

# Three-Phase Grid-Tied PV Inverter

## SCA50K-T-EU, SCA60K-T-EU

### Quick Installation Guide

Version: 2.0 Date: Jan 2025 Doc. No.:9.0020.0861B0

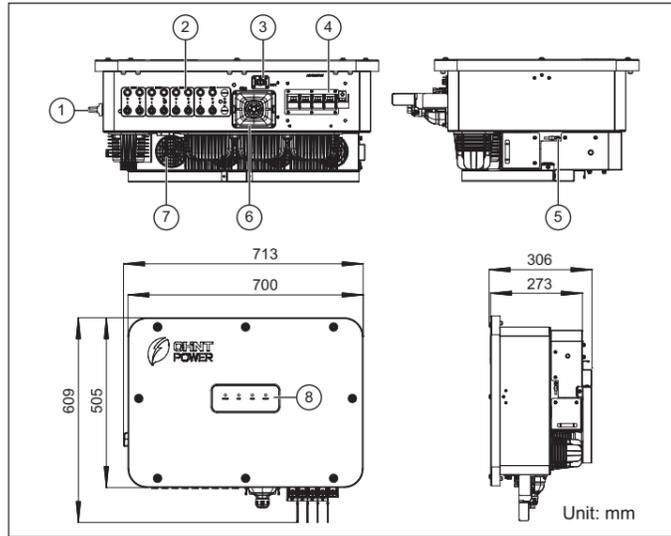
Shanghai Chint Power Systems Co., Ltd.

Official Site: www.chintpower.com

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

**NOTICE:** Before installation, please read the Quick Guide carefully. Failure to follow the instructions therein will invalidate the warranty!

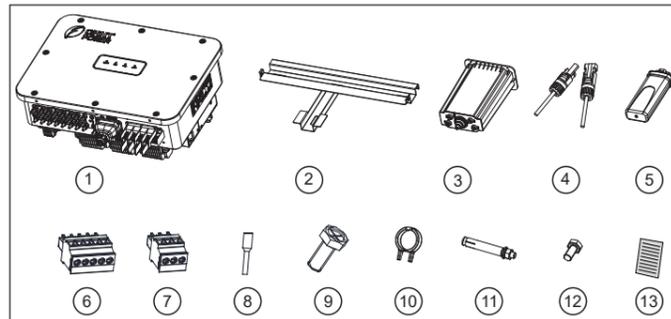
## 1 Product Dimensions and Components



No.	Name	Function
1	DC switch	Turn on/off the DC side power supply
2	DC input ports	Connect DC input cables
3	WiFi port	Connect communication module
4	AC output terminal	Connect the AC output cables
5	External grounding point	Connect grounding cable
6	Communication port	Connect communication cables
7	Fan	Cool the inverter
8	LED indicator	Indicate the inverter running status

## 2 Installation

### 2.1 Scope of Delivery

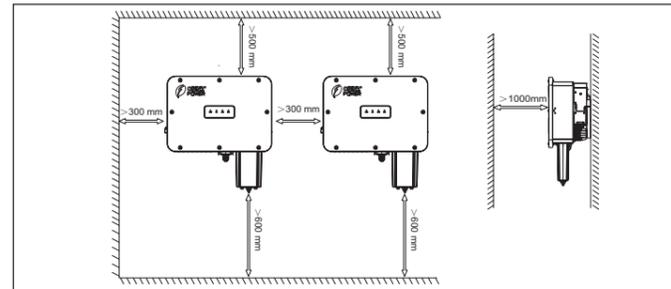


No.	Name	QTY	Usage
1	Inverter	1	/
2	Mounting bracket	1	Hang the inverter
3	AC terminal cover	1	Protect AC busbar

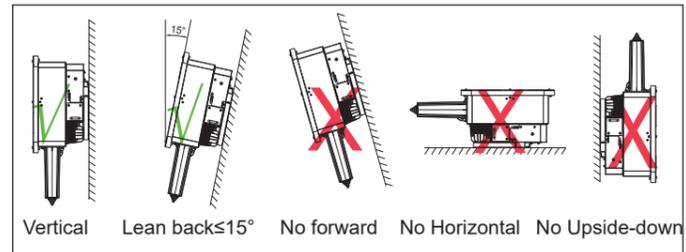
No.	Name	QTY	Usage
4	DC input connector	16	Quick-plug connector: 8+, 8-
5	Communication module	1	For communication between app and inverter
6	5-pin terminal	2	Connect RS485 cable
7	3-pin terminal	1	Connect RS485 cable
8	Cord terminal	9	Crimp RS485 cable
9	M6x16 screw	1	Grounding
10	Unlock tool for DC input connector	1	Remove the DC input connector
11	Expansion screw	4	Fix the mounting bracket on the wall
12	M4x12 combined screw	2	Fix inverter onto mounting bracket
13	Document	1	Quick Guide

### 2.4 Installation Space Requirements

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

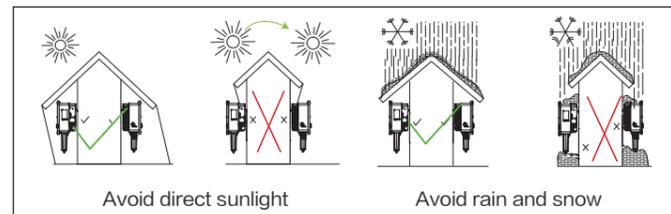


### 2.3 Installation Scenarios



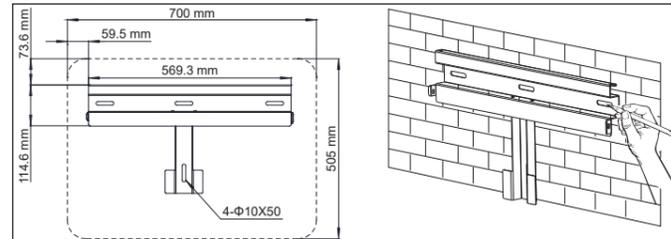
### 2.4 Installation Environment Requirements

It is recommended to install the inverter under a roof or Chint sunshade, avoiding direct sunlight, rain and snow accumulation can reduce power derating and extend service life.

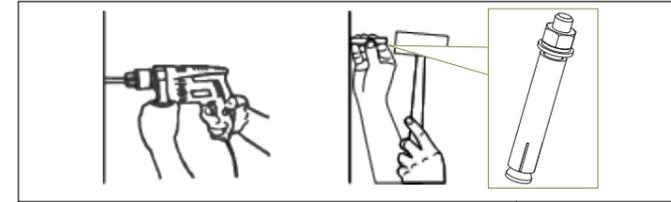


### 2.5 Install the Inverter onto Bracket

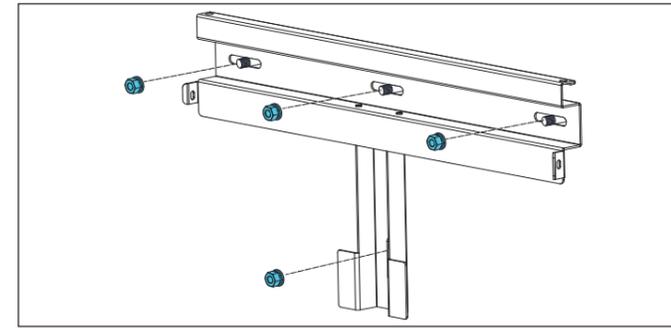
1. Place the mounting bracket horizontally on the wall and mark the punching position with marker pen.



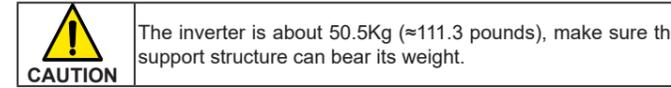
2. Use a percussion drill (Φ12 mm bit) to drill a hole of 70 mm depth. Use the rubber hammer to knock in the four expansion tubes.



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

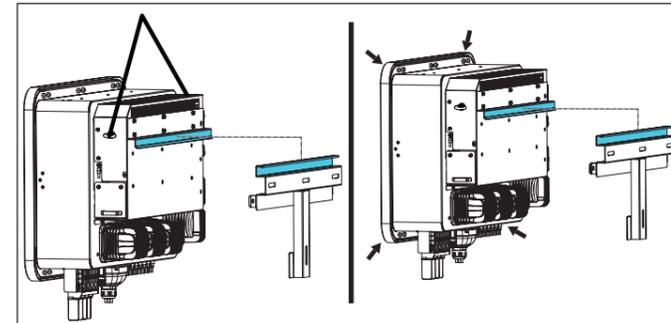


4. Hang the inverter onto the mounting bracket.

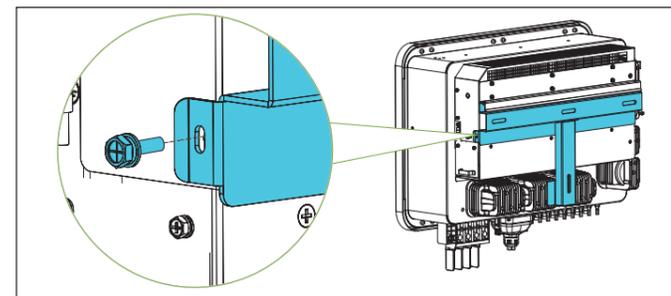


**Machine lifting:** Install two lifting eyebolts (M10, prepared by customer), lift the inverter onto mounting bracket by slings (The minimum angle between the two slings should be less than 90 degrees.).

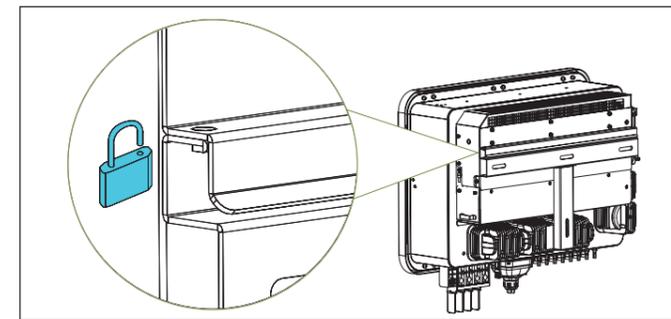
**Manual lifting:** 2 people hang the inverter by lifting indicated positions.



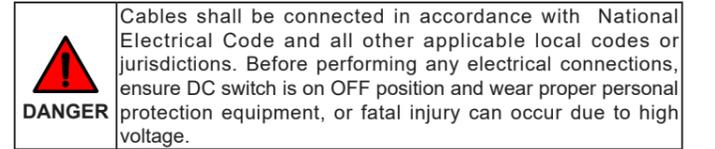
5. Tighten the two M4x12 screws to fix the inverter and mounting bracket. Tool: PH2 screwdriver, torque: 1.6 N.m.



6. It is recommended to install 2 anti-theft locks (prepared by customer) on the two sides to lock the inverter on the mounting bracket.



## 3 Electrical Connection



### 3.1 Tools and torques

No.	Tool	Usage	Torque
1	No.13 socket wrench	Fixing AC OT terminal	5.5 N.m
2	PH0 screwdriver	Fix cord terminal, grounding OT terminal and 3PIN & 5PIN terminal	0.6-0.8 N.m
3	PH2 screwdriver	Fix AC cover Fix communication cover	2.0 N.m 1.6 N.m
4	Diagonal pliers	Cut cables	-
5	Wire stripper	Remove insulation layer	-
6	Crimping pliers	Crimp the OT terminal	-

### 3.2 Cable specification

Name	Cable Type	O.D. (mm)	Cross-sectional area (mm <sup>2</sup> )
AC Cable	Multi-core outdoor cable	< 40	• L1, L2, L3, and N: 35 - 70
	Single-core outdoor cable	10 - 15	• PE: Cross-sectional area of phase wire conductor / 2
DC Cable	PV cables that meet 1100V standard	5.0 - 7.2'	4 - 6
Communication	Outdoor shielded twisted pair	6 - 7	0.2 - 1

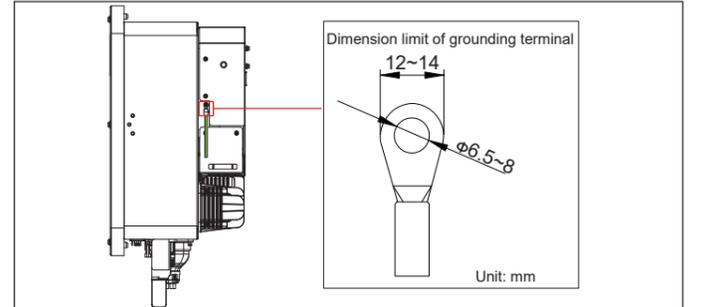
#### Note:

- For selection exceeds the given range, please consult Chint for feasibility.
- If the communication cable is smaller than the given range, the cable needs to be glued or treated to ensure sealing and waterproofing.

### 3.3 Protective grounding cable connection

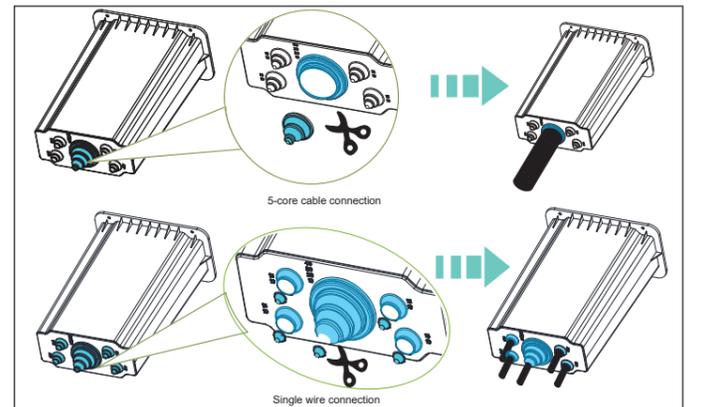
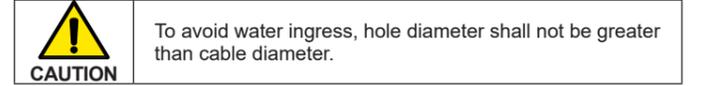
There are two kinds of grounding methods for this inverter: AC grounding and external grounding (Note: When multiple inverters connected in daisy-chain mode, every inverter shall be grounded separately).

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



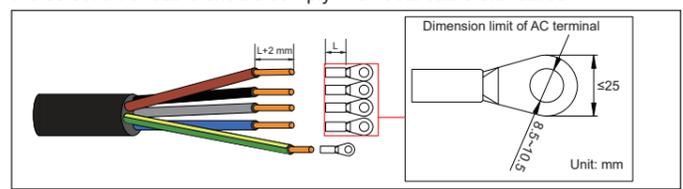
### 3.4 AC cable connection

1. Select the suitable holes according to the cable type and cut the seal ring according to the cable outer diameter.

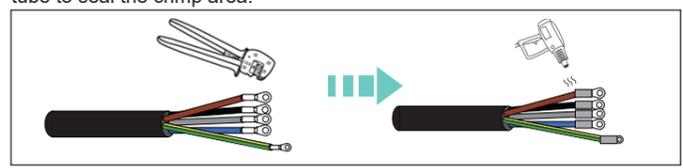


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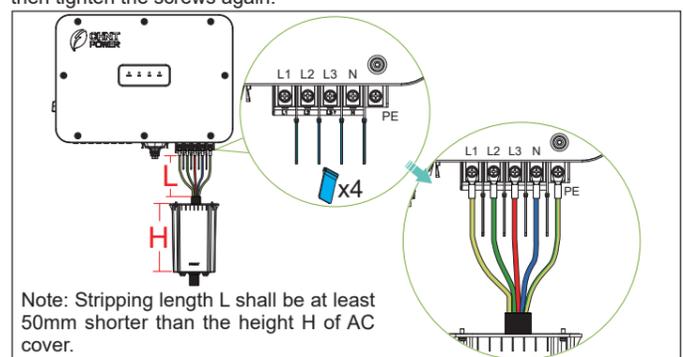
2. Remove jacket and insulation layer from the 5-core cable.  
 Note: The PE wire length is required to be 15mm longer than phase cable (L1, L2, L3 & N).  
 Note: The colors of wire in the following figure are for reference only, and the selection of cable should comply with local cable standards.



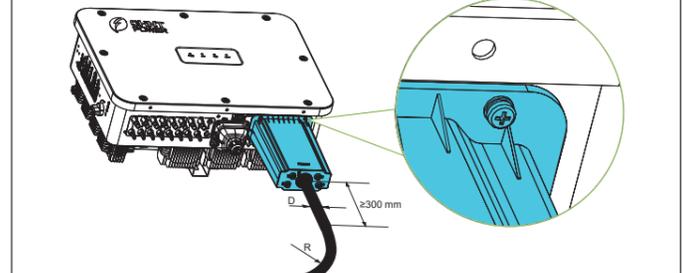
3. Insert the exposed wire core into the crimp area of the OT terminal, use crimping pliers to crimp the OT terminal. Use hot air gun and heat shrink tube to seal the crimp area.



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



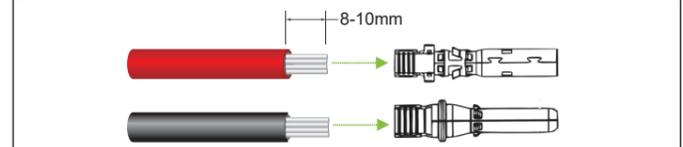
5. Install AC cover and tighten the four screws on the AC cover.



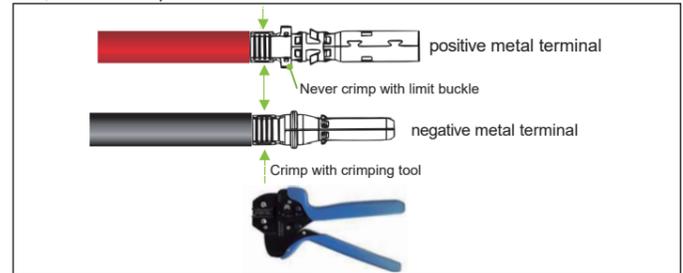
**CAUTION**  
 Outcoming cable shall keep vertical for at least 300mm. Bending radius (R) shall be  $\ge 20$  times its outer diameter (D) to prevent breakage due to excessive stress.

### 3.5 DC cable connection

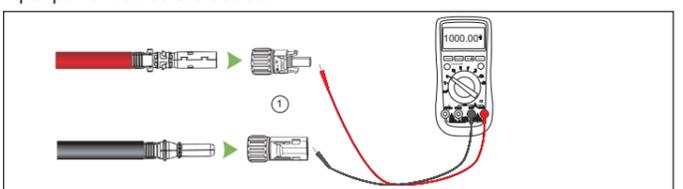
1. Remove an appropriate length of the jacket and insulation layer from the DC input cable of PV strings.



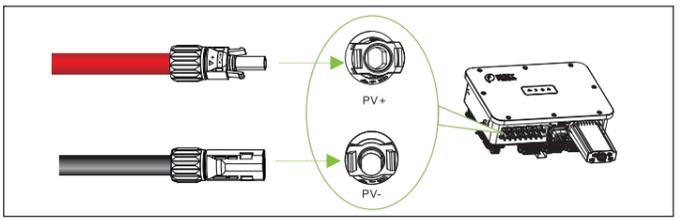
2. Insert the exposed areas of positive and negative power cables into the metal terminals respectively and crimp them using a professional crimping tool, such as Amphenol H4TC0002 or Devalan D4ZCY001.



3. Insert the crimped positive and negative power cables into corresponding positive and negative connectors (1) until a "click" sound is heard. Tighten the locking nuts of the positive and negative connectors. Measure the cable ends of PV strings using a multi-meter. Ensure that the polarities of the DC input power cables are correct.



4. Insert fuse connectors into corresponding DC input ports of the inverter until a "click" sound is heard.

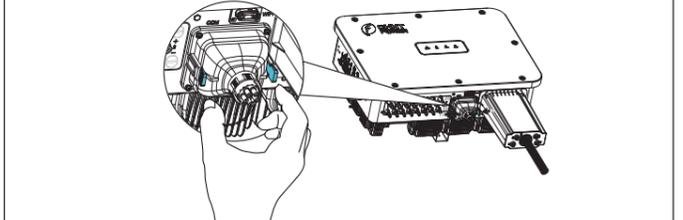


**NOTICE**  
 Bind cables at positions 300 ~ 350mm away from DC and AC connectors. Otherwise, sagging or swaying cables may loosen the connectors, which may affect the protection degree of the inverter.

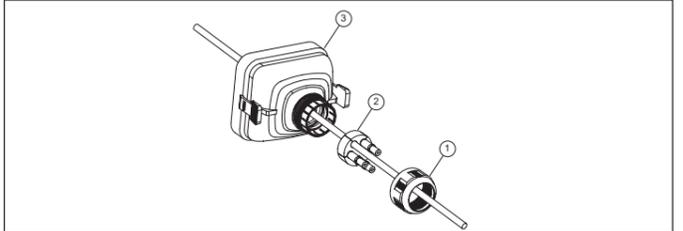
### 3.6 Communication Connection

1. RS485 Connection

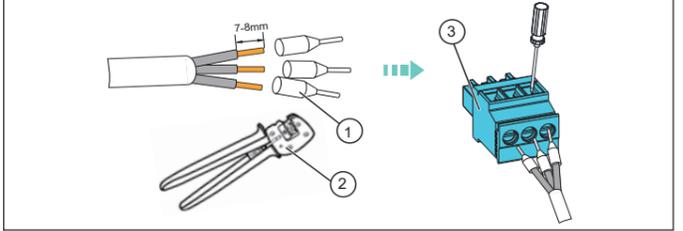
(1) Press buckles on both sides of the cover to remove it.



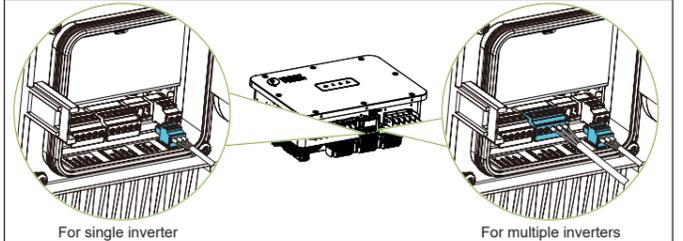
(2) Unscrew locking nut (1) and unplug silicone plug (2), and then pass communication cable through locking nut (1), silicone plug (2) and cover (3).



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

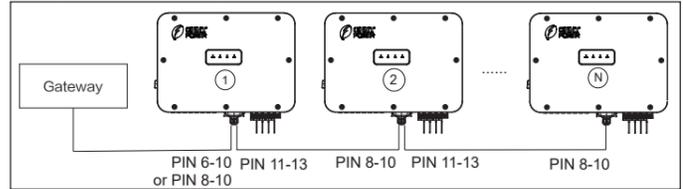


(4a) For single inverter: Simply insert 3-pin terminal to correct interface. For multiple inverters in the network: insert 5-pin terminal and 3-pin terminal to correct interfaces.

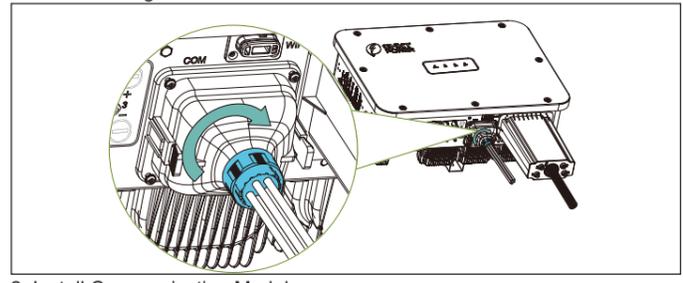


PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Definition	485A1+	485B1-	485A1+	485B1-	GND	12V/Com1	GND	485A2+	485B2-	GND	485A2+	485B2-	GND	12V/Com2	KEY
Function	1st pair of 485_1 signal ports		2nd pair of 485_1 signal ports		Communication grounding	12Vdc power supply	Power supply grounding	1st pair of 485_2 signal ports		Communication grounding	2nd pair of 485_2 signal ports		Communication grounding	12Vdc power supply	Dry connect

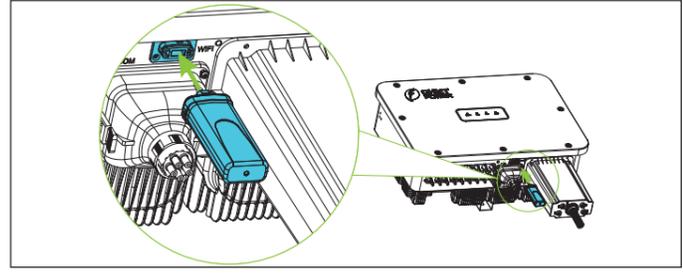
(4b) If there are multiple inverters in the network and the last inverter is more than 200m distant from Flex Gateway, insert 5-pin terminal and 3-pin terminal to correct interfaces, then connect these inverters in daisy-chain mode as below. Use either RS485\_1 or RS485\_2 consistently for all connections; do not mix the two interfaces. For details on Gateway connection, refer to its manual. (Note: If Gateway requires 12v power supply, connect PIN6-7.)



(5) Install communication cable cover and tighten the locking nut. Note: Ensure that the cable is not loose after locking, otherwise it needs to be sealed with glue.



2. Install Communication Module  
 Insert the communication module into the WiFi port until you hear a "click" sound. Note: The indicator of communication module faces outward.



### 5 LED Indicator



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

## 6 Inverter Commissioning and App Setting

- Set the inverter DC switch to the "ON" position.
- Once powered, the inverter will automatically create a wireless network that can be visible as an Access Point from the user smartphone.
- Download MatriCloud App from Apple store(iOS) or Google Play store (Android), or scan the QR code to download (Support Android 4.4 and iOS 11.0 or later).
- To set up the App, turn on the Bluetooth on your phone and open the MatriCloud App.
  - Click the "Device Access".
  - Click the "Bluetooth Connect" to open the device name list.
  - Click the device number to connect the device. Note: Device name "XXXXXXX" is the last 8 digits of SN on the communication module label.
  - After the communication module is successfully connected, the App will enter the main interface. You can view basic information of the inverter.
  - Click "More" on the main interface, then select "Basic Setting" and enter password "1111".
  - Set basic parameters such as GridConnectionRule, PVInputMode, NeutralLineSettings, and others according to the national rules and safety regulations.
  - Click "Settings" to change register parameters. Note: Register parameters must be modified according to the communication protocol under the guidance of the engineer.
  - You can power on or power off the inverter manually in the main interface.
  - If a fault occurs, click the red text on the main interface to view the details. Firstly, clear the fault according to the troubleshooting list in user manual. After troubleshooting, restart inverter. If the fault persists, contact customer service.

