

- BMS wiring procedure

- Step 1:** Loosen the screws on the COM 1 terminal. Pinch the tabs on the sides of the COM1 connector enclosure and pull it at the same time to remove it.
- Step 2:** Anti-clockwise loosen the swivel nut and pull out the sealing plugs. Keep them still in the cable support sleeve if you choose not to connect the cable.
- Step 3:** Thread the cables through the swivel nut, cable support sleeve, and connector enclosure in sequence.
- Step 4:** Install the network cables to BMS-1 and BMS -2 of cable clamp according to the labeling.

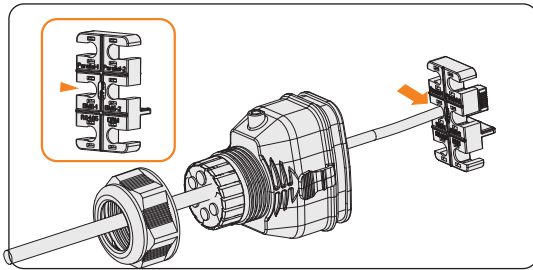


Figure 7-40 Installing RJ45 terminal to the cable clamp

- Step 5:** Connect the assembled connector to COM 1 terminal. Make sure the cable clamp tongue is well inserted into the slot of terminal. You will hear an audible "Click" if it is connected securely. Lightly pull the cable backward for double check its connection.
- Step 6:** Secure the assembled connector on COM 1 terminal.
- a. Install the connector enclosure back into the COM 1 terminal.
  - b. Install the cable support sleeve into the enclosure.
  - c. Tighten M3 screw to secure it. (Torque:  $0.6 \pm 0.1$  N·m)
  - d. Clockwise tighten the swivel nut to finish the COM 1 wiring connection.

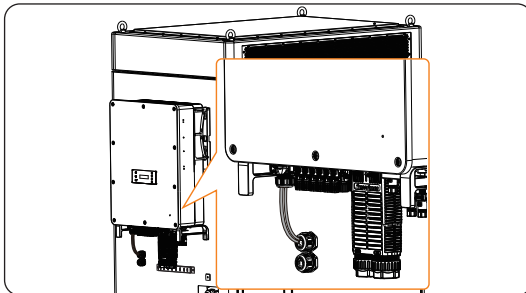


Figure 7-41 Well connected COM 1 cables

## RS485 communication connection

For SolaX products, such as the Adapter Box, EV-Charger and etc., they can be connected to pin4 and pin5. As for pin1, pin2, pin7, and pin8 they can be utilized to connect devices other than SolaX products. If you require simultaneous connections of multiple devices, a splitter adapter can be employed.

### NOTICE!

- Please refer to corresponding user manual for the specific application of Adapter Box, EV-Charger and Datahub.
- Not all devices are compatible with 8 pin Network cables. In cases where 8 pin Network cables are not supported, it is required to re-crimp the RJ45 terminal according to the pin assignment.

- External device wiring procedure

**Step 1:** Loosen the screws on the COM 1 terminal. Pinch the tabs on the sides of the COM 1 connector enclosure and pull it at the same time to remove it.

**Step 2:** Anti-clockwise loosen the swivel nut and pull out the sealing plugs. Keep the sealing plugs still in the cable support sleeve if you choose not to connect the cable.

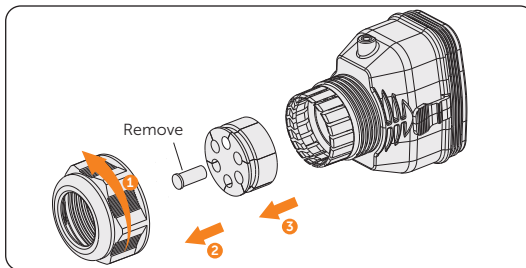


Figure 7-42 Disassembling the connector

**Step 3:** Thread the cables without RJ45 terminal through the swivel nut, cable support sleeve, and connector enclosure in sequence. Strip approx. 15 mm of the cable insulation.

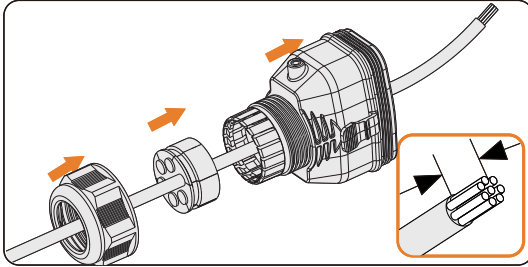


Figure 7-43 Threading the cables and stripping the insulation

**Step 4:** Insert the stripped section into the RJ45 terminal. Crimp it tightly with a crimping tool for RJ45. Pay attention to pin order of RJ45 terminal.

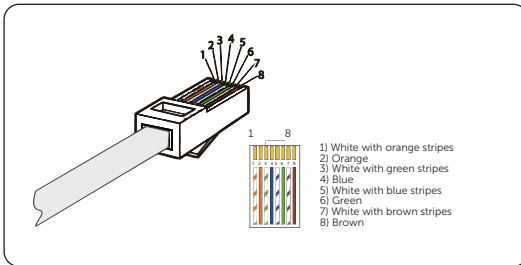


Figure 7-44 Crimping the communication cable

**NOTICE!**

- Use network cable tester to test the crimped cable before connecting to the inverter.

**Step 5:** Install the network cable of the crimped RJ45 terminal to RS485 of cable fixture according to the labeling.

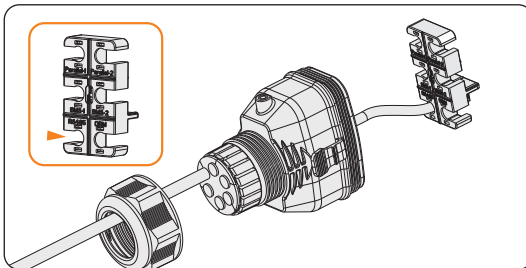


Figure 7-45 Installing RJ45 terminal to the cable fixture

**Step 6:** Connect the assembled connector to COM 1 terminal. Make sure the cable fixture tongue is well inserted into the slot of terminal. You will hear an audible "Click" if it is connected securely. Lightly pull the cable backward for double check its connection.

**Step 7:** Secure the assembled connector on COM 1 terminal.

- Install the connector enclosure back into the COM 1 terminal.
- Install the cable support sleeve into the enclosure.
- Tighten M3 screw to secure it. (Torque:  $0.6 \pm 0.1$  N·m)
- Clockwise tighten the swivel nut to finish the COM 1 wiring connection.

### DRM connection (applicable to AS/NZS 4777)

According to AS/NZS 4777, the inverter needs to support the function of demand response mode (DRM). With the use of an external control box, active or reactive power regulation can be realized in a timely and fast manner, and the inverter can be operated stably during the process of regulation.

DRM 0, DRM 1 and DRM 5 are available now.

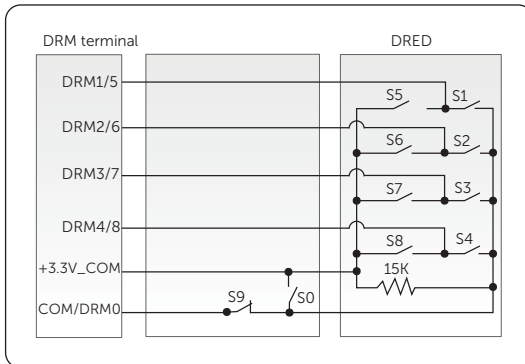


Figure 7-46 DRED connection diagram

Table 7-3 Descriptions of DRM

Mode	Pin	Requirement
DRM 0	Pin 6	<ul style="list-style-type: none"> <li>When S0 is turned on, the inverters shut down.</li> <li>When S0 is turned off, the inverters restore grid connection.</li> </ul>
DRM 1	Pin 1	<ul style="list-style-type: none"> <li>When S1 is turned on, the inverters do not input active power.</li> </ul>
DRM 5	Pin 1	<ul style="list-style-type: none"> <li>When S5 is turned on, the inverters do not output active power.</li> </ul>

- DRM connection wiring procedure

- Step 1:** Loosen the screws on the COM 1 terminal. Pinch the tabs on the sides of the COM 1 connector enclosure and pull it at the same time to remove it.
- Step 2:** Anti-clockwise loosen the swivel nut and pull out the sealing plugs. Keep them still in the cable support sleeve if you choose not to connect the cable.
- Step 3:** Thread the cable through the swivel nut, cable support sleeve, and connector enclosure in sequence.
- Step 4:** Install the network cable of the crimped RJ45 terminal to RS485 of cable fixture according to the labeling.

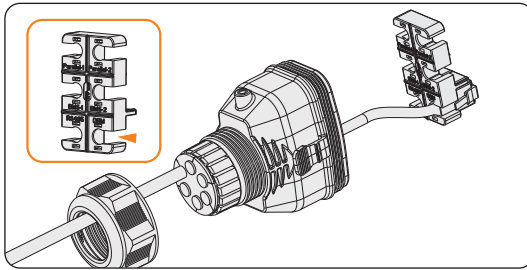


Figure 7-47 Installing RJ45 terminal to the cable fixture

- Step 5:** Connect the assembled connector to COM 1 terminal. Make sure the cable fixture tongue is well inserted into the slot of terminal. You will hear an audible "Click" if it is connected securely. Lightly pull the cable backward for double check its connection.
- Step 6:** Secure the assembled connector on COM 1 terminal.
- a. Install the connector enclosure back into the COM 1 terminal.
  - b. Install the cable support sleeve into the enclosure.
  - c. Tighten M3 screw to secure it. (Torque:  $0.6 \pm 0.1$  N·m)
  - d. Clockwise tighten the swivel nut to finish the COM 1 wiring connection.

## 7.2.6 COM 2 Communication Connection

### Pin assignment of COM 2 terminal

The COM 2 terminal is used for Meter/CT connection, ripple control and DIO function.

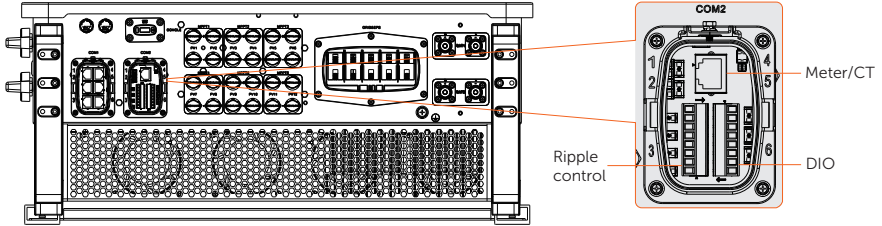


Table 7-4 Pin assignment of COM 2 terminal

Pin	Pin assignment
Meter/CT	
1	CT_R1_CON
2	CT_S1_CON
3	CT_T1_CON
4	METER_485A
5	METER_485B
6	CT_T2_CON
7	CT_S2_CON
8	CT_R2_CON
Ripple control	
1	RP_K4
2	GND_COM
3	RP_K3
4	GND_COM
5	RP_K2
6	GND_COM
7	RP_K1
8	GND_COM

Pin	Pin assignment
DIO port	
1	DO_1
2	DO_2
3	DI_1+
4	DI_1-
5	DI_2+
6	DI_2-
7	GND_COM
8	EPSBOX_RELAY_VCC

### CT/Meter connection

The inverter should work with an electric meter or current transformer (CT for short) to monitor household electricity usage. The electricity meter or CT can transmit the relevant electricity data to the inverter or platform.

This section only introduces the wiring of the CT/Meter port of the inverter. For wiring procedures of the CT and meter side, see [“14.4 CT/Meter Connection Scenarios”](#).



- Compatible meters and CTs must be properly connected to the inverter, otherwise, the inverter will shut down and prompt a **Meter Fault** alarm.
- Meters and CTs that will be connected to the inverter must be authorized by SolaX. Unauthorized meters and CTs might be incompatible and cause damages to the inverter. SolaX will not be responsible for the impact caused by the use of other appliances.

Table 7-5 CT/Meter pin definition

	Pin	Pin assignment
For CT connection	1	CT_R1_CON
	2	CT_S1_CON
	3	CT_T1_CON
For Meter connection	4	METER_485A
	5	METER_485B

For CT connection	6	CT_T2_CON
	7	CT_S2_CON
	8	CT_R2_CON

- CT/Meter wiring procedure

**Step 1:** Loosen the screws on the COM 2 terminal. Pinch the tabs on the sides of the COM 2 connector enclosure and pull it at the same time to remove it.

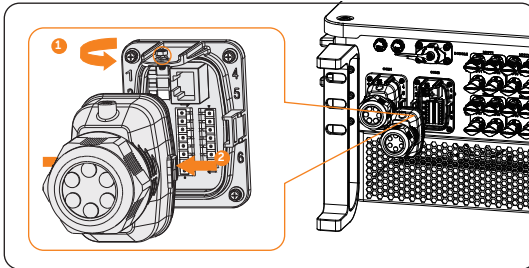


Figure 7-48 Disassembling the COM 2 terminal

**Step 2:** Loosen the swivel nut and pull out the sealing plugs. Keep them still in the cable support sleeve if you choose not to connect the cable.

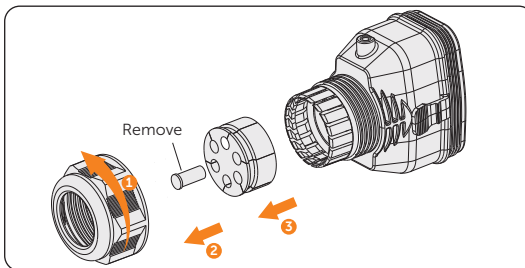


Figure 7-49 Disassembling the connector

**Step 3:** Directly thread the cable through the swivel nut, cable support sleeve and connector enclosure in sequence.

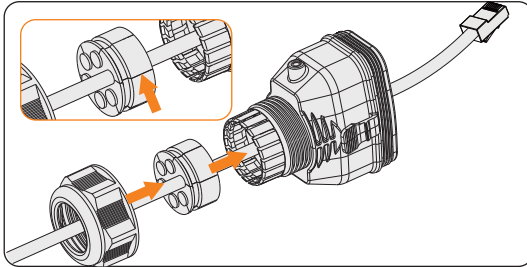


Figure 7-50 Threading the cable with RJ45 terminal

**NOTICE!**

- Use network cable tester to test the crimped cable before connection.

**Step 4:** Connect the assembled communication cable into the COM 2 terminal. Secure the assembled connector on COM 2 terminal.

- » Install the connector enclosure back into the COM 2 terminal.
- » Install the cable support sleeve into the enclosure.
- » Tighten M3 screw to secure it. (Torque:  $0.6 \pm 0.1$  N·m)
- » Clockwise tighten the swivel nut to finish the COM 2 wiring connection.

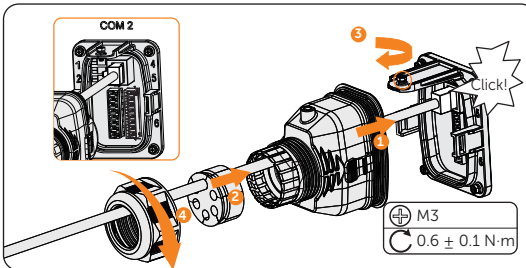


Figure 7-51 Connecting to COM 2

## Ripple control communication connection

Ripple Control is a common form of grid management. Its communication is based on superimposing a very high frequency signal onto the 50 / 60 Hz mains power. The inverter supports to connect a digital signal source (e.g. ripple control receiver) to the digital input.

- Requirements for Ripple control
  - » The signal source must be technically suitable for connection to the digital inputs. (see technical data)
  - » The connected digital signal source has a safe separation to the grid potential.
- Connection diagram for ripple control

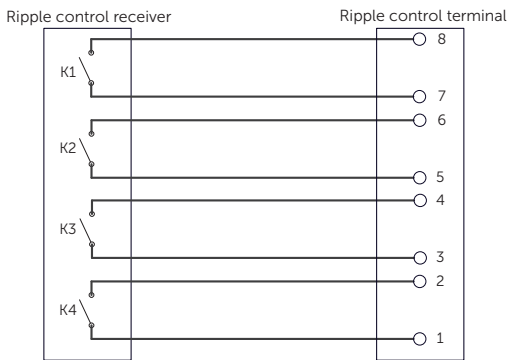


Figure 7-52 Connection diagram for ripple control

- Ripple control wiring procedure
- Step 1:** Loosen the screws on the COM 2 terminal. Pinch the tabs on the sides of the COM 2 connector enclosure and pull it at the same time to remove it.

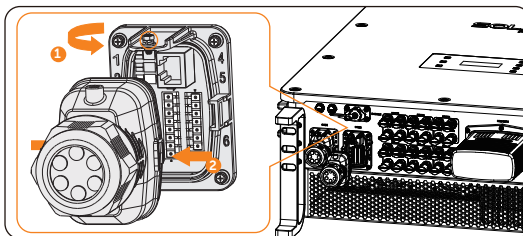


Figure 7-53 Disassembling the COM 2 terminal

**Step 2:** Loosen the swivel nut and pull out the sealing plugs. Keep them still in the cable support sleeve if you choose not to connect the cable.

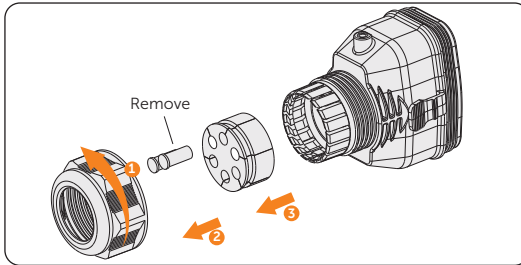


Figure 7-54 Disassembling the connector

**Step 3:** Prepare two four-core signal cables. Thread the cables through the swivel nut, cable support sleeve, and connector enclosure in sequence.

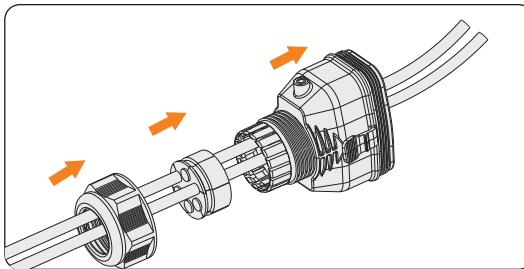


Figure 7-55 Threading the cables

**Step 4:** Strip approx. 6 mm of the cable insulation. Insert the conductors into the 8-pin terminal block (Part F2) and tighten the terminal block screws. (torque:  $0.2 \pm 0.1$  N·m) Ensure that the conductors are firmly seated in the terminal.

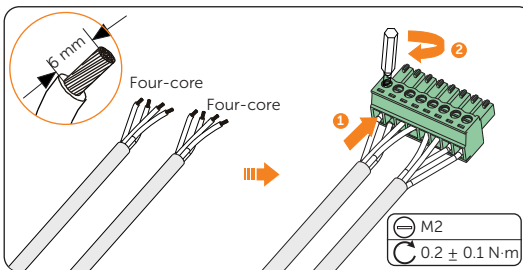


Figure 7-56 Connecting to 8-pin terminal block

**Step 5:** Connect the assembled communication cable into the COM 2 terminal. Lightly pull the cable backward to confirm tight insertion and then install the connector back.

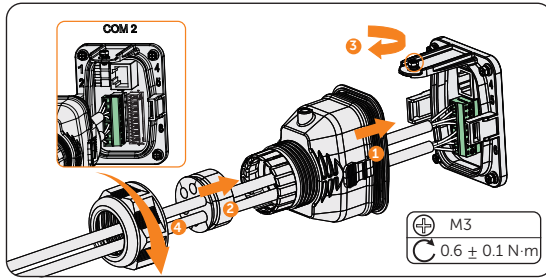


Figure 7-57 Connecting to the inverter

### DIO communication connection

DIO terminal is designed to support generator and system switch connection through dry contact.

To enhance safety and reduce the risk of injury, you can install the system switch in a readily accessible location through dry contact connection. In the event of an emergency, the system switch can be easily reached and pressed to promptly switch off the entire system, ensuring a swift response and preventing further harm.

For generator, please refer to corresponding user manual for specific application.

Table 7-6 DIO pin definition

	Pin	Pin assignment
For generator dry contact output	1	DO_1
	2	DO_2
For system switch dry contact input	3	DI_1+
	4	DI_1-
Reserved	5	DI_2+
	6	DI_2-
Reserved	7	GND_COM
For power supply	8	EPSBOX_RELAY_VCC

**NOTICE!**

- If there is strong interference in the surroundings, it is recommended to use shielding cables and ground the shielding layer of the cables through Pin 7.

- System switch connection diagram

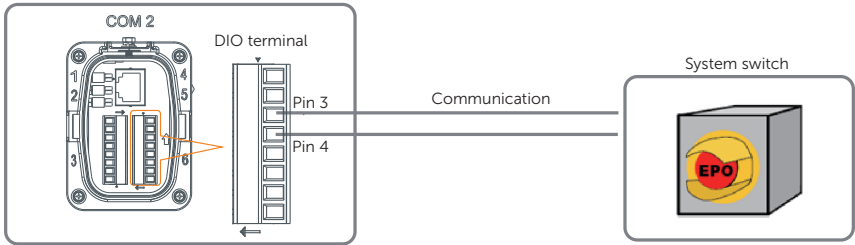


Figure 7-58 System switch connection diagram

Choose a self-locking switch for the system. When system switch is pressed, **OFF MODE (DIO SW)** will be displayed on the LCD screen and the system will be powered off. To release the switch, press it again.

- DIO wiring procedure

- Step 1:** Loosen the screws on the COM 2 terminal. Pinch the tabs on the sides of the COM 2 connector enclosure and pull it at the same time to remove it.
- Step 2:** Loosen the swivel nut and pull out the sealing plugs. Keep them still in the cable support sleeve if you choose not to connect the cable.
- Step 3:** Prepare two four-core signal cable. Thread the cables through the swivel nut, cable support sleeve, and connector enclosure in sequence.
- Step 4:** Strip approx. 6 mm of the cable insulation. Insert the conductors into the 8-pin terminal block and tighten the terminal block screws. (torque:  $0.2 \pm 0.1$  N·m) Ensure that the conductors are firmly seated in the terminal.

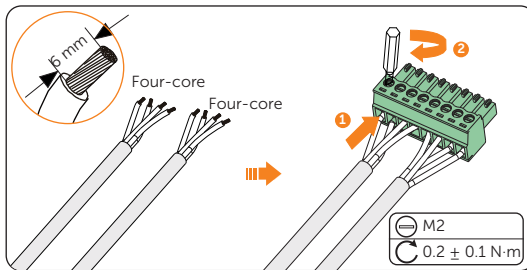


Figure 7-59 Connecting to 8-pin terminal block

**Step 5:** Connect the assembled communication cable into the COM 2 terminal. Lightly pull the cable backward to confirm tight insertion and then install the connector back.

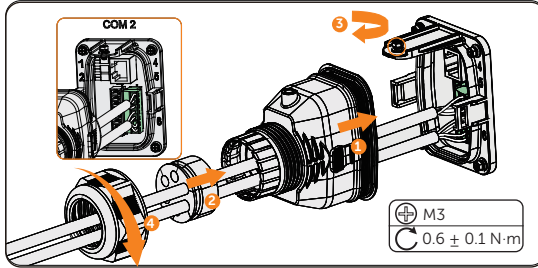


Figure 7-60 Connecting to the inverter

### 7.3 EPS Connection

Wiring area "Area b" must be connected EPS wires. Please strictly follow the steps below.

#### NOTICE!

- Take out the underground electrical wiring which is buried beneath the ground.
- Regarding the terminal requirements, please refer to "14.1 Requirements for OT/DT/TO Terminal".

**Step 1:** Use keys to open the front doors.

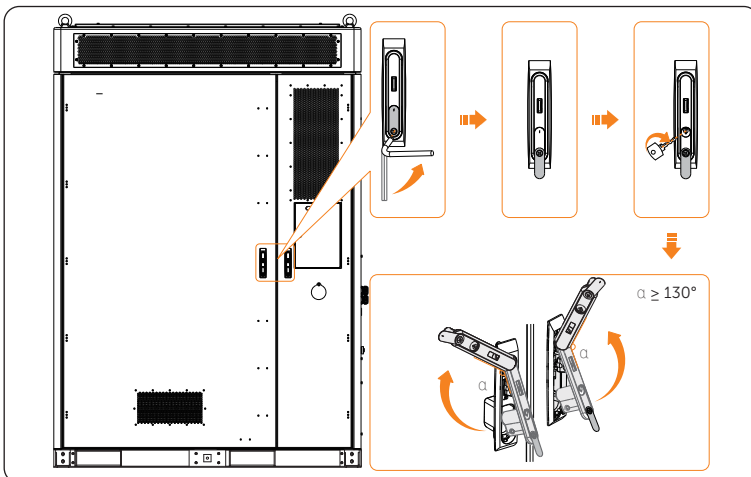


Figure 7-61 Opening front doors

**NOTICE!**

- Please keep the keys properly.

**Step 2:** Strip the four-core cable about 250 mm to 270 mm.  
Strip the cable jacket (for L1/L2/L3/N) about 20 mm.

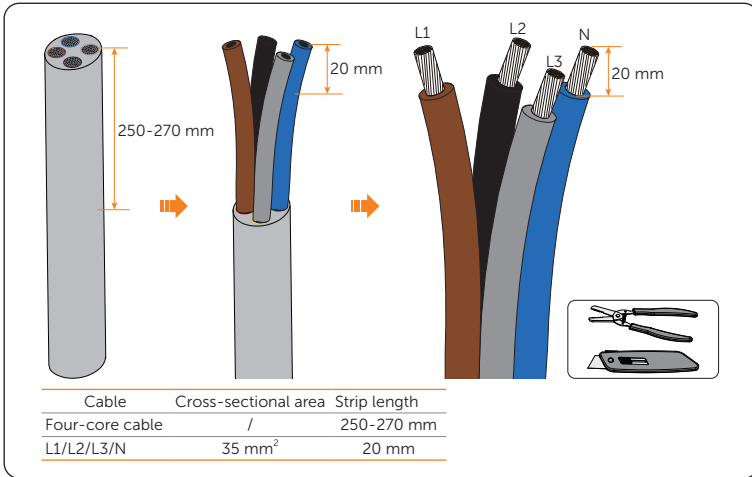


Figure 7-62 Stripping cable jacket

**NOTICE!**

- It's important to give the power cable a health check before stripping it.
- It's necessary to use controlled motion to strip the insulation down the wire, to prevent damage to the wires.
- Make sure that the insulation layer has been stripped to a sufficient length so that the center conductor is fully exposed without any damage or nicks. In addition, make sure that no extra insulation remains beyond the connector once it's crimped on.

- Step 3:** Cut the heat-shrink tubing ( $\text{Ø}15\text{-}20\text{ mm}$ ) to about 50 mm to 60 mm length for L1/L2/L3/N wires; Carefully slide it onto the end of the cable, and then carefully slip the wires all the way into the copper terminals (Part M).

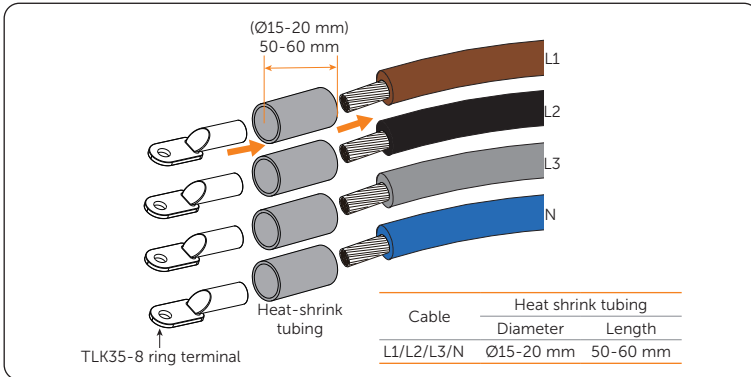


Figure 7-63 Slipping wires

- Step 4:** Crimp the terminal using hydraulic wire crimper. Since the procedure for installing a terminal is same, take the L1 wire, for instance.

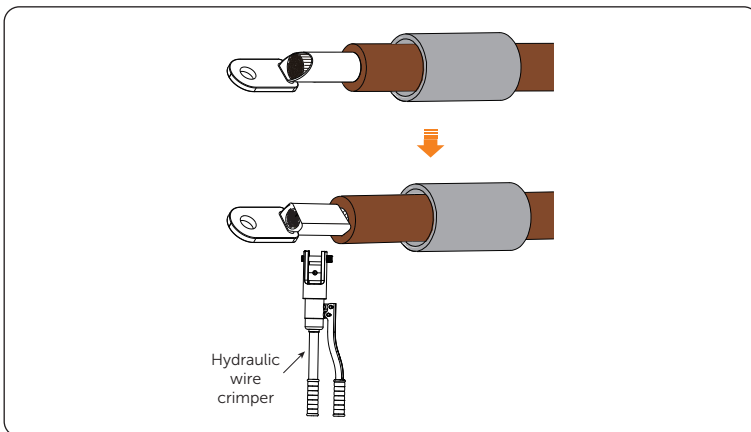


Figure 7-64 Crimping

### NOTICE!

- Do not damage the conductor insulation while crimping.
- Do not place the conductor insulation into the terminal.

**Step 5:** Heat the heat-shrink tubing after it wraps the end of terminal.

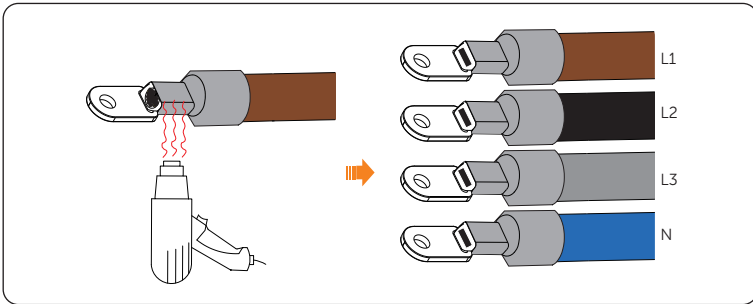


Figure 7-65 Heating

**NOTICE!**

- Move the heat gun back and forth slowly to distribute the heat evenly across the surface of heat shrink tubing.

**Step 6:** Unscrew M5 butterfly nuts to remove the cable hole cover, and unscrew M6 screws to open the cable clamp.

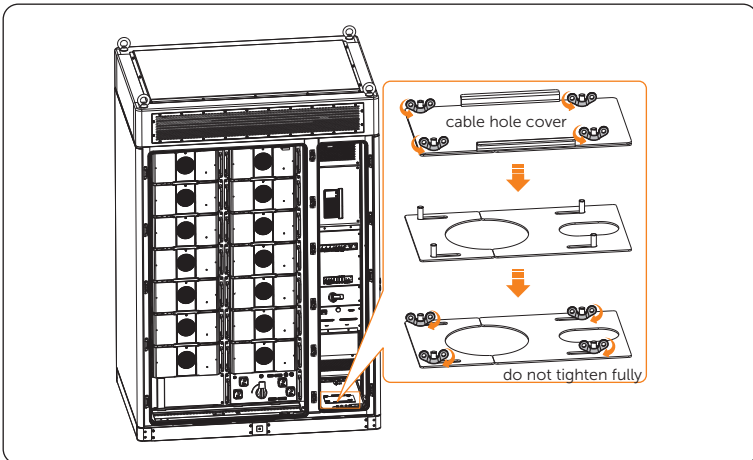


Figure 7-66 Unscrewing M5 butterfly nuts

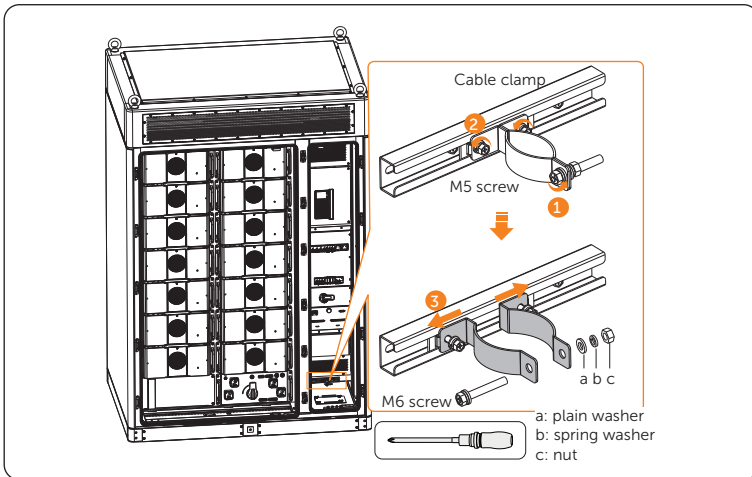


Figure 7-67 Unscrewing M6 screw

**NOTICE!**

- Please keep the screw, washers and nut properly.

**Step 7:** Unscrew M4 screws to remove the cover. There are four bars in the connection area. Each bar has two holes, and it is recommended to connect wires in the green area.

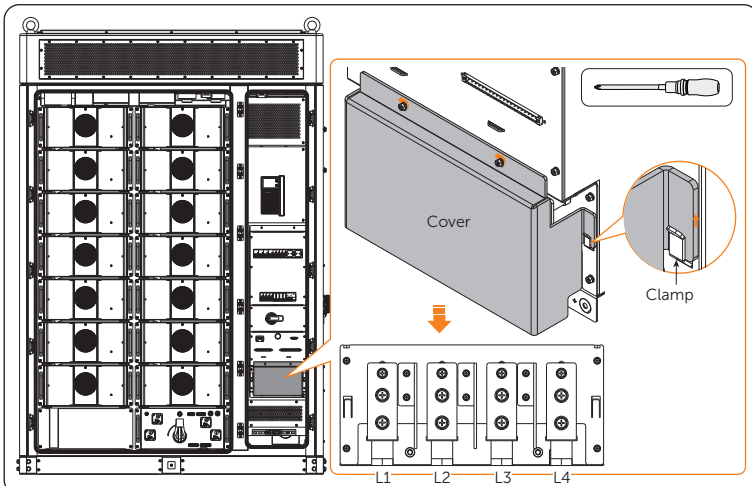


Figure 7-68 Removing cover

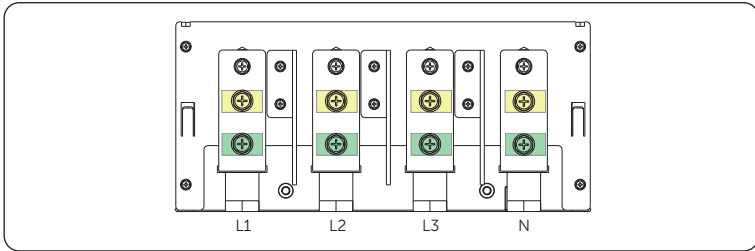


Figure 7-69 Connection area

**NOTICE!**

- Please keep the M4 screws and cover properly.

**Step 8:** There are two options (a and b) for pulling through the EPS wires. Therefore, thread it through option a or b from the outside to the inside.

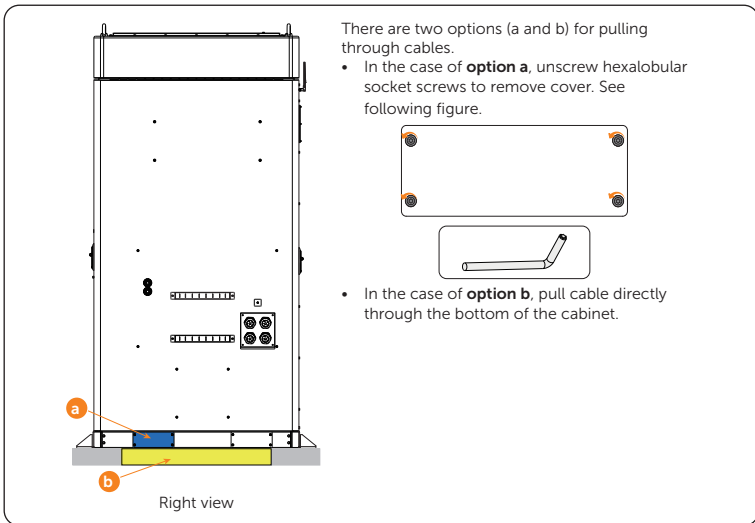


Figure 7-70 Threading EPS wires

**Step 9:** Run the EPS wires through the clamp, and insert M8 screws to secure and connect the assembled L1/L2/L3/N wires to the wire interface, and then tighten them (torque:  $12\pm 1$  N·m).

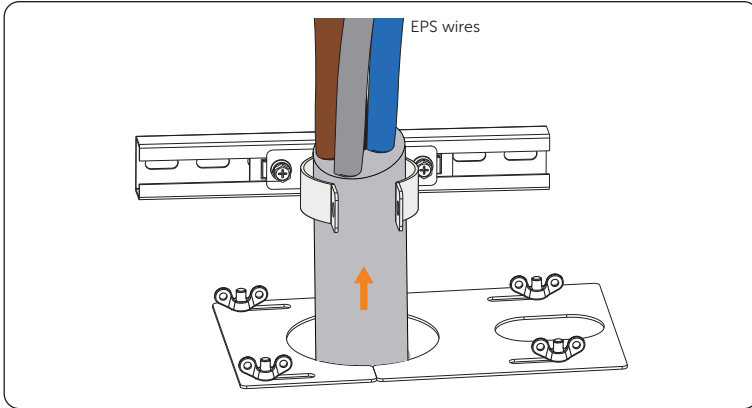


Figure 7-71 Threading grid wires

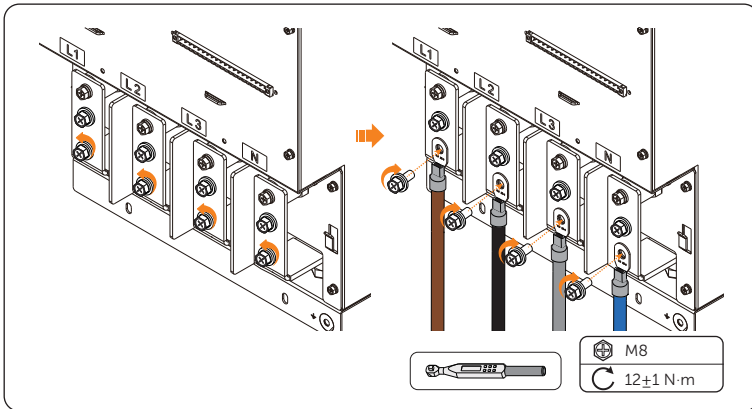


Figure 7-72 Connecting L1, L2, L3 and N wires

**Step 10:** Insert and tighten M5 and M6 screws (torque for M5:  $3\pm 0.3$  N·m; torque for M6:  $5\pm 0.5$  N·m), and then fully tighten M5 butterfly nuts.

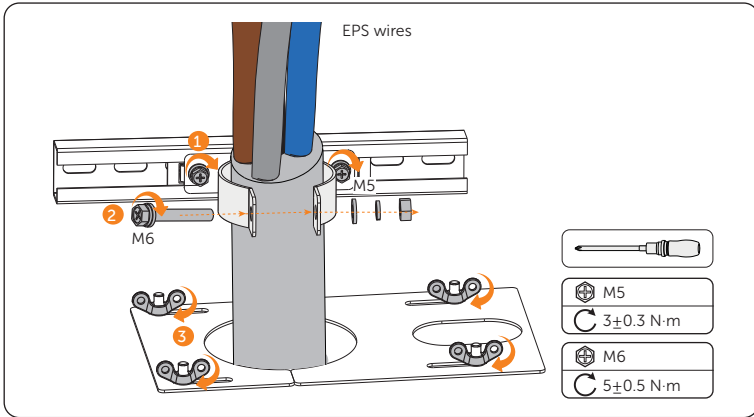


Figure 7-73 Tightening screws

**NOTICE!**

- The small hole is used to thread communication cable, if the number of cabinets is over 2.

**Step 11:** Attach the cover, and insert and tighten the M4 screws (torque:  $1.2\pm 0.1$  N·m).

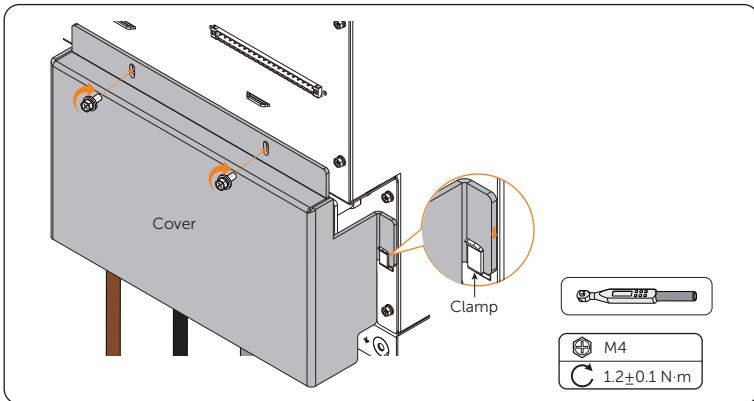


Figure 7-74 Securing cover

## 7.4 Grid Connection

Wiring area "Area c" must be connected GRID wires. Please strictly follow the steps below.

### NOTICE!

- Take out the underground electrical wiring which is buried beneath the ground.
- Regarding the terminal requirements, please refer to "14.1 Requirements for OT/DT/TO Terminal".

**Step 1:** Use keys to open the rear door.

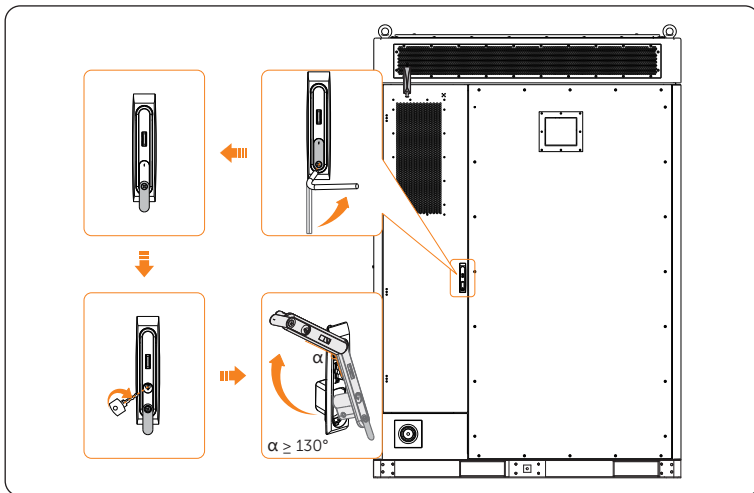


Figure 7-75 Opening rear door

**Step 2:** Strip the five-core cable about 160 mm to 180 mm;  
Strip the cable jacket (for L1/L2/L3/N) about 20 mm;  
Strip the PE cable jacket about 15 mm to 20 mm.

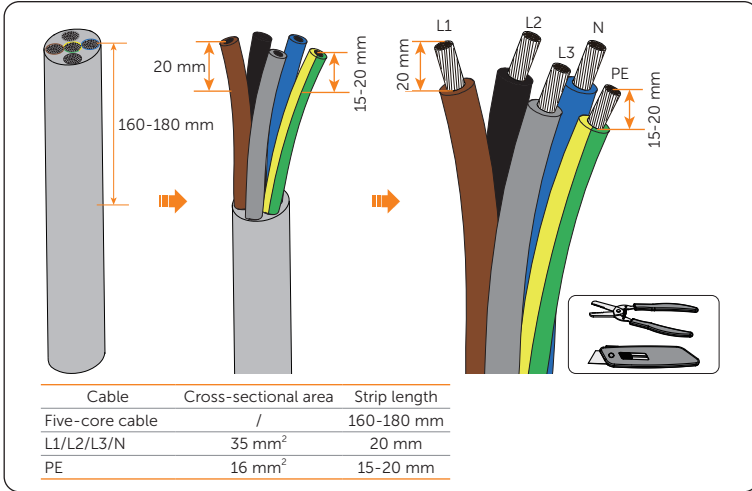


Figure 7-76 Stripping cable jacket

**NOTICE!**

- It's important to give the power cable a health check before stripping it.
- It's necessary to use controlled motion to strip the insulation down the wire, to prevent damage to the wires.
- Make sure that the insulation layer has been stripped to a sufficient length so that the center conductor is fully exposed without any damage or nicks. In addition, make sure that no extra insulation remains beyond the connector once it's crimped on.

**Step 3:** Cut the heat-shrink tubing (Ø17~25 mm) to about 50 to 60 mm length for L1/L2/L3/N wires;  
Cut the heat-shrink tubing (Ø10-15 mm) to about 30 to 40 mm length for PE wire;  
Carefully slide it onto the end of the cable, and then carefully slip the wires all the way into the copper terminals (Part M).

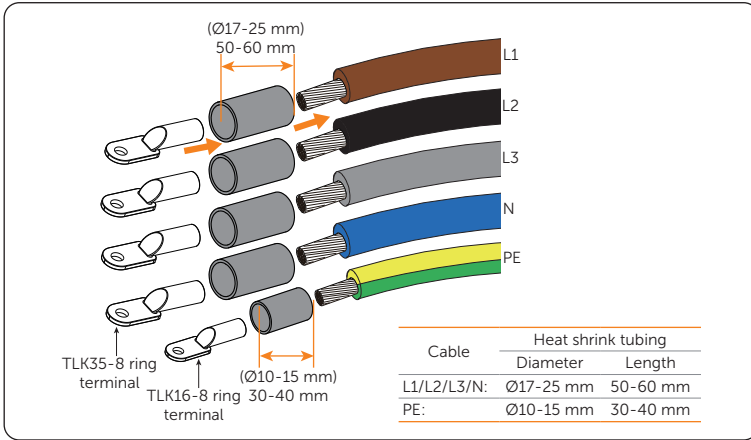


Figure 7-77 Cutting heat-shrink tubing

**Step 4:** Crimp the terminal using hydraulic wire crimper. Since the procedure for installing a terminal is same, take the L1 wire, for instance.

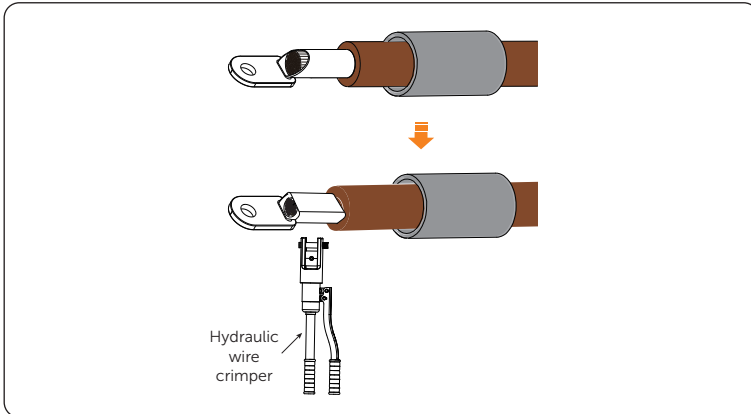


Figure 7-78 Crimping

#### NOTICE!

- Do not damage the conductor insulation while crimping.
- Do not place the conductor insulation into the terminal.

**Step 5:** Heat the heat-shrink tubing after it wraps the end of terminal.

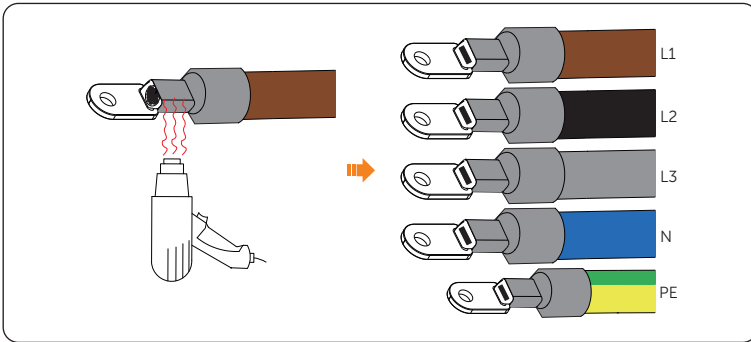


Figure 7-79 Heating heat-shrink tubing

**NOTICE!**

- Move the heat gun back and forth slowly to distribute the heat evenly across the surface of heat shrink tubing.

**Step 6:** Unscrew M5 butterfly nuts to remove the cable hole cover, and unscrew M6 screws to open the cable clamp.

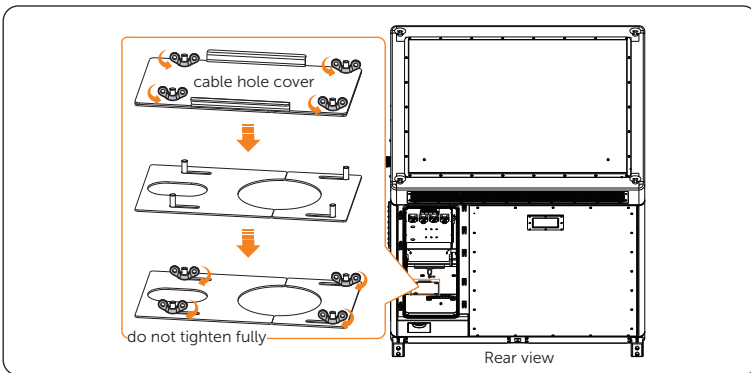


Figure 7-80 Unscrewing M5 butterfly nuts

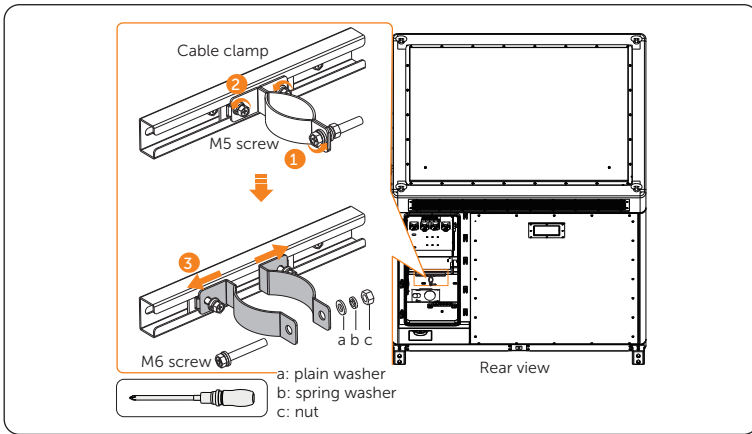


Figure 7-81 Unscrewing M6 screw

**NOTICE!**

- Please keep the screw, washers and nut properly.

**Step 7:** Unscrew M5 screws to remove the cover. There are four bars in the connection area. Each bar has two holes, and it is recommended to connect wires in the green area.

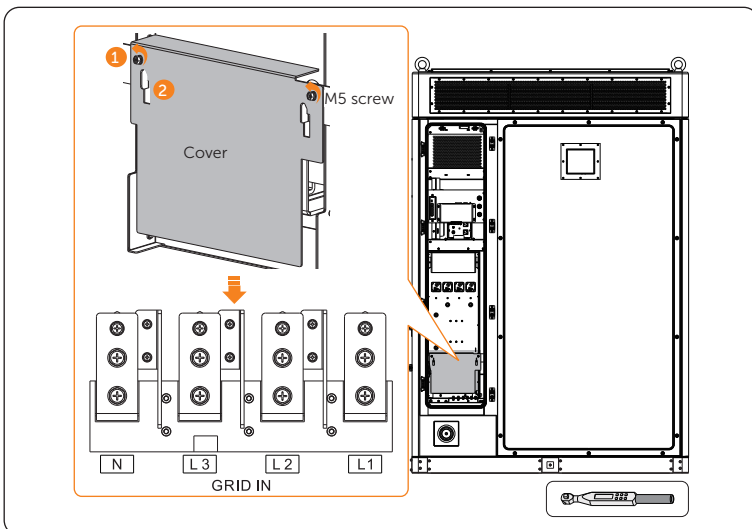


Figure 7-82 Removing cover

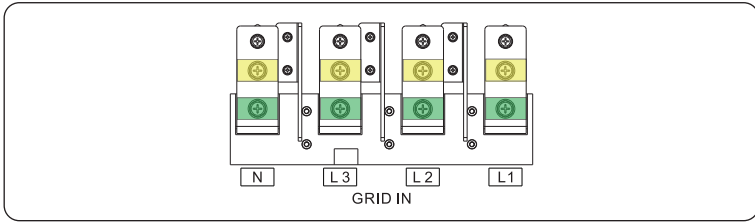


Figure 7-83 Connection area

**NOTICE!**

- Please keep the M5 screws and cover properly.

**Step 8:** There are two options (a and b) for pulling through the grid wires. Therefore, thread it through option a or b from the outside to the inside.

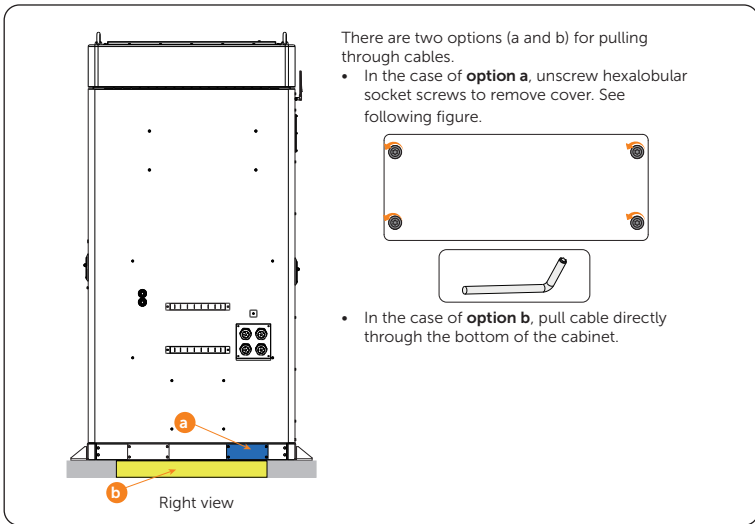


Figure 7-84 Threading grid wires

**Step 9:** Run the grid wires through the clamp, and insert M8 screws (Part K) to secure and connect the assembled L1/L2/L3/N wires to the wire interface, and then tighten them (torque:  $12 \pm 1$  N·m).

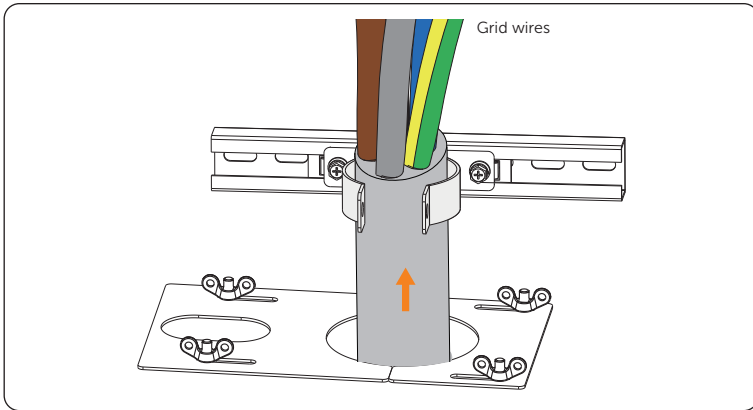


Figure 7-85 Threading grid wires

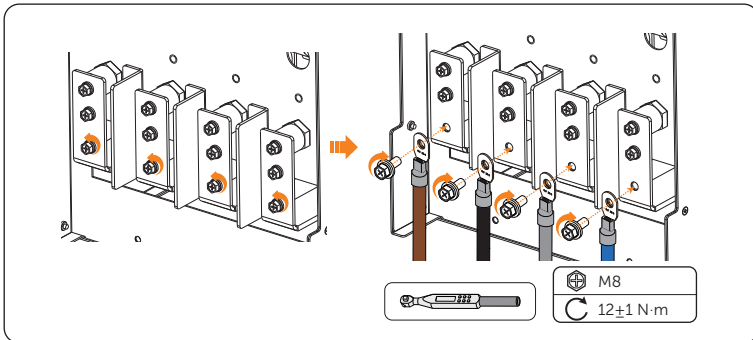


Figure 7-86 Connecting L1, L2, L3 and N wires

**Step 10:** Insert and tighten M5 and M6 screws (torque for M5:  $3\pm 0.3$  N·m; torque for M6:  $5\pm 0.5$  N·m), and then fully tighten M5 butterfly nuts.

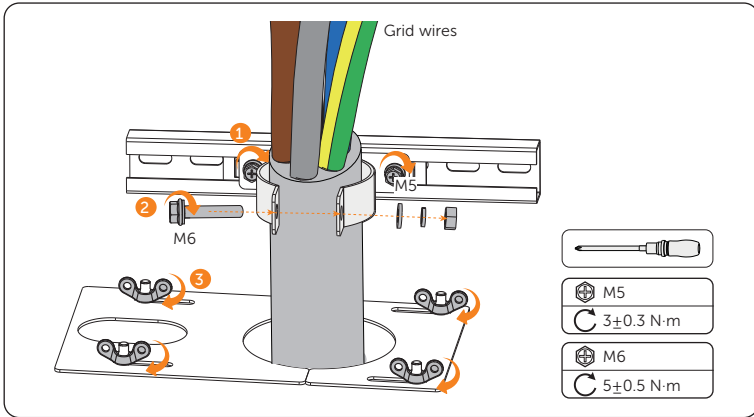


Figure 7-87 Tightening screws

**NOTICE!**

- The small hole is used to thread communication cable, if the number of cabinets is over 2.

**Step 11:** There are two M8 screws, and either one of them can be connected to the PE wire. Hence, unscrew a M8 screw using a torque wrench, connect the assembled PE wire to the copper bar, and then tighten it (torque:  $12\pm 1$  N·m).

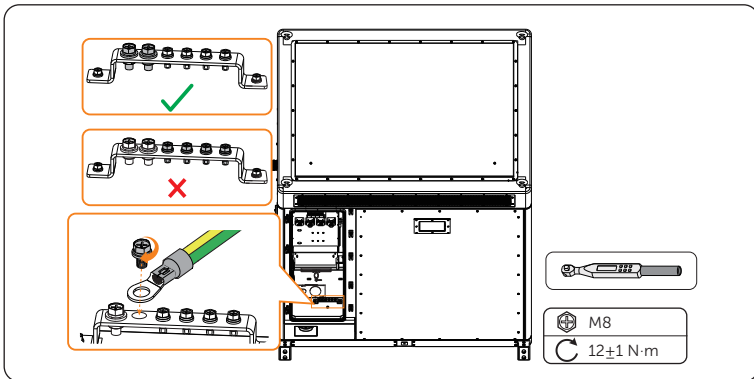


Figure 7-88 Connecting PE wire

**Step 12:** Reattach the cover over the hooks to the cabinet, and then correctly insert and tighten M5 screws (torque:  $3.0 \pm 0.3$  N·m).

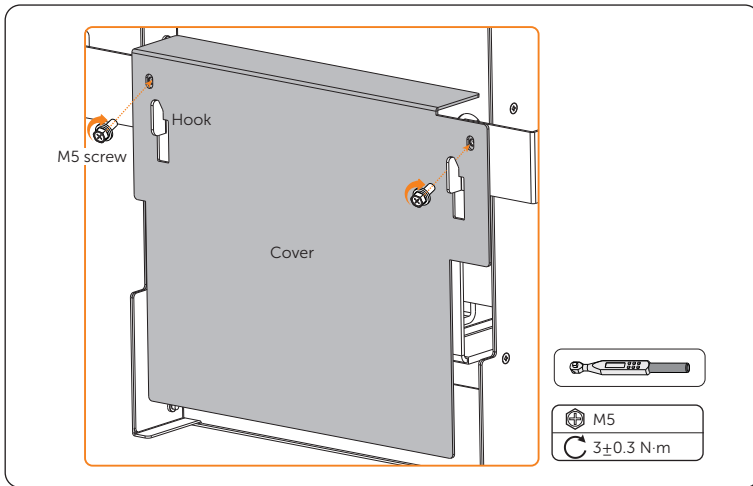


Figure 7-89 Reattaching cover

### NOTICE!

- Must clean the materials, such as metal parts, screws, etc., in the cabinet after finishing wiring.

## 7.5 Fireproof Mud

After finishing wiring, the cable threading holes must be laid with fireproof mud.

**Step 1:** Lay the fireproof mud (Part G) to plug the cable threading holes on both front and rear sides of the cabinet.

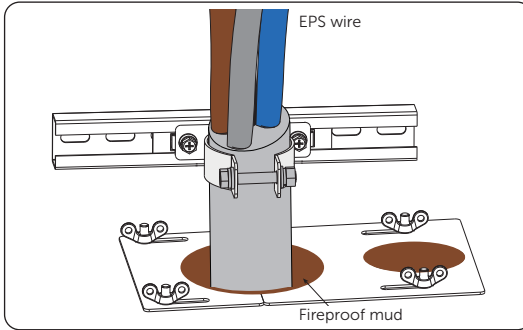


Figure 7-90 Plugging the cable threading hole on the front side

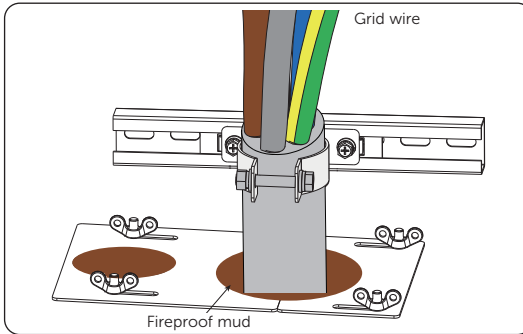


Figure 7-91 Plugging the cable threading hole on the rear side

### NOTICE!

#### Notice for fireproofing mud:

- Take out the fireproof mud delivered with the cabinet and knead it into a ball shape. In the case of the low temperature, place it into warm water, of which the temperature range is between 40°C and 70 °C, with its package until it is soft.
- Clean the area around the cable threading hole before sealing it.
- The fireproof mud should be evenly spread, embedded, or filled in the cable threading hole. If such a hole is too large, a fireproofing board can be placed to enhance fire protection before using the mud.
- The fireproof mud needs to be cured after sealing the cable threading hole. Prevent water from entering and colliding during curing.

## 7.6 Installation Procedure for Cable Cover

### NOTICE!

- Do not install the cable cover until the all the cables are wired.

**Step 1:** Unscrew M6 hexalobular screws, with a total of 8 screws (a1, a2, a3 and a4 for large cable cover, and b1, b2,b3 and b4 for small cable cover).

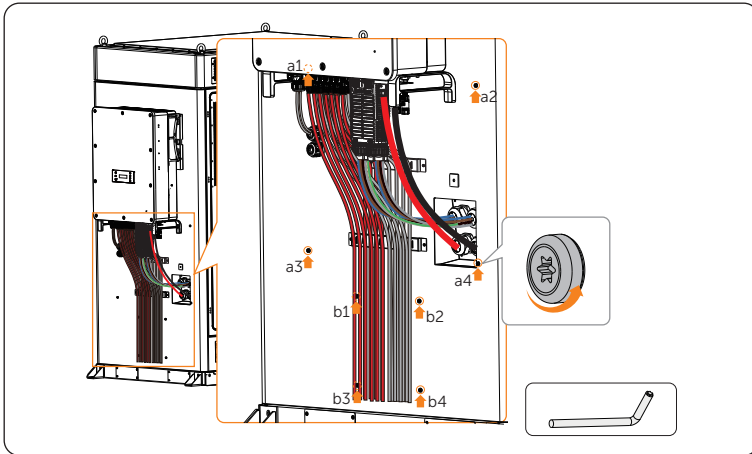


Figure 7-92 Unscrew M6 screws

### NOTICE!

- Keep these M6 screws properly.