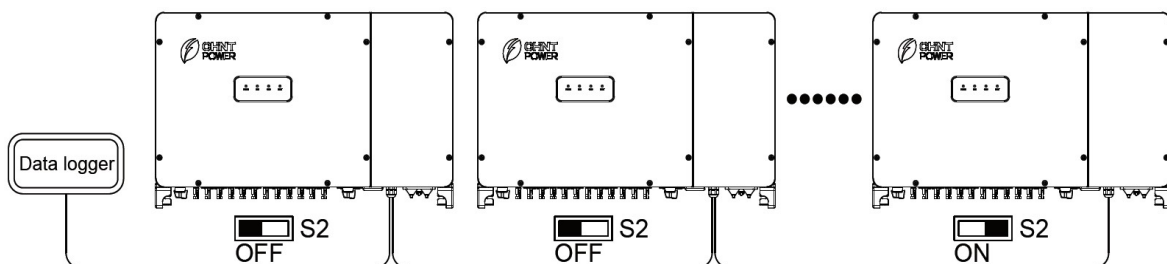


Fig. 4-18 RS485 Communication Network in Daisy chain

After completing all the wiring steps, fix the 2 captive screws on the upper cover of the wire box with a 5mm hex wrench, and close the upper cover.

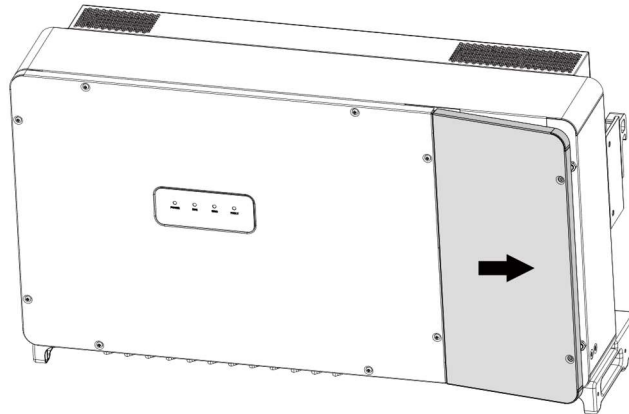


Fig. 4-19 Close upper cover of wire box

IMPORTANT!

- Screws must be tightened when fixing the cover to prevent water problem.
- Bind cables at positions 300 ~ 350 mm away from DC connectors and AC sealing plates (refer to Fig. 4-20). Otherwise, swaying cables may loosen the connectors or sealing plates, which may affect the protection degree of the inverter.

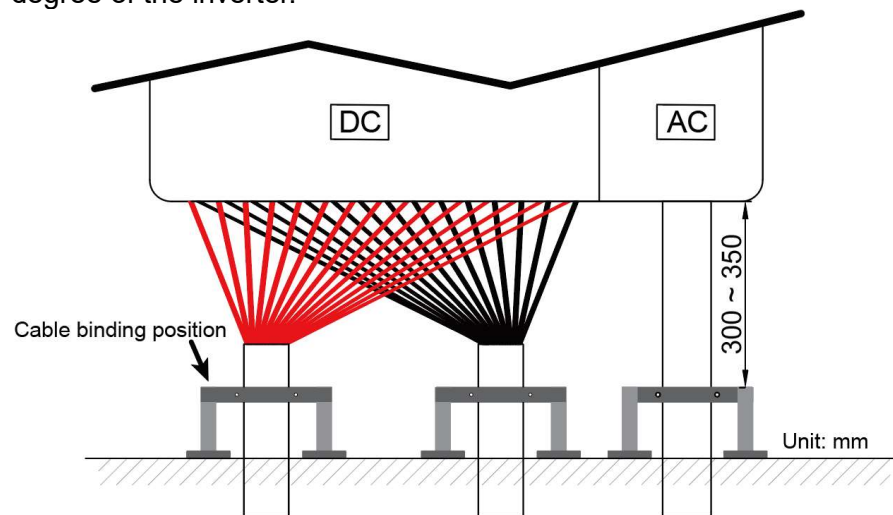


Fig. 4-20 Bind cables

4.6 Install the Communication Module

1. Remove two upper screws on the communication module cover, loosen the lower screw, then rotate the cover to expose the communication interface.

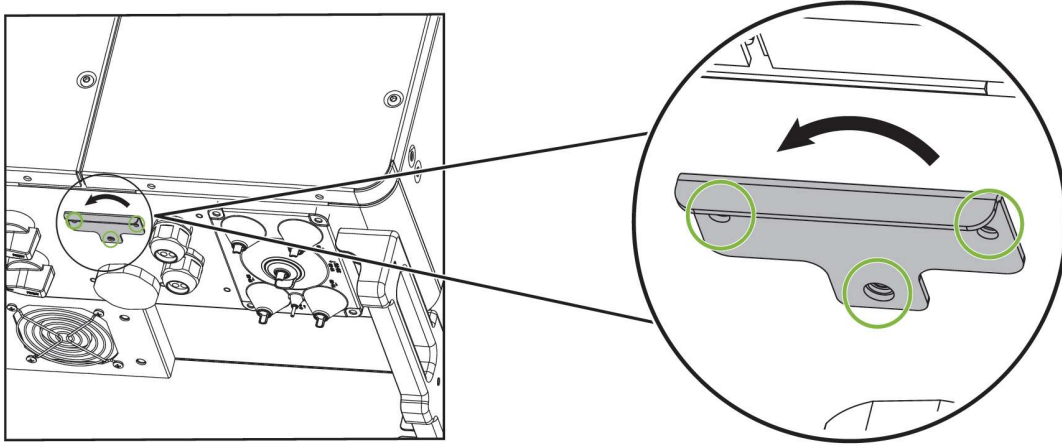


Fig. 4-21 Remove cover

2. Fasten communication module onto communication port with its original two screws.
Note: Indicators face towards front cover of the inverter. Tool required: No.2 Phillips head screwdriver. Torque: 16.0 kgf.cm.

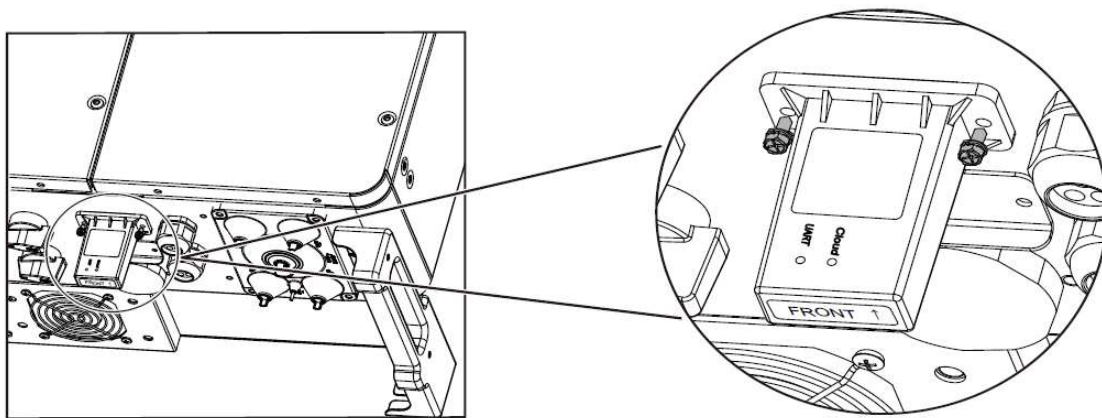


Fig. 4-22 Install the Communication module

4.7 Zero Export for Single Inverter

Zero Export is a standard function of these inverters, which can be enabled or disabled based on user requirements. Please connect correct ports of the meter to CT (Current Transformer), RS485 ports of inverter, Grid and install CT onto Grid in accordance with the following wiring diagrams.

Follow the diagram Fig. 4-23 below to perform the Zero Export wiring for single inverter:

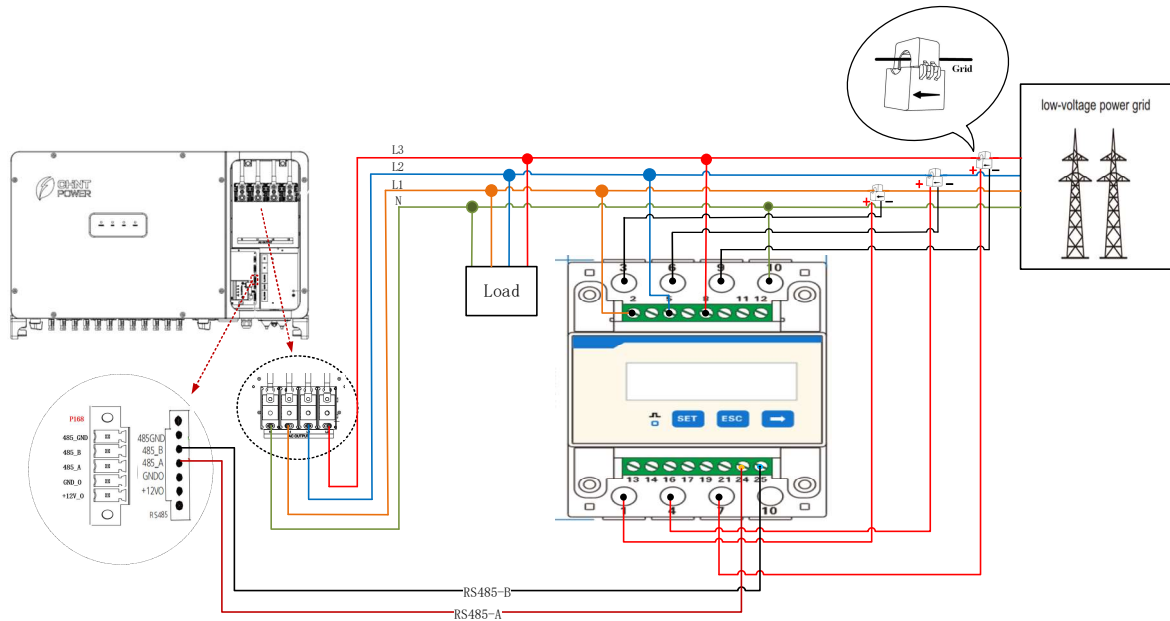


Fig. 4-23-a Zero Export wiring diagram for three phase four wire

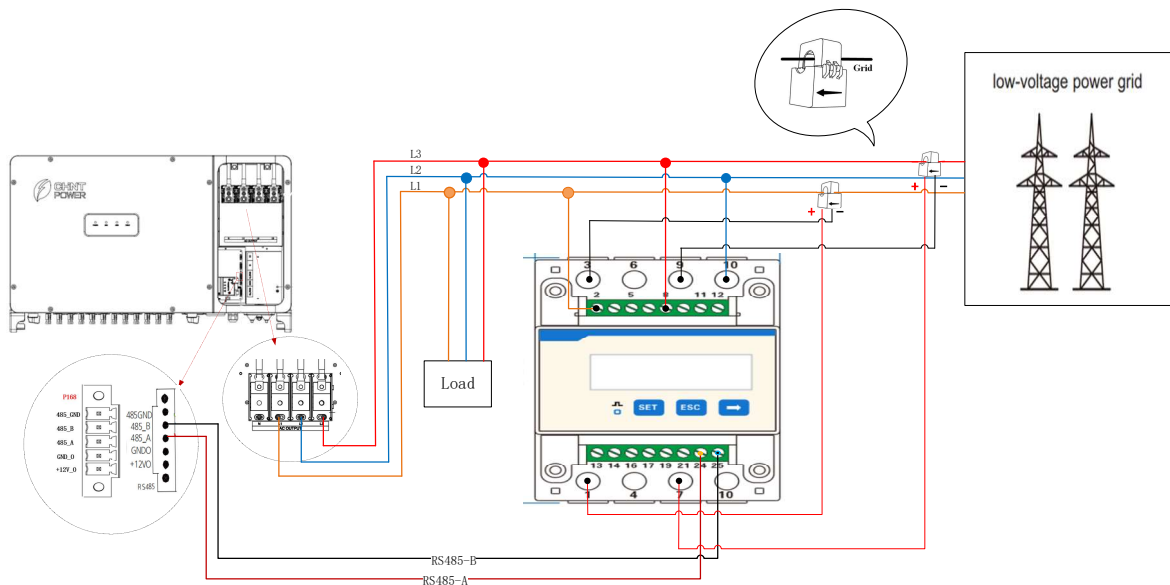


Fig. 4-23-b Zero Export wiring diagram for three phase three wire

After completing the wiring procedures, the relevant configuration needs to be set in the Chint Connect App, please see section 6.3.3.3.6.

5 Commissioning

WARNING!



Before connecting to the grid, please follow the following guidelines to eliminate hidden dangers and ensure safety.

When the equipment is powered on for the first time, it is imperative that professionals correctly configure the parameters.

5.1 Inverter Installation Inspection

Confirm that the supporting structure is firm and reliable, and the mounting screws are fastened. (Refer to 3 Mechanical Installation)

5.2 Inverter Connection Cable Inspection

- 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, and turn the DC Switch to the "OFF" position. (Refer to 4 Electrical Connection)

5.3 Electrical Inspection

- Confirm that the AC side circuit breaker selection is reasonable.
- Test whether the AC side voltage is normal.
- Test whether the open circuit voltage on the DC side is $\leq 1100V$.

5.4 Commissioning Steps

Complete the test and inspection before operation. Confirm that there is no error. Follow the steps below to test the inverter.

1. Close the AC side circuit breaker.
2. Close the DC side circuit breaker (Skip this step if no breaker).
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 Local Control

IMPORTANT!



- Complete above commissioning and inspection before operation, to confirm that there is no error.
 - Both AC and DC sides of the inverter shall have been powered on.
 - Viewing distance between mobile phone and inverter shall be kept within 5m, to ensure good communication quality.
 - Open the Bluetooth function on your phone at first and the inverter can only pair with one Bluetooth at a time, which means only mobile phone can connect with the inverter successfully at one time.
 - When updating inverter through the App, the inverter will stop generating power for 3-5 minutes.
 - App setting methods/requirements are all the same for above mentioned inverters, SCA125K-T-EU inverter will be taken as example in this chapter.
 - This chapter gives a brief introduction to the connection and settings of the Chint Connect App. For detailed information on the operations and settings of the App, please refer to the Chint Connect App User Manual.
-

6.1 App Download

Users can download “Chint Connect” from the App Store, the Android version from Google Play, or directly scan the QR code to download. (Supports iOS 11.0 and Android 4.4 or later.)



6.2 App Setting

Once powered, the inverter will automatically create a wireless network that can be detected as an access point by user communication devices (tablets, smartphones, etc.).

Users can follow these steps to easily set up the App:

1. Ensure Bluetooth is enabled on your device, then open the Chint Connect App.

Note: If necessary, tap App Setting at the bottom green bar to change the language.

2. Tap the Smart Link icon to enter the Connect to the Adapter interface.

Note: When the App prompts for Bluetooth permissions, tap the warning area to access the phone’s settings interface and enable Bluetooth.

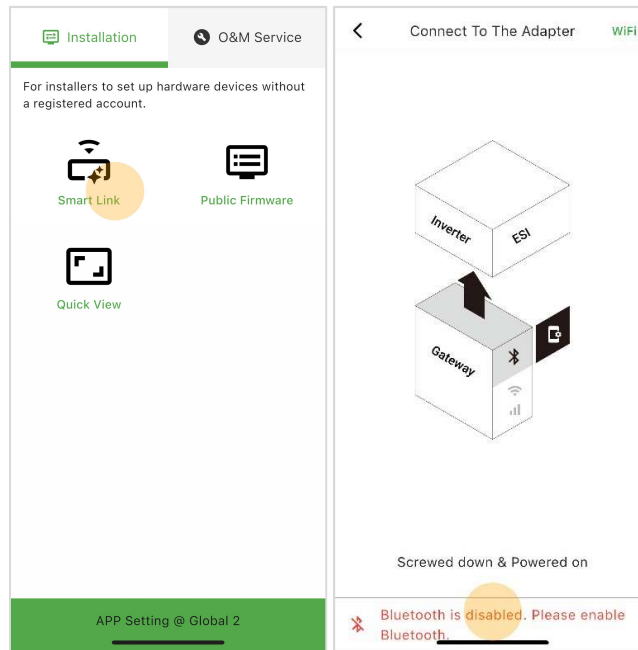


Fig. 6-1 App setting

3. Enable the wireless connection on the device using one of the following methods:
 - a. Tap the wireless network named CPLK-XXXXXXX (X can be found on the LinkKIT label) shown in the Bluetooth List.
 - b. Tap the QR icon on the right of the search bar to scan the LinkKIT barcode and connect to the network.
 - c. Tap the Wi-Fi Mode in the top right corner to set up Wi-Fi, then enter "Password" (Capital P) as the password to connect to the network.

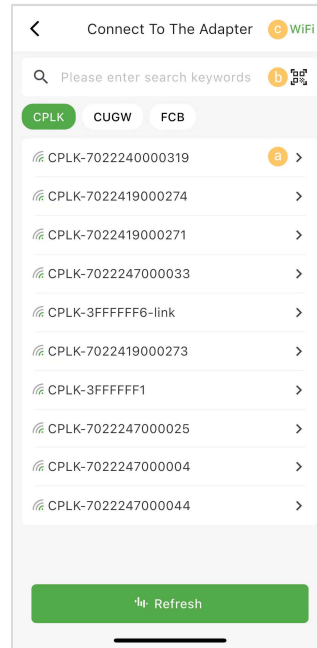


Fig. 6-2 Connect to the adapter

4. Tap the Config icon at the bottom, enter the password "1111". Select the Inverter Parameters submenu to access the inverter parameter interface.

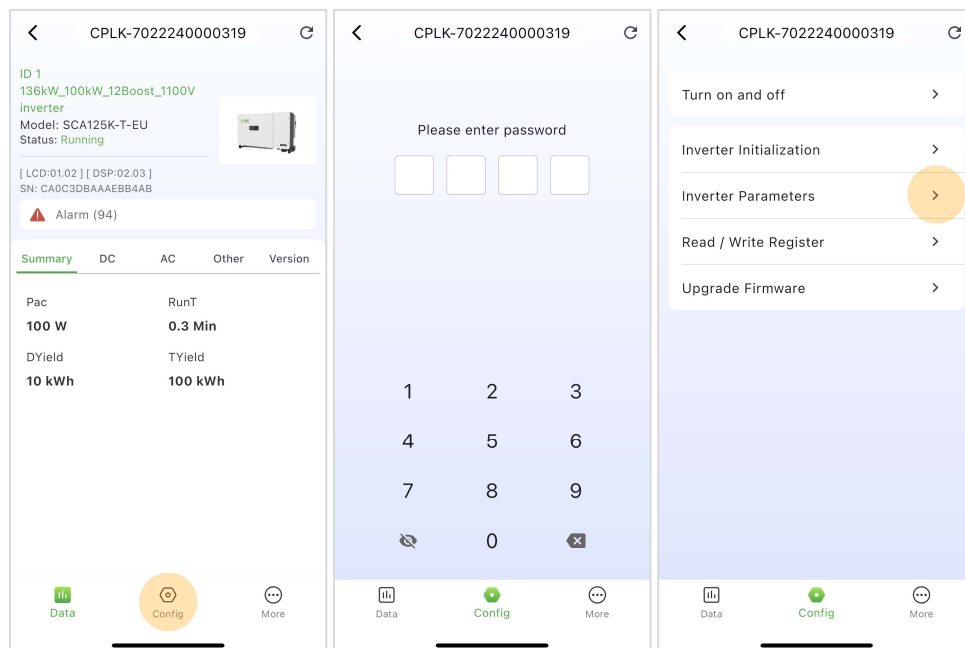


Fig. 6-3 Inverter parameters

5. Set the correct inverter parameters:

Grid Connection Rule	Select the appropriate grid code as required by your local authority.
PV Input Mode	The DC input connection and MPPT must be configured in "Independent" mode.
Neutral Line Setting	Choose whether a neutral is connected or not.
RS485	Set the Modbus address and baud rate (9600) for communication.
Time Set	Set the system clock

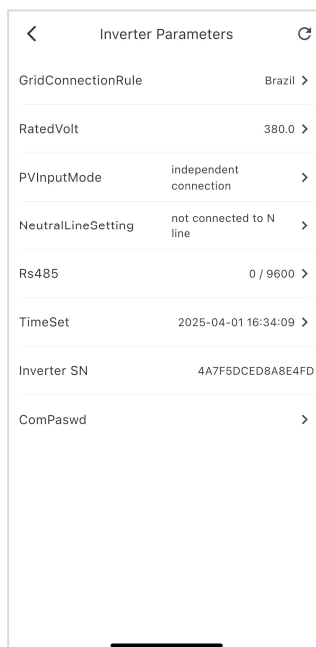


Fig. 6-4 Set the correct Inverter parameters

IMPORTANT!


- Please check with your local electricity supply company before selecting a grid standard. If the inverter is operated with the wrong grid standard, the electricity supply company may cancel the interconnection agreement.
- Do not put the inverter into operation until the entire system complies with the national rules and safety regulations for the application.

6. Tap < icon in the top left corner twice back to the Data interface.

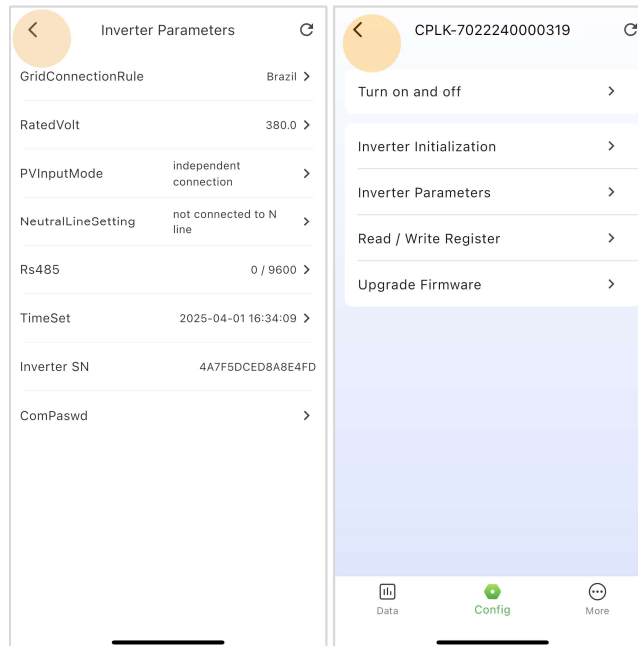


Fig. 6-5 back to the Data interface

7. When the device screen displays the "Running" status and the RUN light on the inverter LED panel is illuminated, it indicates that the grid connection and power generation are successful. You can now view real-time data in the App. Swipe left or right on the interface to navigate through the Summary, DC, AC, Other and Version pages.

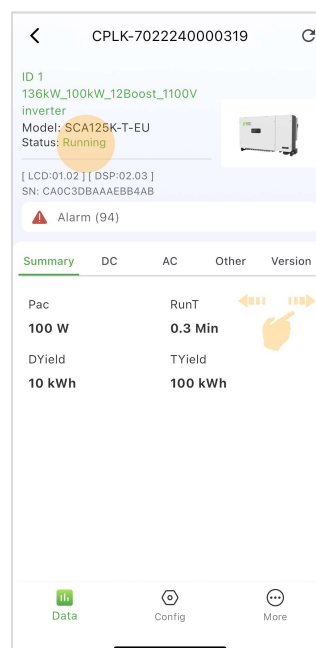


Fig. 6-6 Normal Operation Status

8. If the inverter fails to operate normally, the FAULT light will illuminate, and the interface will display "Fault" status. Tap the Alarm icon to view detailed fault information here. Troubleshoot related problems and restart. Contact CHINT Customer Service if necessary.

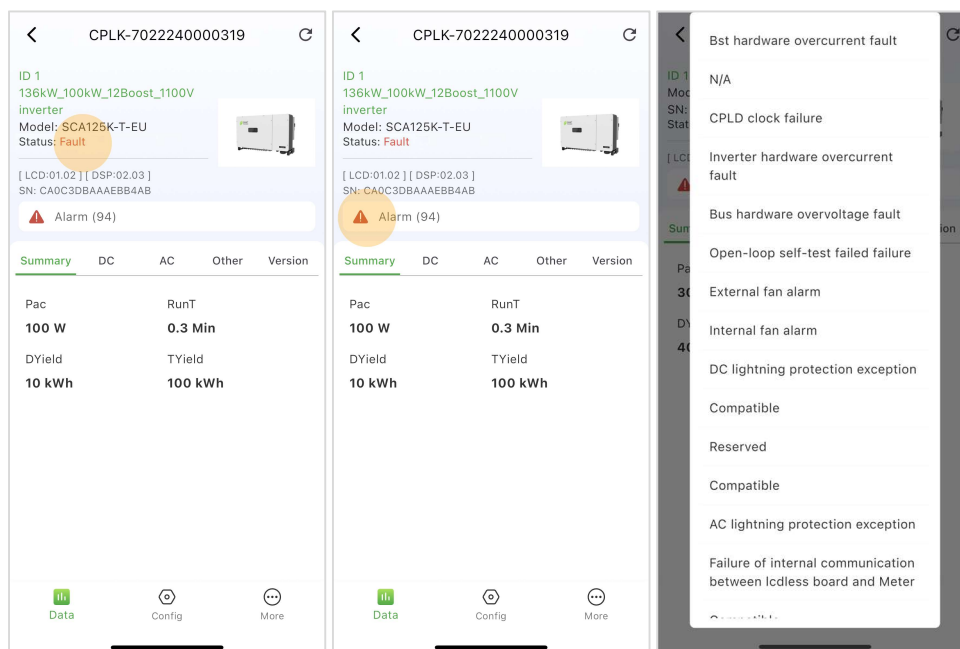


Fig. 6-7 Fault Status

9. Tap the Config icon and enter the password "1111". Select the "Turn on/off" to power the device on or off.

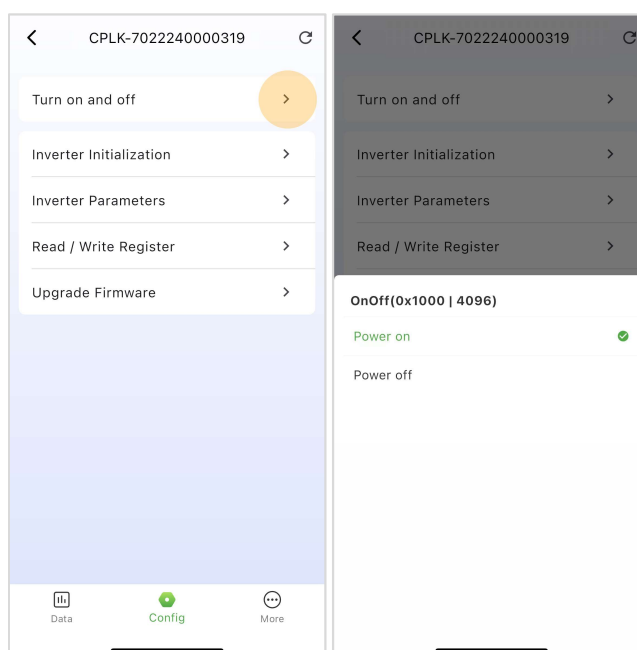


Fig. 6-8 Turn on and off the device

6.3 App Interface

6.3.1 Structure Overview

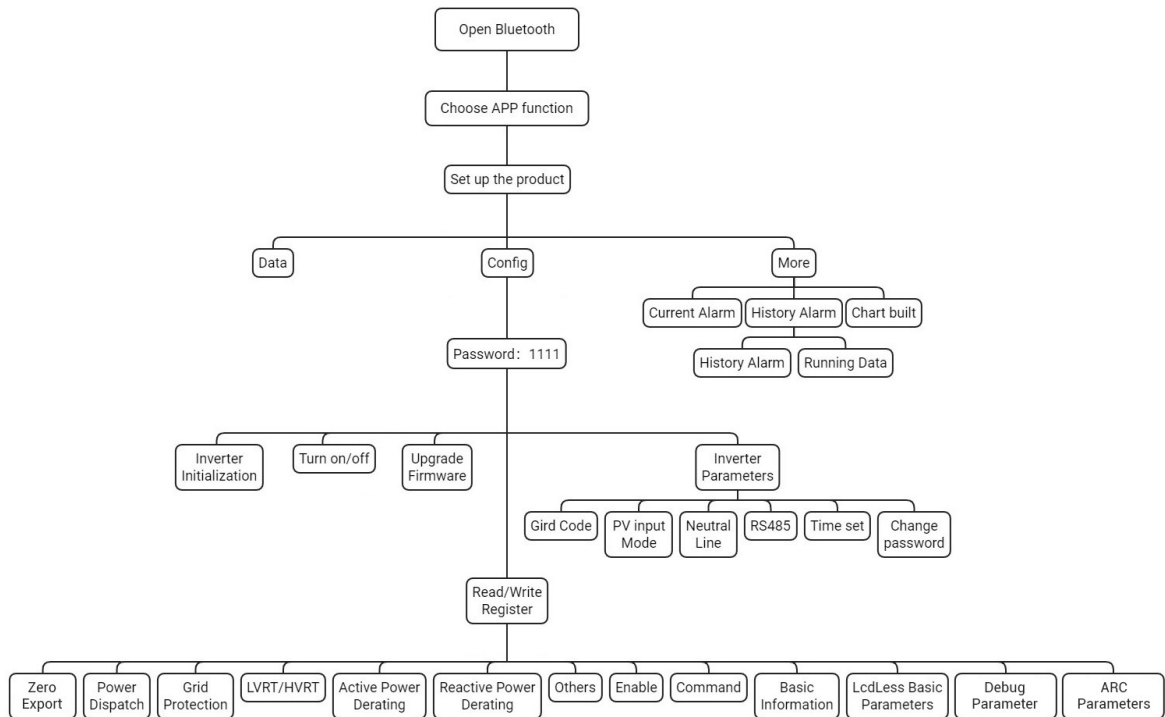


Fig. 6-9 Structure of App interface

6.3.2 Data

In the Data interface, you can view the primary status details of the inverter. Further information is available in the Summary, DC, AC, Others and Version tabs. Additionally, the bottom menu bar includes three icons: Data, Config and More.

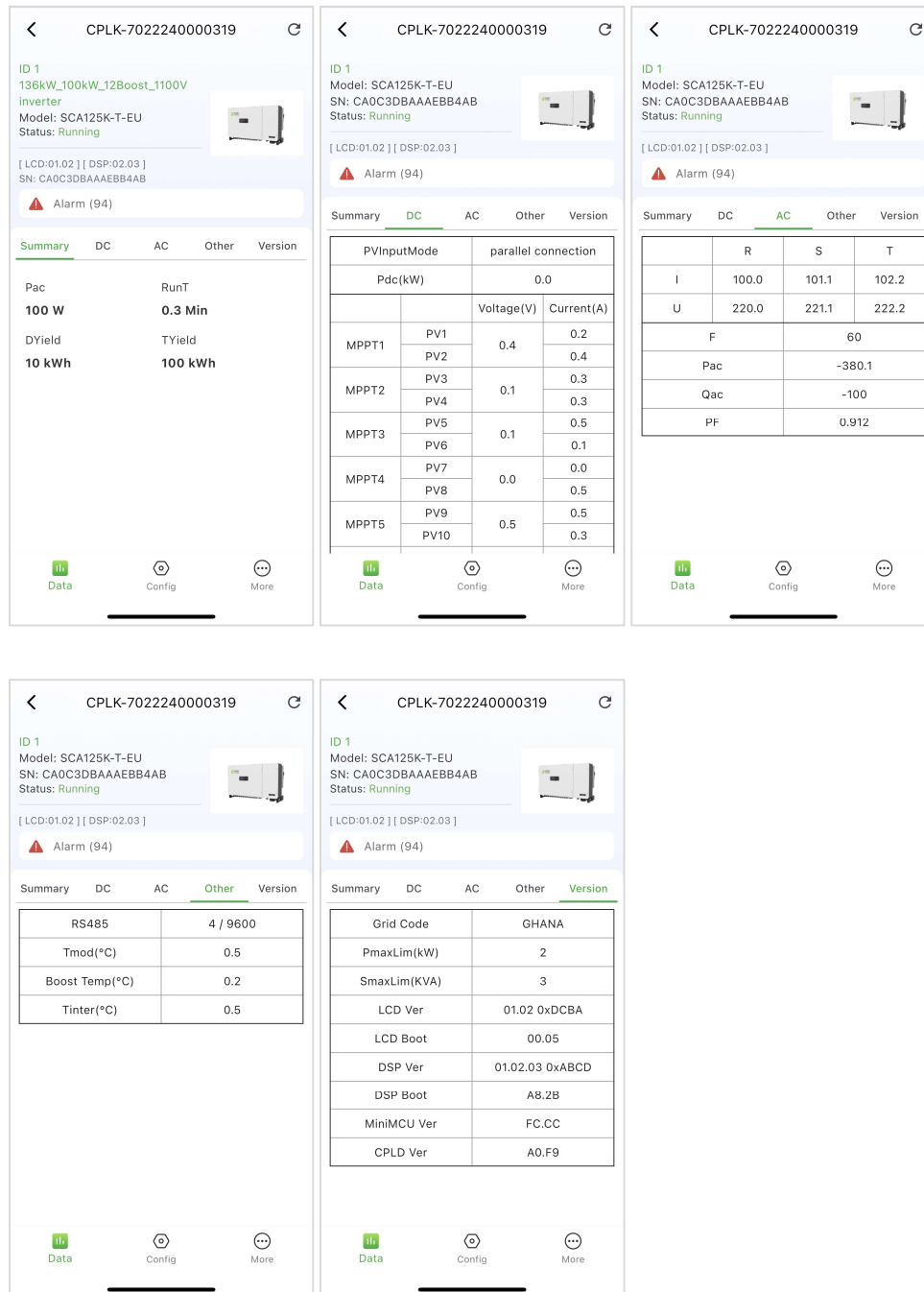


Fig. 6-10 Data interface

6.3.3 Config

Tap the Config icon and enter password “1111” to access the Config interface. This interface has five submenus: Turn on and off, Inverter Initialization, Inverter Parameters, Read/Write Register and Upgrade Firmware.

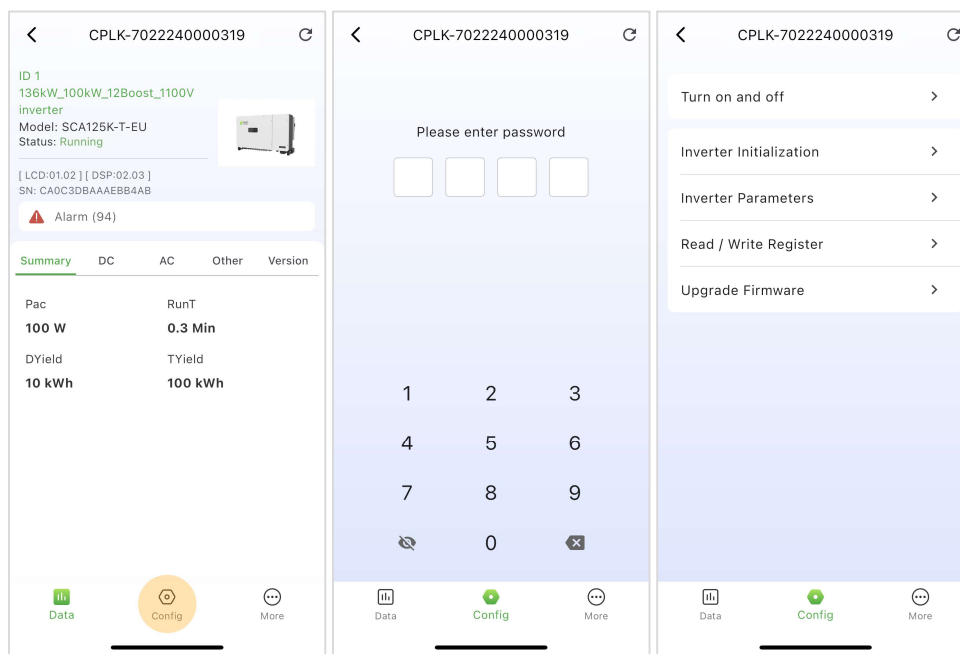


Fig. 6-11 Config interface

6.3.3.1 Turn on and off

Manual Turn ON/OFF:

After adjusting the Grid Code settings or performing a manual (fault) shutdown, you need to manually restart the inverter. Tap the “Turn on and off” submenu and select “Power on” to start the inverter. It will operate normally if the start-up conditions are met; otherwise, it will enter stand-by mode.

Normally, it is not necessary to turn off the inverter. However, you can manually shut it down if required for Grid Code adjustments or maintenance. Tap the “Turn on and off” submenu and select “Power off” to shut down the inverter.

Automatic Turn ON/OFF:

The inverter will start automatically when the PV array output voltage and power meet the set values, the AC grid is normal, and the ambient temperature is within the allowable operating range.

The inverter will shut down automatically when the PV module output voltage and power fall below the set values, AC grid fails, or the ambient temperature exceeds normal range.

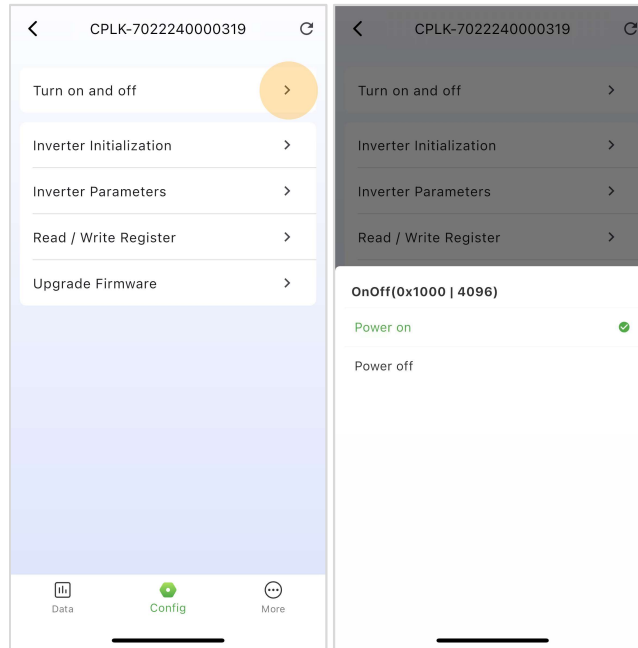


Fig. 6-12 Manual Turn on/off

6.3.3.2 Inverter Parameters

In the Inverter Parameters interface, you can adjust the following parameters as necessary.

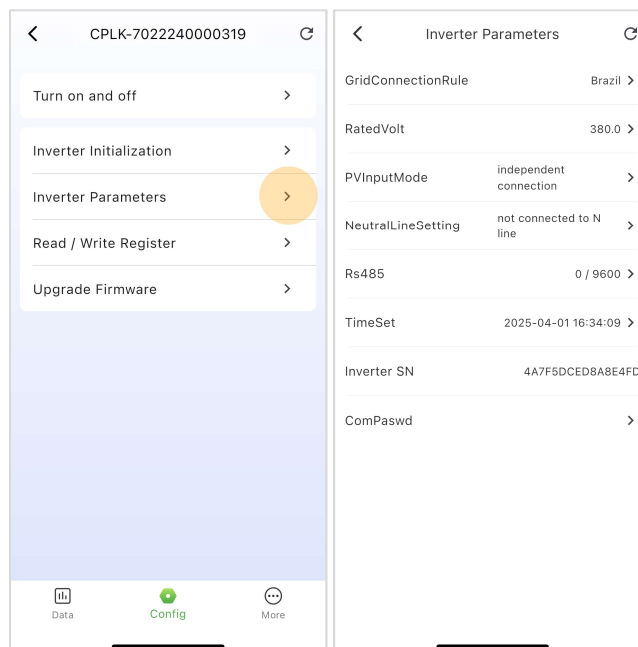


Fig. 6-13 Inverter Parameters

6.3.3.3 Read/Write Registers

In the Read/Write Register interface, the following submenus are available: Power Dispatch, LVRT/HVRT, Inverter Basic Information, LcdLess Basic Information, ARC Parameters, Zero Export, Debug Parameter, Grid Protection Parameters, Active Power Derating Parameters, Reactive Power Derating Parameters, Others Parameters, Enable/disable control Parameters, Control Command.

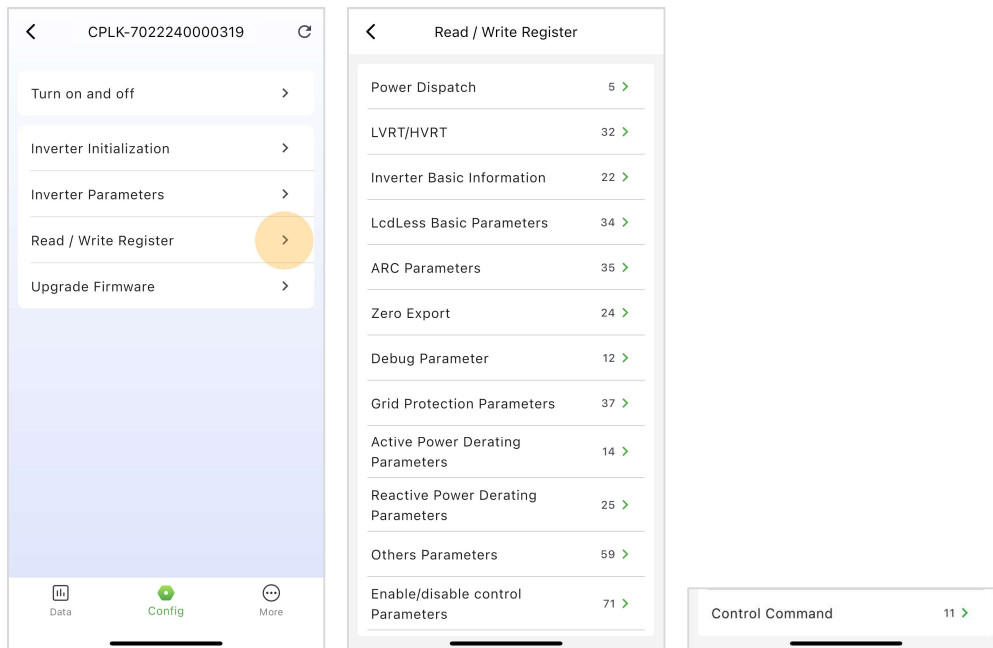


Fig. 6-14 Read/Write Register

6.3.3.3.1 Power Dispatch

The Power Dispatch interface is used to set the parameters as below.

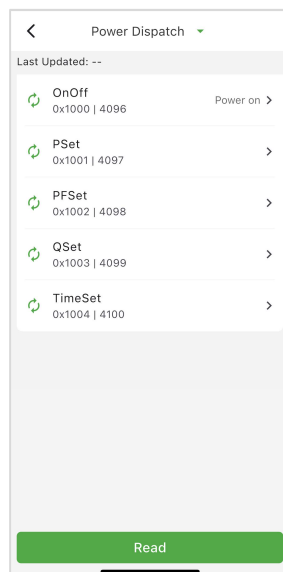


Fig. 6-15 Power Dispatch

6.3.3.3.2 LVRT/HVRT

“LVRT / HVRT” is used to set LVRT (low penetration) and HVRT (high penetration) parameters.

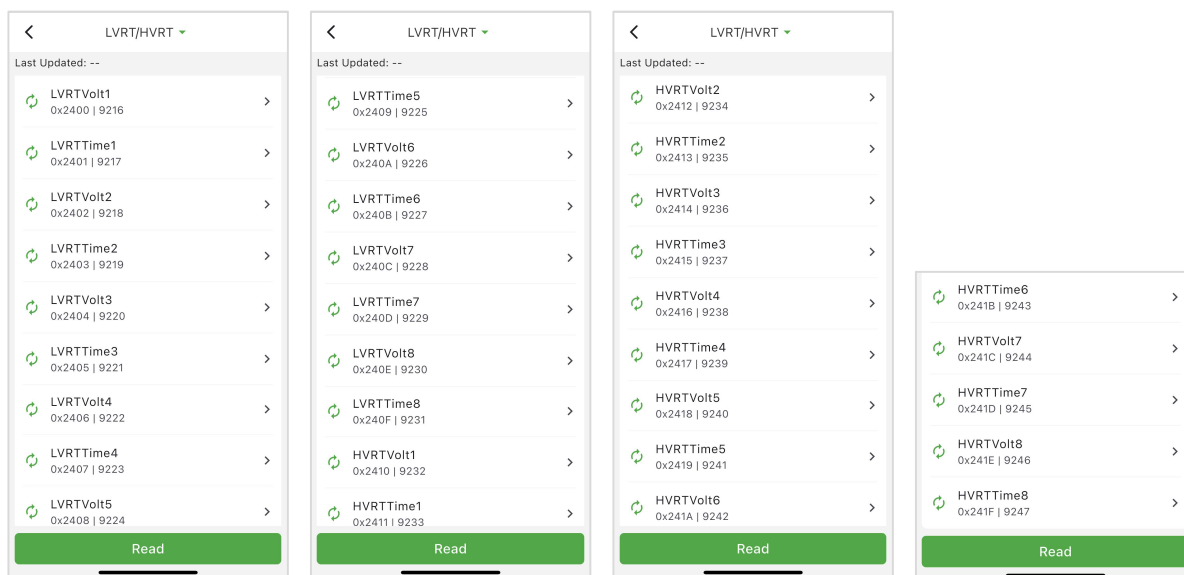


Fig. 6-16 LVRT/HVRT

Refer to the figures below for the LVRT and HVRT curves, which are provided for reference purposes only.

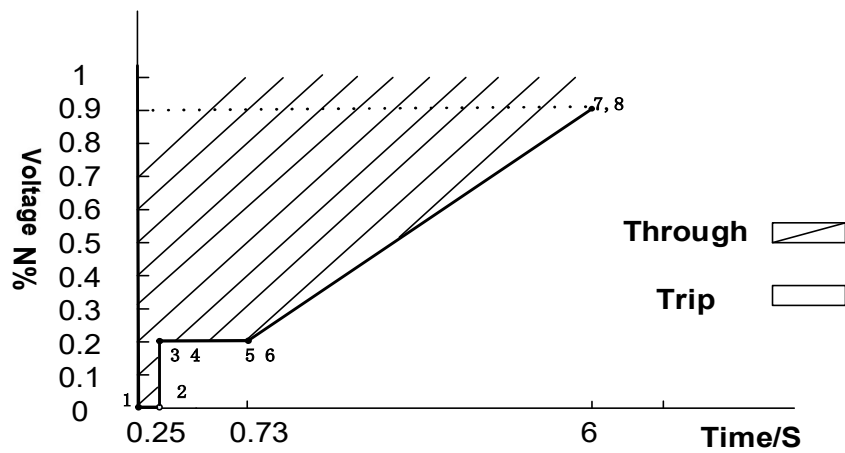


Fig. 6-17 LVRT Curve (just for reference)

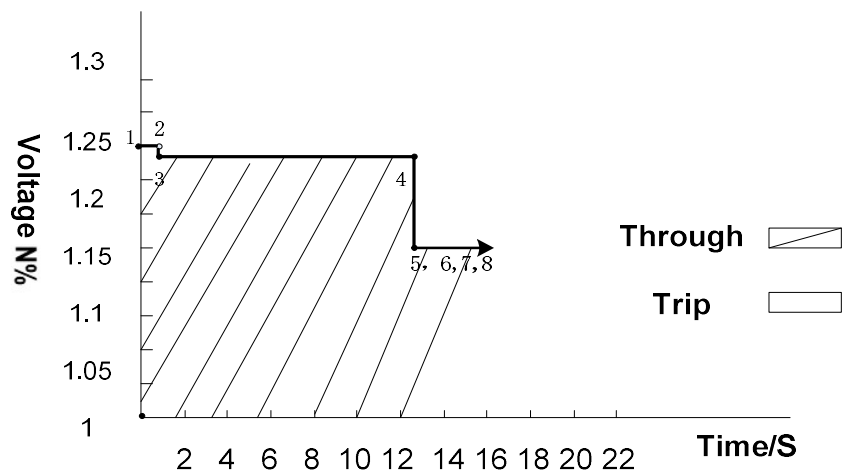


Fig. 6-18 HVRT Curve (just for reference)

6.3.3.3.3 Inverter Basic Information

The Inverter Basic Information interface is used to set the parameters as below.

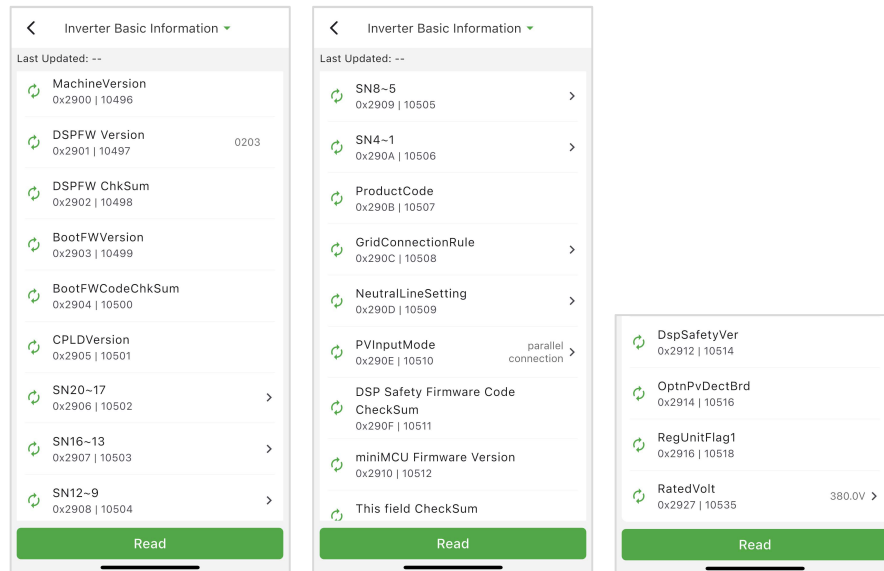


Fig. 6-19 Inverter Basic Information

6.3.3.3.4 LcdLess Basic Parameters

The LcdLess Basic Parameters interface is used to set the parameters as below.

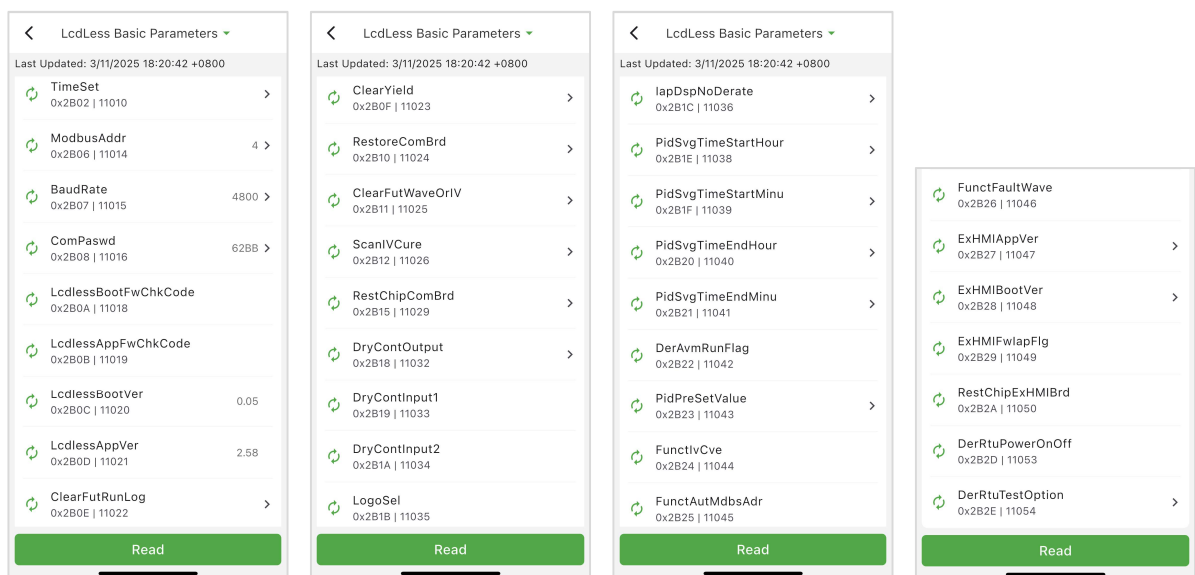


Fig. 6-20 Lcd Less Basic Parameters

6.3.3.3.5 ARC Parameters

In the ARC Parameter interface, parameters such as bandwidth, start frequency, proportion, filter, threshold, single period amplitude limit and the base amplitude for each frequency band are preset as system defaults and cannot be altered by the user. The default ARC enable setting is also fixed. However, users can set the ARC fault recovery time within a range of 5 to 600 minutes according to their own requirements.

IMPORTANT!



- The ARC Fault detection parameters should ONLY be adjusted by CHINT or Qualified representatives.

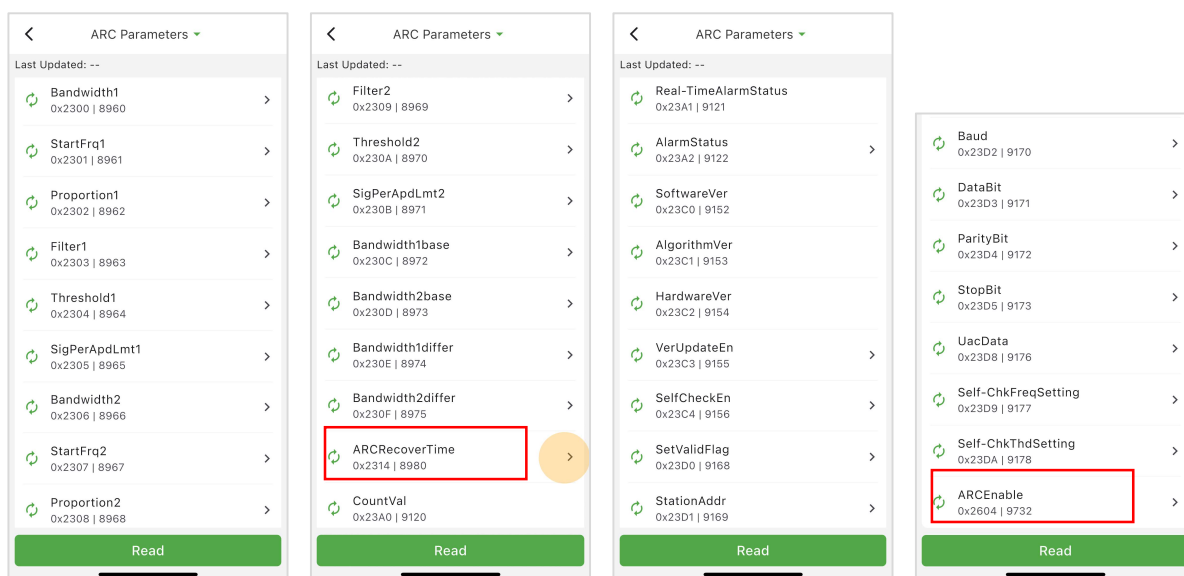


Fig. 6-21 ARC Parameters

When ARC protection is triggered, the device will perform automatic reconnection functions five times within 24 hours. The duration between these reconnection attempts can be set in the "ARC Recover Time" item (as shown in Fig. 6-21). If ARC protection is triggered for the fifth time, you must manually clear the ARC fault (see Fig. 6-33 in section 6.3.3.3.13). Then the device will resume the automatic reconnection function – reconnect five times within 24 hours, and manual startup is required.

The ARC function is in accordance with the IEC 63027 standard. The product categories and their specifications are as follows:

SCA75K-T-SA inverter: F-I-AFPE-1-6-3

- Full coverage
- Integrated

- AFPE (Arc fault protection equipment)
- 1 monitored strings per input port
- 6 input ports per channel
- 3 monitored channel

SCA100K-T-EU and SCA125K-T-EU inverter: F-I- AFPE-1-8-3.

- Full coverage
- Integrated
- AFPE (Arc fault protection equipment)
- 1 monitored strings per input port
- 8 input ports per channel
- 3 monitored channel

6.3.3.3.6 Zero Export

The Zero Export interface is used to set the parameters as below. Enable the Zero Export function at first and then set relevant parameters as required. For example, you can set meter address, meter type and meter/CT direction at the Zero Export interface.

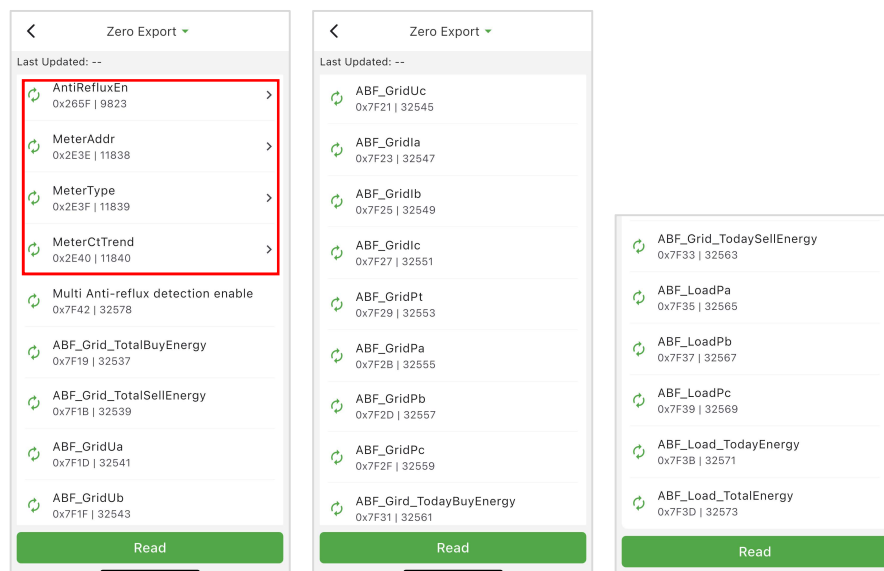


Fig. 6-22 Zero Export

6.3.3.3.7 Debug Parameter

The Debug Parameter interface is used to set the parameters as below.

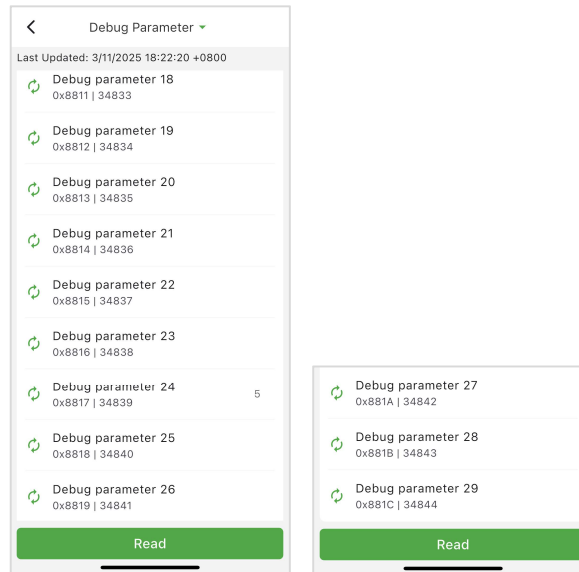


Fig. 6-23 Debug Parameter

6.3.3.3.8 Grid Protection Parameters

This interface is used to display and set protection the parameters of AC grid voltage, frequency and recovery, as shown below.

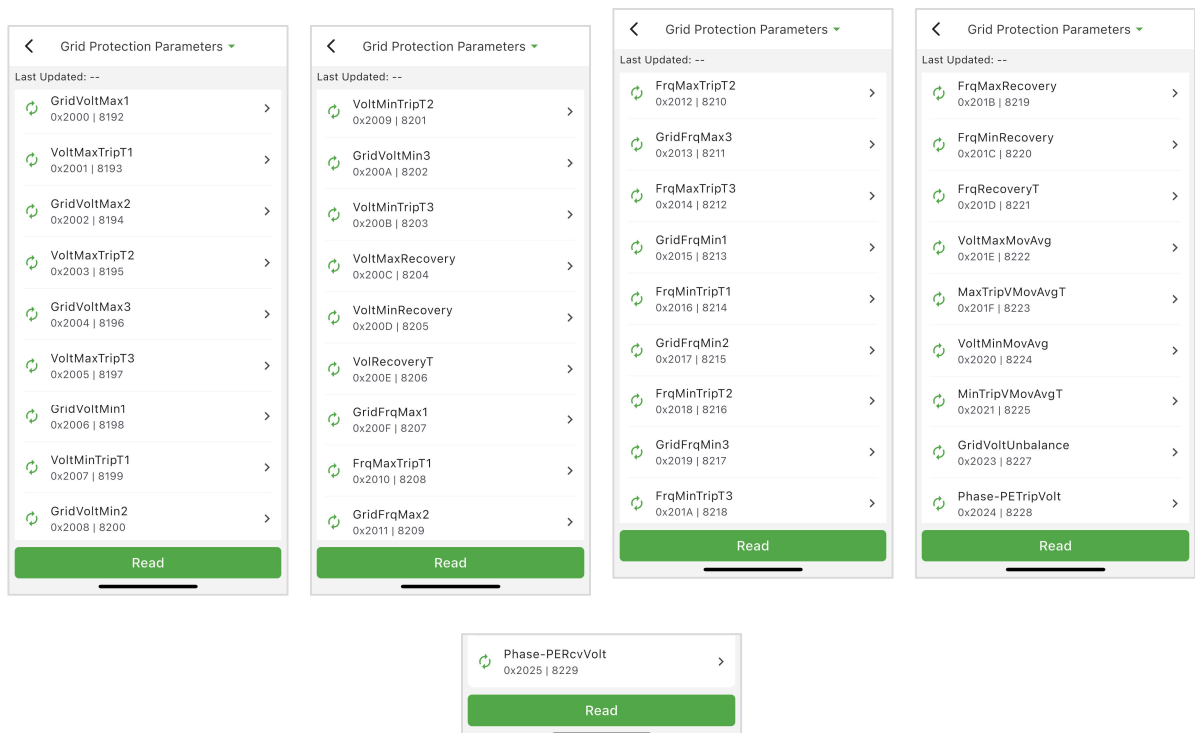


Fig. 6-24 Grid Protection Parameters

6.3.3.3.9 Active Power Derating Parameters

This interface is used to set active power derating parameters, including active power derating, over frequency derating and high temperature frequency derating.

You can see the Curve of over voltage derating in Fig. 6-25 and Curve of over frequency derating in Fig. 6-26.

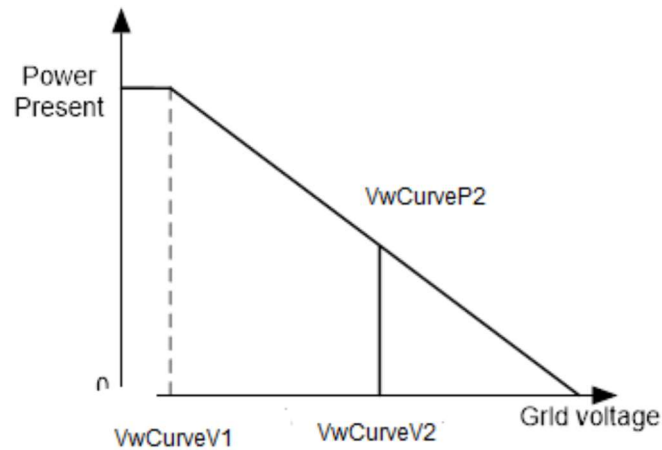


Fig. 6-25 Curve of over voltage derating

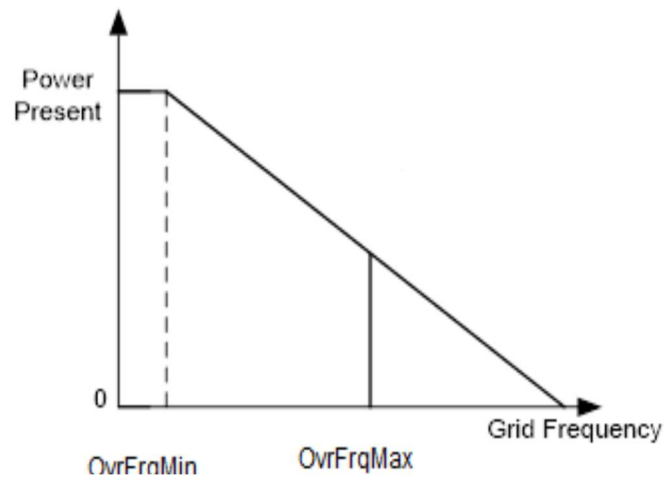


Fig. 6-26 Curve of over frequency derating

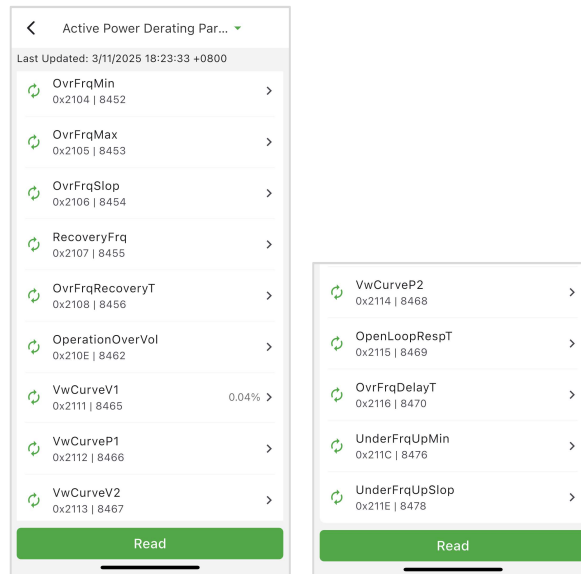


Fig. 6-27 Active Power Derating Parameters

6.3.3.3.10 Reactive Power Derating Parameters

This interface is used to set the grid reactive power derating parameters, including PF parameters, Qu parameters, etc.

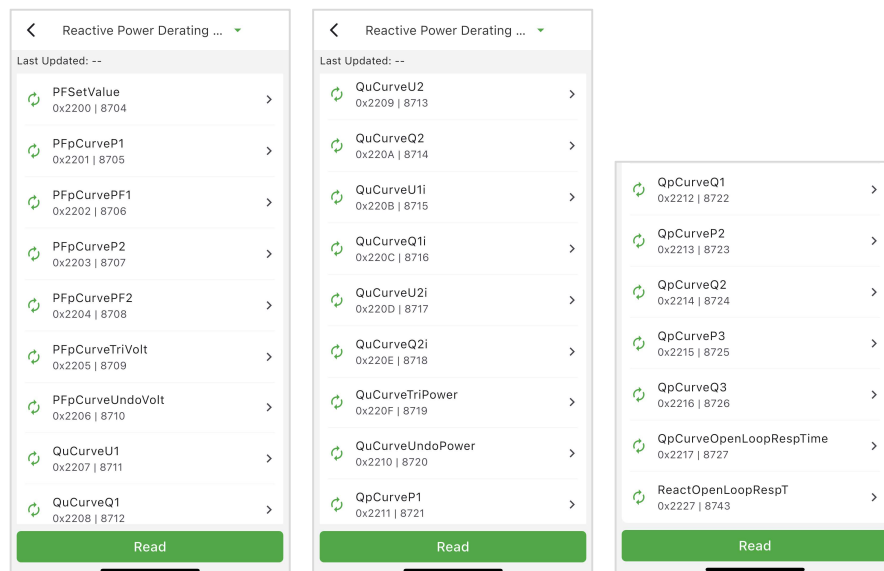


Fig. 6-28 Reactive Power Derating Parameters

NOTICE: If “Remote” is selected, PF and Q values can be adjusted through remote software.

(1) PF setting: set PF value

NOTICE: The reactive power can be changed by adjusting the power factor.

(2).PF(P) curve: PF curve mode

NOTICE: The power factor changes according to power changes, as shown in Fig. 6-29:

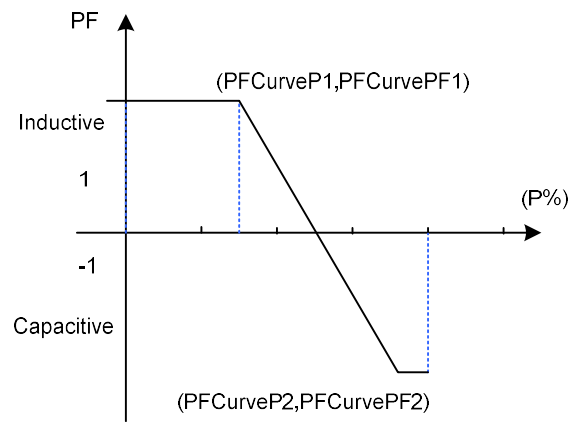


Fig. 6-29 PF(P) Curve Mode

(3).Q(U) curve: Q(U) curve mode

NOTICE: The reactive power compensation will change according to the change of the grid voltage, refer to the Fig. 6-30.

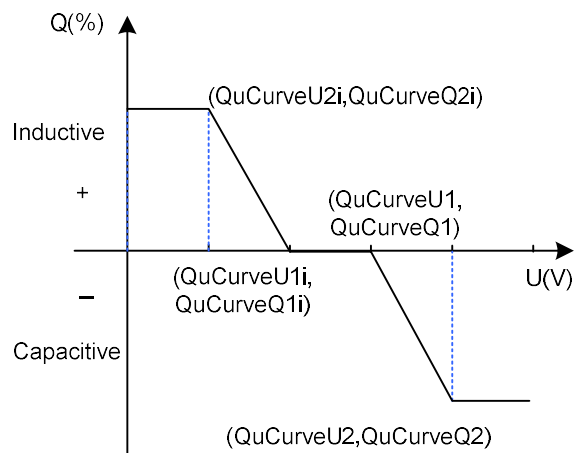


Fig. 6-30 Q(u) Curve Mode

6.3.3.3.11 Others Parameters

In the others interface, you can find the following common parameters shown as below.

Others Parameters

Last Updated: --

PowerOnDelay

0x2500 | 9472

PVStartupVolt

0x2501 | 9473

PVSlowStartPwDelta

0x2502 | 9474

ErrSoftStartP

0x2503 | 9475

NormSoftStopP

0x2504 | 9476

NormSoftStartP

0x2505 | 9477

NormDeratingStep

0x2506 | 9478

StartUpMinTemp

0x2507 | 9479

FaultPowerT

0x2508 | 9480

Read

Others Parameters

Last Updated: --

FaultEnvT

0x2509 | 9481

HVRTTripVolt

0x250A | 9482

LVRTTripVolt

0x250B | 9483

LVRTPstReactiveI

0x250C | 9484

LVRTNegReactiveI

0x250D | 9485

PSetPercentLocal

0x250E | 9486

QSetPercentLocal

0x250F | 9487

ISOProtection

0x2510 | 9488

GFCISaticValue

0x2511 | 9489

Read

Others Parameters

Last Updated: --

GFCISaticT

0x2512 | 9490

GFCIDynProFactor

0x2513 | 9491

DCIProtection1

0x2514 | 9492

DCIProtectionT1

0x2515 | 9493

DCIProtection2

0x2516 | 9494

DCIProtectionT2

0x2517 | 9495

DuplicationControl

0x2518 | 9496

MPPTScanPeriod

0x2519 | 9497

ChecksumGroup1_6

0x251A | 9498

Read

Others Parameters

Last Updated: --

PhaseLoseRcvCoeff

0x251C | 9500

PhaseLoseVUnbalance

0x251D | 9501

ReactiveStep

0x251E | 9502

PVSlowStartStep

0x251F | 9503

OptiVoltMinMppt1

0x2520 | 9504

OptiVoltMaxMppt1

0x2521 | 9505

OptiVoltMinMppt2

0x2522 | 9506

OptiVoltMaxMppt2

0x2523 | 9507

OptiVoltMinMppt3

0x2524 | 9508

Read

Others Parameters

Last Updated: --

OptiVoltMaxMppt3

0x2525 | 9509

OptiVoltMinMppt4

0x2526 | 9510

OptiVoltMaxMppt4

0x2527 | 9511

OptiVoltMinMppt5

0x2528 | 9512

OptiVoltMaxMppt5

0x2529 | 9513

OptiVoltMinMppt6

0x252A | 9514

OptiVoltMaxMppt6

0x252B | 9515

OptiVoltMinMppt7

0x252C | 9516

OptiVoltMaxMppt7

0x252D | 9517

Read

Others Parameters

Last Updated: --

OptiVoltMinMppt8

0x252E | 9518

OptiVoltMaxMppt8

0x252F | 9519

OptiVoltMinMppt9

0x2530 | 9520

OptiVoltMaxMppt9

0x2531 | 9521

OptiVoltMinMppt10

0x2532 | 9522

OptiVoltMaxMppt10

0x2533 | 9523

OptiVoltMinMppt11

0x2534 | 9524

OptiVoltMaxMppt11

0x2535 | 9525

OptiVoltMinMppt12

0x2536 | 9526

Read

Others Parameters

Last Updated: --

OptiVoltMaxMppt10

0x2533 | 9523

OptiVoltMinMppt11

0x2534 | 9524

OptiVoltMaxMppt11

0x2535 | 9525

OptiVoltMinMppt12

0x2536 | 9526

OptiVoltMaxMppt12

0x2537 | 9527

PhaseLoseCoeff

0x2538 | 9528

VirtualDamping

0x2539 | 9529

HVRTReactiveI

0x253E | 9534

AlFreDisturbTrip

0x2577 | 9591

Read

Fig. 6-31 Others Parameters

6.3.3.3.12 Enable/disable control Parameters

Enable/Disable is used to enable or disable the function and protect parameters.

<div> <div>Enable/disable control Par...</div> <div>Last Updated: --</div> <div> <div> <div>↻</div> <div>CtrParaGroup</div> <div>0x2600 9728</div> <div>></div> </div> <div> <div>↻</div> <div>CtrModeReactivePw</div> <div>0x2601 9729</div> <div>></div> </div> <div> <div>↻</div> <div>CtrModeActivePw</div> <div>0x2602 9730</div> <div>></div> </div> <div> <div>↻</div> <div>MPPTScanEn</div> <div>0x2603 9731</div> <div>></div> </div> <div> <div>↻</div> <div>ARCEnable</div> <div>0x2604 9732</div> <div>></div> </div> <div> <div>↻</div> <div>Island Protect</div> <div>0x2607 9735</div> <div>></div> </div> <div> <div>↻</div> <div>LVRTModeSetting</div> <div>0x2608 9736</div> <div>></div> </div> <div> <div>↻</div> <div>HVRTModeSetting</div> <div>0x2609 9737</div> <div>></div> </div> <div> <div>↻</div> <div>NormSoftStopPw</div> <div>0x260A 9738</div> <div>></div> </div> <div>Read</div> </div> </div>	<div> <div>Enable/disable control Par...</div> <div>Last Updated: --</div> <div> <div> <div>↻</div> <div>PIDCheckEn</div> <div>0x260B 9739</div> <div>></div> </div> <div> <div>↻</div> <div>GridVoltMax1En</div> <div>0x260C 9740</div> <div>></div> </div> <div> <div>↻</div> <div>GridVoltMax2En</div> <div>0x260D 9741</div> <div>></div> </div> <div> <div>↻</div> <div>GridVoltMax3En</div> <div>0x260E 9742</div> <div>></div> </div> <div> <div>↻</div> <div>GridVoltMin1En</div> <div>0x260F 9743</div> <div>></div> </div> <div> <div>↻</div> <div>GridVoltMin2En</div> <div>0x2610 9744</div> <div>></div> </div> <div> <div>↻</div> <div>GridVoltMin3En</div> <div>0x2611 9745</div> <div>></div> </div> <div> <div>↻</div> <div>GridFrqMax1En</div> <div>0x2612 9746</div> <div>></div> </div> <div> <div>↻</div> <div>GridFrqMax2En</div> <div>0x2613 9747</div> <div>></div> </div> <div>Read</div> </div> </div>	<div> <div>Enable/disable control Par...</div> <div>Last Updated: --</div> <div> <div> <div>↻</div> <div>GridFrqMax3En</div> <div>0x2614 9748</div> <div>></div> </div> <div> <div>↻</div> <div>GridFrqMin1En</div> <div>0x2615 9749</div> <div>></div> </div> <div> <div>↻</div> <div>GridFrqMin2En</div> <div>0x2616 9750</div> <div>></div> </div> <div> <div>↻</div> <div>GridFrqMin3En</div> <div>0x2617 9751</div> <div>></div> </div> <div> <div>↻</div> <div>VoltMaxMovAvgEn</div> <div>0x2618 9752</div> <div>></div> </div> <div> <div>↻</div> <div>VoltMinMovAvgEn</div> <div>0x2619 9753</div> <div>></div> </div> <div> <div>↻</div> <div>GridCStaticEn</div> <div>0x261A 9754</div> <div>></div> </div> <div> <div>↻</div> <div>GFCDynProEn</div> <div>0x261B 9755</div> <div>></div> </div> <div> <div>↻</div> <div>OvrFrqDeratingMode</div> <div>0x261C 9756</div> <div>></div> </div> <div>Read</div> </div> </div>	<div> <div>Enable/disable control Par...</div> <div>Last Updated: --</div> <div> <div> <div>↻</div> <div>DCIProtection1En</div> <div>0x261D 9757</div> <div>></div> </div> <div> <div>↻</div> <div>DCIProtection2En</div> <div>0x261E 9758</div> <div>></div> </div> <div> <div>↻</div> <div>GridVoltUnbalanceEn</div> <div>0x261F 9759</div> <div>></div> </div> <div> <div>↻</div> <div>UFDerEn</div> <div>0x2620 9760</div> <div>></div> </div> <div> <div>↻</div> <div>OvrVoltDerEn</div> <div>0x2621 9761</div> <div>></div> </div> <div> <div>↻</div> <div>PVSlowStartSEn (HECO)</div> <div>0x2622 9762</div> <div>></div> </div> <div> <div>↻</div> <div>ISOProtectionEn</div> <div>0x2623 9763</div> <div>></div> </div> <div> <div>↻</div> <div>FANDetectEn</div> <div>0x2624 9764</div> <div>></div> </div> <div> <div>↻</div> <div>ACSPDDetectEnSet</div> <div>0x2625 9765</div> <div>></div> </div> <div>Read</div> </div> </div>
<div> <div>Enable/disable control Par...</div> <div>Last Updated: --</div> <div> <div> <div>↻</div> <div>OperationOverVolEn</div> <div>0x2626 9766</div> <div>></div> </div> <div> <div>↻</div> <div>ActivePowerOver</div> <div>0x2627 9767</div> <div>></div> </div> <div> <div>↻</div> <div>ReactivePowerOver</div> <div>0x2628 9768</div> <div>></div> </div> <div> <div>↻</div> <div>PhaseLoseCoeffEnable</div> <div>0x2629 9769</div> <div>></div> </div> <div> <div>↻</div> <div>Phase-PEEnable</div> <div>0x262A 9770</div> <div>></div> </div> <div> <div>↻</div> <div>MPPTRangEnable</div> <div>0x262B 9771</div> <div>></div> </div> <div> <div>↻</div> <div>RapidShutdownEnabBit</div> <div>0x262C 9772</div> <div>></div> </div> <div> <div>↻</div> <div>PV1FuseCheckEn</div> <div>0x262F 9775</div> <div>></div> </div> <div> <div>↻</div> <div>PV2FuseCheckEn</div> <div>0x2630 9776</div> <div>></div> </div> <div>Read</div> </div> </div>	<div> <div>Enable/disable control Par...</div> <div>Last Updated: --</div> <div> <div> <div>↻</div> <div>PV3FuseCheckEn</div> <div>0x2631 9777</div> <div>></div> </div> <div> <div>↻</div> <div>PV4FuseCheckEn</div> <div>0x2632 9778</div> <div>></div> </div> <div> <div>↻</div> <div>PV5FuseCheckEn</div> <div>0x2633 9779</div> <div>></div> </div> <div> <div>↻</div> <div>PV6FuseCheckEn</div> <div>0x2634 9780</div> <div>></div> </div> <div> <div>↻</div> <div>PV7FuseCheckEn</div> <div>0x2635 9781</div> <div>></div> </div> <div> <div>↻</div> <div>PV8FuseCheckEn</div> <div>0x2636 9782</div> <div>></div> </div> <div> <div>↻</div> <div>PV9FuseCheckEn</div> <div>0x2637 9783</div> <div>></div> </div> <div> <div>↻</div> <div>PV10FuseCheckEn</div> <div>0x2638 9784</div> <div>></div> </div> <div> <div>↻</div> <div>PV11FuseCheckEn</div> <div>0x2639 9785</div> <div>></div> </div> <div>Read</div> </div> </div>	<div> <div>Enable/disable control Par...</div> <div>Last Updated: --</div> <div> <div> <div>↻</div> <div>PV12FuseCheckEn</div> <div>0x263A 9786</div> <div>></div> </div> <div> <div>↻</div> <div>PV13FuseCheckEn</div> <div>0x263B 9787</div> <div>></div> </div> <div> <div>↻</div> <div>PV14FuseCheckEn</div> <div>0x263C 9788</div> <div>></div> </div> <div> <div>↻</div> <div>PV15FuseCheckEn</div> <div>0x263D 9789</div> <div>></div> </div> <div> <div>↻</div> <div>PV16FuseCheckEn</div> <div>0x263E 9790</div> <div>></div> </div> <div> <div>↻</div> <div>PV17FuseCheckEn</div> <div>0x263F 9791</div> <div>></div> </div> <div> <div>↻</div> <div>PV18FuseCheckEn</div> <div>0x2640 9792</div> <div>></div> </div> <div> <div>↻</div> <div>PV19FuseCheckEn</div> <div>0x2641 9793</div> <div>></div> </div> <div> <div>↻</div> <div>PV20FuseCheckEn</div> <div>0x2642 9794</div> <div>></div> </div> <div>Read</div> </div> </div>	<div> <div>ActPwrLowConfigEnab</div> <div>0x264A 9802</div> <div>></div> <div> <div>↻</div> <div>QuCrvVoltAdjustEnab</div> <div>0x264B 9803</div> <div>></div> </div> <div> <div>↻</div> <div>ActPwrFirstEn</div> <div>0x2658 9816</div> <div>></div> </div> <div> <div>↻</div> <div>AntiRefluxEn</div> <div>0x265F 9823</div> <div>></div> </div> <div>Read</div> </div>

Fig. 6-32 Enable/disable Control Parameters

6.3.3.3.13 Control Command

In the Command interface, you can access the following submenus.

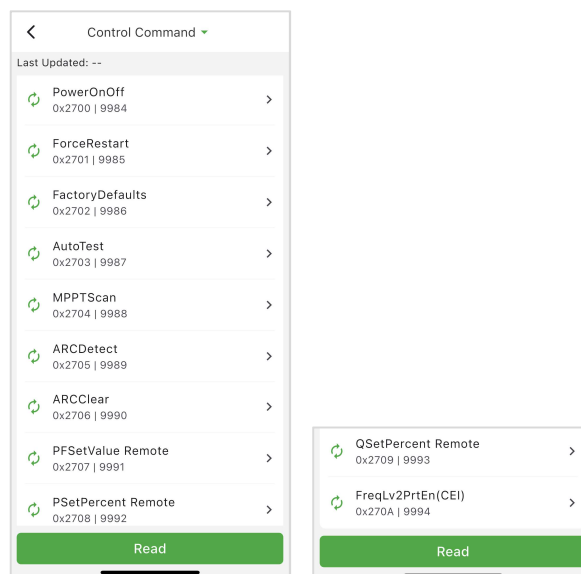


Fig. 6-33 Control Command

- **Power On/Off:** After adjusting settings or performing a manual (fault) shutdown, you will need to manually turn the power ON/OFF.

Force Restart: When a permanent failure occurs, you can opt to re-energize the inverter to restore the fault. Alternatively, you can perform a forced restart via the App or web interface to achieve the same result. There is no limit to the number of times these actions can be performed.

- **Factory Defaults:** You can revert to the manufacturer's default parameter settings when the inverter is not in operation mode. Otherwise "Fault Operated" will be reported.
- **Auto Test:** Only for Italian Grid Code.
- **MPPT Scan:** This function is used to execute the MPPT scanning manually. If the scan is successful, the device screen will skip to the normal operation interface; if it fails, the device screen will remain on the interface.

The MPPT scan is designed for multi-MPP tracking and is particularly useful when PV panels are partially shaded or installed at varying angles. The default setting for MPPT scanning is <Enabled>, but it can also be set to Disabled. When the MPPT scan function is enabled, the scan period is 60 minutes. The inverter will search for the maximum power point within the MPPT range under the following condition: The total input power is less than 90% of the active power. Once activated, the device will search for the maximum power point at a voltage step of 5V within the MPPT range for full load operation.

- **ARC Detect:** This function is used to manually check for faults in the ARC board (if 4G network card is connected, this function can be used remotely on web

page). During normal operation, using this function will shut down the running device for ARC detection.

If there is a fault, the “ARC Detect” item will display "Error" and an ARC board fault record will show on the fault page under the "Current Alarm" interface (refer to section 6.3.4.1 to check fault information); If no faults are found, the “ARC Detect” item will display "successful".

Note: The device will automatically perform ARC board detection before normal operation every day. Therefore, it's unnecessary to perform this function when the device is running normally.

- **ARC Clear:** This function is used to manually clear the ARC protection of the machine (if 4G network card is connected, this function can be used remotely on web page). The device is preset to attempt automatic reconnection up to five times within 24 hours (this can be adjusted in the ARC interface's parameter area, refer to Fig. 6-21). If the ARC protection is triggered for the fifth time, you must manually clear the fault to re-enable the automatic reconnection feature, which will then attempt to reconnect up to five times within the next 24 hours.
- **PFSetValue Remote:** Users can use this function to set the PF value remotely.
- **PSetPercent Remote:** Users can use this function to set the active power percent remotely.
- **QSetPercent Remote:** Users can use this function to set the reactive power percent remotely.
- **FreqLv2PrtEn (CEI):** Not available to this device.

6.3.3.4 Software Upgrade

If the inverter firmware version needs to be updated, please contact the Chint service personnel.

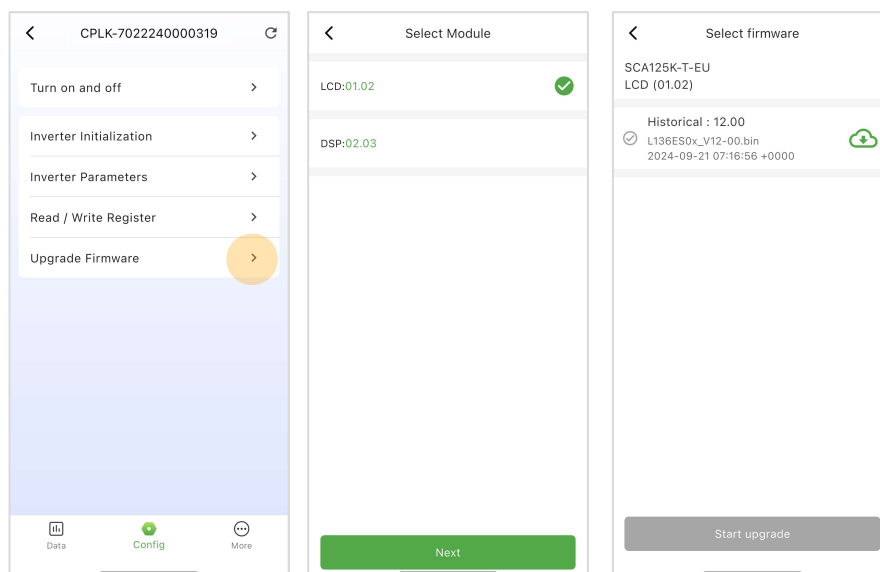


Fig. 6-34 Software Upgrade

6.3.4 More

Tap the More icon to access the More interface, which includes three submenus: Current Alarm, History Alarm and Chart built into device.

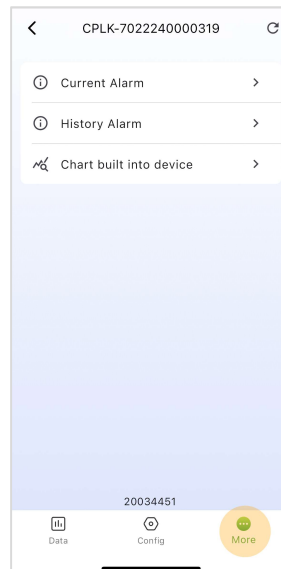


Fig. 6-35 More

6.3.4.1 Current Alarm

In the Current Alarm interface, you can view the current alarm.

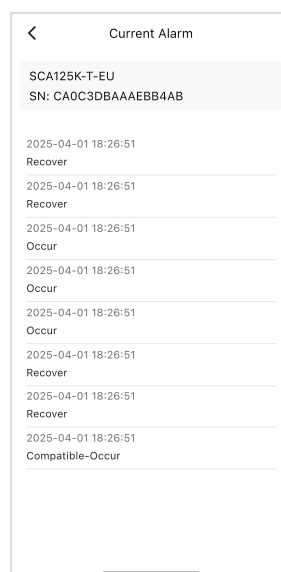


Fig. 6-36 Current Alarm

6.3.4.2 History Alarm

In the History Alarm interface, you can view History Alarm and Running Status.

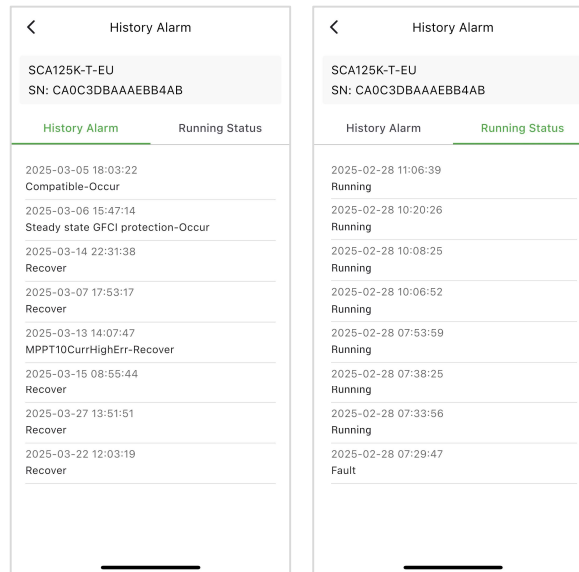


Fig. 6-37 History Alarm

6.3.4.3 Chart built into device

In the Chart built into device interface, you can view power generation at different times, such as Current, Today and Total. This data can also be displayed by Day, Month and Year.

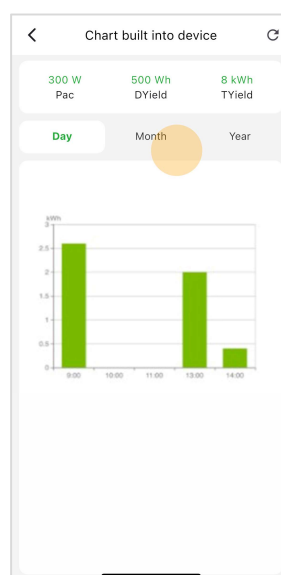


Fig. 6-38 Chart built into device

7 Maintenance

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 5 minutes before starting any operation.
 - Maintenance operations can be performed by qualified personnel only.
 - To reduce the risk of electrical shock, please do not perform other servicing other than those specified in the operation instructions unless you are qualified to do so.
-

7.1 Check Electrical Connection

- 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 Chapter 4 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 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.

7.3 Replace the Cooling Fans

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 disconnect the AC & DC power before replacing the fans.

Refer to the following procedures for replacing the cooling fans.

1. Use a No.2 Phillips head screwdriver to remove the 4 screws fixing the fan tray as shown in Fig. 7-1.

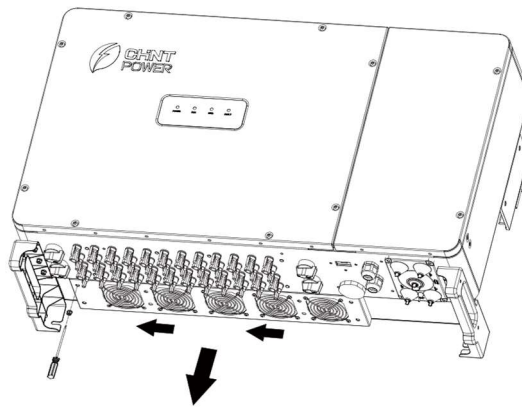


Fig. 7-1 Remove the fan tray and fan

2. Disconnect the watertight cable connector from cooling fan, as shown in Fig. 7-2.

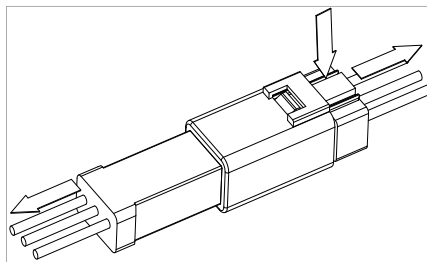


Fig. 7-2 Disconnect the watertight cable connector

3. Use a No.2 Phillips head screwdriver to remove the 4 screws fixing every fan.

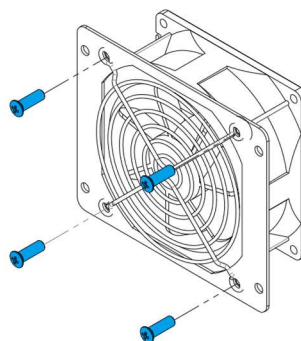


Fig. 7-3 Replace cooling fans

4. Place the new cooling fans on the fan tray, and fasten the cable on the fan tray with cable ties. Tools required: No.2 Phillips head screwdriver, torque value: 14~18.0kgf.cm
5. Reinstall the assembled fans onto the inverter. Tools required: No.2 Phillips head screwdriver, torque value: 16.0kgf.cm.

7.4 Replace the Inverter



IMPORTANT!

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

Replace the inverter in reverse order relative to the installation steps in section 3 Mechanical Installation.

1. Use a No.10 hexagon socket wrench (torque value: 60.0 kgf.cm) to remove the two M6X16 screws.
2. Remove the inverter from its mounting bracket with the coordination of 4 people.
3. Replace the new inverter on the mounting bracket and fasten it.

8 Troubleshooting

8.1 LED Lamp Troubleshooting

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

LED Lamp Failure State	Troubleshooting Method
"Power" light not on	<ol style="list-style-type: none"> 1. Disconnect the external AC circuit breaker 2. Turn the DC switch to the "OFF" position 3. Check PV input voltage and polarity
"GRID" light flashing	<ol style="list-style-type: none"> 1. Disconnect the external AC circuit breaker 2. Turn the DC switch to the "OFF" position 3. Check that the grid voltage and circuit breaker wiring are correct and firm
"RUN" light off or "FAULT" light on	Refer to Table 8-2 for troubleshooting

Table 8-1 LED Light Troubleshooting

8.2 App Display 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 5 minutes after disconnecting all sources of DC and AC.

When the photovoltaic power generation system fails, such as: output short circuit, grid voltage overvoltage, undervoltage, grid frequency overfrequency, underfrequency, high ambient temperature, and device internal failure, the inverter will automatically stop and the fault information will be displayed on the App.

Before contacting the after-sales service, you can quickly locate the cause of the fault based on the faults listed in Table 8-2, and deal with it according to the recommended handling method. There are three main types of failures: warning, protection, and failure.

Fault Type	Fault Code	Solution
Warning	CommErr (Internal Communication Failure)	<ol style="list-style-type: none"> 1. Observe for 5 minutes to see if the inverter can automatically eliminate this alarm; 2. Disconnect the DC switch and let the system receive power again; 3. Contact after-sales service personnel
	ExtFanErr (External Fan Alarm)	<ol style="list-style-type: none"> 1. Observe for 5 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 switch and let the system receive power again; 4. Contact after-sales service personnel
	IntFanErr (Internal Fan Alarm)	<ol style="list-style-type: none"> 1. Observe for 5 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 AC power and let the system receive power again; 4. Contact after-sales service personnel
	Warn0030 (EEPROM Read/Write Failure)	<ol style="list-style-type: none"> 1. Observe for 5 minutes to see if the inverter can automatically eliminate this alarm; 2. Contact after-sales service personnel
	Warn0040 (DC side lightning protection device Abnormality)	<ol style="list-style-type: none"> 1. Observe for 5 minutes to see if the inverter can automatically eliminate this alarm; 2. Check whether the DC lightning protector is damaged 3. Contact after-sales service personnel
	Warn0050 (Temperature Sensor Abnormality)	<ol style="list-style-type: none"> 1. Check the temperature display value 2. Disconnect AC power and let system receive power again 3. Contact after-sales service personnel

	Warn0100 (AC side MOV Abnormality)	<ol style="list-style-type: none"> 1. Observe for 5 minutes to see if the inverter can automatically eliminate this alarm 2. Contact after-sales service personnel
	MeterCommErr (Meter Communication Failure)	<ol style="list-style-type: none"> 1. Check if the configuration of communication is right 2. Observe for 5 minutes to see if the inverter can automatically eliminate this alarm 3. Contact after-sales service personnel
	MPPTxFuseWarn (x=1-9/12) (MPPT Fuse Warning)	Check if the DC cable of MPPT 1-9 or MPPT 1-12 is connected correspondingly
Protection	Protect0090 (Bus Voltage High)	<ol style="list-style-type: none"> 1. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Protect0070 (Bus High Voltage Difference)	
	Protect0060 (Bus Soft Start Timeout)	<ol style="list-style-type: none"> 1. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Protect0050 (Inverter Soft Start Timeout)	
	Protect0030 (Inverter Current High)	<ol style="list-style-type: none"> 1. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Protect0020 (Grid-tied relay protection)	
	Protect0010 (Inverter current offset)	
	Protect0180 (Inverter current DC component offset)	

	Protection 0170 (DCI current is too high)	<ol style="list-style-type: none"> 1. Set the maximum DCI to 400mA 2. Restart the inverter to observe whether the fault is automatically eliminated 3. Contact after-sales service personnel
	Protect0160 (Frequency detection abnormality)	<ol style="list-style-type: none"> 1. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Protect0150 MiniMCU Protection	
	Protect0140 (Inverter hardware over current)	
	Protect0130 (Inverter current unbalance)	<ol style="list-style-type: none"> 1. Check if the three phases of grid is balanced 2. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 3. Contact after-sales service personnel
	Protect0110 (Bus hardware over voltage)	<ol style="list-style-type: none"> 1. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Protect0210 (Inner self-diagnosis hardware failure)	
	Protect0260 (PV connection abnormality)	<ol style="list-style-type: none"> 1. Check if the DC cable connection of PV is firm 2. Check if the connected number of MPPT is aligned with the number of MPPT needed 3. Contact after-sales service personnel
	Protection0230 Start-up inverter open loop self-check failure	<ol style="list-style-type: none"> 1. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Protect0460 (Overcurrent blocking protection)	

	Protect0610 (GFCI static failure)	<ol style="list-style-type: none"> 1. Check if the grounding of inverter is firm 2. Contact after-sales service personnel
	Protect0570 (Catch phase-locked loop check exceptions)	<ol style="list-style-type: none"> 1. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on
	Protect0550 (Bst hardware overcurrent)	<ol style="list-style-type: none"> 2. Contact after-sales service personnel
	Protect0540 (Product model abnormality)	Contact after-sales service personnel
	Protect0530 (CPLD program version abnormality)	
	Protect0520 (CPLD clock abnormality)	
	Protect0470 (AC grounding failure)	<ol style="list-style-type: none"> 1. Check if the grounding is firm 2. Contact after-sales service personnel
	TempOver (Over-temperature protection)	<ol style="list-style-type: none"> 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
	IsolationErr (Insulation Resistance is too low)	<ol style="list-style-type: none"> 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

	GFCIErr (Leakage Current is too high)	<ol style="list-style-type: none"> 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
	MPPTxRevConnect (x=1-9/12) (MPPTx Reverse connection failure)	<ol style="list-style-type: none"> 1. Check if the positive and negative poles are reversed 2. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 3. Contact after-sales service personnel
	MPPTxVolHigh (x=1-9/12) (MPPTx voltage is too high)	<ol style="list-style-type: none"> 1. Check if the voltage of PV is too high (too many solar cell boards) 2. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 3. Contact after-sales service personnel
	ARC protection (ARC protection fault)	<ol style="list-style-type: none"> 1. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 2. Contact after-sales service personnel
	Arc board fault	<ol style="list-style-type: none"> 1. Clear the faults on the App or the Web 2. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 3. Contact after-sales service personnel
	GridV.OutLim (1. The valid value of grid wire voltage is exceeded 2. The valid value of grid phase voltage is exceeded 3. Grid phase failure 4. Grid voltage unbalance)	<ol style="list-style-type: none"> 1. Check if the three phases of grid is normal 2. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on 3. Contact after-sales service personnel

	GridF.OutLim (Grid frequency failure)	<ol style="list-style-type: none">1. Check if the grid frequency is normal:2. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on3. Contact after-sales service personnel
Failure	Failure 0020~0150	<ol style="list-style-type: none">1. Restart the inverter, disconnect the AC and DC connections, wait for 5 minutes to discharge and then turn it on2. Contact service personnel

Table 8-2 Fault Information Table

9 Technical Data

Model Name	SCA75K-T-SA	SCA100K-T-EU	SCA125K-T-EU
DC Input			
Max. DC Voltage	1100Vdc		
MPPT Voltage Range	200~950Vdc		
Start Voltage	300Vdc		
Rated DC Voltage	615Vdc		
Number of MPPT/Max. Number of DC Connection Sets	9/18	12/24	
Max. input current per MPPT	30A		
Max. DC short-circuit current per MPPT	45A		
DC Disconnection Type	Integrated Switch		
AC Output			
Rated AC Power	75kW	100kW	125kW
Max. AC Power	75kVA	110kVA	125kVA
Rated AC Voltage	220Vac	380 / 400Vac	
AC Voltage Range	176 - 297Vac	322 - 528Vac	
Grid Connection Type	3 / (N) / PE		
Max. AC Current	197A	167.2A	190A
Rated Frequency	50Hz / 60Hz		
Grid Frequency Range	45 - 55Hz/ 55 - 65Hz		
Power Factor (cosφ)	>0.99 (±0.8 adjustable)		
Current THD	< 3%		
AC Disconnection Type	-		
System Data			

Model Name	SCA75K-T-SA	SCA100K-T-EU	SCA125K-T-EU
Topology	Transformerless		
Max. Efficiency	98.41%	98.11%	98.50%
Euro Efficiency	97.70%	98.00%	98.10%
Consumption at Night	< 5W		
Environment Data			
Ingress Protection	IP66		
Cooling Method	Cooling Fans		
Operating Temperature Range	-30°C - +60°C		
Ambient Humidity	0 - 100%		
Altitude	4000m		
Display and Communication			
Display	LED+ App (Bluetooth)		
Communication	RS485 / Wi-Fi (Standard)/ & 4G (Optional)		
Mechanical Data			
Dimensions (W*H*D)	1050.0 * 660.0 * 340.5mm		
Weight	86 kg	90 kg	
DC Connection Type	MC4 (Max. 6mm²)		
AC Connection Type	OT/DT Terminal (Max. 240mm²)		
Safety			
Certifications	IEC 61000-6, IEC 62109-1/2, IEC 61727, IEC 62116, INMETRO PORTARIA N° 140(only for 75kW)		

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 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 below to dispose.



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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