

# SUN2000-45KTL-US-HV-D0

## Quick Guide

Issue: 02

Part Number: 31507792

Date: 2018-04-18

HUAWEI TECHNOLOGIES CO., LTD.



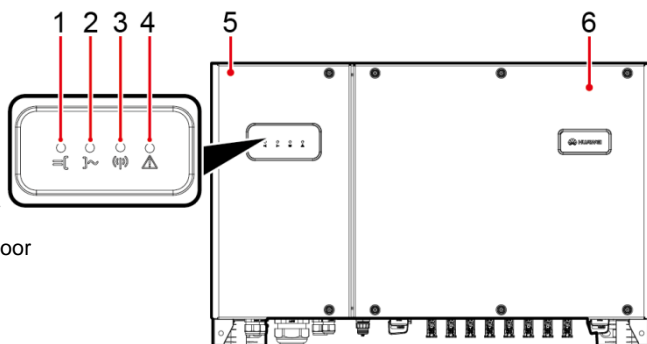
## NOTICE

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 device installation, carefully read the *SUN2000-45KTL-US-HV-D0 User Manual* to get familiar with product information and precautions.
3. Only qualified and trained electrical technicians are allowed to operate the device. Operators should understand the components and functioning of a grid-tied PV power system, and they should be familiar with relevant local standards.
4. Before installing the device, check that package contents are intact and complete against the packing list. If any damage is found or any component is missing, contact the dealer.
5. Use insulated tools when installing the device. For personal safety, wear proper personal protective equipment (PPE).
6. Huawei shall not be liable for any consequence caused by violation of the storage, moving, installation, and operation regulations specified in this document and the user manual.

## 1 Product Overview



### Front View



- (1) PV connection indicator
- (2) Grid-tied indicator
- (3) Communication indicator
- (4) Alarm/Maintenance indicator
- (5) Maintenance compartment door
- (6) Host panel cover



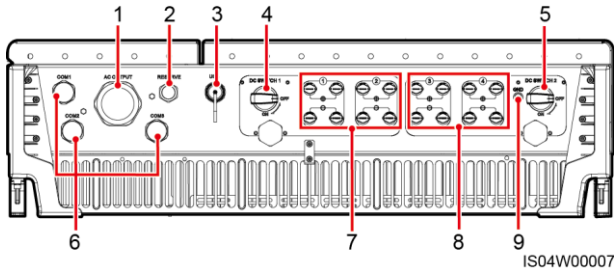
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### Indicator Description

Indicator	Status	Description	
PV connection indicator 	DC input detection status	Blinking green	The DC input is normal.
		Blinking red	DC input detection is in progress or stalling.
		Steady red	The DC input is abnormal.
	PV string connection status	Steady green	At least one PV string is properly connected, and the DC input voltage of the corresponding MPPT circuit is higher than or equal to 600 V.
Off		The SUN2000 disconnects from all PV strings, or the DC input voltage of each MPPT circuit is less than 600 V.	
Grid-tied indicator 	Steady green	The SUN2000 has connected to the power grid.	
	Off	The SUN2000 does not connect to the power grid.	

Indicator	Status	Description	
Communication indicator 	Blinking green	The SUN2000 receives data over RS485 or PLC communication.	
	Off	The SUN2000 has not received data over RS485 or PLC communication for 10 seconds.	
Alarm/Maintenance indicator 	Alarm status	Blinking red at long intervals (on for 1s and then off for 4s)	A warning alarm is generated.
		Blinking red at short intervals (on for 0.5s and then off for 0.5s)	A minor alarm is generated.
		Steady red	A major alarm is generated.
	Local maintenance status	Blinking green at long intervals (on for 1s and then off for 1s)	Local maintenance is in progress.
		Blinking green at short intervals (on for 0.125s and then off for 0.125s)	Local maintenance fails.
		Steady green	Local maintenance succeeds.

## Ports

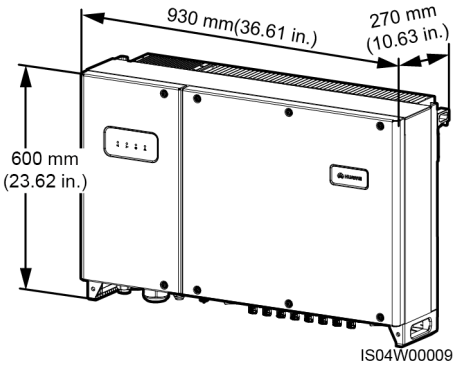


- |  |   |
|--|---|
| (1) 2-inch waterproof cable connector (AC OUTPUT)  | (2) 1/2-inch waterproof cable connector (RESERVE)               |
| (3) USB port (USB)                                 | (4) DC switch 1 (DC SWITCH 1)                                   |
| (5) DC switch 2 (DC SWITCH 2)                      | (6) 3/4-inch waterproof cable connectors (COM1, COM2, and COM3) |
| (7) DC input terminals (controlled by DC SWITCH 1) | (8) DC input terminals (controlled by DC SWITCH 2)              |
| (9) PV side ground point (GND)                     |   |

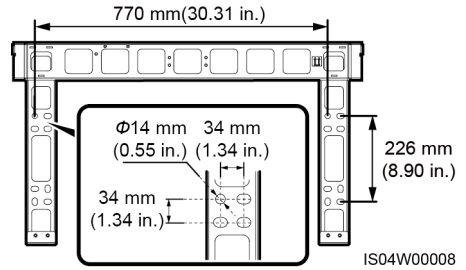
### NOTE

Waterproof cable connector is abbreviated as waterproof connector in the following text.

## SUN2000 Dimensions

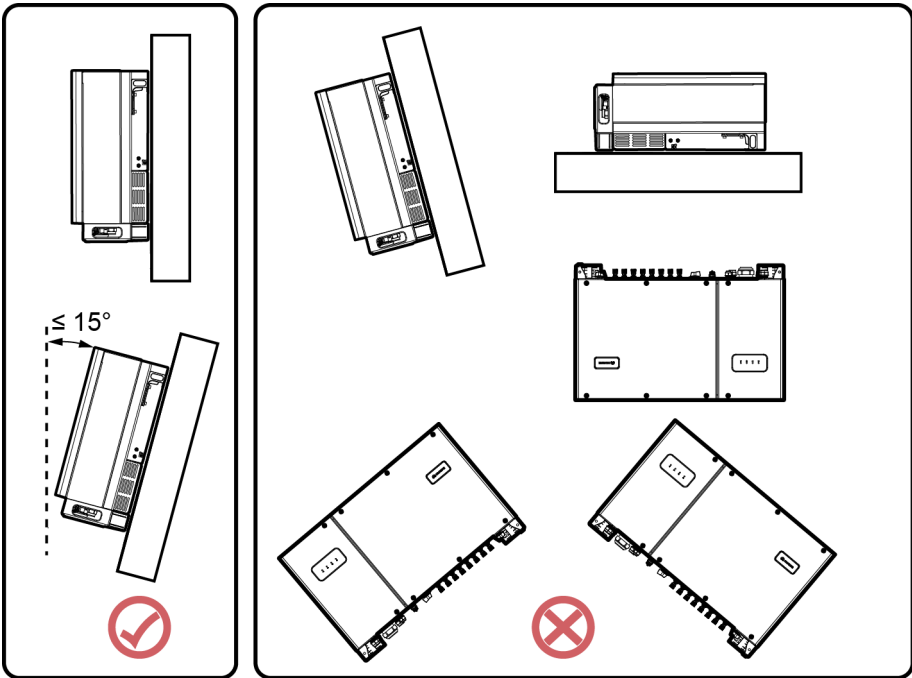


## Mounting Bracket Dimensions

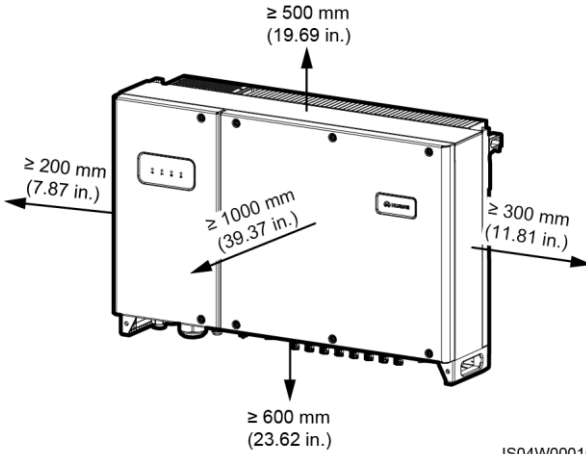


## 2 Installation Requirements

### 2.1 Installation Angle



## 2.2 Installation Space



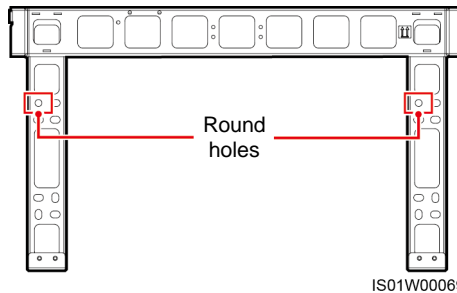
### NOTE

For ease of installing the SUN2000 on the mounting bracket, connecting cables to the bottom of the SUN2000, and maintaining the SUN2000 in future, it is recommended that the bottom clearance be between 600 mm (23.62 in.) and 730 mm (28.74 in.).

## 3 Installing the SUN2000

### NOTE

- The SUN2000 mounting bracket has four groups of tapped holes, each group containing four tapped holes. Mark any hole in each group based on site requirements and mark four holes in total. Two round holes are preferred.
- The SUN2000 is delivered with M12x60 expansion bolts and M12x40 bolt assemblies. If the bolt assembly length does not meet the installation requirements, prepare M12 bolt assemblies by yourself and use them together with the delivered M12 nuts.
- Before installing the mounting bracket, remove the security torx wrench from the mounting bracket and save it for later use.



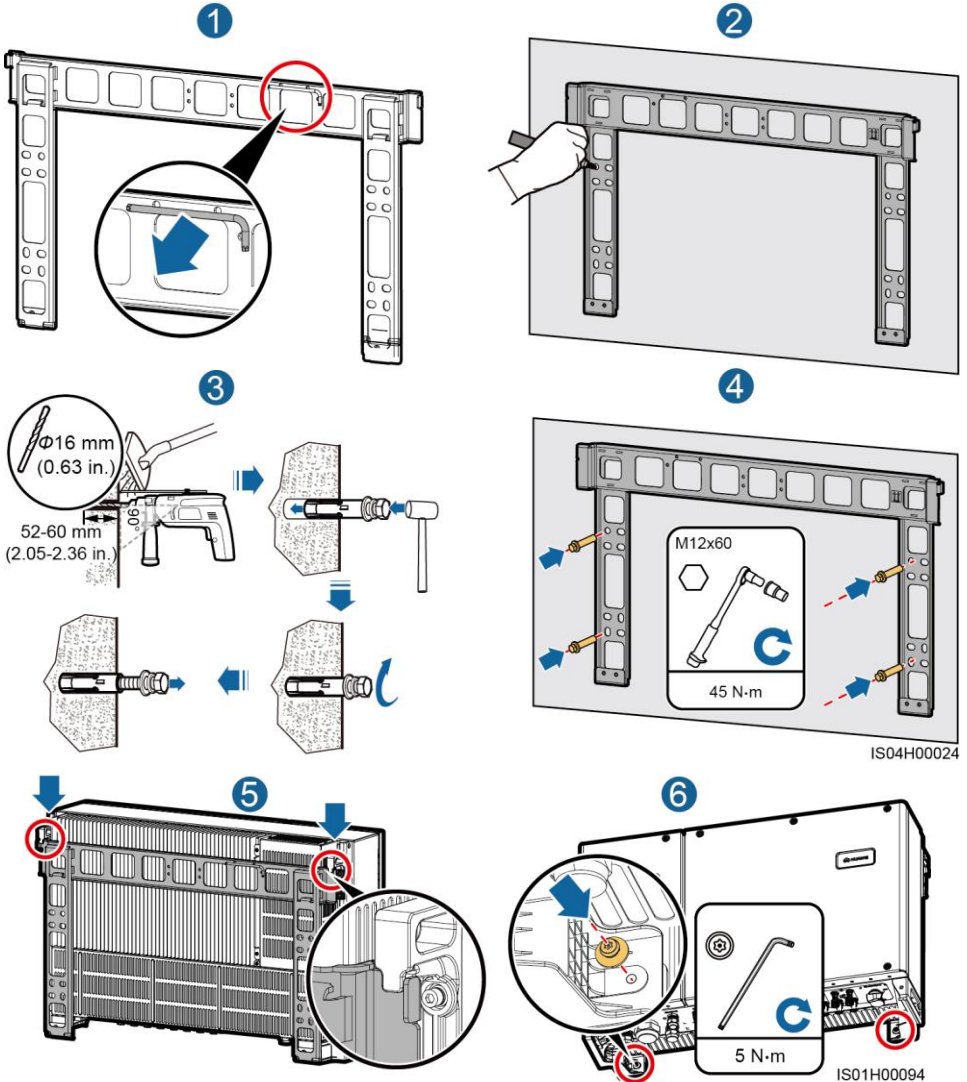
## Wall-mounted Installation

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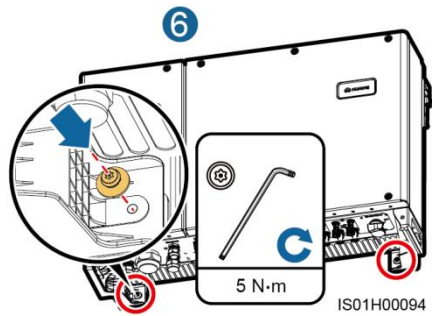
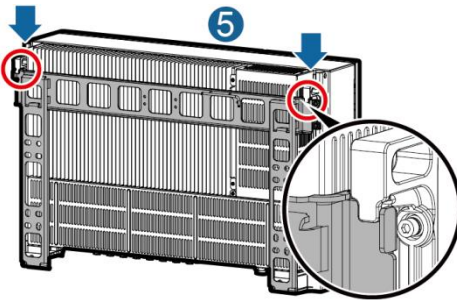
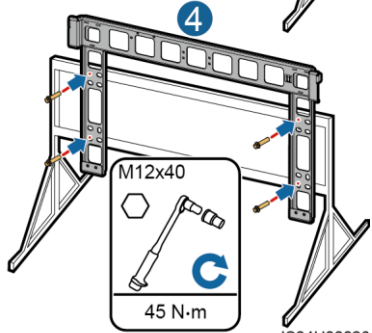
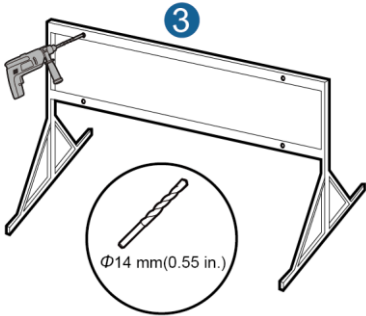
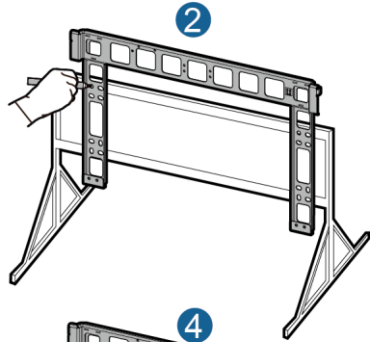
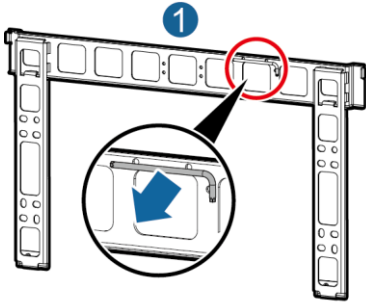
Avoid drilling holes in the utility pipes and/or cables attached to back of the wall.

### NOTICE

- To prevent dust inhalation or contact with eyes, wear safety goggles and an anti-dust mask when drilling holes.
- Clean up any dust in and around the holes using a vacuum cleaner and measure the distance between holes. If the holes are inaccurately positioned, drill new set of the holes.
- Level the head of the expansion sleeve with the concrete wall after removing the bolt, spring washer, and flat washer. Otherwise, the mounting bracket will not be securely installed on the concrete wall.



## Support-mounted Installation



### NOTE

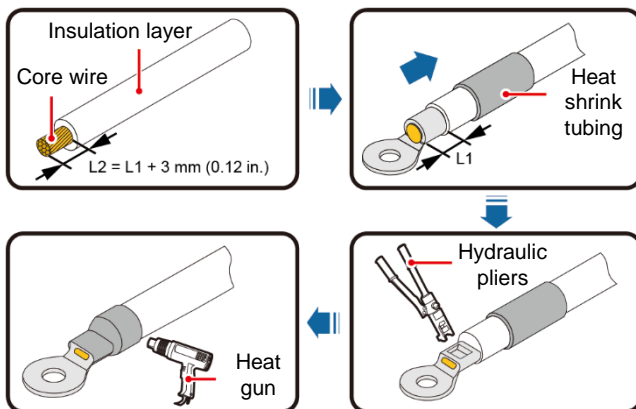
You are advised to apply anti-rust paint on the hole positions for protection.

## 4 General Operation

### 4.1 Crimping an OT Terminal

#### NOTICE

- Pay attention not to damage the core wire when stripping a cable.
- The cavity formed after the conductor crimp strip of the OT terminal is crimped must wrap the core wires completely. The core wires must contact the OT terminal closely.
- Wrap the wire crimping area with heat shrink tubing. The following figure uses heat shrink tubing as an example.
- When using the heat gun, protect devices from being scorched.

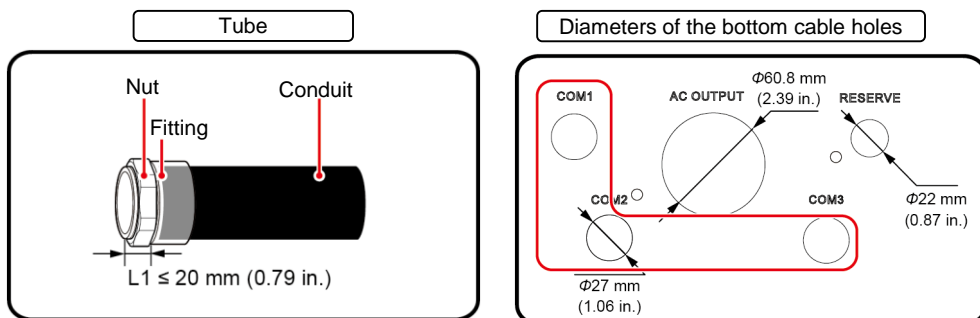


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### 4.2 Installing the Tube Fittings (Using AC OUTPUT as an Example)

#### NOTE

The tube specifications should comply with the waterproof connector specifications. For example, for a 2 in. waterproof connector, prepare a 2 in. tube. The tube appearance shown in the following figure is for reference only. The actual tube prevails.



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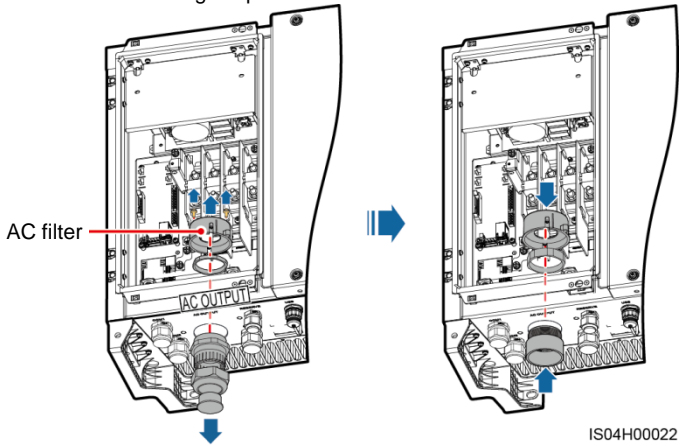
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 **NOTE**

- AC filter operation is required only for the AC OUTPUT waterproof connector, not required for other waterproof connectors.
- Following are the reference torque values for the waterproof connector and tube. Observe the requirements of the specific manufacturer, if any.
  - AC OUTPUT and COM ports: 7.5 N·m (plastic) or 10 N·m (metal)
  - RESERVE port: 3.75 N·m (plastic) or 6.25 N·m (metal)

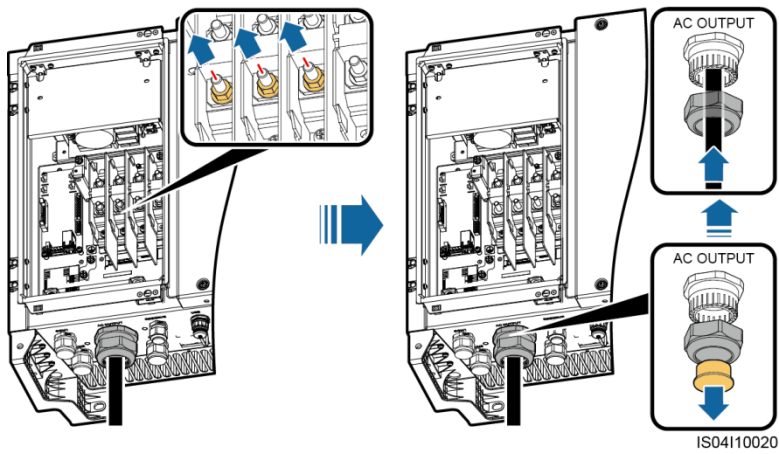
1. Remove the AC filter and save the screws for later use.
2. Remove the cable gland and cap from the waterproof connector, and then remove the waterproof connector.
3. Secure the tube fittings.
4. Install the AC filter in the original position.



### 4.3 Routing Cables Through Waterproof Connectors (Using AC OUTPUT as an Example)

 **NOTE**

For ease of connecting the AC output power cable, you are advised to remove the nut assembly from the AC terminal and save it for later use, and then route the cable through the waterproof connector.



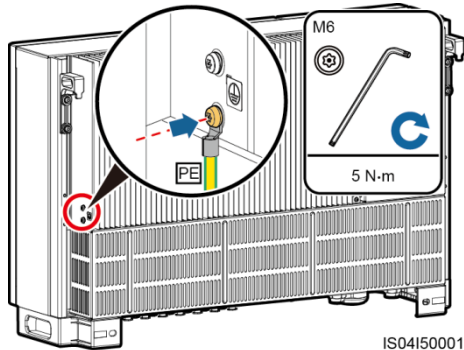
# 5 Electrical Connections

## 5.1 Installing the Ground Cable

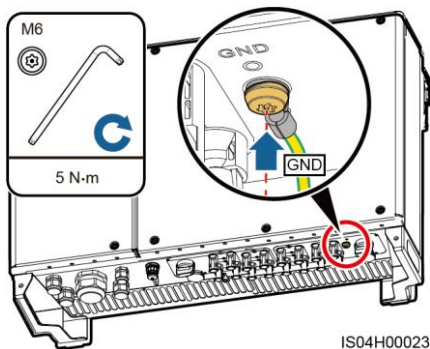
### NOTE

- Both the maintenance compartment and chassis shell of the SUN2000 provide a PE point. Select either for connecting the ground cable. For details about how to connect a ground cable to the PE point in the maintenance compartment, see section " 5.3 Installing AC Output Power Cables."
- You are advised to use outdoor copper-core cables with a cross-sectional area of 6 AWG and M6 OT terminals. The ground cable must be secured.
- It is recommended that the ground cable be connected to a nearby PE point. For a system with multiple SUN2000s connected in parallel, connect the PE points of all SUN2000s to ensure equipotential connections to ground cables.
- Recommended: To enhance the corrosion resistance of a ground terminal, silica gel or paint might be needed.

1. Connect the ground cable to the PE point (on the chassis shell).



2. Connect the ground cable to the PV side ground point.

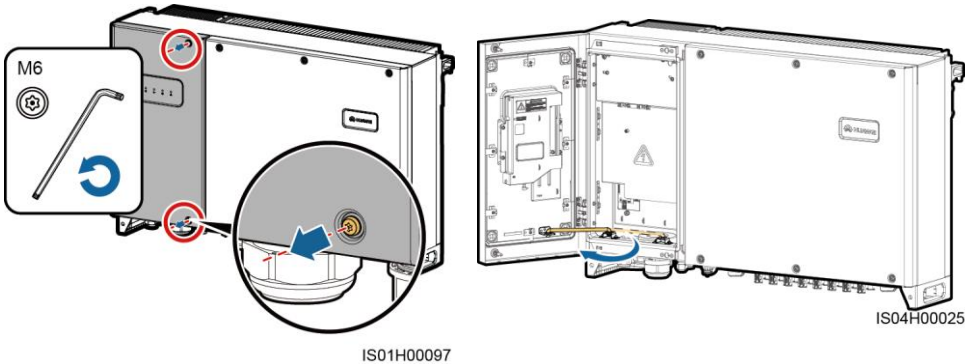


## 5.2 Opening the Maintenance Compartment Door

### WARNING

1. Never open the host panel cover of the SUN2000.
2. Before opening the maintenance compartment door, turn off the downstream AC output switch and the two DC switches at the bottom.
3. If you need to open the maintenance compartment door on rainy or snowy days, take protective measures to prevent rain and snow entering the maintenance compartment. If it is impossible to take protective measures, do not open the maintenance compartment door on rainy or snowy days.
4. Do not leave extra hardware in the maintenance compartment.

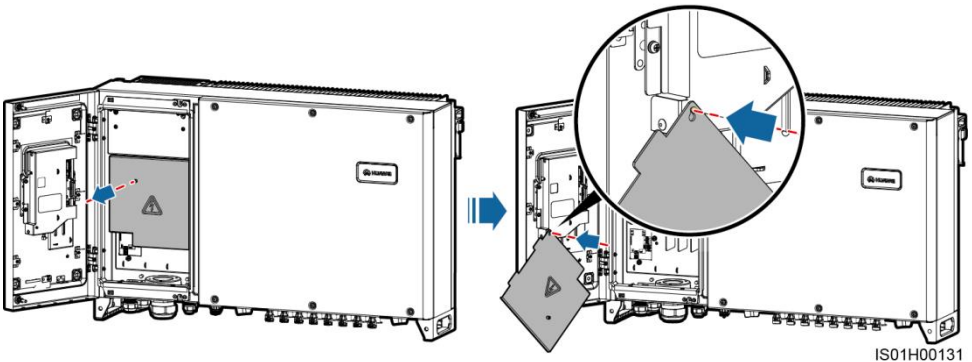
1. Loosen the two screws on the maintenance compartment door using a security torx wrench.
2. Open the maintenance compartment door and use the support bar to stabilize the door.



### NOTE

If the screws on the chassis door are lost, obtain spare screws from the fitting bag bound to the inductor cover at the bottom of the chassis.

3. Remove the cover and hang it on the hook of the chassis door.



## 5.3 Installing AC Output Power Cables

### Connection Through a Tube

#### NOTE

- Use cables that can withstand that can withstand 105°C (221°F).
- If you connect a ground cable to the PE point on the chassis shell, you are advised to use three (L1, L2, and L3) single-core outdoor copper cables, each with a cross-sectional area of 4 AWG.
- If you connect a ground cable to the PE point in the maintenance compartment, you are advised to use four (L1, L2, L3, and PE) single-core outdoor copper cables, each with a cross-sectional area of 4 AWG.
- OT terminal: M8 (L1, L2, and L3) and M6 (PE).
- For more details about cable specifications, see the *SUN2000-45KTL-US-HV-D0 User Manual*.

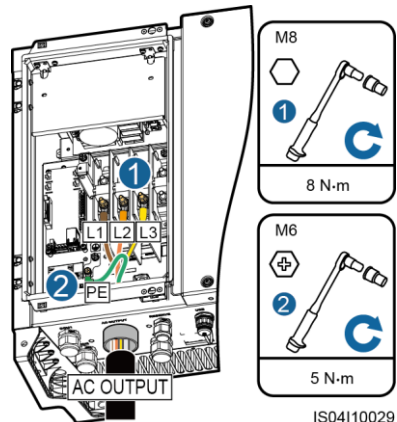
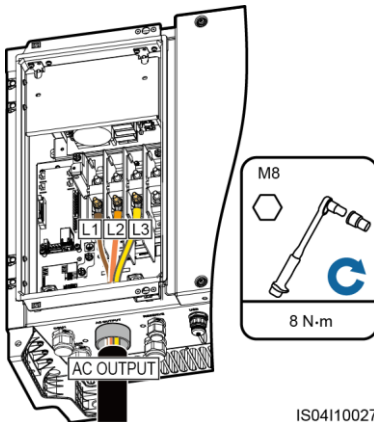
1. Install the tube fitting.
2. Route the cable through the tube conduit and then fitting.
3. Crimp the OT terminal.
4. Land the AC output power cable in the terminal block, and tighten the nuts with a torque wrench to achieve a proper torque value.

#### NOTICE

- Ensure that AC terminations provide firm and solid electrical connections. Failing to do so may cause SUN2000 malfunction and damage to its terminal block, even starting thermal events.
- If the AC output power cables are subject to a pulling force because the inverter is not installed stably, ensure that the last cable that bears the stress is the PE cable.

a. Three-core cable (excluding the ground)

b. Four-core cable (including the ground cable)



5. Secure the fitting to the tube.
6. Seal the cable hole.
7. Secure the AC filter.
8. Clear debris from the maintenance compartment.

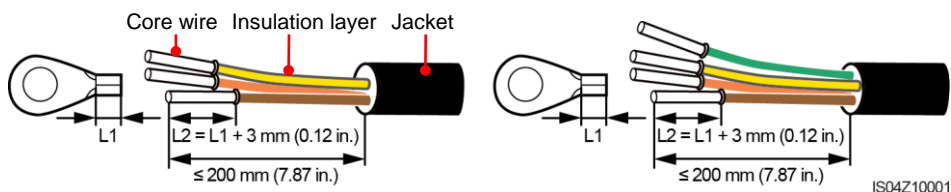
## Connection Through a Waterproof Connector

### NOTE

- Use copper-core cables that can withstand 105°C (221°F).
- If you connect a ground cable to the PE point on the chassis, you are advised to use a three-core (L1, L2, and L3) outdoor copper cable with a cross-sectional area of 4 AWG for each core wire.
- If you connect a ground cable to the PE point in the maintenance compartment, you are advised to use a four-core (L1, L2, L3, and PE) outdoor copper cable with a cross-sectional area of 4 AWG for each core wire.
- OT terminal: M8 (L1, L2, and L3) and M6 (PE).
- For more details about cable specifications, see the *SUN2000-45KTL-US-HV-D0 User Manual*.

1. Remove an appropriate length of the jacket and insulation layer from the AC output power cable using a wire stripper. (Ensure that the jacket is in the maintenance compartment.)

a. Three-core cable (excluding the ground cable)      b. Four-core cable (including the ground cable)

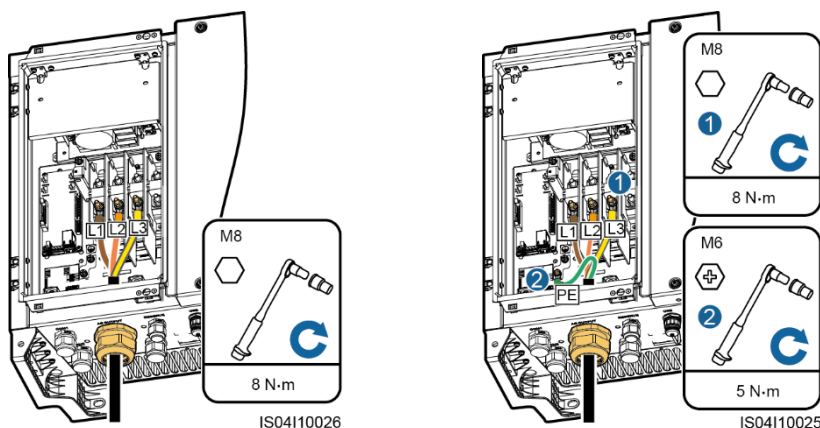


2. Crimp the OT terminal.
3. Route the cable through the waterproof connector.
4. Land the AC output power cable in the terminal block, and tighten the nuts with a torque wrench to achieve a proper torque value.

### NOTICE

- Ensure that AC terminations provide firm and solid electrical connections. Failing to do so may cause SUN2000 malfunction and damage to its terminal block, even starting thermal events.
- If the AC output power cables are subject to a pulling force because the inverter is not installed stably, ensure that the last cable that bears the stress is the PE cable.

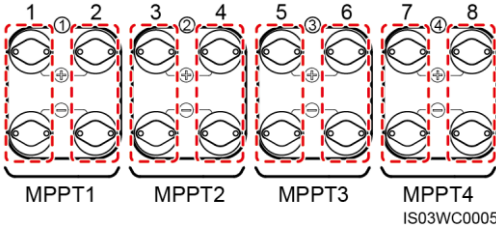
a. Three-core cable (excluding the ground cable)      b. Four-core cable (including the ground cable)



5. Tighten the thread-lock sealing nut and seal the waterproof connector.

## 5.4 Installing DC Input Power Cables

### Selecting DC Input Terminals



#### NOTE

The SUN2000 provides two DC switches, named as, DC SWITCH 1 and DC SWITCH 2. DC SWITCH 1 controls the first to fourth sets of DC input terminals, whereas DC SWITCH 2 controls the fifth to eighth sets of DC input terminals.

Number of Inputs	SUN2000
1	Connects to set 1.
2	Connects to sets 1 and 5.
3	Connects to sets 1, 3, and 5.
4	Connects to sets 1, 3, 5, and 7.
5	Connects to sets 1, 2, 3, 5, and 7.
6	Connects to sets 1, 2, 3, 5, 6, and 7.
7	Connects to sets 1, 2, 3, 4, 5, 6, and 7.
8	Connects to sets 1, 2, 3, 4, 5, 6, 7, and 8.



#### WARNING

- Ensure that the PV string is well insulated to ground.
- Before inserting the positive and negative connectors respectively into the positive and negative DC input terminals of the SUN2000, check that the DC voltage does not exceed 1500 V using a multimeter and that the cables are connected correctly. Otherwise, the SUN2000 will be damaged.

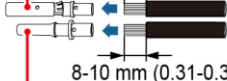


#### NOTICE

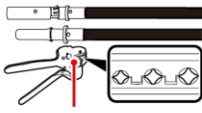
1. Use the Amphenol HH4 DC input terminals provided with the SUN2000.
2. The metal contacts supplied with the DC connectors are either cold forming contacts or stamping forming contacts. Crimp the metal cold forming contacts using crimping tool H4TC0001 (Amphenol). Crimp the metal cold stamping contacts using crimping tool H4TC0002 (Amphenol). Choose the crimping tools that fit the metal contact types. Do not mix up the tools.
3. Before connecting DC input power cables, label the cable polarities to ensure correct cable connections. If the cables are connected incorrectly, the SUN2000 may be damaged.
4. Insert the crimped metal terminals of the positive and negative power cables into the appropriate positive and negative connectors. Then pull the DC input power cables to ensure that they are connected securely.
5. Connect the positive and negative connectors to the appropriate positive and negative DC input terminals. Then pull the DC input power cables to ensure that they are connected securely.
6. 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. The caused equipment damage is beyond the warranty scope. Wait until the solar irradiance declines and the PV string current reduces to below 0.5 A, and then turn off the two DC switches and remove the positive and negative connectors. Correct the string polarity before reconnecting the string to the SUN2000.

## Installing a DC input power cable (using metal cold forming contacts)

Positive metal contact  
8-10 mm (0.31-0.39 in.)

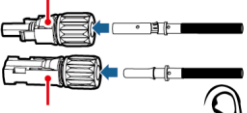


Negative metal contact  
Recommended: PV cable that meets the 1500 V standard




H4TC0001  
(Amphenol)  
Ensure that the cable cannot be removed after crimped.

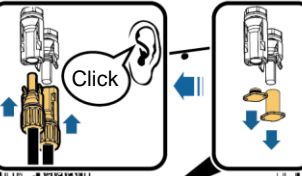
Positive connector



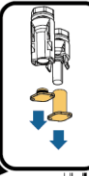
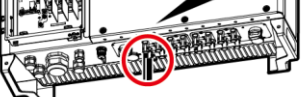
Negative connector



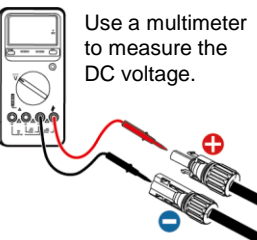
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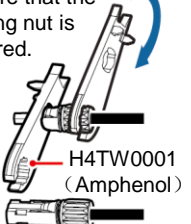
Click

Use a multimeter to measure the DC voltage.



Ensure that the locking nut is secured.

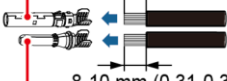


H4TW0001  
(Amphenol)

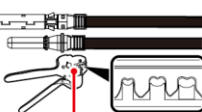
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## Installing a DC input power cable (using metal stamping forming contacts)

Positive metal contact  
8-10 mm (0.31-0.39 in.)

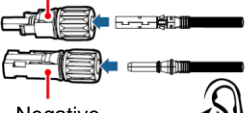


Negative metal contact  
Recommended: PV cable that meets the 1500 V standard




H4TC0002  
(Amphenol)  
Ensure that the cable cannot be removed after crimped.

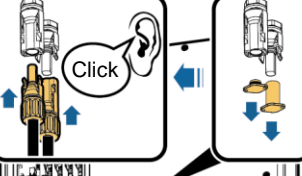
Positive connector



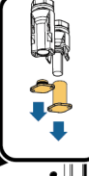
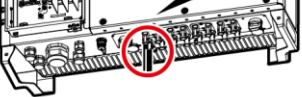
Negative connector



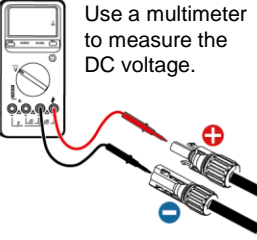
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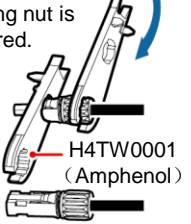
Click

Use a multimeter to measure the DC voltage.



Ensure that the locking nut is secured.



H4TW0001  
(Amphenol)

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**NOTICE**

- If the voltage is a negative value, the DC input polarity is incorrect. Correct the polarity.
- If the voltage is greater than 1500 V DC, too many PV modules configured to the same string. Remove some PV modules.
- Only after at least one PV string correctly connects to the MPPT1 circuit, can the SUN2000 enables the DC input detection function. Therefore, you are advised to connect DC input power cables to the MPPT1 circuit first.

## 5.5 Selecting a Communication Mode

The SUN2000 supports either PLC or RS485 communication mode.

**NOTE**

- If PLC is used, you do not have to connect any communications cable to the SUN2000, but have to connect the PLC CCO module or SmartLogger2000 to the AC power cable. For detailed operations, see the *PLC CCO01A User Manual* or *SmartLogger2000 User Manual*.
- If RS485 is used, do not connect the PLC CCO module to the AC power cable.

## 5.6 Connecting the RS485 Communications Cable (to a Terminal Block)

**NOTICE**

1. When laying out communications cables, separate them from power cables to avoid strong signal interference sources.
2. The RS485 communications cable can connect to either a terminal block or an RJ45 network port. Connecting to a terminal block is recommended.

**NOTE**

You are advised to use a multi-paired, individually foil shielded cable that complies with UL2919, CM/CMG (NEC type), or CMH (CSA type) and has a conductor cross-sectional area of less than or equal to 14 AWG and an outer diameter of 14–18 mm (0.55–0.71 in.).

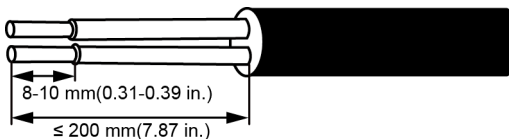
### Connection Through a Tube

1. Install the tube fitting.
2. Route the cable through the tube conduit and then fitting.

**NOTE**

Route the RS485 IN communications cable through the COM1 port, and the RS485 OUT communications cable through the COM2 port.

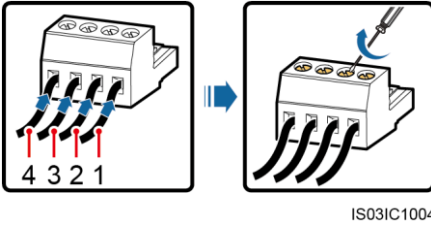
3. Remove an appropriate length of the jacket and core wire insulation layer from the communications cable using a wire stripper.



IS04200005



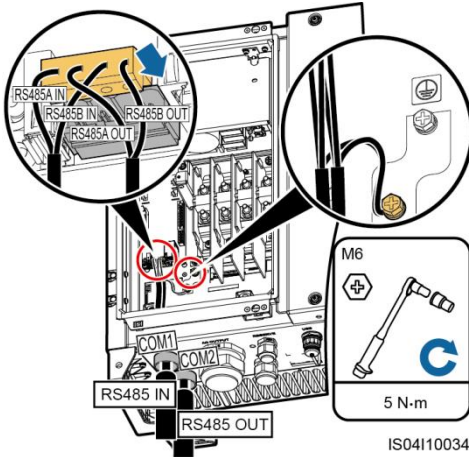
4. Remove the cable terminal base from the terminal block. Connect the communications cable to the terminal base.



IS031C1004

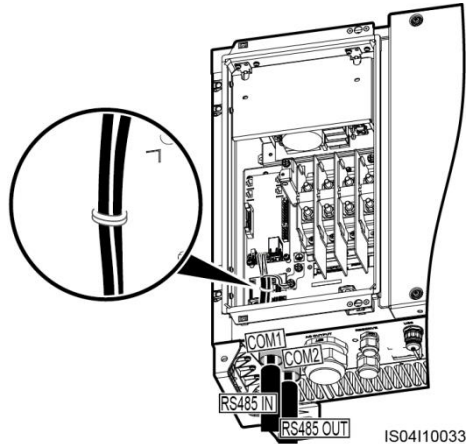
No.	Port Definition	Description
1	RS485A IN	RS485A, RS485 differential signal+
2	RS485A OUT	RS485A, RS485 differential signal+
3	RS485B IN	RS485B, RS485 differential signal-
4	RS485B OUT	RS485B, RS485 differential signal-

5. Land the cables in the terminal block, and bond the shield layer to the ground point.



IS04110034

6. Bundle communications cables after connecting them.



IS04110033



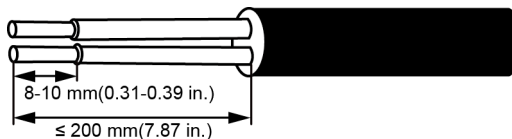
**NOTE**

When connecting the shielded cable, crimp the OT terminal if required.

7. Connect the conduit and fitting of the tube.  
 8. Clear debris from the maintenance compartment.

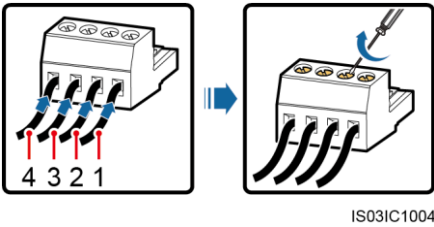
**Connection Through a Waterproof Connector**

1. Remove an appropriate length of the jacket and core wire insulation layer from the communications cable using a wire stripper.



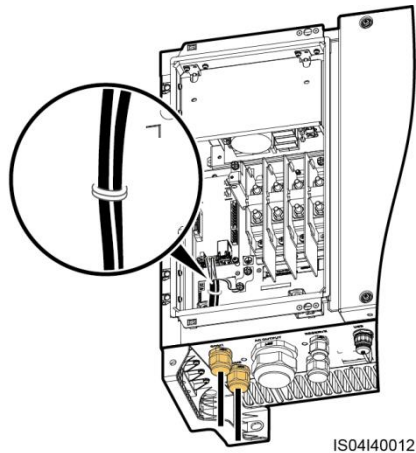
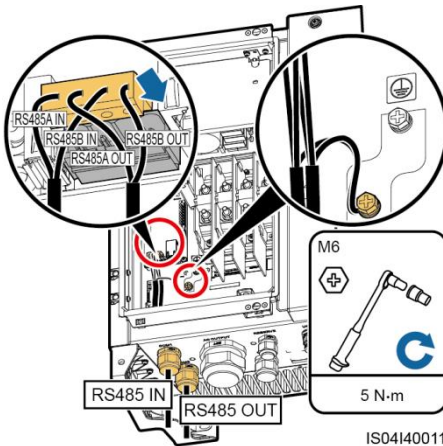
IS04Z00005

- Route the cable through the waterproof connector.
- Remove the cable terminal base from the terminal block. Connect the communications cable to the terminal base.



No.	Port Definition	Description
1	RS485A IN	RS485A, RS485 differential signal+
2	RS485A OUT	RS485A, RS485 differential signal+
3	RS485B IN	RS485B, RS485 differential signal-
4	RS485B OUT	RS485B, RS485 differential signal-

- Land the cables in the terminal block, and bond the shield layer to the ground point.
- Bundle communications cables after connecting them.



#### NOTE

When connecting the shielded cable, crimp the OT terminal if required.

- Tighten the thread-lock sealing nut and seal the waterproof connector.

## 5.7 Connecting the RS485 Communications Cable (to the RJ45 Port)

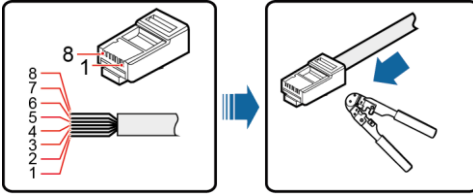


#### NOTE

You are advised to use a CAT 5E outdoor shielded network cable with an outer diameter less than 9 mm (0.35 in.) and internal resistance not greater than 1.5 ohms/10 m (1.5 ohms/32.81 ft), as well as a shielded RJ45 connector.

## Connection Through a Tube

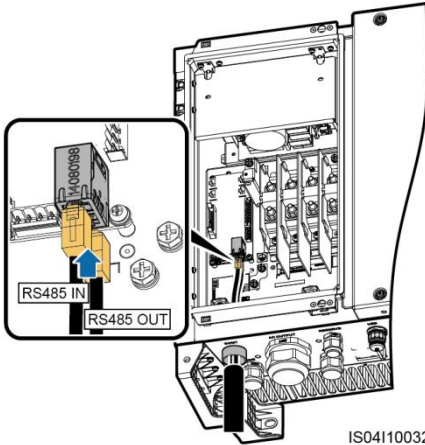
1. Install the tube fitting.
2. Route the cable through the tube conduit and then fitting.
3. Crimp an RJ45 connector.



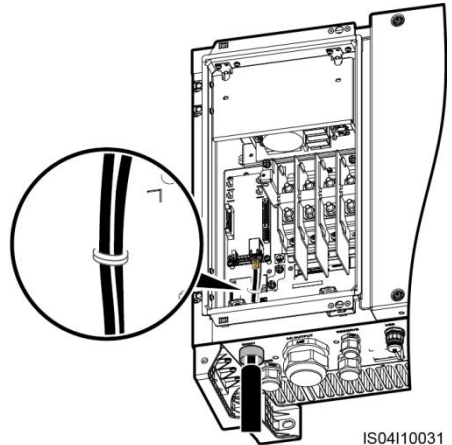
IS01Z00009

No.	Color	Pin Definition
1	White-and-orange	RS485A, RS485 differential signal+
2	Orange	RS485B, RS485 differential signal-
3	White-and-green	N/A
4	Blue	RS485A, RS485 differential signal+
5	White-and-blue	RS485B, RS485 differential signal-
6	Green	N/A
7	White-and-brown	N/A
8	Brown	N/A

4. Insert the RJ45 connector into the RJ45 network port in the SUN2000 maintenance compartment.



IS04I10032

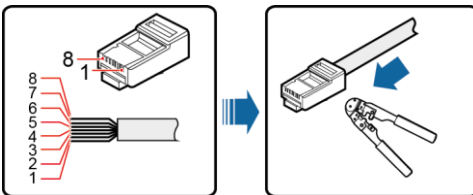


IS04I10031

6. Connect the conduit and fitting of the tube.
7. Clear foreign matter from the maintenance compartment.

## Connection Through a Waterproof Connector

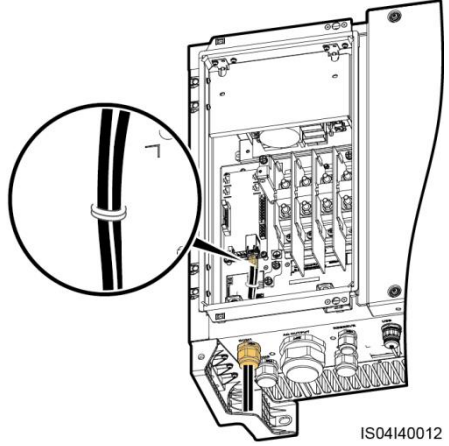
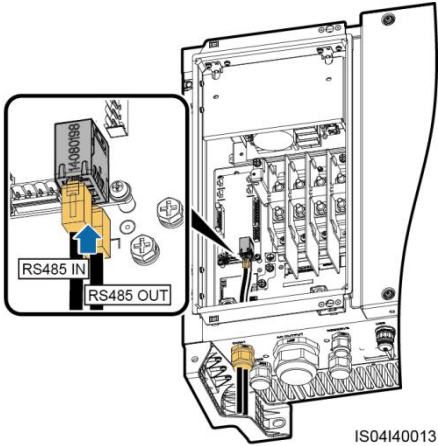
1. Prepare an RJ45 connector.



IS01Z00009

No.	Color	Pin Definition
1	White-and-orange	RS485A, RS485 differential signal+
2	Orange	RS485B, RS485 differential signal-
3	White-and-green	N/A
4	Blue	RS485A, RS485 differential signal+
5	White-and-blue	RS485B, RS485 differential signal-
6	Green	N/A
7	White-and-brown	N/A
8	Brown	N/A

2. Route the cable through the waterproof connector.
3. Insert the RJ45 connector into the RJ45 network port in the SUN2000 maintenance compartment.
4. Bundle communications cables after connecting them.



5. Tighten the thread-lock sealing nut and seal the waterproof connector.

## 6 Checking After Installation

1. The SUN2000 is installed correctly and securely.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
2. The DC switches and downstream AC switch are OFF.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
3. All ground cables are connected securely.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4. AC output power cables are connected correctly and securely, without open circuits or short circuits.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
5. DC input power cables are connected correctly and securely, without open circuits or short circuits.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
6. The RS485 communications cable is connected correctly and securely.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
7. All tube openings and/or used waterproof connectors at the chassis bottom are sealed.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
8. The AC terminal cover is reinstalled.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
9. Check that the maintenance compartment is clean and tidy, without foreign matter.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
10. The maintenance compartment door is closed and secured with screws.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
11. Unused DC input terminals are sealed.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
12. Unused USB ports are plugged with waterproof caps.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
13. Unused waterproof connectors are covered and the cable glands are tightened.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

## 7 DC Input Detection

After the DC input power cable connects to the SUN2000 of this model, the SUN2000 detects the DC input voltage of each route using the power generated by PV modules. After one PV string correctly connects to the MPPT1 circuit, the SUN2000 can start the DC input detection function. DC input detection can be performed automatically or manually.

### NOTICE

- Only after at least one PV string correctly connects to the MPPT1 circuit, the SUN2000 enables the DC input detection function. Therefore, you are required to connect DC input power cables to the MPPT1 circuit first.
- The DC input detection function allows only independent access from each PV string to the inverter. That means, the PV strings cannot be connected in parallel and then to the inverter.
- The DC input detection only functions when the two DC switches on SUN2000 are OFF.

The following table describes the LED indicator status and buzzer status under the condition that the SUN2000 is detecting the DC input.

PV Connection Indicator Status	Buzzer Status	Meaning
Blinking red	No sound	DC input detection is in progress.
Blinking green	No sound	The DC input is normal.
Steady red	Buzzing	The DC input is abnormal.

### Automatic Detection

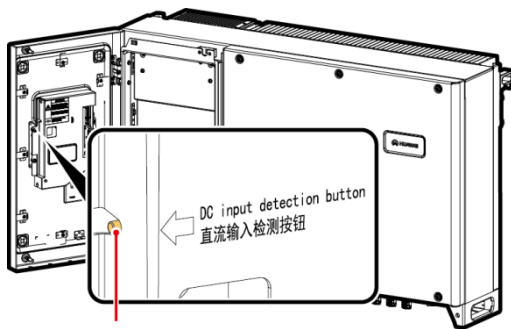
Following are the rules for starting automatic detection:

- Initial automatic detection is triggered 2 minutes after at least one PV string correctly connects to the MPPT1 circuit.
- Within three days after initial automatic detection is triggered, the SUN2000 performs automatic detection once every 10 minutes. From the fourth day, the SUN2000 performs automatic detection only upon automatic startup.

### Manual Detection

Perform manual detection by pressing the DC input detection button or using the SUN2000 app as showing below:

- Once the DC input detection triggered, the detection process can't be aborted or restarted until detection cycle completed.
- The audible alarm can be manually turned off by pressing DC input detection button twice.



DC Input detection button

IS04W00005

## 8 Powering On the System

### NOTICE

- Before turning on the AC switch between the SUN2000 and the power grid, use a multimeter to check that the AC voltage is within the specified range. Proper PPE is required.
- Before turning the DC switch on the SUN2000 to ON, ensure that the DC input power cable is connected correctly.

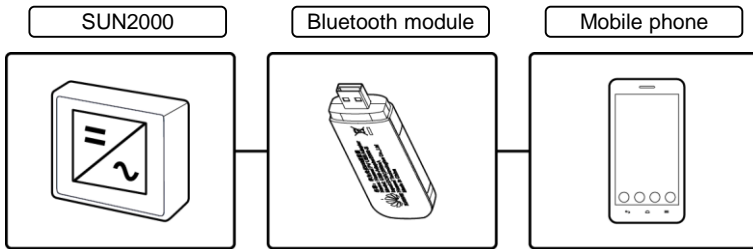
1. Turn on the AC switch between the SUN2000 and the power grid.
2. Ensure that the DC switches at the SUN2000 bottom are ON.

## 9 SUN2000 App

### NOTE

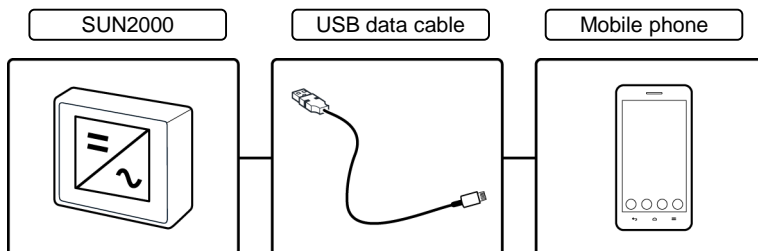
1. The SUN2000 app enables the SUN2000 to communicate with the monitoring system through a USB data cable or Bluetooth for you to query alarms, configure parameters, and perform routine maintenance. The SUN2000 app is a convenient platform for local monitoring and maintenance. The app name is SUN2000.
2. Mobile phone operating system: Android 4.0 or later, iOS 7.0 or later. When the iOS is used, the app supports only Bluetooth connection.
3. Access the Huawei app store (<http://appstore.huawei.com>), **Google Play** (<https://play.google.com>), or **App Store** (iOS), search for **SUN2000**, and download the SUN2000 app software package.
4. Connect a USB data cable or a Bluetooth module to the USB port of the SUN2000 to enable the communication between the SUN2000 and the app.

### Connection over a Bluetooth Module



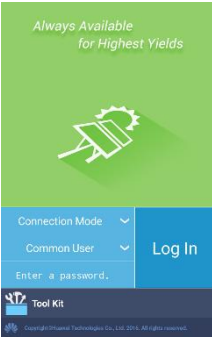
IS01NC0009

### Data Cable Connection

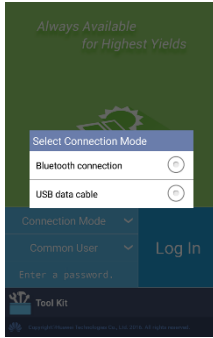


IS01NC0010

### Login screen



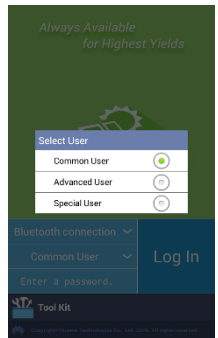
### Selecting a connection mode



### Connecting Bluetooth



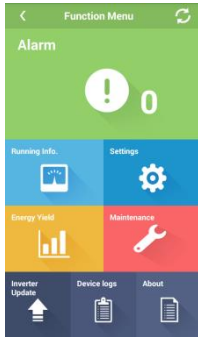
### Switching between users



### Quick settings



### Main menu screen



**NOTICE**

- The preset passwords for **Common User**, **Advanced User**, and **Special User** are **0000a**.
- Use the preset password upon first login. To ensure account security, change the password immediately after login.
- The screen snapshots in this document correspond to app V200R001C20SPC010 (Android).

**NOTE**

Set the correct grid code based on the application region and scenario of the SUN2000.

## 10 FAQ

### How Should I View Active Alarms?

Connect a USB data cable or a Bluetooth module to the USB port of the SUN2000 to enable the communication between the SUN2000 and the app. After login, tap **Alarm** on the main menu to display the **Active Alarm** screen.

## 11 Troubleshooting

Symptom	Possible Cause	Suggestion
The PV string is connected reversely.	The PV string cables are connected reversely during the SUN2000 installation.	Wait until the solar irradiance declines and the PV string current reduces to below 0.5 A, and then turn off the two DC switches and remove the positive and negative connectors. Correct the string polarity before reconnecting the string to the SUN2000.

