

Sigen LoadHub

Installer Manual

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Revision History

Version	Date	Description
06	2026.09.29	Added Adding Sigen RGM to the System .
05	2026.07.10	Updated Appearance Introduction .
04	2026.05.09	Updated Site Requirements .
03	2025.12.30	Updated Site Requirements .
02	2025.12.29	Updated Powering on the device .
01	2025.09.16	Initial Official Release.

Overview

Introduction

This document provides an introduction to the Sigen Loadhub (hereinafter referred to as LoadHub), covering product overview, equipment installation, cables connection, and power-on operations.

Readers

This document is intended for professionally trained and qualified installation personnel.

Sign Definition

The following icons may be used in the document to indicate safety precautions or key information. Before installation and operation, please be familiar with and master the icons and the corresponding definitions.

Signs	Definition
 Danger	Danger. Failure to comply will result in death or serious personal injury.
 Warning	Warning. Failure to comply will result in serious personal injury or property damage.
 Caution	Caution. Failure to comply will result in property damage.
Tips	Important or key information, and supplementary operation tips.

Chapter 1 Safety Precautions



Caution

- Only personnel who have been trained or possess professional electrical skills are allowed to operate the equipment.
- Operators must be thoroughly familiar with national/regional laws and regulations, standards, as well as the composition and working principles of the relevant systems.
- Before operation, please carefully read the operational requirements and precautions in this document. Equipment damage caused by failure to comply with the requirements will not be covered under the warranty.
- Sigen LoadHub is service-entrance equipment for use only in the United States. This equipment shall be installed in accordance with all applicable local codes, ordinances, and the requirements of the serving utility.

1.1 General Requirements

Before installation, operation, and maintenance of the equipment, familiarize yourself with this document.

The "Caution," "Warning," and "Danger" statements described in this manual are only supplementary precautions to all safety notices.

The Company shall not be liable for device damage or property damage caused by the following reasons:

- The installation environment does not comply with relevant international, national, or regional standards.
- Failure to comply with local laws and regulations during the transportation, installation, operation, and maintenance of the device.
- The installation area does not meet the requirements of the device.
- Cables, tools, and other materials used do not comply with relevant international, national, or regional standards.
- Damage caused by storage conditions that do not meet the requirements of the device.
- Failure to operate according to the instructions and precautions in the manual.
- Failure to handle the device with care or violent installation may result in device damage and pose a risk of fire or explosion hazards.
- Failure to follow the operational requirements indicated on warning labels on the device or tools.
- Negligence, improper operation, or deliberate damage.
- Damage caused by changes in the intended scenarios for the device on the customer or third-party company's side.
- Device damage caused by failure to use the accessories supplied with the packing box or purchase and use accessories of the same specification on the customer or a third-party company side.

- Device damage caused by unauthorized disassembly or replacement of the device or modification of software code, or other improper operations.
- Device damage caused by force majeure (such as war, earthquake, fire, storms, lightning, floods, and debris flow).
- Damage caused by the failure of the natural environment or external power parameters to meet the standard requirements for the normal operation of the device. For example, the actual operating temperature of the device is too high or too low.
- The device is stolen.
- The device is damaged after the warranty period expires.

1.2 Personnel Requirements

Personnel responsible for installation and maintenance of the equipment must be properly trained, be familiar with local laws, regulations, and relevant standards, understand the composition and working principles of the power generation system, be aware of all safety precautions, master the established operation procedures, and hold the qualifications required by local authorities.

1.3 Handling and Transportation Requirements

- Wear personal protective equipment such as protective gloves and safety shoes while handling the device.
- Select an appropriate handling method according to the device weight.
- When handling the device, always follow the package orientation marking. Do not tilt or place the device upside down.
- The tilt angle of the device with packaging must be less than or equal to 15°. After the device is unpacked, its tilt angle must be less than or equal to 10°. Take into account the heights of persons assigned to handle the device to ensure that the device is handled stably.
- Lift or move the device slowly to avoid personal injury.
- When using a forklift, position the forks so that the center of gravity of the device is aligned and secure the device as needed. Designate a person to keep an eye on the handling. Do not stand under the forks.
- Place the equipment according to the stack requirement indicated on the packaging.
- Ensure the equipment is placed on a flat and stable surface and do not tilt or place the equipment upside down.
- Transport the device with proper protective measures to avoid exposure to rain or water.

1.4 Storage Requirements

- The storage location must comply with local laws and regulations.
- Do not store the device without packaging.
- Do not expose the device to direct sunlight, humidity, condensation, dirt, rain, or a flammable, explosive, or corrosive environment.
- Take measures to prevent pests and rodents in the storage area.
- Store the equipment according to the storage requirements indicated on the packaging.
- Regularly record the temperature, humidity, and other conditions of the storage environment during the storage period.
 - Storage temperature: -40 °F to 158 °F (-40°C to 70°C) (Recommended: 68 °F to 86 °F (20°C to 30°C))
 - Relative humidity: 0% RH to 95% RH.
- Follow the First-in First-out (FIFO) principle for shipment.

1.5 Operational Requirements

1.5.1 General Requirements

Danger

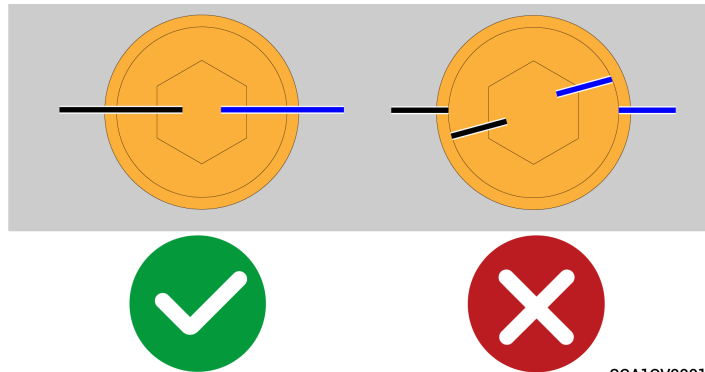
High Voltage and Hazards:

- Do not perform operations on the device with power on (including but not limited to installation, wiring, replacement). Before operation, please make sure all power supplies to the device have been disconnected, including but not limited to the grid side, inverter, and diesel generator power switches.
- Do not operate the device in bad weather conditions, including but not limited to lightning, rain, snow, or typhoon.
- Do not clean or soak the device with water, alcohol, oil, or other liquids to avoid leakage current and electrical shock.
- Do not impact, drag, or step on the device.
- Before operating the device, check whether the device is damaged. Do not perform any operations on the equipment in case of any abnormalities such as appearance deformation or odor.
- Wear personal protective equipment such as insulating gloves, insulating shoes, and safety hats while operating the device. Do not wear conductive accessories such as metal bracelets, rings, or necklaces.
- Use insulated tools when installing or wiring.
- Device that must be grounded is permanently connected to the PGND. Connect the PGND in the first step before connecting cables, and when replacing a device, remove the PGND in the last step.
- Measure the voltage of the contact before touching a terminal to avoid the risk of electric shock.
- Prevent foreign objects from falling into the equipment while operating the equipment.
- Touch up paint scratches on the surface of the device.

1.5.2 Equipment Installation

Warning

- Before installing the equipment, check whether the factory-installed screws are tightened. Before leaving the factory, tightened screws are marked with alignment lines. If the marks are misaligned, it indicates loose screws that require retightening.



SGA10V00019

- When moving equipment, ensure proper load-bearing preparation to prevent slipping and avoid impact injuries.

Ladder Safety

- Unauthorized personnel without training or guidance are prohibited from using ladders.
- The use of non-compliant ladders (including but not limited to damaged, broken, deformed, or makeshift ladders) is strictly prohibited.
- Ladders that do not meet load-bearing requirements are forbidden for use.
- When performing potential electrical work at heights, use wooden or fiberglass ladders.
- When using straight ladders, maintain an inclination angle between 60° to 70°.
- High-altitude object throwing is prohibited during ladder operations.
- When working on a ladder, it is recommended to have someone supervise.
- When using a ladder at a passage doorway, the door must be locked.

Drilling safety

- Drilling on equipment is prohibited.
- Safety goggles and protective gloves should be worn when drilling.
- During drilling, do not place equipment around the drilling area to prevent debris from falling into the equipment.
- Clean up promptly after drilling.

1.5.3 Cable Connection



Danger

- Before connecting cables, ensure that the device is not damaged.
- Before connecting or removing cables, ensure that the upstream and downstream switches of the device and the switches on the device are turned off.

- Do not intertwine cables or route cables across each other. It is recommended that cables be bundled by category.
- Do not use cables with damaged insulation. No sharp edges or burrs are allowed in cable holes.
- Keep cables away from the heat source to prevent cable aging at high-temperatures.
- The lower the ambient temperature is, the more brittle the cable plastic sheath becomes. To prevent sheath cracking during installation, install cables at temperatures above 32°F(0°C) and handle them with caution. If cables have been stored in an environment below 32°F(0°C) for an extended period of time, move cables to an environment above 32°F(0°C) for at least 24 hours before using them.

1.5.4 Equipment Maintenance and Replacement

Before maintaining or replacing the equipment, power it off and wait for the delay time as indicated on its label. Power on and put the equipment back into operation only if troubleshooting or replacement is completed.

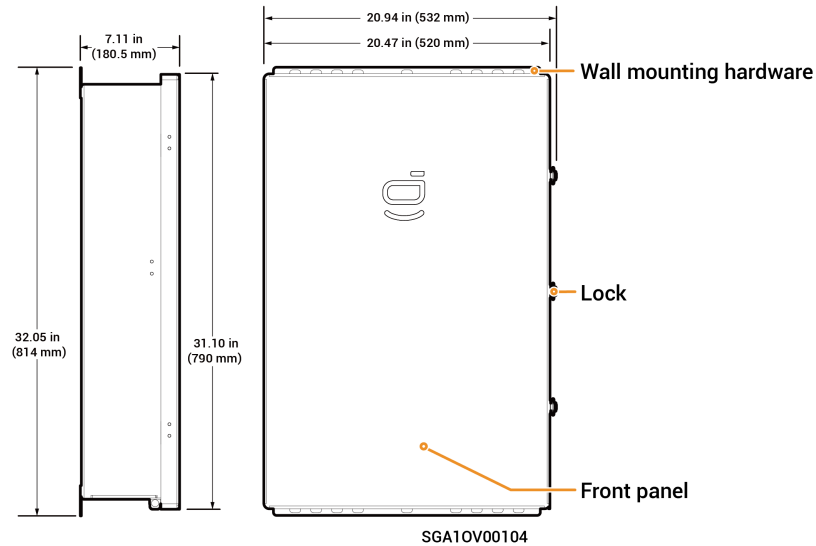
1.6 Certification Standards

U.S. Electrical Law

A unit provided with a fixed ac output shall inform the installer that the input and output circuits are isolated from the enclosure and that system grounding, when required by Sections 690.41, 690.42, and 690.43 of the National Electric Code, ANSI/NFPA 70, is the responsibility of the installer. The installation instructions should indicate that the National Electrical Code, ANSI/NFPA 70 wiring methods to be used.

Chapter 2 Appearance Introduction

Appearance and Dimensions



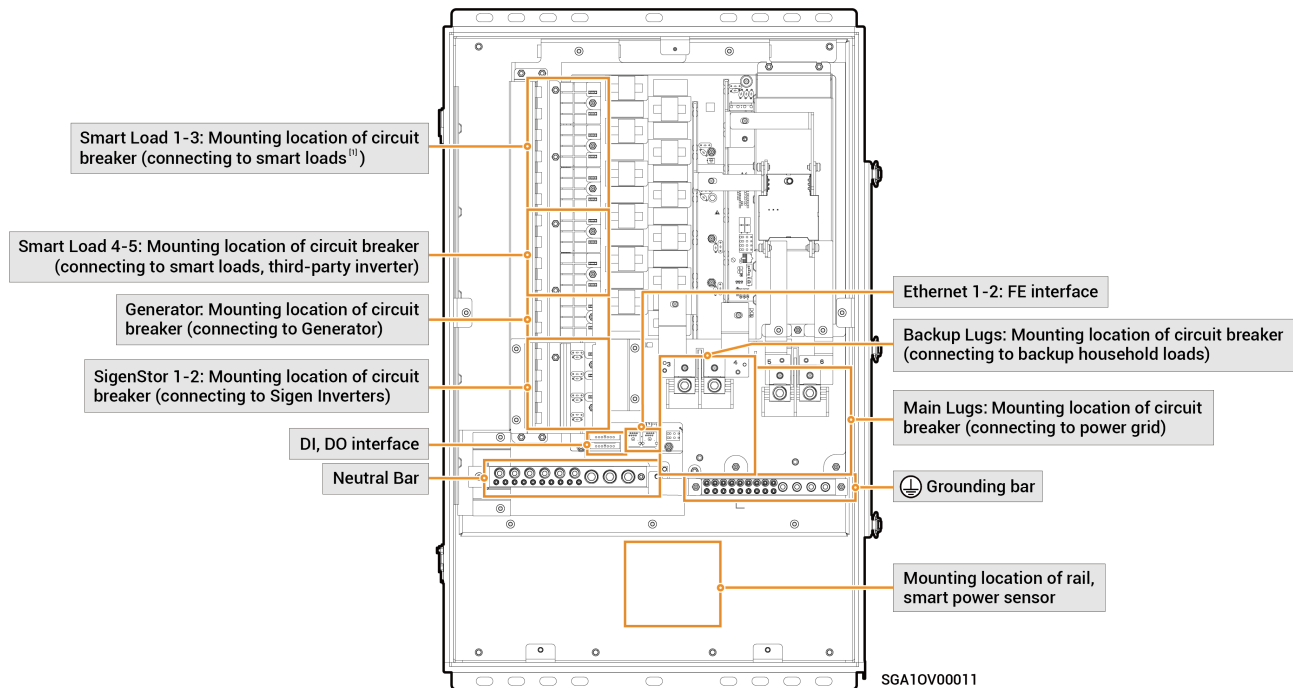
Port Description



Caution

Please refer to [Circuit Breaker Fastener Disassembly](#).

- If you receive the Appearance 1 circuit breaker fastener, only circuit breakers intended for smart loads can be installed at the Smart Load 4-5 marked position..
- If you receive the Appearance 2 circuit breaker fastener, circuit breakers for smart loads or third-party inverters can be installed at the Smart Load 4-5 marked position.

Fig 2-1 Interior view


Note [1]:

- All the power equipments in the owner's home can be connected as smart loads.
- To ensure that this product maximizes the benefits to users, it is recommended that the high-power equipment be connected as smart loads (heat pumps, pool heaters, clothes dryers, immersion heaters, etc.), which can be cut off when the energy storage system has low power. Other low-power equipment are connected as household loads (lights, routers, etc.)

Chapter 3 Site Requirements

Tips

- The equipment can be installed indoors and outdoors, for outdoor installation, waterproof measures must be properly implemented. Install the equipment in strict accordance with installation instructions given in this section and local laws and regulations.
- Before installing the equipment, be sure to read the following installation requirements carefully. The company will not bear any responsibility if the equipment malfunctions, is damaged, or even causes a personal safety accident during operation due to failure to operate as required.
- During actual installation, the selection of the mounting location should meet local fire protection, environmental protection, and other regulations, as well as local low-voltage power distribution room technical specifications. The specific mounting location planning shall be subject to the installer or EPC.

Installation Environment

- Do not install the equipment in a smoky, flammable, or explosive environment.
- Avoid exposing the equipment to direct sunlight, rain, standing water, snow, or dust. It is suggested to 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.
- The temperature and humidity of the installation environment should meet equipment requirements.
- The equipment should be installed in an area that is at least 1640.42 ft (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.
- In areas with good marine environments (such as Norway, where the nearshore salinity is ≤ 28 psu), the mounting distance of the device from the coastline can be appropriately relaxed to ≥ 656.17 ft (200 m).
- If the outer surface of the device is damaged, please repaint the device in time.

Installation Location

- Do not tilt the equipment or place it upside down. Ensure that the equipment is horizontally installed.
- Do not install the equipment in areas easily accessible to children.
- Do not install the equipment in a place with fire hazards or is prone to moisturizing.
- The equipment produces sound when it is operating. Please install the equipment in a place with appropriate distance at which there is no impact to daily work and life.
- Do not install the equipment in a sealed, poorly ventilated location without fire protection measures and inaccessible for firefighters.

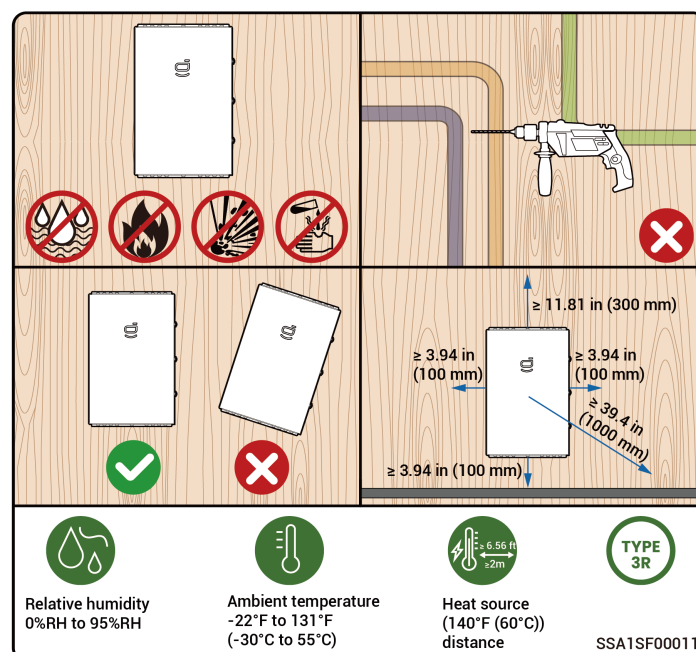
- The equipment is hot when it is operating. If the equipment is installed indoors, please ensure good indoor ventilation and avoid significant indoor temperature rise by more than 37.4 °F (3°C) while the equipment is operating. Otherwise, the equipment will be derated.
- Do not install the equipment in mobile scenarios such as recreational vehicles, cruise ships, and trains.
- It is recommended to install the equipment in a location where you can easily access, install, operate, and maintain it, and view the indicator status.
- Do not place the equipment in the vehicle passage when installed in a garage to avoid collisions.

Mounting surface

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

Tips

To ensure optimal performance of the loadhub, it is suggested that the installation distance between the loadhub and surrounding obstacles be planned with reference to the diagram. If the installation site is well-ventilated, the optimal solution may be deployed based on actual conditions.



Chapter 4 Pre-installation Inspection

Appearance and Packed Components

- Please check that the outer packaging is intact without damage (including labels, etc.), and verify the model number. If any abnormalities are found, do not unpack and promptly contact your sales agent.

Tips

During the unpacking process, please handle with care to avoid damaging the equipment. Damage caused by human factors (such as stepping on or dragging the equipment) is not covered by our company's warranty.

- According to the enclosed "Packing List," verify whether all packed components are complete and in good condition. If any abnormalities are found, promptly contact your sales agent.
- All packed components are the personal property of the owner and must not be removed from the installation site after installation.
- Check the user-provided cables to ensure the quantity and specifications are correct. If incorrect, please prepare them again.
- Check if the factory-installed screws are tight. Before delivery, the tightened screws are marked with lines. If the marks are misaligned, the screws are loose. Tighten the screws again.

Personal Protective Equipment

Check the personal protective equipment to ensure it is complete. If incomplete, please replenish it.



Insulating Gloves



protective gloves



insulated shoes



safety helmet

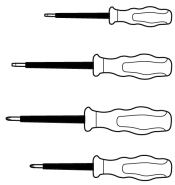


safety goggles

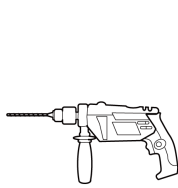


dust mask

User-provided installation and wiring tools



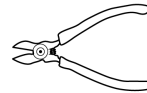
Insulation
screwdriver set



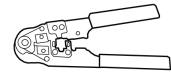
Power drill



vacuum cleaner



wire cutter



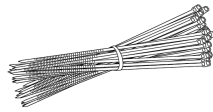
Network cable pliers



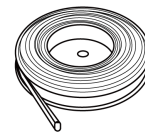
Wire stripper



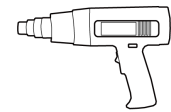
Scissors



Cable tie



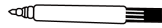
Heat shrinkable
sleeve



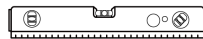
Heat gun



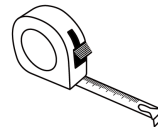
Torque socket
wrench



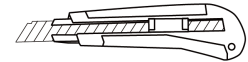
Marker



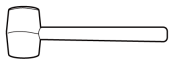
Level



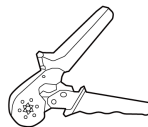
Tape measure



Utility knife



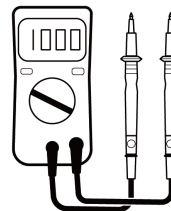
Rubber mallet



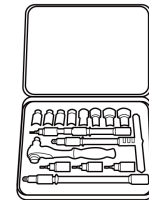
Cold terminal
crimping pliers



Hex torque
adjustable wrench



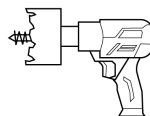
Multimeter



Insulation sleeve set



Crimping pliers



Hole drill (Diameter: ≤ 2 in (50.80 mm))

4.1 Model Recommendations of Self-supplied Circuit Breakers, Sigen RGM)

Caution

- Self-supplied circuit breakers, smart power sensor shall comply with circuit breaker regulations and standards of your country/region.
- Eaton BW and BR series circuit breakers must be selected when purchasing. For details, see the table below.

Breaker (Connecting to grid/backup household loads)

S/N	Model	Current	Description
1	BW2100	100A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 100A, 120/208V, 120/240V
2	BW2125	125A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 125A, 120/208V, 120/240V
3	BW2150	150A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 150A, 120/208V, 120/240V
4	BW2175	175A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 175A, 120/208V, 120/240V
5	BW2200	200A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 200A, 120/208V, 120/240V

Breaker (Connecting to Sigen Inverters)

S/N	Model	Current	Description
1	BR260	60A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 60A, 120/208V, 120/240V

Breaker (Connecting generator/smart loads/third-party inverters)

Tips

Please refer to [Circuit Breaker Fastener Disassembly](#).

- If you receive the Appearance 1 circuit breaker fastener, you do not need to prepare circuit breakers for connecting to third-party inverters.
- If you receive the Appearance 2 circuit breaker fastener, you may optionally prepare circuit breakers for connecting to third-party inverters.

S/N	Model	Current	Description
1	BR115	15A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 15A, 120/208V, 120/240V
2	BR120	20A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 20A, 120/208V, 120/240V
3	BR130	30A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 30A, 120/208V, 120/240V
4	BR140	40A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 40A, 120/208V, 120/240V
5	BR150	50A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 50A, 120/208V, 120/240V

S/N	Model	Current	Description
6	BR160	60A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 60A, 120/208V, 120/240V
7	BR170	70A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 70A, 120/208V, 120/240V
8	BR180	80A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 80A, 120/208V, 120/240V
9	BR215	15A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 15A, 120/208V, 120/240V
10	BR220	20A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 20A, 120/208V, 120/240V
11	BR230	30A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 30A, 120/208V, 120/240V
12	BR240	40A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 40A, 120/208V, 120/240V
13	BR250	50A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 50A, 120/208V, 120/240V
14	BR260	60A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 60A, 120/208V, 120/240V
15	BR270	70A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 70A, 120/208V, 120/240V
16	BR280	80A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 80A, 120/208V, 120/240V

Sigen RGM

Recommended model of Self-supplied Sigen RGM: Sigen Power Sensor SP CT250 US (DTSU666).

4.2 Recommended Specifications for Self-provided Cables

Self-provided Cables

Caution

- The specification of installer-provided cables shall meet the cable laws and standards of the countries/regions.
- This section provides only the range of wire diameter. For details about wire specifications, please refer to the marking on the circuit breaker you purchased.
- L1, L2, N and PE should be connected to other equipment in sequence without mixing.

No.	Cable Name		Recommended Specifications
1	AC Cable	Connected to power grid/backup household loads	Outdoor copper flexible cable Cross-sectional area of core conductor (100–200 A Breaker): 2/0 AWG–250 MCM (67.43–126.68 mm ²)
2		Connected to Sigen Inverter/third-party inverter	Outdoor copper flexible cable Cross-sectional area of core conductor (60 A Breaker): 8–1/0 AWG (3.26–53.49 mm ²)
3		Connect to generator (optional)/smart load	Outdoor copper flexible cable Cross-sectional area of core conductor: • 15–60 A Breaker: 6–4 AWG (13.30–21.15 mm²) • 70–80 A Breaker: 4–2 AWG (21.15–33.63 mm²)
4		Connected to smart power sensor (optional)	Multi-core outdoor copper cable Conductor Cross-sectional Area Range: 16–14 AWG (1.5–2.5 mm ²), Outer Diameter: 0.12–0.20 in (3–5 mm)
5	RJ45 network cable		Outdoor eight-conductor shielded twin-twisted pair cable • Cross-sectional area of core conductor: 26–24 AWG (0.13–0.20 mm²) • Outer diameter: 0.16–0.30 in (4–7.5 mm) • Cable length: ≤ 328.08 ft (100 m) ^[1] RJ45 network cables are EIA/TIA 568B standard cable.
6	RS485 cable		Two core outdoor shielded twisted pair cable • Conductor Cross-sectional Area Range: 24–18 AWG (0.25–1.00 mm²) • Outer Diameter: 0.16–0.43 in (4–11 mm)
7	DI/DO signal cable		Outdoor two-conductor shielded cable • Cross-sectional area of core conductor: 15–12 AWG (1.65–3.31 mm²) • Outer diameter: 0.07–0.16 in (1.78–4.06 mm)

Note [1]: The cable length should be limited for good communication. Too long cable degrades the communication effect.

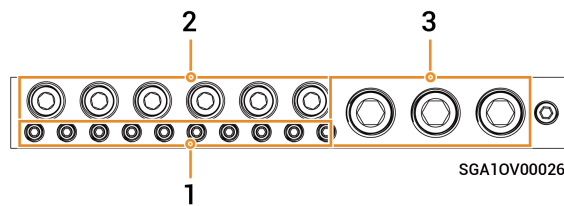
4.3 Recommendations for Connection Tools

Circuit breaker connection tool

Tips

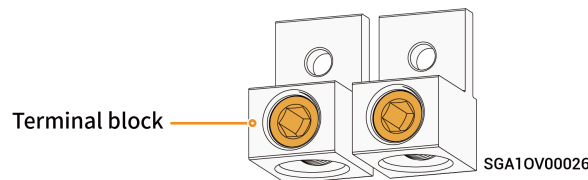
For details about the tool model and torque, see the marking on the circuit breaker you purchased.

N busbar connection tool



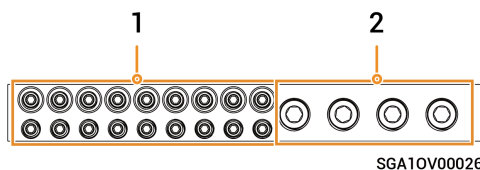
No.	Screw Specification	Connection Tool	Wire Specification	Torque
1	1/4-28 UNF	1/8" hex key	6-4 AWG (13.30-21.15 mm ²)	26 lb.in (2.94 N·m)
2	7/16-20 UNF	3/16" hex key	4-2 AWG (21.15-33.63 mm ²)	110 lb.in (12.43 N·m)
3	5/8-18 UNF	5/16" hex key	2/0 AWG to 250 MCM (67.43-126.68 mm ²)	275 lb.in (31.07 N·m)

Terminal connection tools



No.	Circuit Breaker Specification	Connection Tool	Wire Specification	Torque
1	Terminal block	5/16" hex key	4-2/0 AWG (21.15-67.43 mm ²)	110 lb.in (12.43 N·m)
			3/0 AWG to 250 MCM (85.03-126.68 mm ²)	275 lb.in (31.07 N·m)

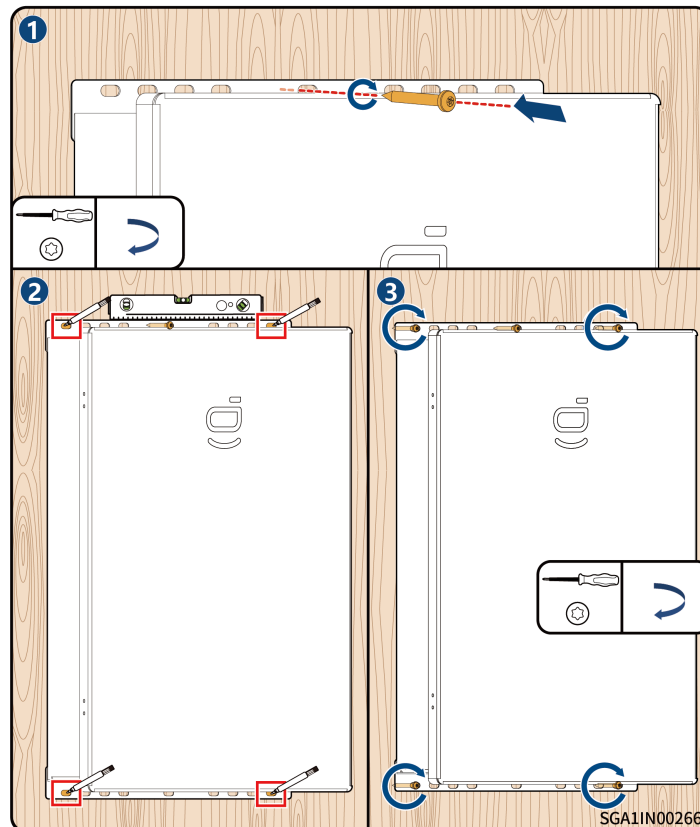
Grounding bar wiring tools



No.	Screw Specification	Connection Tool	Wire Specification	Torque
1	1/4-28 UNF	1/8" hex key	14-4 AWG (2.08-21.15 mm ²)	26 lb.in (2.93 N·m)
2	7/16-20 UNF	3/16" hex key	14-4 AWG (2.08-21.15 mm ²)	35 lb.in (3.95 N·m)
			3-2/0 AWG (26.67-67.43 mm ²)	110 lb.in (12.43 N·m)

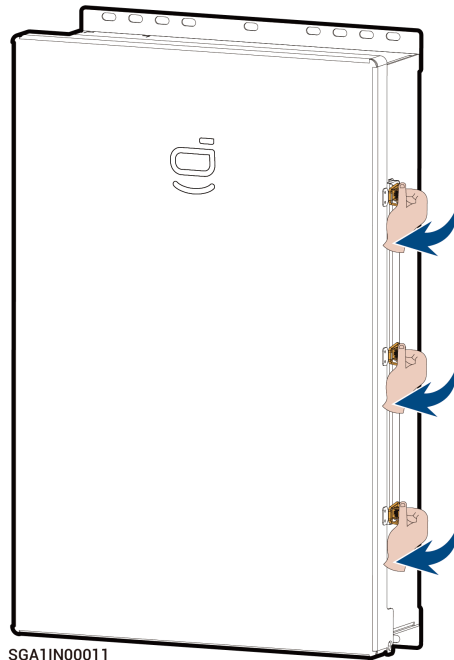
Chapter 5 Equipment and Component Installation

5.1 Wall-mounted equipment installation

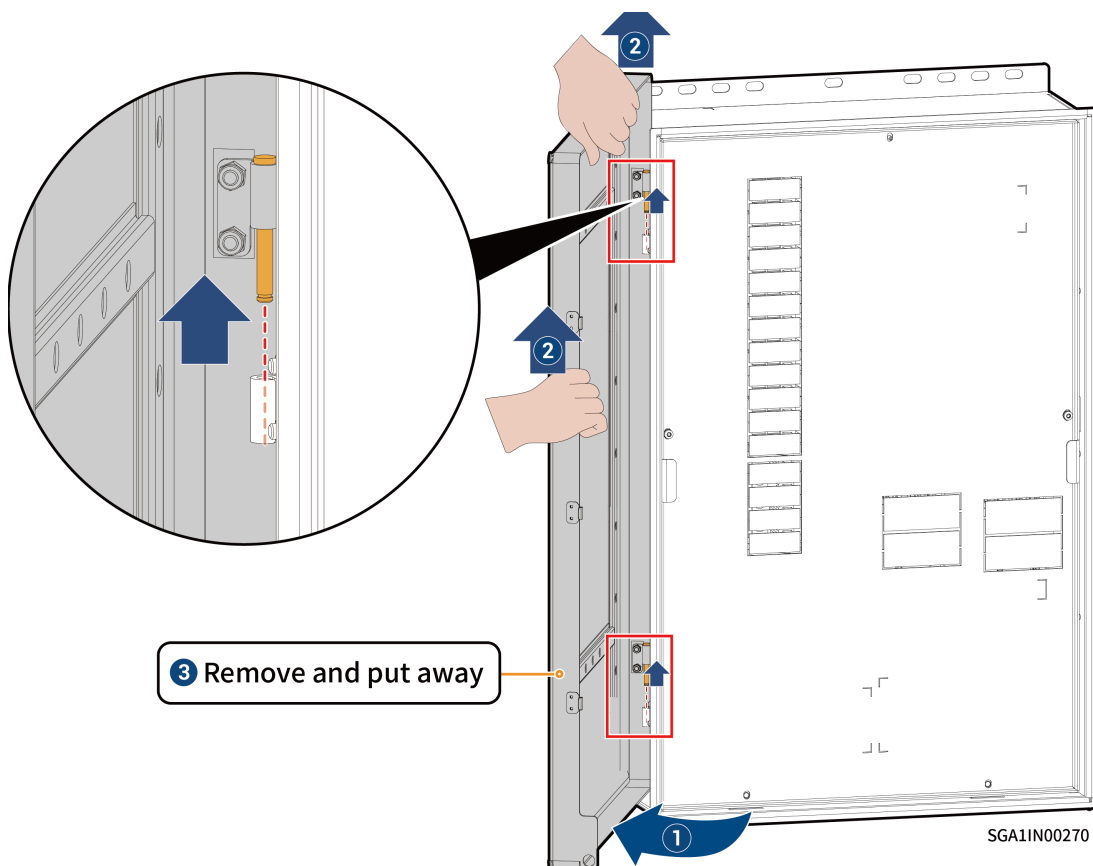


5.2 Open the equipment door

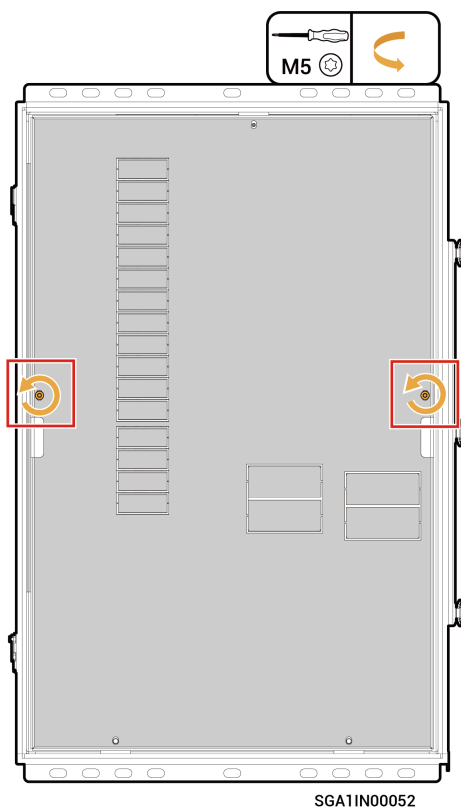
1



2



3

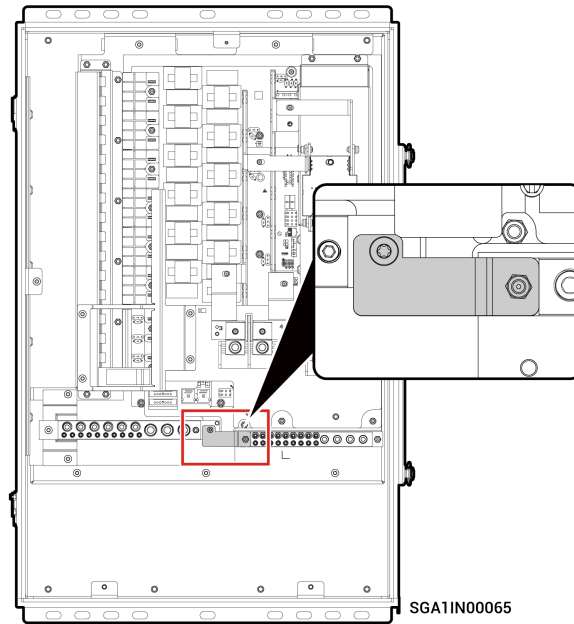


5.3 Component Installation

1 (Optional) Connector Disassembly

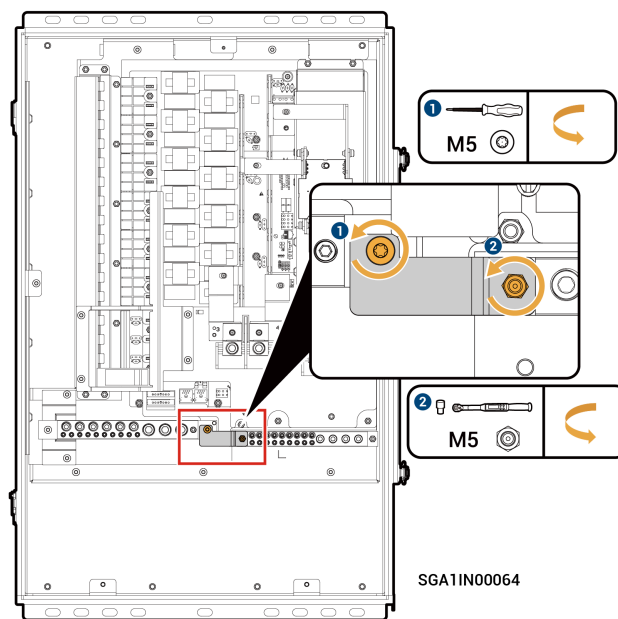
Tips

Reserve the connector of the N and PE busbar if LoadHub is used as level-1 service equipment.



Warning

Remove the connector of the N and PE busbar if LoadHub is not used as level-1 service equipment.



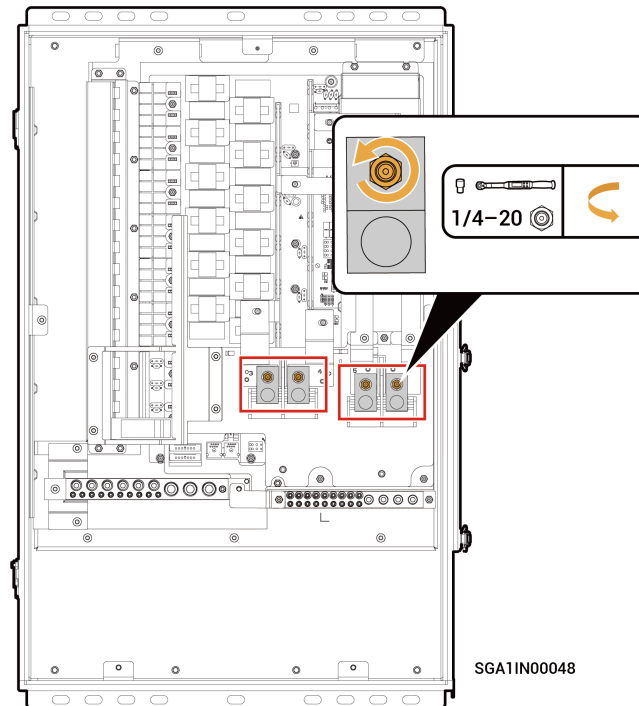
2 Circuit Breaker Fastener Disassembly



3 (Optional) Terminal blocks Disassembly

Tips

- Skip this step if you use the terminal blocks for connection.
- Perform this step if you use the circuit breaker for connection.



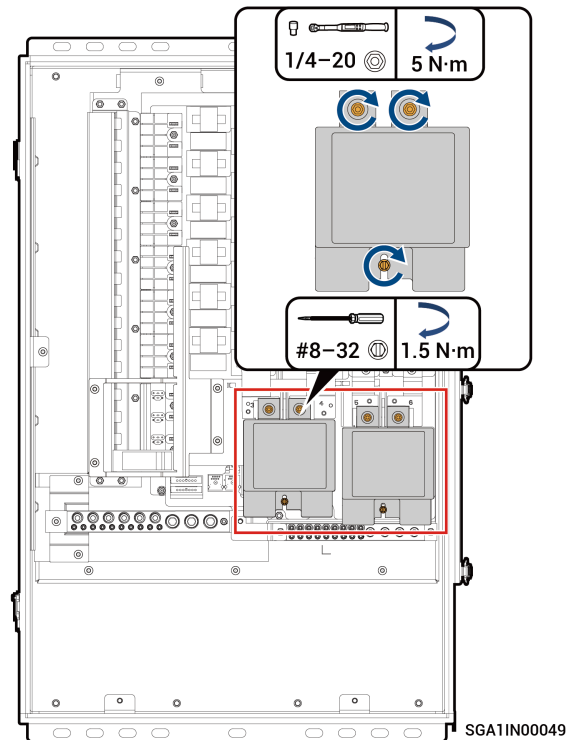
4 (Optional) Circuit Breakers Installation

Tips

- Skip this step if you use the terminal block for connection.
- Perform this step if you use the circuit breaker for connection.
- The circuit breakers you installed must be Eaton BW series. For details, see the table below.

Table 5-1 Circuit Breaker(connecting to grid/backup household Load)

S/N	Model	Current	Description
1	BW2100	100A	Eaton#Circuit Breaker: 2-Pole, 10 kAIC, 100A, 120/208V, 120/240V
2	BW2125	125A	Eaton#Circuit Breaker: 2-Pole, 10 kAIC, 125A, 120/208V, 120/240V
3	BW2150	150A	Eaton#Circuit Breaker: 2-Pole, 10 kAIC, 150A, 120/208V, 120/240V
4	BW2175	175A	Eaton#Circuit Breaker: 2-Pole, 10 kAIC, 175A, 120/208V, 120/240V
5	BW2200	200A	Eaton#Circuit Breaker: 2-Pole, 10 kAIC, 200A, 120/208V, 120/240V



5 Circuit Breakers installation

Tips

The circuit breakers you installed must be Eaton BR series. For details, see the table below.

⚠ Caution

Please refer to .

- For the Circuit Breaker Fastener of Appearance 1, only circuit breakers for connecting smart loads can be installed at position ② .
- For the Circuit Breaker Fastener of Appearance 2, circuit breakers for connecting smart loads or third-party inverters can be installed at position ② .

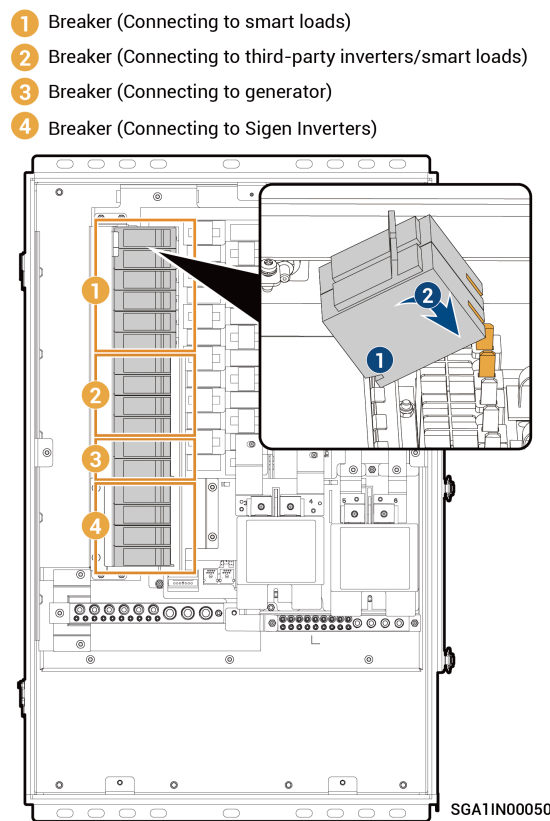


Table 5-2 Circuit Breaker(connecting to generator/smart loads/third-party inverters)

S/N	Model	Current	Description
1	BR115	15A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 15A, 120/208V, 120/240V
2	BR120	20A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 20A, 120/208V, 120/240V
3	BR130	30A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 30A, 120/208V, 120/240V
4	BR140	40A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 40A, 120/208V, 120/240V
5	BR150	50A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 50A, 120/208V, 120/240V
6	BR160	60A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 60A, 120/208V, 120/240V
7	BR170	70A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 70A, 120/208V, 120/240V
8	BR180	80A	Eaton#Circuit Breaker; 1-Pole, 10kAIC, 80A, 120/208V, 120/240V
9	BR215	15A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 15A, 120/208V, 120/240V
10	BR220	20A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 20A, 120/208V, 120/240V
11	BR230	30A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 30A, 120/208V, 120/240V
12	BR240	40A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 40A, 120/208V, 120/240V
13	BR250	50A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 50A, 120/208V, 120/240V
14	BR260	60A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 60A, 120/208V, 120/240V
15	BR270	70A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 70A, 120/208V, 120/240V
16	BR280	80A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 80A, 120/208V, 120/240V

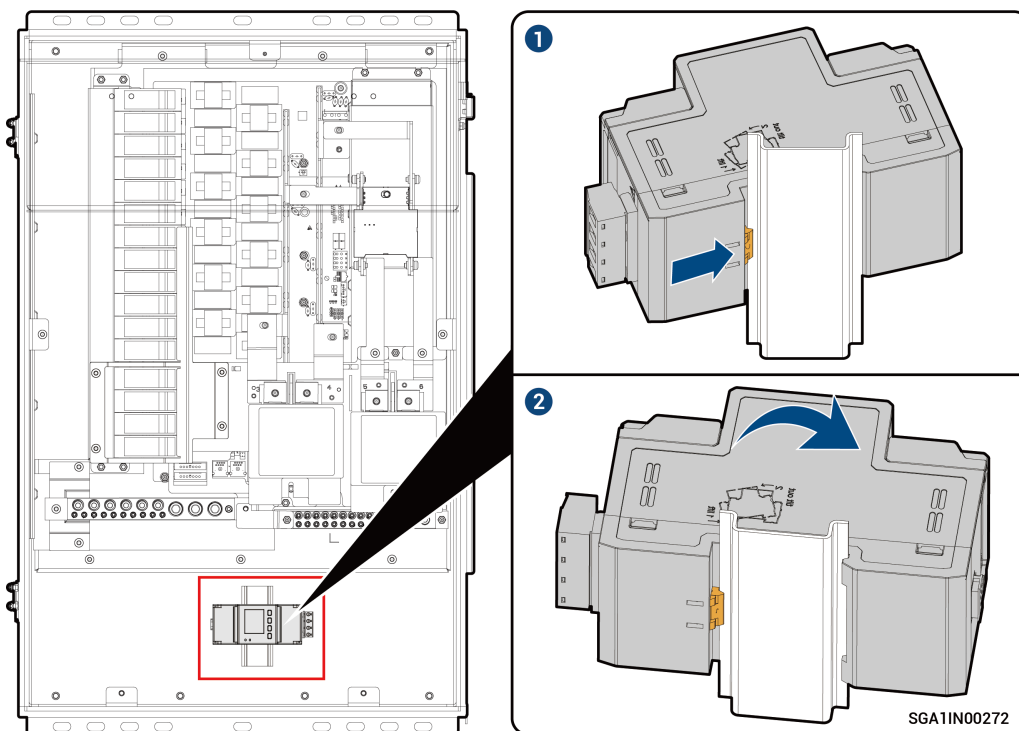
Table 5-3 Circuit Breaker(connecting to Sigen Inverter)

S/N	Model	Current	Description
1	BR260	60A	Eaton#Circuit Breaker; 2-Pole, 10kAIC, 60A, 120/208V, 120/240V

6 Smart Power Sensor Installation

Tips

- Before installation, please prepare a 1.38 in (35 mm) standard guide rail and install it firmly.
- The recommended effective length of the guide rail is ≥ 2.76 in (70 mm).



Chapter 6 Cables connection

6.1 Recommended Drilling Schemes

Tips

- There are four drilling schemes for your choice according to your installation environment. Take waterproof measures after drilling.
- Clean up metal debris generated during drilling with a hand-held vacuum cleaner.

Drilling requirements	
D (drilling diameter)	$D \leq 2 \text{ in (50.80 mm)}$
L (the distance from hole edge to equipment edge)	$L \geq 1/2 \text{ in (12.70 mm)}$

Fig 6-1 Scheme 1: Bottom drilling

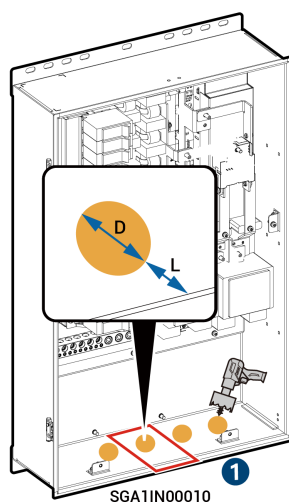


Fig 6-2 Scheme 2: Rear drilling

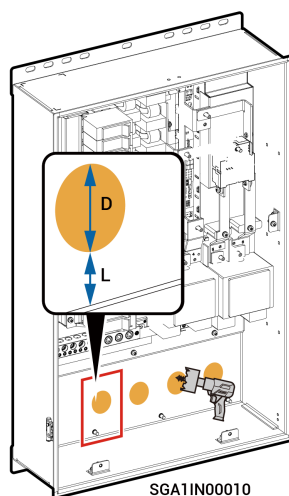


Fig 6-3 Scheme 3: Side drilling

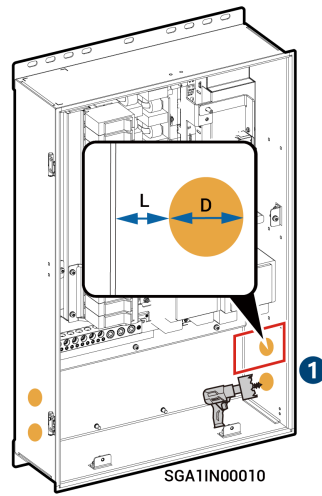


Fig 6-4 Scheme 4: Top drilling

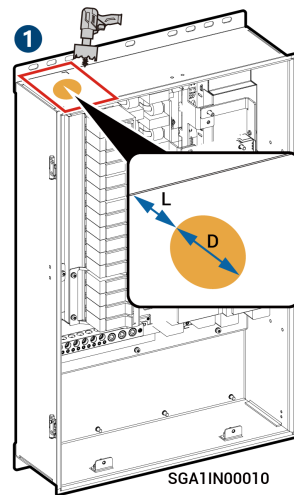
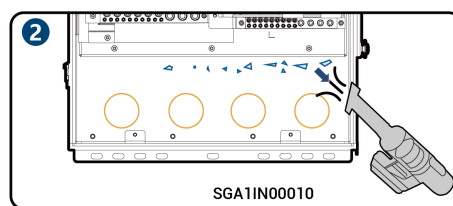


Fig 6-5 Clean up metal debris



6.2 Recommended wiring scheme

Danger

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 Generator power switches.

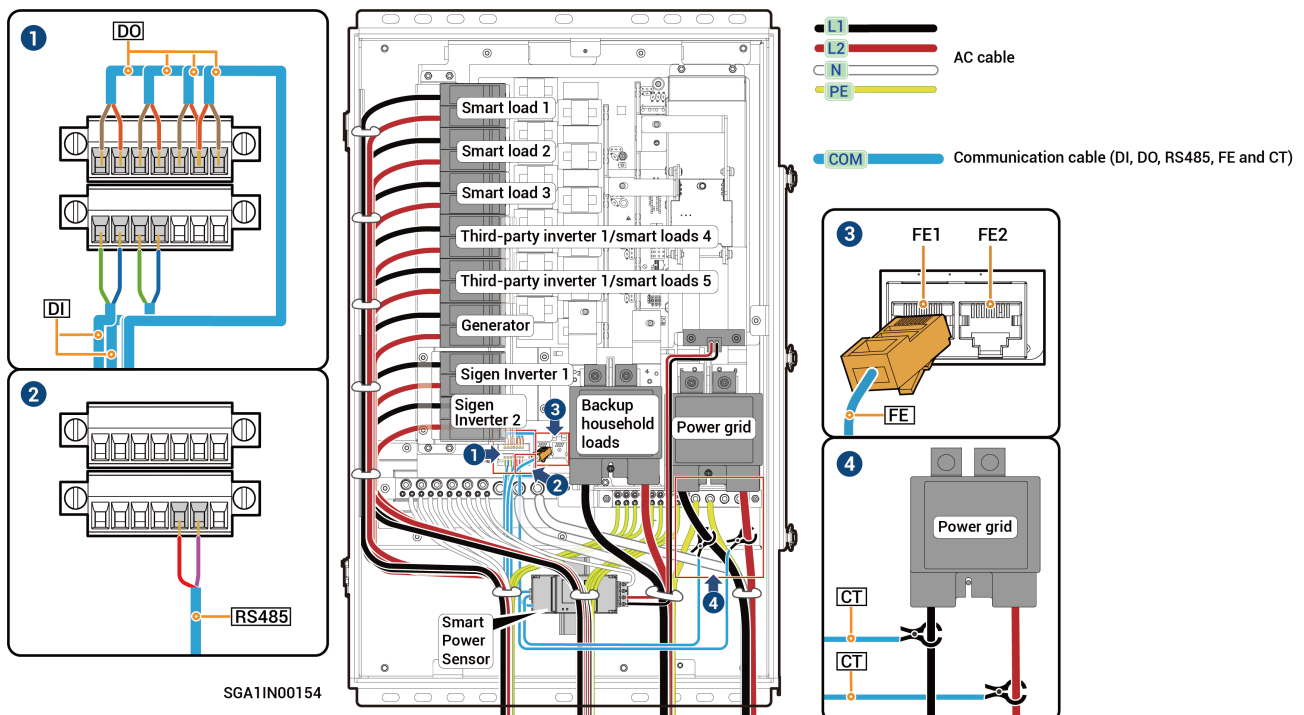
Tips

Please refer to [Circuit Breaker Fastener Disassembly](#).

- If you receive the Appearance 1 circuit breaker fastener, only circuit breakers intended for smart loads can be installed at the Smart Load 4-5 marked position.
- If you receive the Appearance 2 circuit breaker fastener, circuit breakers for smart loads or third-party inverters can be installed at the Smart Load 4-5 marked position.

Caution

- There are four routing schemes. The diagram takes bottom routing as an example. Please select a proper routing scheme according to your actual needs.
- Connect cables according to the corresponding labels to prevent personal injury and equipment damage caused by incorrect cable connection.

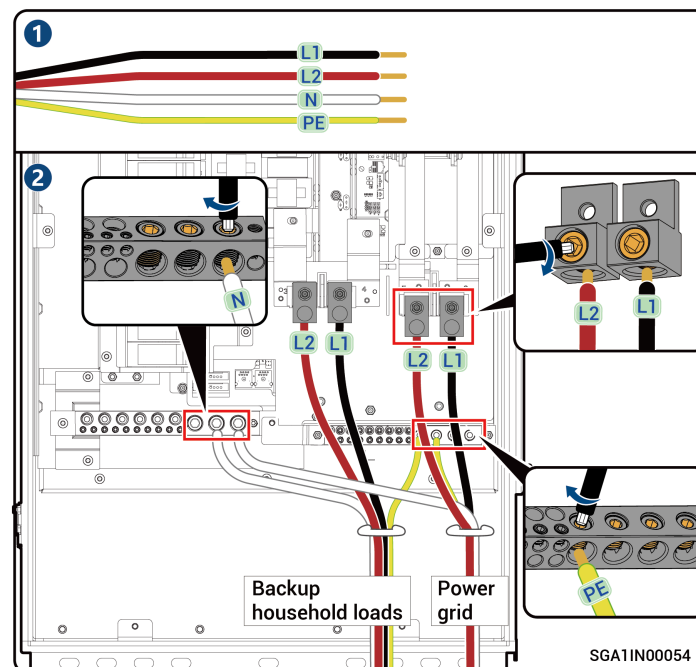


6.3 Connected to Power grid/Backup household loads

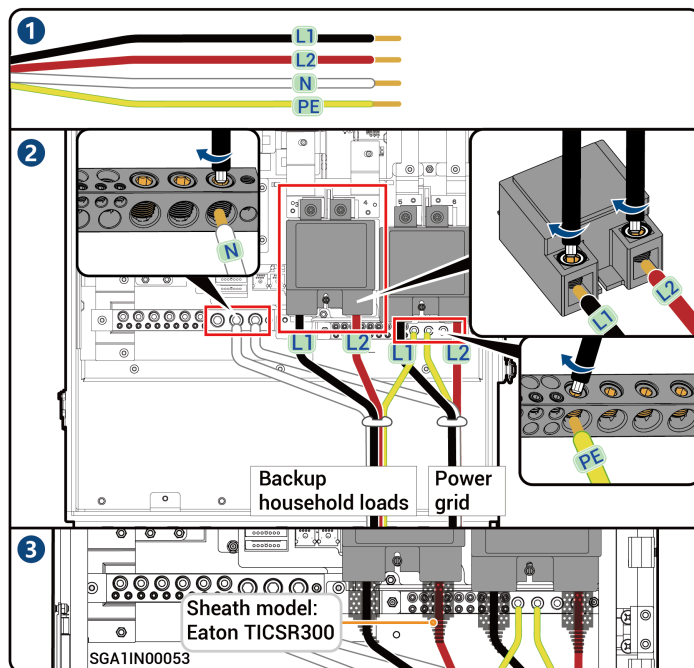
Tips

- For these two connection schemes, the connection can be extended to the power grid/backup household loads. Please select a connection scheme according to your actual needs.
- After the circuit breaker connected to the power grid/backup household load is connected, L1 and L2 connection locations will be exchanged.
- Determine the stripping length according to the specification of the circuit breaker you purchased and the hole location.

Terminal blocks connection scheme



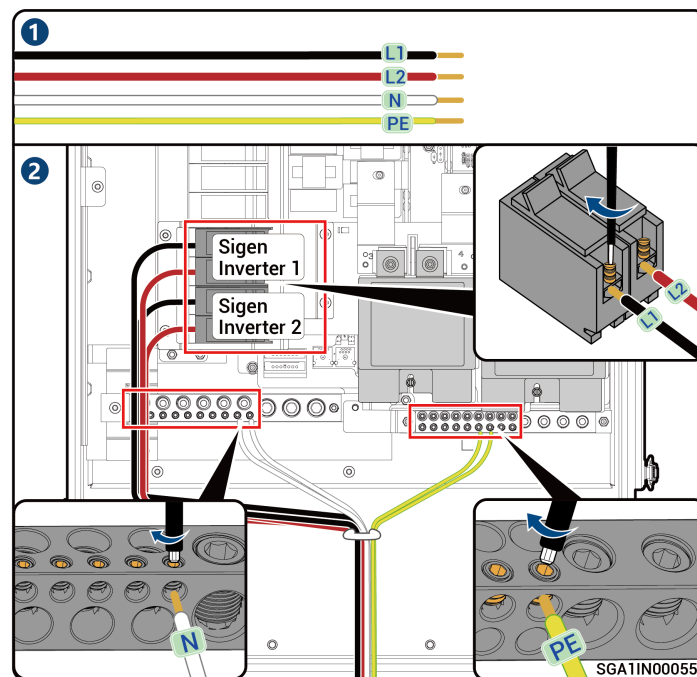
Circuit breakers connection scheme

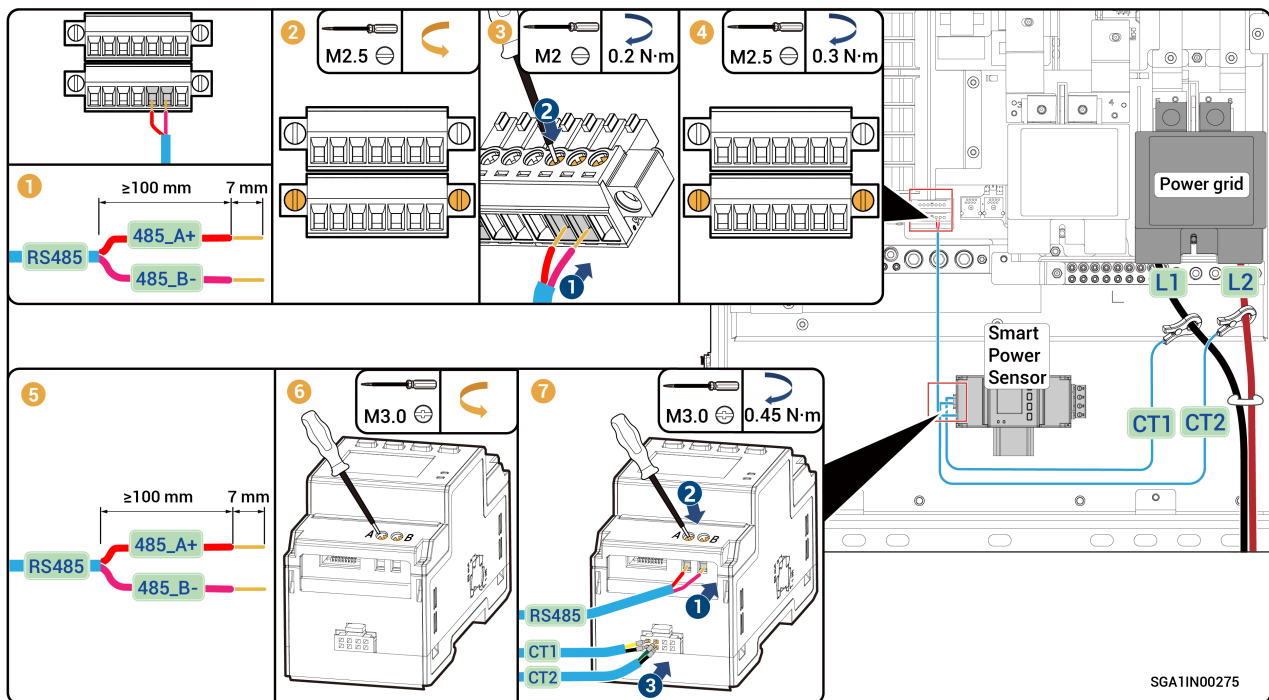


6.4 Connected to Inverters/Generator/Smart loads

Tips

- The operation methods for connecting to Inverters/Generator/Smart loads are the same. This section takes connecting to Sigen inverters as an example.
- During operation, to ensure that the inverters, loads, and the LoadHub are connected to the common ground point, connect the PE cable.

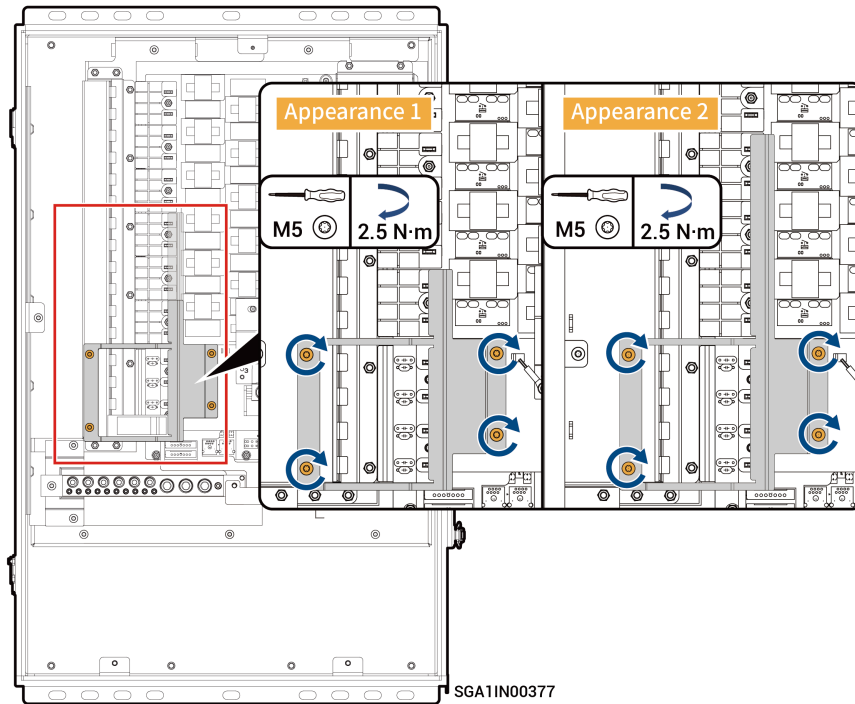




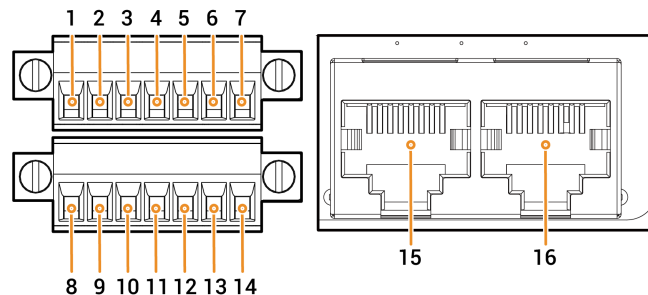
Tips

Refer to the section [Adding Sigen RGM to the System](#) for operations in mySigen App.

6.6 Installation of circuit breaker fixtures



6.7 Communication Port Introduction



SGA1IN00061

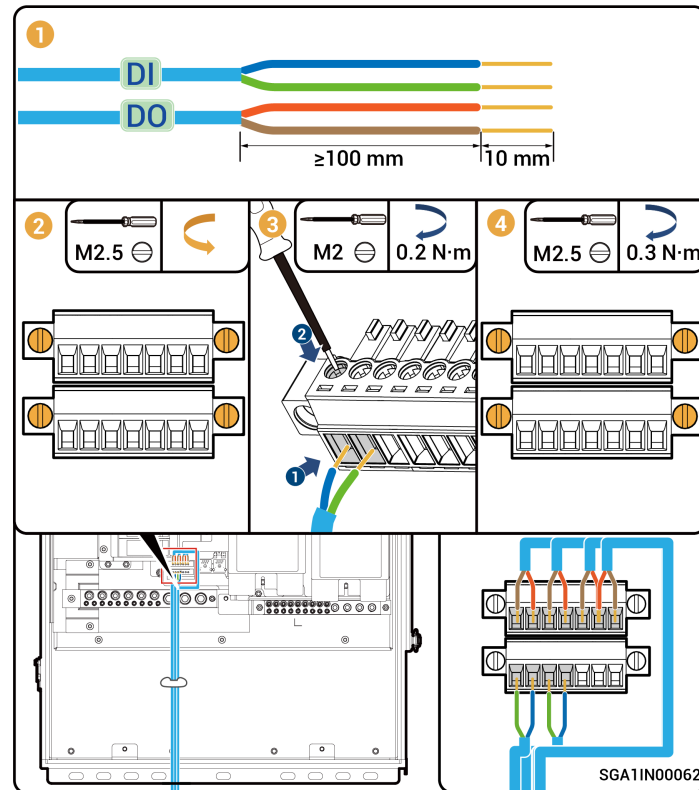
S/ N	Definition		Label	Description	Sigen Power Sensor SP CT250 US
1	DO1- NO	Digital output 1 - Normal Open	DO1(Dry contact 1)	- DO1 is used for the output of the contactor status feedback signal for the grid. - DO1 have a contact capacity of 30 Vd.c./1 A.	-
2	DO1- COM	Digital output 1 - Common			-
3	DO2- NO	Digital output 2 - Normal Open	DO2(Dry contact 2)	- DO2 is used for the output of the contactor status feedback signal for the Generator. - DO2 have a contact capacity of 30 Vd.c./1 A.	-
4	DO2- COM	Digital output 2 - Common			-
5	DO3- NO	Digital output 3 - Normal Open	DO3/GEN(Dry contact 3/ Generator startup)	- DO3 interface can be used for controlling generator start in two-wire start mode. - DO3 have a contact capacity of 30 Vd.c./1 A. - NO/COM is normally open contact and NC/COM is normally close contact. - For the Generator that starts when the dry contacts are open, connect the dry contacts to DO3-NO and DO3-COM. For the Generator that starts when the dry contacts are closed, connect the dry contacts to DO3-NC and DO3-COM.	-
6	DO3- COM	Digital output 3 - Common			-
7	DO3- NC	Digital output 3 - Normal Close			-
8	DII (RSD)	Digital input 1 (Rapid shutdown)	DI(Digital input)	DII support rapid shutdown input signal.	-
9	GND	Signal GND			-

S/ N	Definition		Label	Description	Sigen Power Sensor SP CT250 US
10	DI2	Digital input 2	DI(Digital input)	DI1 support rapid shutdown input signal.	-
11	GND	Signal GND			-
12	485-A	RS485 Signal _ A+	485(RS485 interface)	Used to connect the equipment over RS485, like Smart power sensor.	A+
13	485-B	RS485 Signal _ B-			B-
14	PE	Signal shield GND			-
15	FE1	Fast Ethernet 1	FE(Network cable interface)	Used to connect an Sigen Energy Controller Split Phase US, Sigen Backup Switch, Sigen EV AC Charger, Router, Inverter and so on.	-
16	FE2	Fast Ethernet 2			-

6.8 Connecting DI/DO Cables

Tips

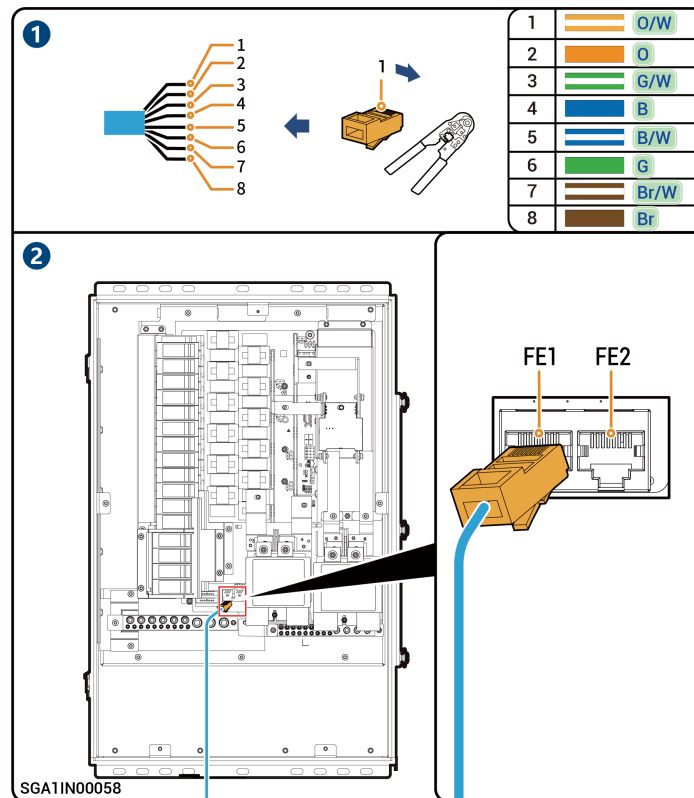
For detailed parameters of DI and DO ports, see "[Communication Port Introduction](#)".



6.9 Connecting RJ45 Cable

Tips

For detailed parameters of FE port, see "[Communication Port Introduction](#)".



Chapter 7 Powering on the device

7.1 Pre-power-on inspection

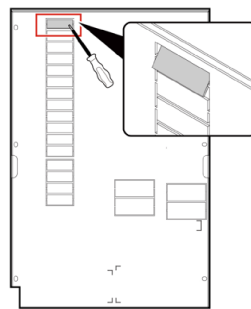
Please check according to the following table until all items are correct.

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	The LoadHub protective cover is locked.

Opening of Protective Cover Plate

Tips

The hole location of the inner panel must match the mounting location of the circuit breaker.



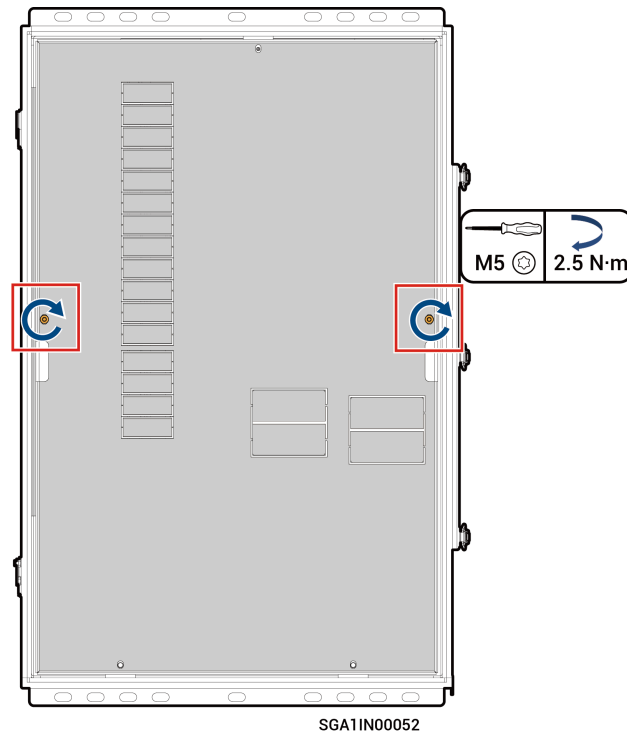
SGA10V00115

Install protective cover plate



Caution

Measure the voltage of the switch on the power grid side and check that the measured value is within the allowable range. Ensure that the cable is connected properly and install the inner panel.



7.2 Equipment Power-On

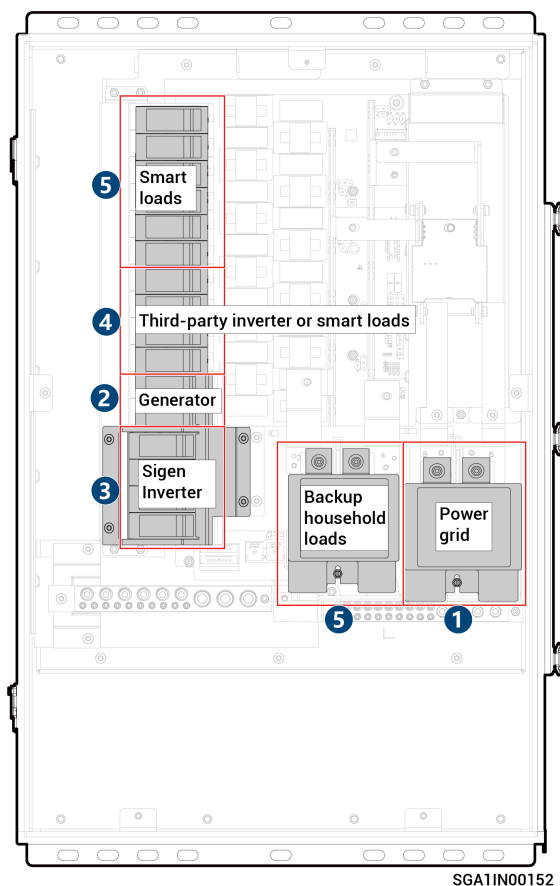
Tips

- Turn on the front switch of the equipment.
- There is a risk of electric shock if the LoadHub is left ungrounded.
- If the surge protective device is not switched on, failure of surge protection may lead to damage to household loads and LoadHub.

Power-on steps

Caution

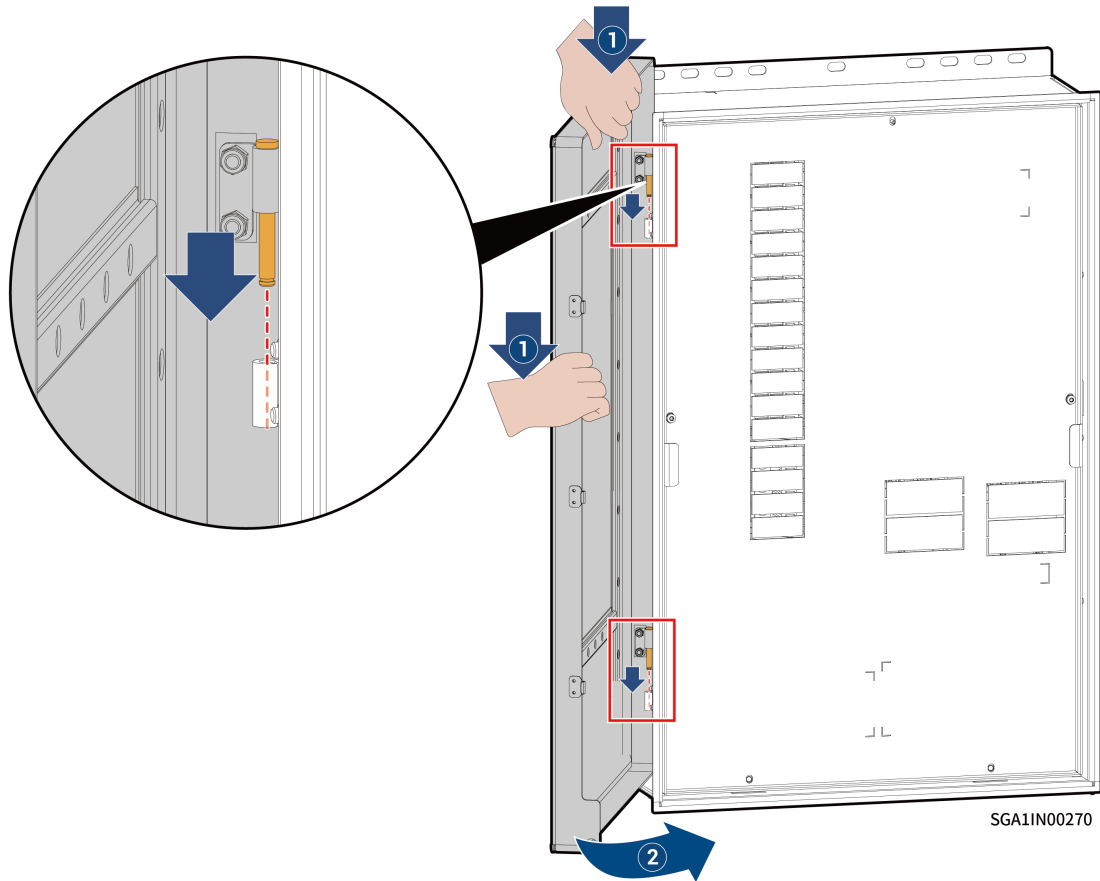
Do not turn on the miniature circuit breaker when it is not connected to its corresponding device.



- 1: Switch on the miniature circuit breaker(connecting to Power grid).
- 2: (Optional) Switch on the miniature circuit breaker(connecting to Generator).
- 3: Switch on the miniature circuit breaker(connecting to Inverter), energize the inverters.
- 4: Switch on the miniature circuit breaker (connecting to smart loads or third-party inverter(energize the inverters)).

- 5: Switch on the miniature circuit breaker (connecting to Smart loads and Backup household loads).

Upon completion of the operation, close the front panel of the LoadHub and lock the case; the power-on is completed.

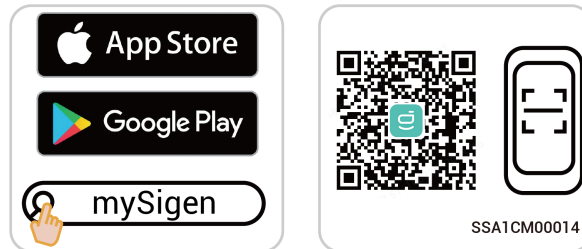


Caution

After each wiring change, please perform a wiring check on the mobile app to ensure proper connection before proceeding with subsequent operations.

7.3 Adding Sigen RGM to the System

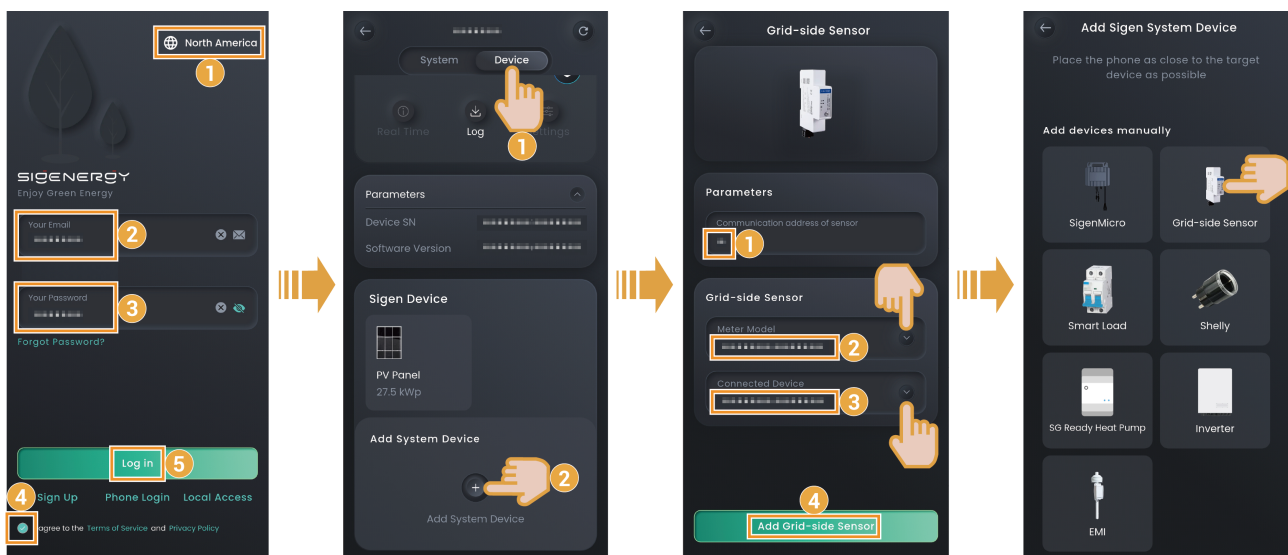
Download mySigen App



Adding Sigen RGM to the System

Tips

- If you install the Sigen Sensor SP CT250 US(DTSU666) to meet the RGM accuracy requirements on the grid side, please follow the instructions in this section; if not, please ignore.
- If your power station has multiple power sensors, set the "communication address of sensor" according to the actual communication address of the power sensor; if your power station has only one power sensor, the "communication address of sensor" defaults to 1 and does not need to be changed.
- Set the "Connected Device" according to the SN code of the device connected to the RGM.



SSA1CM00001

Tips

After completing the above operations, the mySigen APP will prioritize reading data from the RGM to display power and other data, making your data more accurate.

The recommended RGM model are as follows:

Number	RGM model (in mySigen APP)	RGM model (packaging or housing)
1	DTSU666 250A/50mA	Sigen Sensor SP CT250 US (DTSU666)

Chapter 8 Appendix

- For specific maintenance items, please refer to the [Sigen Energy Gateway Home Series Maintenance Guide](#).
- For specific alarm items, please refer to the [Alarm List](#).