CH3 series

C&I Hybrid Inverter

CH3-(75K-125K)-(T6,T8)

Quick Installation Guide

Version 0.0

Contents

1. About this document

This quick installation guide provides the installation and electrical connection instructions of the SAJ product.

Scan the following QR code to obtain the latest eManuals:

Scan for eManuals

Note:

Illustrations in this document show only essential details and may differ from the actual product.

NOTICE

- This document may be updated without notice and is for guidance only. No warranties are implied.
- Read the product *User Manual* before installation for product details and safety instructions.
- Only qualified electrical professionals familiar with grid-connected PV systems and local standards may perform installation or servicing.
- Check the *Packing List* before installation; report any missing or damaged items to your dealer.
- Damage from improper installation or operation not following this document or the *User Manual* is not covered by warranty.

WARNING

Risk of High Voltage and Electric Shock

- This device is directly connected to public grid.
- Before operation, ensure the inverter is completely disconnected from all the power sources.
- During operation, wear appropriate personal protective equipment and use insulated tools.
- Failure to follow these instructions will result in serious injury or death.

Safety symbols

Symbol	Description	Symbol	Description
	**Danger:** Electrical shock hazard		**Caution:** No disposal in residential waste
	**Danger:** Hot surface Do not touch metal plate housing during operating.		**CE Mark**
	**Danger:** Do not open the cabinet door until 5 minutes after disconnecting all power sources.		**RoHS compliant mark**
	**Warning:** No open flames		**Caution:** Check the user manual before service

2. Safety instructions

NOTICE

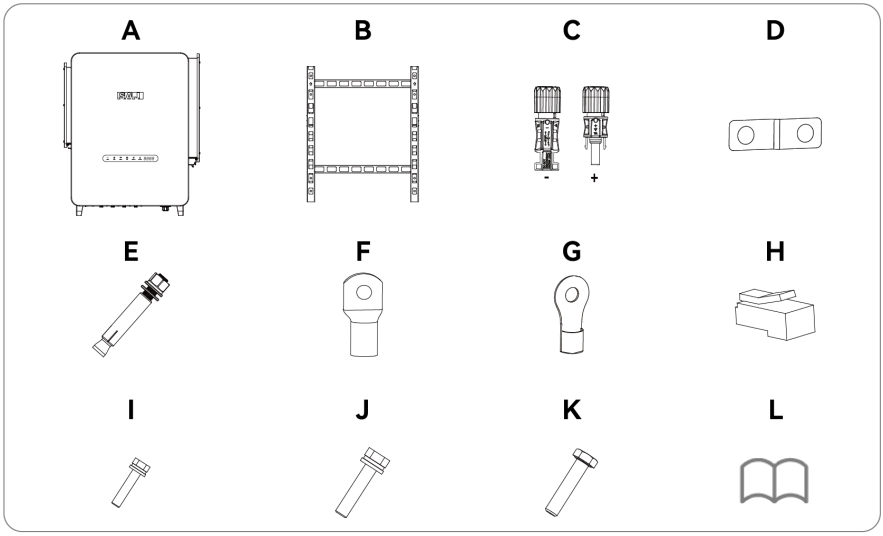
- This document may be updated without notice and is for guidance only. No warranties are implied.
- Read the product *User Manual* before installation for product details and safety instructions.
- Only qualified electrical professionals familiar with grid-connected PV systems and local standards may perform installation or servicing.
- Check the *Packing List* before installation; report any missing or damaged items to your dealer.
- Damage from improper installation or operation not following this document or the user manual is not covered by warranty.

WARNING

Risk of High Voltage and Electric Shock

- This device is directly connected to public grid. Before operation, ensure the inverter is completely disconnected from all the power sources.
- During operation, wear appropriate personal protective equipment and use insulated tools.
- Failure to follow these instructions will result in serious injury or death.

3. Packing list



Number	Quantity	Designation
A	1	CH3 inverter (135 kg)
B	1	Mounting bracket (3.8 kg)
C	• T6 models: 12 pairs • T8 models: 16 pairs	PV positive and negative connector
D	2	Connecting plate
E	4	M10*100 expansion bolt
F	• SC25-10: 12 • SC70-10: 12 • SC150-10: 12	AC cable OT terminal
G	2	RNB38-8 grounding cable OT terminal
H	10	RJ45 communication cable connector
I	2	M6*12 screw
J	4	M12*20 screw
K	4	M10*45 screw
L	1	Document

4. Installation instructions

4.1. Precautions

For safety, be sure to read all the safety instructions carefully prior to any work and observe the appropriate rules and regulations of the country or region where you install the product.

DANGER

Danger to life due to potential fire or electric shock.

Do not install the product near any inflammable or explosive items.

NOTICE

This equipment meets the pollution degree.

- Inappropriate or the harmonized installation environment may jeopardize the life span of the product.
- The installation site must be well ventilated.

4.2. Installation Preparation

Read the following sections to determine the installation site.

The safety regulations vary in different countries and regions. Follow local safety regulations.

4.2.1. Installation environment requirement

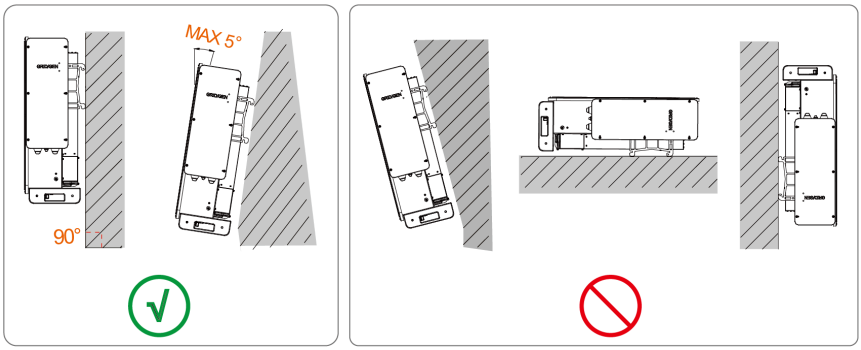
It is strongly suggested to install the product in an outdoor location that is more than 2000 meters from the coast. When selecting the installation location, follow the guidelines below:

- Consult the dealer or **SAJ** technical support when the distance from the installation location to the coast is between 500 and 2000 meters. Do not install the product within 500 meters from the coast.
- Do not install the product in areas affected by salt damage or pollution which can lead to corrosion of the equipment.
- Do not install the product in areas with moderate or heavy dust pollution, metallic dust pollution, saline-alkali land, corrosive gas pollution, or corrosive rainwater pollution.
- The installation environment must be free of inflammable or explosive materials.
- The product must be installed in a place away from any heat source.

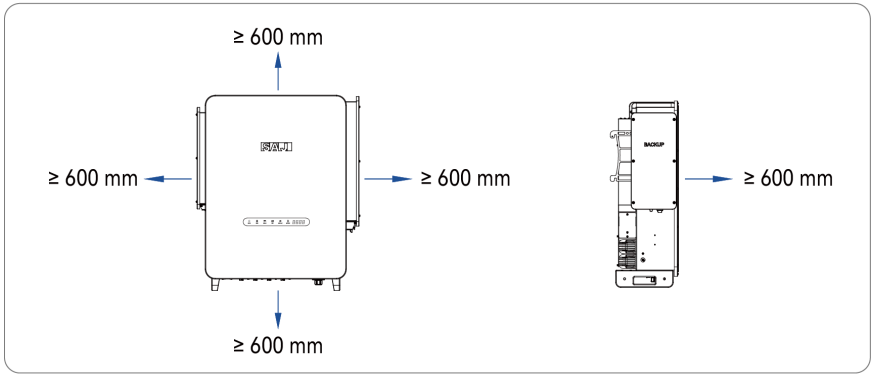
- Do not install the product at a place where the temperature changes extremely.
- The height of the product from the ground should be considered to prevent the equipment from soaking in water. The specific height is determined by the site environment.

4.2.2. Plan the installation site

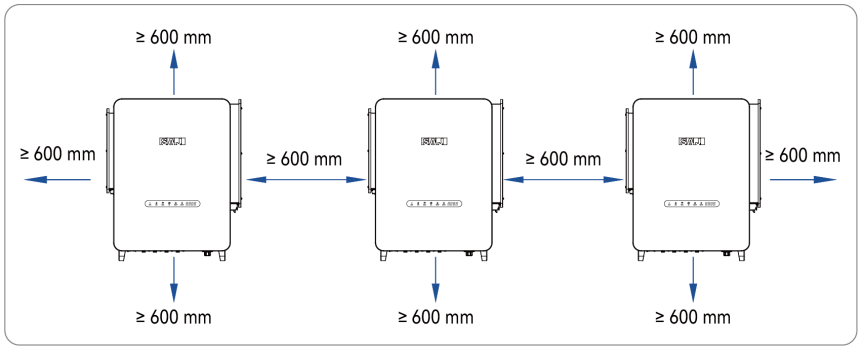
1. Install the inverter vertically. Do not install it backward-tilted, forward-tilted, or horizontally.

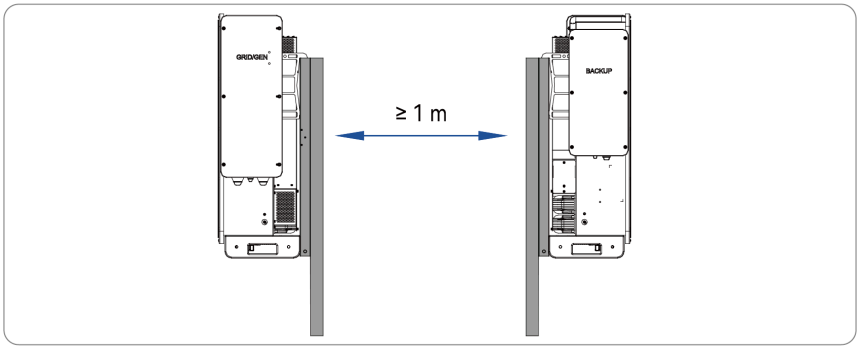


2. This device is cooled by natural convection and suggested an indoor installation or an installation under a sheltered place to prevent the product from exposure to direct sunlight, rain and snow erosion.
3. Poor air ventilation will affect the working performance of internal electronic components and shorten the service life of the system. Reserve enough clearance around the product to ensure a good air circulation at the installation area.



4. In parallel deployment, arrange the inverters as follows:





4.2.3. Lifting equipment

During the installation, use a crane to lift and move the inverter.

Follow the safety instructions below when using the crane:

- The load capacity of the crane must be larger than one ton; the slings must be strong enough to lift and move the inverter.
- Recommend using fiber slings to avoid scratching the painting on the inverter surface.

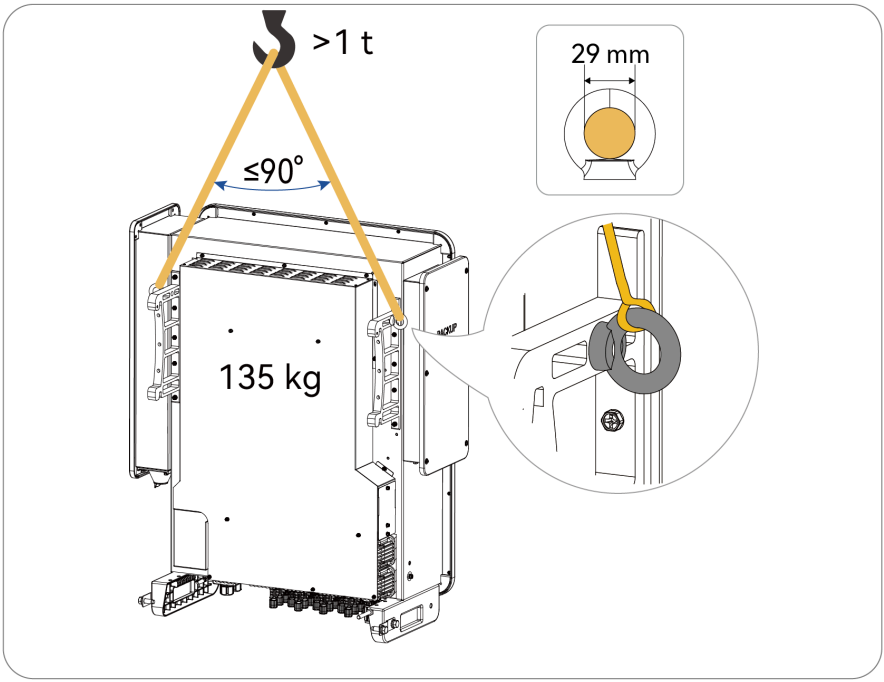


Figure 4.1. Lifting equipment

4.2.4. Installation tools

Installation tools include but are not limited to the following recommended ones. Use other auxiliary tools on site if necessary.

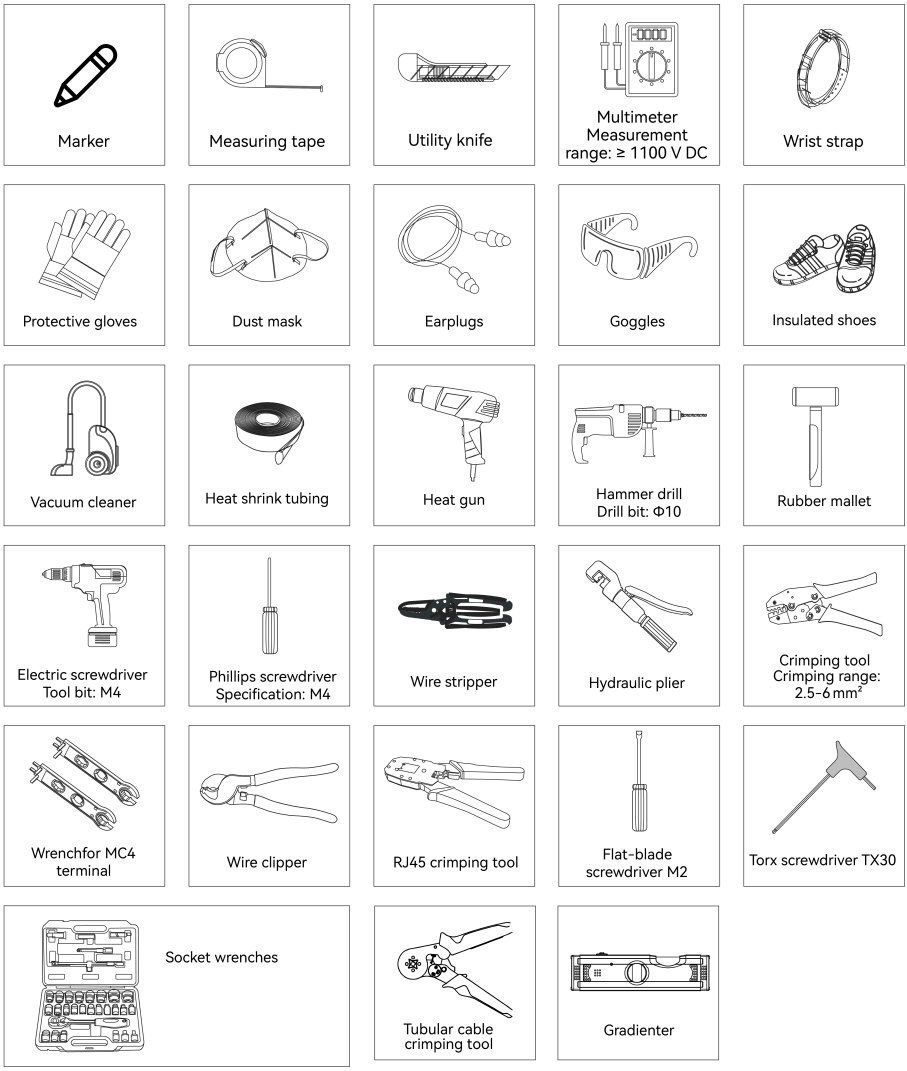


Figure 4.2. Suggested installation tools

4.3. Mount the inverter

Select one of the following options to mount the inverter:

- Mount the inverter on the wall.
- Mount the inverter on a frame. With this option, the installer needs to prepare the frame that can bear the weight of the inverter. Four M10*100 screws are provided in the delivery for securing the mounting bracket to the frame.

4.3.1. Mount the inverter on wall

Follow this procedure to mount the inverter on the wall.

⚠ CAUTION

Make sure that the wall can bear the weight of the inverter and the accessories.

Procedure

1. Select one of the four mounting options for securing the bracket to the wall. Mark four drilling holes accordingly.

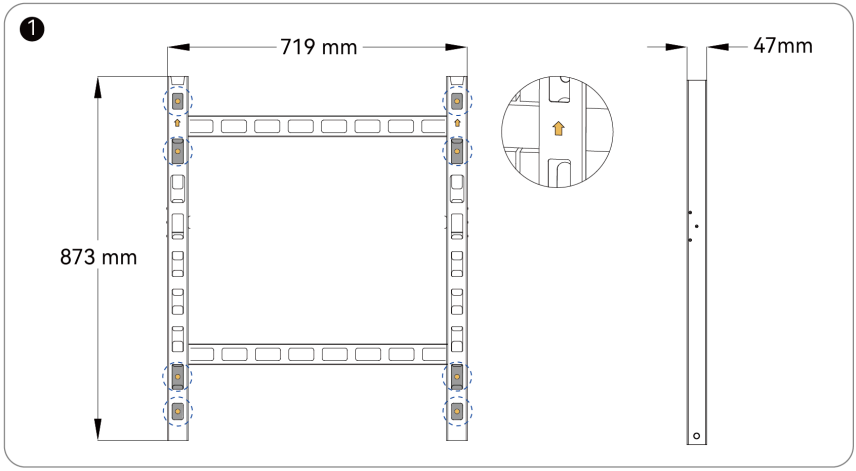
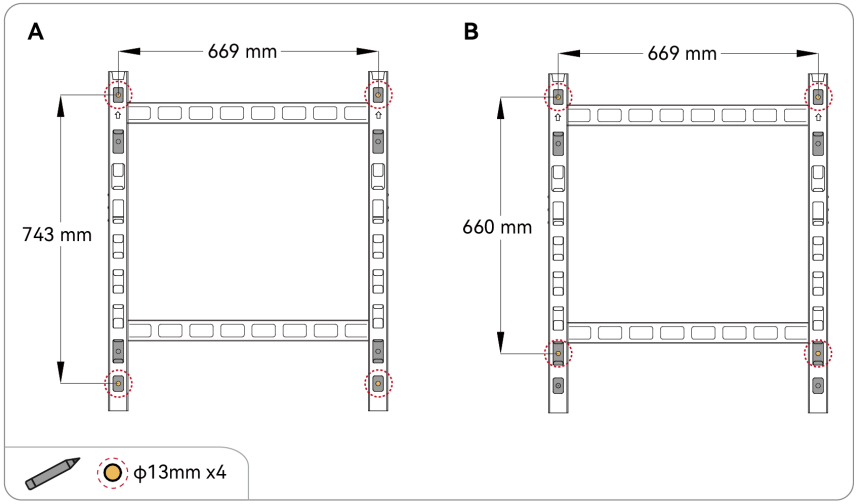
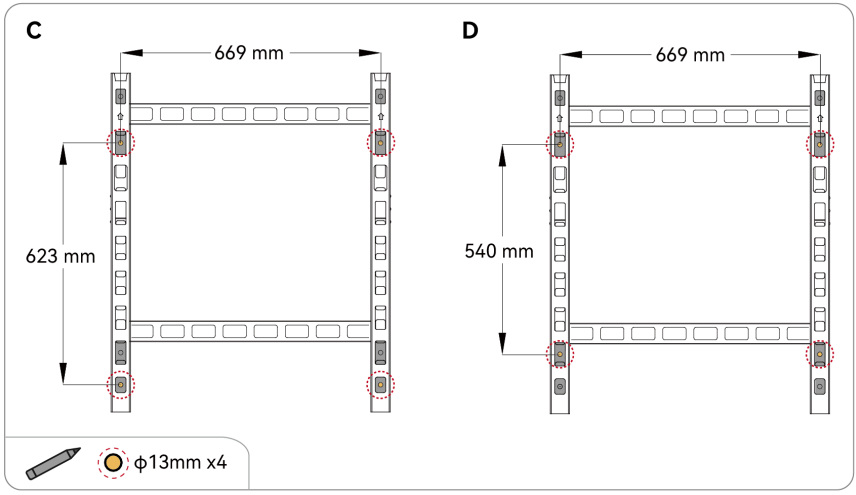


Figure 4.3. Mounting bracket size

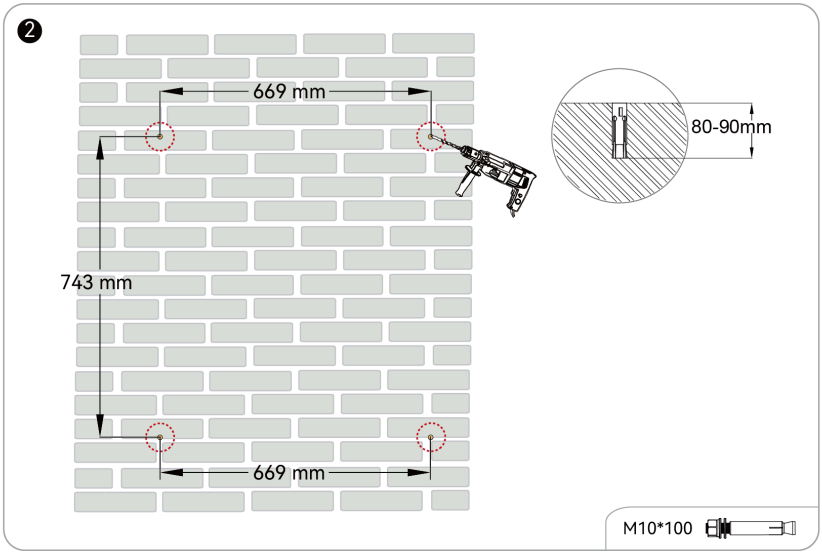
Mounting options:

Note: Recommended: Option A.

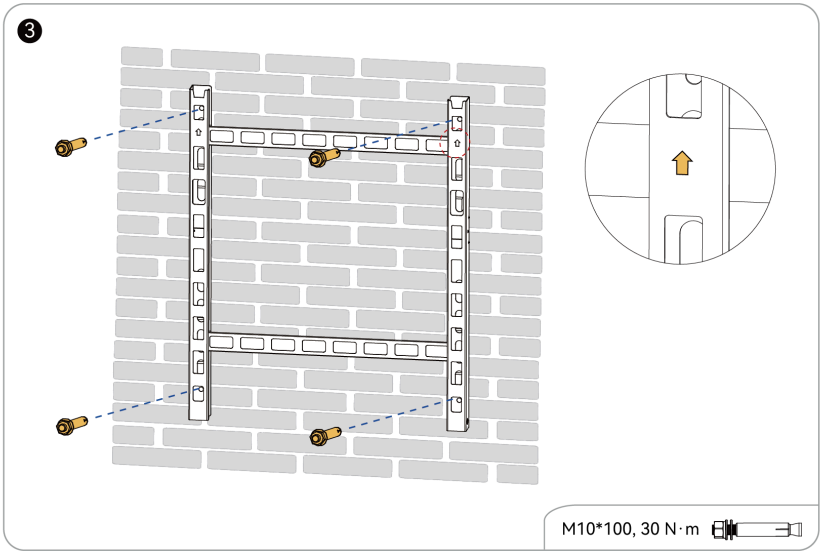

A
669 mm
743 mm
B
669 mm
660 mm
ϕ13mm x4


C
669 mm
623 mm
D
669 mm
540 mm
ϕ13mm x4

2. Drill four holes on the wall. Take option A as an example:
   Example:

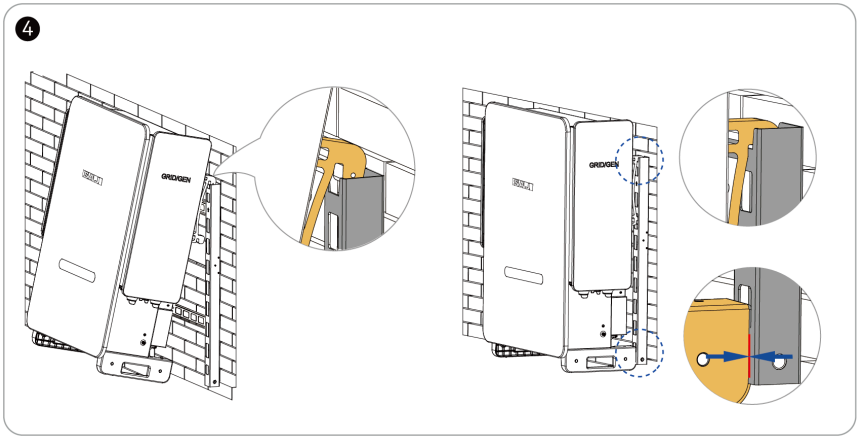


3. Secure the mounting bracket to the wall with four screws.

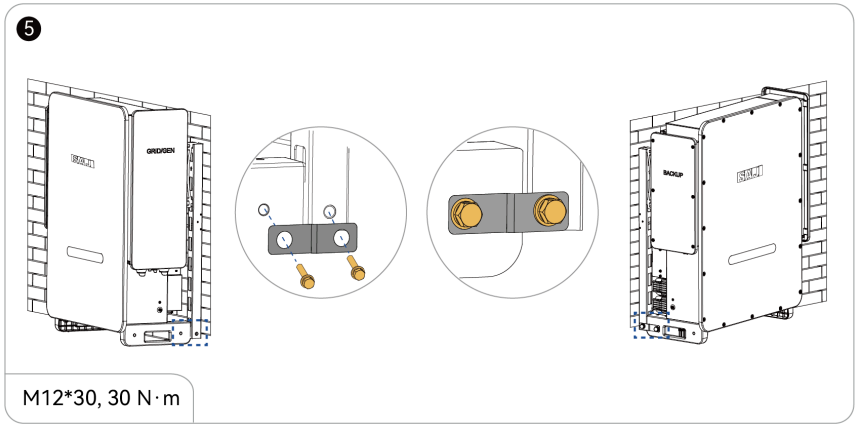


4. Mount the inverter onto the bracket.

Note: Make sure that the inverter bottom is firmly placed against the bracket.



5. Install the metal plate to secure the inverter to the bracket.



4.3.2. Mount the inverter on external frame

Follow this procedure to mount the inverter on an external frame.

CAUTION

Make sure that the frame can bear the weight of the inverter and the accessories.

Procedure

1. Select one of the four mounting options for securing the bracket to the frame.

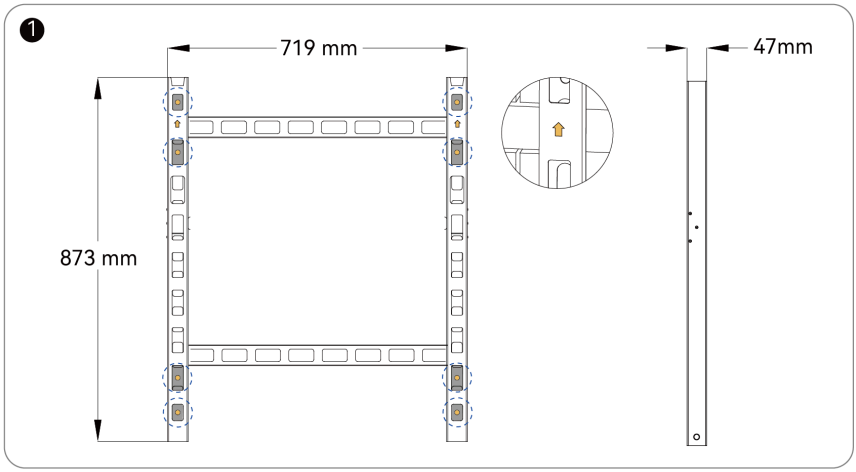
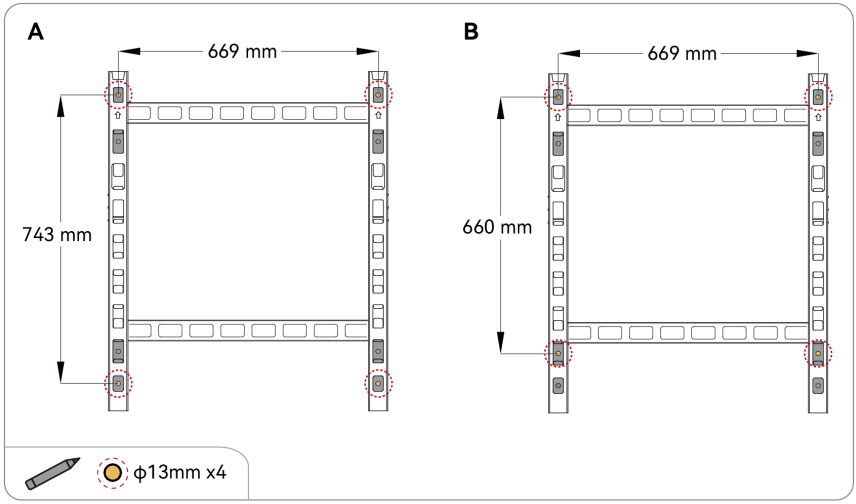
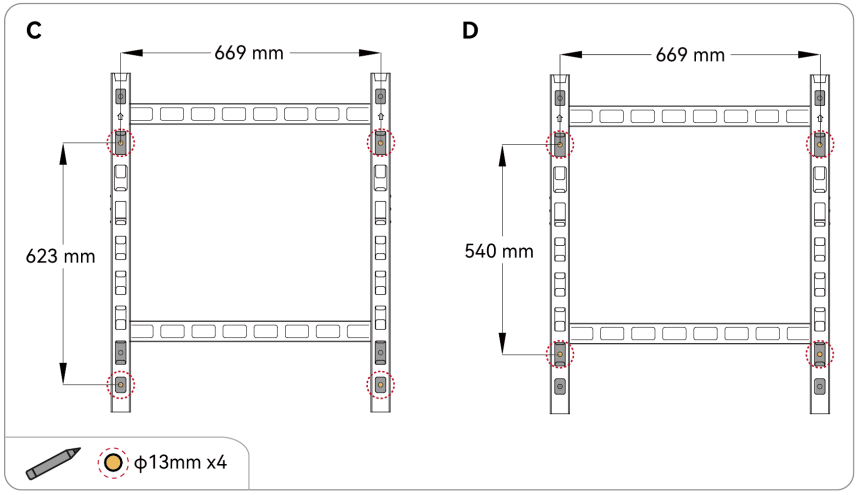


Figure 4.4. Mounting bracket size

Mounting options:

Note: Recommended: Option A.


A
669 mm
743 mm
B
669 mm
660 mm
ϕ13mm x4


C
669 mm
623 mm
D
669 mm
540 mm
ϕ13mm x4

2. Adjust the frame height accordingly.
   Example:

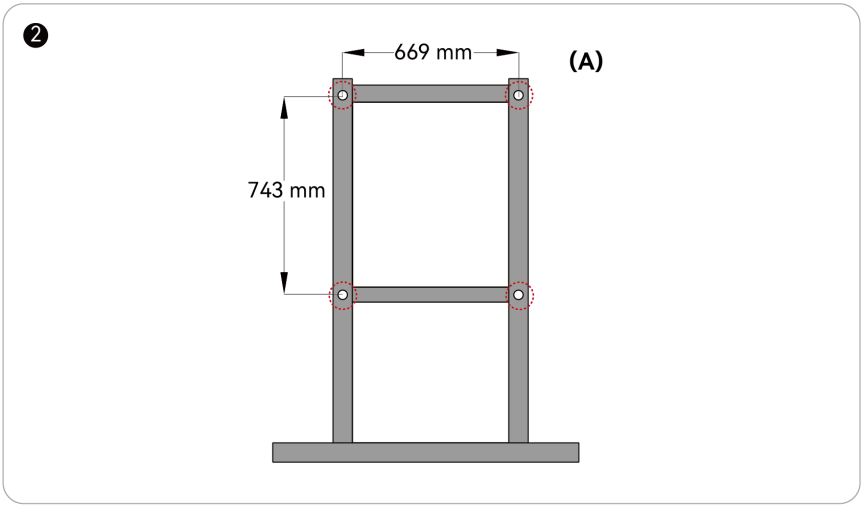
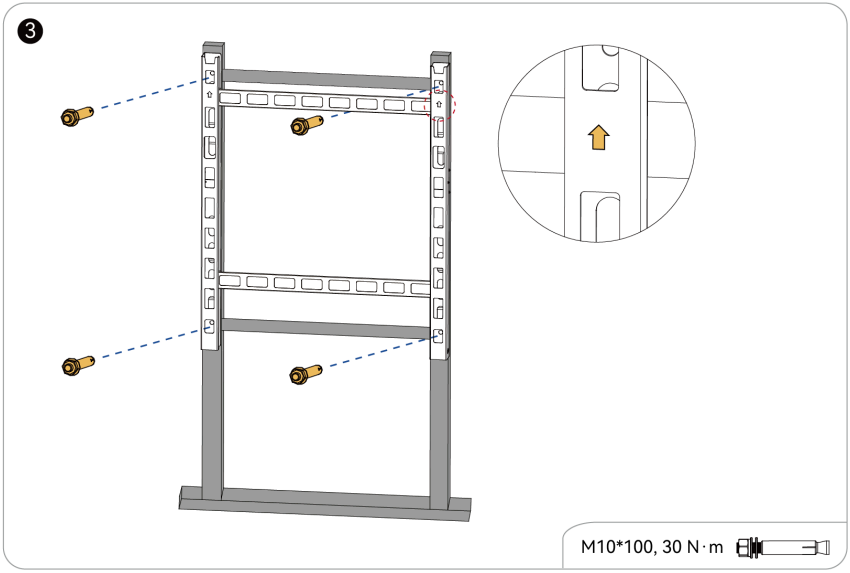


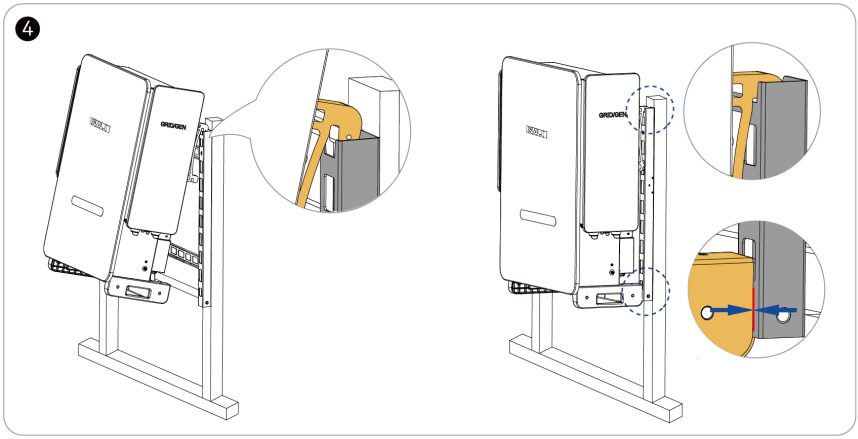
Figure 4.5. Frame height for mounting option A

3. Secure the mounting bracket to the frame with four screws.

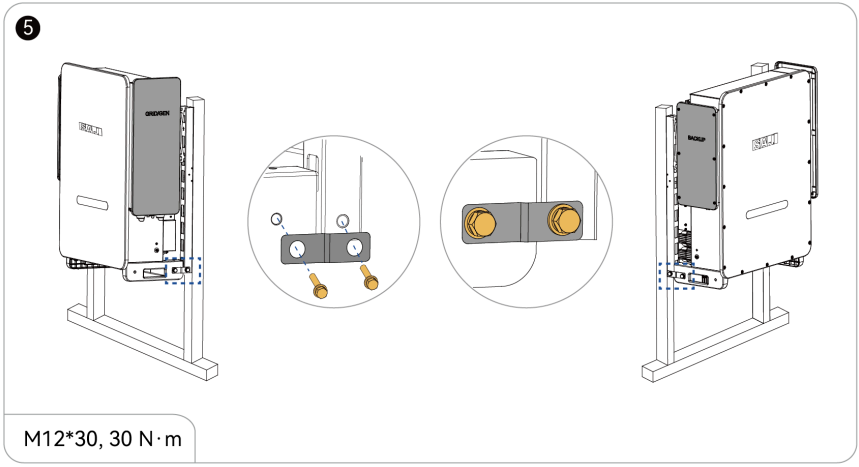


4. Mount the inverter onto the bracket.

Note: Make sure that the inverter bottom is firmly placed against the bracket.



5. Install the metal plate to secure the inverter to the bracket.



5. Electrical connection

5.1. Electrical connection safety

Electrical connection must only be operated by professional technicians. Before the operation, the technicians must wear necessary personal protective equipment (PPE) including insulating gloves, insulating shoes, and a safety helmet.

DANGER

Danger to life due to potential fire or electricity shock.

- Do not install the cabinet near any inflammable or explosive items.
- When it is powered on, the equipment should comply with national rules and regulations.

WARNING

Any improper operation during cable connection can cause device damage or personal injury.

5.1.1. Wiring guidelines

- The selection, installation, and routing of cables must comply with local laws, regulations, and standards.
- During the placement of power cables, avoid coiling or twisting. If a power cable is found to be too short, replace it entirely; do not create splices or weld joints within the cable.
- Ensure that all cables are firmly connected, have good insulation, and are appropriately sized for their application.
- Cable trays and pass-through holes should not have sharp edges. Use protective measures at conduit entrances or pass-through holes to prevent damage to cables from sharp edges or burrs.
- Group similar types of cables together and secure them neatly, ensuring they lie flat and straight without damage to the outer jacket. Different types of cables should be laid separately to avoid entanglement or crossing.
- For buried cables, use cable supports and clamps to securely fix them in place. Ensure that backfilled soil around underground cables is compacted to prevent deformation or damage during the backfilling process.

- When external conditions like installation methods or ambient temperatures change, verify the cable selection according to local regulations to ensure parameters like current-carrying capacity.
- To prevent insulation aging or damage due to high temperatures, maintain a minimum distance of 30 mm between cables and heat-generating components or heat source peripheries.

5.1.2. Ground protection

- Follow the grounding guidelines below for the equipment which is critical to ensure electrical safety and compliance with local standards:
- The impedance of the equipment's grounding system must meet the requirements specified by local electrical standards.
- The equipment must be permanently connected to a protective ground. Before operating the equipment, always check the electrical connections to ensure that the equipment is reliably grounded.
- It is strictly prohibited to operate the equipment if the grounding conductor has not been installed.
- Do not damage or tamper with the grounding conductor in any way.

5.1.3. AC- and DC-side handling

- Before installing or removing power cables, turn off all switches on both the AC and DC sides to ensure that no electrical flows through the system during the operation.
- Prior to connecting the AC side cables, verify that the phase sequence of the three-phase cables matches the silk-screen markings on the cable connectors.
- If the equipment has multiple input and output paths, disconnect all inputs and outputs before proceeding. After ensuring all power sources are disconnected, wait for at least 5 minutes to allow any residual charge in capacitors or other components to dissipate. Only then should you perform any operations on the equipment.

5.1.4. Electrostatic Discharge (ESD) Protection

⚠ CAUTION

Contact with or improper handling of printed circuit boards or other electrostatic discharge sensitive components can lead to device damage.

- Avoid unnecessary contact with circuit boards.
- Adhere to ESD protection standards, such as wearing an anti-static wrist strap.

5.1.5. Earth fault alarm monitoring

This inverter is of transformer-less design and therefore does not provide galvanic isolation between the DC and AC sides. To comply with safety requirements, it incorporates earth fault alarm monitoring function in accordance with *IEC 62109-2, clause 13.9*. This function continuously checks the insulation resistance of the PV array to earth.

If an earth fault is detected due to damaged cables, moisture ingress or similar reasons, the inverter responds as follows:

- The LED light illuminates **red**.
- An error code **<31>** is displayed in the elekeeper App.

NOTICE

This inverter **must not be connected to functionally earthed PV arrays**, where either the positive or negative pole is permanently connected to earth. Such installations would be interpreted as a permanent earth fault, causing continuous false alarms and potentially damaging the inverter's internal circuitry.

5.2. Plan the cable connections

5.2.1. Single deployment

Single deployment

The following figure shows the system connections of single deployment with both on-grid and backup connections.

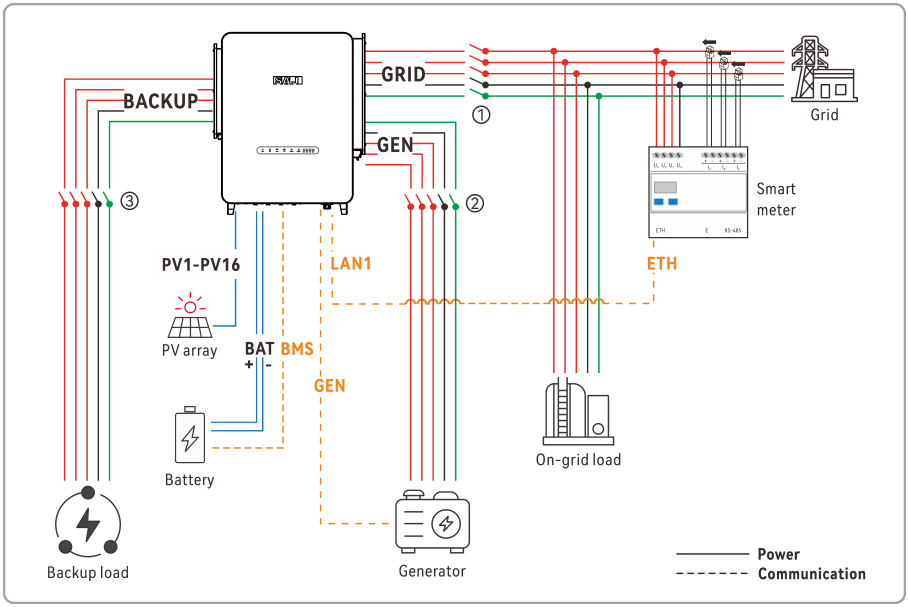


Figure 5.1. Single deployment with on-grid and backup connections

Prepare the AC circuit breakers according to the recommended specifications below:

Product model	Grid AC breaker ① - with BACKUP connection	Grid AC breaker ① - without BACKUP connection	Generator AC breaker ②	Backup AC breaker ③
CH3-(75K-125K)-(T6,T8)	400 A	250 A	250 A	250 A

Table 5.1. Recommended AC breaker specifications

Product model	Grid AC breaker ① - with BACKUP connectio	Grid AC breaker ① - without BACKUP connection	Generator AC breaker ②	Backup AC breaker ③
CH3-(75K-125K)-(T6,T8)-G	-	250 A	-	-

Table 5.2. Recommended AC breaker specifications

Product model	Grid AC breaker ① - with BACKUP connection	Grid AC breaker ① - without BACKUP connection	Generator AC breaker ②	Backup AC breaker ③
CH3-(75K-125K)-(T6,T8)-EU	300 A	250 A	250 A	250 A
CH3-(75K-125K)-(T6,T8)-G-EU	-	250 A	-	-

Table 5.3. Recommended AC breaker specifications

5.2.2. Parallel deployment

The CH3 series inverters support parallel deployment for different application scenarios.

In a parallel system, one inverter must be designated as the primary inverter to orchestrate external communications and internal system coordination. For example, the DO connection to the diesel generator must be wired directly to the primary inverter.

With on-grid connections only - 20 inverters at maximum

The following figure shows the system connections of parallel deployment with on-grid connections only. In this deployment, a maximum of 20 inverters can be installed.

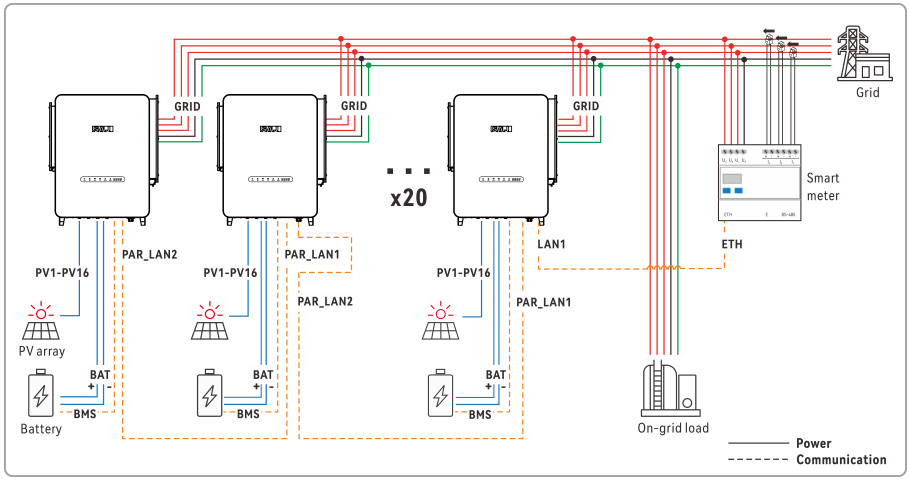


Figure 5.2. Parallel deployment with on-grid connections only - 20 inverters at maximum

With on-grid and backup connections - 10 inverters at maximum

The following figure shows the system connections of parallel deployment with both on-grid and backup connections. In this deployment, a maximum of 10 inverters can be installed.

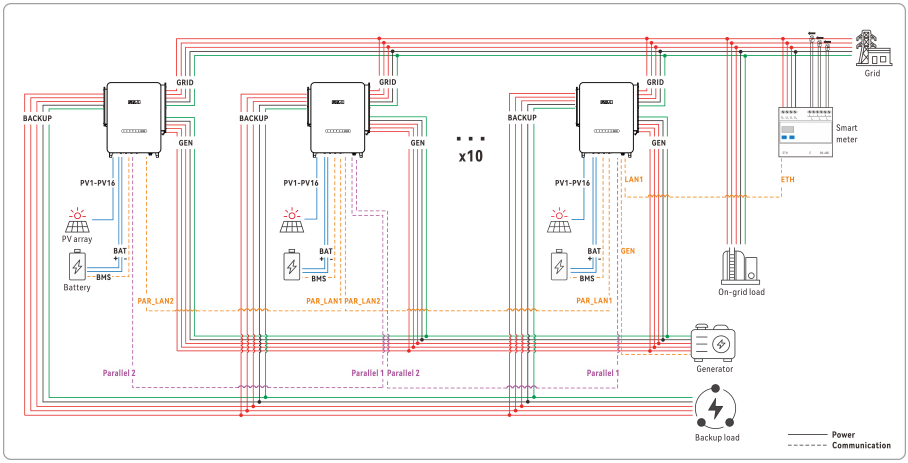


Figure 5.3. Parallel deployment with on-grid and backup connections - 10 inverters at maximum

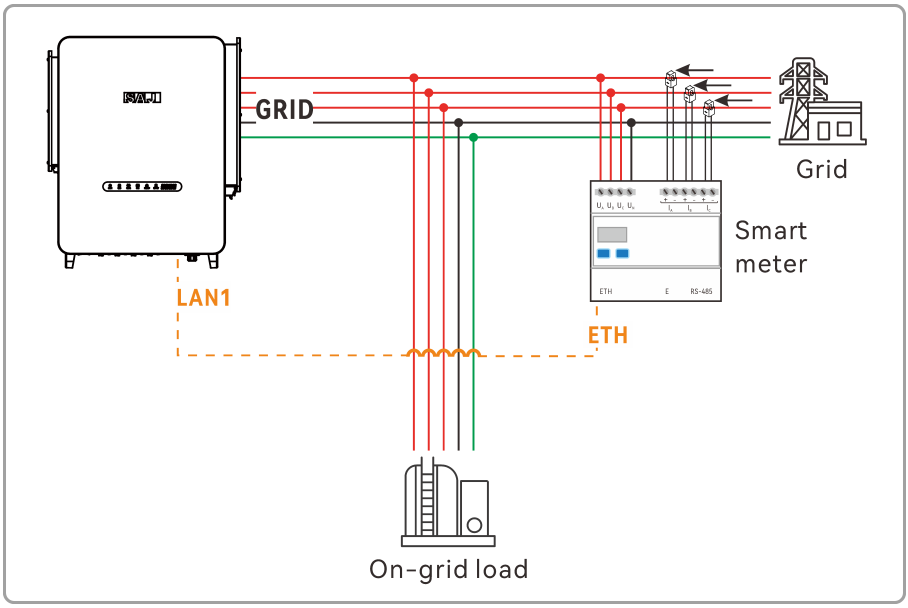
5.2.3. Smart meter connection solutions

CH3 series inverters support the following smart meter connection solutions. Plan the meter connection according to actual customer requirements.

For customized requirements and solutions, contact SAJ product support.

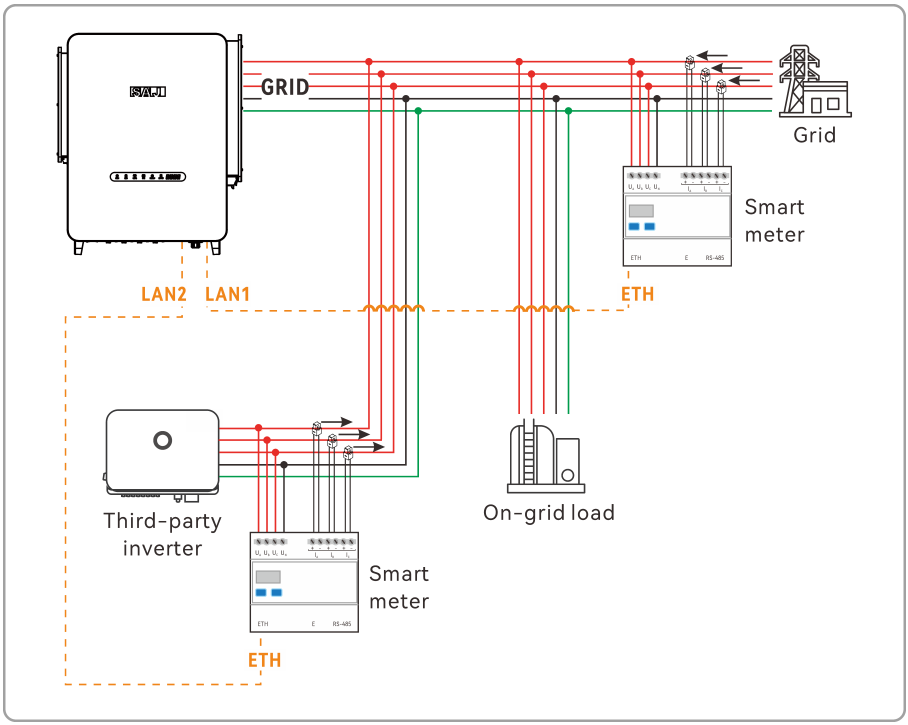
One meter for single deployment

Install the grid meter between the grid main breaker and the loads. The directional arrow on the CT must point towards the on-grid loads.



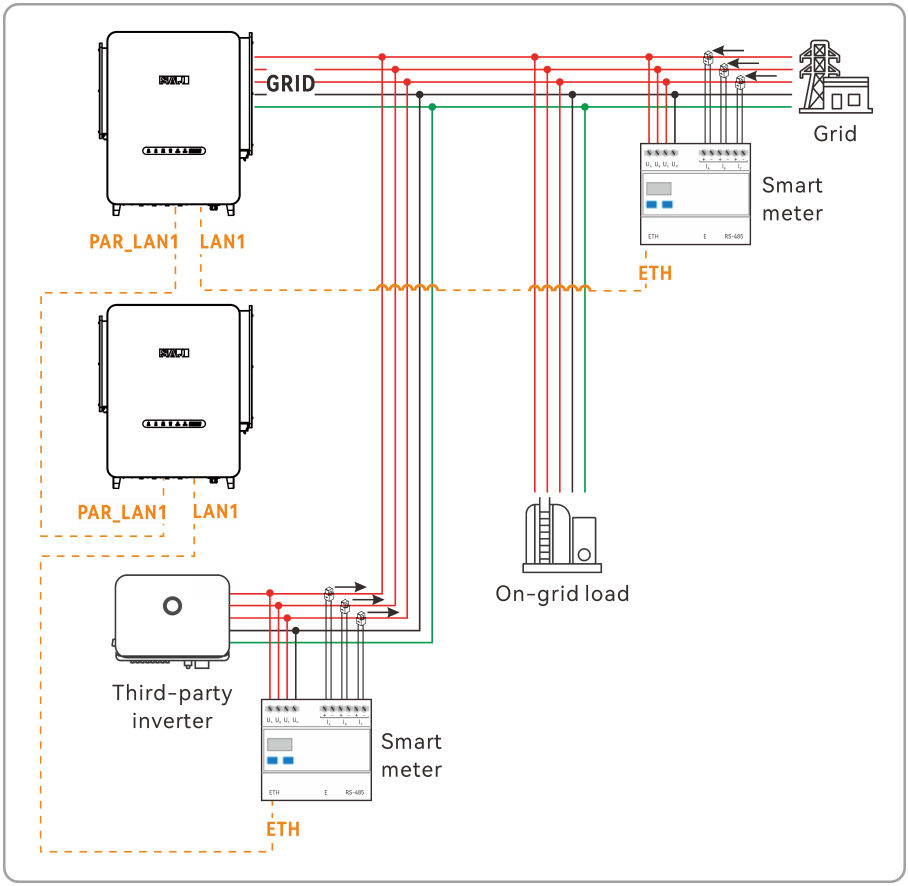
Two meters for single deployment with third-part inverter

The second smart meter can be installed for the third-party inverter and reports data to CH3 through **LAN2** connection.



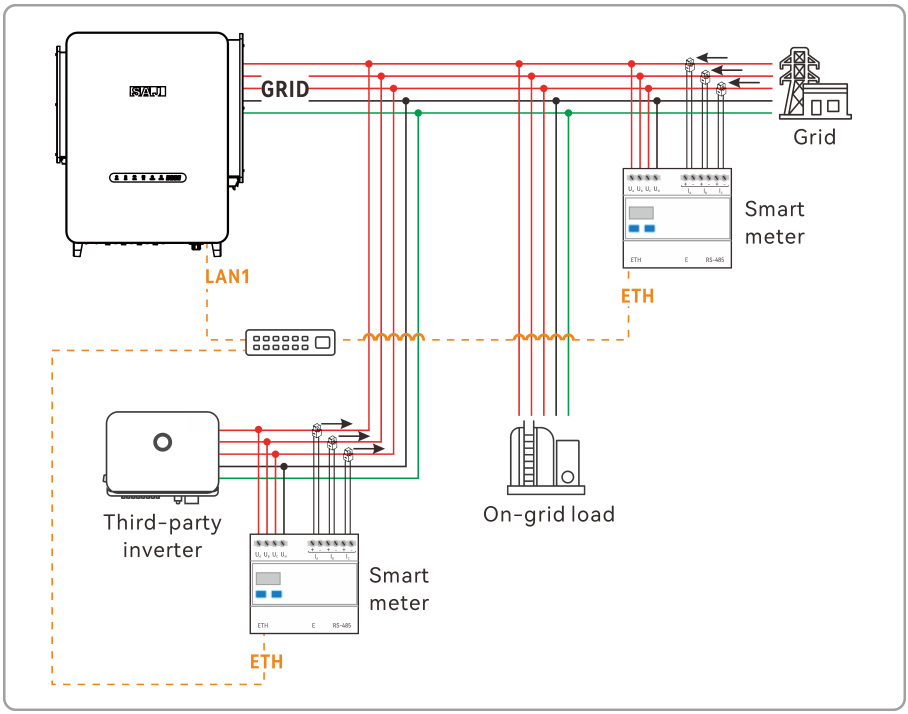
Two meters for parallel deployment with third-part inverter

The second smart meter can be installed for the third-party inverter and reports data to CH3 through **LAN1** connection.



Two meters for parallel deployment through a switch

The second smart meter can be installed for the third-party inverter and reports data to CH3 through LAN connection over an external switch. The inverter also connects to the switch through **LAN1** connection.



5.3. Prepare electrical cables

Prepare the items listed in this section before installation.

Grounding cable

Cable type	Conductor cross-sectional area (mm^2)		Connecting terminal
	Range	Recommended	
Outdoor multi-core copper wire cable	35-90	35	RNB38-8 OT terminal in the package

Table 5.4. Grounding cable

PV power cables

Cable type	Conductor cross-sectional area (mm^2)	Maximum current (A)	Outer diameter range (mm)
Outdoor single-conductor PV cable (≥1500V)	5.26-6.0	35	4.0-7.0

Table 5.5. PV power cable

Communication cables

Connector type	Cable type	Conductor cross-sectional area (mm^2)	Connecting terminal
RJ45 connection	CAT 5E outdoor shielded network cable with internal resistance ≤1.50 Ω/10m	-	RJ45 connector in the package
2/3/6-pin connections	Multi-core high-temperature outdoor communication cable	0.2-3.3	2/3/6-pin connectors installed on the communication terminal block of the inverter.

Table 5.6. Communication cables

AC power cables - CH3-(75K-125K)-(T6,T8)

Cable type: Outdoor multi-core high-temperature cable (≥400V)

The following table specifies the required AC cable gauges for the **Grid** and **Generator** connections when the backup output is active. Under this configuration, the Grid and the Generator are capable of powering the backup loads and simultaneously charging the battery.

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
Grid Generator	CH3-75K-T6	228	50-95	70	25-70
	CH3-80K-T6	243	70-120	95	
	CH3-99.9K-T8 CH3-100K-T8	304	95-150	120	
	CH3-110K-T8	334	120-185	150	
	CH3-125K-T8	380	150-240	185	

Table 5.7. Grid and Generator connections - with active Backup connection

The following table specifies the required AC cable gauges for the **Grid** connection when the backup output is disabled.

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
Grid	CH3-75K-T6	114	25	25	25-70
	CH3-80K-T6	122	35	35	
	CH3-99.9K-T8 CH3-100K-T8	152	35-70	50	
	CH3-110K-T8	167	35-70	50	
	CH3-125K-T8	190	50-95	70	

Table 5.8. Grid connections - with Backup connection disabled

The following table specifies the required AC cable gauges for the **Backup** connection in single deployment.

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
Backup (single deployment)	CH3-75K-T6	114	25	25	25-54
	CH3-80K-T6	122	35	35	
	CH3-99.9K-T8 CH3-100K-T8	152	35-70	50	
	CH3-110K-T8	167	35-70	50	
	CH3-125K-T8	190	50-95	70	

Table 5.9. Backup connection in single deployment

The following table specifies the required AC cable gauges for the **Backup** connections in parallel deployment.

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
Backup (Parallel deployment)	CH3-75K-T6	228	50-95	70	25-54
	CH3-80K-T6	243	70-120	95	
	CH3-99.9K-T8 CH3-100K-T8	304	95-150	120	
	CH3-110K-T8	334	120-185	150	
	CH3-125K-T8	380	150-240	150	

Table 5.10. Backup connections in parallel deployment

AC power cables - CH3-(75K-125K)-(T6,T8)-EU

Cable type: Outdoor multi-core high-temperature cable (≥400V)

The following table specifies the required AC cable gauges for the **Grid** connection when the backup output is active. Under this configuration, the Grid is capable of powering the backup loads and simultaneously charging the battery.

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
Grid	CH3-75K-T6-EU	200	50-95	70	25-70

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
	CH3-80K-T6-EU	200	50-95	70	
	CH3-99.9K-T8-EU CH3-100K-T8-EU	250	70-120	95	
	CH3-110K-T8-EU	250	70-120	95	
	CH3-125K-T8-EU	250	70-120	95	

Table 5.11. Grid connection - with active backup connection

The following table specifies the required AC cable gauges for the **Grid** connection when the backup output is disabled.

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
Grid	CH3-75K-T6-EU	114	25	25	25-70
	CH3-80K-T6-EU	122	35	35	
	CH3-99.9K-T8-EU CH3-100K-T8-EU	152	35-70	50	
	CH3-110K-T8-EU	167	35-70	50	
	CH3-125K-T8-EU	190	50-95	70	

Table 5.12. Grid connection - with Backup connection disabled

The following table specifies the required AC cable gauges for the **Generator** connection.

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
Generator	CH3-75K-T6-EU	114	25	25	25-70
	CH3-80K-T6-EU	122	35	35	
	CH3-99.9K-T8-EU CH3-100K-T8-EU	152	35-70	50	
	CH3-110K-T8-EU	167	35-70	50	
	CH3-125K-T8-EU	190	50-95	70	

Table 5.13. Generator connection

The following table specifies the required AC cable gauges for the **Backup** connection in single deployment.

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
Backup (single deployment)	CH3-75K-T6-EU	114	25	25	25-54
	CH3-80K-T6-EU	122	35	35	
	CH3-99.9K-T8-EU CH3-100K-T8-EU	152	35-70	50	
	CH3-110K-T8-EU	167	35-70	50	
	CH3-125K-T8-EU	190	50-95	70	

Table 5.14. Backup connection in single deployment

The following table specifies the required AC cable gauges for the **Backup** connections in parallel deployment.

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
Backup (Parallel deployment)	CH3-75K-T6-EU	228	50-95	70	25-54
	CH3-80K-T6-EU	243	70-120	95	
	CH3-99.9K-T8-EU CH3-100K-T8-EU	304	95-150	120	
	CH3-110K-T8-EU	334	120-185	150	
	CH3-125K-T8-EU	380	150-240	150	

Table 5.15. Backup connections in parallel deployment

AC power cables - CH3-(75K-125K)-(T6,T8)-G

Cable type: Outdoor multi-core high-temperature cable (≥400V)

The following table specifies the required AC cable gauges for the **Grid** connection.

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
Grid	CH3-75K-T6-G	114	25	25	25-54
	CH3-80K-T6-G	122	35	35	
	CH3-99.9K-T8-G CH3-100K-T8-G	152	35-70	50	
	CH3-110K-T8-G	167	35-70	50	
	CH3-125K-T8-G	190	50-95	70	

Table 5.16. Grid connection

AC power cables - CH3-(75K-125K)-(T6,T8)-G-EU

Cable type: Outdoor multi-core high-temperature cable (≥400V)

The following table specifies the required AC cable gauges for the **Grid** connection.

Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
Grid	CH3-75K-T6-G-EU	114	25	25	25-54
	CH3-80K-T6-G-EU	122	35	35	

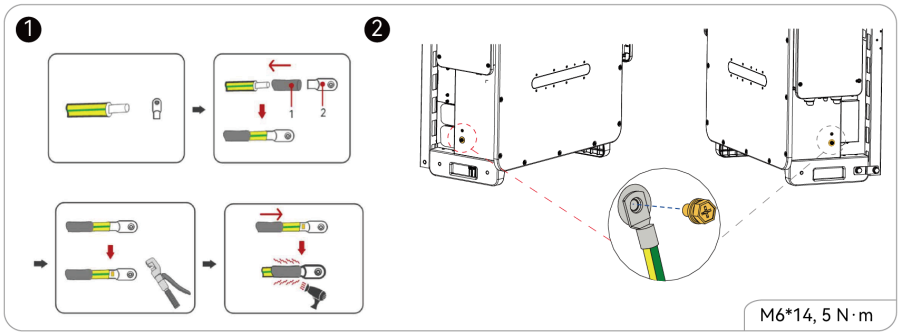
Connection	Model	Max. current (A)	Cross-sectional area (mm^2)	Recommended (mm^2)	Outer diameter range (mm)
	CH3-99.9K-T8-G-EU CH3-100K-T8-G-EU	152	35-70	50	
	CH3-110K-T8-G-EU	167	35-70	50	
	CH3-125K-T8-G-EU	190	50-95	70	

Table 5.17. Grid connection

5.4. Connect the grounding cable

WARNING

Connect the grounding cable before other electrical connections.



Procedure

1. Assemble the cable with the RNBS38-8 OT/DT terminal.
2. Remove the screw from one of the grounding terminal, insert the screw through the OT/DT terminal, and tighten the cable with the screw.

   Two grounding connection points are provided for cable connection convenience. Select one of the ports for connection.
3. Connect the other cable end to the external earthing bar.

5.5. Connect the AC power cables

Connect the AC power cables according to the following diagram.

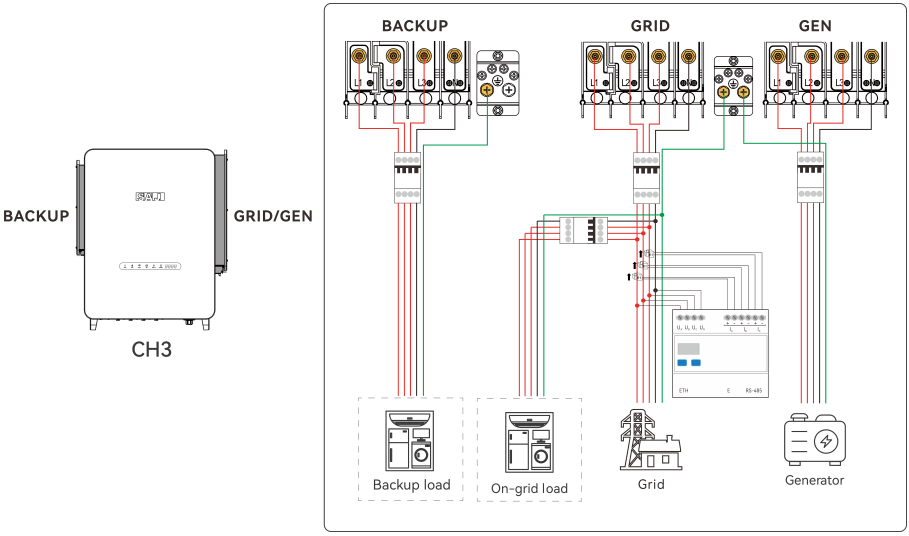
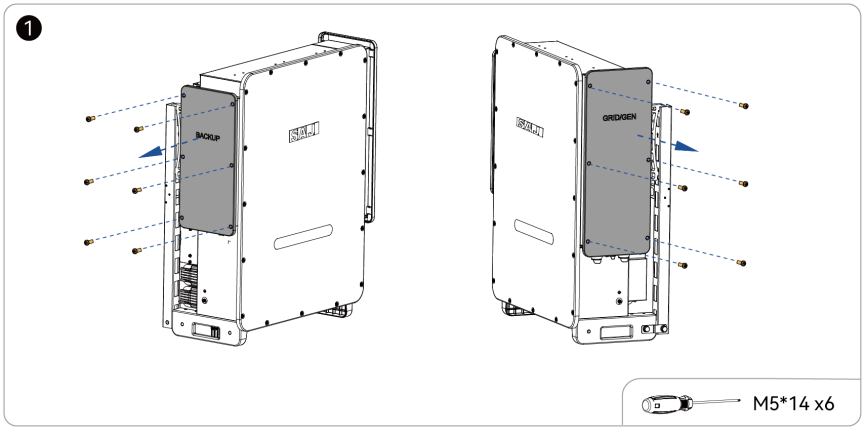


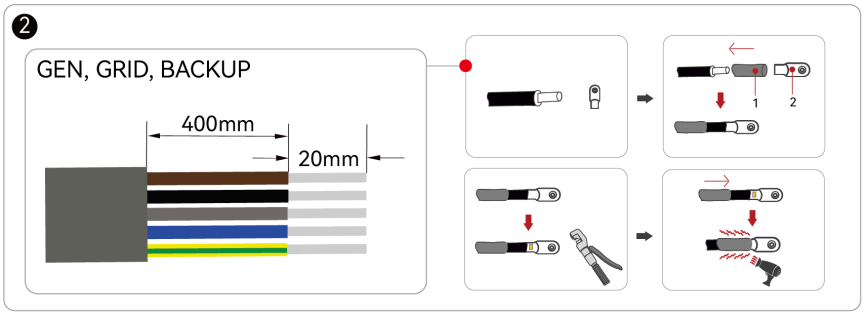
Figure 5.4. AC power cable connections

Procedure

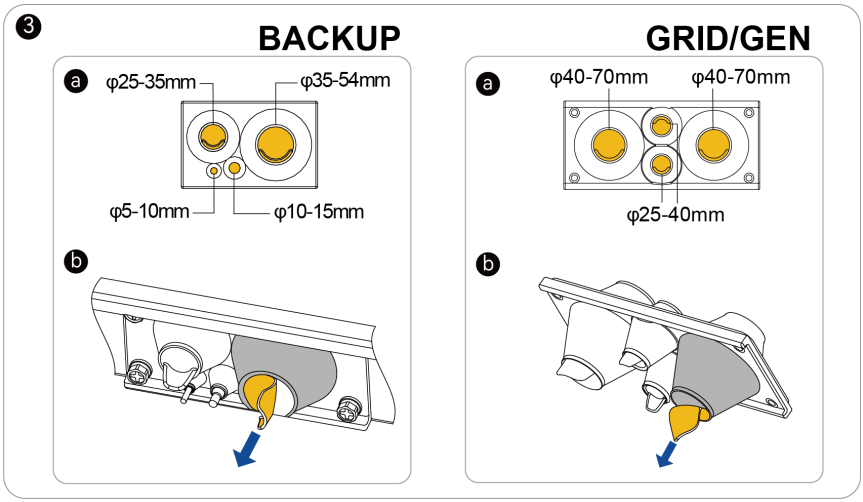
1. Remove the cable covers from the inverter.



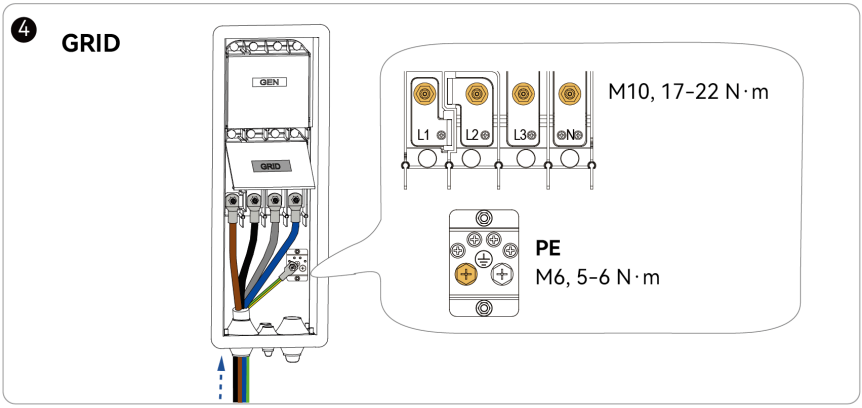
2. Assemble the **GEN**, **GRID**, and **BACKUP** cables with the OT terminals.



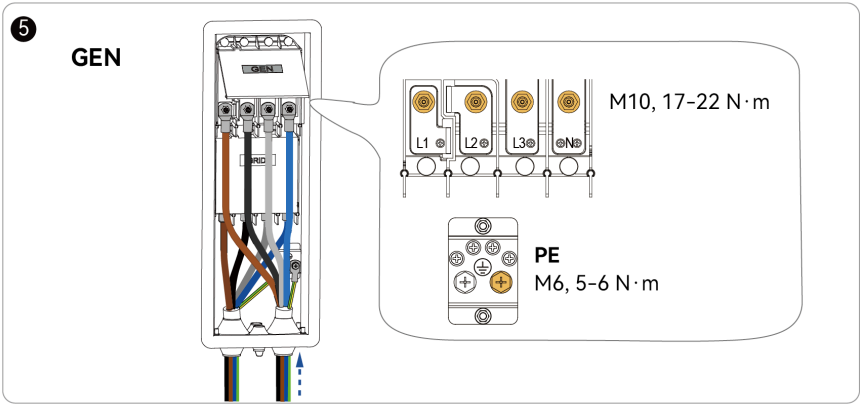
3. Select the cable entry according to the actual cable diameter. Peel off the plastic seal from the corresponding entry.



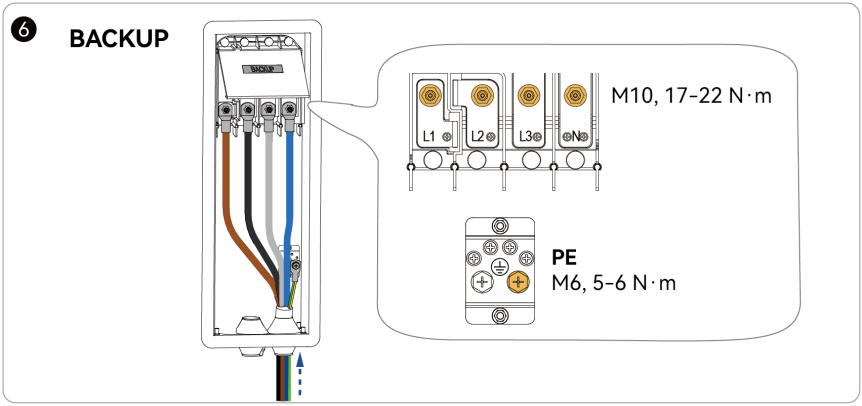
4. Pass the **GRID** cables through the bottom of the inverter and secure the cables to the **L1**, **L2**, **L3**, **N**, and **PE** terminals.



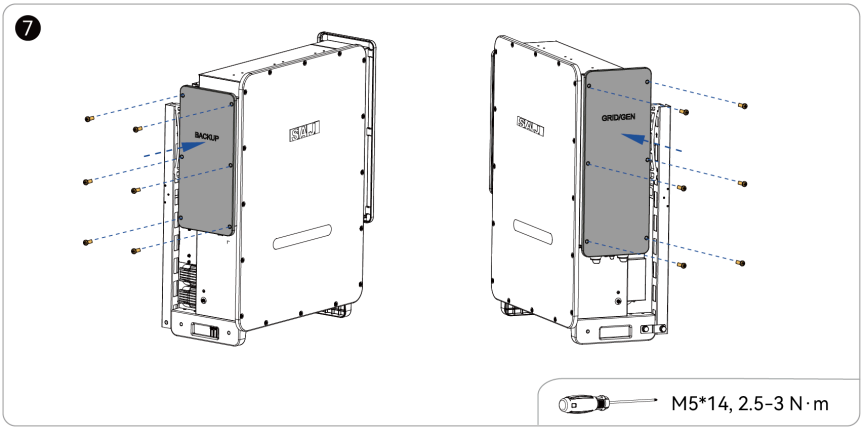
5. Pass the **GEN** cables through the bottom of the inverter and secure the cables to the **L1**, **L2**, **L3**, **N**, and **PE** terminals.



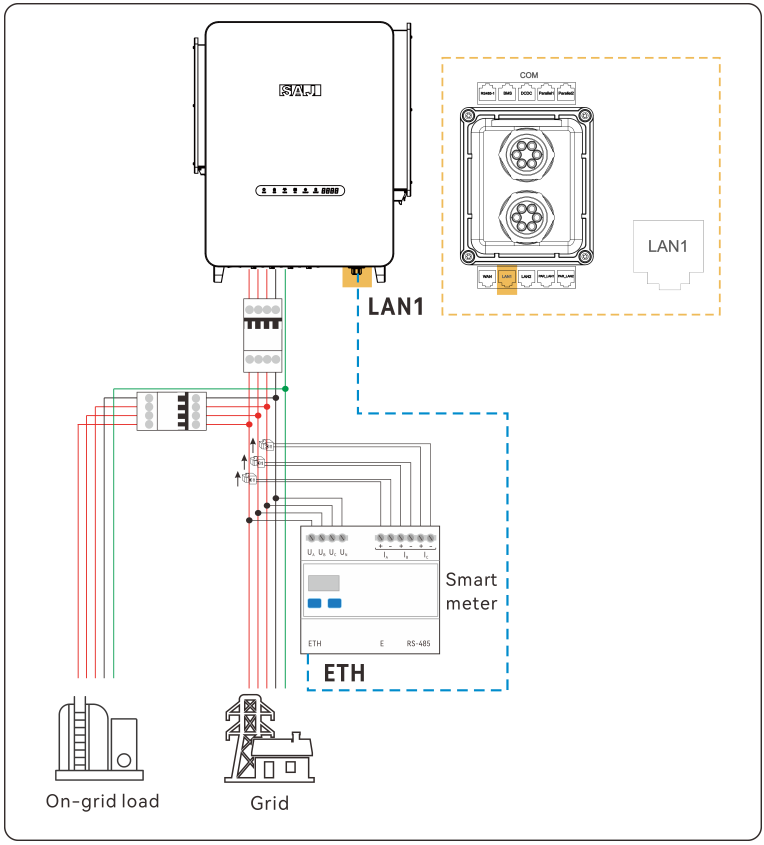
6. Pass the **BACKUP** cables through the bottom of the inverter and secure the cables to the **L1**, **L2**, **L3**, **N**, and **PE** terminals.



7. Install and secure the cable covers on the **BACKUP** and **GRID/GEN** sides.



5.6. Connect the smart meters



Procedure

1. Connect the meter power cables.
2. Install the CTs pointing to the on-grid load.
3. Connect the standard network cable between the inverter **LAN1** port and the meter **ETH** port.

5.7. Connect the communication cables

Follow this common procedure to connect the 2-pin, 3-pin, 6-pin, and RJ45 communication cables for the corresponding functions.

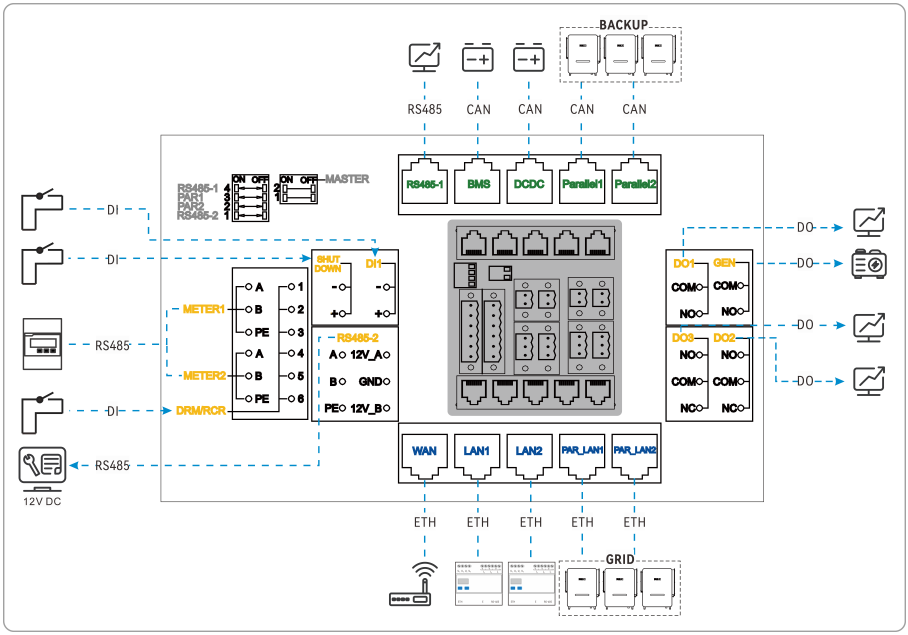
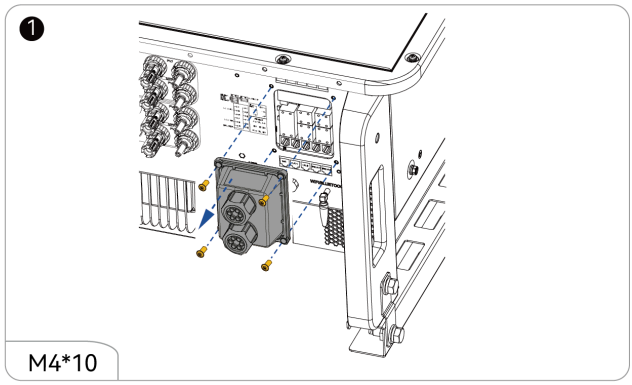


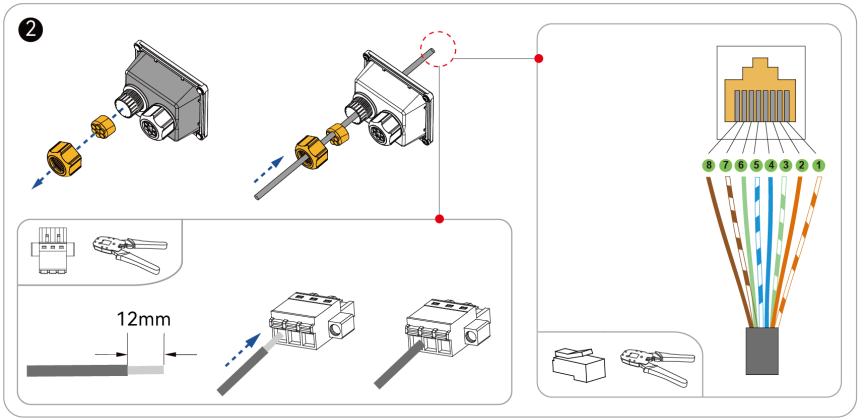
Figure 5.5. CH3 communication connection overview

Procedure

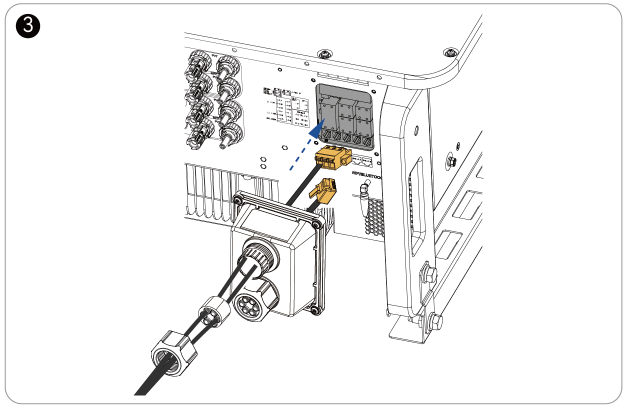
1. Remove the cable cover at the bottom of the inverter.



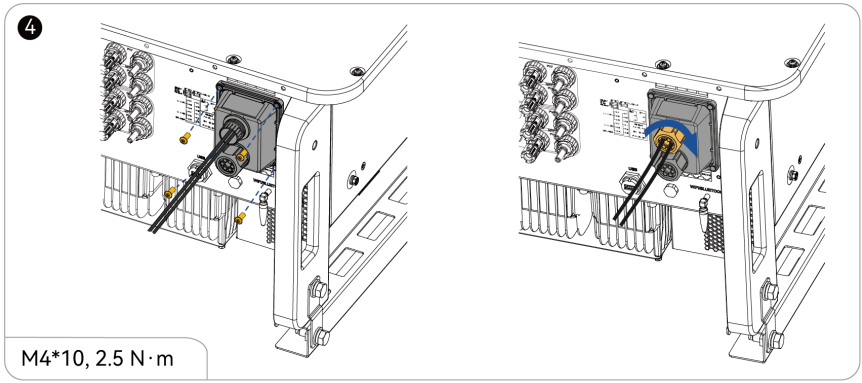
2. Assemble the pin connectors and RJ45 connectors according to the actual requirement. Pass the cables through the cable gland on the cover.



3. Connect the communication cables to the corresponding ports.

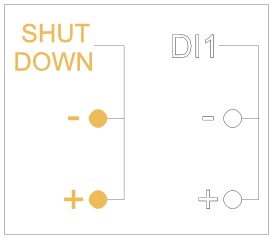


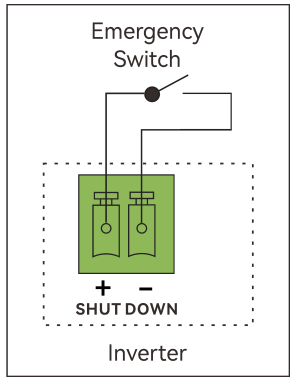
4. Install the cable cover to the inverter and tighten the cable gland.



5.7.1. Connect the emergency shutdown device

The 2-pin **SHUT DOWN** port can connect with an external switch to stop the inverter immediately in emergent situations.





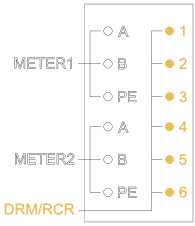
5.7.2. Connect the RCR device

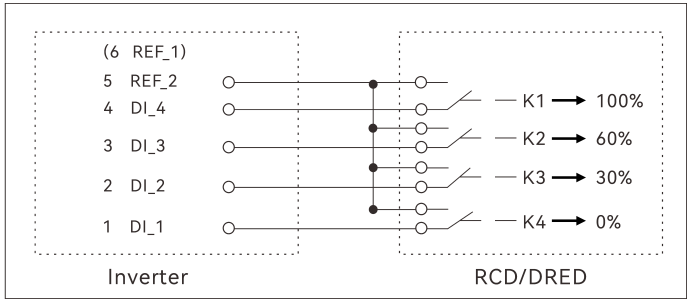
According to the local regulations, a ripple control receiver (RCR) device is required to control the maximum output power that is exported to the grid.

When the RCR device connecting to the DI port is closed, the device signals the inverter to export power to the grid at the corresponding level that is configured for the **RCR Power Settings** on the elekeeper App. Each port corresponds to the following settings on the App:

- **DI1**: LEVEL1
- **DI2**: LEVEL2
- **DI3**: LEVEL3
- **DI4**: LEVEL4

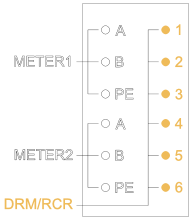
The rated power control limit of K1 to K4 devices increases. Connect the devices accordingly to the 6-pin **DRM/RCR** ports **DI1** to **DI4**.

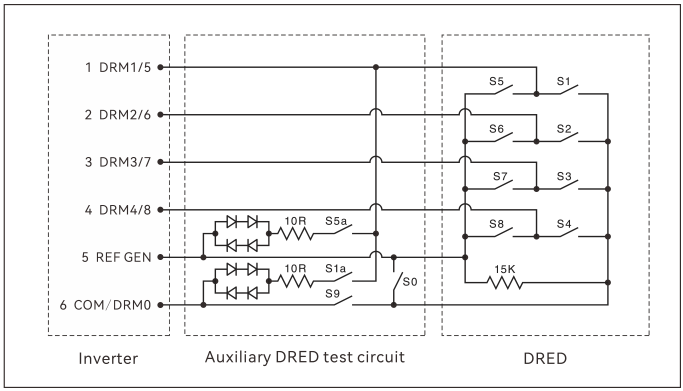




5.7.3. Connect the DRED device (Australia and New Zealand)

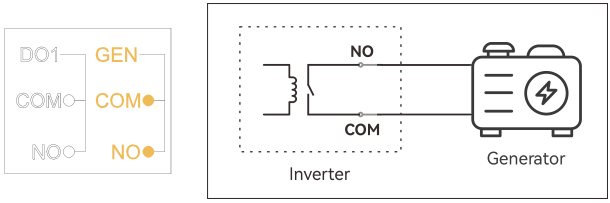
According to the local regulations in Australia and New Zealand, a DRED device is required for demand response modes (DRM) control. Connect the DRED device to the following 6-pin **DRM/RCR** port:





5.7.4. Connect the generator communication

Connect the generator to the 2-pin **GEN** port to control the start and stop of the generator:



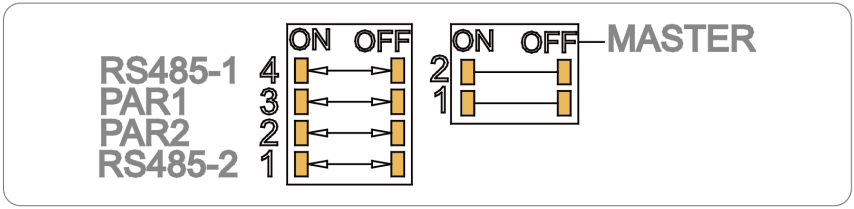
5.7.5. Connect the parallel deployment communication

For CH3 parallel deployment, connect the communication cables as illustrated in section 5.2.2. Parallel deployment *(on page 26)*.

- In on-grid only deployment, connect the standard network cables between the **PAR_LAN1** and **PAR_LAN2** ports on the inverters.
- When the backup connections are enabled, also connect the standard network cables between the **Parallel1** and **Parallel2** ports on the inverters.

5.7.6. Turn on DIP switches

The dual inline package (DIP) switches are provided to control the activation of 120 Ω terminal resistors to ensure the communication stability of the corresponding communication functions.



After all the communication cables are connected, turn on the corresponding DIP switch according to the following instructions:

Switch	Description
RS485-1	When the RJ45 **RS485-1** port is connected on the current inverter, turn on this switch.
PAR1	In parallel deployment, turn on this switch on the two inverters that are physically farthest apart.
PAR2	
RS485-2	When the three-pin **RS485-2** port is connected on the current inverter, turn on this switch.
MASTER	In parallel deployment, turn both switches to the **ON** position on the selected primary inverter.

Table 5.18. DIP switches

5.8. Connect the battery cables

The CH3 series inverters support integrating with CB3 C&I battery systems. For detailed cable connection instructions, see CB3 *User Manual*.

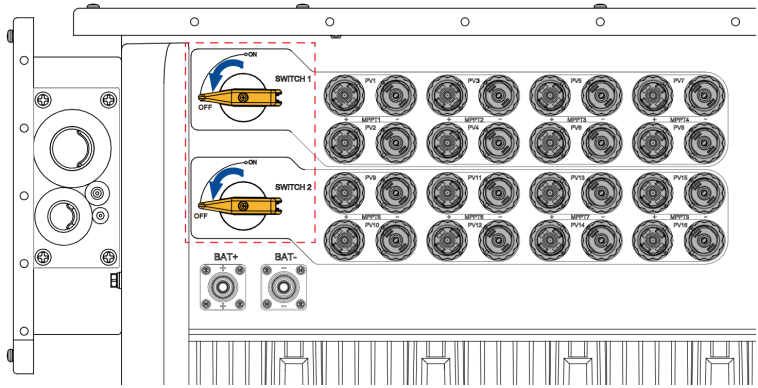
5.9. Connect the PV cables

Before you begin

WARNING

Risk of electric shock

Make sure that the two PV switches at the inverter bottom are turned off before the electrical connections.



- Prepare a multimeter with DC voltage range larger than 1500 V. Multimeter of lower measurement range can be damaged.

PV cable connection guidelines:

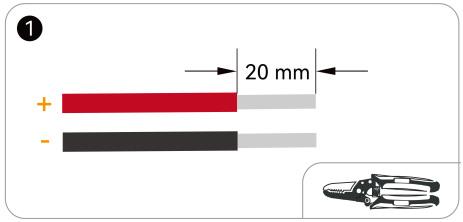
- Evenly distribute the PV input cables across the PV input terminals.
- Maximize the number of MPPT inputs.
- PV strings connected to the same MPPT circuit must use solar panels of the same model and in the same quantity.

Number of PV array	Inverter PV terminal	Number of PV array	Inverter PV terminal
1	PV 1	9	PV 1, 2, 3, 5, 7, 9, 11, 13, 15
2	PV 1, 3	10	PV 1, 2, 3, 4, 5, 7, 9, 11, 13, 15
3	PV 1, 3, 5	11	PV 1, 2, 3, 4, 5, 6, 7, 9, 11, 13, 15
4	PV 1, 3, 5, 7	12	PV 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 13, 15
5	PV 1, 3, 5, 7, 9	13	PV 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15
6	PV 1, 3, 5, 7, 9, 11	14	PV 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15
7	PV 1, 3, 5, 7, 9, 11, 13	15	PV 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
8	PV 1, 3, 5, 7, 9, 11, 13, 15	16	PV1-PV16

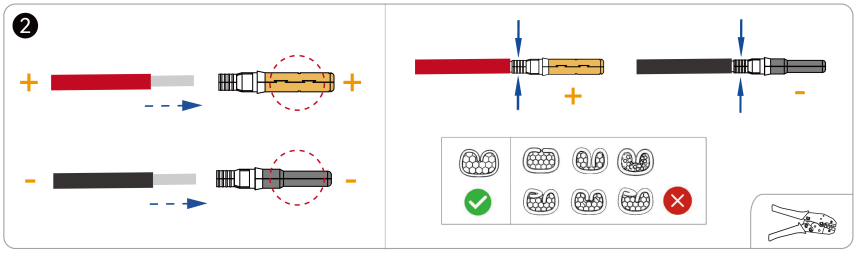
Table 5.19. MPPT terminal connection guideline

Procedure

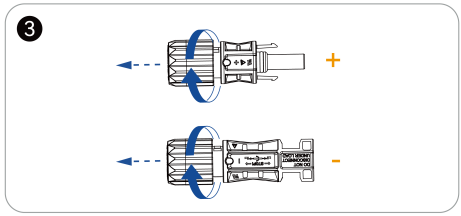
1. Use a wide-bladed screwdriver to strip off the insulation layer by 20 mm from one end of each PV power cable.



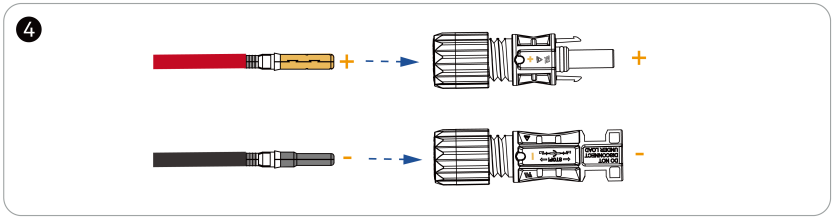
2. Insert the cable ends to the sleeves. Use crimping pliers to assembly the cable ends.



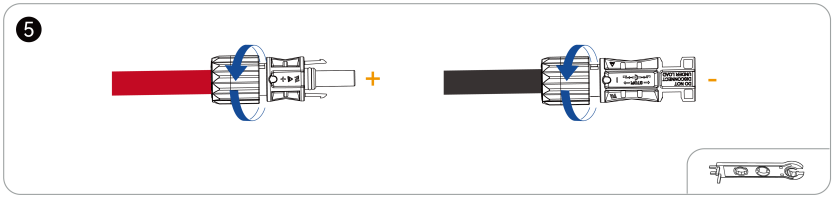
3. Loosen the lock screws on the positive and negative connectors.



4. Insert the positive and negative cables into the positive and negative connectors. Gently pull the cables backward to ensure firm connection.

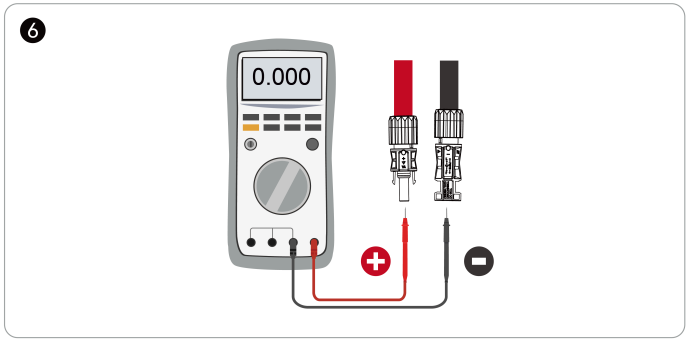


5. Tighten the lock screws on the positive and negative cable connectors with the D4 assembly tool.

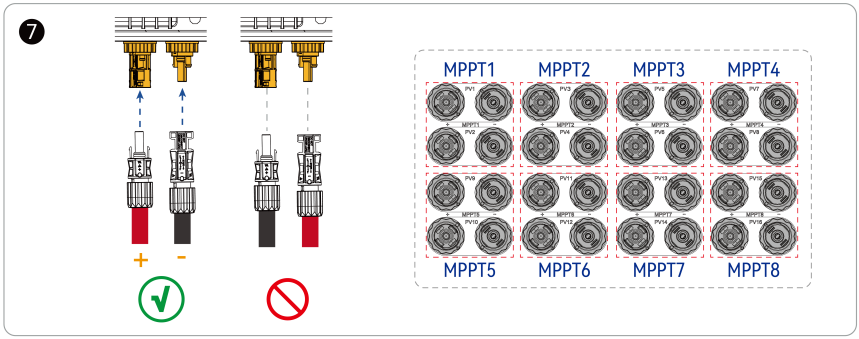


6. Measure the DC voltage of each positive and negative PV input cable with the multimeter.

   Make sure that each PV input shows DC voltage around 1500 V with correct polarity.



7. Insert the positive and negative cable connectors into the positive and negative PV ports on the inverter until a “click” sound is heard.



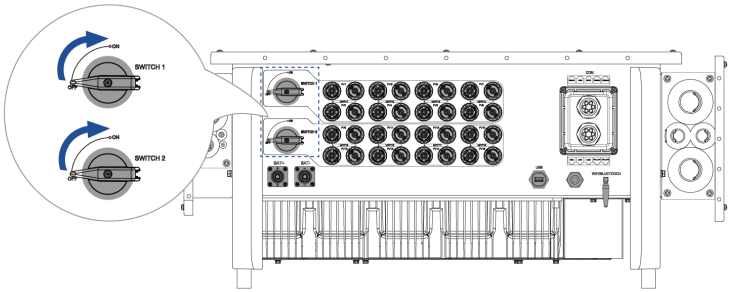
6. Start up the inverter

Before you begin

Check that all the cable connections are completed as instructed.

Procedure

1. Connect the external AC circuit breaker to turn on the AC power sources.
2. Turn on the two DC switches at the bottom of the inverter to start up the inverter.



When the STATE indicator shows solid green, it indicates that the inverter is up and running.

7. Perform initialization settings

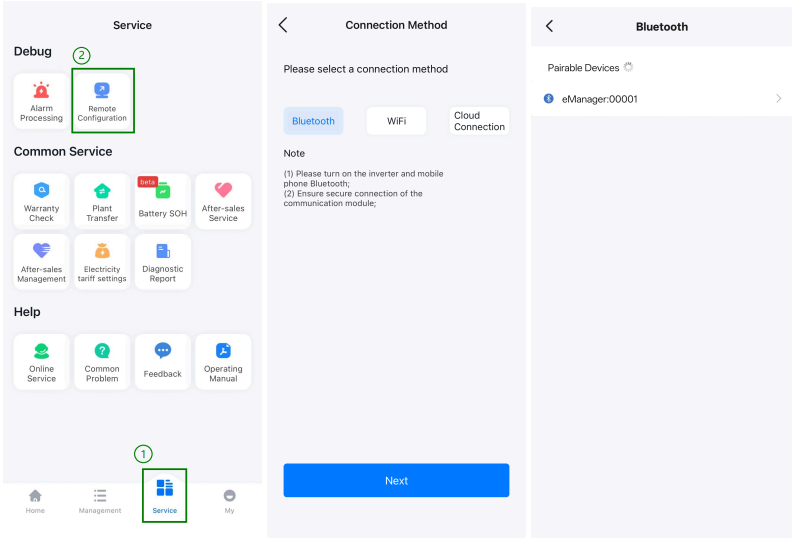
After the eManager is properly installed and connected to the inverter, follow this procedure to initialize the eManager on the elekeeper App.

Procedure

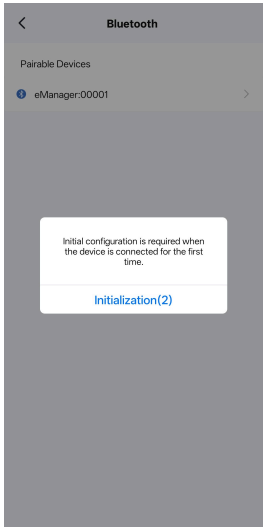
Country and grid compliance settings

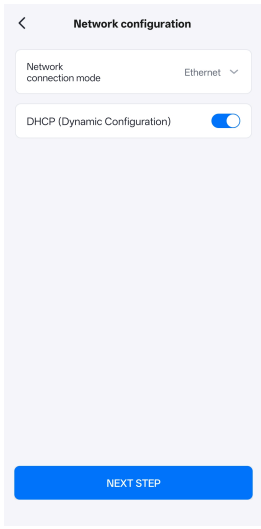
1. Log on to the elekeeper App. Enable the Bluetooth function on the mobile phone.
2. Connect to the eManager through Bluetooth connection.

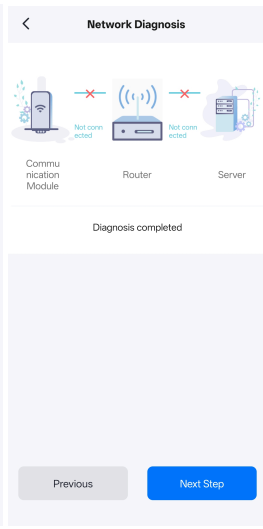
   The **BlueLink** is named with the last five numbers of the eManager module SN. For example, **eManager00001**.



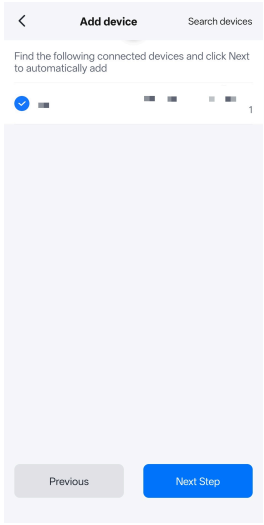
3. Follow the screen to complete the initialization settings.



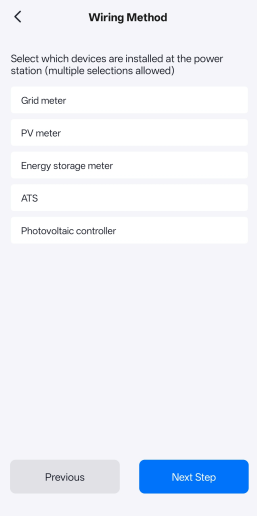




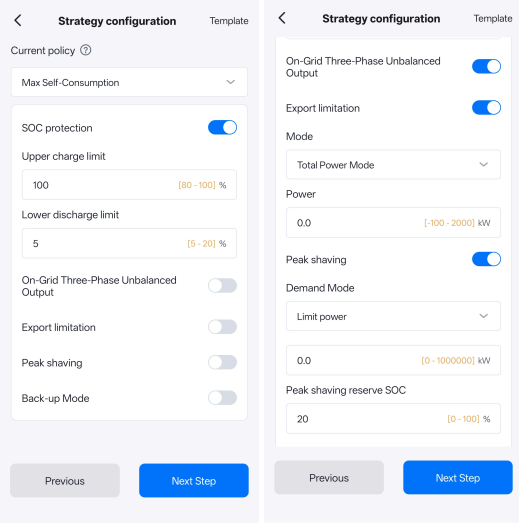
4. On the **Add device** page, check that the inverter is added as connected device.



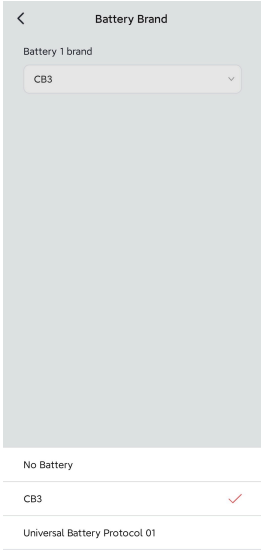
5. On the **Wiring Method** page, select the connected meters.
   Example: Select **Grid meter**:



6. On the **Strategy configuration** page, select the working policy of the inverter and set the corresponding parameters.
   Example:



7. On the **Battery Brand** page, select the connected battery system.
   Example: Select **CB3**.

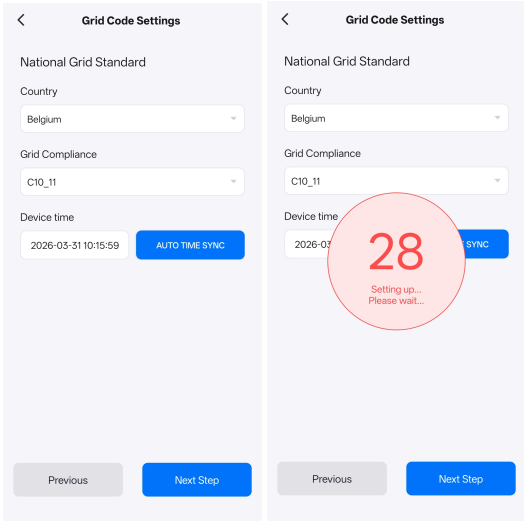


8. On the **Grid Code Settings** page, set the following parameters:
   a. **Country**: the equipment installation location.
   b. **Grid Compliance**: the grid setting.

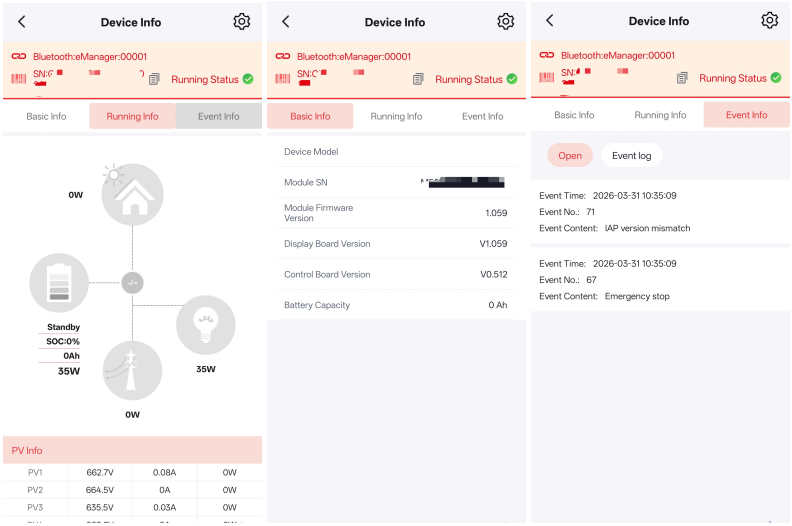
      For Australia, select the specific type of compliance according to the owner's grid configuration.

      - **AS4777_AustraliaA**: For large interconnected power system.
      - **AS4777_AustraliaB**: For small interconnected power systems. For example, Western Power.
      - **AS4777_AustraliaC**: For isolated or remote power systems. For example, Horizon Power and TasNetworks.

   c. **Device time**: Tap **AUTO TIME SYNC** to synchronize with the time of the device where the App is installed.



9. After the initialization is completed, check the system status on the following pages:



GUANGZHOU SANJING ELECTRIC CO., LTD

Tel: (86) 20 66608588 **Fax:** (86) 20 66608589 **Web:** www.saj-electric.com

Add: No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Guangdong, P.R.China