

Sigen Hybrid /SigenStor EC (8.0-12.0) SP AU

Installation Guide



Version: 01.1

Release date: 2025-02-27

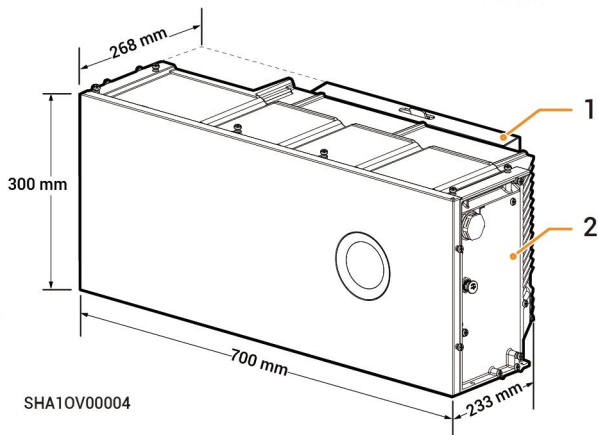


! Caution

- Trained or experienced electrical personnel are required to operate the equipment.
- Operators should be familiar with national/regional laws, regulations and standards, the structure and working principle of relevant systems.
- Please read carefully the operating requirements and precautions in this document and "Important Notice" before operating. Failure to do so may result in damage to the equipment that is not covered by the warranty.

1 Introduction to Product Appearance

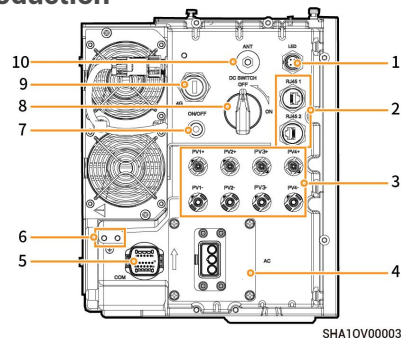
1.1 Appearance and Dimensions



S/N	Equipment/component	Model
1	Wall mounting hardware	-
2	Sigen Hybrid	Sigen Hybrid 8.0/10.0/12.0 SP

1.2 Ports introduction

Left side view



S/N	Name	Marking
1	Decorative cover light strip connector	LED
2	Network interface	RJ45 1/ RJ45 2
3	DC input interface	PV1+/PV2+/, PV3+/PV4+/, PV1-/PV2-/PV3-/PV4-
4	AC output interface	AC
5	Communication interface	COM
6	Ground screw	-
7	Switch button	ON/OFF
8	DC switch	DC SWITCH
9	Sigen CommMod interface	4G
10	Antenna interface	ANT

2 Pre-installation Check

- Check whether the components are entirely supplied against the packing list and whether the appearance is in good condition. For any problem, contact your sales representative.
- Parts and accessories supplied with the packing box are personal assets of the owner and must not be taken away from the installation site.
- Check personal protective equipment and installation tools to ensure that they are complete; If not, please make them up.
- Check and ensure the completeness of personal protective equipment and installation tools; replenish if necessary.

Protective equipment



Safety hat



Goggles



Dust mask



Protective gloves

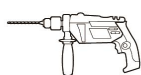


Insulating gloves

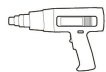


Insulating shoes

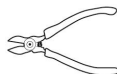
Installation tool



Power drill



Heat gun



Wire cutter



Hydraulic pliers



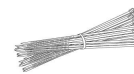
Crimping pliers



Wire stripper



Scissors



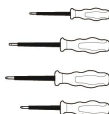
Cable tie



Heat shrinkable sleeve



Vacuum cleaner



Insulation screwdriver set sleeve



Insulation sleeve set



Torque socket wrench



Crimping pliers
(model: H4TC0003
Manufacturer:
Amphenol)



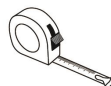
Open-end wrench
(model: H4TW0001
Manufacturer:
Amphenol)



hexagonal L-
type wrench (4mm
on opposite side)



Rubber mallet



Tape measure



Marker



Level

Caution

- The specifications of the Installer-provided cable must comply with the cable regulations and standards of the country or region standards.
- L, N and PE should be connected to other equipment in sequence without mixing.

Installer-provided cable

S/N	Cable name	Recommended specifications
1	Protective ground cable of inverter housing	Outdoors single-core copper flexible cable Cross-sectional area of core conductor: 10 mm ² ;
2	AC cable	Outdoor three-core copper flexible cable (L, N, PE) • Sigen Hybrid/SigenStor EC (8.0–10.0) SP AU: Cross-sectional area of core conductor: 10 mm²; Outer diameter: 16–20 mm • Sigen Hybrid/SigenStor EC 12.0 SP AU: Cross-sectional area of core conductor: 16 mm²; Outer diameter: 16–20 mm
3	RS485 signal cable	Outdoor shielded twisted pair Cross-sectional area of core conductor: 0.5–0.75 mm ² (multi-core flexible conductor, Tubular terminal needed); 0.5–1 mm ² (single-strand hard conductor, no tubular terminal needed) Outer diameter: 4.5–6.5 mm Cable length: ≤ 1000 m Baud rate: ≤ 9600 bps
4	RJ45 network cable	Outdoor eight-conductor shielded twin-twisted pair cable Cross-sectional area of core conductor: 0.13–0.2 mm ² ; Outer diameter: 4–7.5 mm Single cable length: ≤ 100 m ^[2]
5	DC input cable of inverter	Outdoor photovoltaic cable Cross-sectional area of core conductor: 4–6 mm ² ; Outer diameter: 4.5–7.8 mm

Note [2]: The cable length should be limited for good communication. Too long cable degrades the communication effect. FE communication distance: ≤ 100 m.

Tips

Recommended specifications for cables connecting power sensors to Distribution panel and to the grid, as well as step-by-step instructions for wiring, can be found in the accompanying documentation for each respective model.

3 Site Selection Requirements

Tips

- The warranty applies when the equipment has been installed properly for its intended use and in accordance with the operating instructions.
- During actual installation, the selection of installation location should comply with local firefighting, environmental protection regulations, and other relevant laws. The specific installation location planning should be subject to the installer or engineering, procurement, and construction (EPC) contracts.

Installation environment

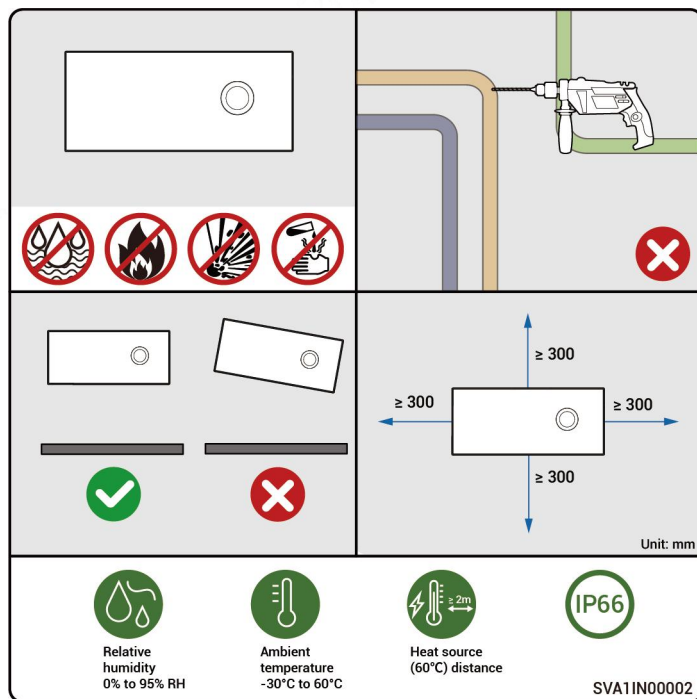
- Do not install the equipment in smoky, flammable, or explosive environments.
- Avoid exposing the equipment to direct sunlight, rain, standing water, snow, or dust. Install the equipment in a sheltered place. Take preventive measures in operating areas prone to natural disasters such as floods, mudslides, earthquakes, and typhoons.
- Do not install the equipment in an environment with strong electromagnetic interference.
- Ensure that the temperature and humidity of the installation environment comply with the equipment's requirements.
- The equipment should be installed in an area that is at least 500 m away from corrosion sources that may result in salt damage or acid damage (corrosion sources include but are not limited to seaside, thermal power plants, chemical plants, smelters, coal plants, rubber plants, and electroplating plants).

Installation position

- Do not tilt or overturn the equipment to ensure that it is installed horizontally.
- Do not install the equipment in places easily touched by children.
- Do not install the equipment in places with fire or damp.
- The equipment produces sound when it is operating. Please install the equipment in a place far away from your daily work and daily life.
- Do not install the equipment in a sealed, poorly ventilated location without fire protection measures and difficult access for firefighters.
- The equipment is hot when it is running. If the equipment is installed indoors, please ensure good indoor ventilation and avoid significant indoor temperature rise by 3° C while the equipment is running. Otherwise, the equipment will be derated.
- Do not install the equipment in mobile scenarios such as RVS, cruise ships, and trains.
- You are advised to install the equipment in a location where you can easily access, install, operate, maintain it, and view the indicator status.
- When installing the equipment in the garage, do not install the equipment in the position where the vehicle passes through to avoid collision.

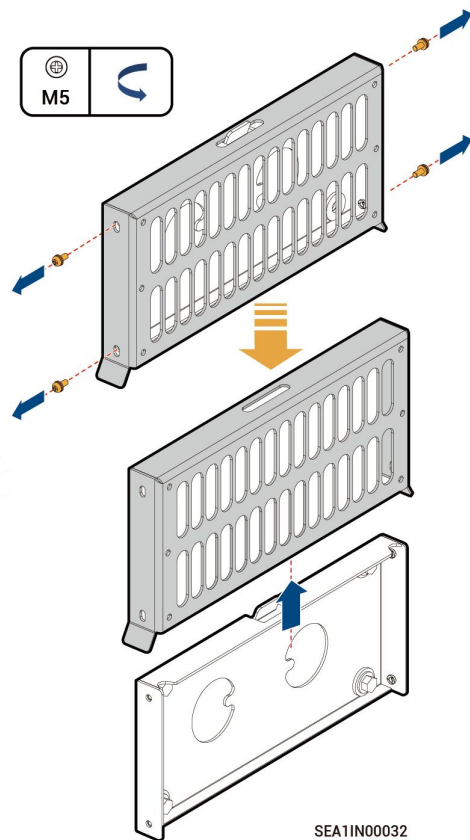
Mounting surface

- Do not install the equipment on a flammable installation base.
- The installation base should meet the load-bearing requirement. Solid brick-concrete structures, concrete walls are recommended.
- The surface of the installation base must be smooth and the installation area must meet the installation space requirements.
- No water or electricity is routed inside the installation base to prevent drilling hazards during equipment installation.

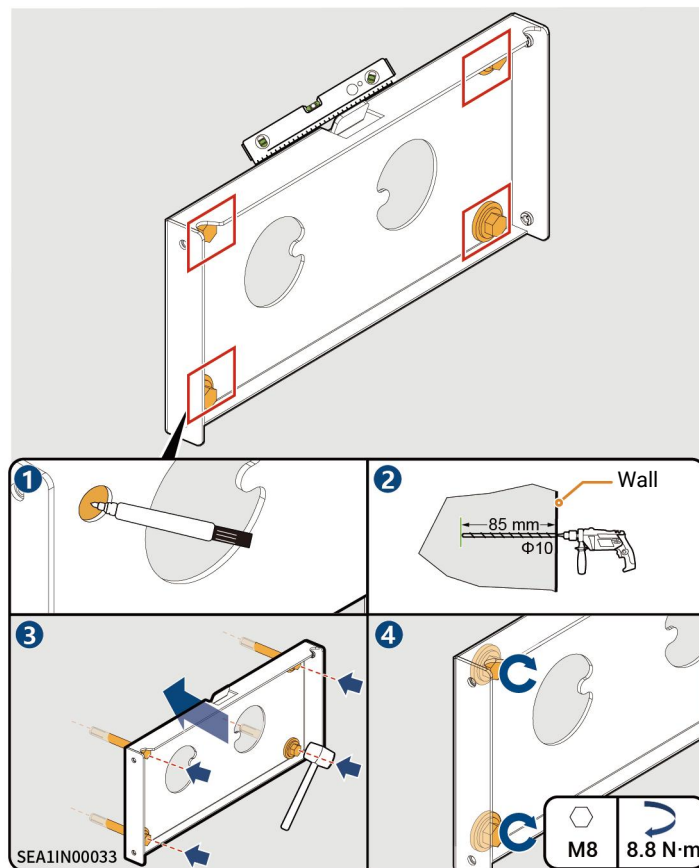


4 Equipment Installation

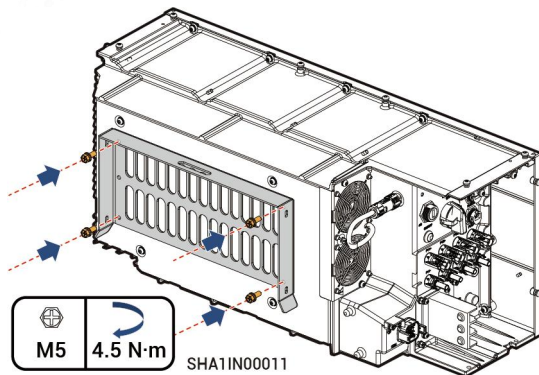
1



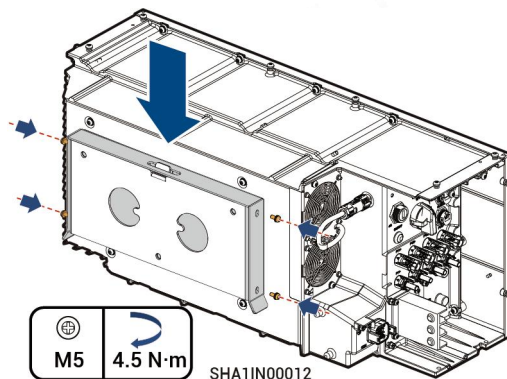
2



3



4

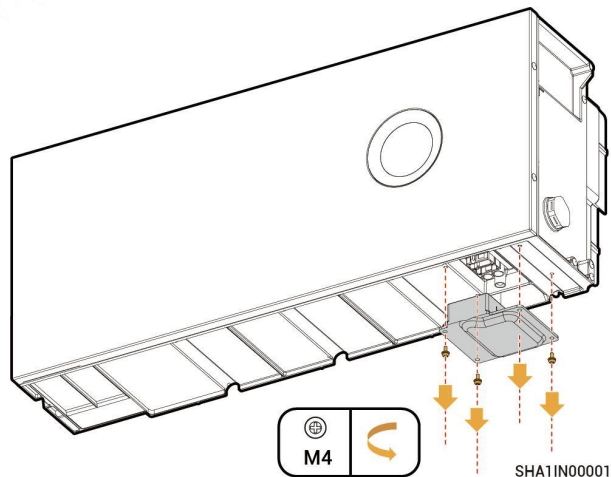


⚠ Caution

- The Sigen Hybrid can be tuned to light storage scenarios. Please follow this section in reverse to install the Sigen Hybrid on the SigenStor BAT after removing it from the wall. Please refer to "SigenStor Home Installation Guide – Three-phase System A1" for details.
- Before making any adjustments to the installation scenarios of Sigen Hybrid, ensure that Sigen Hybrid is powered off.

Operation when adjusting Sigen Hybrid to the PV storage application

Before installing on SigenStor BAT, remove the IP protection cover at the bottom.



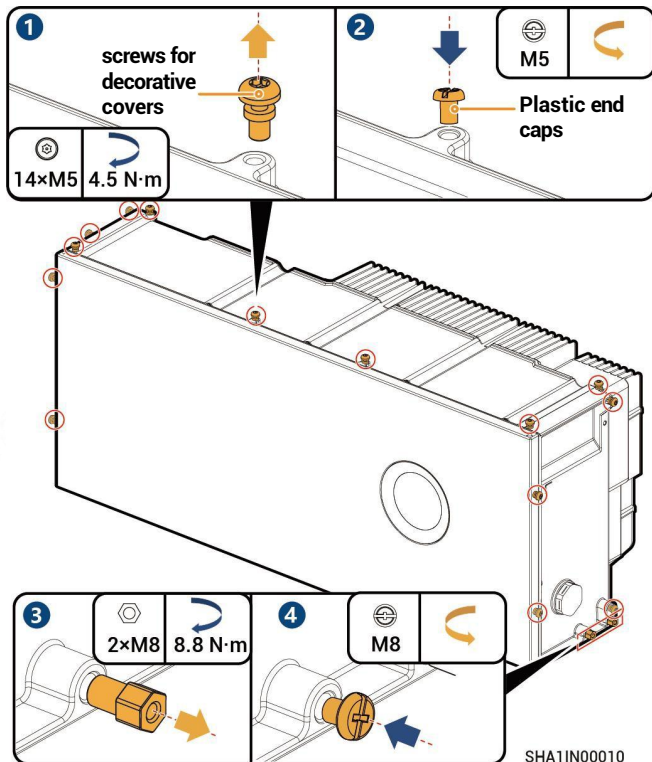
Danger

After the device is powered on, there is high voltage, and this step is prohibited in pure PV application.

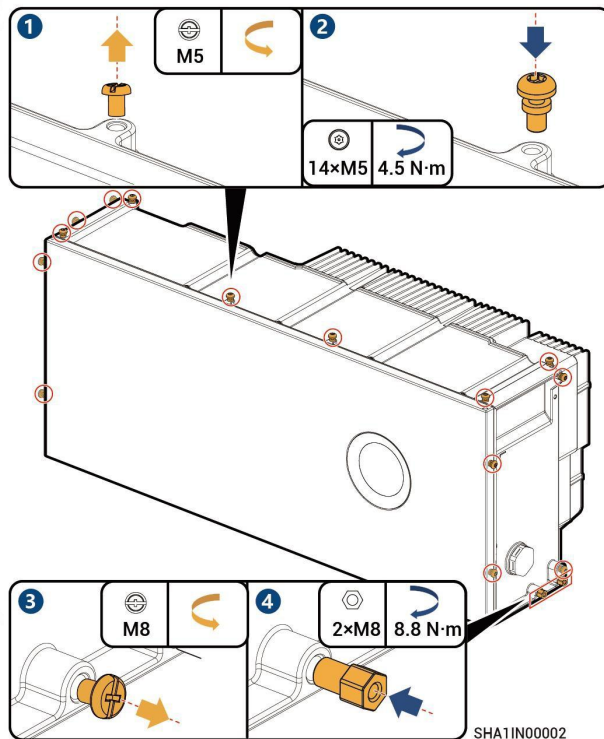
Tips

- The equipment has been installed with screws for decorative covers at the factory.
- When applied to pure PV, Sigen Hybrid can selectively replace the screws for decorative covers with plastic end caps according to the needs of the homeowner.
- When adjusting Sigen Hybrid to the PV storage application, if the device has already installed a plastic end caps, it is necessary to replace the plastic end caps with the screws for decorative covers ; If the device is installed with the screws for decorative covers, this step can be ignored.

Replace the screws for decorative covers with plastic end caps



Replace the plastic end caps with screws for decorative covers



5 Cable Connection and Component Installation

Danger

- Before connecting cables, ensure that DC SWITCH is in the OFF state, and the front switch of the AC line is off.
- Do not perform operations on the equipment with power on. Before operation, please make sure all power supplies to the equipment have been disconnected, including but not limited to the grid side, inverter and diesel generator power switches.

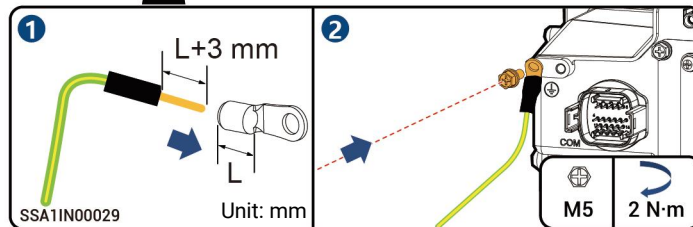
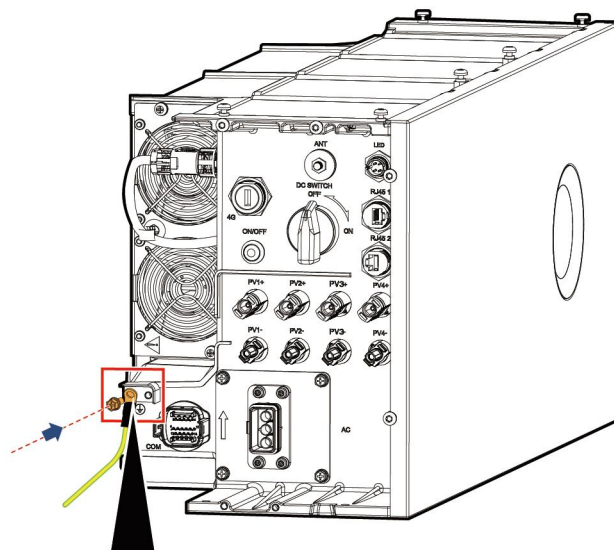
Tips

- Bind the power cable separately from the signal cable.
- PVC wiring ducts or PVC conduits are recommended to wrap cables outside decorative parts. 60 × 50 mm PVC wiring ducts are recommended and PVC conduits with diameter not less than $\phi 80$ are recommended.

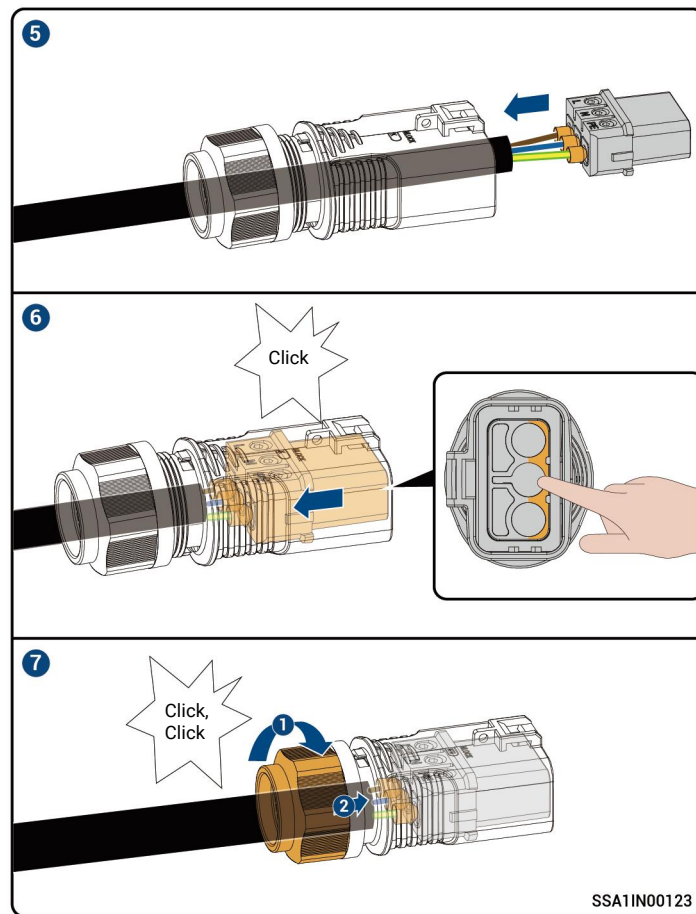
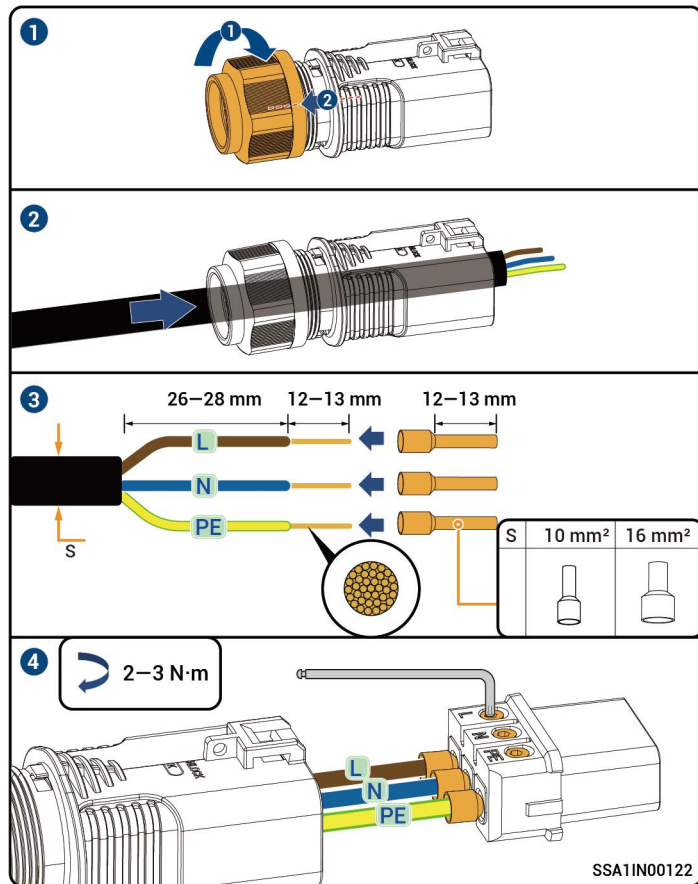
5.1 Protective Ground Cable of Inverter

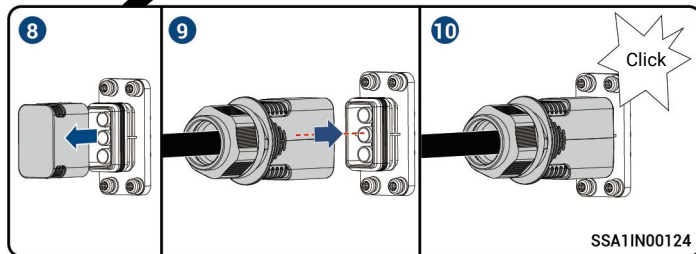
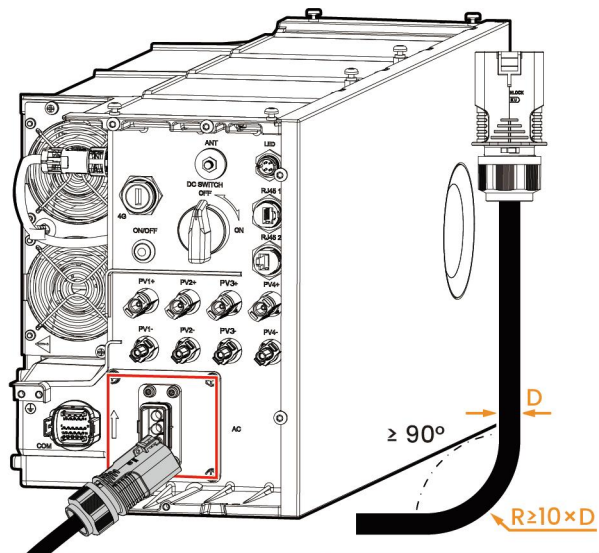
Tips

The protective ground wire should be grounded in close proximity.



5.2 AC Output Cable of Inverter

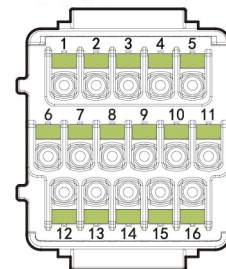




5.3 COM terminal of the inverter

Tips

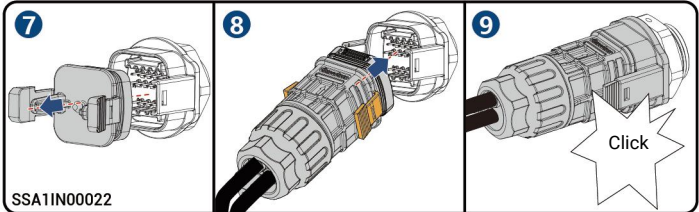
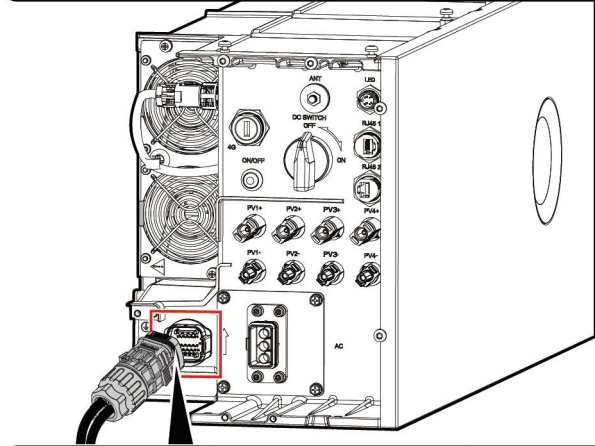
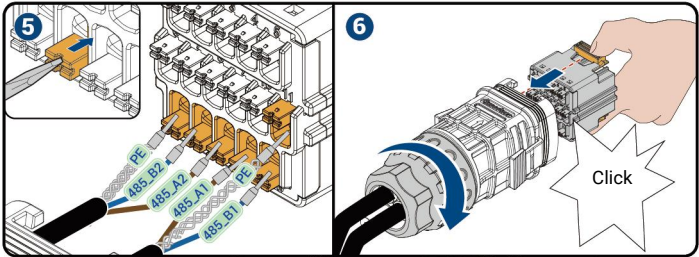
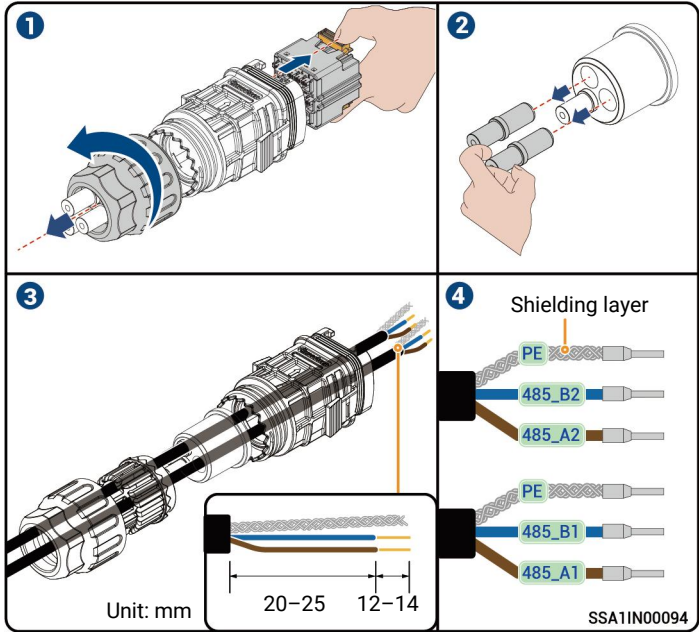
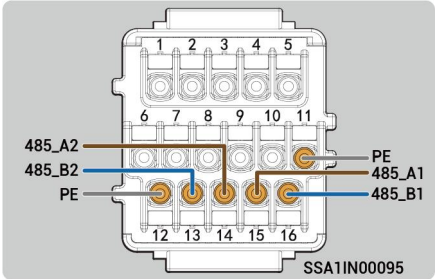
- The power sensor needs to be purchased from our company's official channels.
- The appearance and specific wiring of the power sensor can be found in the instruction manual delivered with the case.



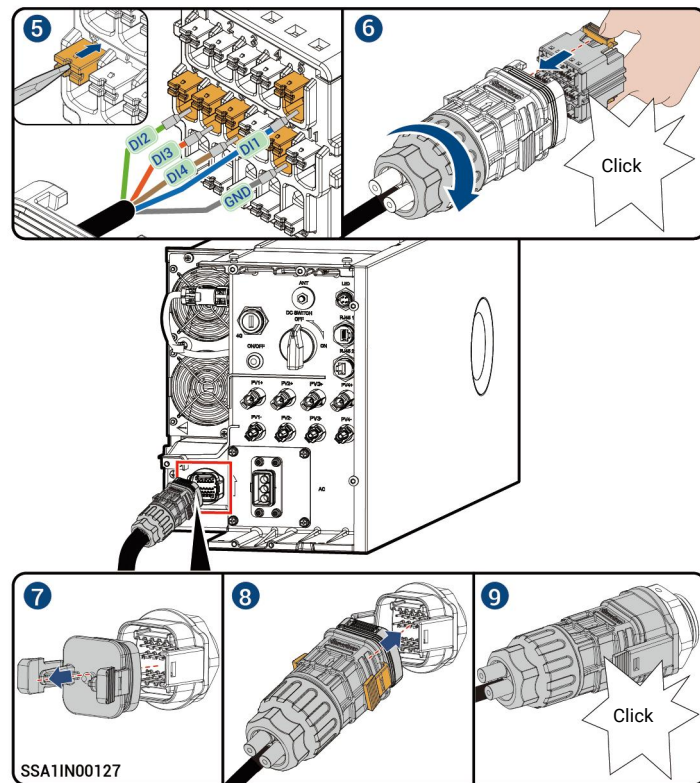
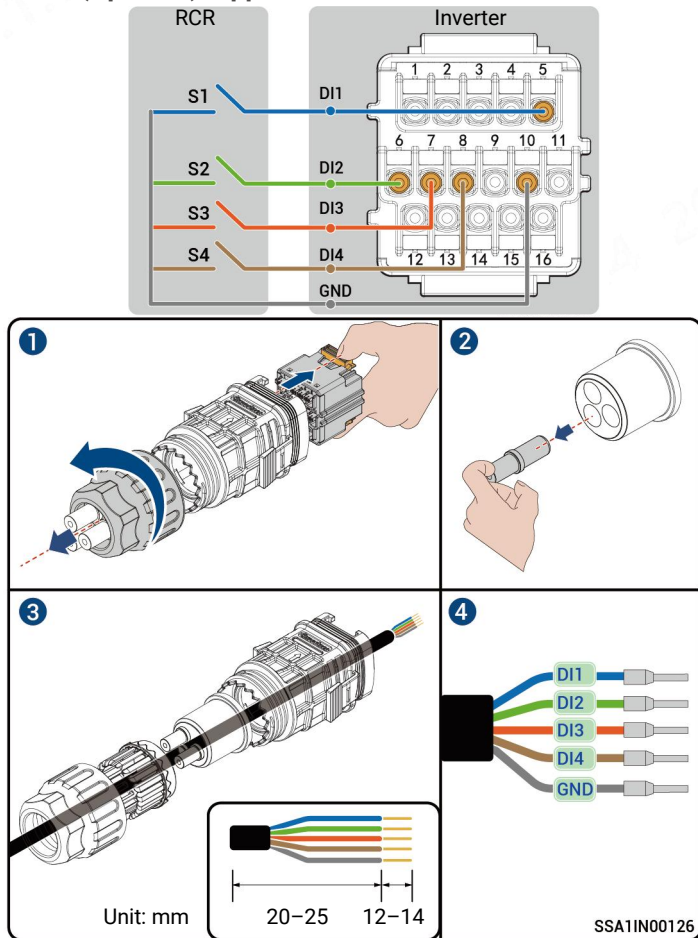
SSA1IN00020

Description	Interface definition	COM terminal of the inverter	Sigen Sensor SP-DH (SDM230Modbus)	Sigen Sensor SP-CT120-DH (SDM120CT 40mA)
(Reserved) DO1, connected to third party intelligent electric equipment, such as switch control and heat pump	Dry contact 1 – Common	1	–	–
	Dry contact 1 – NO	2	–	–
(Reserved) DO2, connected to third party intelligent electric equipment, such as switch control and heat pump	Dry contact 2 – Common	3	–	–
	Dry contact 2 – NO	4	–	–
(Reserved) For power scheduling, such as DRM and Ripple Control Receiver	DI1, digital input 1	5	–	–
	DI2, digital input 2	6	–	–
	DI3, digital input 3	7	–	–
	DI4, digital input 4	8	–	–
-	Signal GND	10	–	–
(Reserved)	DI5, digital input 5	9	–	–
RS485-2, COM port used to access the power sensor	PE signal shielding ground	12	–	–
	RS485 signal 2_B–	13	6	9
	RS485 signal 2_A+	14	5	10
RS485-1, custom port. Used to connect a third-party EMS controller, an electric meter, or a heat pump.	PE signal shielding ground	11	–	–
	RS485 signal 1_A+	15	–	–
	RS485 signal 1_B–	16	–	–

5.3.1 RS485 Signal Cable of inverter



5.3.2 (Optional) Ripple Control Receiver connection



Tips

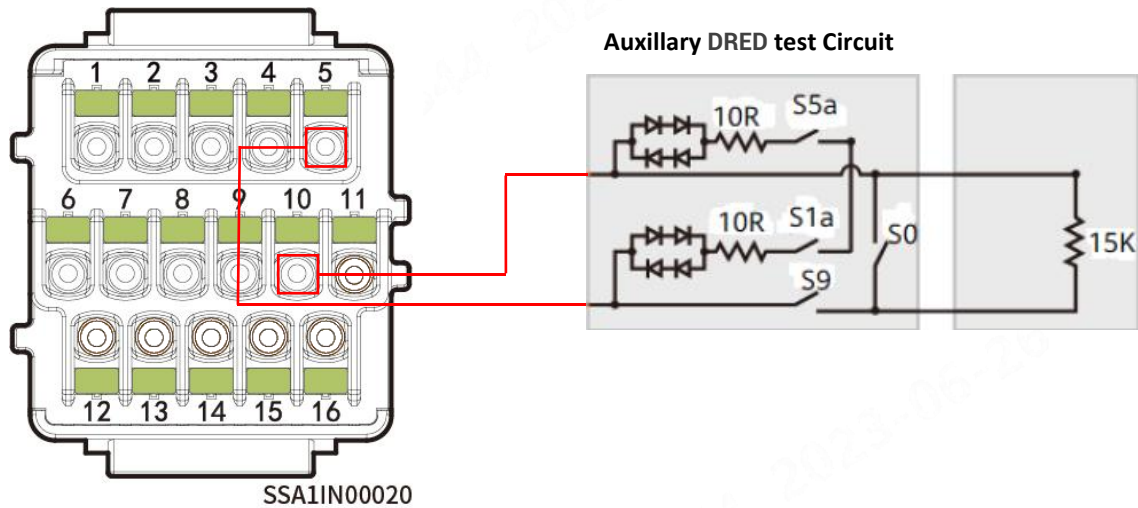
After creating new systems, you can use the mySigen App to set the parameters for Active Dry Contact scheduling or Reactive Dry Contact scheduling. For specific operation steps, please refer to Chapter 2.3 of the mySigen App Installer Manual.

5.3.3 DRM (Australia AS4777)

COM terminal of the inverter

Tips
According to Australia AS 4777.2-2015, solar inverters need to support the function of demand response mode (DRM), and DRM0 is a mandatory requirement.

DRED

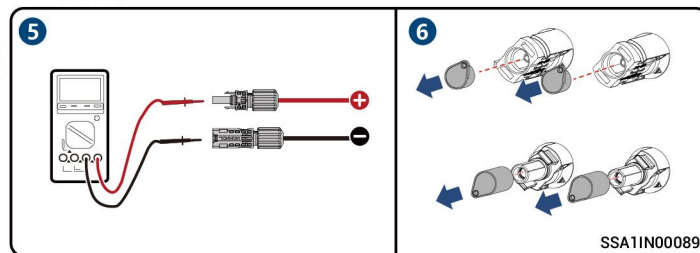
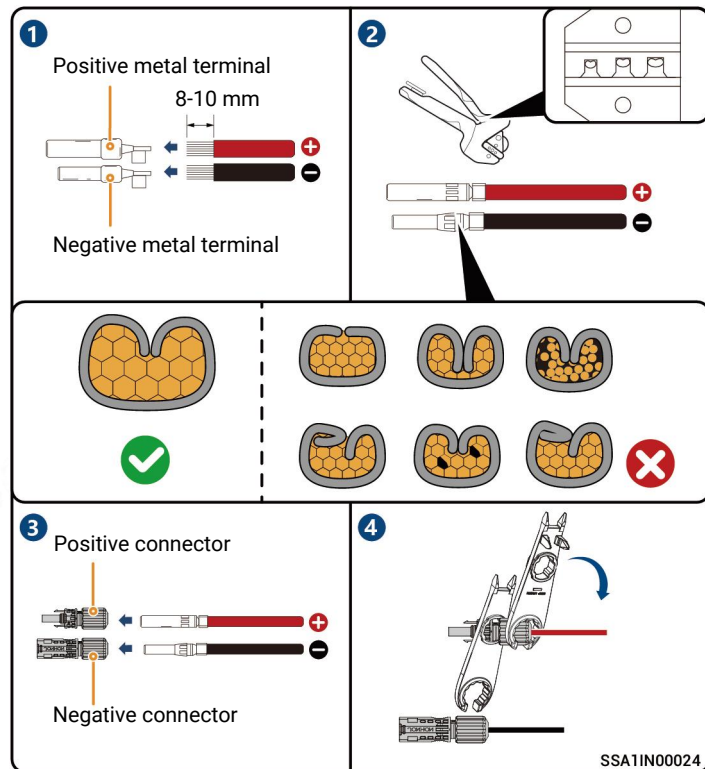


Description	Interface definition	COM terminal of the inverter	Requirement
DRM 0	DI1, digital input 1	5	● When switches S0 and S9 are switched on, the solar inverter should be turned off.
	Signal GND	10	● When switch S0 is switched off, and switch S9 is switched on, the solar inverter should be grid-tied.

5.4 DC input cable of inverter

Tips

- Please make sure that the circuit breaker on the PV side is electrically neutral before connection.
- The DC cable is connected to the inverter from the PV string.



Caution

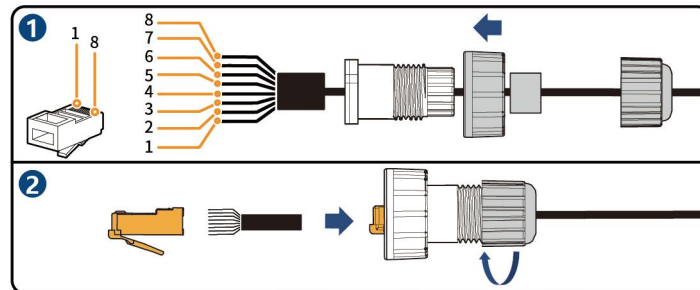
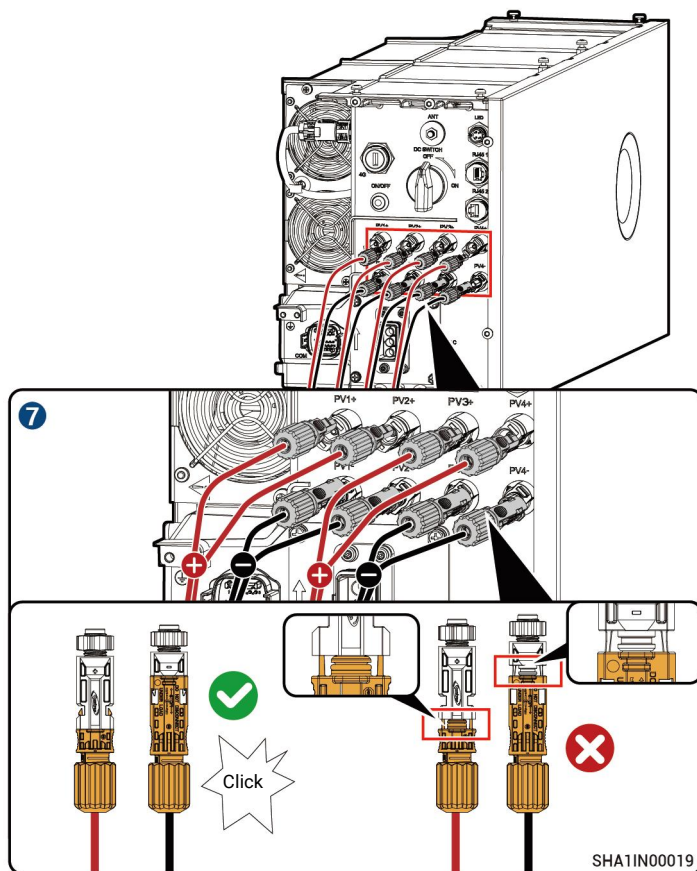
- If the voltage is negative, the polarity is incorrect. Rectify the fault in time.
- Please select the PV strings according to the product specifications listed in the table.

Product model	PV string formation configuration
Signen Hybrid 8.0 SP	connected with 3 channels of strings (PV1+/PV2+/PV3+/PV1-/PV2-/PV3-)
Signen Hybrid (10.0 -12.0) SP	connected with 4 channels of strings (PV1+/PV2+/PV3+/PV4+/PV1-/PV2-/PV3-/PV4-)

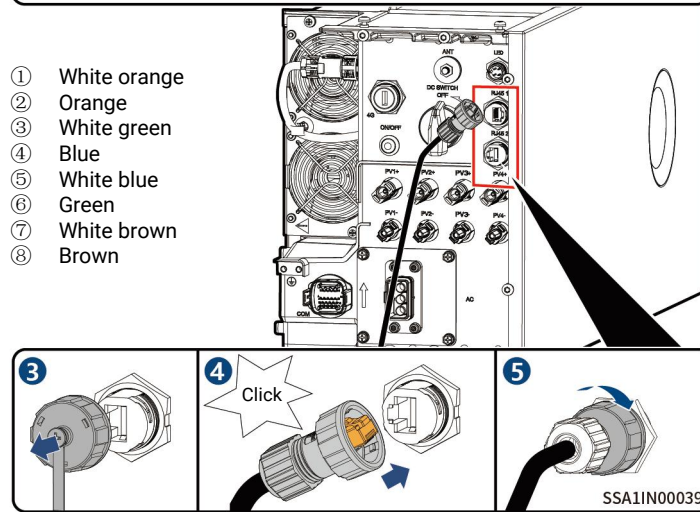
5.5 RJ45 Cable of inverter

Tips

- RJ45 cables are EIA/TIA 568B standard cables.
- Two RJ45 Ethernet ports, one is connected to the router, and the other is connected to other equipment (e.g., inverter, Gateway etc.)



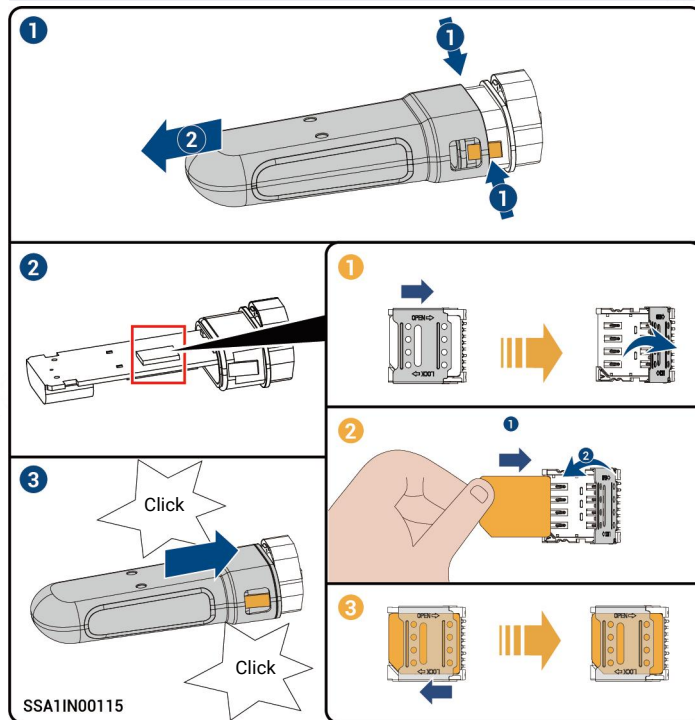
- ① White orange
- ② Orange
- ③ White green
- ④ Blue
- ⑤ White blue
- ⑥ Green
- ⑦ White brown
- ⑧ Brown



5.6 (Optional) Replacing SIM card of Sigen CommMod

Tips

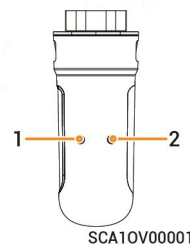
- Skip this step when a single inverter is installed.
- You must replace the SIM card in Sigen CommMod with a SIM card of your country or region when multiple inverters are installed.
Recommended data plan: $\geq 50 \text{ MB/month} \times N$. (Wherein, N is the number of inverters)
- If you hear only one click sound when assembling Sigen CommMod in Step ③, complete the assembly on the other side.



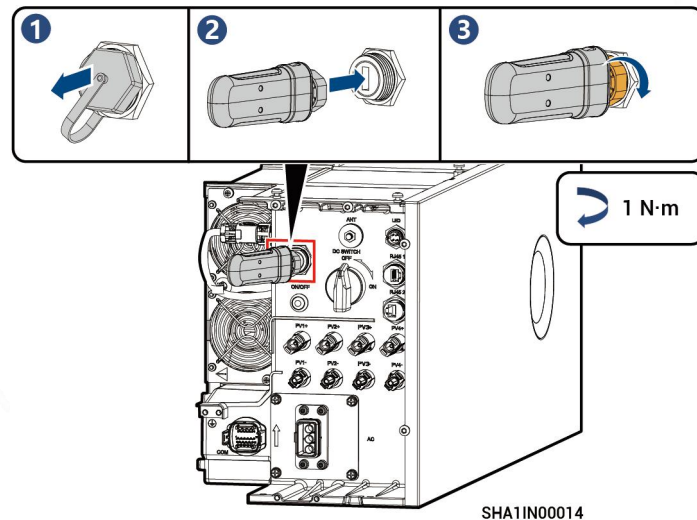
5.7 Sigen CommMod Installation

Tips

Sigen CommMod is required for 4G communication.



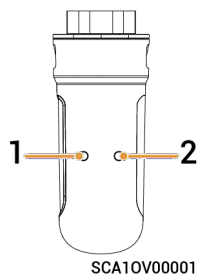
S/N	Indicator	Description
1	Power indicator	—
2	Network state indicator	• Slow flashing(200 ms on/1800 ms off): The network is being connected • Slow flashing(1800 ms on/200 ms off): Standby • Quick flashing(125 ms on/125 ms off): Data is being transferred



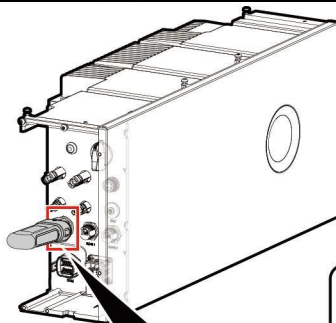
5.6 Sigen CommMod Installation

Tips

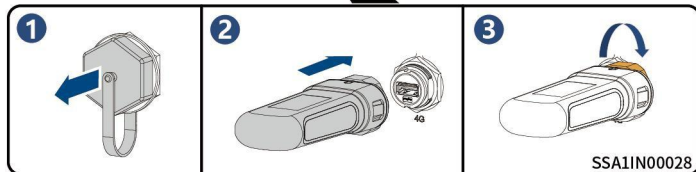
Sigen CommMod is required for 4G communication.



S/N	Indicator	Description
1	Power indicator	-
2	Network state indicator	- Slow flashing (200ms on/1800ms off): The network is being connected - Slow flashing (1800ms on/200ms off): Standby - Quick flashing (125ms on/125ms off): Data is being transferred



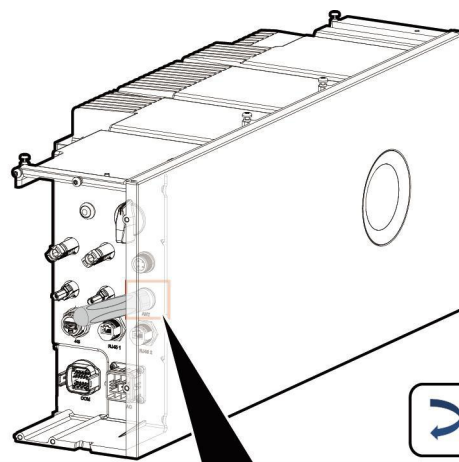
1 N·m



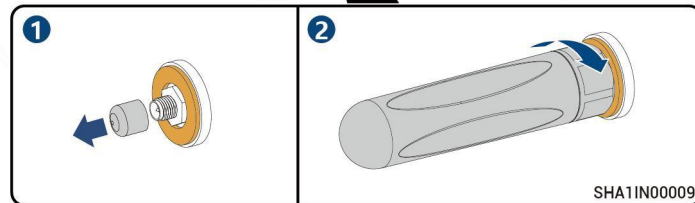
5.7 WLAN antenna stick Installation

Tips

- WLAN communication requires the installation of WLAN antenna stick.
- To ensure good communication, tighten the antenna rod up clockwise. The antenna rod is tightened up when it cannot be easily turned counterclockwise.



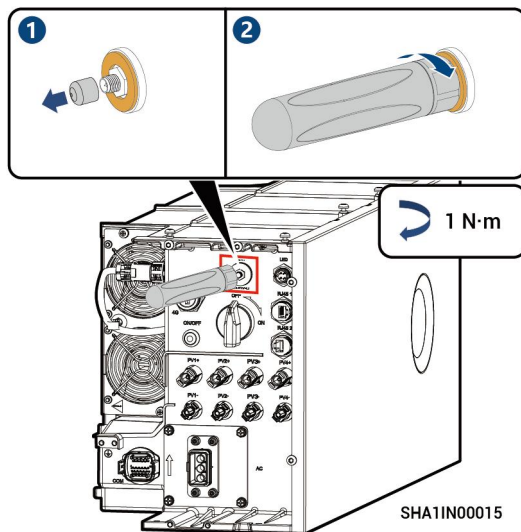
1 N·m



5.8 WLAN antenna stick Installation

Tips

- WLAN communication requires the installation of WLAN antenna stick.
- To ensure good communication, tighten the antenna rod up clockwise. The antenna rod is tightened up when it cannot be easily turned counterclockwise.



5.9 Post-installation Check

S/N	Check Item
1	The equipment has been securely installed.
2	Ground cables, DC cables, signal cables, etc. are installed accurately without leftovers.
3	The cable fastening screws or terminals are properly installed.
4	There are no sharp spikes or acute angles at the cut point of the cable tie.
5	DC SWITCH is in the OFF state.
6	Ports that are not in use have waterproof covers or plugs installed.
7	There is no construction left inside or outside the equipment.

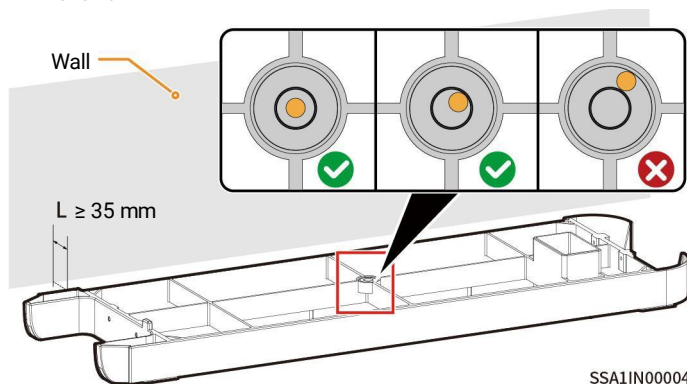
6 Installation of hybrid inverter with battery pack

Tips

- At least two people are required to install the equipment.
- Up to six SigenStor BATs are supported for floor installation and up to two for wall installation.
- When installing three or more SigenStor BATs on the floor, use Lift.
- Multiple SigenStor BATs can be installed onsite based on the actual configuration.
- If the floor is prone to stagnant water, please set up a waterproofing platform or install it on the wall.
- The equipment is heavy, do not slip off when handling the equipment to avoid the equipment falling and injuring the operator.
- SigenStor BAT is forbidden to be used after falling, please buy a new one.
- Do not drag the equipment during installation.

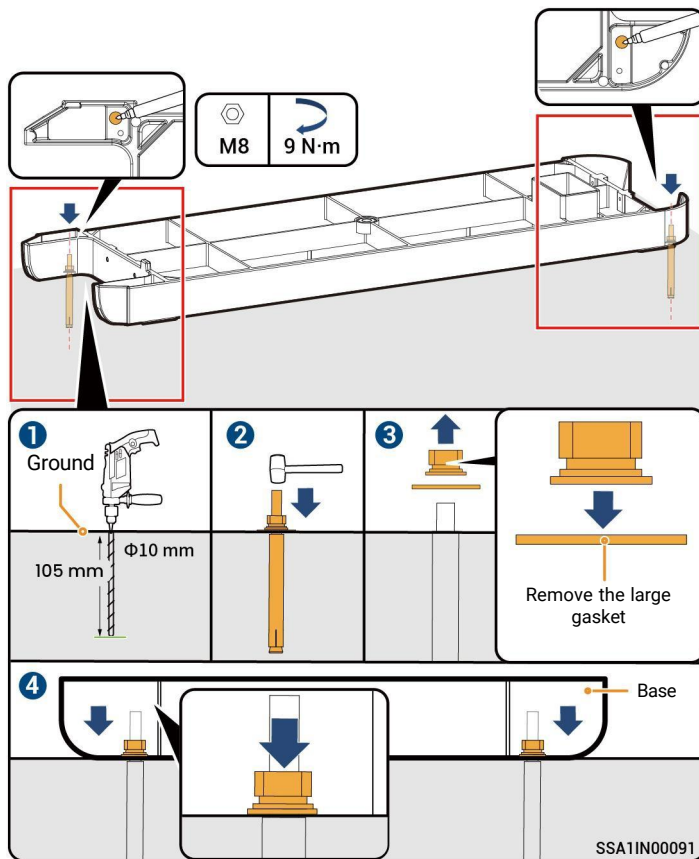
6.1 Floor Installation

- 1** If the horizontal bubble is not centered, use a leveling gasket to level it.

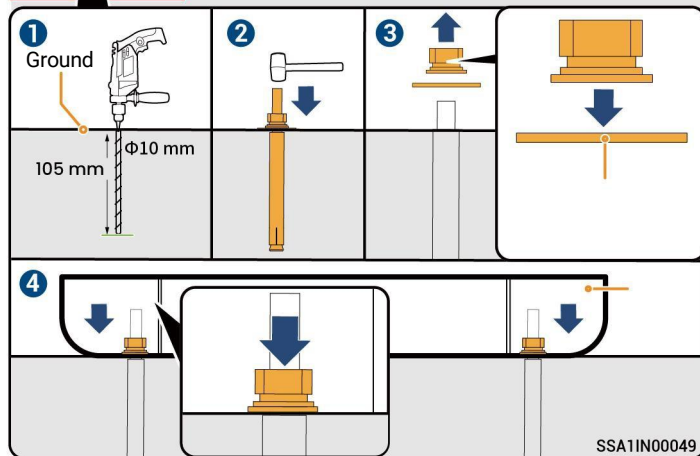
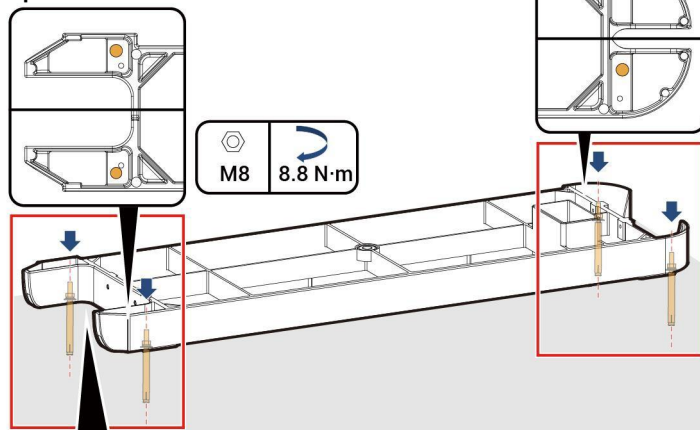


- 2** There are two installation methods for the Base. Please refer to the actual product received for detailed instructions.

Option 1:

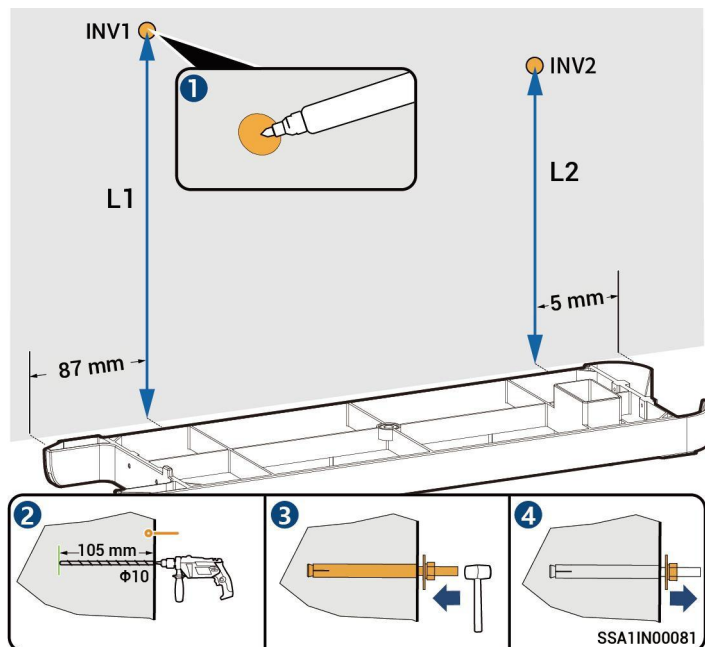


Option 2:

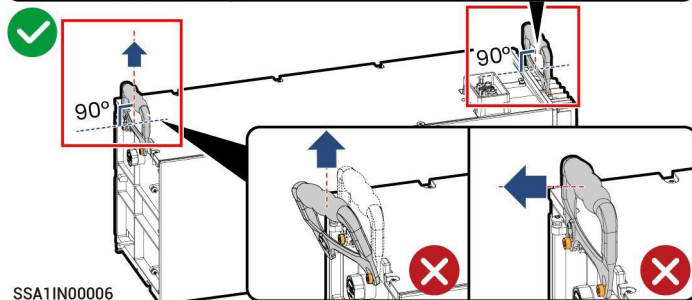
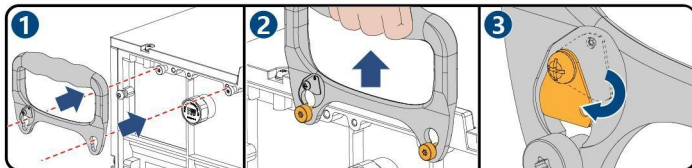


3 INV1 is the hole punching point for the Inverter wall fastener on the left side, and INV2 is the hole punching point for the Inverter wall fastener on the right side.

SigenStor BAT units	L1 length	L2 length
three	1120–1125 mm	1115–1120 mm
four	1390–1395 mm	1385–1390 mm
five	1660–1665 mm	1655–1660 mm
six	1930–1935 mm	1925–1930 mm

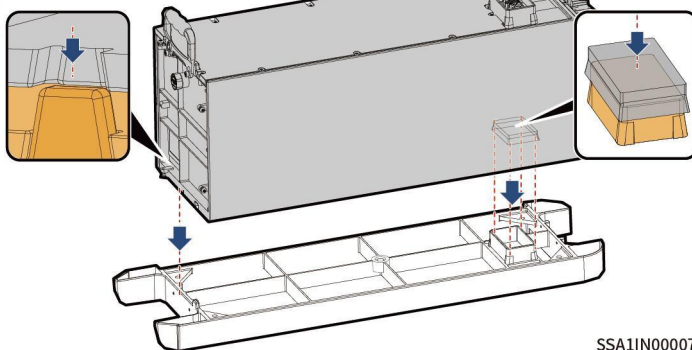


- 4** Before installing the handle, please use a Torque socket wrench to measure the screws and confirm that the screws on Sigen BAT are securely tightened with a torque of 4.5 N·m (± 0.45 N·m).



SSA1IN00006

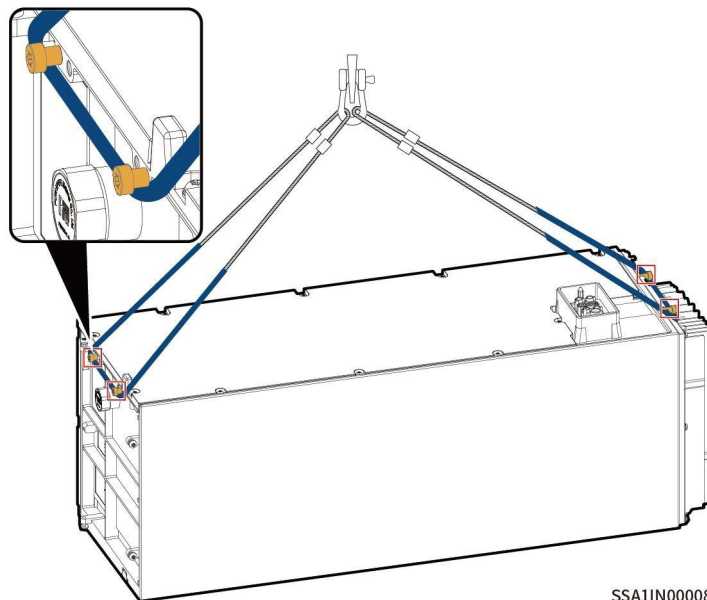
- 5** SigenStor BAT is kept horizontally and mounted vertically downwards.



SSA1IN00007

- 6** For details about how to place the second SigenStor BATs, see Steps **3** **4**.

- 7** If three or more SigenStor BATs are to be installed, use a Lift. For details about the hoisting rope binding scheme, see the figure.



SSA1IN00008

Tips

During lifting operations, the area where the sling comes in contact with the equipment should be wrapped with a protective layer to avoid damage to the equipment.

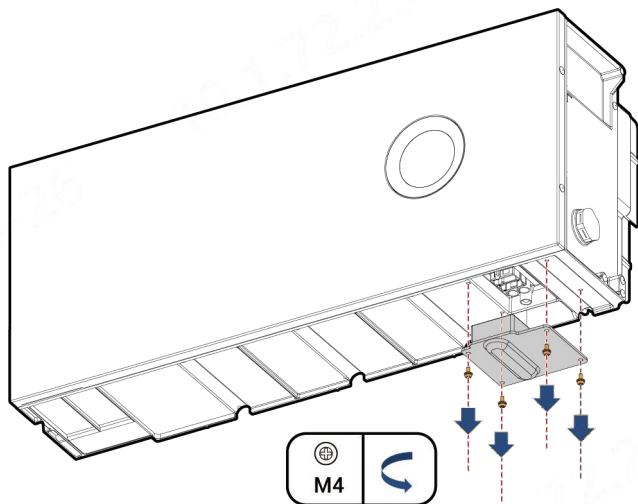
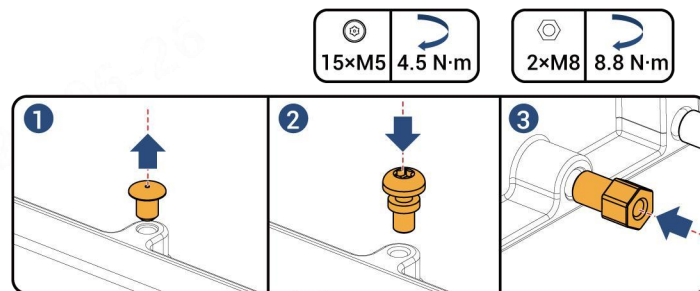
8 Arrange SigenStor EC, SigenStor AC or Sigen Hybrid

Sigen Hybrid

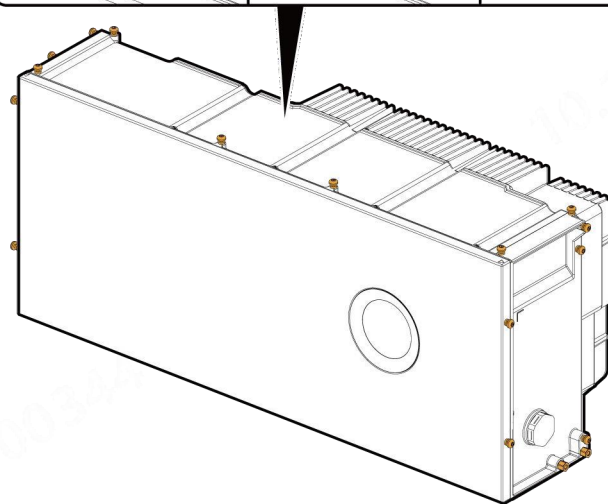
Remove the IP protection cover at the bottom, install the chuck screws of the decorative parts, and arrange them as described in Step 7.

Tips

The chuck screws are packed in the extension package.



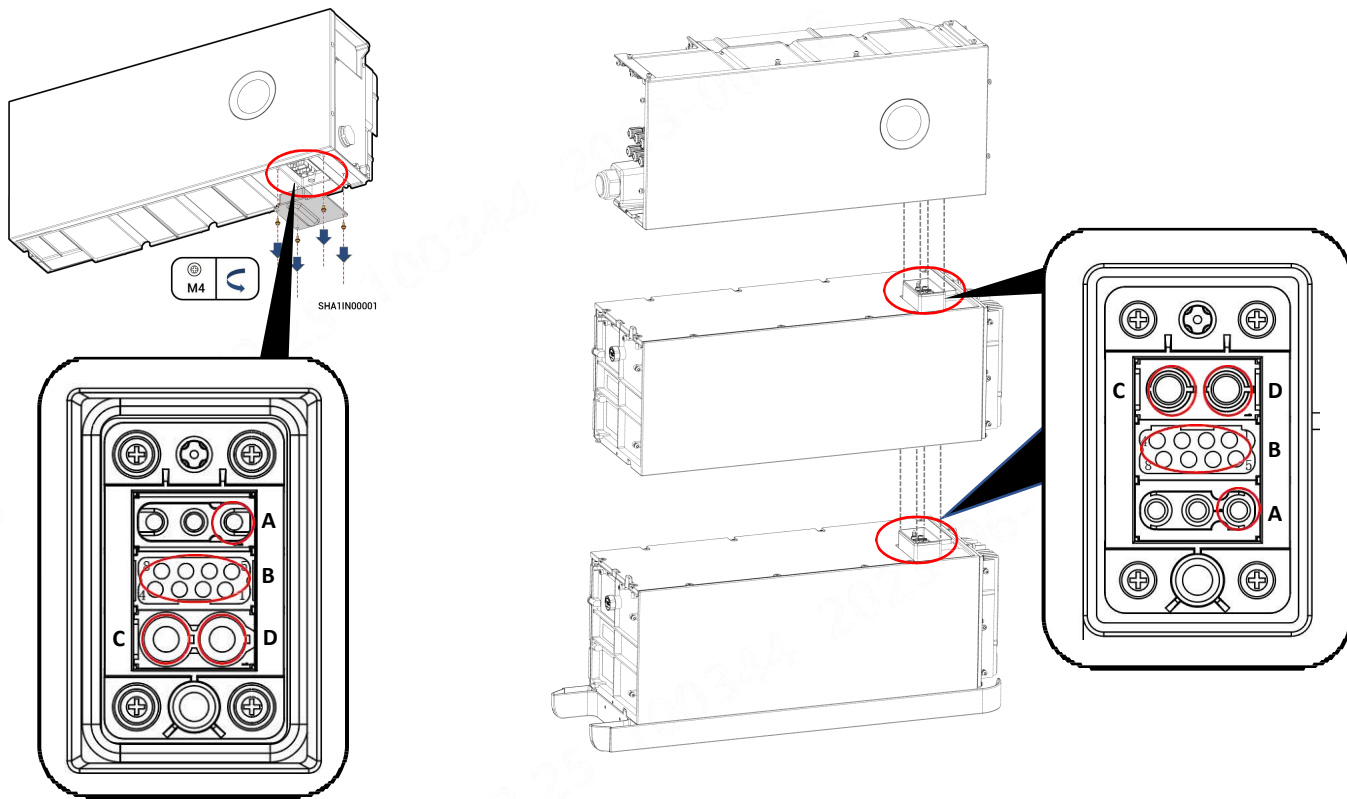
SHA1IN00001



SHA1IN00002

10

The whole system is stacked and installed as the below picture shows, all the connection of electrical and communication between the controller and the battery packs is through the floating terminal, and the terminal description shows how the connection built.



A. PE

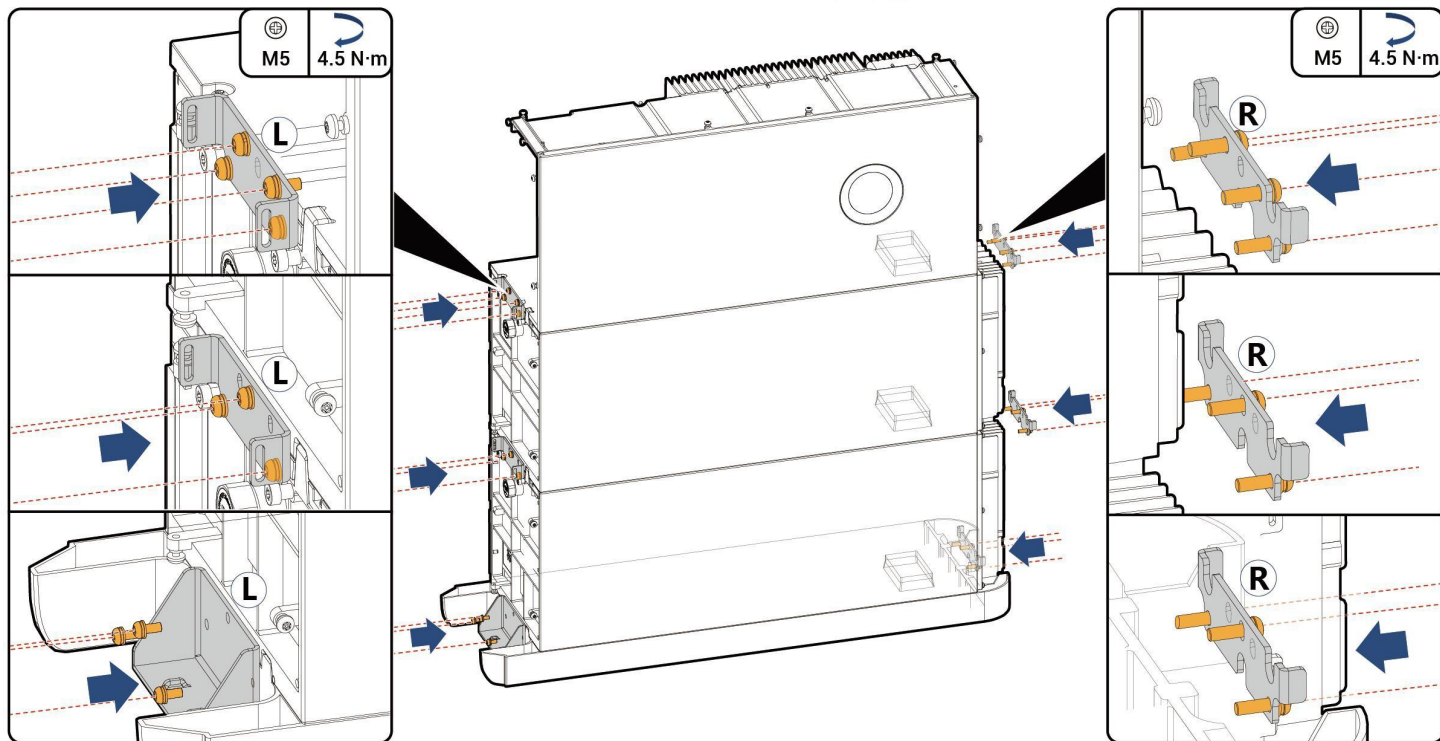
B. Communication

C. Bat+

D. Bat-

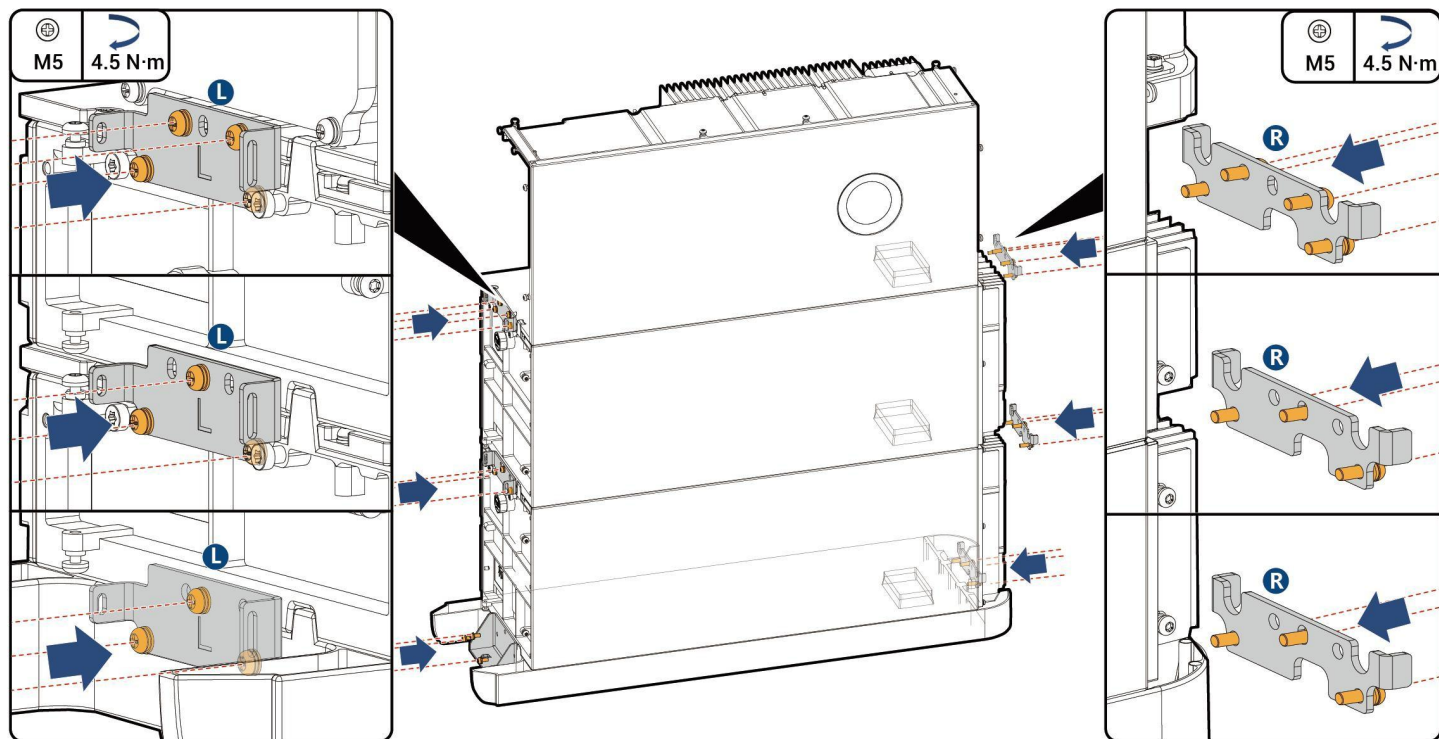
- 11** Base bracket has two versions in terms of appearance. The actual product shall prevail. The installation method for both versions remains the same.

Appearance 1:

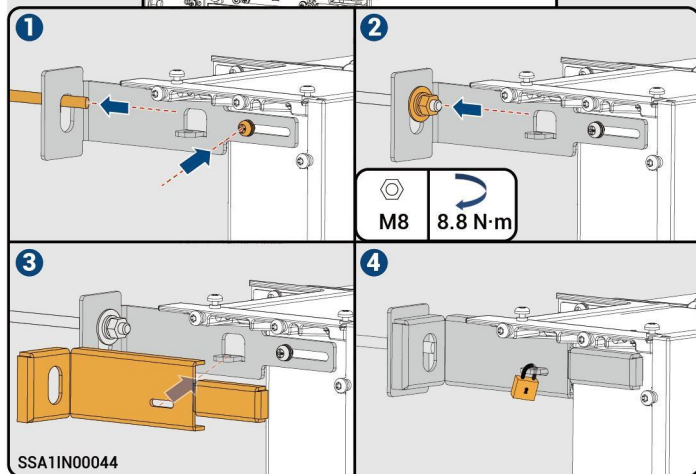
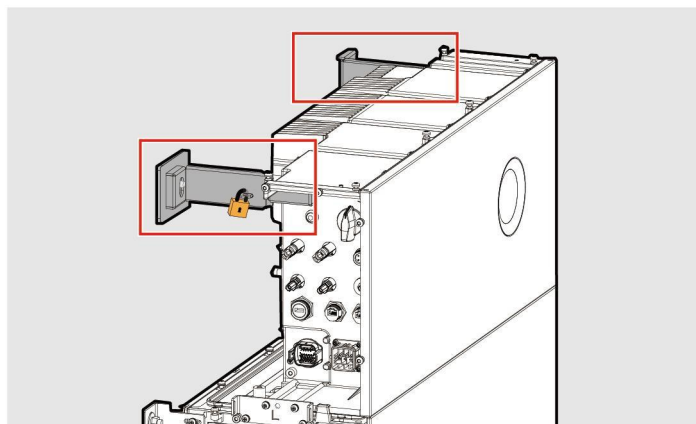


SSA11N00009

Appearance 2:

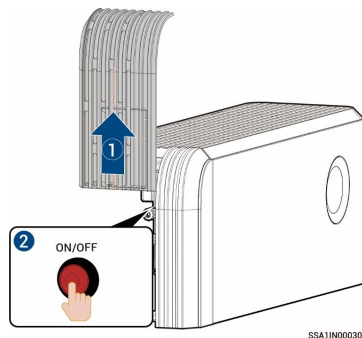


SSA11N00090



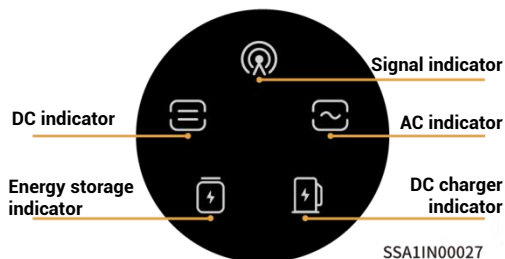
7 Equipment Power-On

1. Turn on the system power switch at the left side of the inverter.
2. Rotate DC SWITCH to ON.
3. Observe the indicators on the front side of the inverter to learn about the equipment status.



Tips

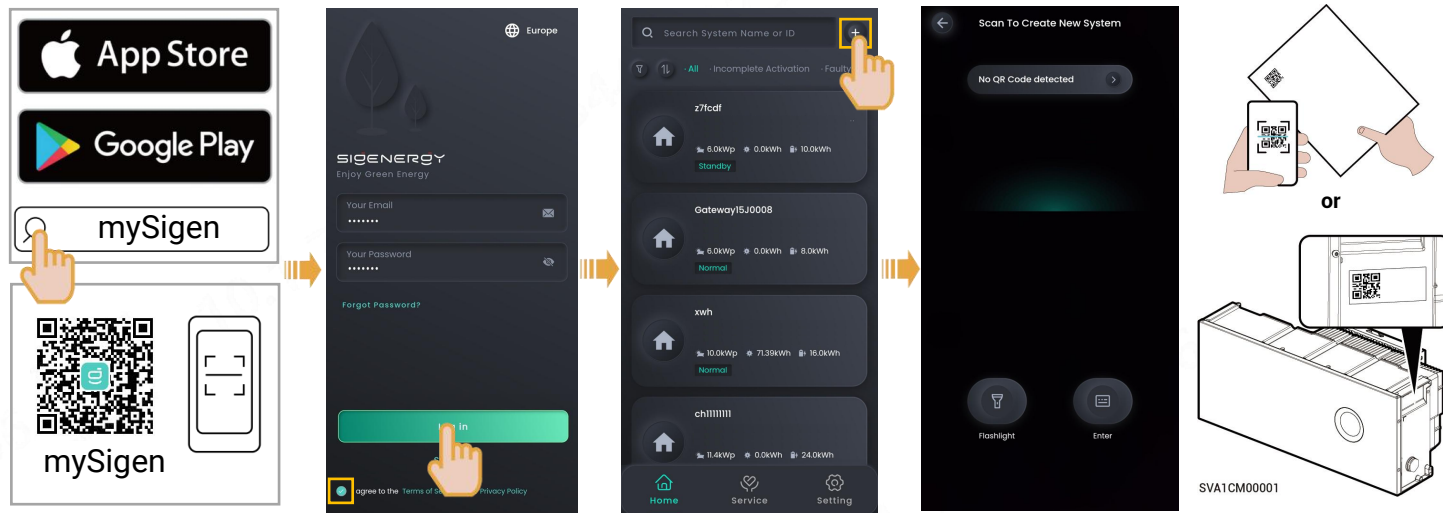
- For turning off the equipment, please refer to the Sigen Hybrid&Sigen Energy Controller (8.0-12.0) SP User Manual clause 6.2.



Indicator	Color	State	Meaning
[Icon: Battery]	White	Always on	The DC side is connected but not running.
	Green	Always on	The DC side is running.
	Grey	-	The DC side is not connected.
	Orange	Flash	The DC side is faulty.
[Icon: Plug]	Red	Always on	The Sigen PV Max is faulty.
	White	Always on	The AC side is connected but not running.
	Green	Always on	Grid-connected operation.
	Blue	Always on	Off-grid operation.
	Grey	-	The AC side is not connected.
	Blue	Flash	Off-grid overload operation.
[Icon: Signal Tower]	Orange	Flash	The AC side is faulty.
	Red	Always on	The inverter is faulty.
	Grey	-	The management system is not connected.
	Green	Flash	Connected to local App.
	Green	Always on	Connected to the management system using an FE or WLAN.
	Blue	Always on	Connected to the management system over 4G.
[Icon: Battery]	Blue	Flash	Insufficient traffic for Sigen CommMod.

8 Download and create new system for mySigen APP

- 1 Please enter the "Partner" → "Register Now" at the Company's official website (<https://www.sigenenergy.com>), and complete the account registration based on facts.
- 2 Download the mySigen App and create new system for the device.



Scan the SN code label on the accompanying box material. If the SN is lost, scan the SN on the side of the inverter.

Tips

The following steps are different when the equipment has already been connected or not connected to the internet (that is, FE and 4G communication fault), as described below.

Already connected to the internet:

The screenshots illustrate the 'Add New System' process in the mySigen app, consisting of five steps:

- Basic:** System Location, Timezone, Total Panel Capacity (kWp), Owner Details (First Name, Last Name, Email).
- Devices:** Sigen pv max (SN:145832897001), Latest Software Version: V100R001C21SPC101B031, Download and install button.
- Parameters:** Grid Code (EN50438-TR), Export Limitation (On), Operational Mode (Sigen AI Mode), Off-Grid (On).
- Check:** System check has been completed! Check Again button. AC-side Cable Connection (Normal), Power Meter Connection (Connected), Network Connection (Ethernet: Connected, WLAN: Failed to connect to hotspot, Cellular: Dongle not inserted).
- Confirm:** Confirm button.

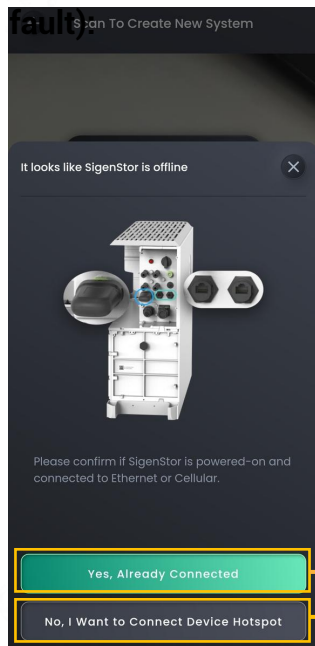
Manually locate the address, set the Timezone, and enter Owner Details.

Perform upgrades where necessary.

You can manually set and modify some function parameters of the power station.

3 Upon completion of the new system creation, the installer shall inform the owner to check its "sigencloud" e-mail within 24 hours and proceed with activating its account.

Not connected to the internet (that is, FE and 4G communication



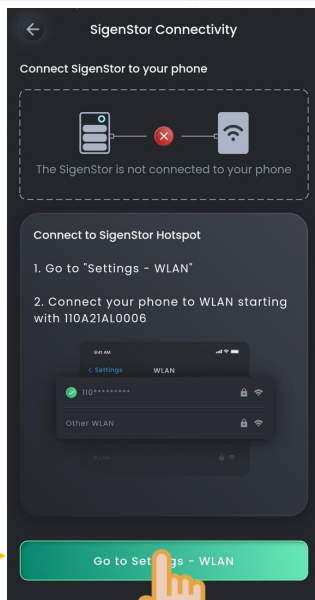
Click this button if the equipment is still not connected to the internet



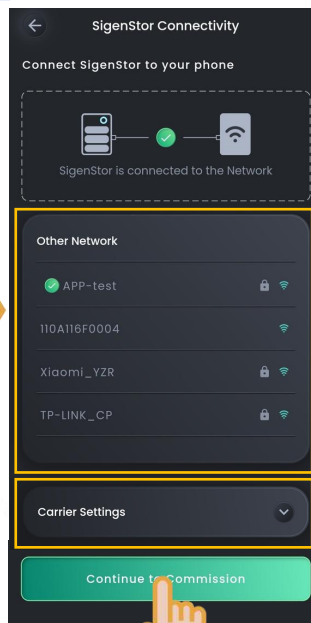
Caution

After create new system, the equipment hotspot is available for 2 hours. Please connect to the hotspot as soon as possible.

If the equipment has already been connected to the internet, click this button and go to the Create New System page and perform operations by referring to the description in the "already connected to the internet" section.



Connect the WLAN hotspot of the equipment. The hotspot is named equipment SN code.



If connected to the WLAN hotspot at the owner's premises or if the SIM card APN is set (the device has a SIM card installed), click "Continue to Commission" to go to the page for creating new systems. You can refer to the description in the "already connected to the internet" section.

If there is no available WLAN hotspot at the owner's premises, or if the device has no SIM card installed, click "Continue to Commission" and follow the on-screen instructions to proceed.

← Add New System

1 2 3 4 5

Basic

System Location

Use your location; mySigen will use location permission to show SigenStor position information.

Timezone

Total Panel Capacity (kWp)

Owner Details

First Name

Last Name

Email

The owner will use this email address as login credentials for the mySigen app. Please remind owner to check their email after the add new system process.

Next

Manually locate the address, set the Timezone, and enter Owner Details.

← Add New System

1 2 3 4 5

Devices

Sigen pv max
SN:145632897001

Download and install

I confirm all the devices have been add to the system.
What to do when devices are not discovered?

Next

Perform upgrades where necessary.

← Add New System

1 2 3 4 5

Parameters

Grid Code
EN50438-TR

Export Limitation

Operational Mode
Sigen AI Mode

Off-Grid

Next

You can manually set and modify some function parameters of the power station.

← Add New System

1 2 3 4 5

Check

System check has been completed!

Check Again

AC-side Cable Connection
Normal

Power Meter Connection
Connected

Network Connection
Ethernet Currently Used
Connected
WLAN Failed to connect to hotspot
Cellular Dongle not inserted

Next

← Add New System

1 2 3 4 5

Confirm

Timezone Europe/Berlin

Export Limitation

Maximum Power of Export Limitation 0kW

Operational Mode Self-Consumption

Backup Capacity 30%

2 Devices

All the devices have been added to the system.

3 Diagnosis

A full diagnosis has been conducted to the system and devices.

Confirm

3 Upon completion of the new system creation, the installer shall inform the owner to check its "sigencloud" e-mail within 24 hours and proceed with activating its account.

Sigenergy Technology Co., Ltd.



Website	LinkedIn	YouTube
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www.sigenergy.com



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