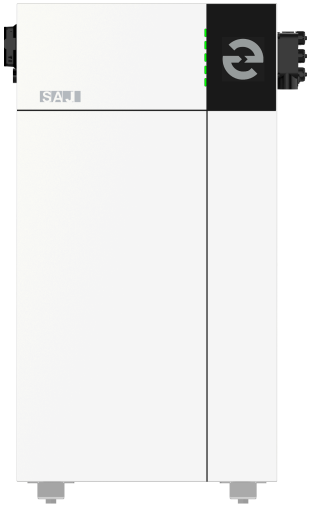
EK60 series

Low-voltage battery

EK60 B3-16.0-LV

Quick Installation Guide



Version 2.1

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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

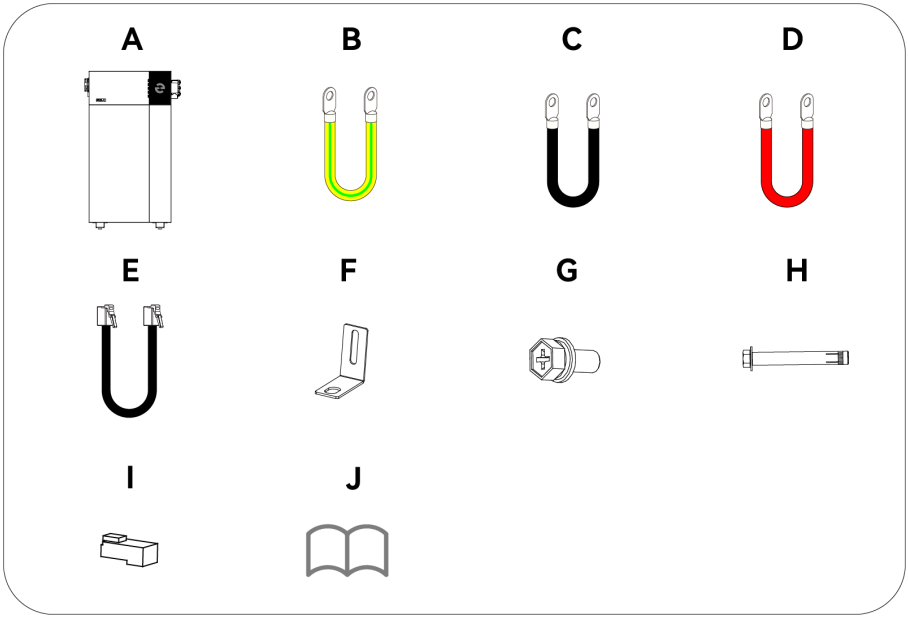
- This device is directly connected to public grid.
- Before operation, ensure the inverter is completely disconnected from all the power sources.
- During operation, wear appropriate personal protective equipment and use insulated tools.
- Failure to follow these instructions will result in serious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

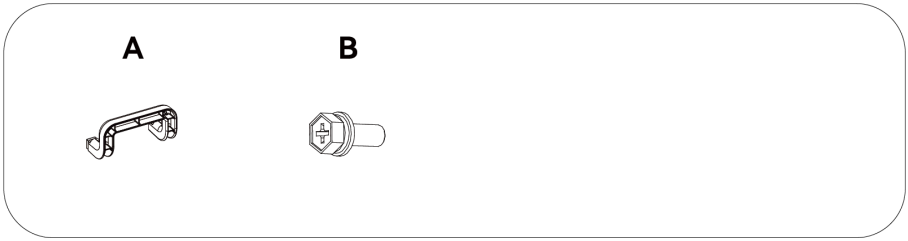
2. Packing list

- For floor-mounting installation



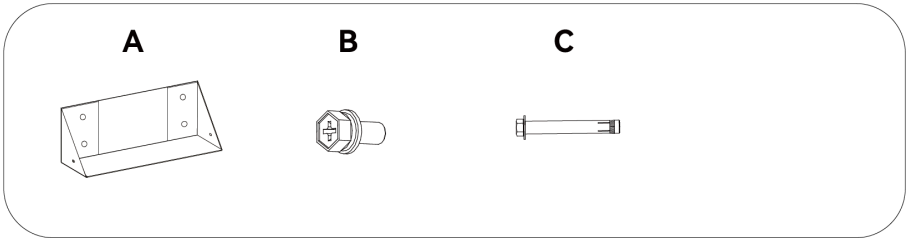
Number	Quantity	Designation
A	1	EK60 B3-16.0-LV battery pack
B	1	Grounding cable
C	1	Negative power cable
D	1	Positive power cable
E	1	Communication cable
F	2	Locking bracket
G	2	M6*12 screw
H	2	M12*80 expansion bolt
I	1	RJ45 plug
J	1	Documentation

- (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. Transportation and storage

3.1. Transportation

3.1.1. 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.

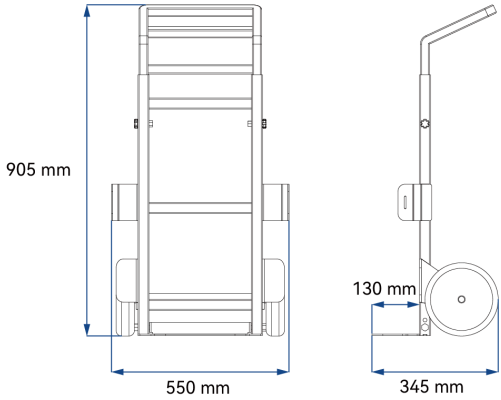
3.1.2. Description of the hand truck

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

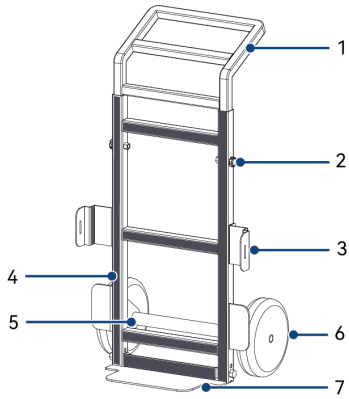
Dimensions (H*W*D): 905*550*130 mm



Components description

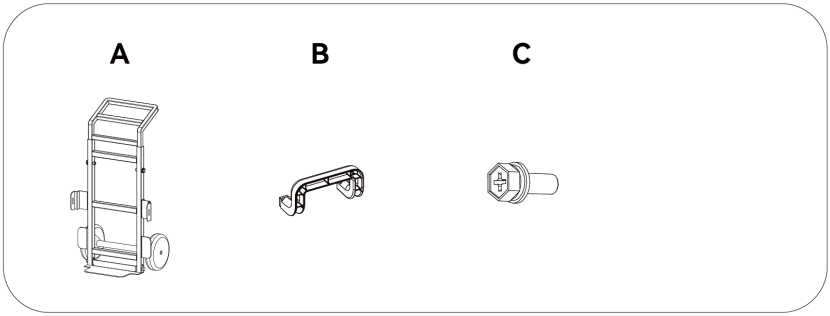
NOTICE

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
7	Base plate

Packing list

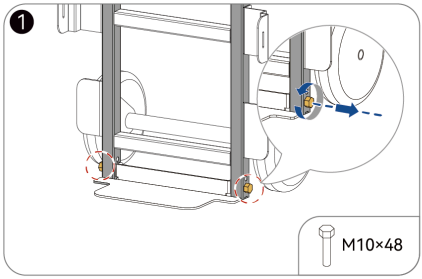


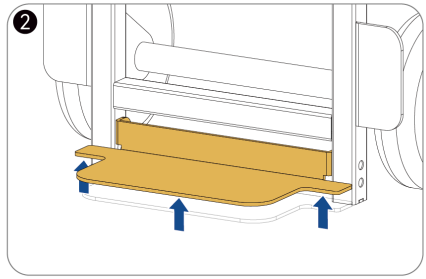
Number	Quantity	Designation
A	1	Hand truck
B	4	Handle for lifting the battery pack
C	8	M6*14 screw for handles

3.1.3. Transportation procedure

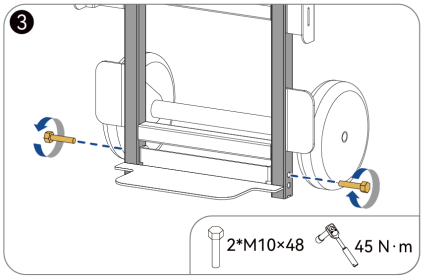
Procedure

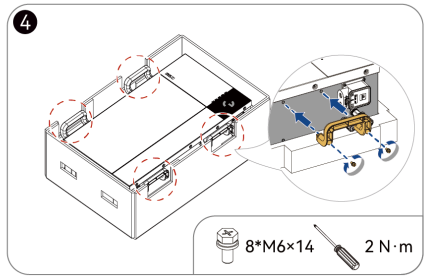
1. (Optional, subject to actual screw layout) Loosen the screws on both sides of the hand truck.
2. (Optional, subject to actual screw layout) Raise the base plate to align with the upper screw holes.



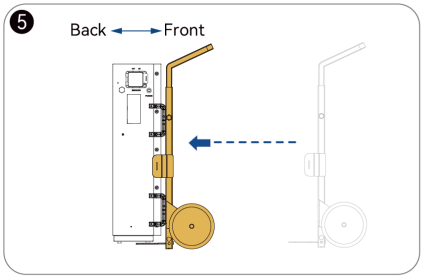


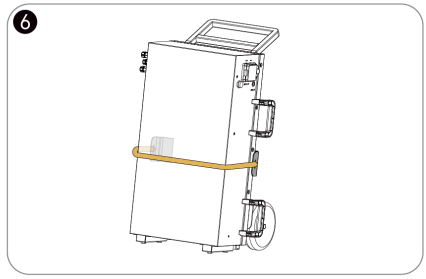
3. Tighten the screws on both sides to secure the base plate.
4. Mount two handles on each side of the battery for easy lifting.



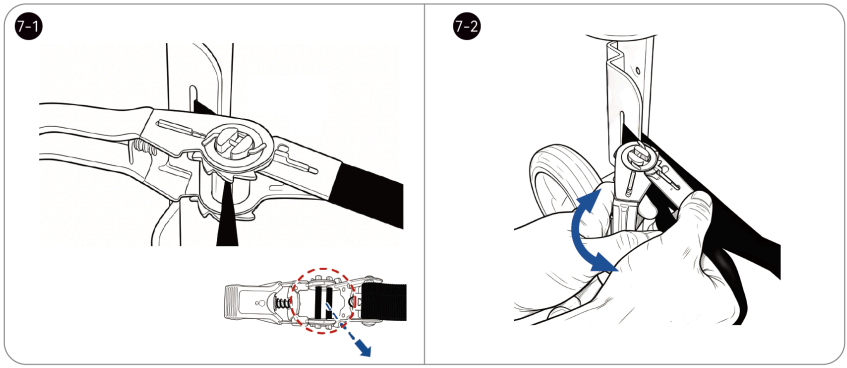


5. Place the battery onto the hand truck with its front facing inward.
6. Thread the strap through the strap slots on both sides of the hand truck to secure the battery.





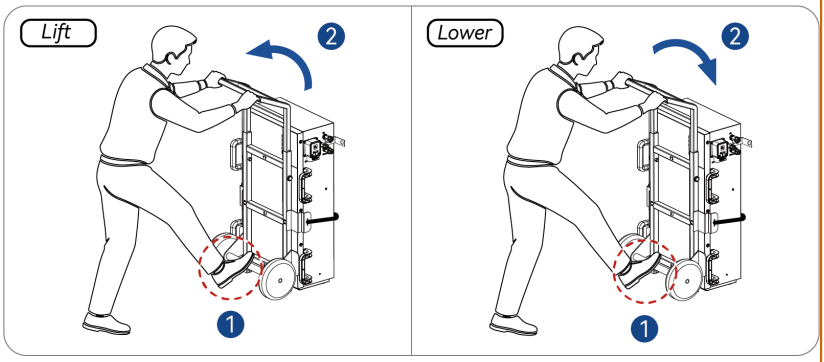
7. To fasten the battery to the hand truck, thread the strap through the center slot of the tensioner. Close the tensioner and toggle repeatedly to tighten the strap.



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.

3.2. 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℃ and 50℃, with relative humidity from 0% to 95%.
- For long-term storage (3–6 months), store the battery at temperatures between -20℃ and 25℃, 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.

4. Installation

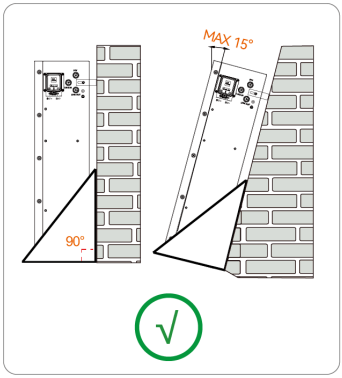
4.1. Installation environment requirements

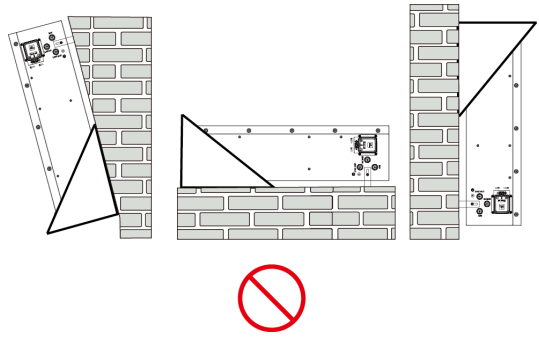
- Do not expose the device to direct solar irradiation as this could cause power derating due to overheating.
- The installation environment must be free of inflammable or explosive materials.
- The device must be installed in a place away from any heat source.
- Do not install the device at a place where the temperature changes extremely.
- Keep the device away from children.
- Do not install the device in the bedroom, toilet, or bathroom. The installation site must be at least 1.2 meters away from the emergency exit.
- 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.
- Keep the air inlet and outlet at the installation site clear. If natural airflow is insufficient, add extra ventilation and consult SAJ for assistance.
- Ensure the inverter is installed in a well-observed area where the LED display panel can be easily read for real-time status check.



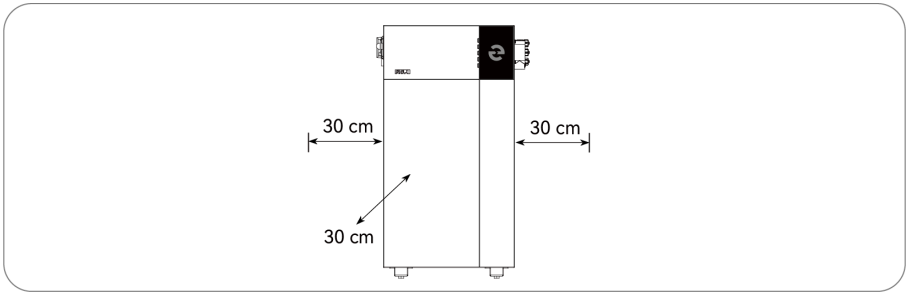
4.2. Installation location requirements

- The device employs natural convection cooling and must be installed in a non-habitable indoor location.
- To prevent overheating of the device, install the device in an environment with an ambient temperature preferably below 40 °C. Keep the battery at least 1 m away from heat sources.
- 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.



4.3. Installation tools

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

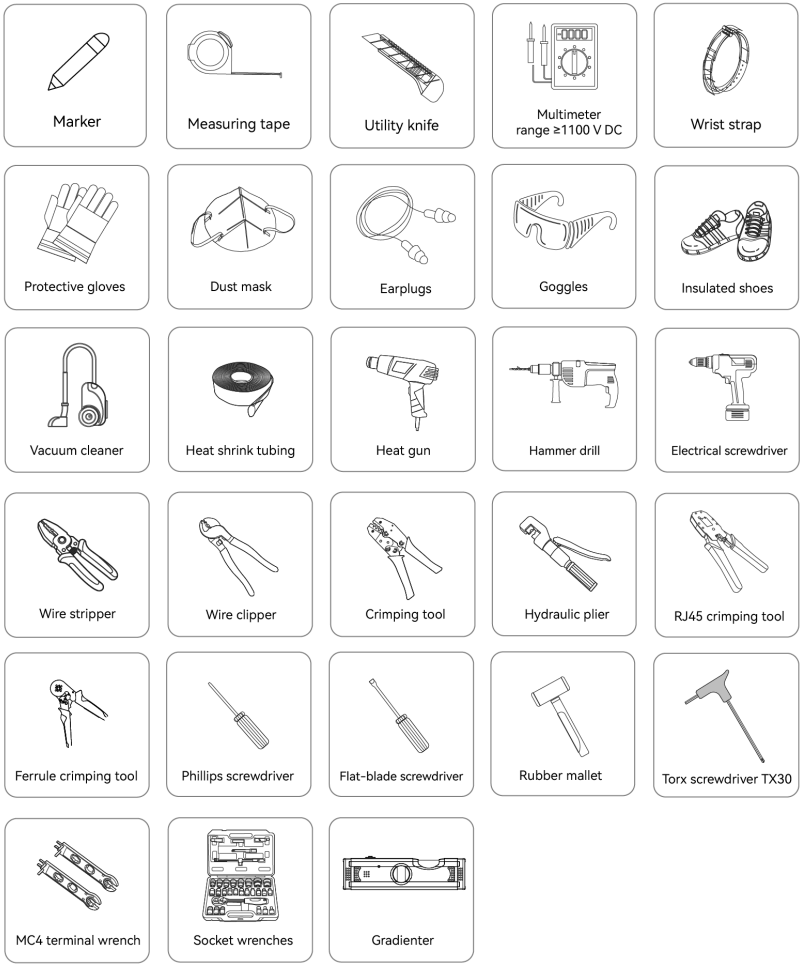
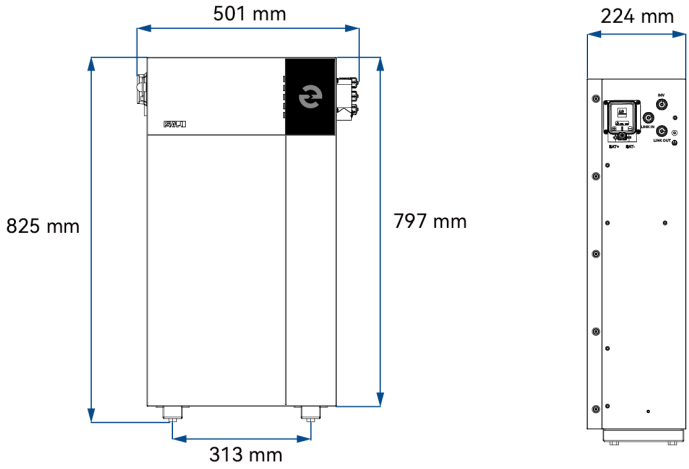


Figure 4.1. Suggested installation tools

4.4. Dimensions

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

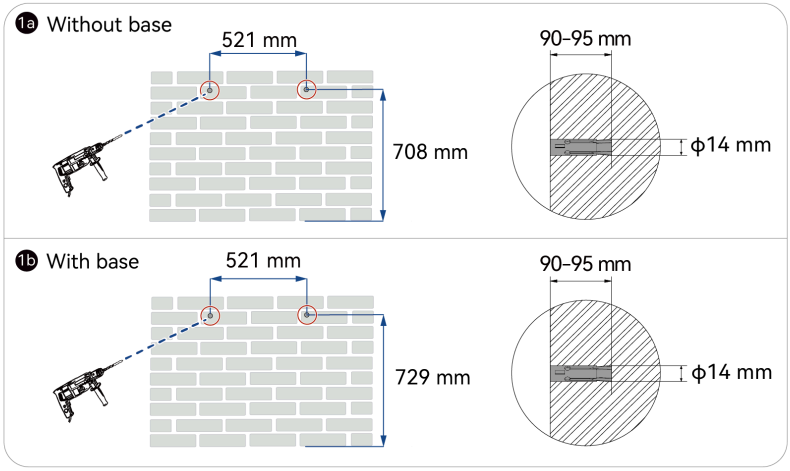


4.5. Install battery on the floor

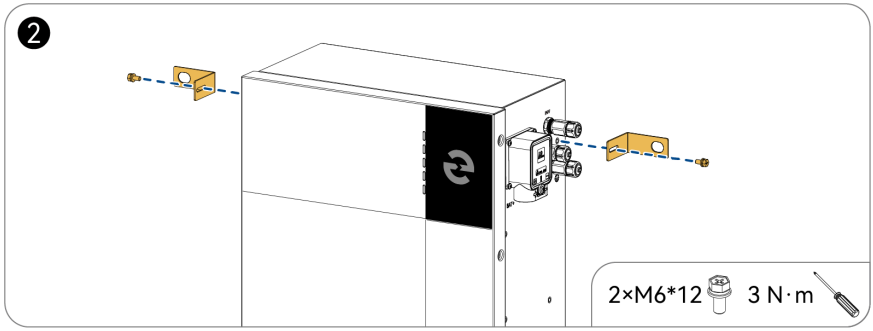
Procedure

1. Mark and drill two holes on the wall.

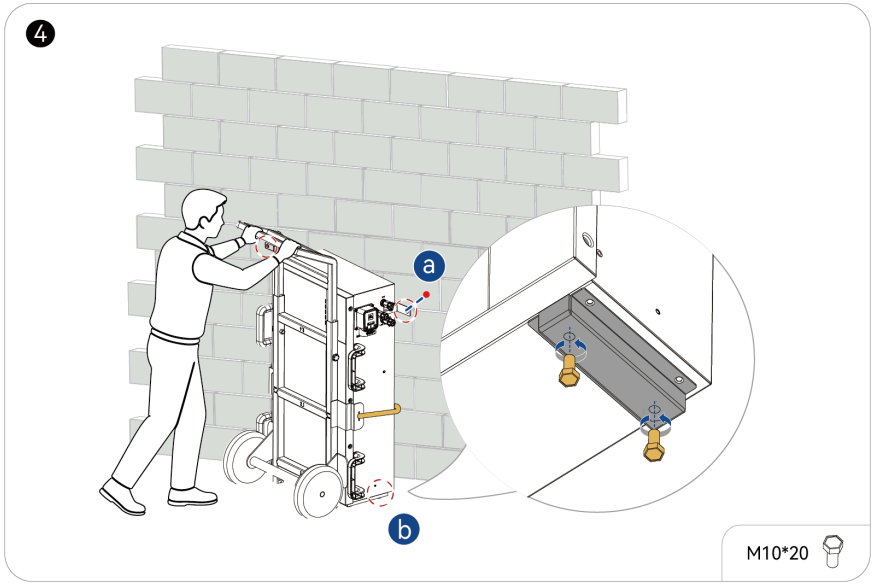
   Note: If the battery is installed with its base attached, leave clearance for the base when drilling holes.



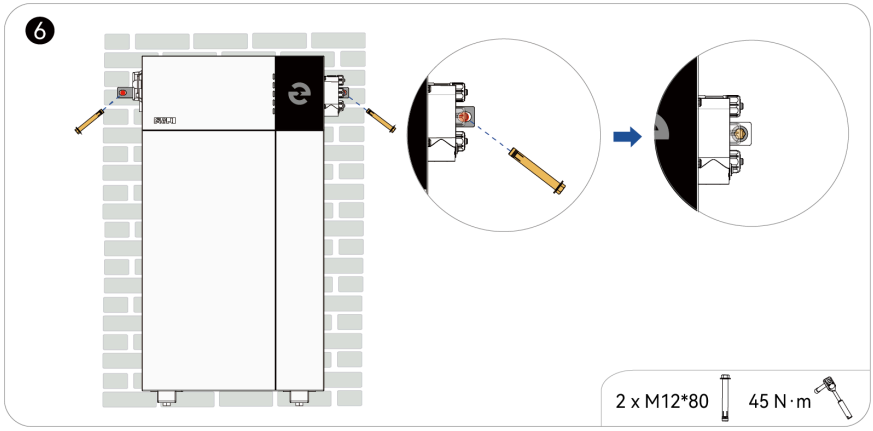
2. Secure a locking bracket to each side of the battery.



3. Use a hand truck to move the battery against the wall. For transportation guidelines, refer to 3.1.3. Transportation procedure *(on page 10)*.
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.



4.6. Install battery on the wall

Procedure

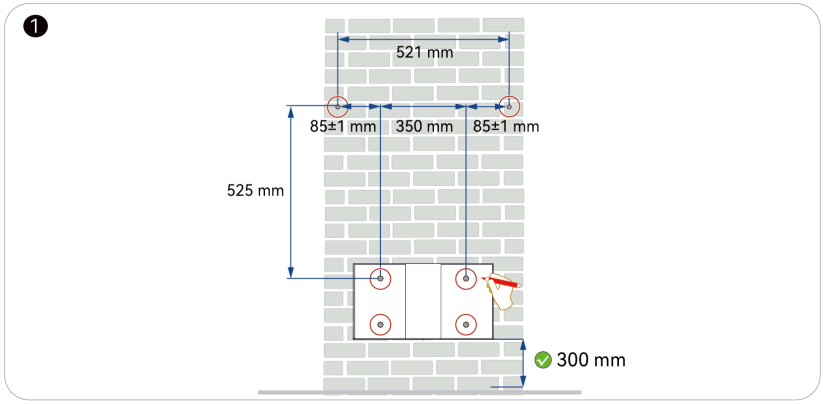
WARNING

- 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.

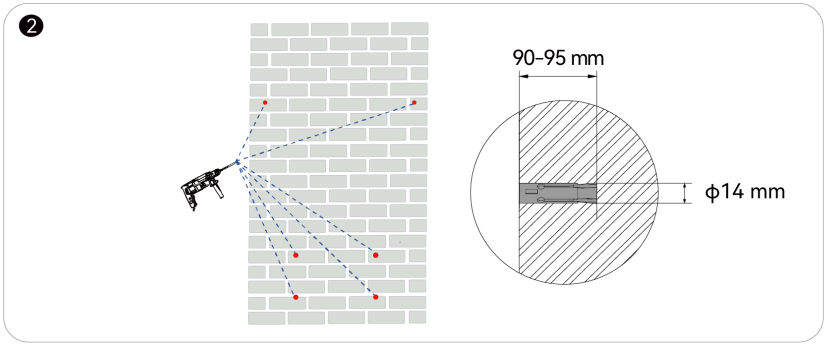
1. Use a level gauge to position the wall-mounting bracket against the wall at the desired height. Mark four holes on the wall through the bracket. Then, mark another two holes for the locking brackets on both sides of the battery.

CAUTION

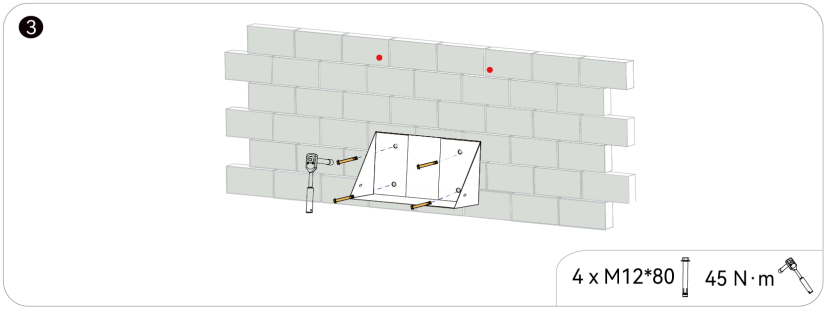
The recommended height for the mounting bracket is 300 mm.



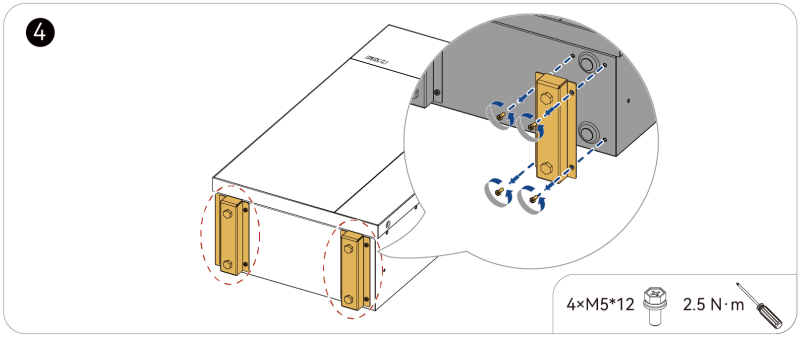
2. Drill six holes according to the marks.



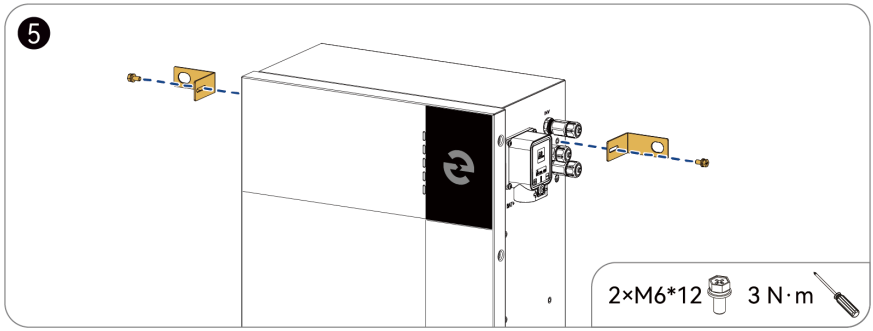
3. Align the bracket with the four lower holes. Insert an expansion bolt into each hole. Tighten all bolts to secure the bracket against the wall.



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

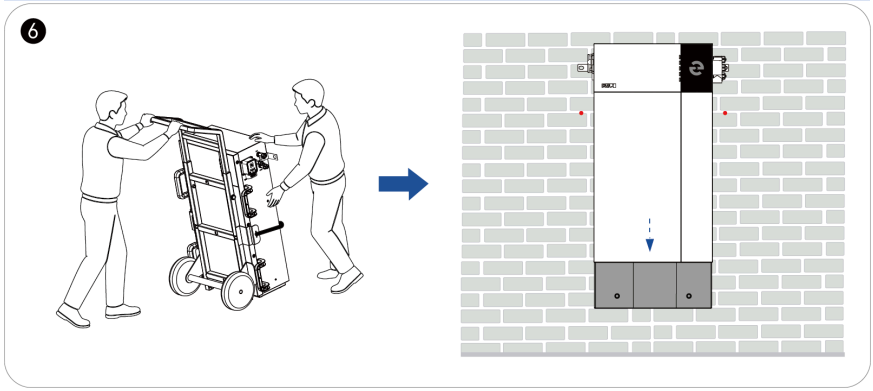


5. Secure a locking bracket to each side of the battery.

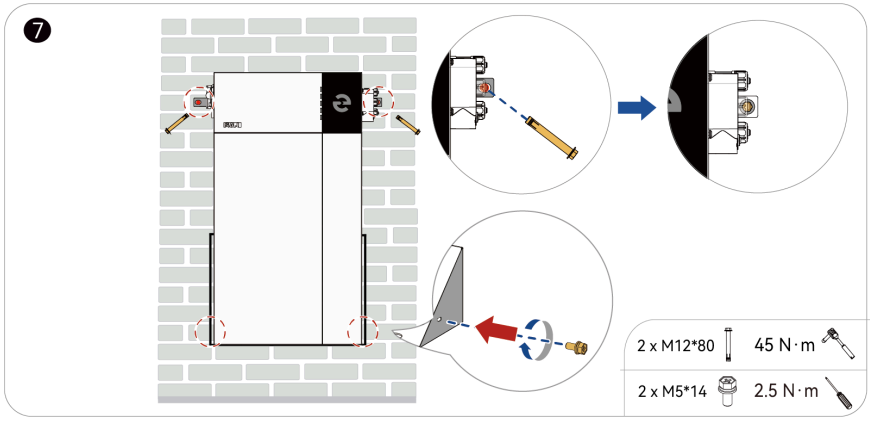


6. Use hand truck to move the battery against the wall. For transportation guidelines, refer to 3.1.3. Transportation procedure *(on page 10)*. With at least two people holding the handles of the battery pack, carefully lift the battery from the base plate of the hand truck, and place it onto the wall-mounting bracket.

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

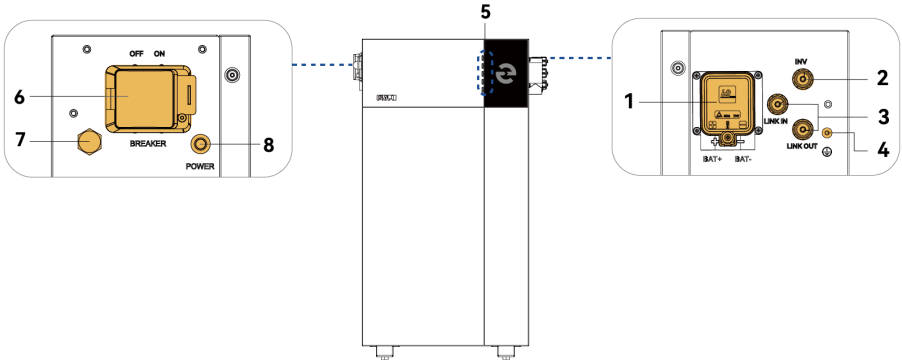


7. Align both locking bracket with the holes marked. Insert two expansion bolts into the holes and tighten the them firmly with a socket wrench. Insert a screw to each side of the mounting bracket to secure the battery.



5. Electrical connection

5.1. Electrical terminals



Callout	Silkscreen	Description
1	**BAT+**	Positive and negative battery terminals for connecting the battery to an inverter.
	BAT-	
2	**INV**	Communication port for connecting the battery to an inverter.
3	**LINK IN**	Communication ports for single-stack or multi-stack configuration.
	LINK OUT	
4		Protective earth (PE) port for connecting the battery to the ground.
5	**LED indicator**	LED indicators to show the status of the battery.
6	**BREAKER**	Circuit breaker to protect the battery from overcurrent and short-circuit conditions.
7		Explosion-proof vent valve.
8	**POWER**	Switch to power on/off the battery.

5.2. Grounding connection

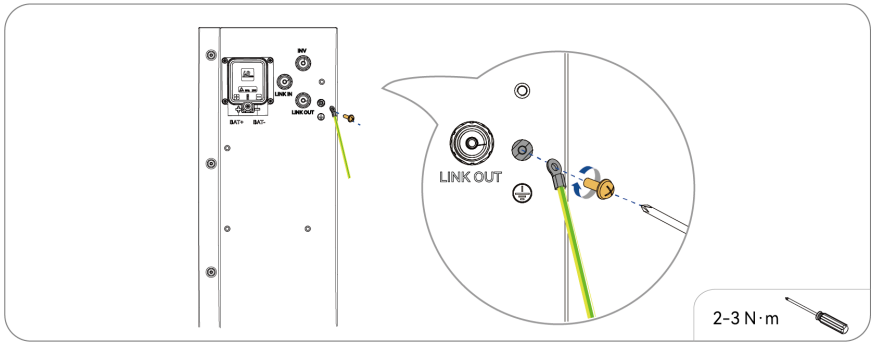
Follow the steps below to assemble the grounding cable to the grounding port.

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.

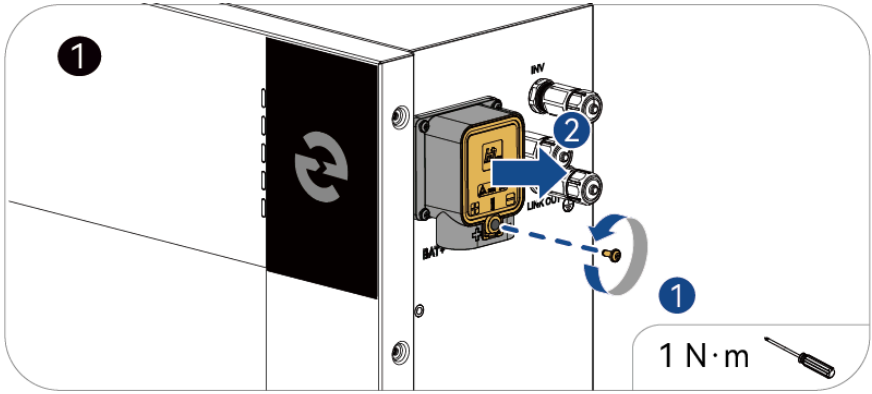


5.3. Power connection

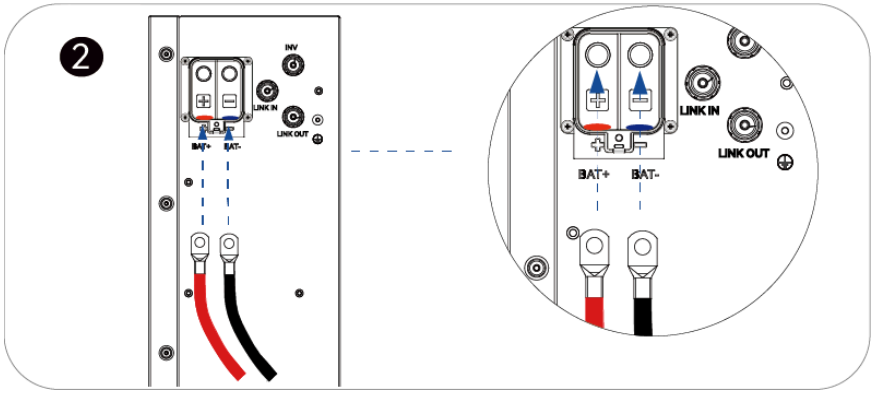
Follow the steps to assemble the positive and negative cables to terminals **BAT+** and **BAT-**.

Procedure

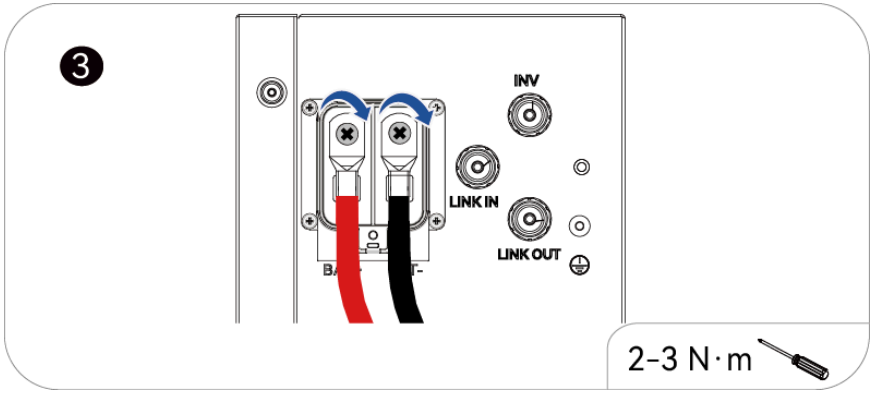
1. Unscrew and remove the junction box cover.



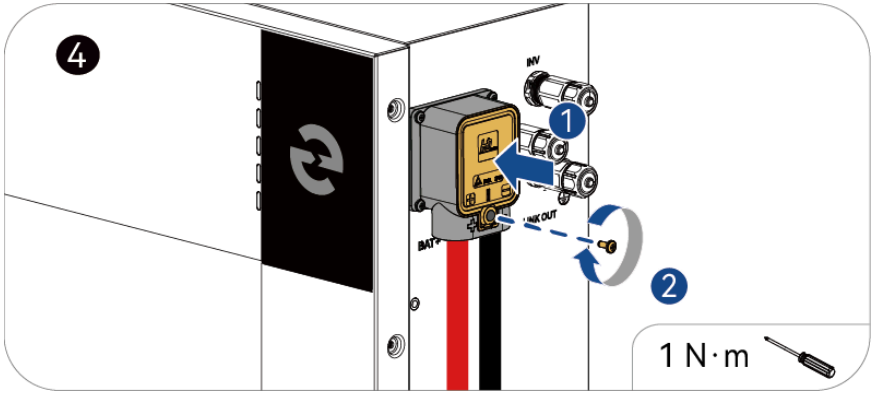
2. Pierce the bottom rubber grommet and insert the positive and negative battery cables through.



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



4. Tighten the cover screws to reinstall the cover.

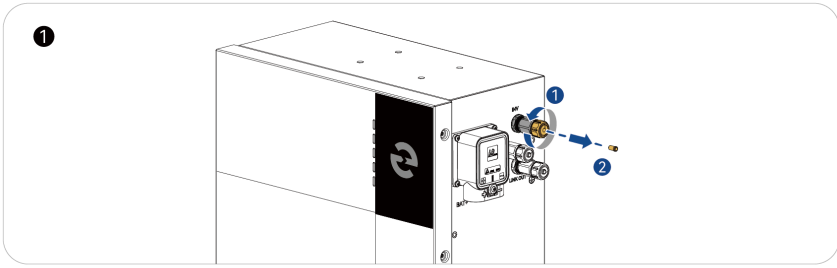


5.4. Communication connection

Follow the steps to assemble the communication cable and connect it to one of the communication ports. This section uses **INV** as an example.

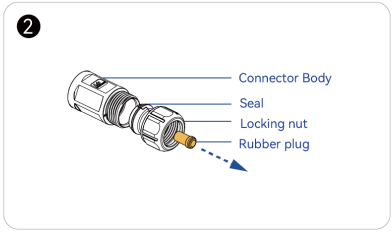
Procedure

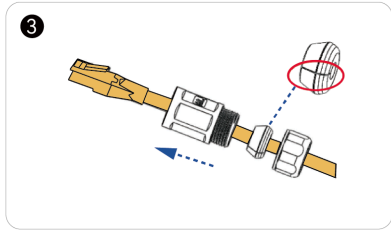
1. Loosen the locking nut of the connector on the port.



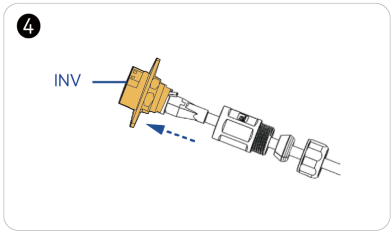
2. Remove the rubber plug from the seal.
3. Pass the communication cable through the locking nut, seal, and connector body in sequence.

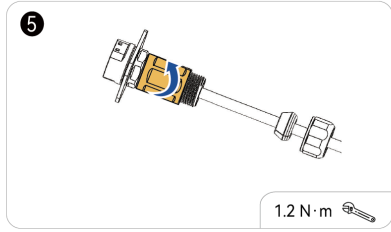
   Note: When passing the cable through the seal, clip the cable into the slit to secure it in place.





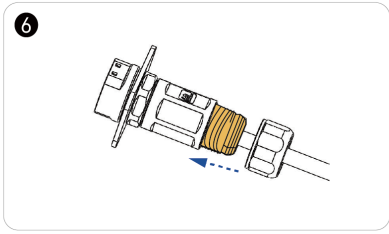
4. Insert the communication cable into the port.
5. Use an open-end wrench to tighten the connector body.

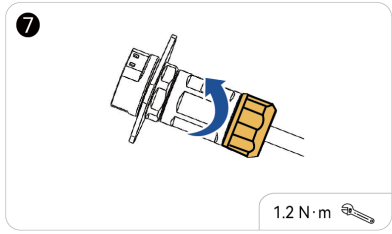




6. Insert the seal firmly into the connector body.

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

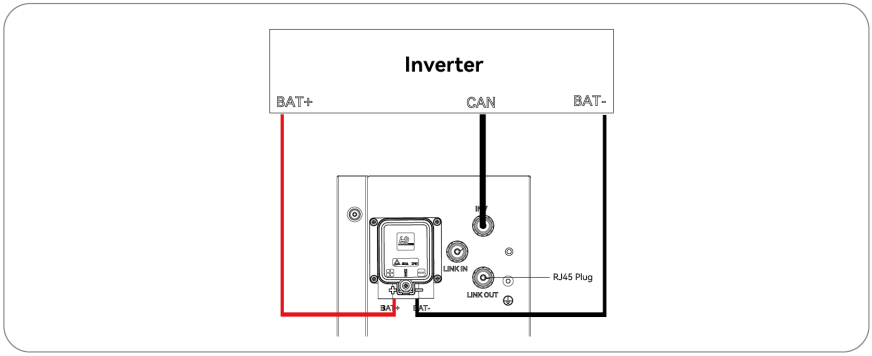




5.5. Connect battery to inverter

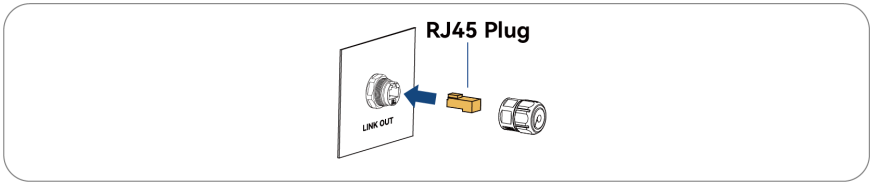
Connect a single battery pack

1. Connect the power cables and communication cable between the battery and an inverter.



Cable	Port on battery	Port on inverter
Positive power cable	**BAT+**	BAT+
Negative power cable	**BAT-**	BAT-
Communication cable	**INV**	CAN

2. Loosen the **LINK OUT** connector and insert an RJ45 plug into the **LINK OUT** port.



Note:

- Do not intertwine the communication cable and power cables.
- When assembling the communication cable, you can use an open-end wrench to fasten an RJ45 connector to the CAN port on the inverter.

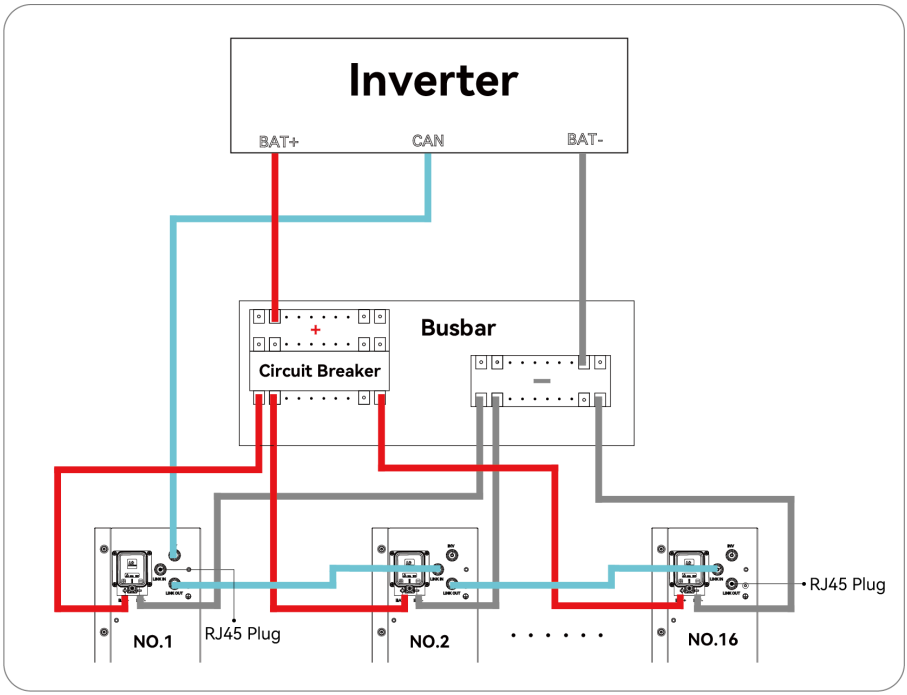
Connect multiple batteries in parallel

NOTICE

Batteries of different series or models must not be connected in parallel. The latest EK60 B3-16.0-LV batteries cannot be connected to those that do not support third-party inverters. You can identify the latest EK60 B3-16.0-LV batteries by a NOTICE label that specifies inverter compatibility.

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

Wiring Method 1



Local terminal	Connected terminal
Battery 1 - **INV**	Inverter - CAN
Battery 1 - **LINK IN**	RJ45 plug
Battery 1 - **LINK OUT**	Battery 2 - **LINK IN**
Battery 2 - **LINK OUT**	Battery 3 - **LINK IN**

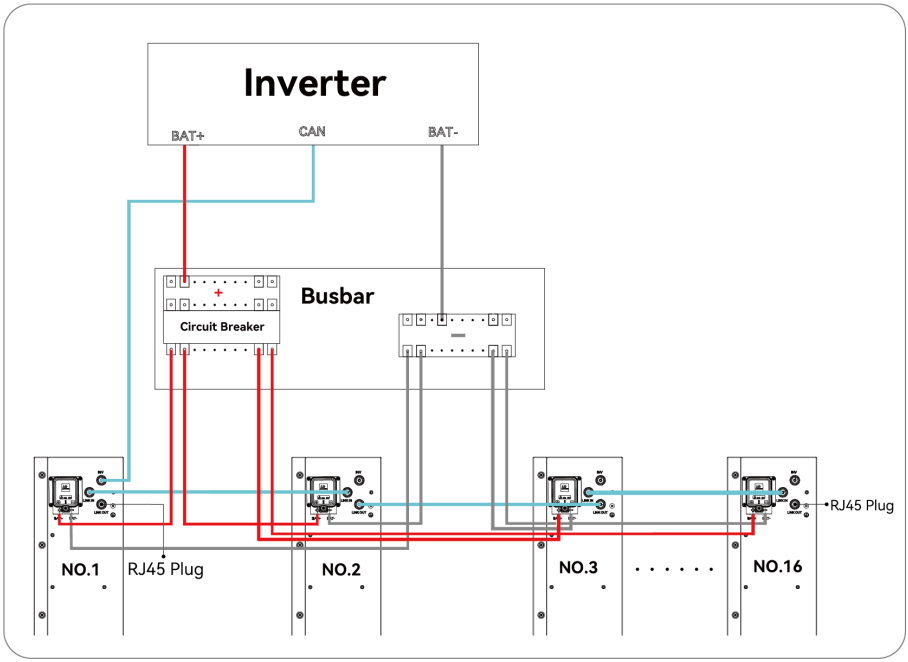
Local terminal	Connected terminal
Battery 3 - **LINK OUT**	Battery 4 - **LINK IN**
Battery 4 - **LINK OUT**	Battery 5 - **LINK IN**
Battery n - **LINK OUT**	Battery (n+1) - **LINK IN**
...	...
Battery 15 - **LINK OUT**	Battery 16 - **LINK IN**
Battery 16 - **LINK OUT**	RJ45 plug

Table 5.1. Communication Terminal Wiring Diagram 1

Note:

For parallel connection, insert an RJ45 plug into the **LINK IN** port on the first battery pack and another into the **LINK OUT** port on the last battery pack to prevent communication disruption.

Wiring Method 2



Local terminal	Connected terminal
Battery 1 - **INV**	Inverter - CAN
Battery 1 - **LINK OUT**	RJ45 plug
Battery 1 - **LINK IN**	Battery 2 - **LINK IN**
Battery 2 - **LINK OUT**	Battery 3 - **LINK OUT**
Battery 3 - **LINK IN**	Battery 4 - **LINK IN**
Battery 4 - **LINK OUT**	Battery 5 - **LINK OUT**
...	...
Battery 15 - **LINK IN**	Battery 16 - **LINK IN**
Battery 16 - **LINK OUT**	RJ45 plug

Table 5.2. Communication Terminal Wiring Diagram 2

Note:

For parallel connection, insert an RJ45 plug into the **LINK OUT** port on the first battery pack and that on the last battery pack to prevent communication disruption.

6. Startup

WARNING

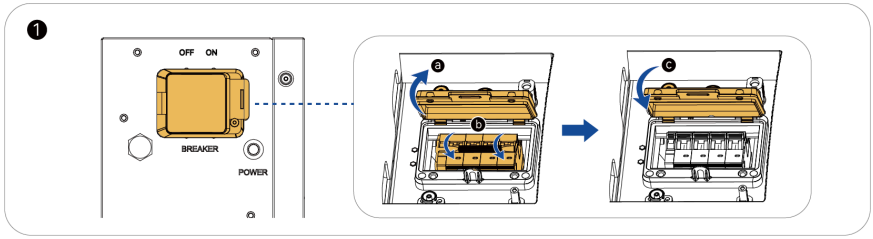
Risk of electric shock, fire, explosion and irreversible equipment damage

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

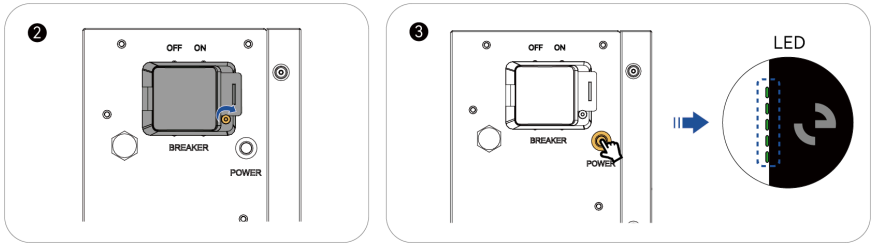
1. Unscrew the circuit breaker cover on the left side of the battery. Open the cover and flip the switch a full 90 degrees from **OFF** to **ON** to turn on the circuit breaker.

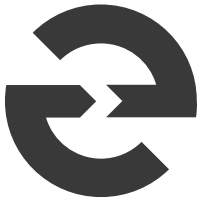


CAUTION

Always turn on the circuit breaker before pressing the power button. If the 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.

2. Close the cover and tighten the screw.
3. Press the power button and hold for three seconds, until the LED indicator is on.





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