CHINT POWER

Three-phase Grid-tied PV String Inverter
SCA15/20/25K-T-SA
CPS SCA25K-TM-EU
CPS SCA30/33/36/37.5/40K-T-EU
Quick Installation Guide

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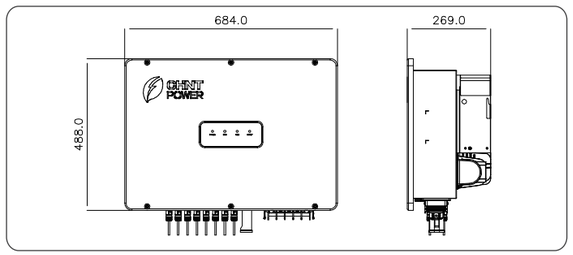
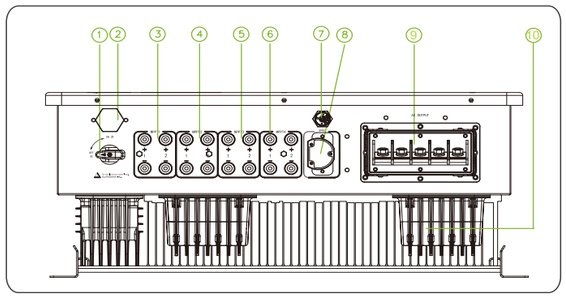
1 Product Dimensions and Components

1.1 Dimemsion



1.2 Main Components

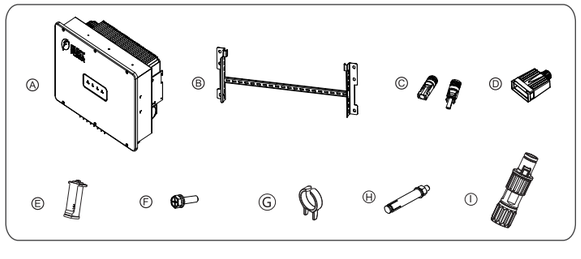


1. DC Switch 2. Vent valve 3. MPPT1 4. MPPT2
5. MPPT3 6. MPPT4 7. RS485 interface
8. COM interface 9. AC output 10. Radiator

NOTICE	SCA15/20/25K-T-SA, SCA25K-TM-EU, SCA30/33K-T-EU inverters are equipped with 3 MPPTs (6 inputs), SCA36/37.5/40K-T-EU inverters are equipped with 4 MPPTs (8 inputs). Their installation and electrical connection pocedures are the same, only 4 MPPT inverters will be taken as instance. Different points will be introduced seperately.

2 Installation

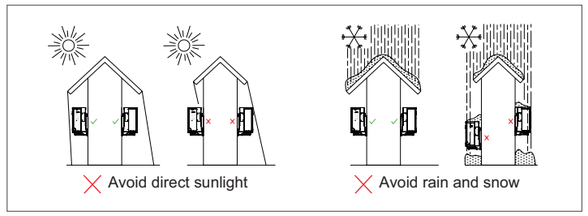
2.1 Scope of Delivery



No.	Accessories	Amt	Usage
A	PV Inverter	1	
B	Mounting Bracket	1	Hang inverter
C	DC Input Connector	6+6 or 8+8	PV DC quick connector 15-33kw: 6 (+) & 6 (-) 36-40kw: 8 (+) & 8 (-)
D	AC Output Connector	1	Route and protect AC cable
E	WIFI Dongle	1	Communication
F	M6X16 screw	3	2 for mounting bracket; 1 for grounding terminal
G	Unlock Tool for DC Connector	1	Unlock DC connector
H	Expansion Bolt	6	Lock mounting bracket to wall
I	RS485 Connector	1	Connect RS485 cable
	Quick Guide, Warranty Card	2	For quick guidance and warranty service

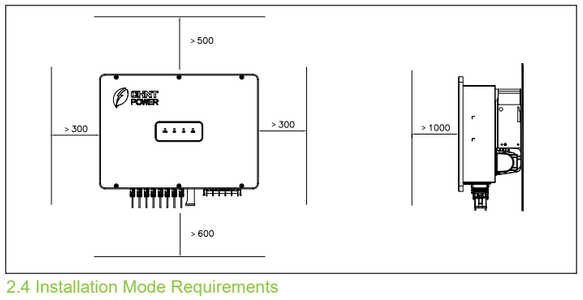
2.2 Installation Environment Requirements

In order to reduce power derating and extend service life, avoid direct sunlight, rain and snow wherever possible. It is recommended that inverter is installed under a roof or sunshade as below. However, outdoor installation is also acceptable, which does not diminish warranty rights.

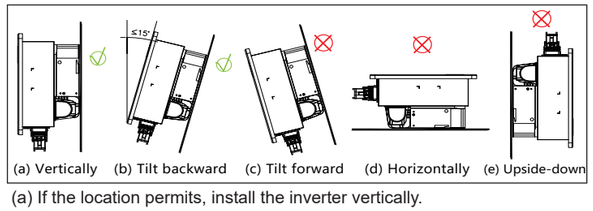


2.3 Recommended Clearances

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 300mm distant from its left or right objects, 500 mm from upper objects, 600mm from lower objects, and 1000 mm from its front objects. In addition, no objects shall be put between two inverters to prevent any influences on heat dissipation.



2.4 Installation Mode Requirements

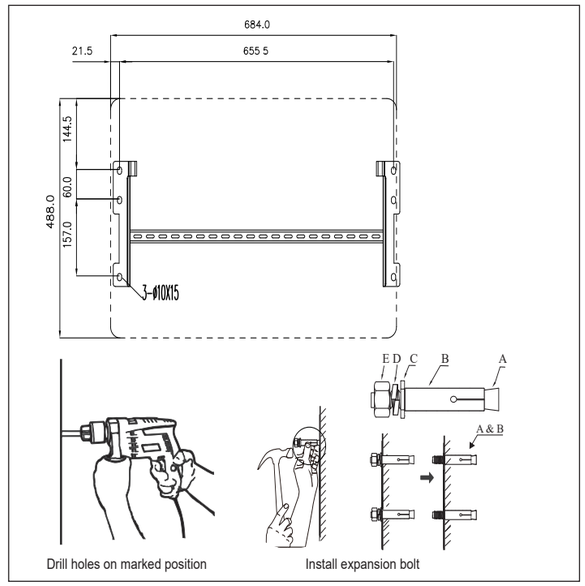


(a) If the location permits, install the inverter vertically.
(b) If the inverer cannot be mounted vertically, it may be tilted backward by lower than 15 degrees from vertical direction.
(c) Do not mount the inverter leans forward.
(d) Do not mount the inverter horizontally.
(e) Do not mount the inverter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

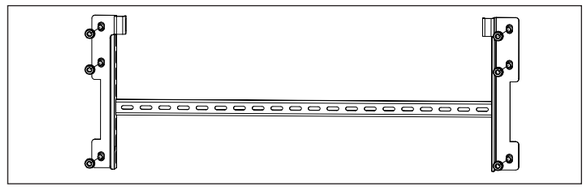
2.5 Install the Inverter

1. Mark the positions of mounting holes on the mounting structure according to the size of mounting bracket. Drill six holes with a depth of 65 mm with a Φ12mm drill at the marked positions.

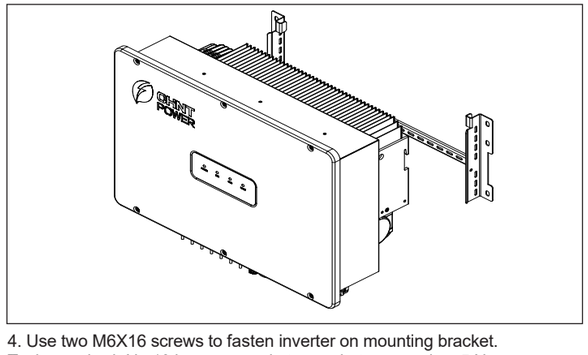
Knock all the six expansion bolts into mounting holes, then remove their nuts (E), spring washers (D) and flat washers (C), leaving their tubes (B) and bolts (A) in the wall.



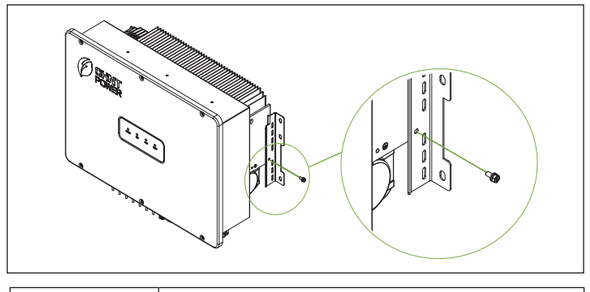
2. Lead the said six pairs of nuts (E), spring washers (D) and flat washers (C) through screw holes of mounting brackets and lock them to fasten mounting brackets onto wall with a torque value of 15 N.m.



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



4. Use two M6X16 screws to fasten inverter on mounting bracket.
Tools required: No.10 hexagon socket wrench, torque value: 5 N.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 slots of the inverter is aligned with hooks of mounting bracket.
2. Ensure the inverter is hung steadily on the mounting bracket.
3. Ensure the inverter is locked on the mounting bracket with M6 screws.

3 Electrical Connection

DANGER	Before performing any electrical connections, ensure that both DC and AC sides are powered OFF. Otherwise, fatal injury may be caused by high voltage.

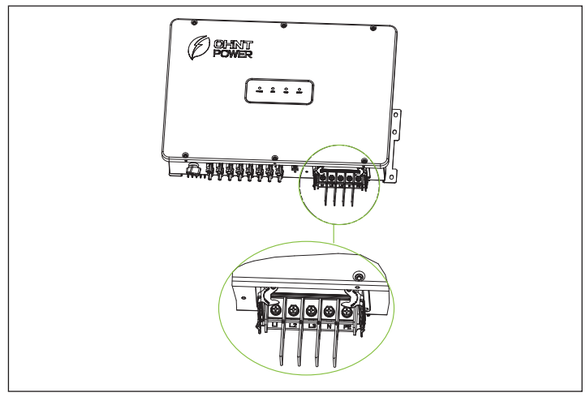
3.1 Cable Specifications (Recommended)

Cable	Cable Type	Cable O.D. (mm)	Conductor cross-sectional area (mm^2)
AC	Multi-core cables specialized for outdoor	16~38	Copper core cable: 16~50 Aluminum core cable: 35~50
DC	Industry common PV cables (PV1-F)	6~7	4~6
PE Ground	Cables specialized for outdoor	NA	≥16
RS485	4-core cables specialized for outdoor	5-6mm	0.21-0.32

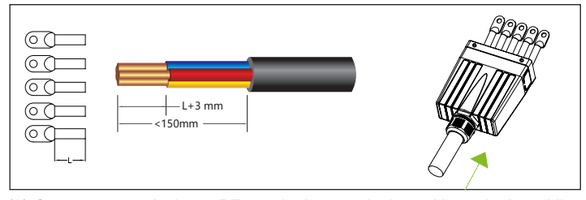
3.2 Cable Connection

1. AC wiring and Grounding

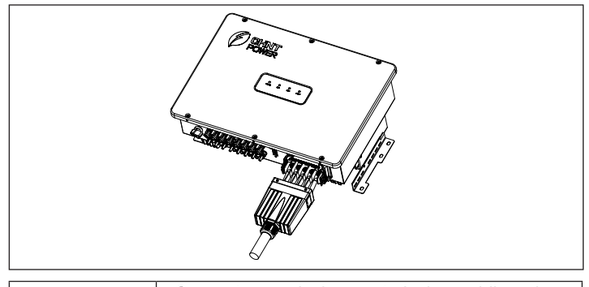
(1) Insert the four partitions into baffle gaps between different phases.



(2) Remove an appropriate length of the jacket and insulation layer from the cable. Loosen locking cap from the connector, route the power cable through the locking cap of the connector and reserve appropriate wiring length. Insert the exposed core wires into the crimp area of the OT terminal, wrap the wire crimp area with heat shrink tubing or insulation tape, and crimp them using hydraulic pliers.

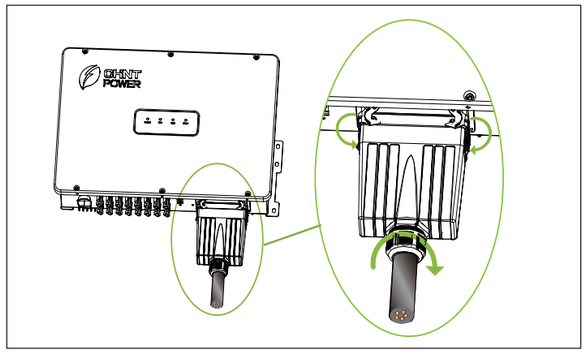


(3) Connect ground wire to PE terminal, neutral wire to N terminal, and live wire to L1, L2, L3 terminal, tighten them using screw driver.

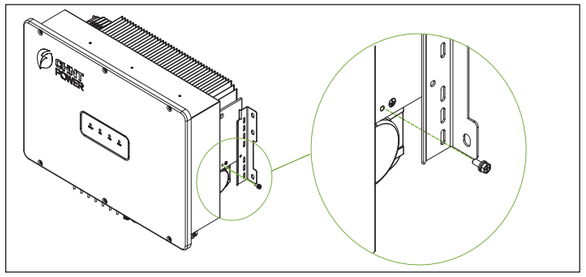


NOTICE	Connect ground wire, neutral wire and live wires to PE, N, L1/L2/L3 terminals correspondingly. If connect incorrectly, inverter may work abnormally.

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



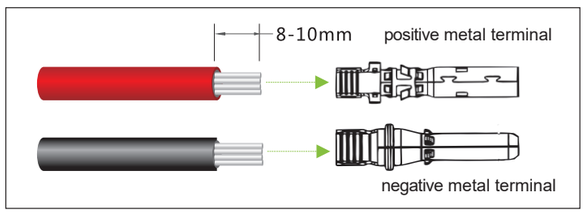
(6) Use one M6 screw to connect and tighten the secondary protection ground wire.
Tools: No. 10 socket wrench, torque: 5 N.m..



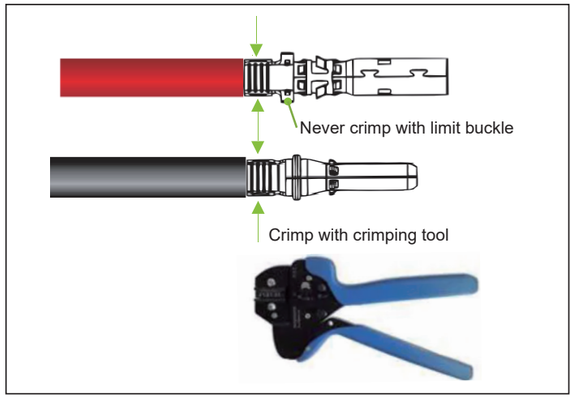
NOTICE	The connection of secondary protection ground wire cannot be replaced by that of PE terminal among the AC connection. Both shall be grounded correctly. CHINT will not bear any responsibility for the possible consequences caused by the omission.

2. DC wiring

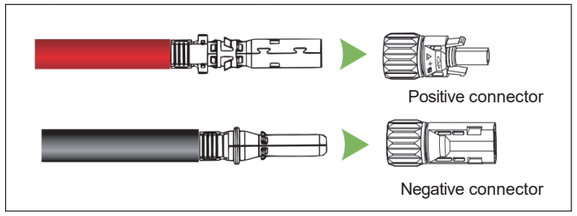
(1) Remove an appropriate length of the jacket and insulation layer from the DC input cable of PV strings.



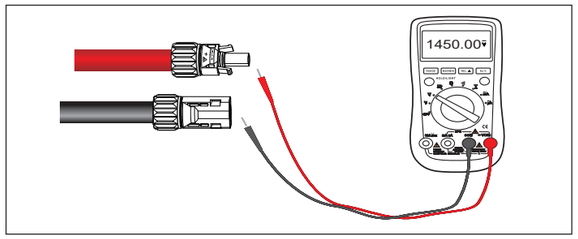
(2) Insert the exposed areas of positive and negative power cables into the metal terminals of positive and negative connectors respectively. Crimp the metal terminals using Amphenol H4TC0002 or Devalan D4ZCY001 crimping tool.



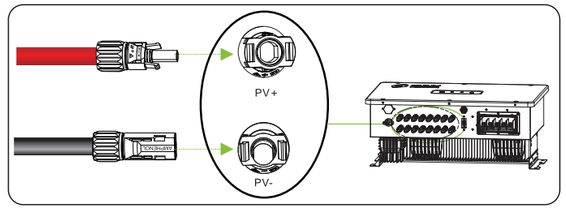
(3) Insert the crimped positive and negative power cables into corresponding positive and negative connectors until a "click" sound is heard. Tighten the locking nuts of the positive and negative connectors.



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

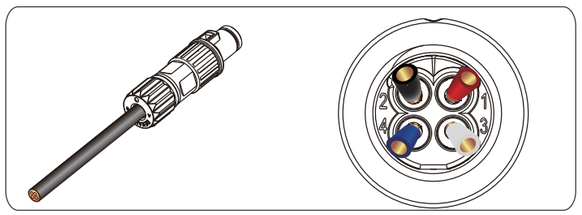


(5) Insert the positive and negative connectors into their corresponding terminals of the inverter until a "click" sound is heard.



3. Communication connection

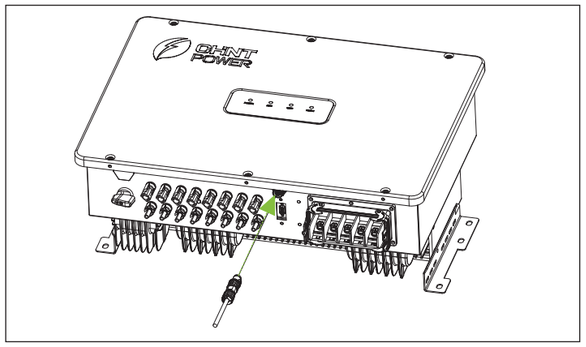
(1). Strip off RS485 wire by referring to AC cable stripping.
(2-1). For single inverter: lead one 4-core RS485 COM cable through RS485 connector, connect +12V wire to port 1, GND wire to port 2, RS485+ wire to port 3, and RS485- wire to port 4.



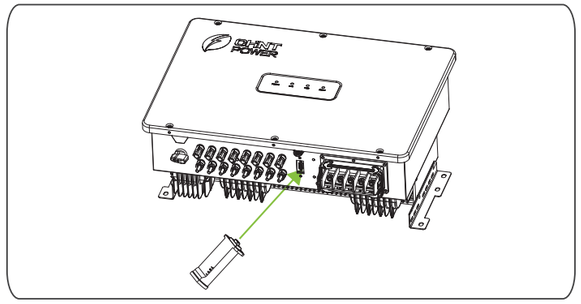
(2-2). For multiple inverters: when multiple inverters connect in daisy-chain, lead RS485 COM cables through RS485 connector. Strip 60mm cable insulation layer, connect two RS485+ wires to port 3, and two RS485- wires to port 4.

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

(3). Fasten RS485 connector onto RS485 interface. Tool: PH00 Philips driver, torque value: 0.2N.m.

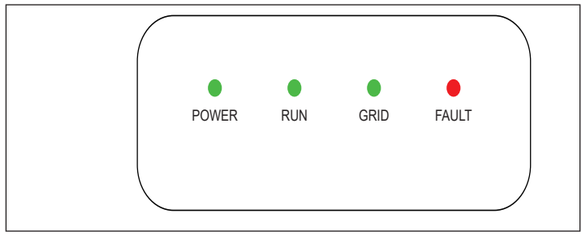


4. Install Wifi communication module as shown below.
(1) Remove two fixing screws on the connector cover with a No.2 Philips screwdriver to expose the connector.
(2) Install Wifi module onto the communication interface and fasten the Wifi module firmly with the No.2 philps screwdriver, torque value: 1.0 N.m.



4 Display

4.1 LED Indicators



4.2 Description of LED Indicators

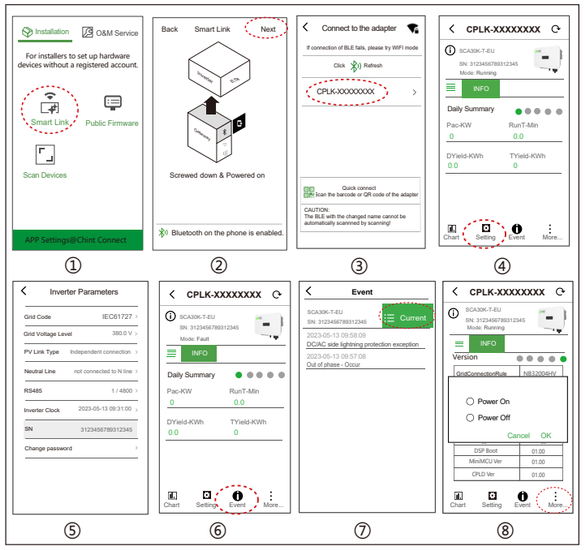
LED	Name	Status	Meaning
POWER	Working Power Indicator	ON	Normal PV power supply (voltage is big enough to start up auxiliary power unit)
		OFF	Power supply not working
RUN	Grid Operation Indicator	ON	In grid-tied power generation state
		Flash	Derated running status (light up 0.5s, light off 1.6s)
	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

5 Commissioning

WARNING	Before the PV system is powered on, it is important to check the installation for any potential hazards.

1. Set DC switch to ON position. When solar array generates enough power, POWER and GRID indicators will light up and inverter will enter self-check process.
2. Users can download iOS version "Chint Connect" APP in Apple store or Android version in Google store, or directly scan the QR code to download APP (Support Android 4.4 and IOS 11.0 or higher version system only).

3. Set APP as shown in the flow charts and as described below.
Note: All the inverter types have the same APP setting procedures, we herein take SCA 30K-T-EU and iOS version APP as instance. APP interfaces may varies slightly depending on APP versions.



(1) Open Bluetooth function on your mobile phone, then open "Chint Connect" APP. Touch "Smart Link" icon to enter smart link interface.

Note: You can click "APP Settings" in the bottom green bar to set language & APP platform, synchronize cloud data or check its version.

(2) Click "Next" to enter "Connect to the adapter" interface.

(3) Touch the wireless network named CPLK-XXXXXXX (XXXXXXX can be found on LINKIT label) shown in the Bluetooth List, or touch the green QR icon under the list to scan LINKIT bar code to connect network. When the RUN indicator lights up, it indicates that the device is running.

(4) Touch "Setting" icon and input password “1111”, it goes to "Inverter parameter" page.

(5) Set or change inverter parameters if necessary, such as Grid Code, PV Link Type, RS485 etc.

(6) When the RUN indicator lights up, it indicates that the device is running normally. You can browse through the real-time data in the APP by sliding the interface left and right. If the inverter cannot run normally, FAULT indicator lights up. Click "Event" icon to see fault information.

(7) Touch the top-right icon to check detailed current and history fault information. Troubleshooting related problems and restart. Contact service personnel if there are still faults.

(8) Touch "More" icon and input password "1111" to power on/off device.

WARNING	Residual heat will be left on radiator and residual voltage will be left on inverter after it is powered off, wait at least 17 minutes before operating the inverter so as to avoid any potential hazards, such as burning or electric shock.

6 Troubleshooting

CAUTION	Periodically check and clean radiator to ensure good dissipation. If any abnormal condition, replace it immediately.

If any abnormal condition, please refer to the table for troubleshooting or call your dealer for help.

Issue	Solution
No display	1. Check if the DC switch is in ON position. 2. Check if the PV DC quick connectors are connected properly.
No feed-in power	1. Check if AC breaker is in ON position. 2. Wait for strong sunlight intensity. 3. Check if the number of PV strings is correct. 4. Take measures according to the APP troubleshooting prompts.
Inverter abnormal	1. Disconnect both AC and DC breakers. 2. Wait at least 17 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 a poor ventilated condition. 2. Check if there is enough clearances between inverters.