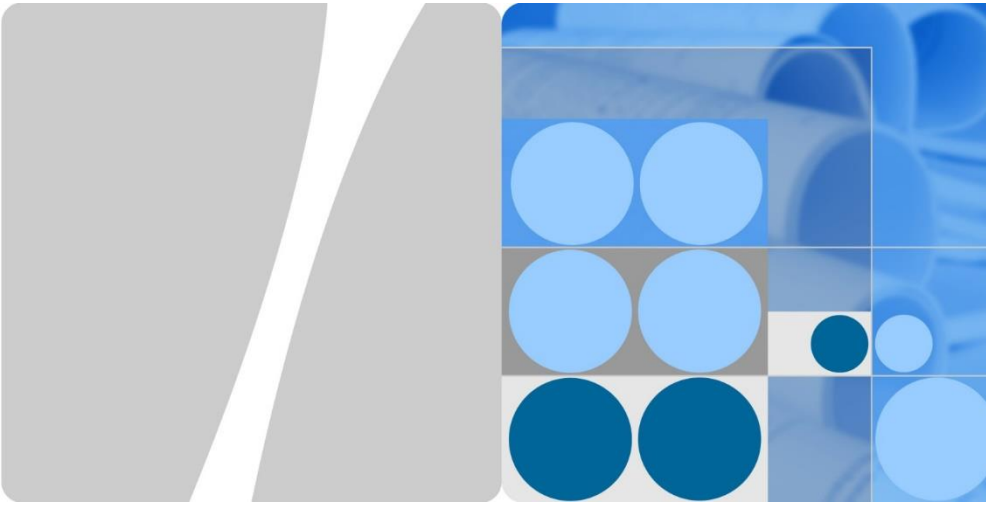


SUN2000L-(2KTL-5KTL)
Quick Guide

Issue: 04
Part Number: 31508725
Date: 2019-04-27

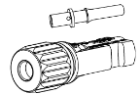
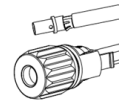
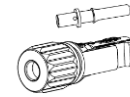
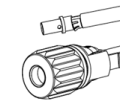
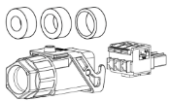
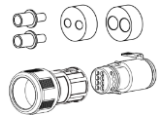
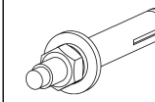
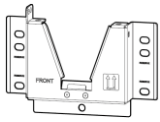
HUAWEI TECHNOLOGIES CO., LTD.

HUAWEI

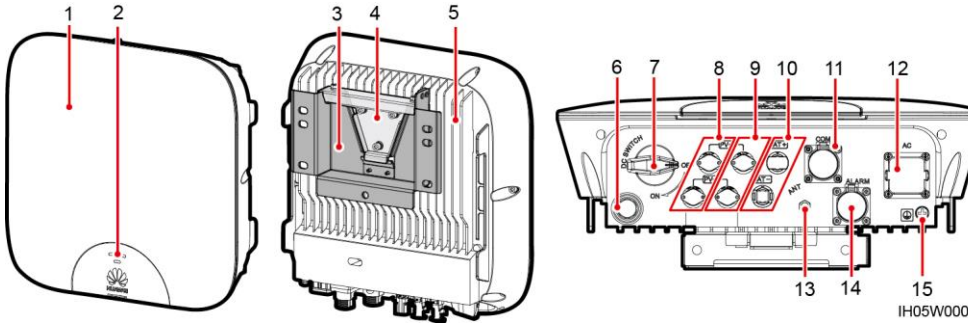
NOTICE

1. The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.
2. Before installing the device, closely read the user manual to get familiar with product information and safety precautions.
3. Only certified electricians are allowed to operate the device. Operation personnel must wear proper personal protective equipment (PPE) all the time.
4. Before installing the device, check that the package contents are intact and complete against the packing list. If any damage is found or any component is missing, contact your dealer.
5. Huawei shall not be liable for any device damage caused by the violation of instructions in this document.
6. The cable colors involved in this document are for reference only. Select cables in accordance with local cable specifications.

1 Packing List

 Solar inverter (1 PCS)	 PV negative connector (black, 2 set)	 PV positive connector (black, 2 set)	 Battery negative connector (blue, 1 set)	 Battery positive connector (blue, 1 set)
 AC connector (1 set)	 Signal cable connector (2 set)	 Antenna (1 set)	 Screw (3 set)	 Expansion bolt (3 PCS)
 Mounting bracket (1 PCS)	 Screwdriver (1 PCS)	 Quick Guide (1 PCS)	 Solar Inverter Delivery Inspection Report & Packing List (1 PCS)	 Certificate (1 PCS)

2 Overview



(1) Front panel

(2) LED

(3) Mounting bracket

(4) Mounting plate

(5) Heat sink

(6) Ventilation valve

(7) DC switch (DC SWITCH)

(8) DC input terminals (PV1+/PV1–)

(9) DC input terminals (PV2+/PV2–)

(10) Battery terminals (BAT+/BAT–)

(11) COM port (COM)

(12) AC output port (AC)

(13) Antenna port (ANT)

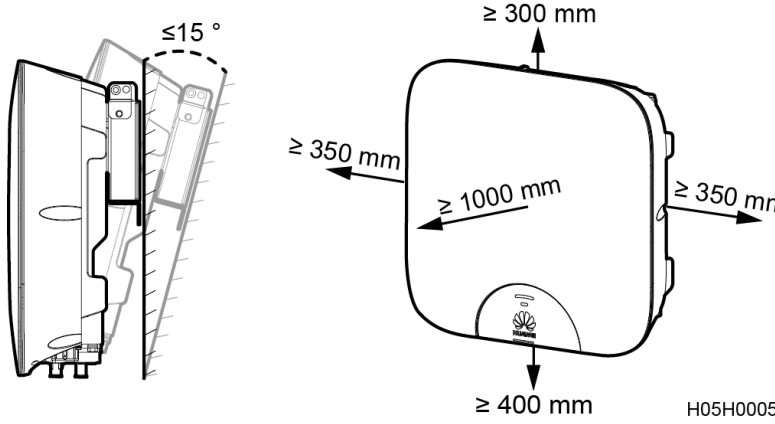
(14) Alarm port (ALARM)

(15) Ground point

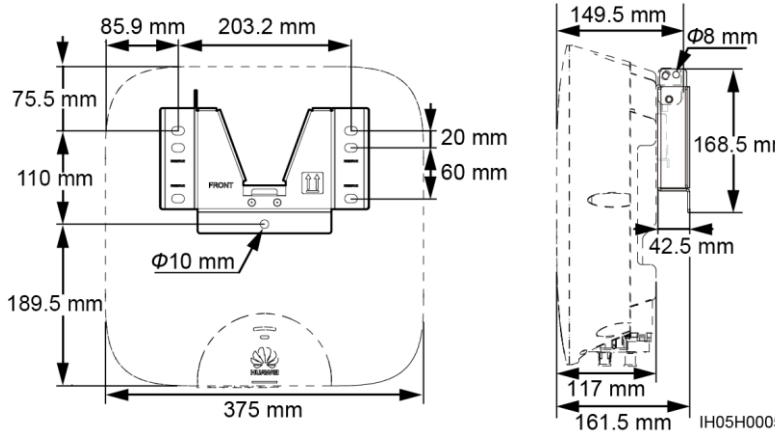
3 Installing the Device

3.1 Installation Requirements

Tilt and Space



Dimensions

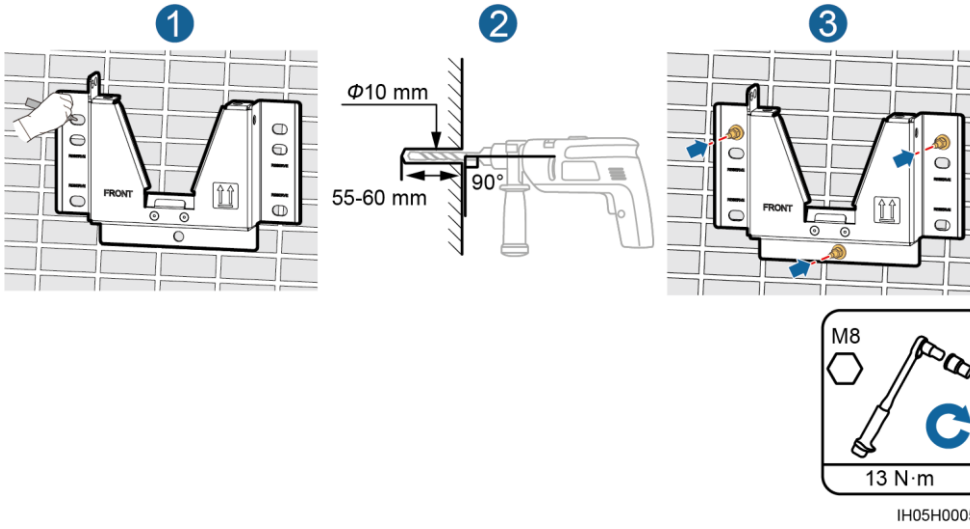


NOTE

If multiple inverters need to be installed, see *SUN2000L-(2KTL-5KTL) User Manual* for the installation dimensions.

3.2 Installing the Mounting Bracket

Wall-mounted Installation



DANGER

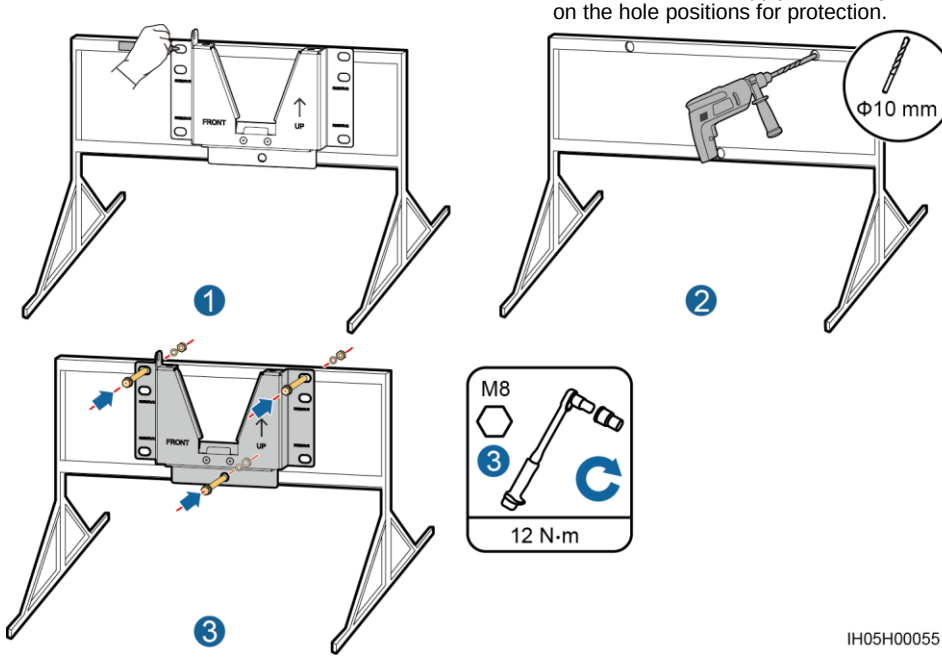
Avoid drilling holes in the utility pipes and/or cables attached to the back of the wall.

Support-mounted Installation

NOTICE

Prepare M8 stainless bolt assemblies (including flat washers, spring washers, and M8 bolts) with appropriate lengths as well as matched flat washers and nuts based on the support specifications.

You are advised to apply anti-rust paint on the hole positions for protection.

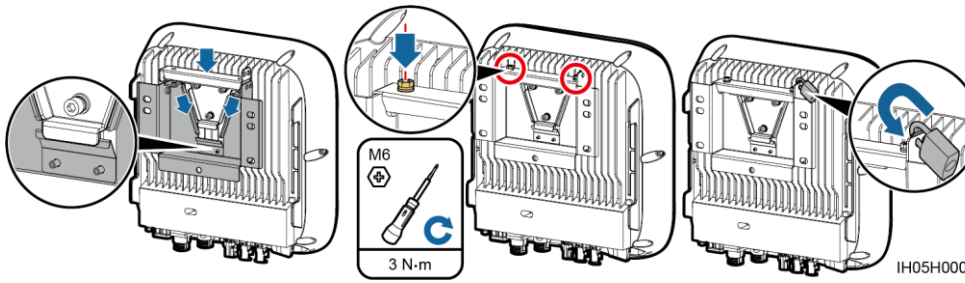


3.3 Installing the SUN2000L

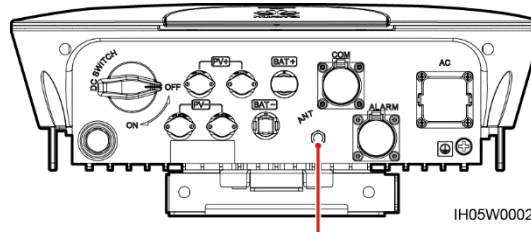
NOTICE

- If the bottom of the mounting plate does not snap into place, push the SUN2000L from the front until the bottom of the mounting plate snaps into the mounting bracket.
- The anti-theft lock needs to be prepared by the customer.

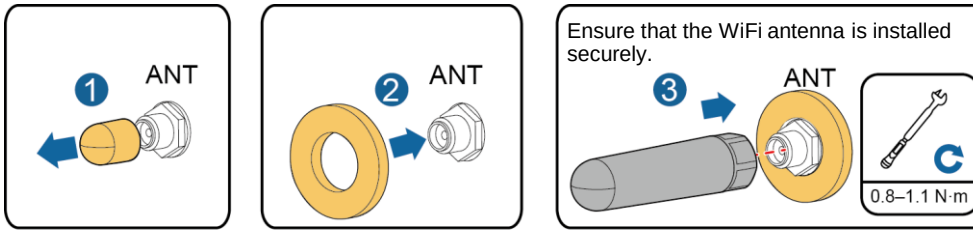
1. Install the SUN2000L on the mounting bracket.
2. Tighten screw assemblies.
3. (Optional) Install an anti-theft lock.



3.4 Installing the WiFi Antenna



Antenna port (ANT)



NOTICE

If the antenna washer is not installed, the antenna will lose the waterproof function.

4 Connecting Cables

4.1 Preparing Cables

Prepare cables based on site requirements.

No.	Cable	Type	Conductor Cross-sectional Area Range	Outer Diameter
1	PE cable	Single-core outdoor copper cable	4–10 mm^2	N/A
2	AC output power cable	Two-core (L and N) outdoor copper cable or three-core (L, N, and PE) outdoor copper cable	4–6 mm^2	10–21 mm
3	DC input power cable or battery cable (optional)	Standard outdoor PV cable in the industry (recommended model: PV1-F)	4–6 mm^2	4.5–7.8 mm
4	Signal cable (optional)	Four-core outdoor shielded twisted pair	0.25–1 mm^2	4–11 mm

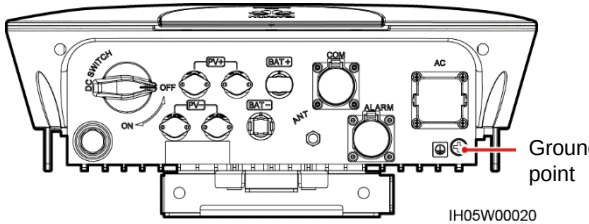
NOTICE

- Connect cables in accordance with the installation laws and regulations of the country or region where the SUN2000L is located.
- Before connecting cables, ensure that the DC switch on the SUN2000L and all the switches connecting to the SUN2000L are OFF. Otherwise, the voltage of the SUN2000L may result in electric shocks.

4.2 Installing the PE Cable

DANGER

Do not connect the neutral wire to the enclosure as a PE cable. Otherwise, electric shocks will be caused.



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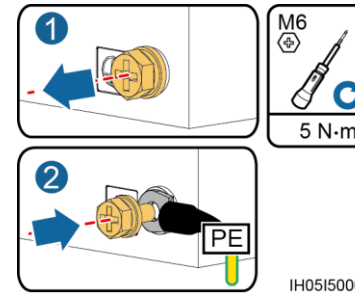

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NOTE

- The PE point at the AC output port is used only as a PE equipotential point, and cannot substitute for the PE point on the enclosure.
- Recommended: Apply silica gel or paint around a ground terminal after connecting the ground cable.

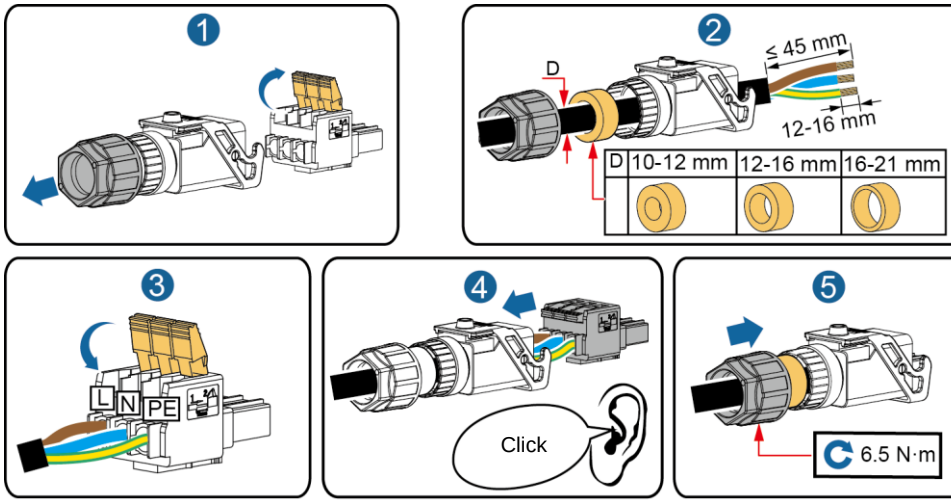
4.3 Installing the AC Output Power Cable

NOTICE

Ensure that the protection layer of the AC output power cable is in the connector, and that the exposed core wire is totally inserted into the cable hole and connected securely. Failing to do so may cause SUN2000L malfunction or damage.

1. Connect the AC output power cable to the AC connector.

Three-Core Cable (L, N, and PE)



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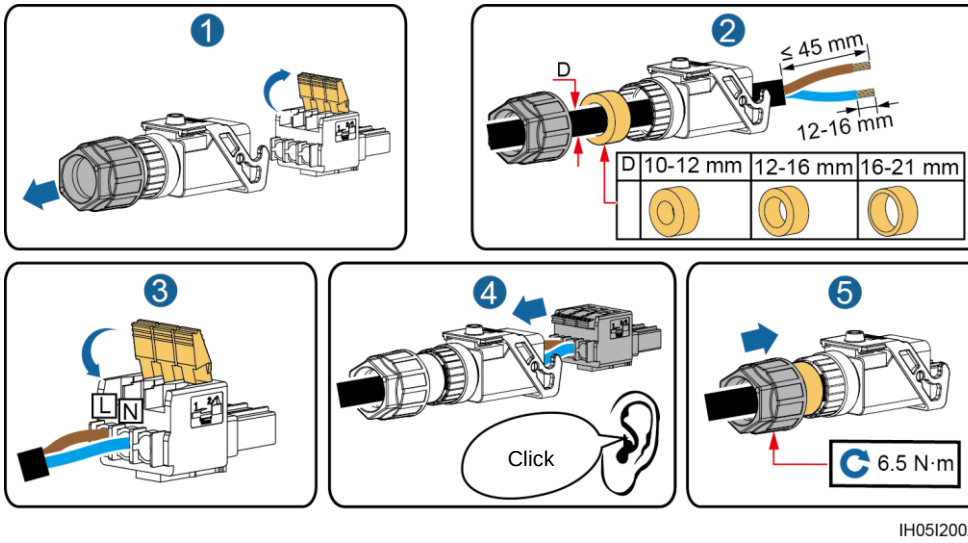
Two-Core Cable (L and N)



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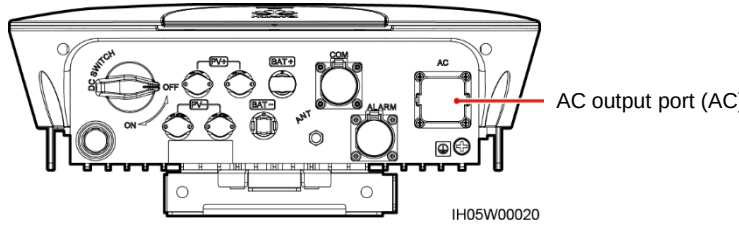
2. Connect the AC connector to the AC output port, and then Check the route of the AC output power cable.



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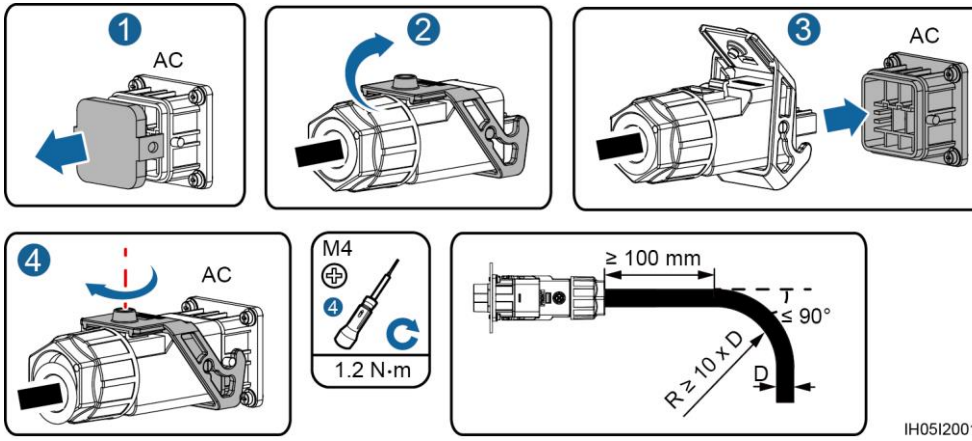
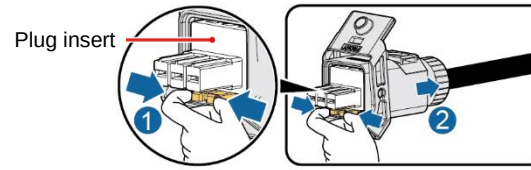


IH05I20018

NOTE

To remove the AC connector, follow the steps of its installation in reverse order. Then remove the plug insert as shown in the right figure.



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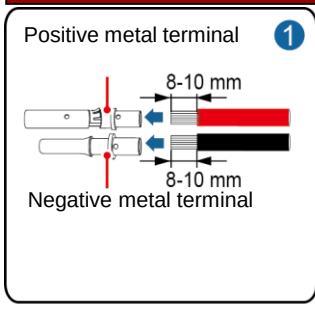
4.4 Installing the DC Input Power Cable

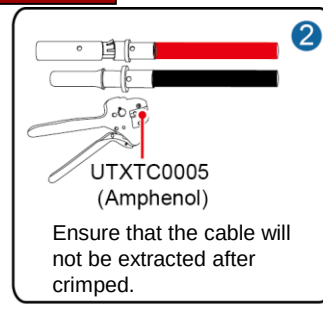
NOTICE

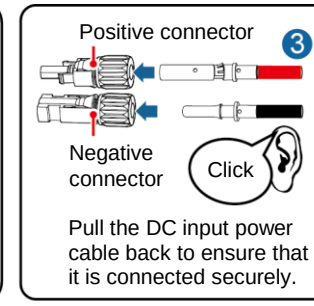
1. Ensure that the PV string is well insulated to ground.
2. The metal contacts supplied with the DC connectors are either cold forming contacts or stamping forming contacts. Crimp the metal cold forming contacts using crimping tool UTXTC0005 (Amphenol) or H4TC0001 (Amphenol). Crimp the metal stamping forming contacts using crimping tool H4TC0003 (Amphenol, recommended) or H4TC0002 (Amphenol).
3. DC terminal model (cold forming metal terminal): straight male HH4CMD5TM and straight female HH4CFC5DM; DC terminal model (stamping forming metal terminal): straight male HH4CMD4TMS and straight female HH4CFD4TMS.
4. The SUN2000L open circuit voltage must always be lower than or equal to 600 V DC.
5. Before installing the DC input power cable, label the cable polarities correctly to ensure correct cable connections.
6. Use the positive and negative metal terminals and black DC connectors supplied with the inverter. Using incompatible positive and negative metal terminals and DC connectors may result in serious consequences. The caused device damage is not covered under any warranty.
7. If polarity of the DC input power cable is reversed and the DC switch is ON, do not turn off the DC switch immediately or unplug positive and negative connectors. The device may be damaged if you do not follow the instruction. This damage is not covered under any warranty or service agreement. Wait until the solar irradiance declines at night and the PV string current reduces to below 0.5 A, and then turn off the DC switch and remove the positive and negative connectors. Correct the string polarity before reconnecting the string to the SUN2000L.

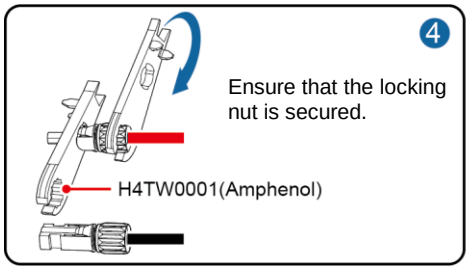
1. Assembling the DC Connector

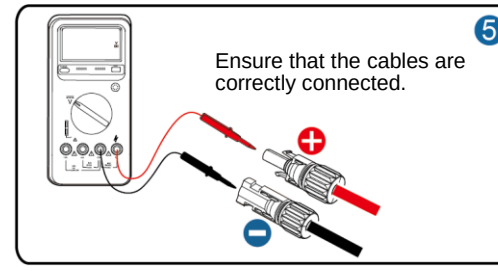
using metal cold forming contacts





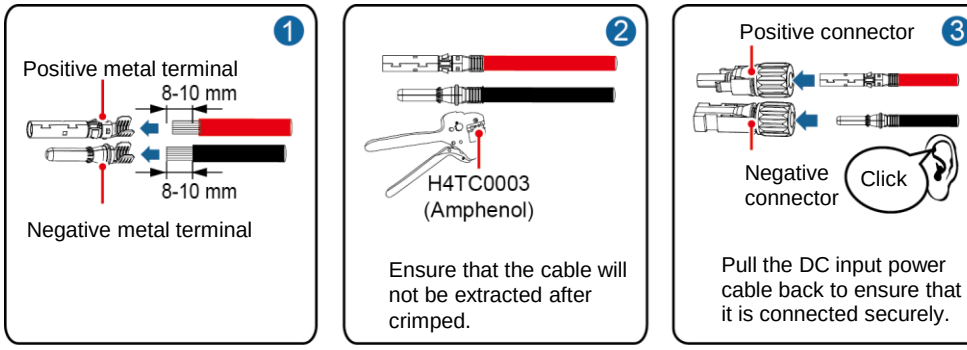






IH05I30012

using metal stamping forming contacts



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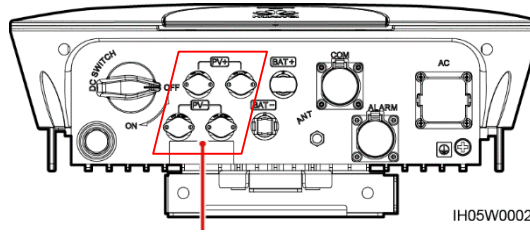
2. Connecting the DC Input Power Cable



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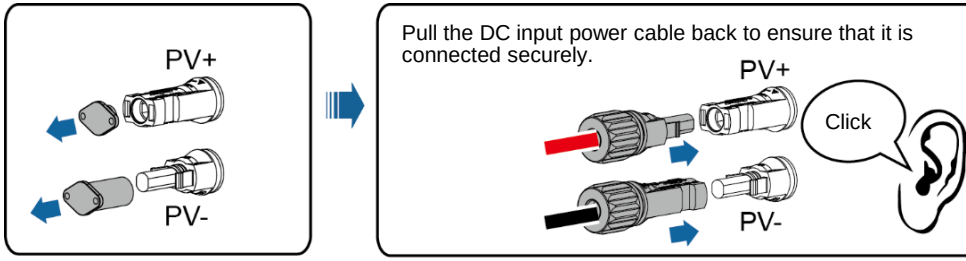
DC input terminals



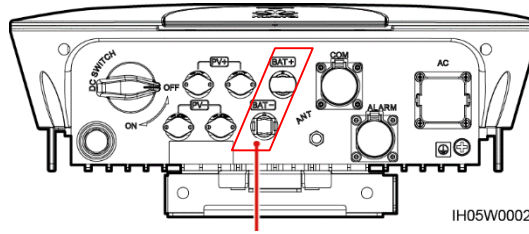
IH05I30014

4.5 (Optional) Installing the Battery Cable

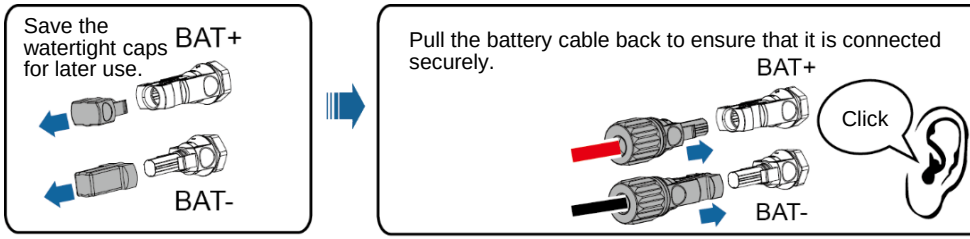
DANGER

- Use insulation tools to operate batteries.
- Ensure that the battery cable is correctly connected. Avoid reverse polarity.
- If the battery is connected with reverse polarity, the inverter may be damaged.

Assemble the blue positive and negative connectors by following the instructions in section 4.4 "Installing the DC Input Power Cable."



Battery terminals (BAT+/BAT–)

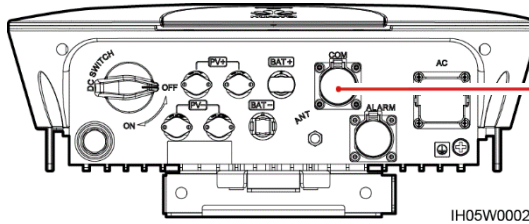


4.6 (Optional) Installing the Signal Cable

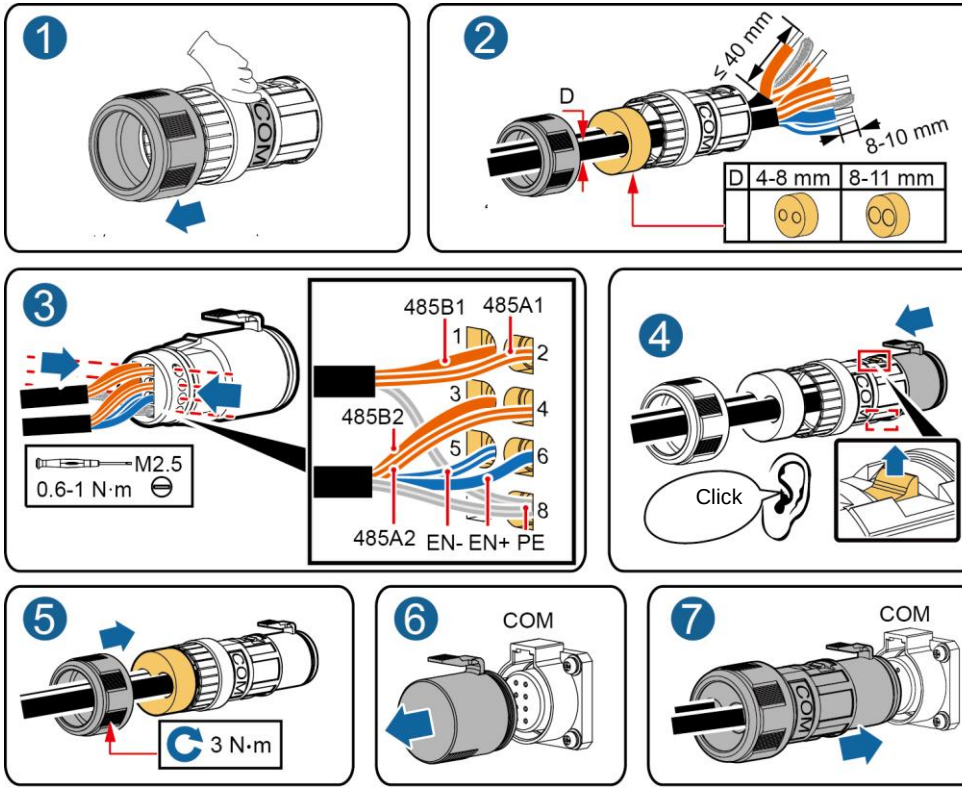
NOTICE

- When laying out signal cables, separate them from power cables to avoid strong signal interference.
- The protection layer of the signal cable is in the connector. Surplus core wires are cut off from the protection layer. The exposed core wire is totally inserted into the cable hole and connected securely.
- Do not confuse the connectors to the COM port and ALARM port.
- If a single cable will be connected to a connector, then block the unused cable hole in the seal using a cap and tighten the cable gland.
- If two signal cables will be connected to a connector, ensure that the cables have the same outer diameter.

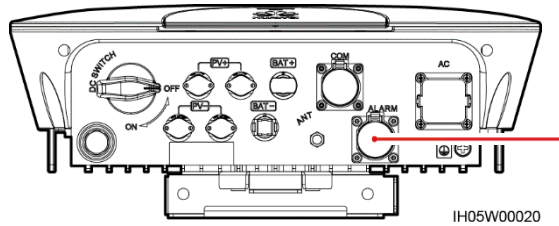
COM Port Pin Definitions



No.	Label	Definition	Description
1	485B1	RS485B, RS485 differential signal–	Connect to the RS485 signal port on the energy meter.
2	485A1	RS485A, RS485 differential signal+	
3	485B2	RS485B, RS485 differential signal–	Connect to the RS485 signal port and enable signal port on a battery.
4	485A2	RS485A, RS485 differential signal+	
5	EN–	Enable signal–	
6	EN+	Enable signal+	
7	N/A	N/A	N/A
8	PE	Grounding the shield layer	Connects to the shield layer of the cable.

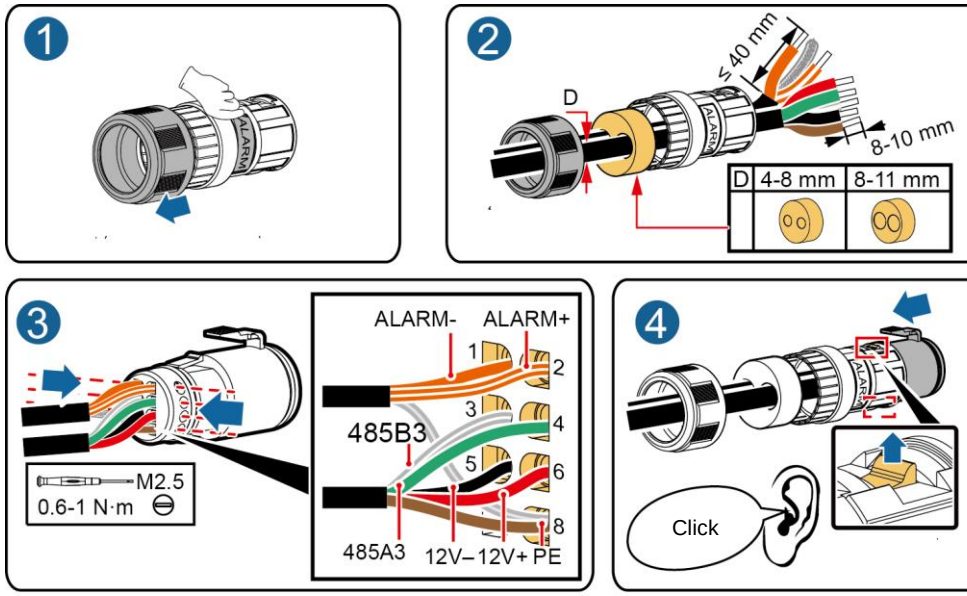


ALARM Port Pin Definition



IH05W00020

No.	Label	Definition	Description
1	ALARM–	Alarm signal–	Connect to the power port on an alarm beacon
2	ALARM+	Alarm signal+	
3	485B3	RS485B, RS485 differential signal–	Connect to the RS485 signal port on SmartPSB2000L smart PV safety box.
4	485A3	RS485B, RS485 differential signal–	
5	12V–	Negative of the 12 V power supply	Connect to the power port on SmartPSB2000L smart PV safety box.
6	12V+	Positive of the 12 V power supply	
7	N/A	N/A	N/A
8	PE	Grounding the shield layer	Connects to the shield layer of the cable.



IH05I40024

5 Verifying the Installation

No.	Acceptance Criteria
1	The SUN2000L is installed correctly and securely.
2	The WiFi antenna is installed correctly and securely.
3	Cables are routed properly as required by the customer.
4	Cable ties are secured evenly and no burr exists.
5	The ground cable is connected correctly and securely.
6	The DC switch and all the switches connecting to the SUN2000L are OFF.
7	The AC output power cable, DC input power cable, battery cable, and signal cable are connected correctly and securely.
8	Unused terminals and ports are locked by watertight caps.
9	The installation space is proper, and the installation environment is clean and tidy.

6 Powering On the System

NOTICE

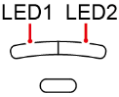
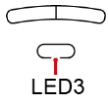
- Before turning on the AC switch between the SUN2000L and the power grid, check whether the AC voltage is within the specified range.
- If the inverters are connected to batteries, turn on the DC switch within 1 minute after turning on the AC switch. Otherwise, the inverters, connected to the power grid, will shut down and start again.

NOTE

If the inverters are connected to the LG RESU7H (Type-R) or LG RESU10H (Type-R) batteries, turn on the power switch of the batteries, and then the battery switches.

1. If a battery is connected, turn on the battery switch.
2. Turn on the AC switch between the SUN2000L and the power grid.
3. Turn on the DC switch between the PV string and the SUN2000L if there is any.
4. Turn on the DC switch at the bottom of the SUN2000L.

5. Observe the LEDs to check the SUN2000L operating status. All status labels are available on the left side of the SUN2000L.

Type	Status (Blinking at Long Intervals: On for 1s and then Off for 1s; Blinking at Short Intervals: On for 0.2s and then Off for 0.2s)		Meaning
Running indication 	LED1	LED2	N/A
	Steady green	Steady green	The SUN2000L is exporting power to the power grid.
	Blinking green at long intervals	Off	The DC is on and the AC is off.
	Off	Blinking green at long intervals	The DC is off and the AC is on.
	Blinking green at long intervals	Blinking green at long intervals	Both the DC and AC are on, and the SUN2000L is not exporting power to the power grid.
	Off	Off	Both the DC and AC are off, or the SUN2000L is in low power consumption mode.
	Steady red	Steady red	The SUN2000L is faulty.
Communication indication 	LED3		N/A
	Blinking green at short intervals		The SUN2000L is in communication.
	Blinking green at long intervals		The SUN2000L has connected to the mobile phone.
	Off		No communication

7 Commissioning

NOTE

The screenshots shown in the quick guide are from FusionSolar 2.3.0. Data in the screenshots is for reference only. The actual screens prevail.

7.1 Scenario 1: Commissioning Through Setup Wizard

1. Downloading the App

Search for "FusionSolar" from the following app stores or scan the corresponding QR code, download the installation package, and install the FusionSolar app by following the instructions.

- Google Play (Android)
- App Store (iOS)

Android

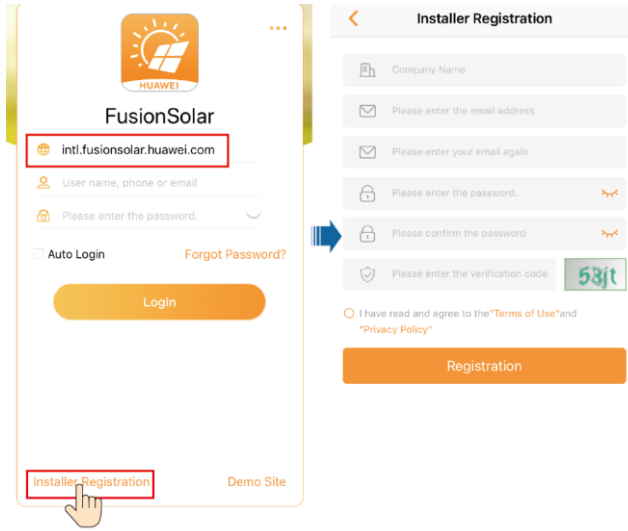
iOS

2.（Optional）Installer Account Registration

NOTE

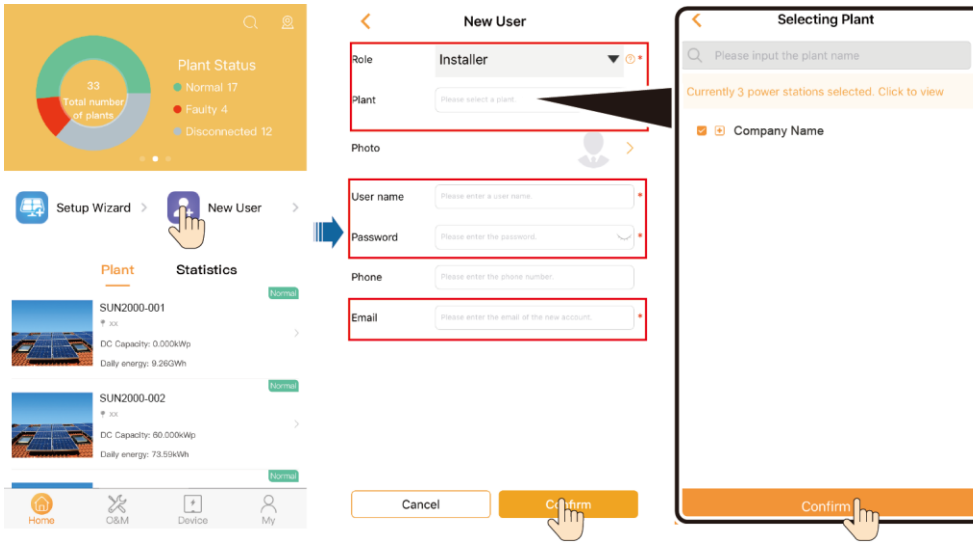
If you have an installer account, skip this step.

Creating the first installer account will generate a domain named after the company.

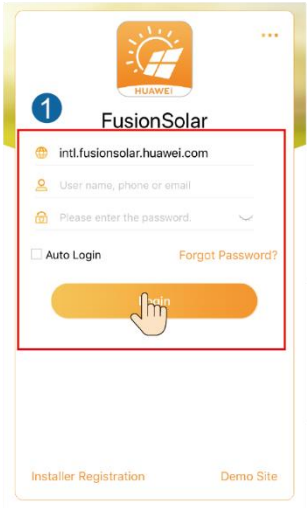


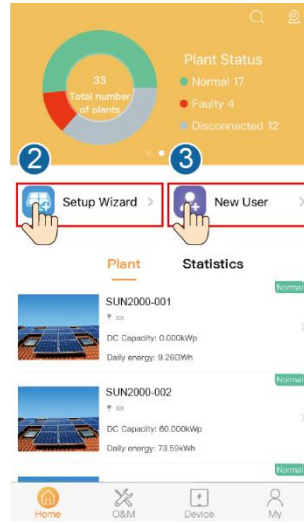
NOTICE

To create multiple installer accounts for the same company, log in to the FusionSolar and tap **New User**.



3. Creating a PV Plant and an Account for User





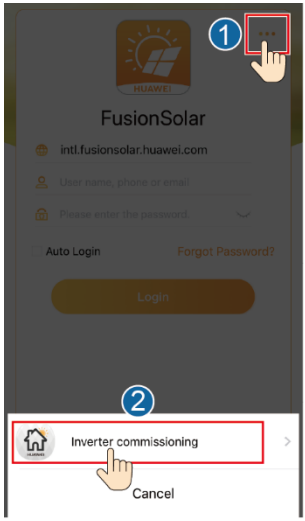
NOTE

For details, see the *FusionSolar App Quick Guide*. You can scan the QR code to obtain it.

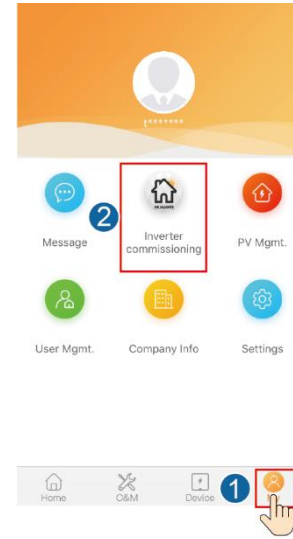
7.2 Scenario 2: Inverter commissioning

1. Access **Inverter commissioning**.

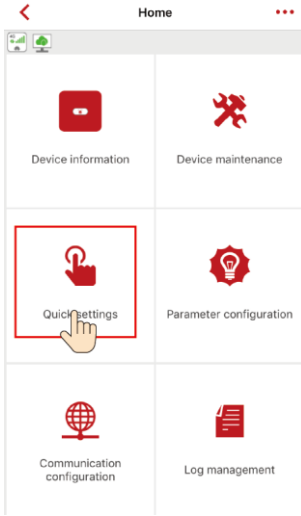
Method 1: before login



Method 2: after login



2. Connect to the inverter WiFi. Log in as **installer**, and perform **Quick settings**.



NOTE

- The initial password for connecting the inverter WiFi is **Changeme**
- The initial password of the **installer** is **00000a**
- Use the initial password upon first power-on and change it immediately after login. To ensure account security, change the password periodically and keep the new password in mind. Not changing the initial password may cause password disclosure. A password left unchanged for a long period of time may be stolen or cracked. If a password is lost, devices cannot be accessed. In these cases, the user is liable for any loss caused to the PV plant.
- To set more parameters, tap **Parameter configuration**.

8 Customer Service Contact Information

Customer Service Contact Information			
Region	**Country**	**Email**	**Hotline**
Europe	France	eu_inverter_support@huawei.com	0080033888888
	Germany		
	Spain		
	Italy		
	United Kingdom		
	Netherlands		
	Others	For details, visit solar.huawei.com.	
Asia Pacific	Australia	au_inverter_support@huawei.com	1800046639
	Turkey	tr_inverter_support@huawei.com	-
	Malaysia	apsupport@huawei.com	0080021686868 /1800220036
	Thailand		(+66) 26542662 (Local Call)
			1800290055 (Toll-free in Thailand)
	Others	apsupport@huawei.com	0060-3-21686868
Japan	Japan	Japan_ESC@ms.huawei.com	0120258367
India	India	indiaenterprise_TAC@huawei.com	1800 103 8009
Korea	Korea	Japan_ESC@ms.huawei.com	-
North America	United States	na_inverter_support@huawei.com	1-877-948-2934
	Canada	na_inverter_support@huawei.com	1-855-482-9343
Latin America	Mexico	la_inverter_support@huawei.com	018007703456 /0052-442-4288288
	Argentina		0-8009993456
	Brazil		0-8005953456
	Chile		800201866 (Only for Fixed)
	Others		0052-442-4288288
The Middle East and Africa	Egypt	mea_inverter_support@huawei.com	08002229000 /0020235353900
	United Arab Emirates		08002229000
	South Africa		0800222900
	Saudi Arabia		8001161177
	Pakistan		0092512800019
	Morocco		0800009900
	Others		0020235353900

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