# Sigen Gateway HomeMax TP Installation Guide

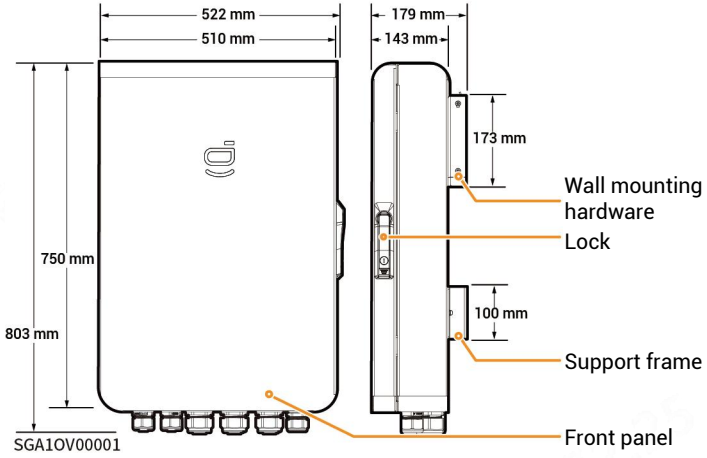
Version: 04
Release date: 2025-08-19

## 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.**
- **Before operations, please carefully read operating requirements and precautions in this document and Important Notice. Any equipment damage caused by improper operation will not be covered under warranty.**

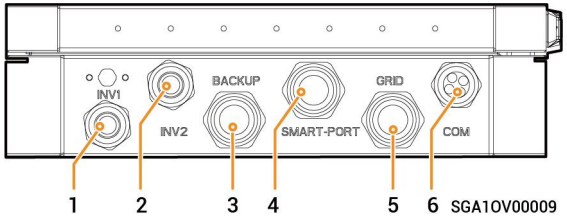
# 1 Product Description

## 1.1 Appearance and Dimensions



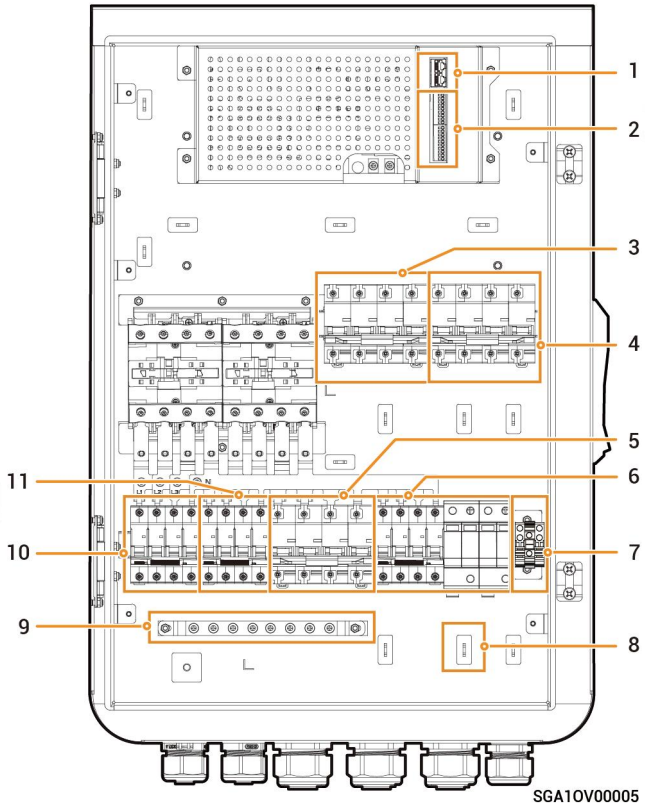

## 1.2 Port Description

Bottom view




| S/N | Name | Marking |
|---|---|---|
| 1 | Wire-in port of inverter 1 | INV1 |
| 2 | Wire-in port of inverter 2 | INV2 |
| 3 | Wire-in port of backup household loads | BACKUP |
| 4 | Wire-in port for smart loads/generator | SMART-PORT |
| 5 | Wire-in port of power grid | GRID |
| 6 | Wire-in port of communication | COM |

Interior view




| S/N | Label | Description |
|---|---|---|
| 1 | - | FE interfaces |
| 2 | - | RS485, DI, and DO interfaces |
| 3 | QF2 | Miniature circuit breaker (Smart loads[1]/Generator) |
| 4 | QF1 | Miniature circuit breaker (Power grid) |
| 5 | QF5 | Miniature circuit breaker (Backup household loads) |
| 6 | QF6 | Miniature circuit breaker + Surge protection device |
| 7 | GND | Terminal (connecting to functional ground cable) |
| 8 | - | Cable clamp |
| 9 | - | Earthing bar |
| 10 | QF3 | Miniature circuit breaker (Inverters 1) |
| 11 | QF4 | Miniature circuit breaker (Inverters 2) |

Note [1]:

- All the power equipment 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 (Third-party inverter, 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.)

**Danger**

**Please check that all switches are turned off at the factory.**
**Always avoid hot-line work.**

## 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.**
- **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.**

### Protective equipment


Safety hat


Safety glasses

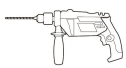

Dust mask


Protective gloves

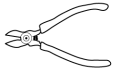

Insulating gloves

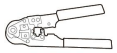

Insulating shoes

### Installation tool


Power drill


Vacuum cleaner


Wire cutter


Network cable pliers


Crimping pliers

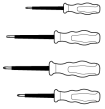

Wire stripper

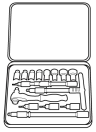

Scissors


Cable tie


Heat shrinkable sleeve

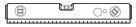

Heat gun

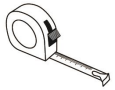

Insulation screwdriver set

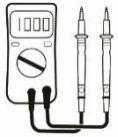

Insulation sleeve set


Torque socket wrench


Marker


Level


Tape measure


Multimeter


Cold terminal crimping pliers


Adjustable torque wrench for external hexagon bolts

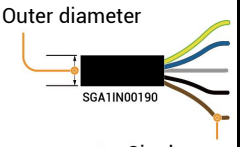

Utility knife


Rubber mallet

## Caution

- **The specifications of the Installer-provided cable must comply with the cable regulations and standards of the country/region standards.**
- **L1, L2, L3, N and PE should be connected to other equipment in sequence without mixing.**

Installer-provided cable

| S/N | Cable name | | Recommended specifications |
|---|---|---|---|
| 1 | Functional ground cable | | Outdoor single-core copper flexible cable<br>Cross-sectional area of core conductor: 6–10 mm² |
| 2 | AC cable | Connected to inverter | Outdoors five-core copper flexible cable (L1, L2, L3, N, PE)<br>• SigenStor EC/Sigen Hybrid (5.0–15.0) TP:<br>Cross-sectional area of single-core conductor: 4–6 mm²;<br>Outer diameter: 9–25 mm.<br>• SigenStor EC/Sigen Hybrid (17.0–20.0) TP:<br>Cross-sectional area of single-core conductor: 6–10 mm²;<br>Outer diameter: 9–25 mm.<br>• SigenStor EC/Sigen Hybrid (25.0–30.0) TP:<br>Cross-sectional area of single-core conductor: 10–16 mm²;<br>Outer diameter: 9–25 mm.<br>  |
| 3 | | Connected to backup household loads | Outdoor five-core copper flexible cable (L1, L2, L3, N, PE)<br>Cross-sectional area of core conductor: 35 mm²; Outer diameter: 19–32 mm |
| 4 | | Connected to power grid | |
| 5 | | Connected to smart loads/generator | |
| 6 | RJ45 network cable | | Outdoor eight-conductor shielded twin-twisted pair cable<br>Cross-sectional area of core conductor: 0.13–0.2 mm²; Outer diameter: 4–7.5 mm<br>Single cable length: ≤ 100 m[1]<br>RJ45 network cables are EIA/TIA 568B standard network cables |
| 7 | DI/DO signal cable (Optional) | | Outdoor two-conductor shielded cable<br>Cross-sectional area of core conductor: 0.2–1.5 mm²<br>Outer diameter: 2–4 mm |

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

# 3 Site Selection Requirements

## Tips

- **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 (Engineering, Procurement, Construction).**

### Installation environment

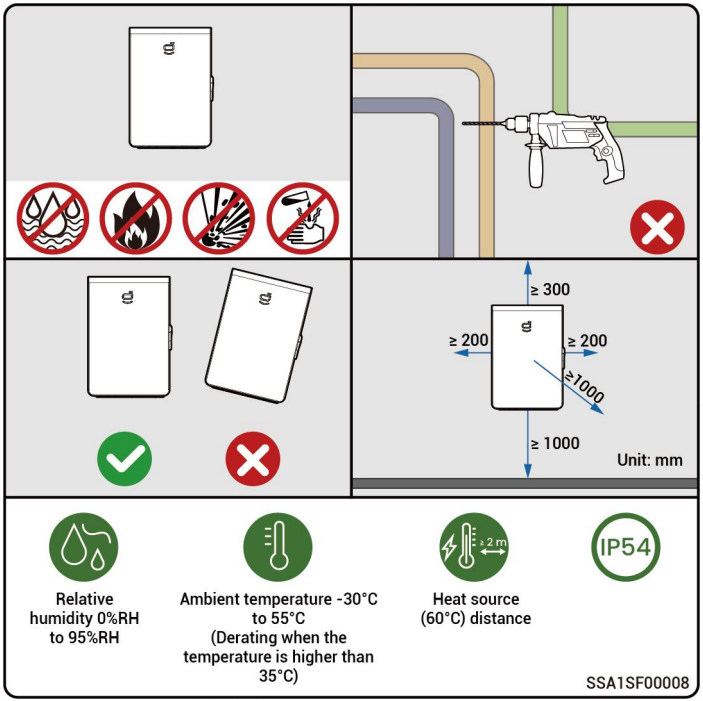
- Do not install the equipment in smoky, flammable, or explosive environments.
- Avoid exposing the equipment to direct sunlight, rain, standing water, snow, or dust. Install the equipment in a sheltered place. Take preventive measures in operating areas prone to natural disasters such as floods, mudslides, 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).
- 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 ≥ 200 m.
- If the outer surface of the device is damaged, please repaint the device in time.

### 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.
- Please keep away from the daily work and living places.
- 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 places that are easy to access, install, operate, maintain status.
- Keep the equipment clear of vehicle passage when installed in a garage to avoid collisions.

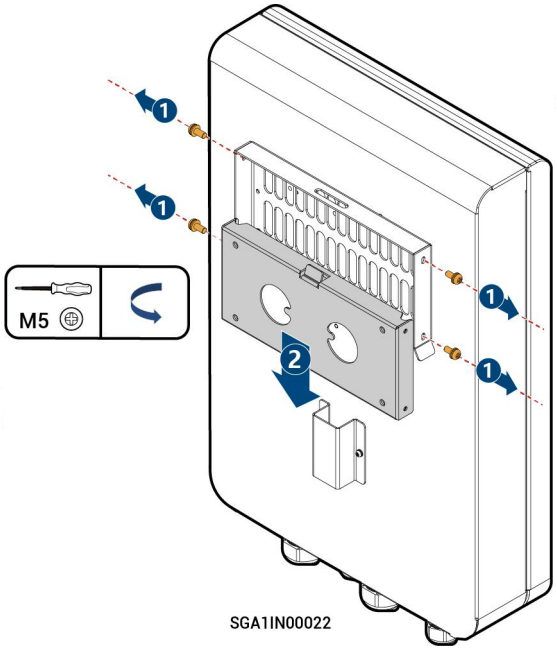
## Mounting surface

- Do not install the equipment on a flammable carrier.
- The installation carrier must meet load-bearing requirements. Solid brick-concrete structure, concrete walls is 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.

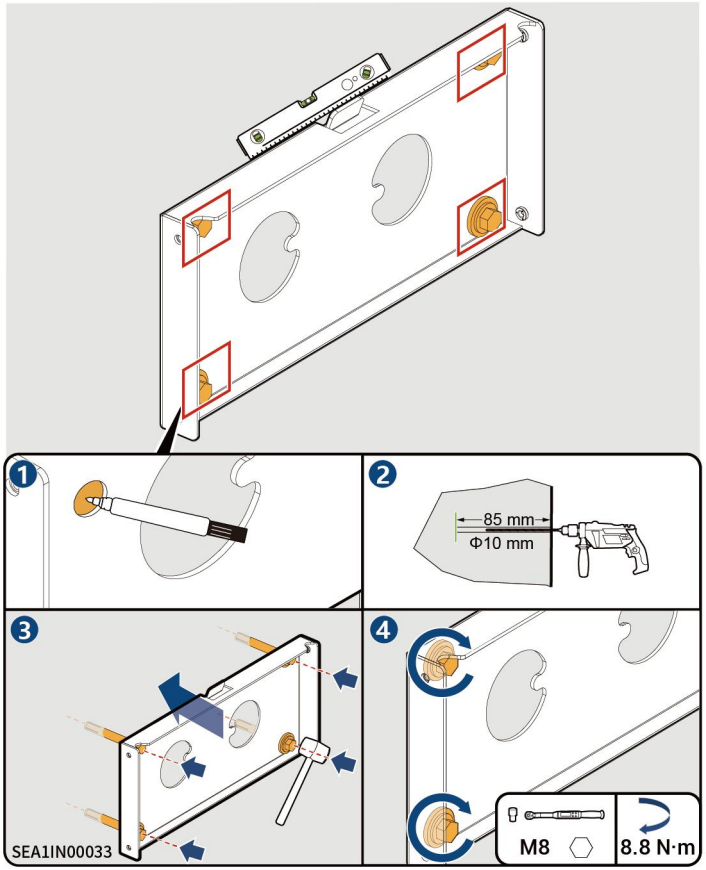


## 4 Equipment Installation

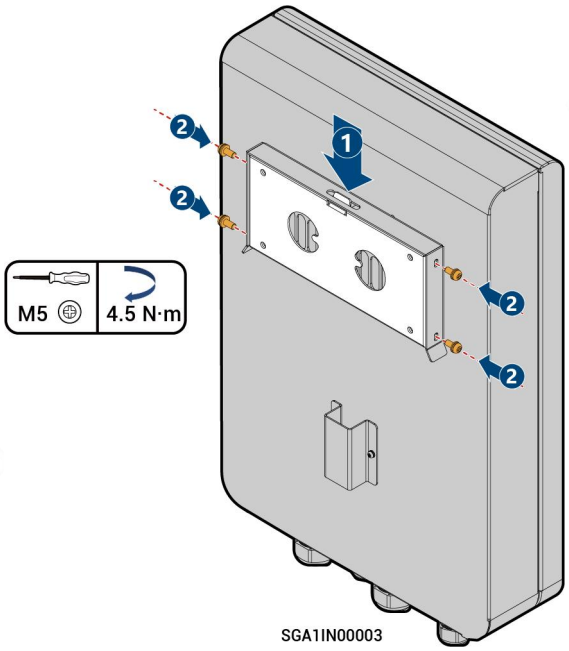
1




2



3



# 5 Cable Connection

## 5.1 Recommended Routing

**Danger**

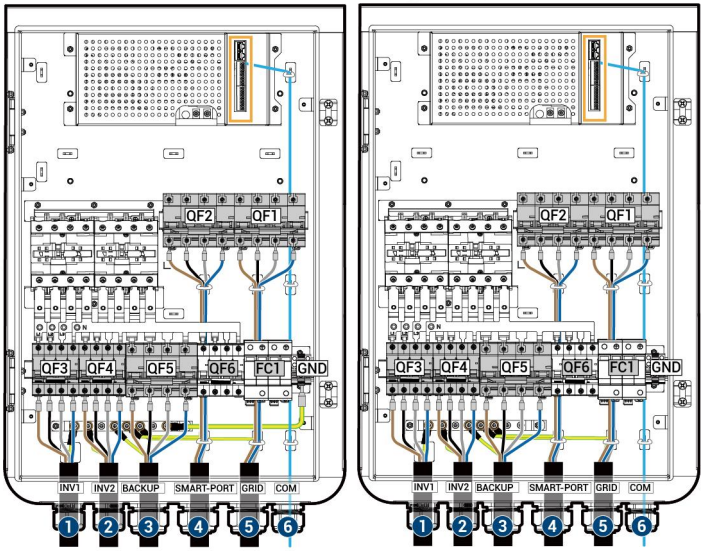
**Do not perform operations on the equipment with power on. Before operation, please make sure all power supplies to the equipment have been disconnected, including but not limited to the grid side, inverter and Generator power switches.**

**Caution**

- **Connect cables according to the corresponding labels to prevent personal injury and equipment damage caused by incorrect cable connection.**
- **To ensure that the inverters, loads, and the Gateway are connected to the common ground point, connect the PE cable.**

Solution 1: The device is reliably grounded.

Solution 2: The device is not reliably grounded.

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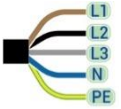



AC cable

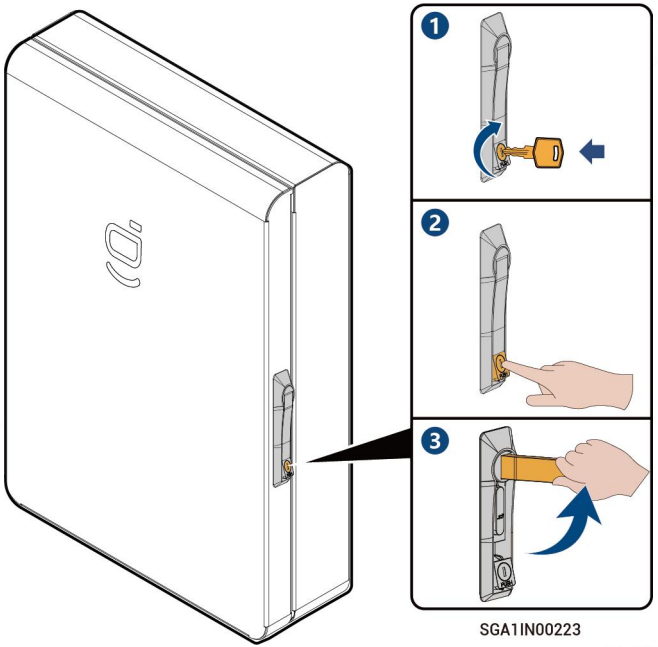
Communication cable (FE and DI, DO)

Functional ground cable

1. (INV1) Connect to Inverters 1
2. (INV2) Connect to Inverters 2
3. (BACKUP) Connect to Backup household loads
4. (SMART-PORT) Connect to Smart loads/Generator
5. (GRID) Connect to Power grid
6. (COM) Communication cable

## 5.2 Opening Equipment Door

1

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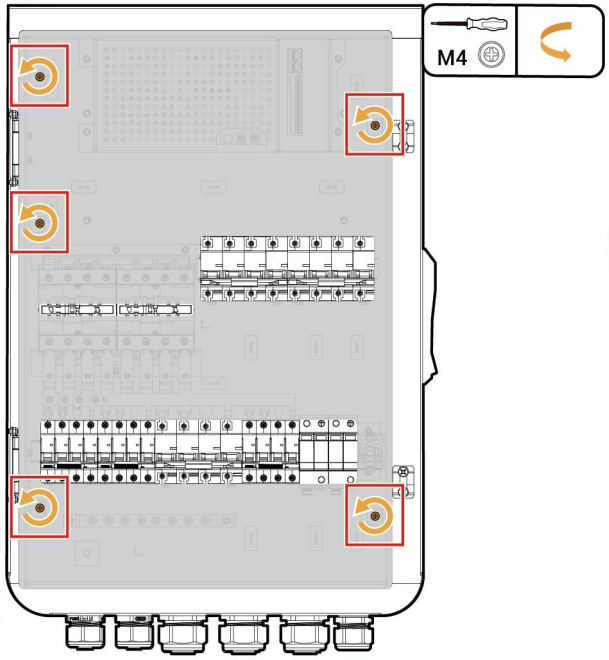
2

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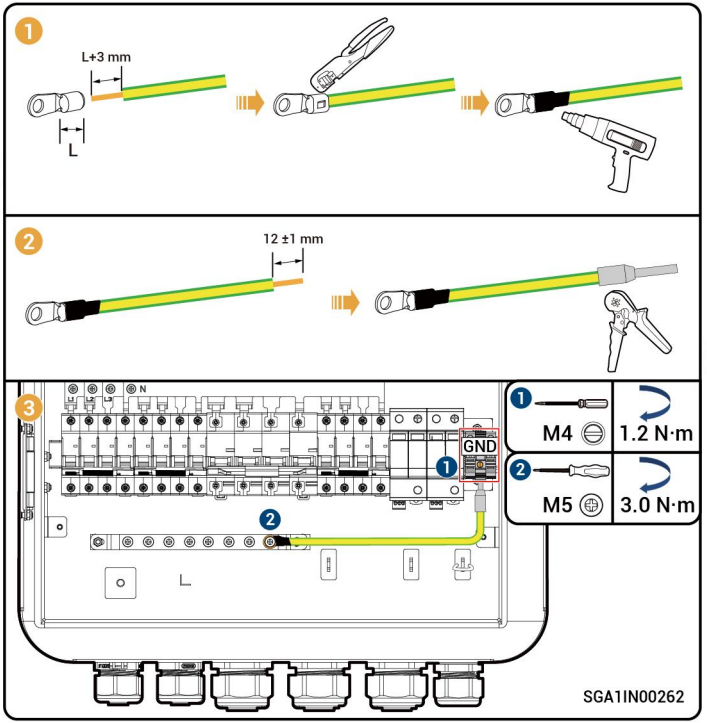
## 5.3 Functional ground cable Connection

**Danger**

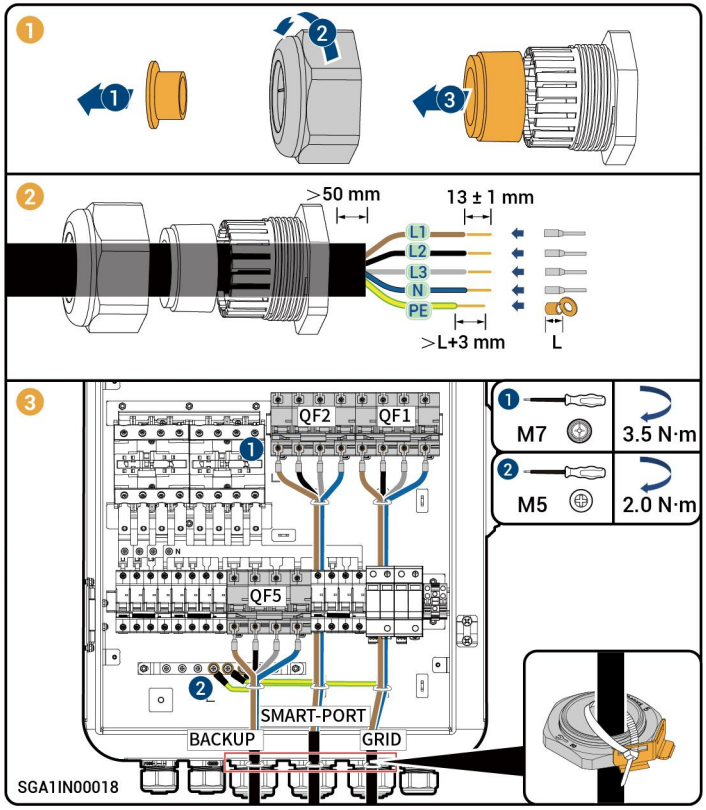
- **If the device is not reliably grounded, do not connect the functional ground cable.**
- **If the device is reliably grounded, the functional ground cable shall be connected.**

**Caution**

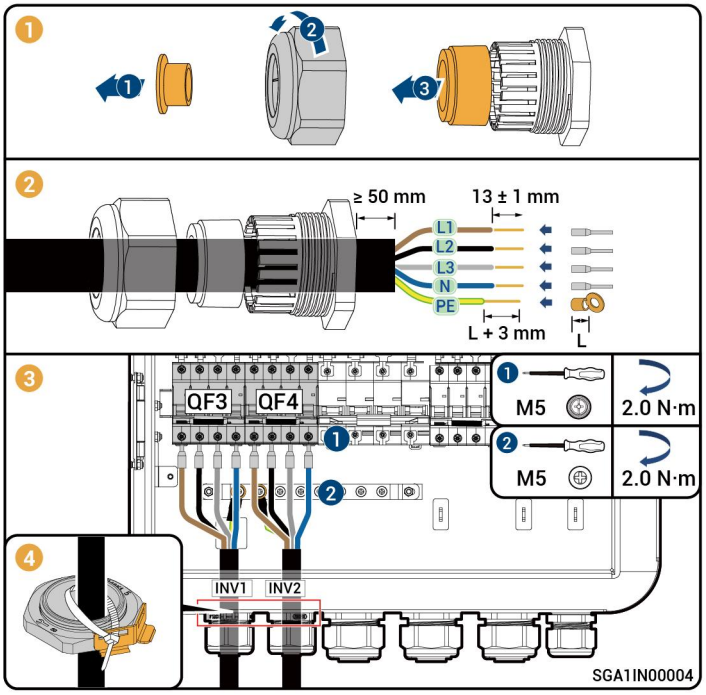
**In off-grid mode, the N wire in the system is short-connected to the functional grounding wire through the relay to create a grounding system. When earth leakage or short circuit occurs in loads, leakage protection and overcurrent protection devices are triggered to prevent these faults.**



## 5.4 Connecting Power Grid / Backup household loads / Smart Load / Generator




## 5.5 Connecting Inverters

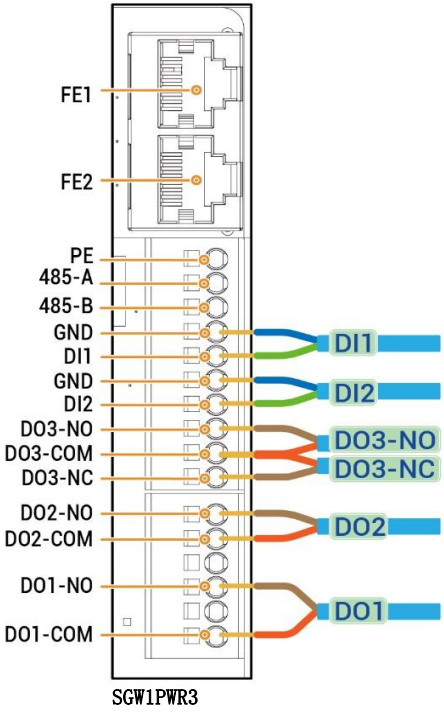


## 5.6 Communication port introduction

### Tips

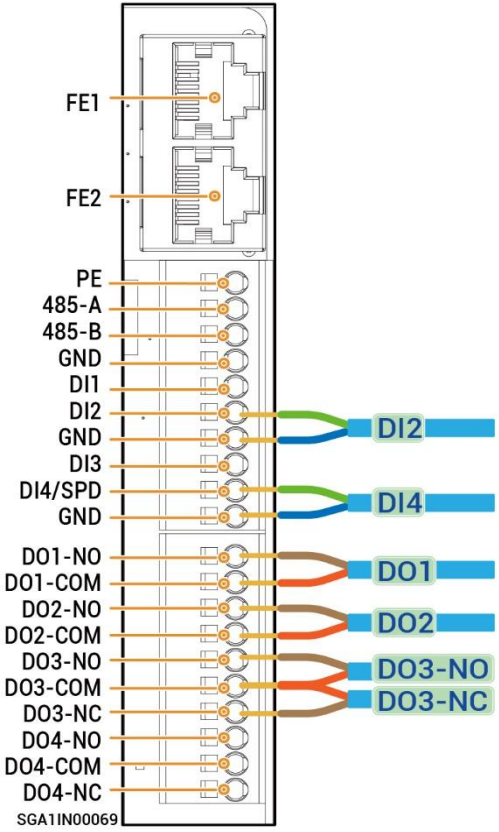
- **Refer to Appearance 1 when the label bottom is printed with SGW1PWR3 and Appearance 2 when the label bottom is not printed with SGW1PWR3.**
- **Identify the cable connection and table content suiting you according to the label appearance.**
- **For the Generator that starts when the dry contacts 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.**

**Appearance 1**



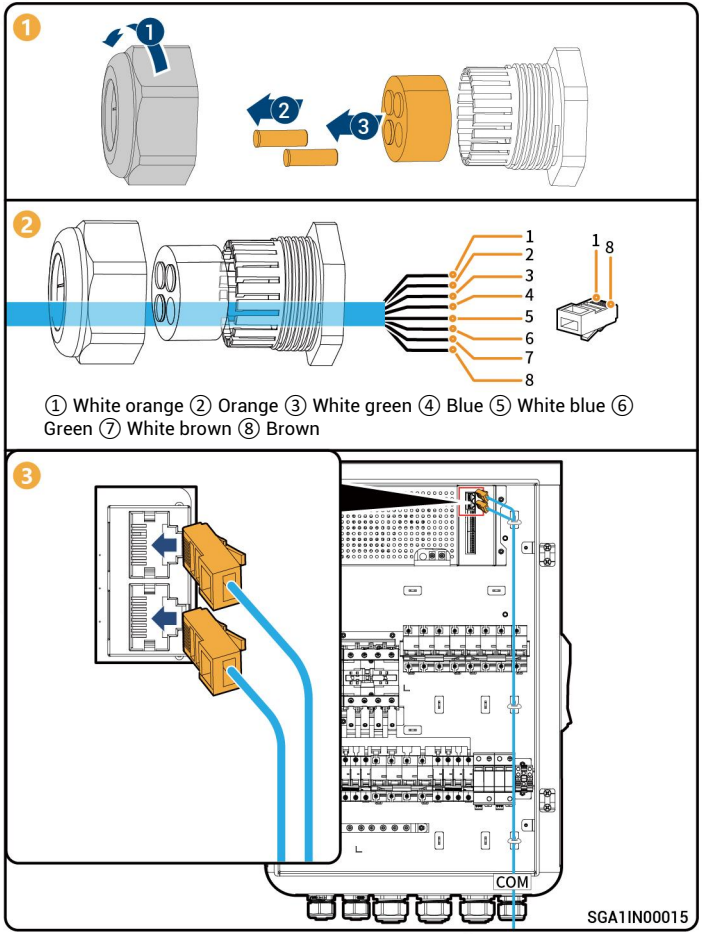

| Label | Definition | | Description |
|---|---|---|---|
| FE (Network cable interface) | FE1 | Fast Ethernet 1 | Used to connect an inverter. |
| | FE2 | Fast Ethernet 2 | Used to connect an Sigen EV AC Charger, inverter, router and so on. |
| (Reserved)485 (RS485 interface) | PE | PE signal shielding ground | Used to connect the equipment over RS485. |
| | 485-A | RS485 signal 2_A+ | |
| | 485-B | RS485 signal 2_B- | |
| DI1 (Digital input 1) | GND | Signal GND | • Universal digital input interfaces.<br>• DI1 is used to connect the feedback contact of the bypass switch. |
| | DI1 | Digital input 1 | |
| DI2 (Digital input 1) | GND | Signal GND | • DI2 can be used to connect the feedback signal of the external Automatic Transfer Switch (ATS) to identify whether the gateway "grid port" is powered by the grid or the generator.<br>• Low impedance input (short circuit on ATS relay) indicates the power grid. High impedance input (open circuit on the ATS relay) indicates the Generator. |
| | DI2 | Digital input 2 | |
| DO3/GEN (Dry contact 3/Generator startup) | DO3-NO | Digital output 3 - Normal Open | • DO3 interface can be used for controlling generator start in two-wire start mode.<br>• DO3 have a contact capacity of 30 Vd.c./1 A.<br>• NO/COM is normally open contact and NC/COM is normally close contact. |
| | DO3-COM | Digital output 3 - Common | |
| | DO3-NC | Digital output 3 - Normal Close | |
| DO2 (Dry contact 2) | DO2-NO | Digital output 2 - Normal Open | • DO2 is used for the output of the contactor status feedback signal for the Generator.<br>• DO2 have a contact capacity of 30 Vd.c./1 A. |
| | DO2-COM | Digital output 2 - Common | |
| DO1 (Dry contact 1) | - | - | • DO1 is used for the output of the contactor status feedback signal for the grid.<br>• DO1 has a contact capacity of 250 Va.c./1 A or 30 Vd.c./1 A. |
| | DO1-NO | Digital output 1 - Normal Open | |
| | - | - | |
| | DO1-COM | Digital output 1 - Common | |

**Appearance 2**




| Label | | Definition | Description |
|---|---|---|---|
| FE (Network cable interface) | FE1 | Fast Ethernet 1 | Used to connect an inverter. |
| | FE2 | Fast Ethernet 2 | Used to connect an Sigen EV AC Charger, inverter, router and so on. |
| (Reserved) 485 (RS485 interface) | PE | PE signal shielding ground | Used to connect the equipment over RS485. |
| | 485-A | RS485 signal 2_A+ | |
| | 485-B | RS485 signal 2_B- | |
| (Reserved) DI1 | GND | Signal GND | (Reserved) |
| | DI1 | Digital input 1 | |
| DI2 | DI2 | Digital input 2 | • DI2 can be used to connect the feedback signal of the external Automatic Transfer Switch (ATS) to identify whether the gateway "grid port" is powered by the grid or the generator.<br>• Low impedance input (short circuit on ATS relay) indicates the power grid. High impedance input (open circuit on the ATS relay) indicates the Generator. |
| | GND | Signal GND | |
| (Reserved) DI3 | DI3 | Digital input 3 | (Reserved) |
| DI4 | DI4/SPD | Digital input 4 / Surge protection device | DI4 support surge protection device status feedback input signal, among others. |
| | GND | Signal GND | |
| DO1 (Dry contact 1) | DO1-NO | Digital output 1 - Normal Open | • DO1 is used for the output of the contactor status feedback signal for the grid.<br>• The contact capacity of 24 Vd.c./40 mA. |
| | DO1-COM | Digital output 1 - Common | |
| DO2 (Dry contact 2) | DO2-NO | Digital output 2 - Normal Open | • DO2 is used for the output of the contactor status feedback signal for the Generator.<br>• DO2 have a contact capacity 24 Vd.c./40 mA. |
| | DO2-COM | Digital output 2 - Common | |
| DO3/GEN (Dry contact 3/Generator startup) | DO3-NO | Digital output 3 - Normal Open | • DO3 interface can be used for controlling generator start in two-wire start mode.<br>• DO3 have a contact capacity of 24 Vd.c./40 mA.<br>• NO/COM is normally open contact and NC/COM is normally close contact. |
| | DO3-COM | Digital output 3 - Common | |
| | DO3-NC | Digital output 3 - Normal Close | |
| (Reserved) DO4 (Dry contact 4) | DO4-NO | Digital output 4 - Normal Open | (Reserved) |
| | DO4-COM | Digital output 4 - Common | |
| | DO4-NC | Digital output 4 - Normal Close | |

## 5.6.1 Connecting RJ45 Network Cable

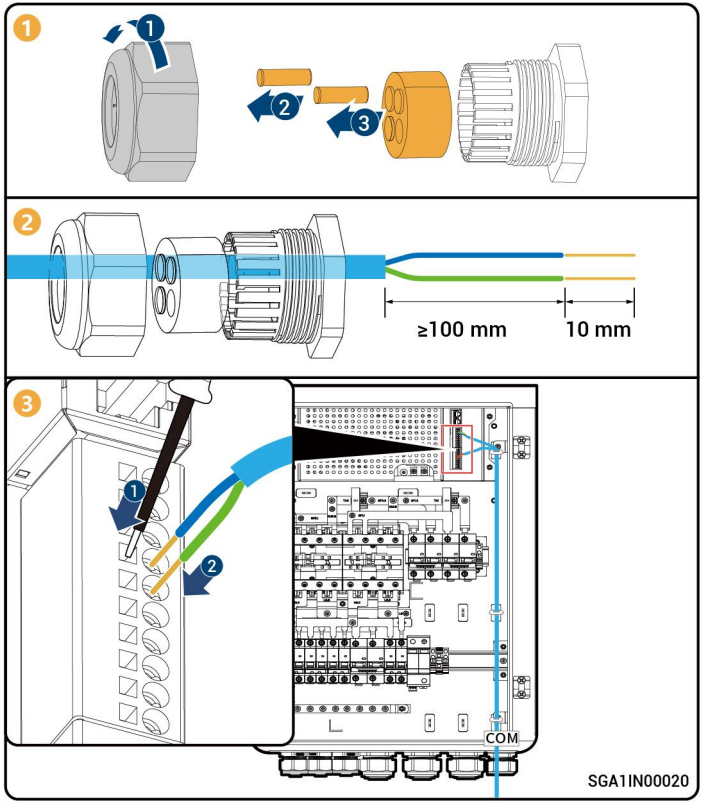



① White orange ② Orange ③ White green ④ Blue ⑤ White blue ⑥ Green ⑦ White brown ⑧ Brown

## 5.6.2 Connecting DI, DO Cable

**Tips**

**DI and DO interfaces are available in two appearances. Please make connections based on your actual needs. For details, refer to "5.6 Introductions to FE, RS485, DI, and DO Terminals."**

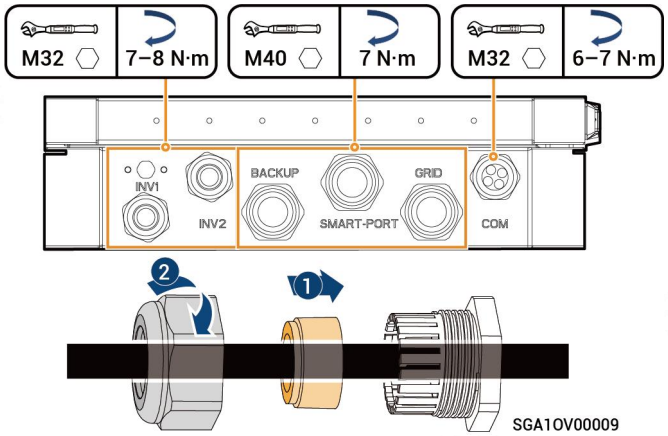


## 5.7 Installing Inner panel

**Check the following items against the provided table, tighten routing holes, and install the protective covers.**

| 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 | All screws or terminal blocks on the device have been installed in place and are not loose. |
| 4 | There are no sharp spikes or acute angles at the cut point of the cable tie. |
| 5 | The Gateway protective cover is locked. |
| 6 | There is no construction left inside or outside the equipment. |

Tighten each routing hole



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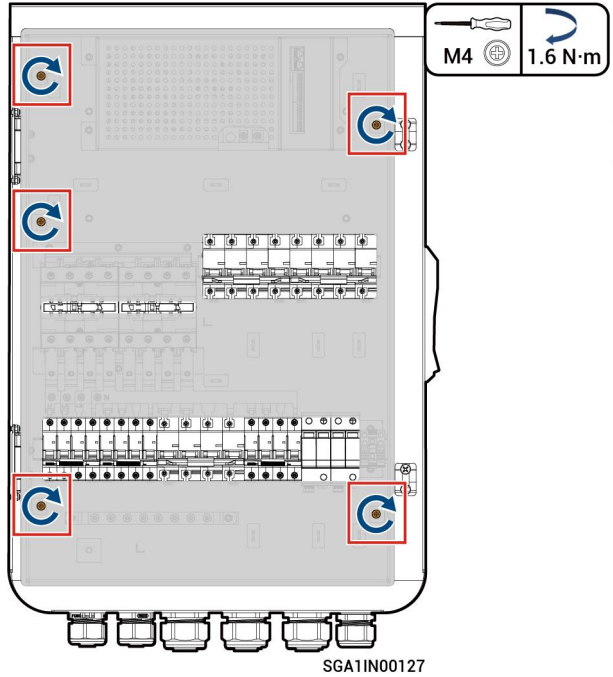
**Caution**

**Measure the voltage of the switch QF1 on the power grid side and check that the measured value is within the allowable range. Ensure that the cable is connected properly, tighten routing holes, and install protective covers.**



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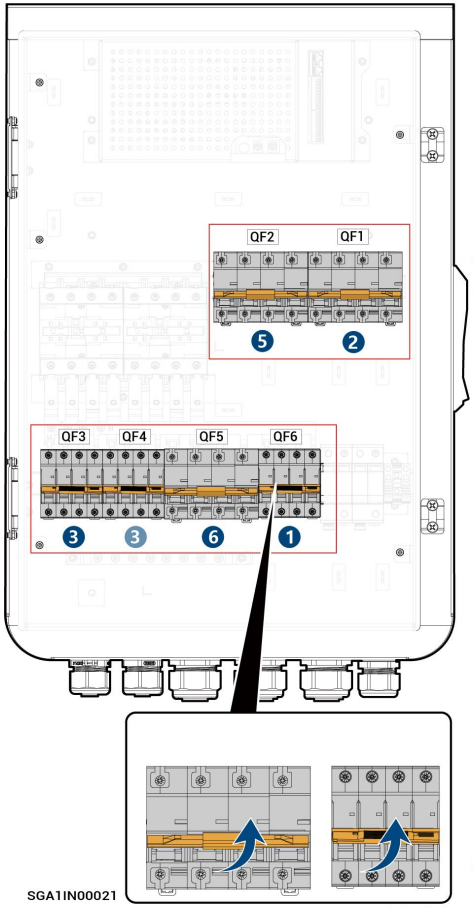
# 6 Equipment Power-On




## Tips

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

## Caution

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

1

1. Switch on the miniature circuit breaker (Surge Protection Device) QF6.
2. Switch on the miniature circuit breaker (Power grid) QF1.
3. Switch on the miniature circuit breaker (Inverter) QF3 or QF4.
4. Wait until inverter is powered on.
5. (Optional) Switch on the miniature circuit breaker (Smart loads/Generator) QF2.
6. Switch on the miniature circuit breaker (Backup household loads) QF5.

2

Upon completion of the operation, close the front panel of the Gateway and lock the sides with the key key delivered with 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.

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