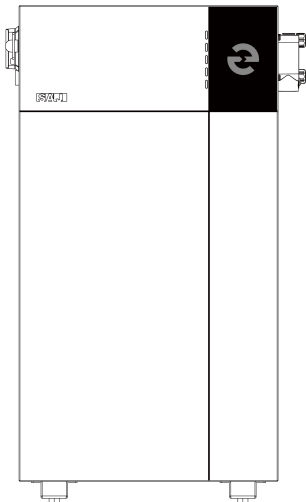


EK60 series

Low-voltage battery

EK60 B3-16.0-LV

Quick Installation Guide



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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. Transportation and storage

2.1. Transportation

2.1.1. Transportation safety instruction



WARNING

- The product has passed the UN38.3 test and meets the transportation requirements for dangerous goods, including lithium-ion batteries.
- The transportation service provider must be qualified to transport dangerous goods.
- Before transportation, check that the battery package is intact and that there are no abnormal odour, leakage, smoke or signs of burning. Otherwise, the batteries must not be transported.
- Keep no more than 6 cartons of batteries in one stack during transportation.
- Do not place other items on top of the battery during transportation.
- Load or unload batteries with caution. Otherwise, the batteries may short circuit or become damaged like leakage or cracking, catch fire or explode.
- When using hand truck to transport the battery, place the battery evenly and securely. Otherwise, the hand truck may tip over, leading to personal injury or battery damage.



NOTICE

After installing the battery on site, keep the original packaging containing the lithium-ion battery identification. When the battery needs to be returned to the factory for repair, use the original packaging to transport it.

2.1.2. Description of the hand truck

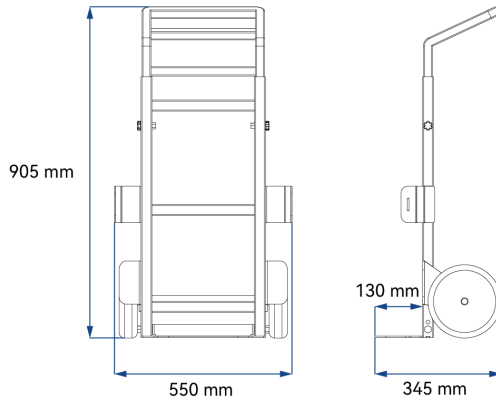


NOTICE

- Due to the battery package is too heavy to lift manually, transporting it with a suitable hand truck is recommended. Contact after-sales to purchase the hand truck from SAJ.
- If the hand truck used is not provided by SAJ, ensure that the hand truck has a rated capacity that meets or exceeds the weight of the battery pack and is equipped with a base plate wide enough to fully support the battery base.

Dimensions

Dimensions (H*W*D): 905*550*130 mm

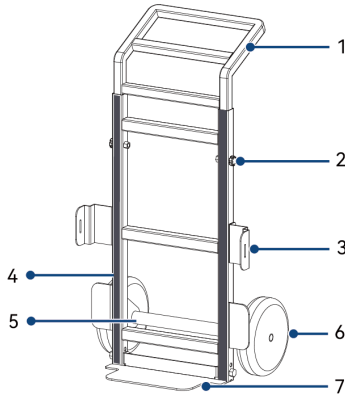


Components description



CAUTION

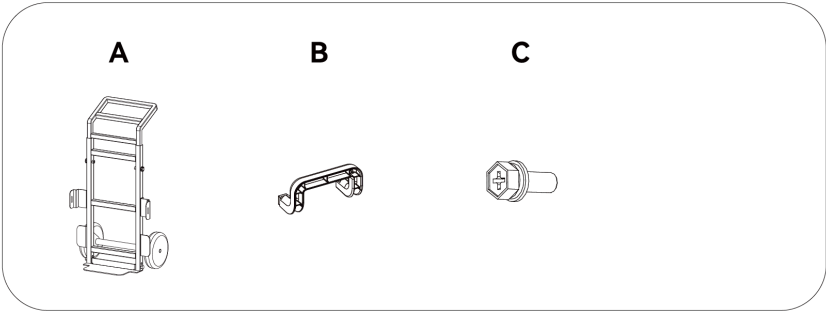
Check regularly whether the sealing strip becomes loose after long-term use to prevent scratches on the battery cover.



Number	Description
1	Adjustable handle
2	Adjustable bar
3	Strap slot
4	Sealing Strip
5	Crossbar
6	Wheel

Number	Description
7	Base plate

Packing list

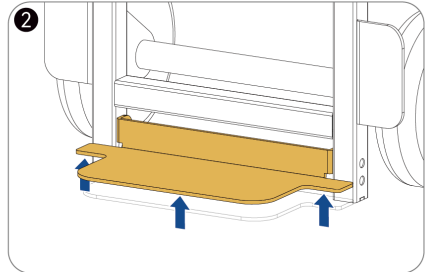
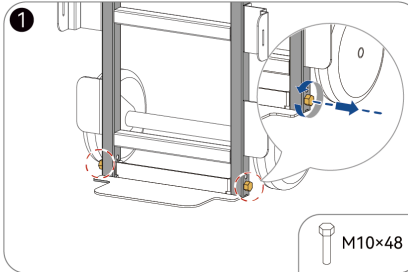


Number	Quantity	Designation
A	1	Hand truck
B	4	Handle for lifting the battery pack
C	8	M6*14 screw for handles

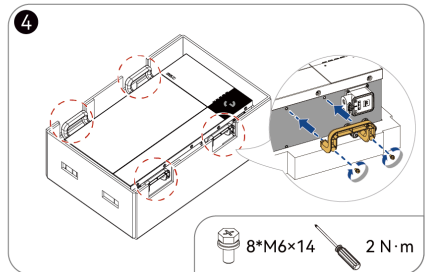
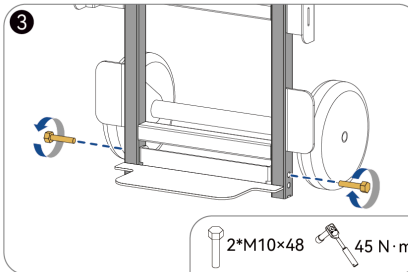
2.1.3. Transportation procedure

Procedure

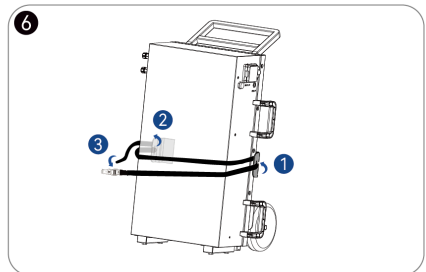
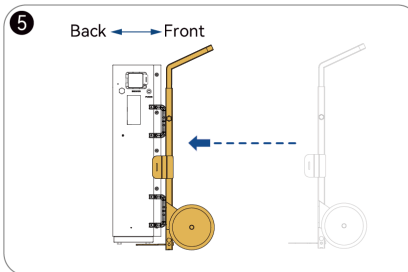
1. (Optional, subject to actual screw layout) Loosen the screws on both sides of the hand truck.
2. (Optional, subject to actual screw layout) Raise the base plate to align with the upper screw holes.



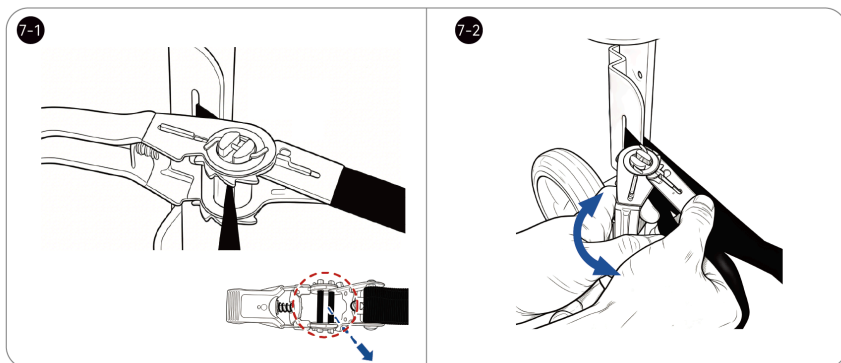
3. Tighten the screws on both sides to secure the base plate.
4. Mount two handles on each side of the battery for easy lifting.



5. Place the battery onto the hand truck with its front facing inward.
6. Thread the strap through the strap slots on both sides of the hand truck to secure the battery.



7. To fasten the battery to the hand truck, thread the strap through the center slot of the tensioner. Close the tensioner and toggle repeatedly to tighten the strap.

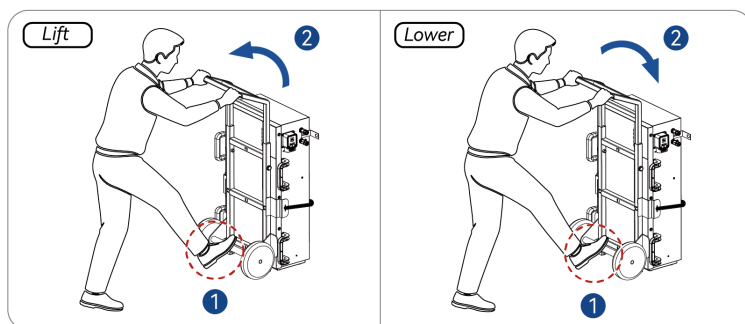


8. Move the battery slowly and steadily. Avoid sudden stops, starts, or sharp turns.



WARNING

- Be cautious when operating the hand truck. Before lifting or lowering the battery pack, brace one foot against the lower crossbar of the hand truck to prevent unintended sliding caused by the battery's weight.



- When placing the battery onto the hand truck, place the battery with its front side facing inward **ONLY**. **DO NOT** force the battery in with its rear side inward.
- DO NOT** place the battery front-side down for extended periods. Positioning the battery with the cells facing downward will shorten battery service life and pose safety hazards.
- Restore the battery to vertical state and complete installation promptly once transportation is finished.

2.2. Storage safety instruction



WARNING

- Store the battery in a dry and ventilated environment and keep it away from heat sources.
- For daily use or short-term storage, keep the battery at temperatures between -10°C and 50°C , with relative humidity from 0% to 95%.
- For long-term storage (3–6 months), store the battery at temperatures between -20°C and 25°C , and keep relative humidity below 85%.
- Avoid rapid temperature changes to stop moisture from forming inside the device. Condensation can cause short circuits, corrosion, or failure.



NOTICE

- When shipped from the factory, the battery retains 40% of its charge.
- The State of Charge (SOC) decreases over time during storage. If the remaining battery voltage falls below the required startup voltage, the battery may become damaged.
- To check operation, close the circuit breaker and press the switch. A solid green light indicates normal operation. A solid red or yellow light indicates malfunction.
- The battery should be installed within 6 months and used only with compatible inverters.
- This battery must not be disposed of as household waste. Once the battery reaches the end of its service life, it does not need to be returned to the dealer or **SAJ**, but must be taken to a designated waste lithium battery recycling facility in your area.

3. Installation

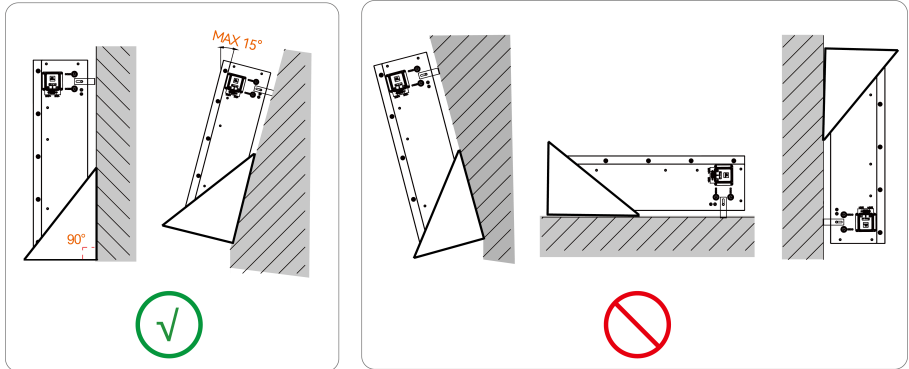
3.1. Installation environment requirements

- Do not expose the device to direct solar irradiation as this could cause power derating due to overheating.
- The installation environment must be free of inflammable or explosive materials.
- The device must be installed in a place away from any heat source.
- Do not install the device at a place where the temperature changes extremely.
- Keep the device away from children.
- Do not install the device in the bedroom, toilet, or bathroom.
- When installing the device at the garage, keep it away from the driveway.
- Keep the device from water sources such as taps, sewer pipes and sprinklers to prevent water seepage.
- For outdoor installation, keep the device away from direct sunlight, rain and snow.
- Ensure the inverter is installed in a well-observed area where the LED display panel can be easily read for real-time status checks.

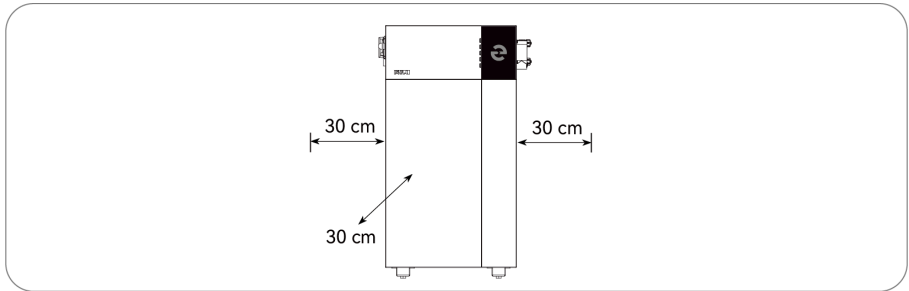


3.2. Installation location requirements

- The device employs natural convection cooling and must be installed in a non-habitable indoor location.
- For wall-mounting method, choose a solid and smooth wall to ensure that the device can be installed securely on the wall. Make sure that the wall can bear the weight of the device and accessories.
- Install the device vertically. Do not install it forward-tilted, horizontally or upside down.



- Reserve enough clearance around the device to ensure a good air circulation at the installation area, especially when multiple devices need to be installed in the same area.



3.3. Installation tools

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

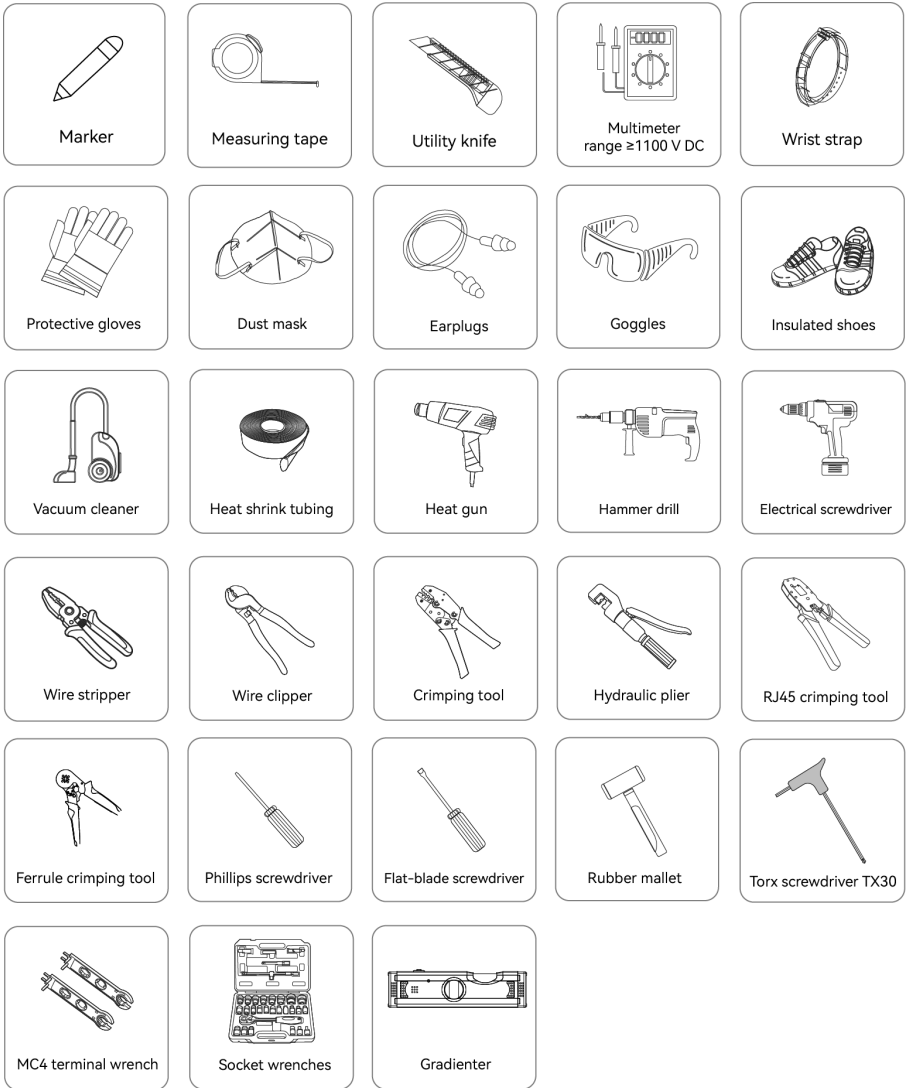
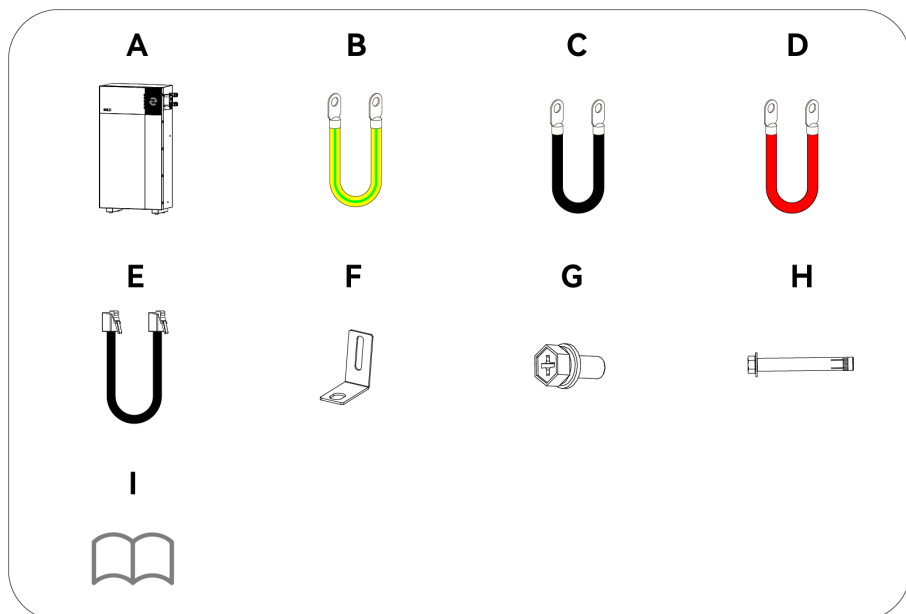


Figure 3.1. Suggested installation tools

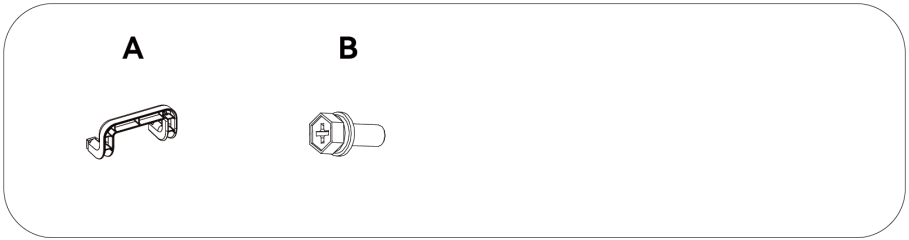
3.4. Packing list

- For floor-mounting installation



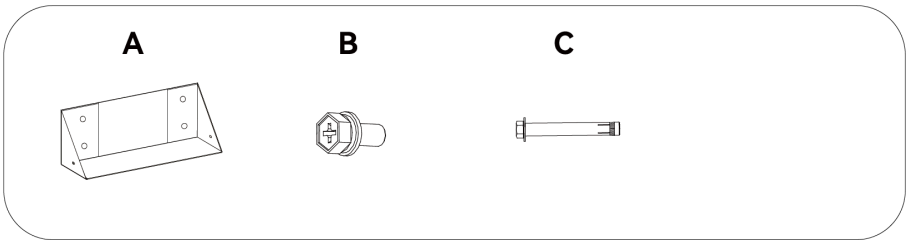
Number	Quantity	Designation
A	1	EK60 B3-16.0-LV battery pack
B	1	Grounding cable
C	1	Negative power cable
D	1	Positive power cable
E	1	Communication cable
F	2	Locking bracket
G	2	M6*12 screw
H	2	M12*80 expansion bolt
I	1	Documentation

- (Optional) Additional accessories for easy-lifting



Number	Quantity	Designation
A	2	Handle for lifting the battery pack
B	4	M6*14 screw for handles

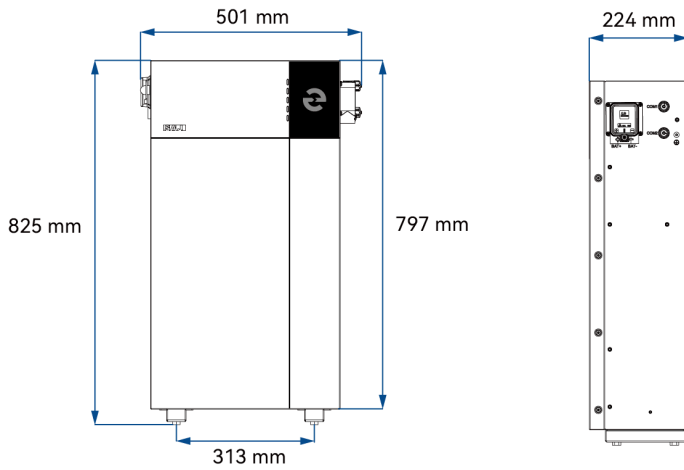
- (Optional) Additional accessories for wall-mounting installation



Number	Quantity	Designation
A	1	Wall-mounting bracket
B	2	M5*14 screw
C	4	M12*80 expansion bolt

3.5. Dimensions

- Without base (H*W*D): 797*501*224 mm
- With base (H*W*D): 825*501*224 mm

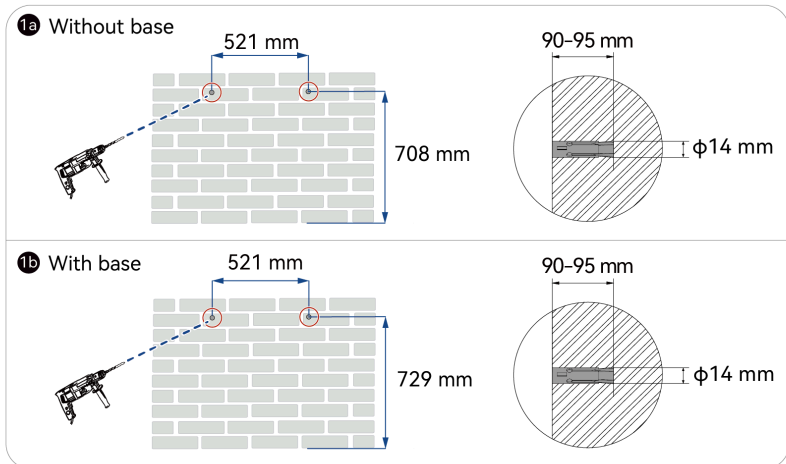


3.6. Install battery on the floor

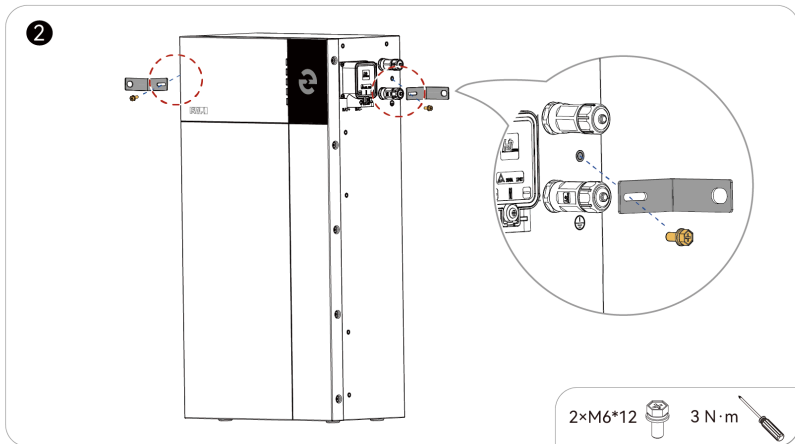
Procedure

1. Mark and drill two holes on the wall.

Note: The drilling hole height shall be determined based on whether the battery base is to be installed or not.

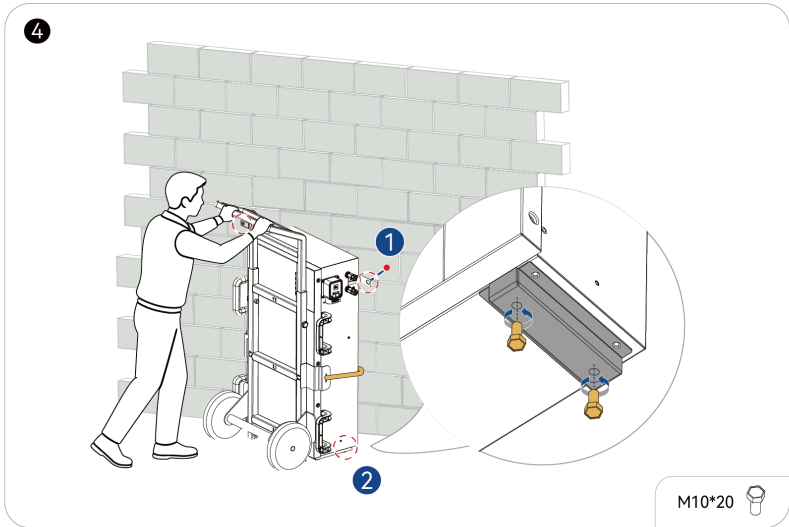


2. Secure a locking bracket to each side of the battery.

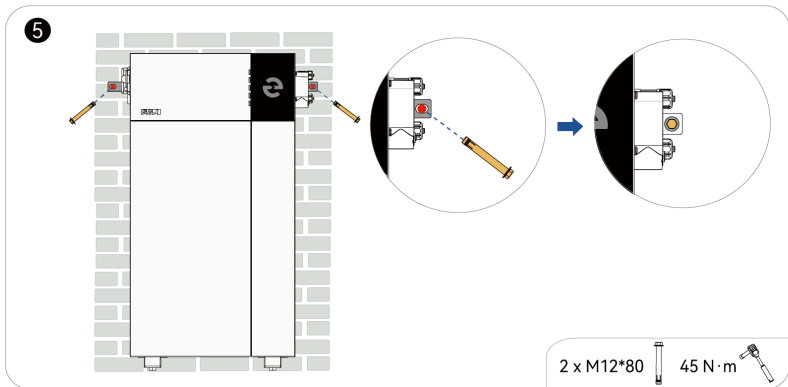


3. Use a hand truck to move the battery against the wall. For transportation guidelines, refer to [2.1.3. Transportation procedure \(on page 7\)](#).

4. (Optional) With the battery pack secured on the hand truck, adjust the battery to align locking bracket holes with wall holes. Then, one person holds the hand truck steady, while the other extends the leveling screws outwards to match base-to-floor clearance.



5. Once leveling is finished, slide and withdraw the hand truck from underneath the battery pack. Then, uninstall the handles.
6. Insert two expansion bolts through the aligned hole, then tighten the bolts firmly with a socket wrench.



3.7. Install battery on the wall

Procedure



WARNING

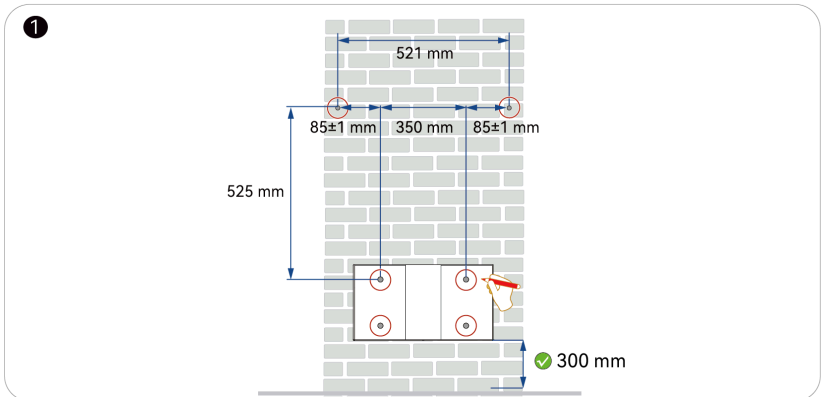
- Before installation, verify that the wall meets adequate load-bearing requirements. Only solid concrete walls are permitted; hollow walls are not acceptable.
- The battery weighs 110 kg. Do not install it alone; at least two people are required for installation.
- To transport the battery, the use of a hand truck is recommended. For purchasing or assistance with using a hand truck provided by SAJ, please contact after-sales service.
- Before lifting the battery onto the wall-mounting bracket, ensure all bracket expansion bolts are fully installed and tightened.

1. Use a level gauge to position the wall-mounting bracket against the wall at the desired height. Mark four holes on the wall through the bracket. Then, mark another two holes for the locking brackets on both sides of the battery.

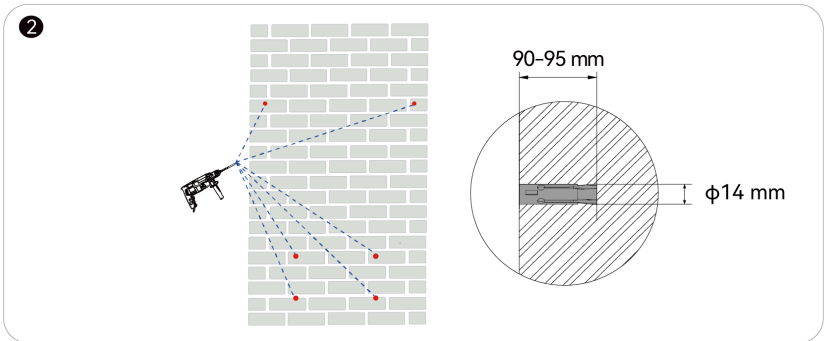


CAUTION

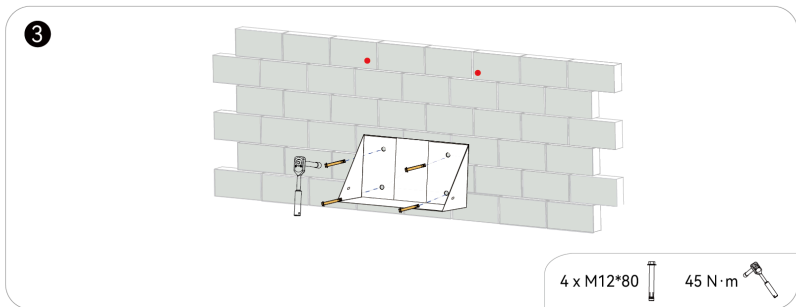
The recommended height for the mounting bracket is 300 mm.



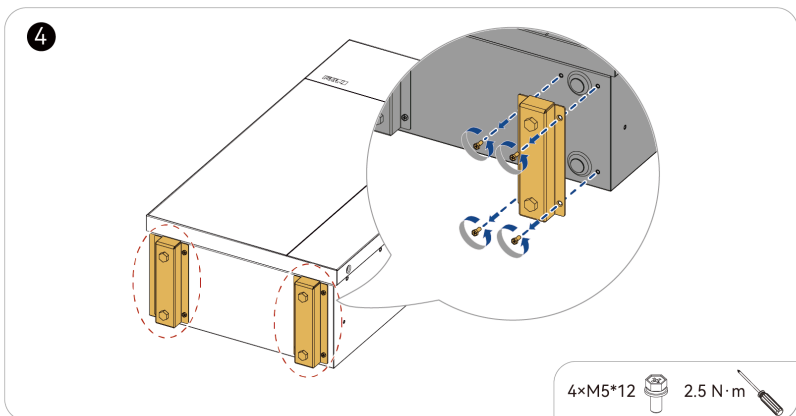
2. Drill six holes according to the marks.



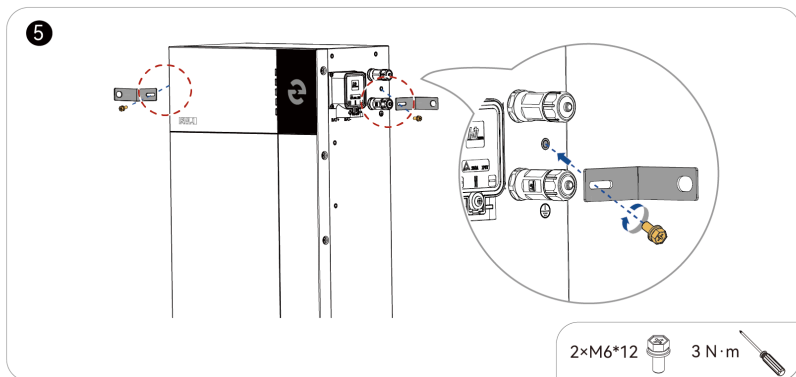
3. Align the bracket with the four lower holes. Insert an expansion bolt into each hole. Tighten all bolts to secure the bracket against the wall.



4. Loosen the screws on the base and remove the base.

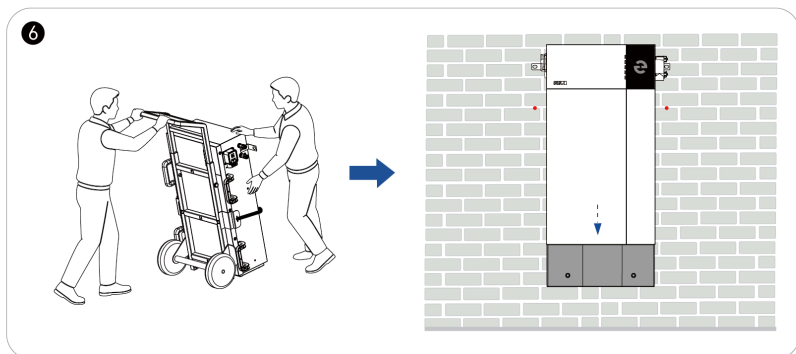


5. Secure a locking bracket to each side of the battery.

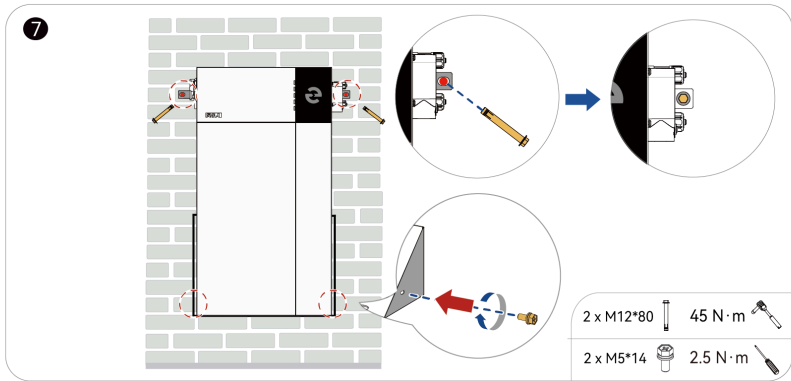


6. Use hand truck to move the battery against the wall. For transportation guidelines, refer to [2.1.3. Transportation procedure \(on page 7\)](#). With at least two people holding the handles of the battery pack, carefully lift the battery from the base plate of the hand truck, and place it onto the wall-mounting bracket.

Note: Uninstall the handles after placing the battery onto the bracket.

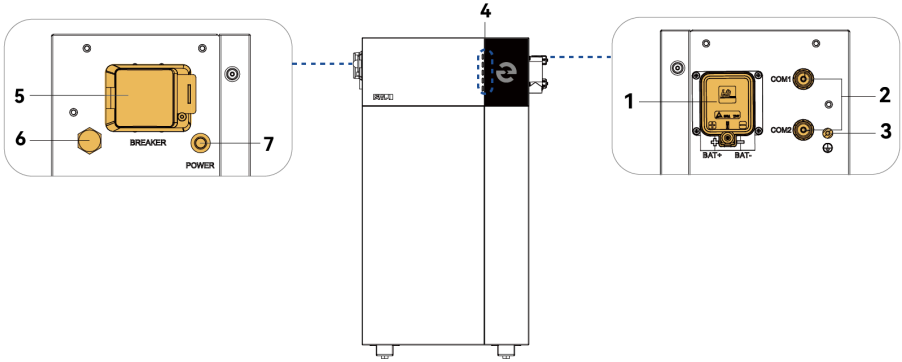


7. Align both locking bracket with the holes marked. Insert two expansion bolts into the holes and tighten the them firmly with a socket wrench. Insert a screw to each side of the mounting bracket to secure the battery.



4. Electrical connection

4.1. Electrical terminals



Callout	Silkscreen	Description
1	BAT+	Positive and negative battery terminals for connecting the battery to inverter.
	BAT-	
2	COM1	Communication ports for single-stack or multi-stack configuration. For detailed wiring method, see 4.5. Connect battery to inverter (on page 27) .
	COM2	
3		Protective earth (PE) port for connecting the battery to the ground.
4	LED indicator	The LED indicators to show the status of the battery.
5	BREAKER	Circuit breaker to protect the battery from overcurrent and short-circuit conditions.
6		Explosion-proof vent valve.
7	POWER	Switch to power on/off the battery.

4.2. Grounding connection

Follow the steps below to assemble the grounding cable to the grounding port.

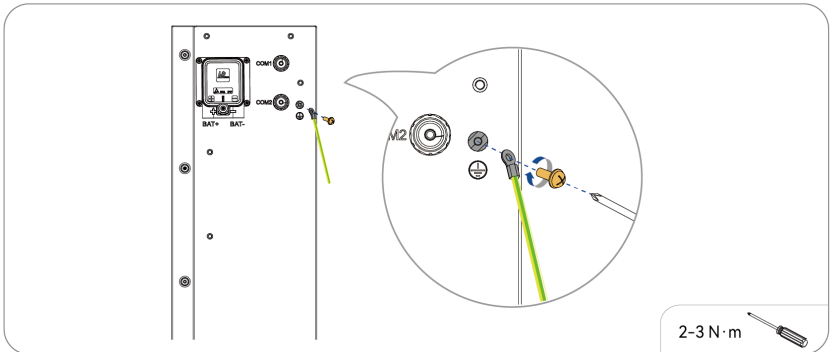


CAUTION

The grounding cable must be connected before other electrical connections.

Procedure

Loosen the screw on the grounding port. Insert the screw through the cable lug to the grounding port and secure the screw.

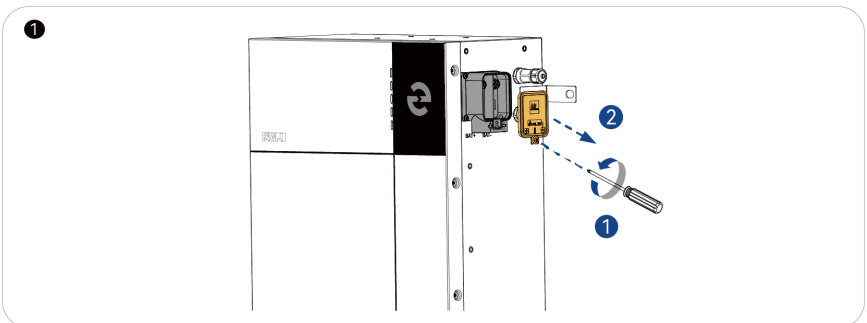


4.3. Power connection

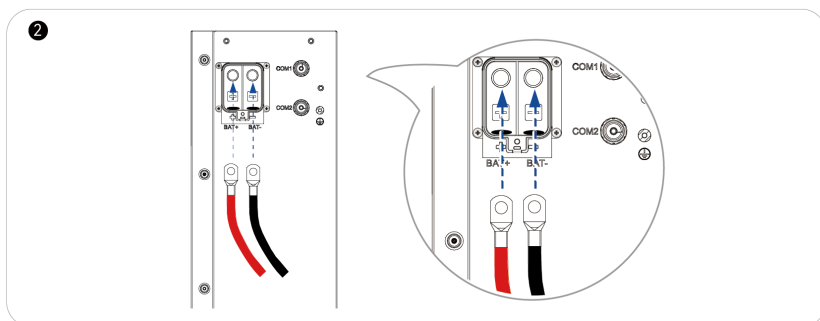
Follow the steps to assemble the positive and negative cables to terminals **BAT+** and **BAT-**.

Procedure

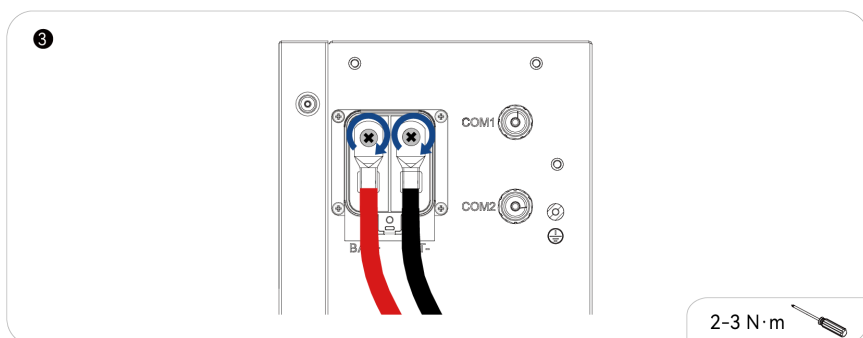
1. Unscrew and remove the junction box cover.



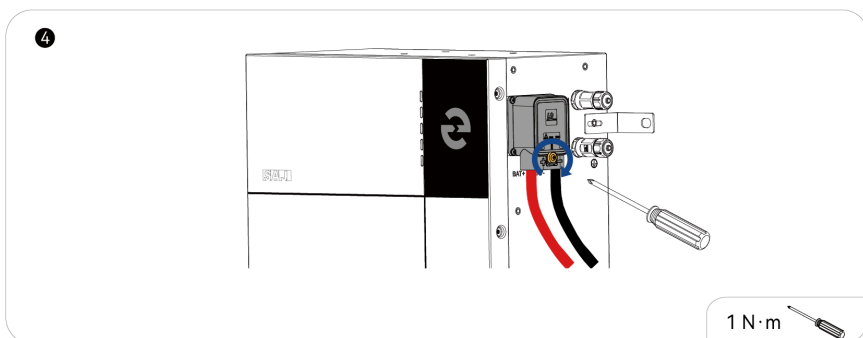
- Pierce the bottom rubber grommet and insert the positive and negative battery cables through.



- Tighten the terminal screws to secure the positive and negative battery cables to terminals **BAT+** and **BAT-** respectively.



- Tighten the cover screws to reinstall the cover.

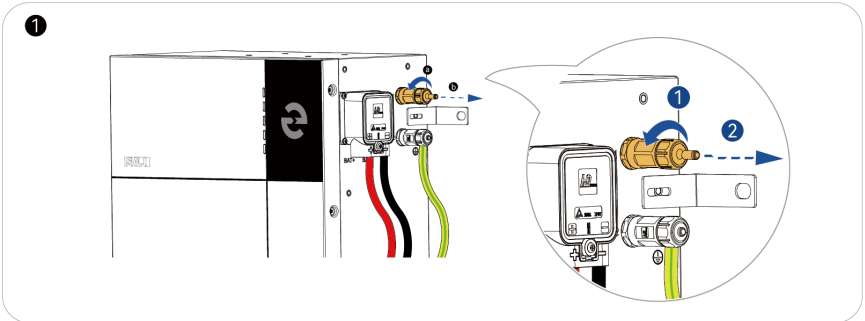


4.4. Communication connection

Follow the steps to assemble the communication cables to terminals **COM1** and **COM2**.

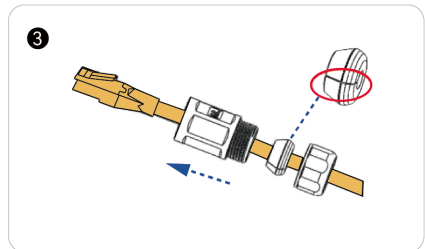
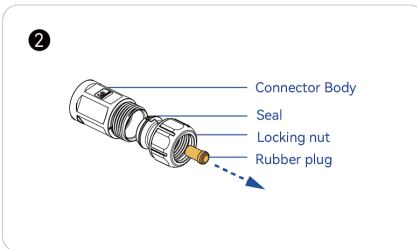
Procedure

1. Loosen the locking nut from the COM connector.

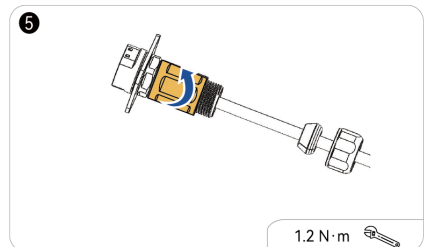
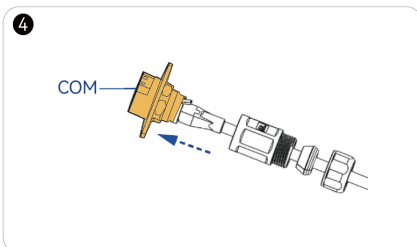


2. Remove the rubber plug from the seal.
3. Pass the communication cable sequentially through the locking nut, seal, and connector body.

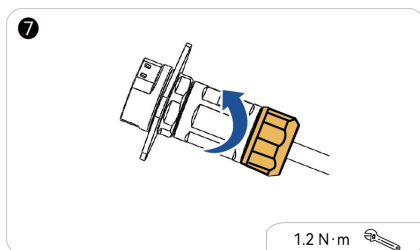
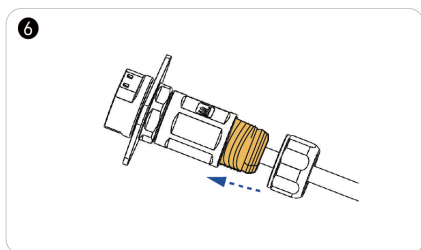
Note: When passing the cable through the seal, clip the cable into the side slit to secure it in place.



4. Insert the communication cable into RJ45 port **COM1** or **COM2**.
5. Use an open-end wrench to tighten the connector body.



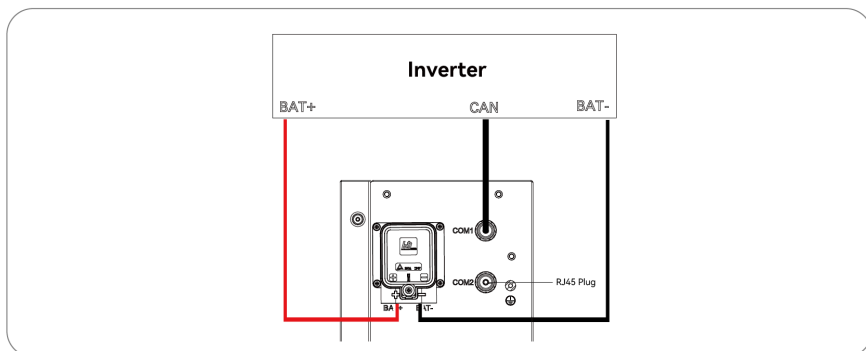
6. Insert the seal firmly into the connector body.
7. Use an open-end wrench to tighten the locking nut onto the connector body, securing the cable in place.



4.5. Connect battery to inverter

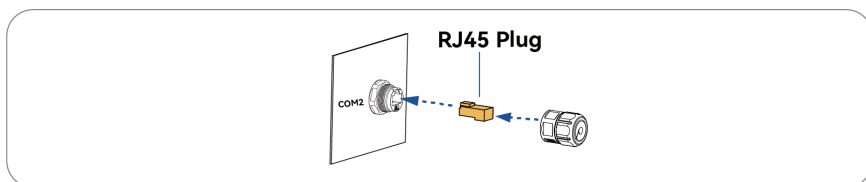
Connect a single battery pack

1. Connect the power cables and communication cables between the battery and inverter according to the following table.



Cable	Terminal of battery	Terminal of inverter
Positive power cable	BAT+	BAT+
Negative power cable	BAT-	BAT-
Communication cable	COM1	CAN

2. Loosen the **COM1** and **COM2** connectors and insert the RJ45 plug (inside one of the connectors) to the **COM2** port.



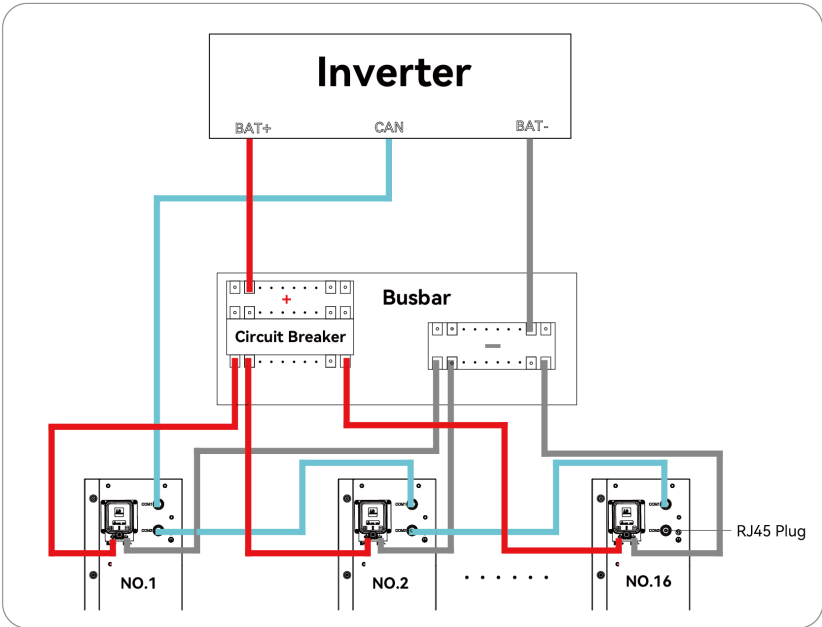
Note:

- Do not intertwine the communication cable and power cables.
- If needed, when assembling the communication cable to inverter, use an open-ended wrench to fasten an RJ45 connector to the **CAN** port on the inverter.

Connect multiple batteries in parallel

For parallel connection, use a busbar to connect the battery power cables to inverter. Choose one of the following wiring methods to connect the communication cables.

Wiring Method 1



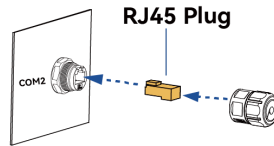
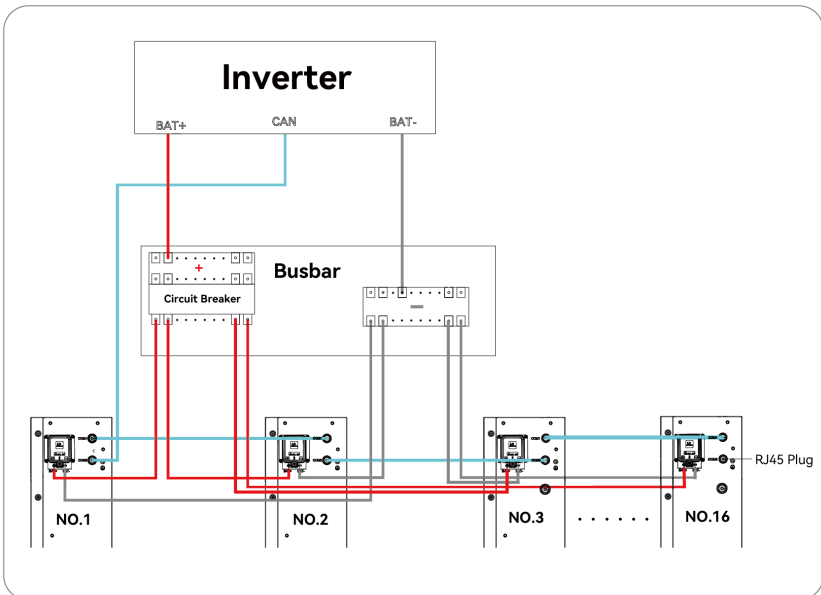
Local Terminal	Connected terminal
Battery 1 - COM 1	Inverter - CAN
Battery 1 - COM 2	Battery 2 - COM 1
Battery 2 - COM 2	Battery 3 - COM 1
Battery 3 - COM 2	Battery 4 - COM 1
Battery 4 - COM 2	Battery 5 - COM 1
Battery n - COM 2	Battery (n+1) - COM 1
...	...
Battery 15 - COM 2	Battery 16 - COM 1

Local Terminal	Connected terminal
Battery 16 - COM 2	RJ45 plug

Table 4.1. Communication Terminal Wiring Diagram 1

Note:

1. For parallel connection, remove the RJ45 plug inside the **COM1** or **COM2** connectors of the battery pack. The **COM** ports are used for communication cable connection.
2. Keep the RJ45 plug only on the last battery pack, and insert it into the **COM2** port of the last battery pack.

**Wiring Method 2**

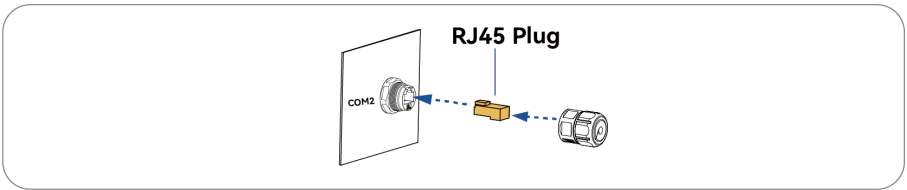
Local Terminal	Connected terminal
Battery 1 - COM 2	Inverter - CAN
Battery 1 - COM 1	Battery 2 - COM 1

Local Terminal	Connected terminal
Battery 2 - COM 2	Battery 3 - COM 2
Battery 3 - COM 1	Battery 4 - COM 1
Battery 4 - COM 2	Battery 5 - COM 2
...	...
Battery 15 - COM 1	Battery 16 - COM 1
Battery 16 - COM 2	RJ45 plug

Table 4.2. Communication Terminal Wiring Diagram 2

Note:

1. For parallel connection, remove the RJ45 plug inside the **COM1** or **COM2** connectors of the battery pack. The **COM** ports are used for communication cable connection.
2. Keep the RJ45 plug only on the last battery pack, and insert it into the **COM2** port of the last battery pack.



5. Startup



WARNING

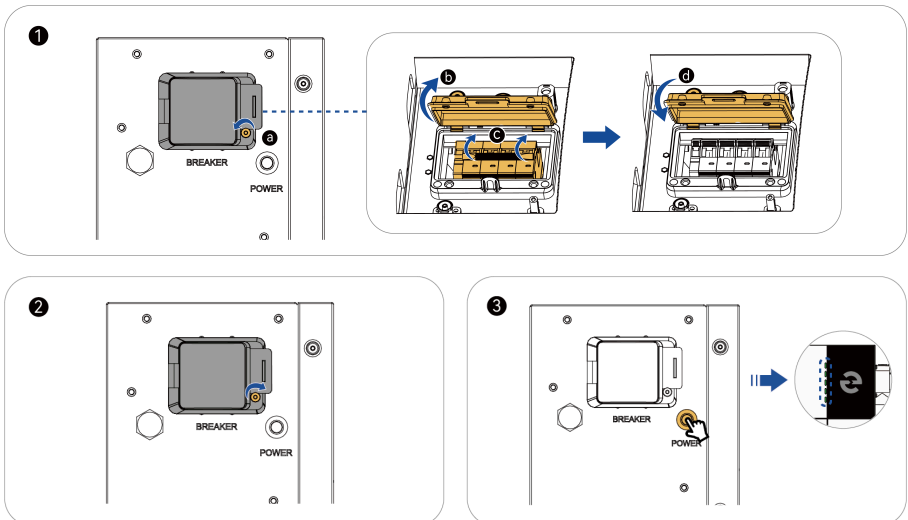
Risk of electric shock, fire, explosion and irreversible equipment damage

Improper installation or wiring can cause short circuits, overheating, fire or explosion.

- Before starting up the system, ensure all installation operations are performed in accordance with the procedures in the manual.
- Ensure all connections are clean, tight, and torque to the specification.
- Double-check positive (+) and negative (-) terminals to ensure correct connections. Reverse polarity can permanently damage equipment.
- Ensure proper grounding connection and cable specification.

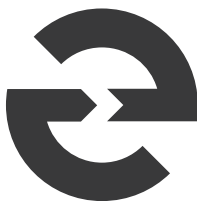
Procedure

1. Unscrew the circuit breaker cover on the left side of the battery. Open the cover and flip the switch upward a **full 90 degrees** to turn on the circuit breaker. Then, close the cover.
2. Tighten the screw on the circuit breaker cover.
3. Press the power button and hold for three seconds, until the LED indicator is on.



**CAUTION**

Always turn on the circuit breaker before pressing the power button. If power button is pressed before turning on the circuit breaker, the battery's output protection may be triggered, preventing the connected inverter from operating normally.



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