

Three-Phase Grid-tied PV String Inverter SCA5/6/8/10/15/20/25K-T-EU Quick Installation Guide

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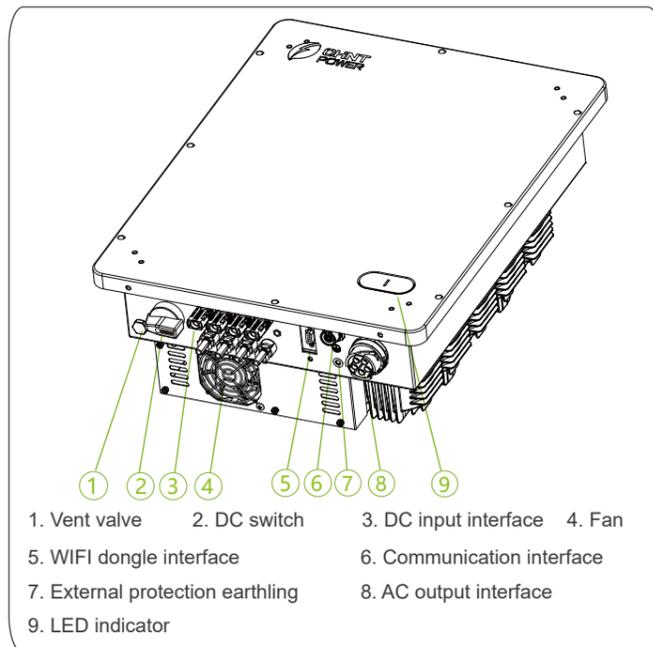
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Official site: www.chintpower.com

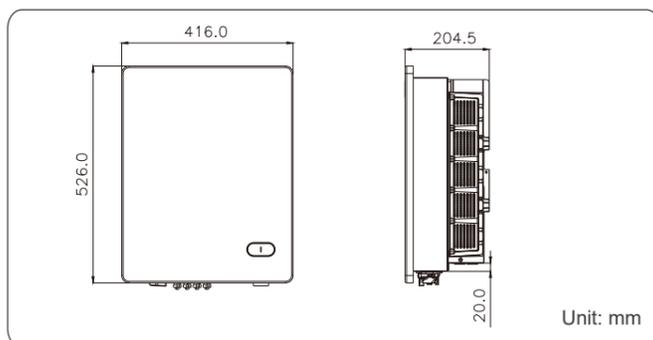
Customer Service Hotline: +86-21-37791222-866300

1 Product Components and Dimensions

1.1 Product Components

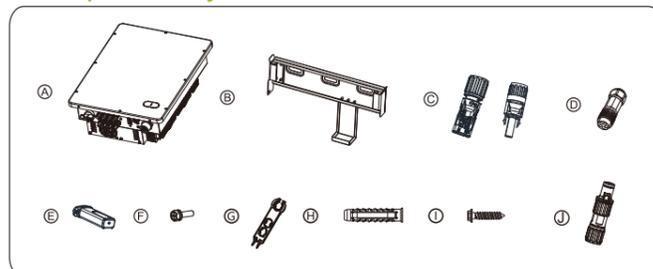


1.2 Product Dimensions



2 Mechanical Installation

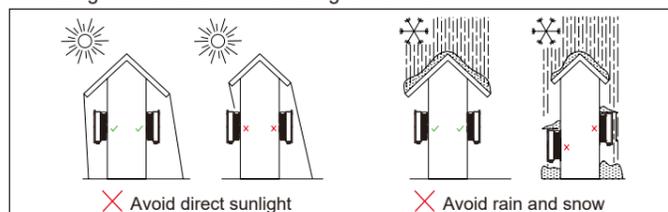
2.1 Scope of Delivery



No.	Accessories	Amt	Usage
A	PV Inverter	1	/
B	Mounting Bracket	1	Hang inverter
C	DC Input Connector	2+2 or 4+4	PV DC quick connector 5-15kW: 2 (+) & 2 (-) 20-25kW: 4 (+) & 4 (-)
D	AC Output Connector	1	Connect AC cable
E	WIFI Dongle	1	For communication and monitoring
F	Screw M5X12	1	For fastening inverter on mounting bracket
G	Unlock tool for DC connector	1	Unlock DC connectors
H	Nylon Expansion Bolt	3	For attaching mounting bracket to wall
I	Screw ST6.3X55	3	
J	RS485 Connector	1	Connect RS485 cable
	Documents	1	For quick guidance

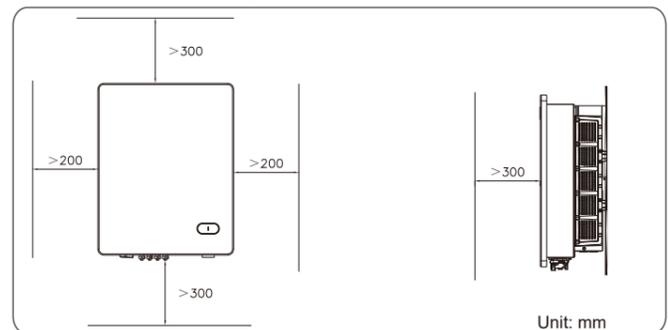
2.2 Installation Environment Requirements

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.

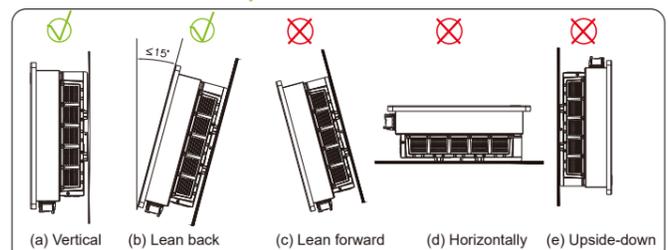


2.3 Recommended Clearances

During planning and installing the inverter, appropriate clearances shown as below shall be reserved to ensure sufficient ventilation and heat dissipation. The inverter shall be more than or equal to 200mm distant from its left or right objects, 300 mm from upper objects, 300mm from lower objects, and 300 mm from its front objects. In addition, no objects shall be put between two inverters to prevent any influences on heat dissipation.



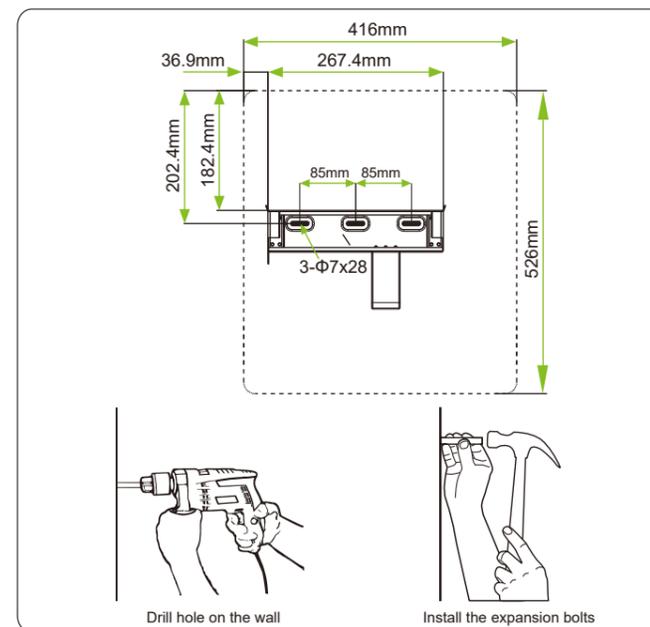
2.4 Installation Mode Requirements



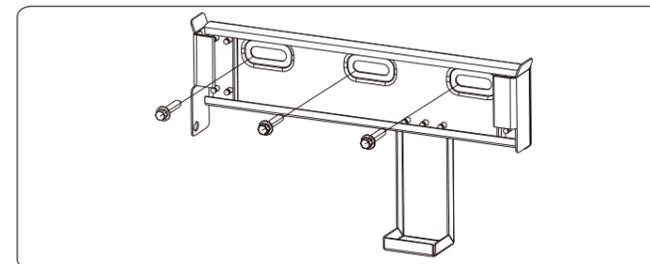
- (a) If the location permits, install the inverter vertically.
- (b) If the inverter cannot be mounted vertically, it may be tilted backward by lower than 15 degrees from vertical direction.
- (c) Do not mount the inverter leans forward.
- (d) Do not mount the inverter horizontally.
- (e) Do not mount the inverter upside down.

2.5 Install the Inverter

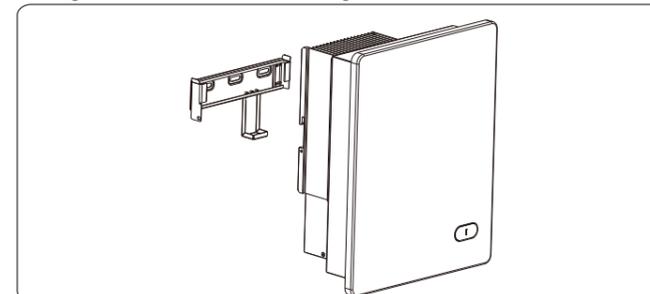
1. Mark the positions of the mounting holes on the installation structure (shelter, steel rack, etc.). Drill 3 holes with a depth of 70mm with a $\Phi 10$ mm drill at the marked position and then knock three nylon expansion bolts into mounting holes, as shown below.



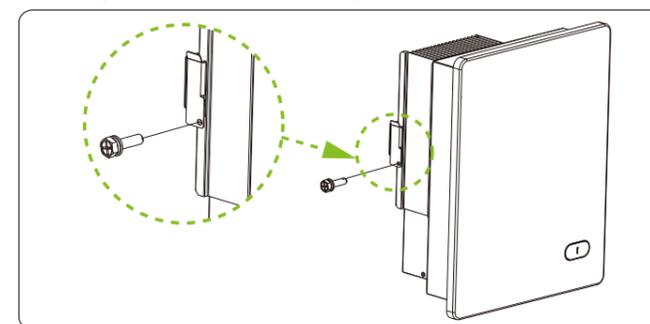
2. Insert three screws (ST6.3x55) through reserved holes of the mounting bracket and then lock them into the expansion bolts with a torque value of 11.3N.m.



3. Hang the inverter onto the mounting bracket.



4. Use M5 screws to fasten inverter on mounting bracket.
Tools required: PH2 screw driver, torque: 2.5N.m.



CAUTION Check that the mounting bracket is properly installed on the support surface once again before hanging the inverter on the bracket.

2.6 Installation Check

1. Ensure that the three supporting points (on the rear side of the inverter) align with the three holes of the mounting bracket.
2. Ensure that the inverter is well fixed.
3. Ensure that the inverter is locked on the mounting bracket and an antitheft lock is installed.

3 Electrical Connection

DANGER Before making the electrical connections, you have to ensure that the AC and DC connections are de-energized. Otherwise there is a risk of electric shock.

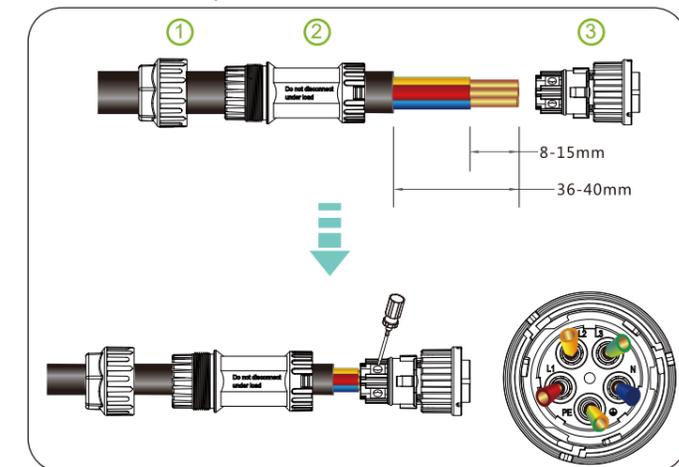
3.1 Cable Specification

Cable	Type	Conductor CSA (mm ²)		OD (mm)
		Range	Recommended	
DC	Industry common PV cables (Type: PV1-F)	4--6	4	5.0~7.2*
AC	Multi-core cables specialized for outdoor	6--16	5-15kw: 10 20-25kw: 12	13--21
PE	Cables specialized for outdoor	6--12	12	NA
RS485	4-core cables specialized for outdoor	0.21-0.32	0.21	5-6

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

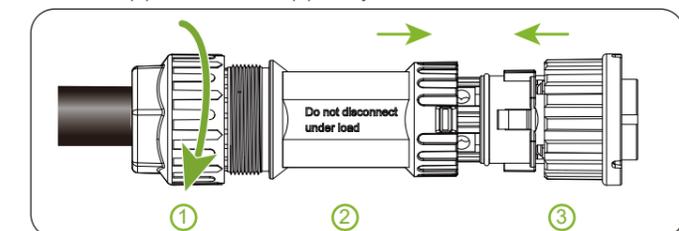
3.2 Cable Connection

1. Loosen the locking nut (1), sleeve (2) and connector (3). Thread AC wire through locking nut and sleeve. Remove an appropriate length of jacket and insulation layer from the cable.
2. Connect AC cable to AC connector: Connect grounding wire to PE terminal, neutral wire to N terminal, and live wire to L1, L2, L3 terminal.
3. Use the standard hex wrench to tighten each crimping screw and secure the cables with a torque of 0.8~1.2 N.m.

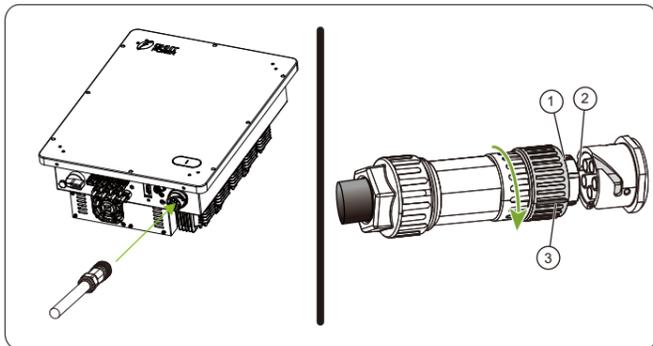


NOTICE Connect grounding wire to PE, neutral wire to N and live wires to L1/L2/L3 terminals correspondingly. If connect them incorrectly, the inverter may operate abnormally.

4. Tighten the locking nut (1) by hand with a torque of 3~4 N.m. Then connect the sleeve (2) and connector (3) until you hear a "click" sound.

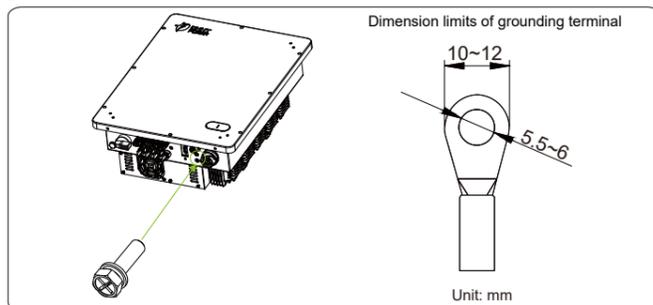


5. Align the five grooves (1) of the plug shell with the five protrusions (2) of the AC output terminal one by one. Then rotate the coupling nut and slide the connector into the end of groove, till the longer pointer points (3) to the limit position.

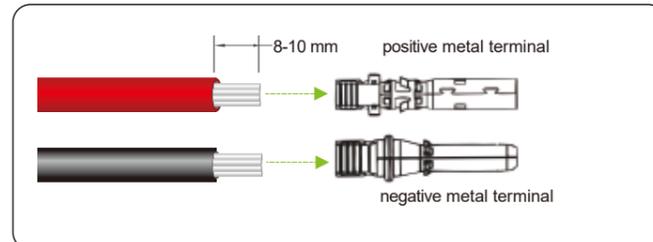


NOTICE The connection of the secondary protection ground wire cannot be replaced by that of PE terminal among the AC connection. Both shall be grounded correctly. CHINT will not bear any responsibility for the possible consequences caused by the omission.

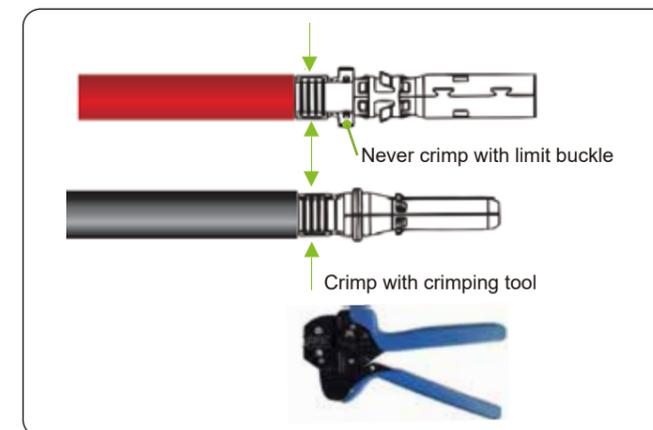
6. Use one M5 screw to connect and tighten the secondary protection ground wire. Tool: No. 10 socket wrench, torque: 5.9 N.m.
Note: After wiring, external grounding position needs to be coated with glue or paint.



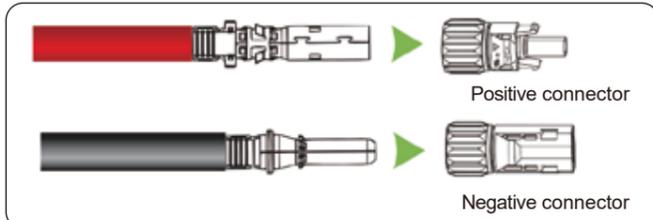
7. Remove an appropriate length of the jacket and insulation layer from the DC input cable of PV strings.



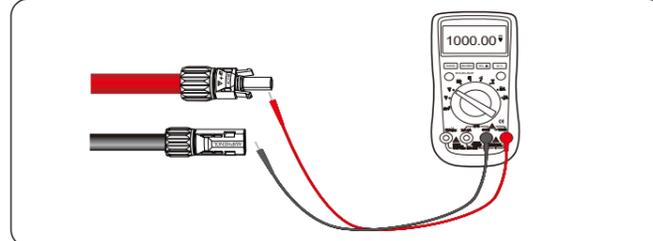
8. Insert the exposed areas of positive and negative power cables into the metal terminals of positive and negative connectors respectively. Crimp the metal terminals using Amphenol H4TC0002 or Devalan D4ZCY001 crimping tool.



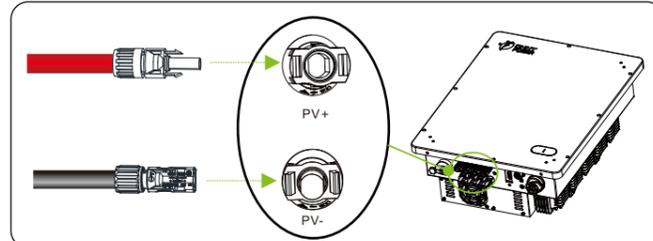
9. Insert the crimped positive and negative power cables into corresponding positive and negative connectors until a "click" sound is heard. Tighten the locking nuts of the positive and negative connectors.



10. Measure the cable ends of PV strings using a multimeter. Ensure that the polarities of the DC input power cables are correct.

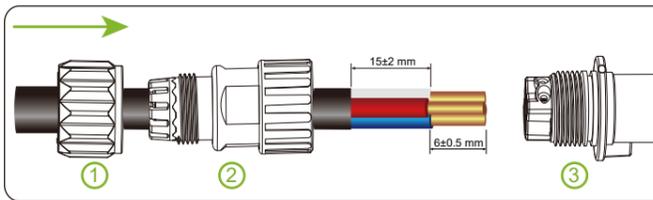


11. Insert the positive and negative connectors into their corresponding terminals of the inverter until a "click" sound is heard.



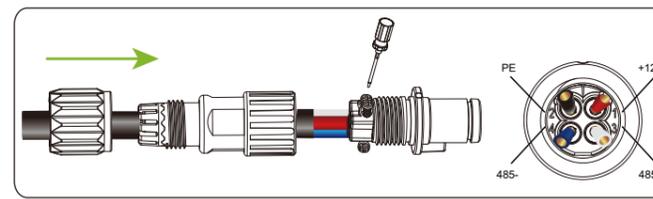
3.3 Communication Connection

1. Loosen the locking nut (1), sleeve (2) and connector (3). Thread the RS485 wire through the locking nut and sleeve. Strip off RS485 wire by referring to AC cable stripping.



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

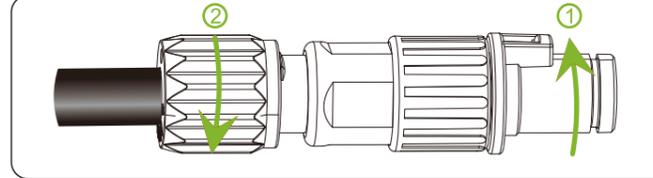
2-2. Tighten the crimping screws with a screwdriver. Torque value: 0.4-0.6 N.m.



2-3. For multiple inverters: when multiple inverters connect in daisy-chain, lead RS485 COM cables through RS485 connector. Strip 60mm cable insulation layer, connect two RS485+ wires to port 3, and two RS485- wires to port 4.

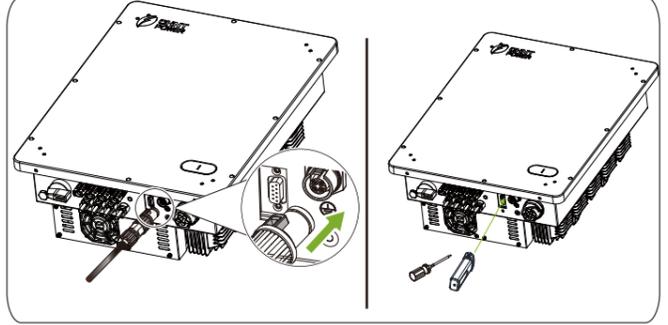
NOTICE If connecting to incorrect port, the inverter may operate abnormally.

3. Tighten the wiring plug by hand with a torque of 1.2-1.5 N.m. Then adjust the cable length, tighten the gland nut by hand with a torque of 2.6-2.9 N.m.



4. Align the positioning bar on the RS485 connector with the slot on the RS485 communication interface, and insert the RS485 connector till you hear a "click" sound.

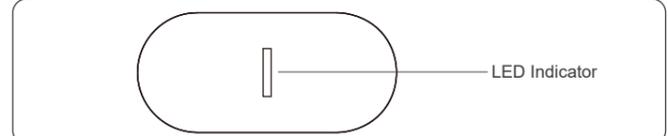
5. Install WIFI Dongle onto the communication interface and fasten it firmly with the No.2 philips screwdriver, torque value: 1.0 N.m.



IMPORTANT In order to improve protection performance, it is recommended that after installation of secondary ground wire, AC terminal, and communication interface is completed, silicone or fireproof putty is applied onto the exterior of the interface or terminal for protection.

4 Display

4.1 LED Indicators



4.2 Description of LED Indicators

1. Red LED=Malfunction

State Definition	LED State
Warning	Red led flashes slowly (light on 0.5s, light off 2s)
General failure (recoverable)	Red led flashes quickly (light on 0.5s, light off 0.5s)
Permanent failure (unrecoverable)	Red light is always on
Runs properly	Red light is off

2. Green LED=Operation

State Definition	LED State
(Derate) Power Generation	Green led flashes (light on 0.5s, light off 1.6s)
Regular (rated) operating power generation	Green light is always on
Standby	Green led flashes (light on 2s, light off 2s)

3. Software Upgrade State

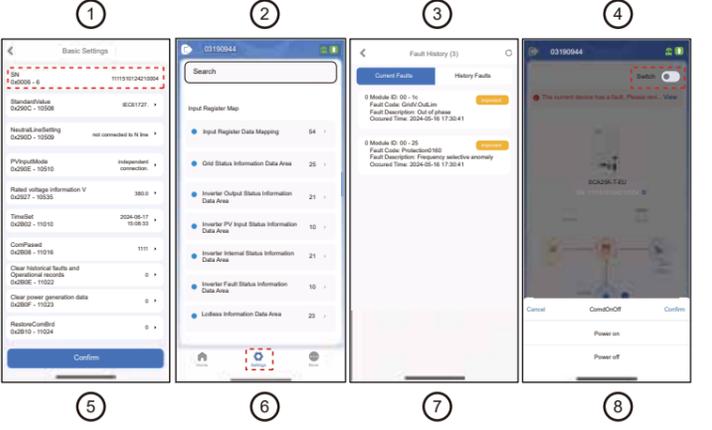
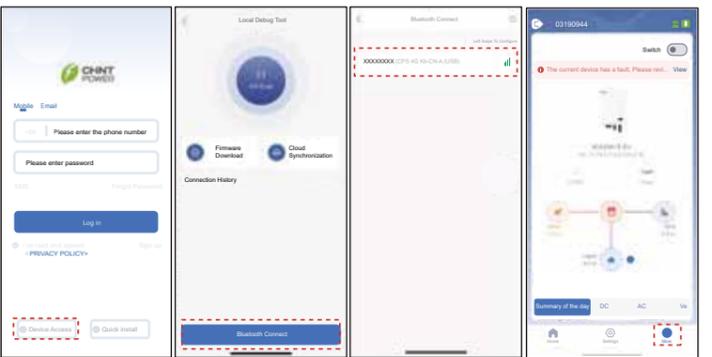
State Definition	LED State
Software Upgrade	Green led flashes quickly (light on 0.05s, light off 0.3s)

5 Commissioning

WARNING Please follow the guidelines below before performing any on-grid operation to eliminate possible dangers.

- 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.
 - Users can download iOS version "MatriCloud" APP in Apple store or Android version in Google store, or scan the QR code to download it. (Support Android 4.4 and IOS 11.0 system or higher version system).
 - Open Bluetooth function on your mobile phone, operate MatriCloud APP as follows:
- Note: We herein take SCA 25K-T-EU and iOS version APP interface as instance.

- Click the "Device Access" in the bottom.
 - Click the "Bluetooth Connect" to open the device name list. The device name "XXXXXXXX" is the last 8 digits of SN on the WIFI module label.
 - Click the device name to enter the home page.
 - Click "More" to set the "Basic Settings".
 - Set "PVLinkMode", "StandardValue", "GENType", "GridType", etc.
 - Click "Settings" and enter password "1111" to change register parameters. User can set the run modes in "Inverter Basic Information".
- Note:** Register parameters must be modified according to the communication protocol under the guidance of the engineer.
- If a fault occurs, click the red text in the main interface to view the fault information. Clear the fault according to the troubleshooting list in user manual and then restart. After troubleshooting, repeat commissioning. If it still cannot be resolved, please contact customer service.
 - Click the "Switch" to power on or power off the inverter.



6 Maintenance

Please check and clean the dust and other objects for external heat sink regularly to ensure good heat dissipation conditions of inverter.

Common Issue

Once the product does not work properly, please refer to the following table for solving the problems. If the problem persists, you can contact the dealers.

Common Issue	Solutions
No display	1. Check if the DC switch is in ON or OFF position. 2. If there is PV combiner box, check the fuses and wire connections.
No feed-in power	1. Check if AC breaker is on. 2. Wait for strong sunlight. 3. Check if the number of PV strings is correct. 4. Operate as required by the inverter.
Inverter abnormal	1. Disconnect both AC and DC breakers. 2. Wait at least 10 minutes, then switch on AC and DC breakers. 3. Check if inverter is working properly.
Less feed-in power	1. Check if the inverter is exposed to direct sunlight or in an environment with poor ventilation. 2. Check if there is enough installation distance between inverters.