H2-(5K-12K)-(LS3,LS4)-US Quick Guide

This quick guide provides installation operations and product datasheets. For safety precautions and detailed product information, refer to the *User Manual* on the SAJ Website https://www.saj-electric.com.

NOTICE

- Before installation, operation, and maintenance, read the product documentation carefully.
- ONLY qualified and trained electricians who have read and fully understood all safety regulations contained in this manual can install, maintain, and repair the equipment. The operation personnel should understand the system, its working principles, and relevant national and regional standards.
- During operations, wear protective equipment and use dedicated tools.

☐1. Check the outer packing

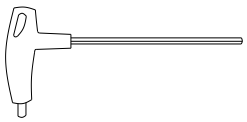
1. Check the outer packing package for any damage, such as holes and cracks.
2. Check the equipment model.

If any serious damage is found or the model is not what you requested, do not unpack the product, and contact your dealer as soon as possible.

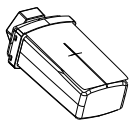
☐2. Check the product packages

1. Verify that the shipment contains everything that you expected to receive. Contact after-sales if there are missing or damaged components.
2. Place the connectors separately after unpacking to avoid confusion for connection of cables.

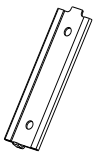
Inverter



Hex wrench



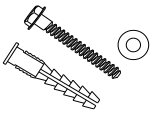
Communication module



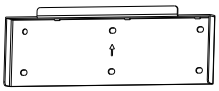
Flathead tool

Key x4

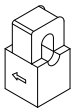
Allen wrench



M6*50 screw x8
Gasket x8
Expansion tube x8



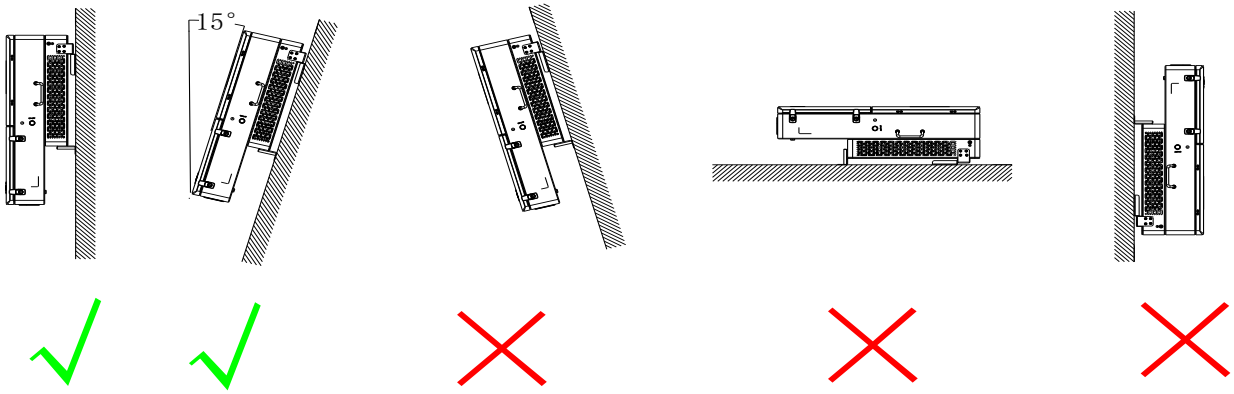
Mounting plate

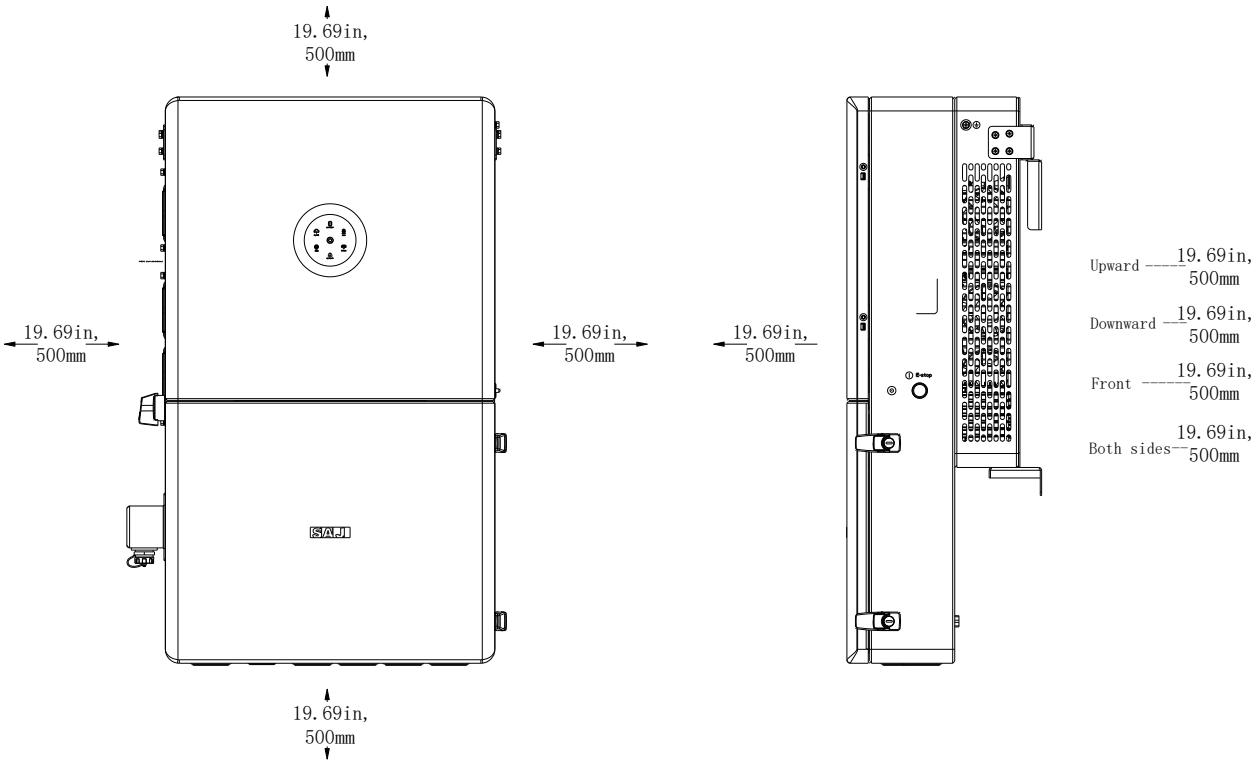


Current transformer x2

Printed documents

☐3. Check installation ways and gaps





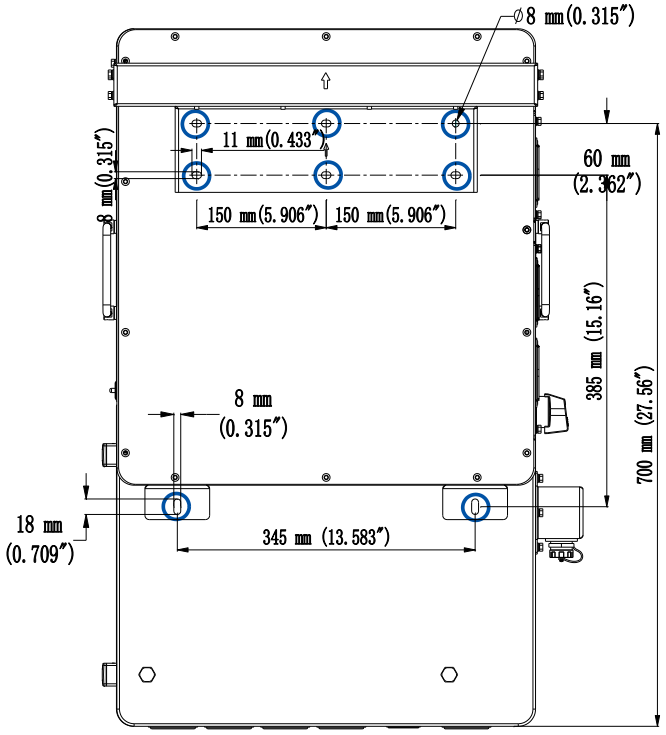
☐ 4. Install the inverter

1. Use a positioning jig to mark eight holes on the wall according to the following figure. Then, drill eight holes on the wall.

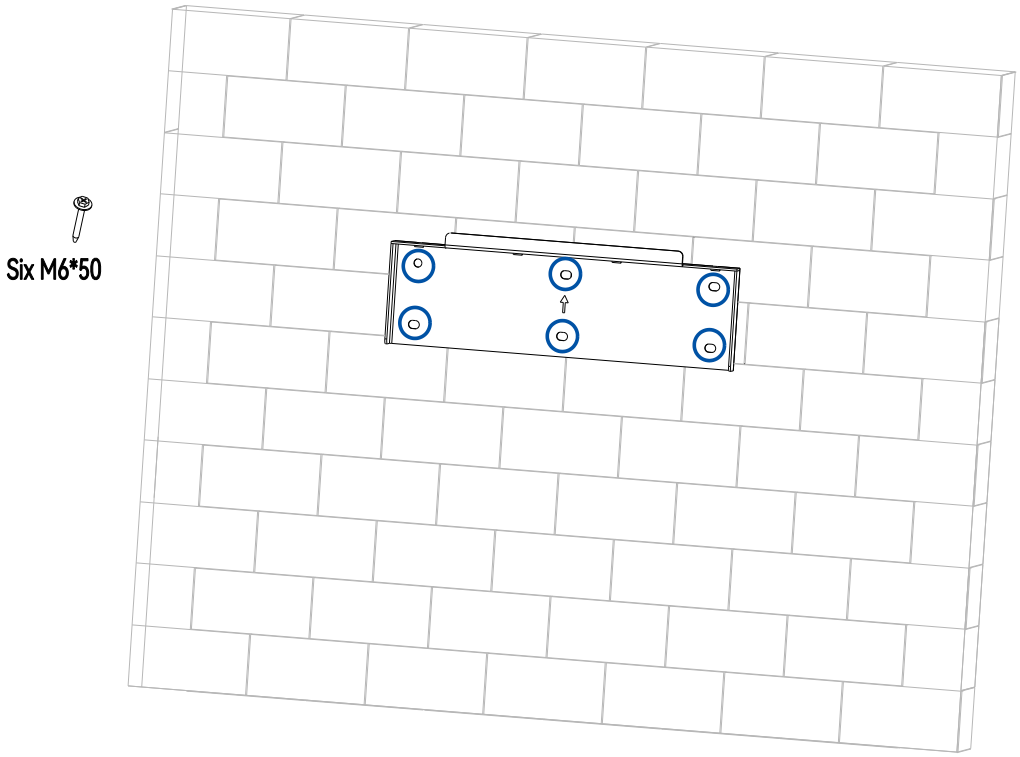
   Alternatively, you can place the mounting plate onto the wall and mark upper six holes and place the inverter onto the wall to mark the bottom two holes.

   Notes:

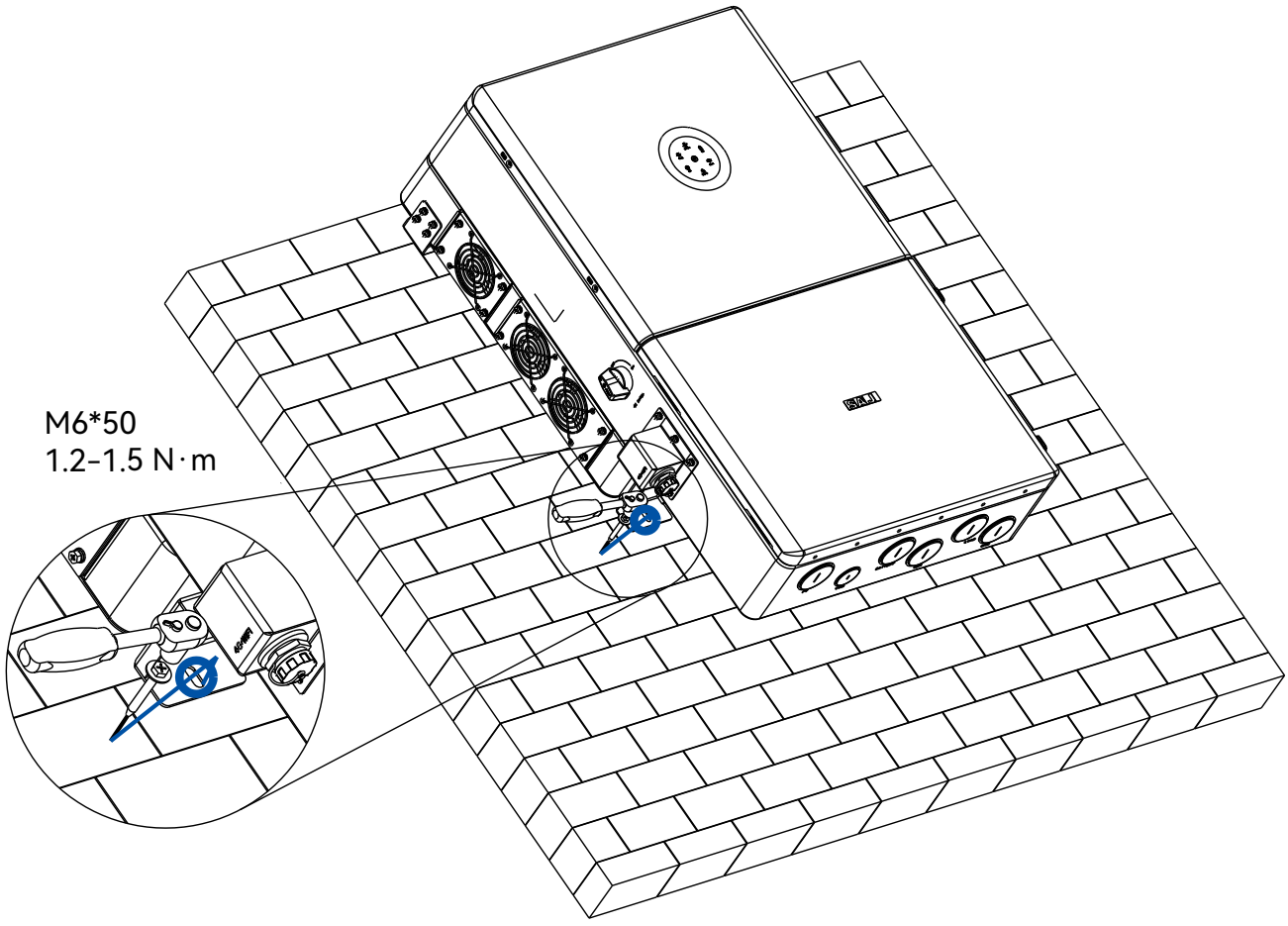
   - Reserve enough distance at the inverter bottom for installing the metal cable conduits.
   - The upper six holes are reserved for installing the upper mounting plate while the bottom two holes are for the bottom locking brackets of the inverter.



2. Use six M6*50 screws to secure the mounting plate to the wall.



3. Mount the inverter onto the mounting plate. Insert two M6*50 screws (1.2–1.5 N·m) on each bottom side of the inverter to secure it to the wall.



4. If required, install metal conduits to the knockout holes at the bottom of the inverter.

☐ 5. Install the battery

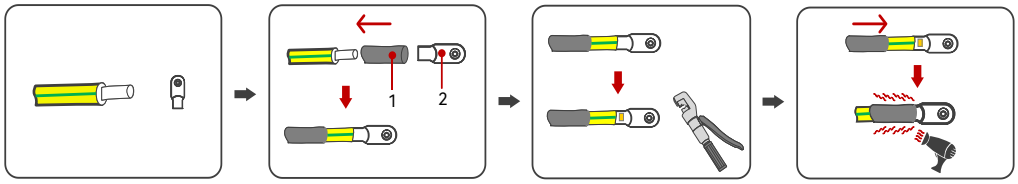
For details, refer to the battery user manual.

☐ 6. Connect the grounding cable

The cable needs to be prepared by the user. It is recommended to use a cable with a 6 mm² conductor cross-sectional area.

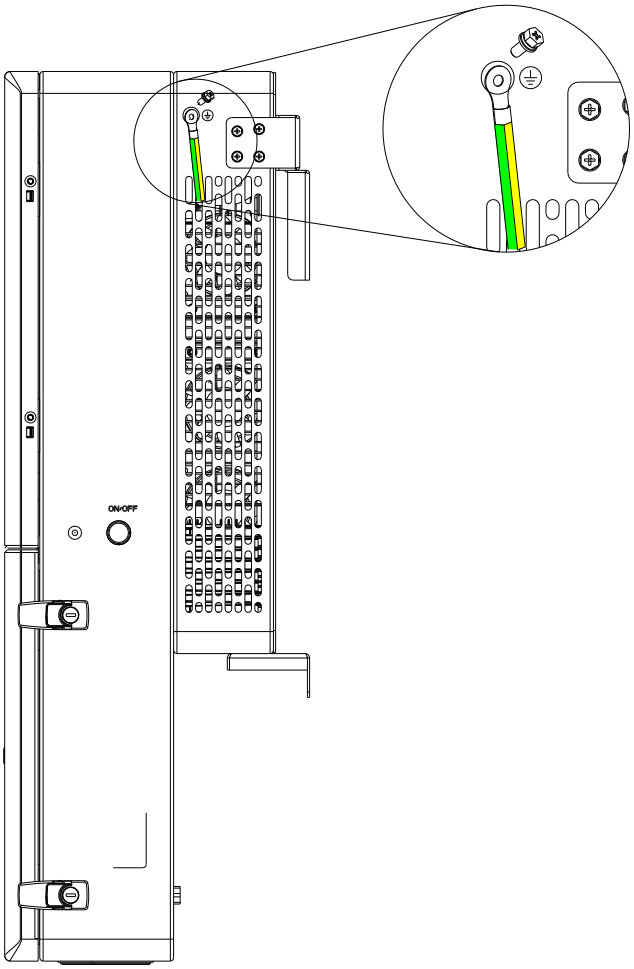
Note: The inverter cannot be used with functionally earthed PV Arrays.

1. Assemble the cable and OT/DT terminal.



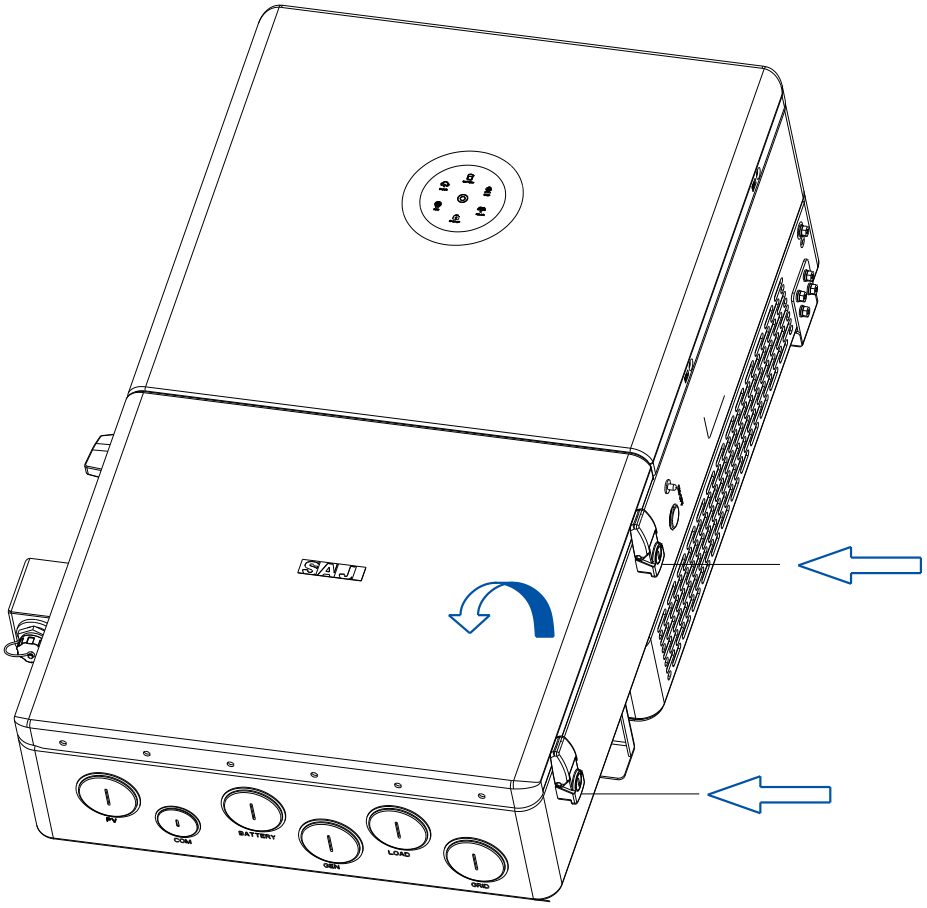
1	Heat shrink tube	2	OT/DT terminal

2. Loosen the screw and connect the grounding cable.

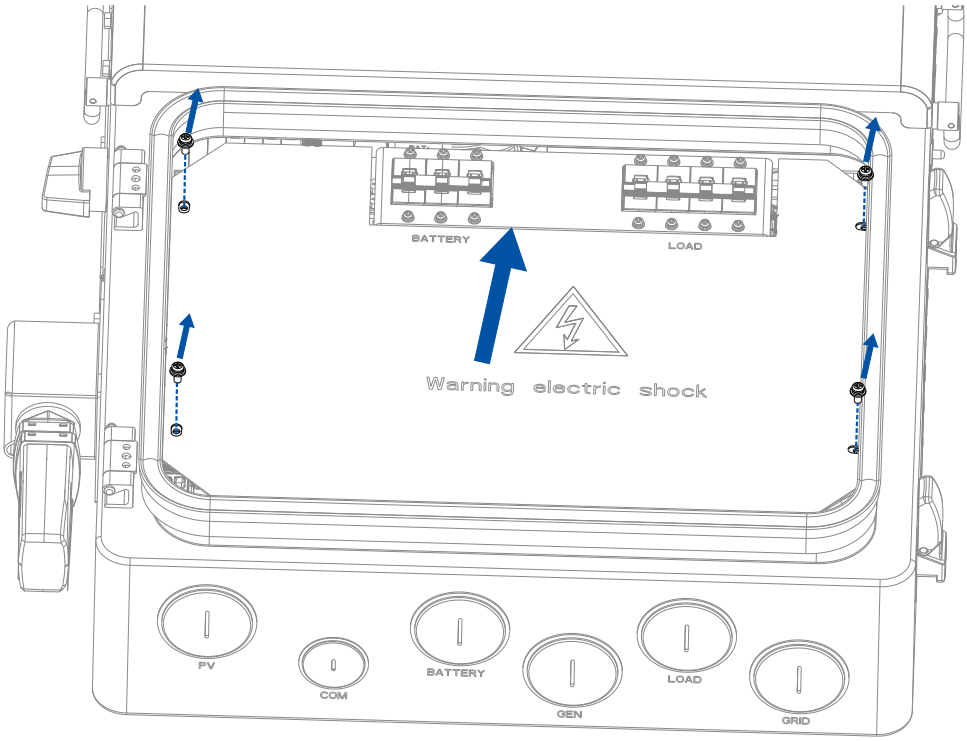


☐7. Open the junction box of the inverter

1. Use the provided key to open the two tabs on the right side of the inverter. Then, open the cover. Keep the key to a safe place.

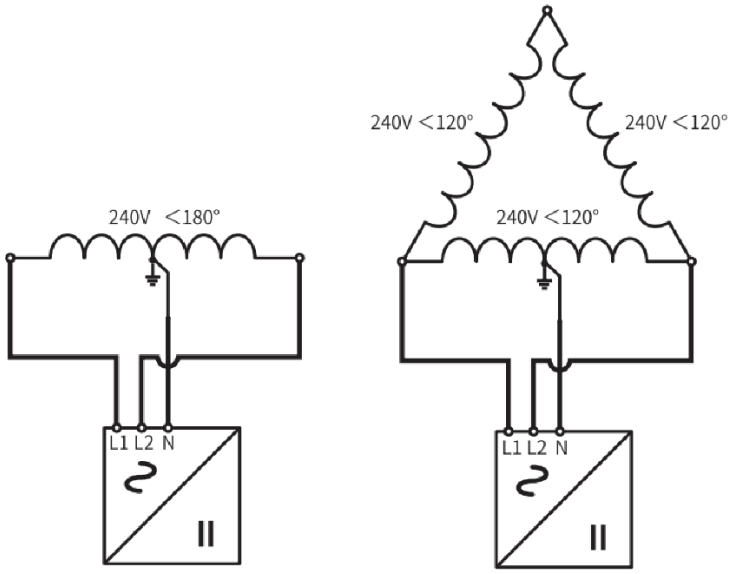


2. Remove the four screws to unlock the internal plate. Lift the plate outwards.



☐ 8. Assemble the AC-side electrical connection

For safety operation and regulation compliance, it is required to install a circuit breaker between the grid and the inverter.



240V/120V split-phase AC grid　　240V/120V delta AC grid

Choose the breaker and cables according to the following table.

Note: If the inverter is installed far away from the grid connection point, select a larger cable size to ensure that the voltage drop from the grid connection point to the inverter is within 2% of the grid voltage.

Inverter Model	AC Breaker	Cables Size
H2-5K-LS3-US	45 A	10 AWG
H2-7.6K-LS3-US	70 A	8 AWG
H2-9.6K-LS4-US	85 A	6 AWG
H2-12K-LS4-US	100 A	6 AWG

DANGER

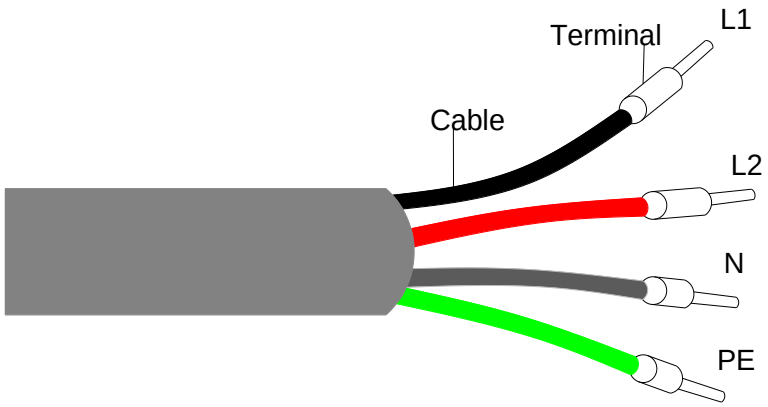
Risk of personal injury due to electric shock!

WARNING

- Ensure that the equipment is powered off before performing wiring operations.
- Improper wiring of AC conductors will result in risk of electrical failure or equipment damage. Please ensure that all connections are made correctly in accordance with the instructions in this document and in accordance with local wiring codes and regulations before applying power to the unit.

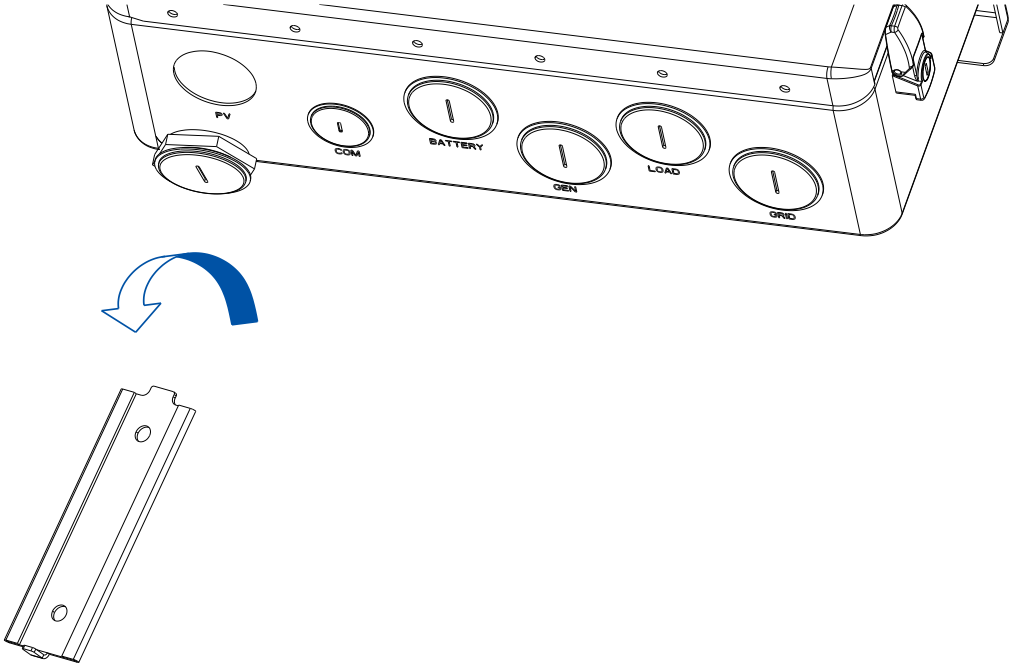
1. Strip off the insulation on the cable ends. (20-mm/0.79-inch length for LOAD and GRID cables; 10-mm/0.39-inch length for GEN cables).

If needed, put a terminal on the cable end, as shown below.

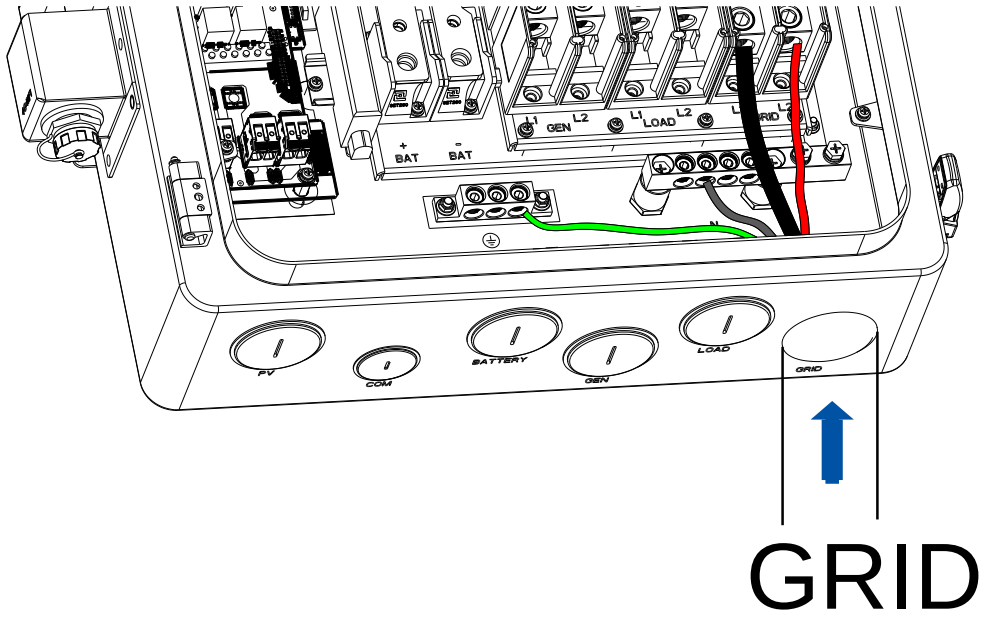


2. To remove the knockout hole fillers, insert the flathead tool to the hole on the filler and rotate it anti-clockwise.

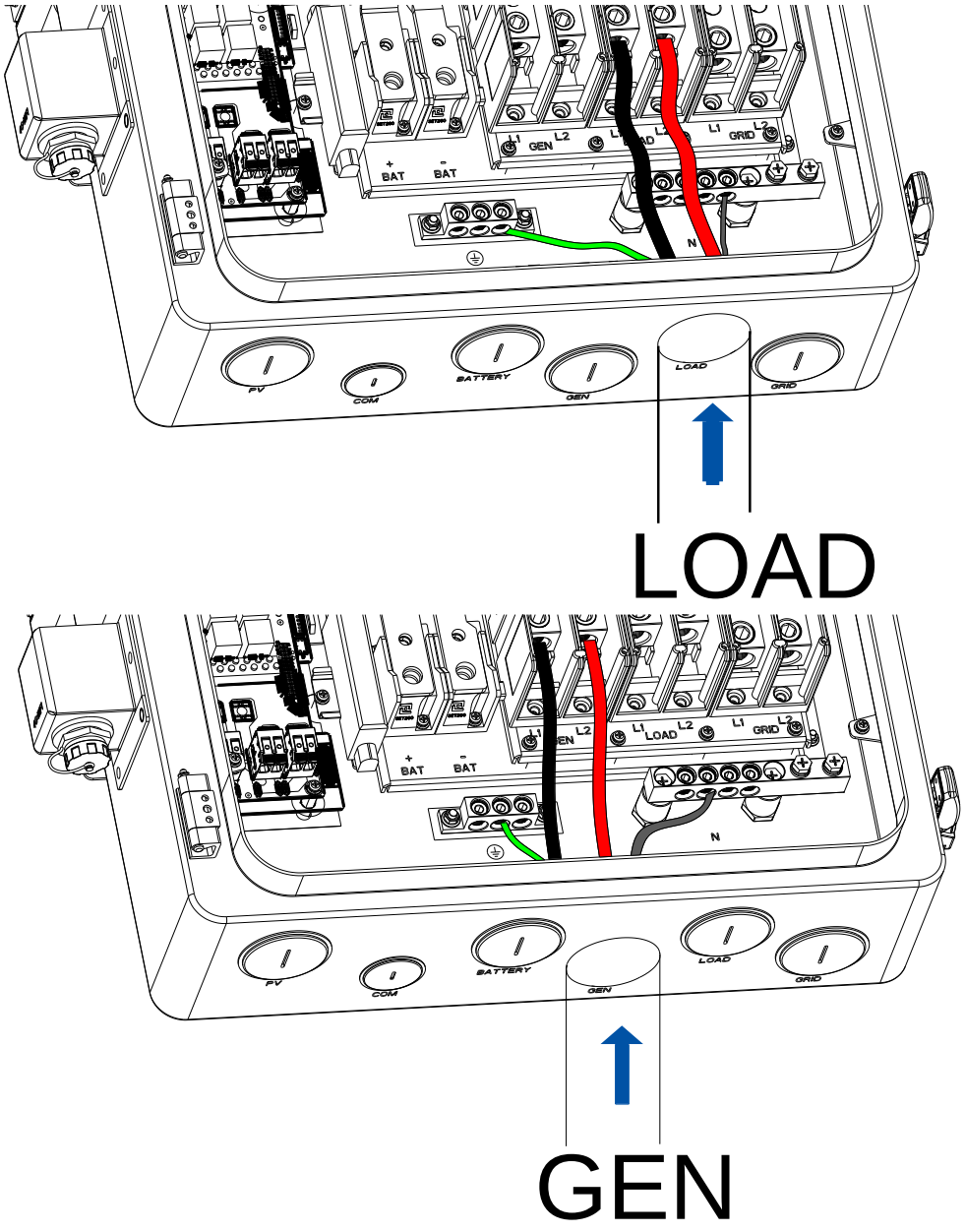
Note: After the fillers are removed, if needed, install a metal cable conduit on each knockout hole.



3. According to the silkscreens, insert the grid cables through the corresponding knockout holes and connect them to corresponding terminals L1, L2, L3, N, and PE. Then, use a standard torque to tighten the screws on the terminals to secure the cable connection.



GRID



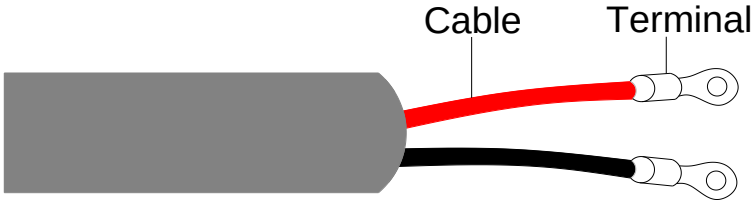
☐ 9. Connect the battery to the inverter

CAUTION: Do NOT connect the positive port to the negative port on one battery. This will short-circuit this battery, causing serious battery damage.

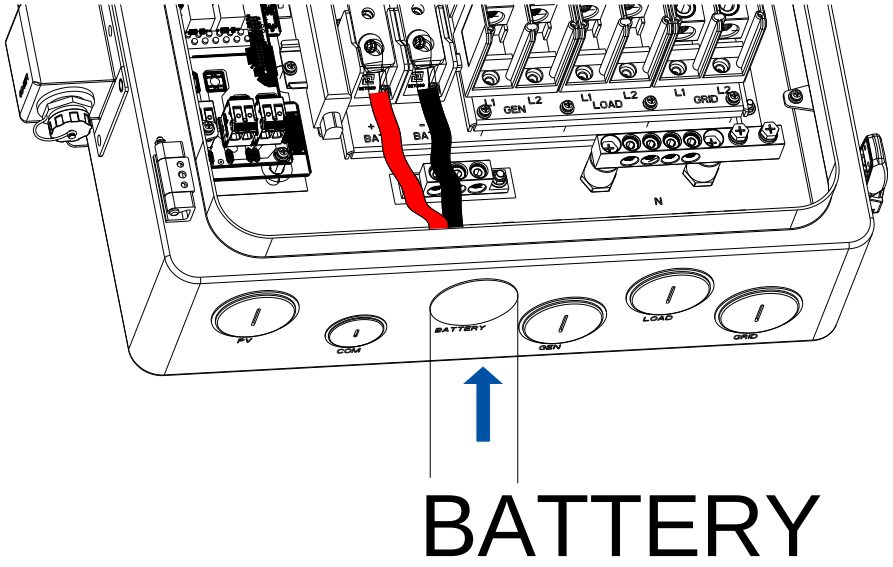
1. Strip off the insulation (20-mm/0.79-inch length) on the cable ends.

Cable	Recommended cable	Recommended torque
BAT+ and BAT-	2/0 AWG	80 LB-IN (9. N·m)

Install an M10 bronze terminal on the cable end, as shown below:



2. Insert the cables through the knockout hole and connect it to the battery terminals in the junction box.



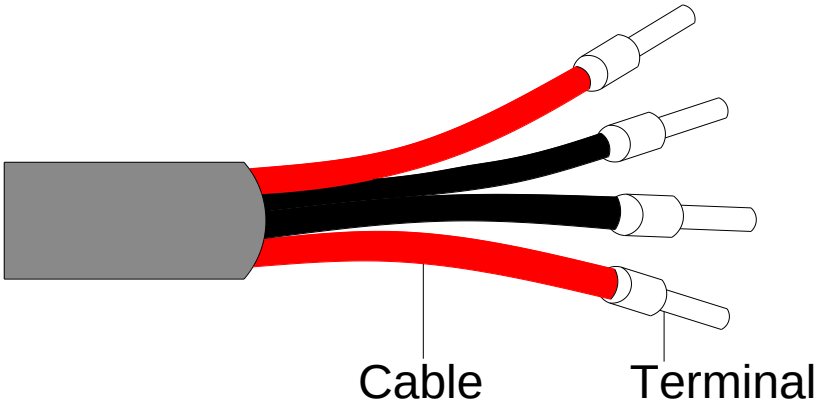
BATTERY

☐ 10. Assemble the PV-side electrical connection

1. Strip off the insulation (20-mm/0.79-inch length) of the cable ends. User cable ferrules if the cable is of multi-strand type.

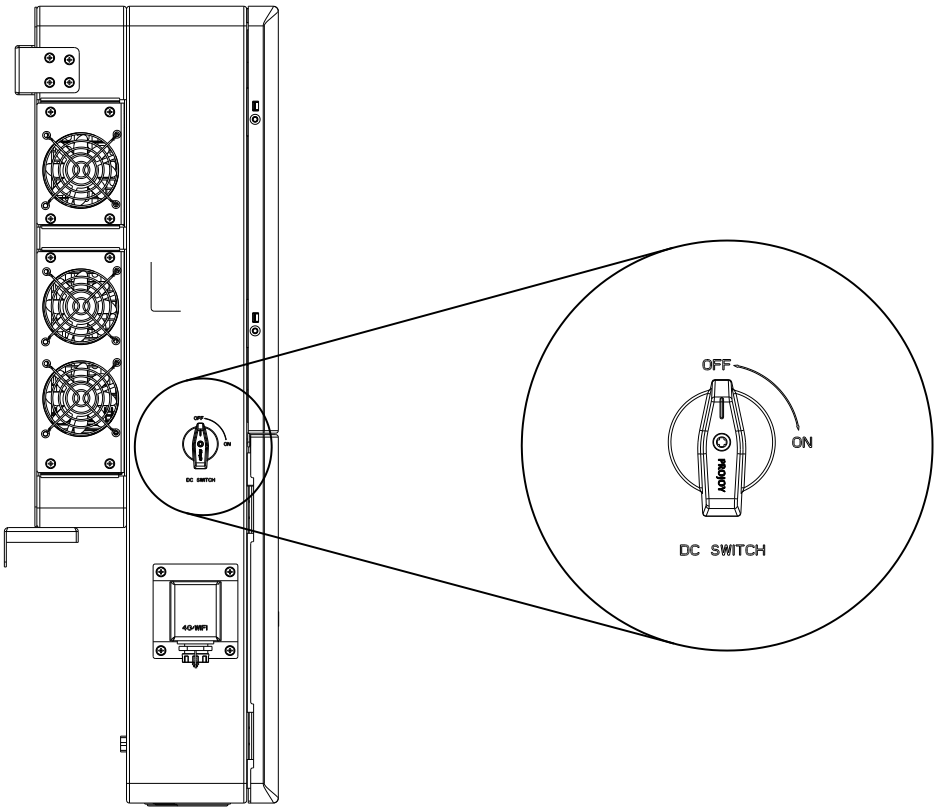
Cable	Recommended cable
PV+, PV-	12 AWG

If needed, put a terminal on the cable end, as shown below.

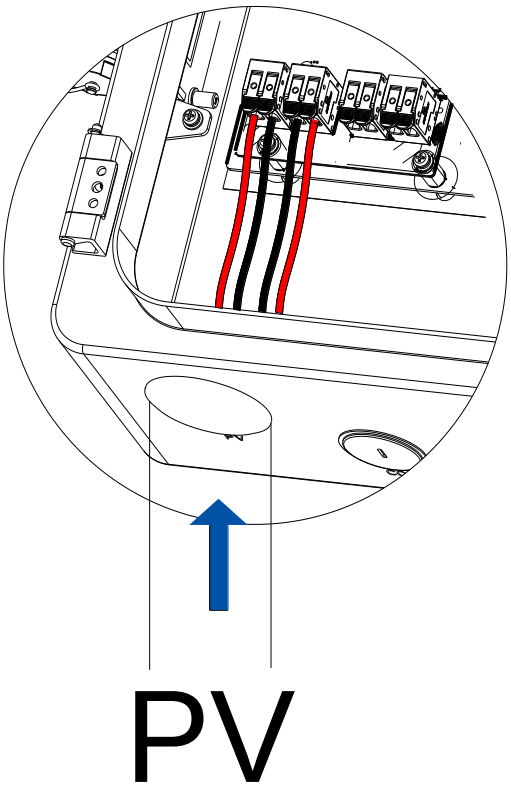


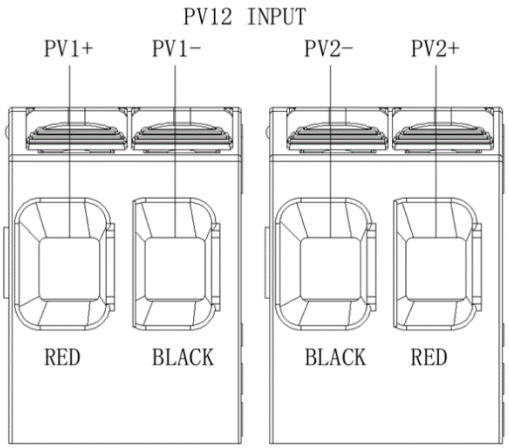
NOTICE
Connect the positive connector to the positive side of the solar panels and connect the negative connector to the negative side of the solar side. Be sure to connect them in the right position.

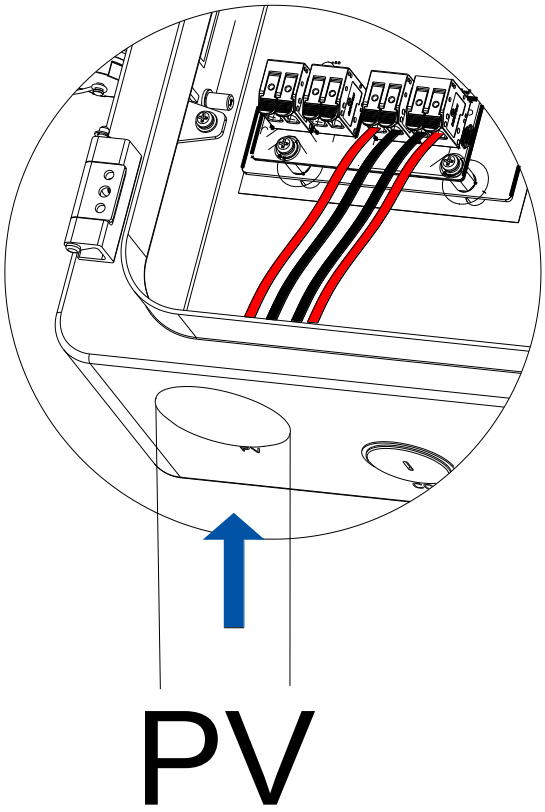
2. Ensure that the DC switch on the left side of the inverter is in OFF position.

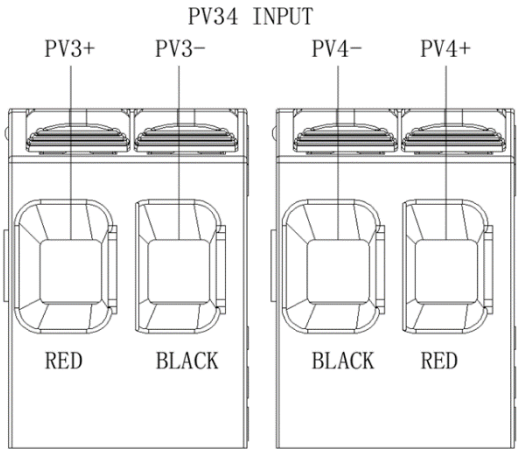


3. Insert the PV cables through the knockout hole and connect them to the PV terminals in the junction box.



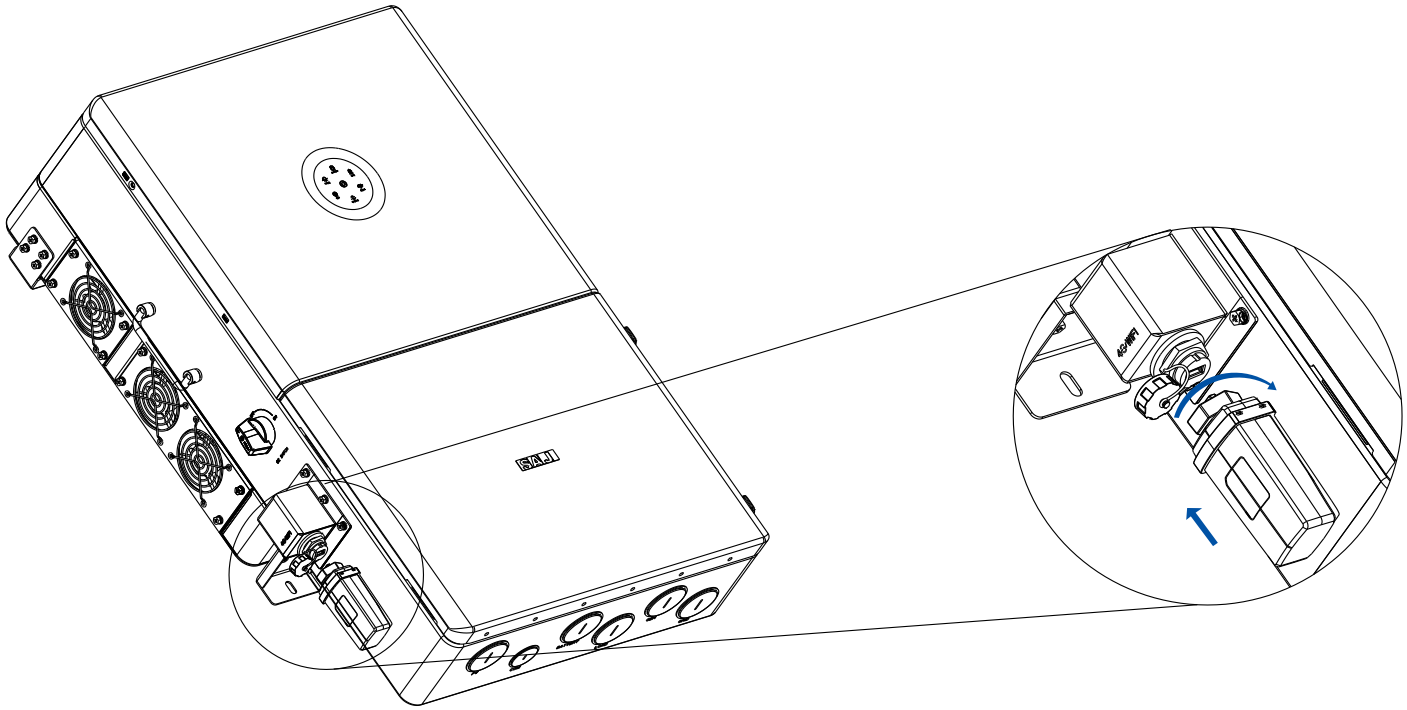






☐ 11. Install the communication module

1. On the left side of the inverter, loosen the cover from the 4G/WIFI port.
2. Insert the communication module into the 4G/WIFI port. Rotate the nut to secure the nut.

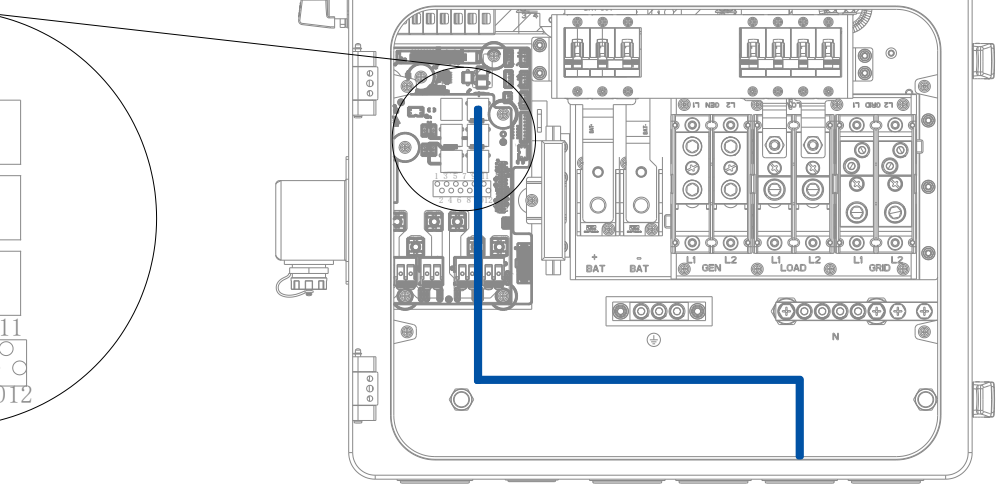


☐ 12. Connect the communication cable between the inverter and the battery

Connect one end of the network cable to the communication port on the BMS.

Insert the other end of the network cable through the BATTERY knockout hole of the inverter and connect it to the BMS_CAN port.

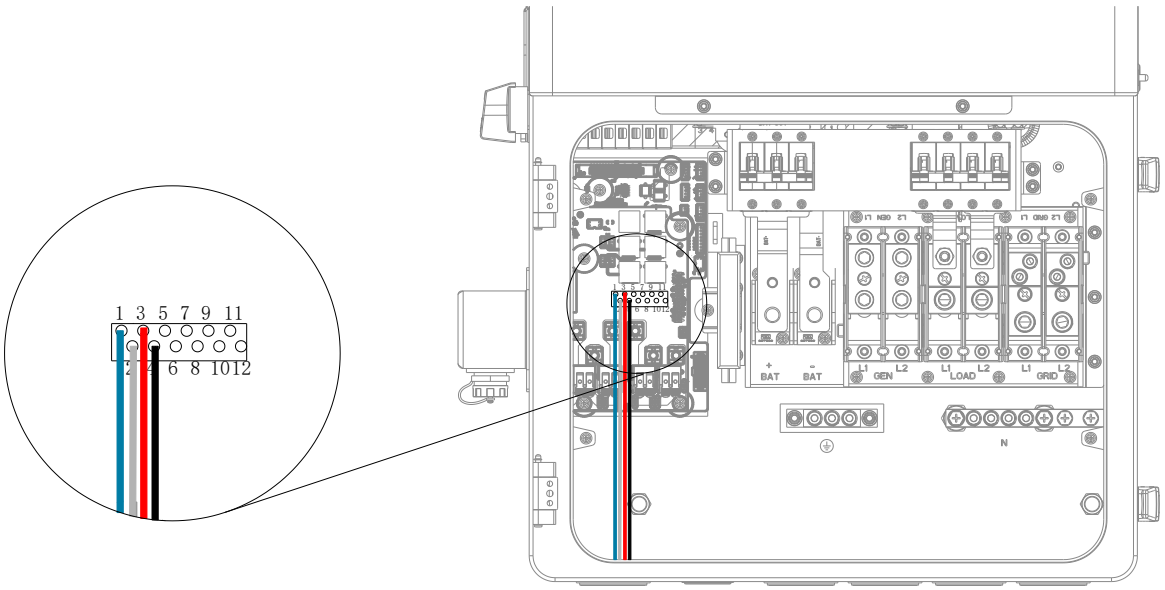
BMS_CAN	
1	NC
2	NC
3	NC
4	CANH
5	CANL
6	NC
7	NC
8	NC



☐ 13. Connect the CTs

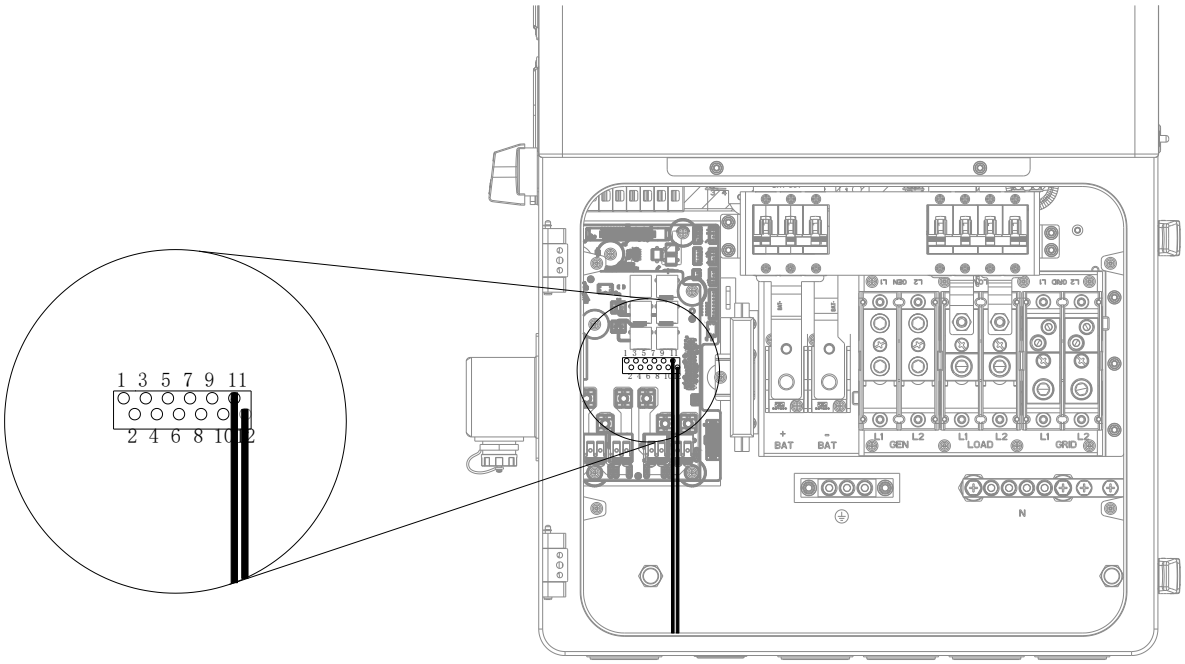
Connect the CT wires to pin 1, 2, 3, and 4 on the CN89 terminal in the junction box of the inverter.

From the CT		To the CN89 terminal pins in the inverter
CT GRID-L1	Blue wire	1
	White wire	2
CT GRID-L2	Red wire	3
	Black wire	4



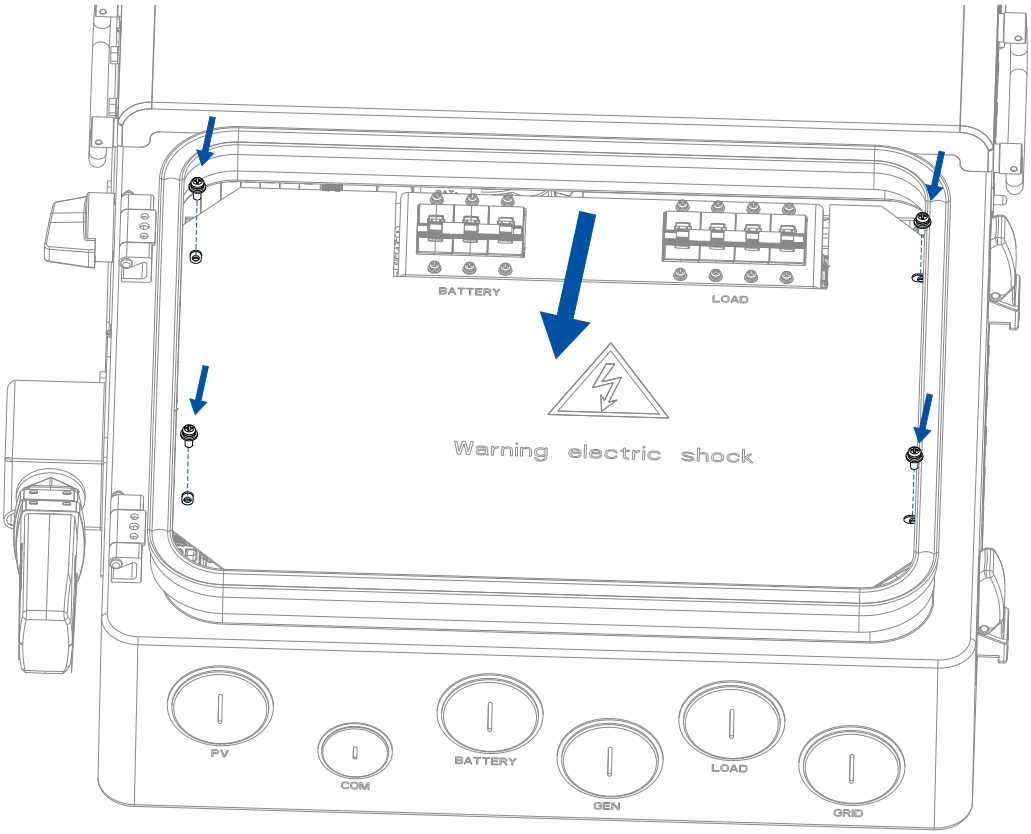
☐14. Install an external rapid shutdown switch

Connect the wires of the external rapid shutdown switch to pins 11 and 12 on the CN89 terminal in the junction box of the inverter.

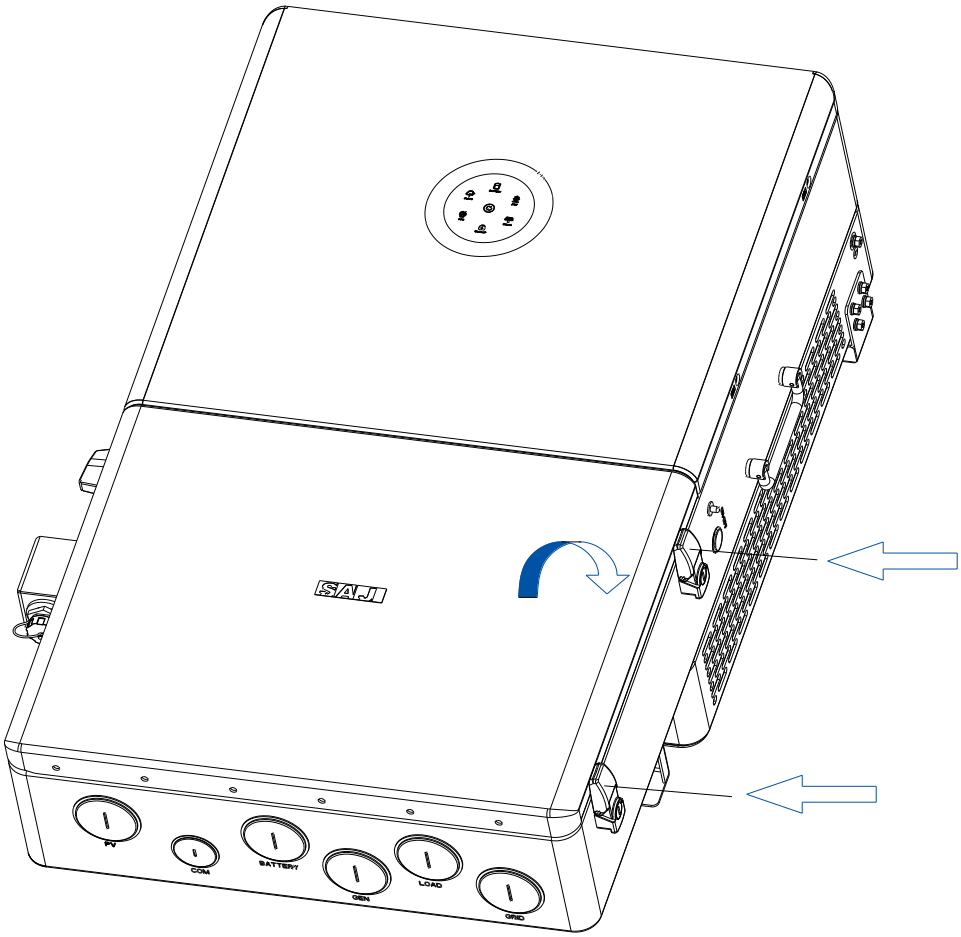


☐15. Close the junction box of the inverter

1. Align the holes on the internal plate with the holes in the junction box. Push the plate downwards. Tighten four screws to lock the plate.



2. Close the cover. Lock the cover back on the right side of the inverter. Keep the key to a safe place.



16. Install an RSD (optional)

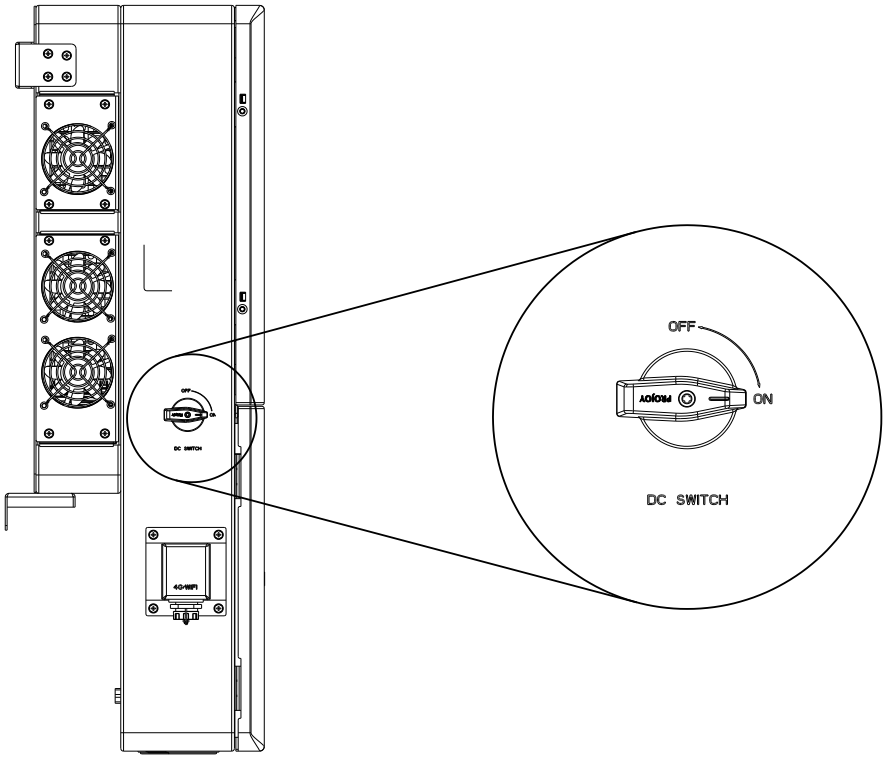
The SAJ inverter provides RSD protection with a built-in transmitter (Transmitter-PLC-1P). To enable RSD protection, use an APsmart RSD-D model to connect to PV panels. For more details about the cable connections, refer to the RSD-D manual.

17. Connect the smart meter

For details, refer to section "Connection topology diagrams" in the inverter user manual.

18. Start the system

1. Open the junction box. Turn on the following breakers by pushing their handles upwards:
   a. Load breaker (optional, only when loads are connected)
   b. Battery breaker
2. Turn the breaker on the grid side.
3. Turn on DC SWITCH on the left side of the inverter.



4. Turn on the battery switch on the battery. For details, refer to the battery user manual.
5. Press the ON/OFF button on the right side of the inverter.
6. Check the LED indicator status on the inverter panel to ensure that the inverter is running properly.

LED indicator	Status	Description
	Off	The inverter is powered off.
	Breathing 6s	The inverter is in initialization or standby state.
	Solid on	The inverter is working properly.
	Breathing 6s	The inverter is upgrading.
	Solid on	The inverter is not working properly.
	Solid on	The battery is importing electricity from the grid.
	On 1s, off 1s	The battery is exporting electricity to the grid.

System	On 1s, off 3s	No electricity is imported from or exported to the grid.
	Off	The inverter is disconnected from the grid.
Battery	Solid on	The battery is in discharging status.
	On 1s, off 1s	The battery is in charging status.
	Off	The battery is disconnected or inactive.
Grid	Solid on	The grid is connected and working properly.
	On 1s, off 1s	The inverter is trying to connect to the grid.
	On 1s, off 3s	The grid is not working properly.
	Off	No grid is detected.
PV	Solid on	The PV array is working properly.
	On 1s, off 1s	The PV array is not working properly.
	Off	The PV array is not working.
Backup	Solid on	The AC-side load is working properly.
	On 1s, off 1s	The AC-side load is overloaded.
	Off	The AC-side load is disconnected or off.
Communication	Solid on	In good communication with both the meter and BMS.
	On 1s, off 1s	In good communication with the meter but lost communication with the BMS.
	On 1s, off 3s	In good communication with the BMS but lost communication with the meter.
	Off	Lost communication with the meter and the BMS.
Cloud	Solid on	The inverter is connected to the cloud.
	On 1s, off 1s	The inverter is trying to connect to the cloud.
	Off	The inverter is disconnected from the cloud.

7. Configure the system on the Elekeeper App. For details, refer to section “Commissioning” in the inverter user manual.
8. If any error occurs, check the error code displayed on the App. For detailed error messages, refer to section “Troubleshooting” in the inverter user manual.

---End

Installer: _____