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Anker SOLIX X1 Battery Module

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1. About This Guide

1.1 Purpose

This guide describes **Anker SOLIX X1 Battery Module** in terms of product overview, unboxing, installation, electrical connections, maintenance, customer service, product information, and safety guidelines.

1.2 Intended Audience

This guide is intended for:

- Sales engineers
- System engineers
- Technical support engineers

2. Product Overview

2.1 Function

The **Anker SOLIX X1 Battery Module** is a rechargeable lithium iron phosphate battery designed for residential energy storage. It integrates into home energy systems, which typically consist of a solar system, power modules, and scalable battery modules. Controlled by the power module, the battery modules store excess solar energy or electricity from the grid during off-peak hours. This stored energy can then be used to power selected loads.

Each battery module operates independently, allowing for individual charging and discharging. Additionally, multiple battery modules can be connected to expand the system's energy capacity. A single power module can support up to six battery modules.

2.2 Model

The following table lists the Anker SOLIX X1 Battery Module model to which this guide applies.

Product Name	Anker SOLIX X1 Battery Module
Short Form	Battery Module
Product Model	X1-B5-H / X1-B5-H0
Description	**X1:** Product Series
	B: Product Category (Battery)
	5: Battery Energy (5 kWh)
	H / H0: Reserved Code
Specifications	5 kWh, 3 kW, 350 to 550 VDC

2.3 Compatibility

The battery module is designed to work with the following **Anker SOLIX X1 Power Module** models.

AC-Coupled Models

- X1-P6K-US
- X1-P6K-S

Hybrid Single-Phase Models

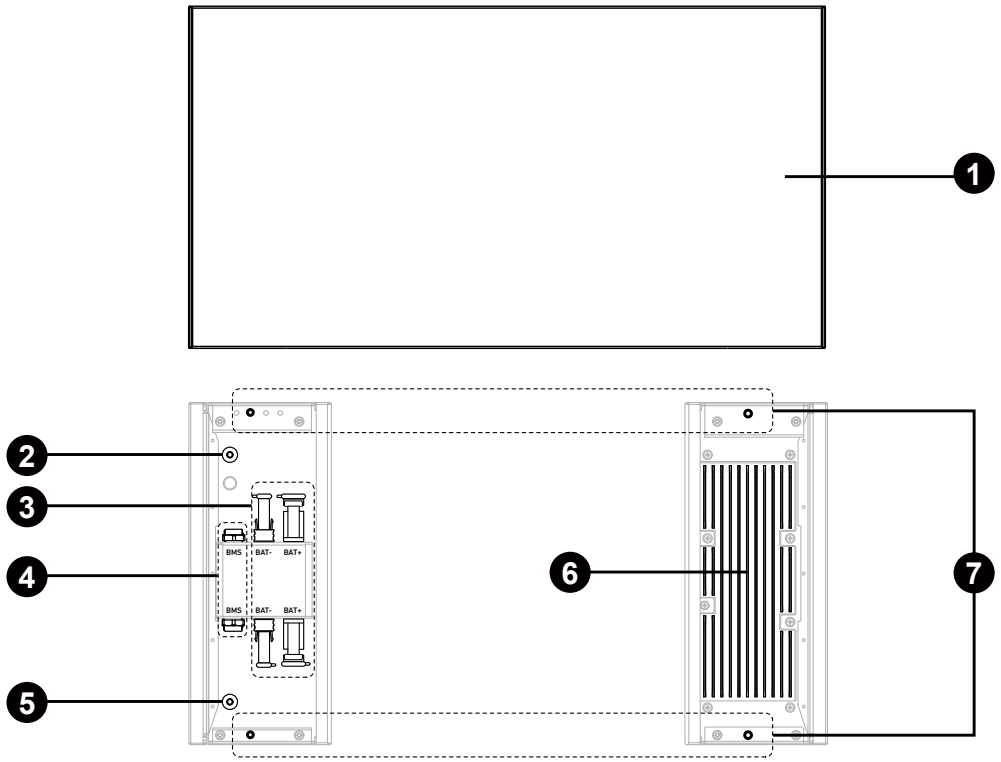
- X1-H3.68K-S
- X1-H4.6K-S
- X1-H5K-S
- X1-H6K-S

Hybrid Three-Phase Models

- X1-H5K-T
- X1-H8K-T
- X1-H10K-T
- X1-H12K-T

2.4 Appearance

Figure: Appearance of the battery module.



❶ Battery module
❷ Internal ground point
❸ DC power ports (BAT+ / BAT–)
❹ BMS ports
❺ Internal ground point
❻ Heat sink
❼ Screw holes for locking modules

3. Unboxing

3.1 Check Before Installation

Check the Outer Packing

Before unpacking the equipment, check the outer packing for damage, such as holes and cracks, and check the equipment model. If any damage is found or the model is not what you requested, do not unpack the equipment and contact the supplier as soon as possible.

Check Deliverables

After unpacking the equipment, check that the deliverables are intact and complete, and free from any obvious damage. If any item is missing or damaged, contact the supplier.

3.2 In the Battery Module Box

The battery module box may include items that differ from one batch to another. Please refer to the packing list for the actual packaged items.

No.	Item	Specifications	Amount
1	Battery Module	X1-B5-H / X1-B5-H0	1
2	Rubber Plug	For Side Cover	2
3	RJ45 Signal Cable	Black	1
4	Module Interlocker	38×17×2.5 mm	2
5	Side Cover	Black 360×117.4×21.8 mm	2

6	Negative DC Power Cable	Length: 130mm 8 mm^2 (8 AWG)) Black	1
7	Positive DC Power Cable	Length: 130mm 8 mm^2 (8 AWG) Red	1
8	GND Cable	6 mm^2 (10 AWG)) Yellow/Green	1
9	Wall Mount Bracket	575×65×26 mm	1
10	Bolt	M5×14 mm	7
11	Self-Tapping Screw with Plastic Anchor	M6×50 mm	2
12	Packing List	/	1
13	Inspection Report	/	1
14	Safety Instructions	/	1

3.3 Optional Accessories and Service Parts

The service parts, including side covers and brackets, can be ordered separately and replaced during field installation in accordance with the instructions in this guide.
To order optional accessories and service parts, please contact the supplier.

4. Pre-Installation

4.1 Select a Location

1. Environment Requirements:

- Do not place the modules near a wall facing the maximum sunlight direction (usually south for the northern hemisphere, or north for the southern hemisphere) or in an area exposed to direct sunlight, fire, or explosive materials.
- Ensure the site is protected from potential hazards such as floods.
- The maximum operating altitude is 4,000 m (13,123 ft).

2. Load-Bearing Requirements:

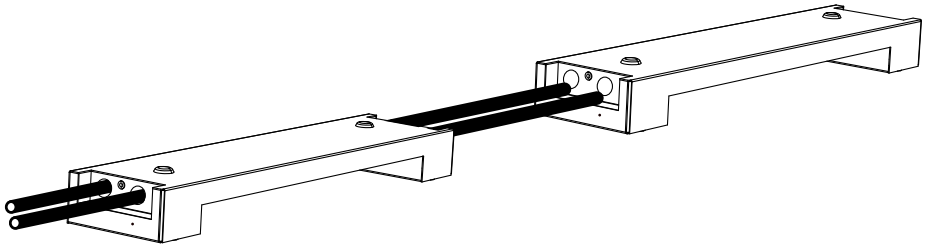
The battery modules can be installed on either the floor or wall.

- **Concrete / Masonry:** Minimum strength requirements are 18 MPa for concrete, 12 MPa for clay brick, and 11 MPa for masonry. Use the self-tapping screws with plastic anchors (M6×50 mm, included) to fully embed them into the wall. Prior to mounting, inspect the surface and avoid using weak compositions.
- **Blocking / Wood Studs:** Mount the modules directly onto the wood studs, which should be spaced 508 mm (20 in), 406 mm (16 in), or 304 mm (12 in) apart. Use the self-tapping screws (M6×50 mm, included) to fully embed them into the studs.
- **Other Types of Walls:** Verify that the selected walls meet the load bearing requirements and choose appropriate screws. For wall mounting, choose a wall capable of supporting the full weight of the equipment.
  - Battery module: 51 kg (112.4 lbs)

4.2 Plan Conduit Run

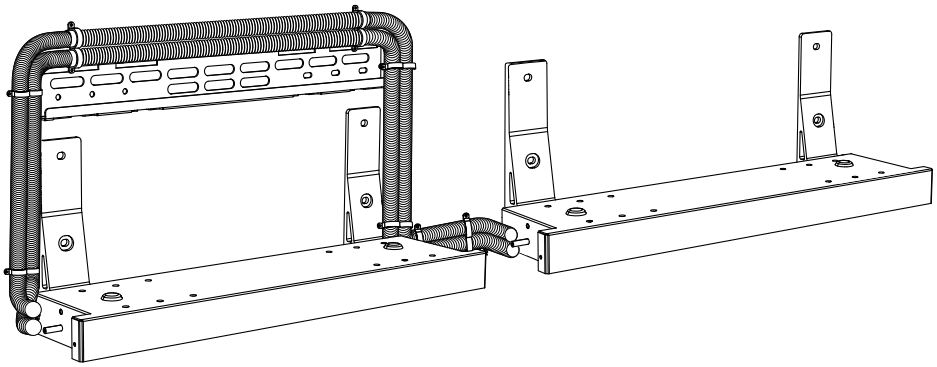
1. Plan a short and efficient conduit run. When connecting two columns of modules, it is recommended to follow the instructions below.
   - For floor mounting, route cables from the inside of the first column's floor mounting base into the second column.

Figure: Conduit run for floor mounting.



• For wall mounting, route cables from the back of the first column into the second column.

Figure: Conduit run for wall mounting.



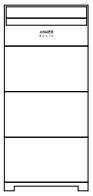
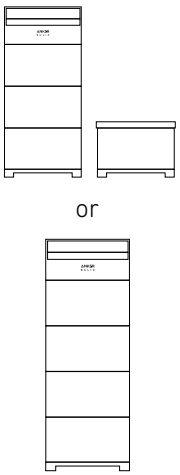
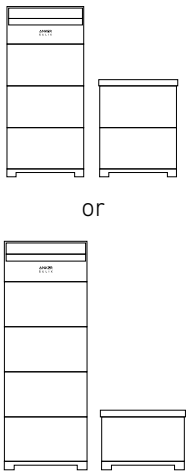
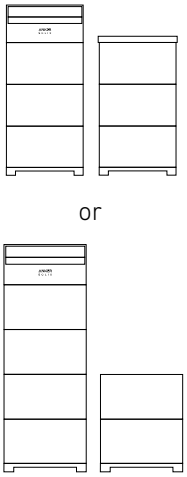
4.3 Measure the Distance

Reserve sufficient space for heat dissipation and safety isolation. Use the dimensions below to measure the distance between system components.

Stacking Requirements

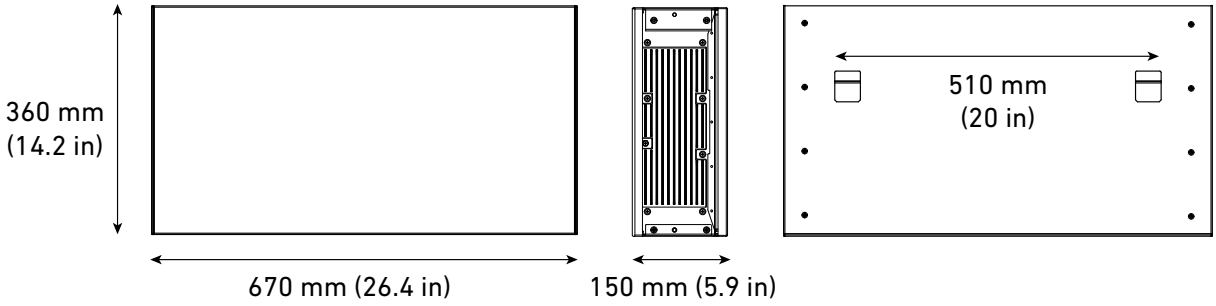
Stack no more than one power module and four battery modules per column. Each power module can be installed with up to six battery modules. The following table lists the stacking examples and corresponding energy capacity.

The power modules shown in the figures below are for reference only and may vary by model.

Stacking						
Battery Module	×1	×2	×3	×4	×5	×6
Stacked Battery Model	X1-B5-H	X1-B10-HC	X1-B15-HC	X1-B20-HC	X1-B25-HC	X1-B30-HC
	X1-B5-H0	X1-B10-H0	X1-B15-H0	X1-B20-H0	X1-B25-H0	X1-B30-H0
Energy Capacity	5 kWh	10 kWh	15 kWh	20 kWh	25 kWh	30 kWh

Battery Module Dimensions

Figure: Dimensions (Front, Side, and Back).



Installation Clearance

Ensure sufficient spacing for cabling, heat dissipation, and safety isolation.

For North America, install the equipment at a minimum distance of 91.4 cm (3 feet) from windows and doors.

The power modules shown in the figures below are for reference only and may vary by model.

Figure: Installation clearance for floor-mounted modules.

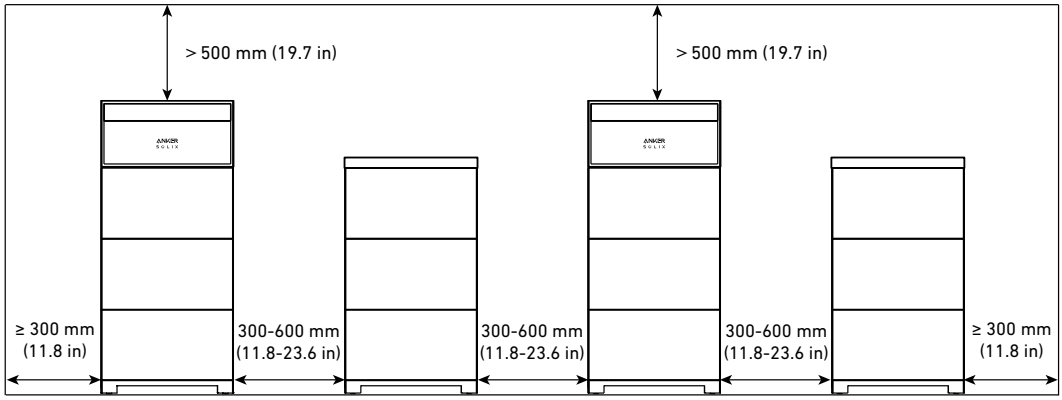
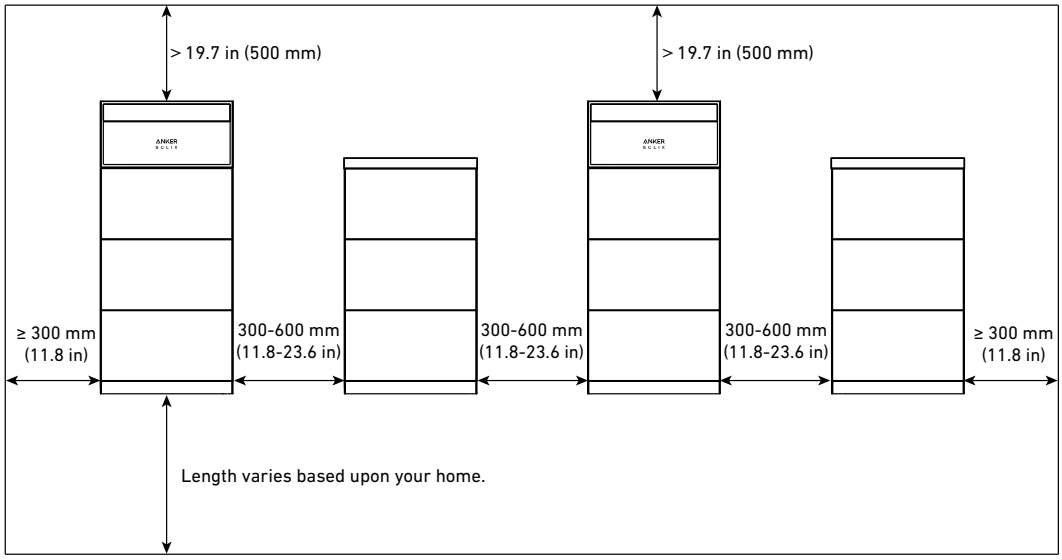


Figure: Installation clearance for wall-mounted modules.

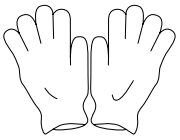
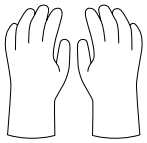
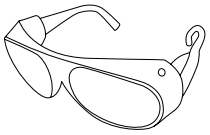
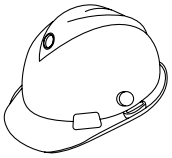
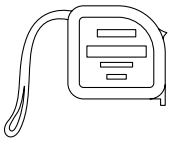
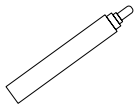
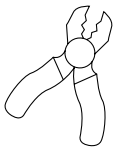
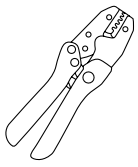
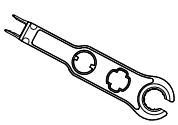
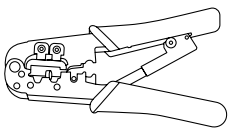


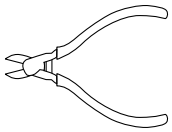
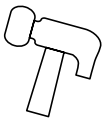
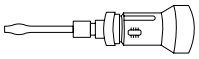
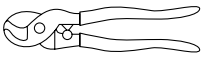
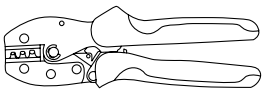
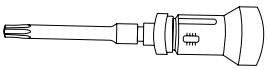
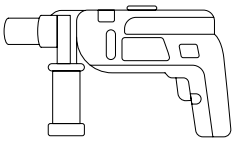
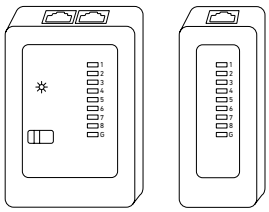
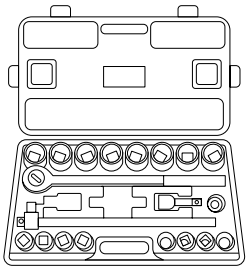
4.4 Prepare Tools and Supplies

The following tools and supplies are not included in the package. Ensure that you have them ready before proceeding with the installation and electrical connections.

Required Tools

Use appropriate personal protective equipment (PPE) and follow safe electrical work practices.

Personal Protective Equipment	
Protective Gloves	Insulated Gloves
	
Dust Mask	Safety Goggles
	
Protective Footwear	Safety Hat
	
Measuring Instruments	
Level	Metal Tape Measure
	
Installation and Wiring Tools	
Marker	Heat Gun
	
Wire Strippers	OT Terminal Crimper
	
Disassembly Tool	RJ45 Crimping Tool
	

Pliers	Rubber Mallet
	
Flathead Screwdriver	**Cable Cutter**
	
Solar Crimping Tool	**No. 1 Phillips Screwdriver**
	
Power Drill	**Cable Tester**
 Drill Bit: 10 mm	
Torque Wrench	
 Cross Socket Bits: PH1 / PZ1 (M4), PH2 / PZ2 (M5, M6) Hex Socket: 10 mm (M6), 13 mm (M8)	

Required Supplies

- Cable conduits: depending on local electrical requirements.
- Prepare cables in compliance with relevant local codes. All cables are rated minimum 90°C (194 °F).

Function	Required Supplies	Specifications
Connection Between Two Module Columns	GND cable	6 mm^2 (10AWG), Minimum 600V Rating, Copper, Yellow/Green (EU & UK & US) or Green (AUS & NZ)
	Positive DC power cable	8 mm^2 (8AWG), Minimum 600V Rating, Copper, Red
	Negative DC power cable	8 mm^2 (8AWG), Minimum 600V Rating, Copper, Black
	RJ45 signal cable	Cat 5 or Higher, 5-6 mm in Diameter, 8-Donductor, Shielded (Recommended)
	Cable conduit	For floor-mount installation: rigid metal conduits, inner diameter of 20 mm (3/4 in), outer diameter of 25 mm (1 in), 304 stainless steel For wall-mount installation: flexible metal conduits, inner diameter of 15 mm (1/2 in), outer diameter of 20 mm (3/4 in), 304 stainless steel

5. Installation

You can mount the modules on a floor support or to the wall. The procedures describe the installation of one power module and six battery modules (power module and three battery modules in the first column; another three battery modules in the second column) as an example.

- Leave a minimum of 0.3 m (11.8 in) of workspace on either side of the equipment.
- The power modules shown in the figures below are for reference only and may vary by model.
- If the baseboard is thicker than 70 mm, mount the modules to the wall.

5.1 Floor Mounting with Standard Floor Base

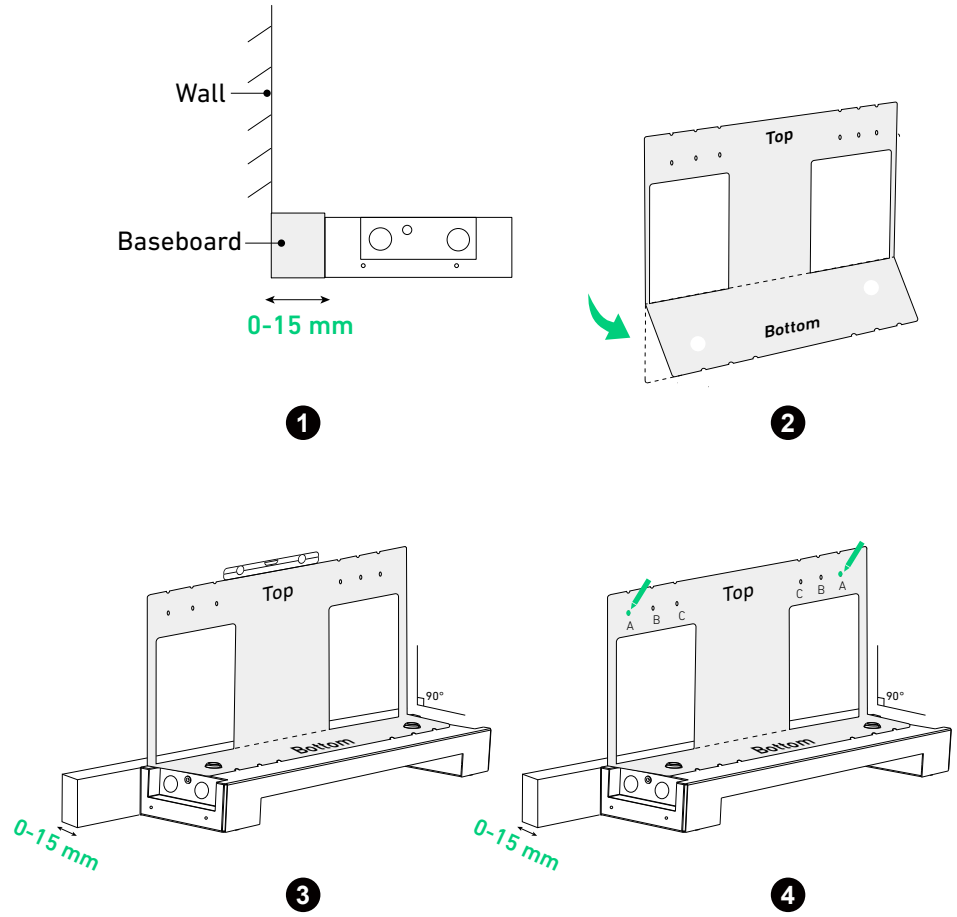
Step 1: Mark pilot holes for the first module.

If there is no baseboard or the baseboard is no more than 15 mm thick, follow these steps.

1. Position the floor mounting base on a level surface against the wall or the baseboard.
2. Fold the positioning card (included with the power module package) along the bottom crease.
3. Align the card with the top of the floor mounting base and use a level to ensure it is horizontal.
4. Select and mark a hole on each side based on the wall conditions to secure the first module.

If anchoring to a wall with studs, select position A for studs spaced 508 mm (20 in) apart, position B for studs spaced 406 mm (16 in) apart, or position C for studs spaced 304 mm (12 in) apart.

Figure: Mark pilot holes for the first module if the baseboard is 0-15 mm thick.

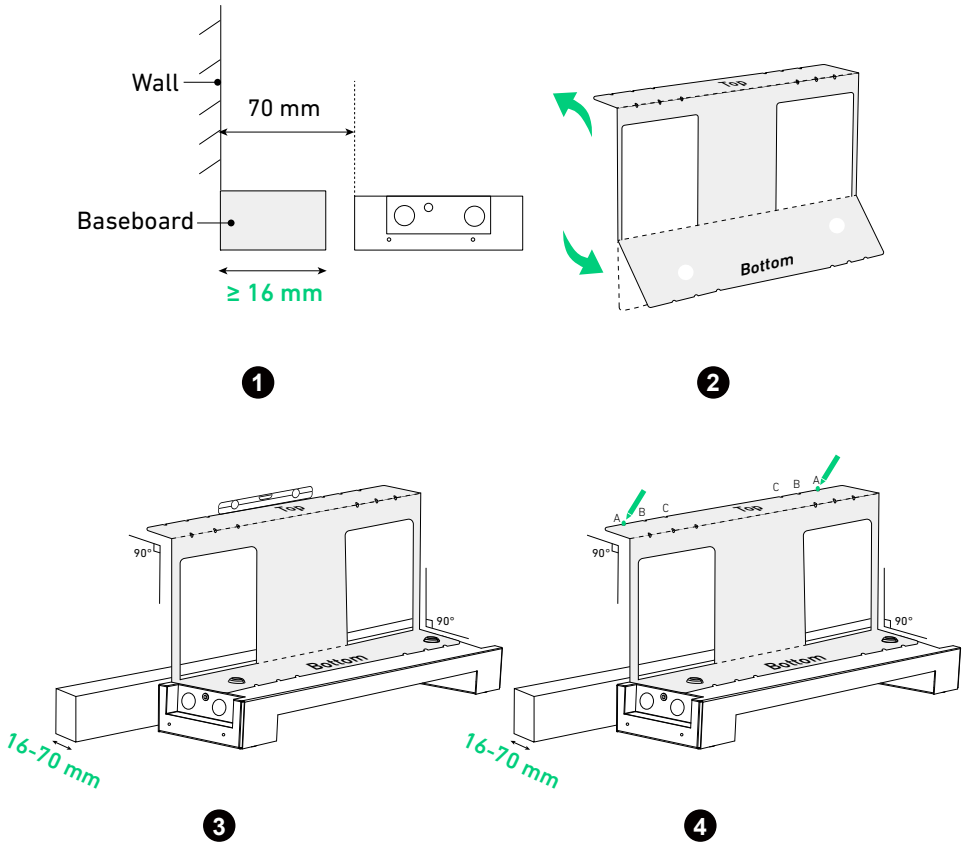


If the baseboard is between 16 and 70 mm thick, follow these steps to mark pilot holes for the first module.

1. Keep a distance of 70 mm between the floor mounting base and the wall surface.
2. Fold the positioning card (included with the power module package) along the top and bottom creases.
3. Align the card with the top of the floor mounting base and use a level to ensure it is horizontal.
4. Select and mark a hole on each side based on the wall conditions to secure the first module.

If anchoring to a wall with studs, select position A for studs spaced 508 mm (20 in) apart, position B for studs spaced 406 mm (16 in) apart, or position C for studs spaced 304 mm (12 in) apart.

Figure: Mark pilot holes for the first module if the baseboard is 16-70 mm thick.



Step 2: Mark pilot holes for the remaining modules.

1. Unfold the positioning card and align the bottom row of holes with the marked holes. Choose and mark a hole on each side at the top for the second module.
2. Repeat the previous step to mark any remaining pilot holes as necessary.

Figure: Mark pilot holes for the remaining modules.

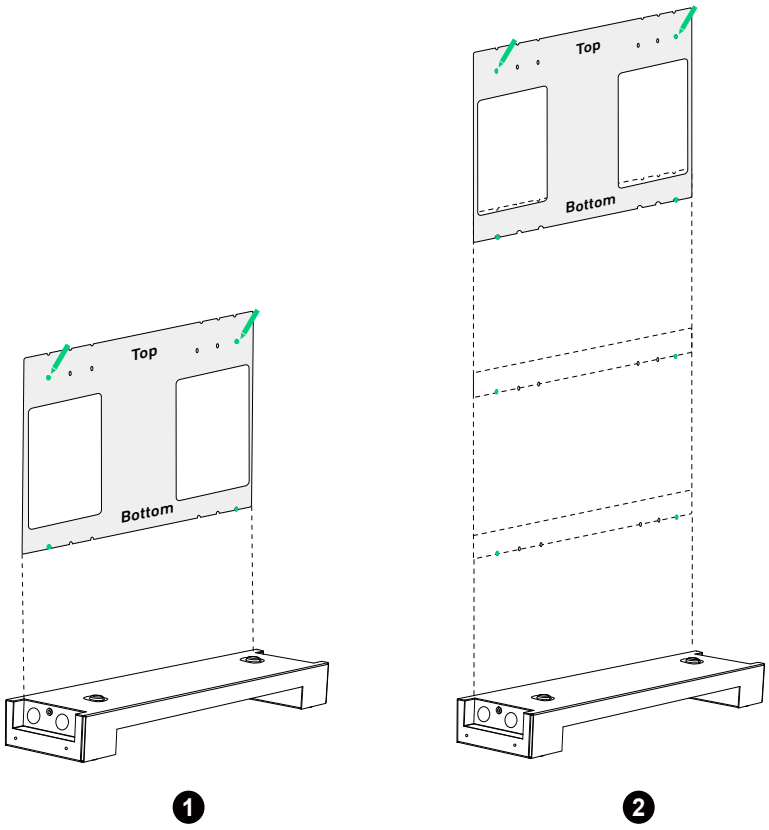
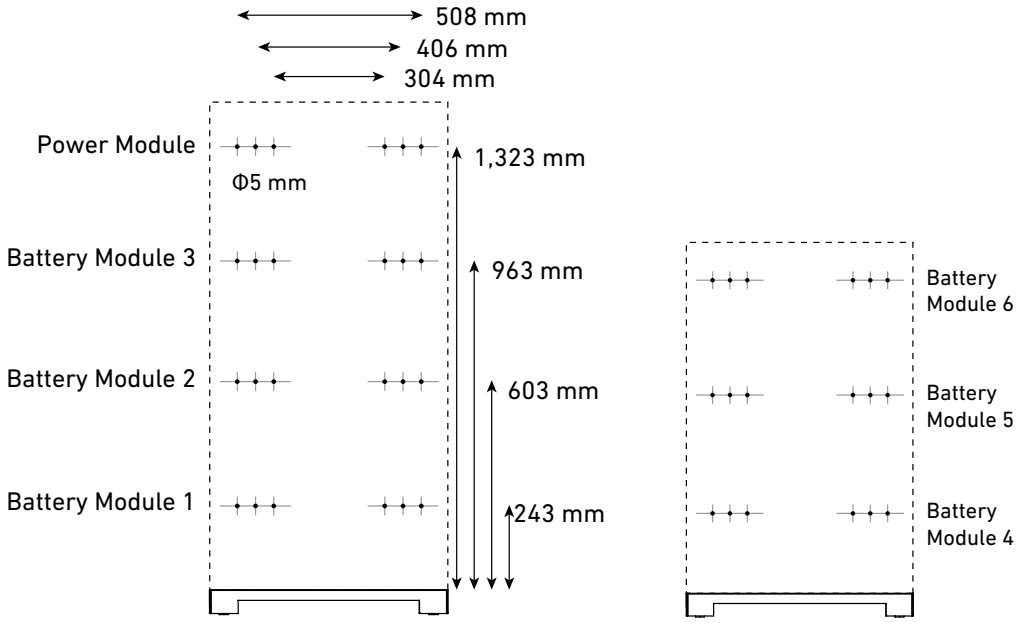


Figure: Dimensions of pilot holes.



Step 3: Attach mount brackets to the wall.

❶ Drill the marked pilot holes in the wall. Make sure the drill bit is aligned with the center of the holes.

❷ Insert the plastic anchors (M6×50 mm, included) into the pilot holes. Make sure the anchors are flush with the wall.

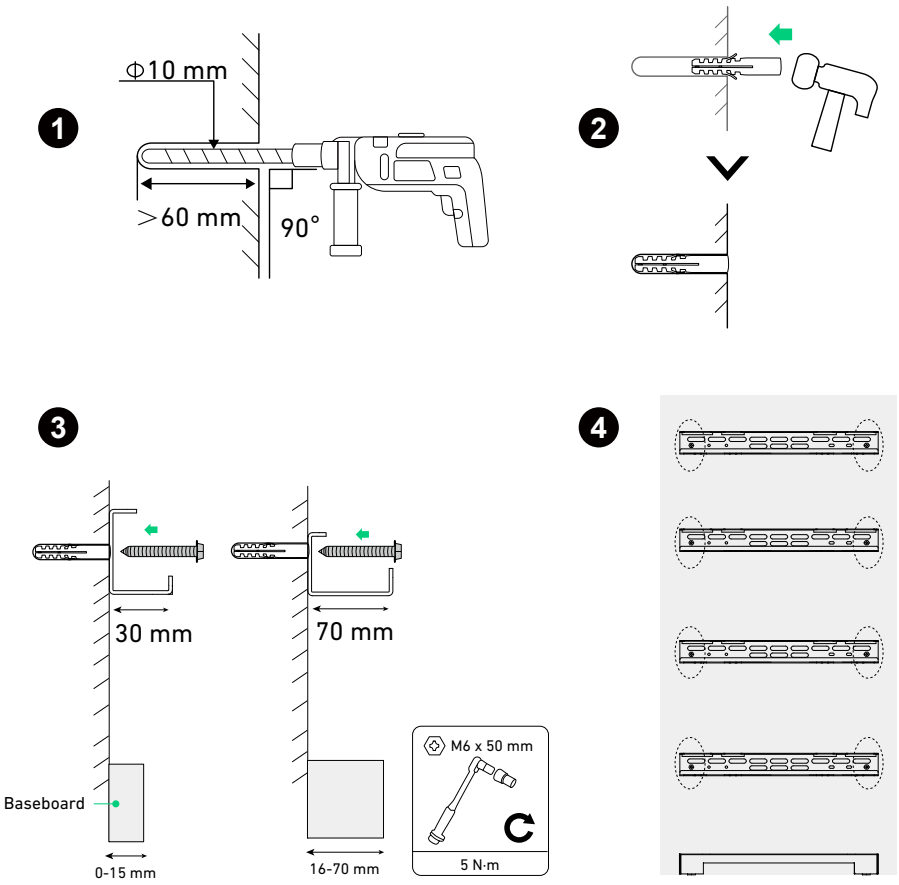
❸ Check the baseboard and position the mount bracket properly against the wall. Tighten the self-tapping screws (M6×50 mm, included with the anchors) to secure the mount bracket.

- If there is no baseboard or the baseboard is no more than 15 mm thick, position the wide bar of the mount bracket against the wall.
- If the baseboard is between 16 and 70 mm thick, position the narrow bar of the mount bracket against the wall.

❹ Repeat steps 1 to 3 to install all of the mount brackets onto the wall.

- After drilling, clean up any shavings that have accumulated inside or outside the equipment.
- In the case of a wall with studs, use the self-tapping screws (M6×50 mm) in lieu of the plastic anchors and screws (M6×50 mm).

Figure: Install mount brackets.

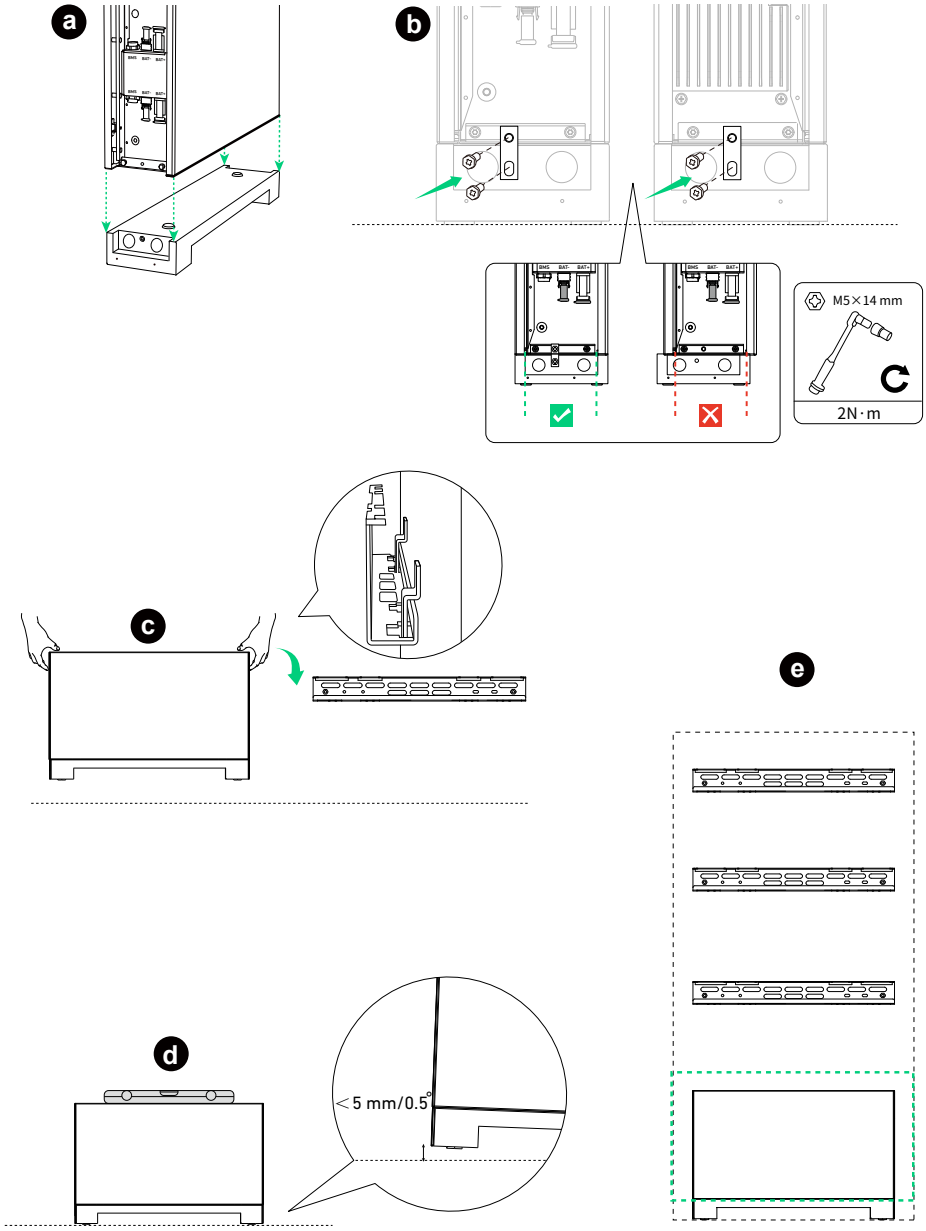


Step 4: Mount modules onto the brackets.

❶ To ensure proper alignment, fasten the floor mounting base to the first battery module before hanging them onto the mount bracket.

- When securing the module interlockers, make sure that the inner edges of the floor mounting base and all the modules are aligned within a tolerance of 1 mm.
- Ensure that the first battery module and floor mounting base are level within a tolerance of +/– 0.5° horizontally. Use the included shims (flat washers) to fill in any gaps if necessary.

Figure: Mount the first battery module and floor mounting base.



❷ Mount the remaining modules from bottom to top. After installing a module, tighten the module interlockers using the included screws (M5×14 mm), and then mount the next module.

Figure: Mount the second and third battery modules.

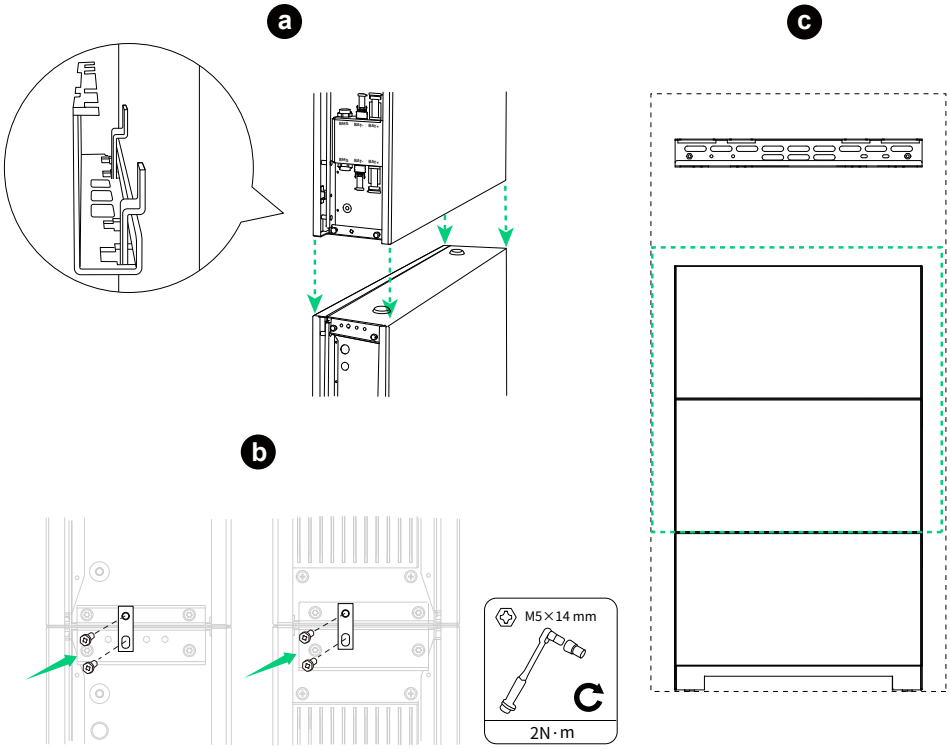
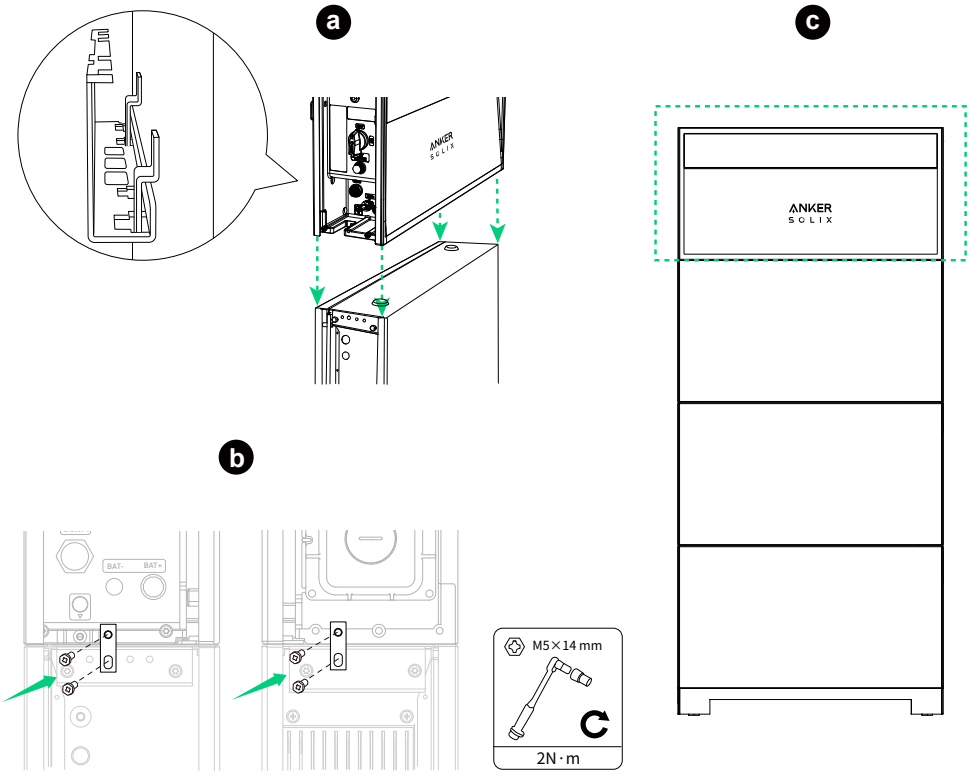
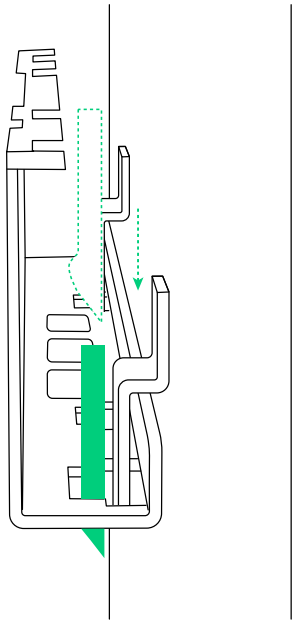


Figure: Mount the power module.

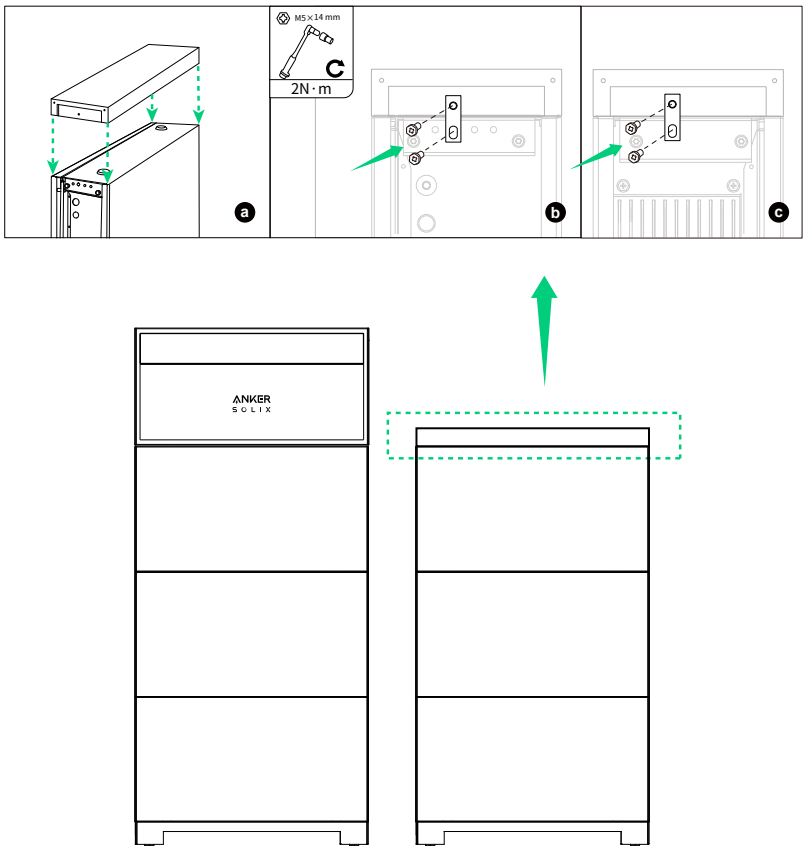


If necessary, insert the included wedge shim into the power module's mount bracket to ensure stability.

Figure: Insert the wedge shim.



❸ When adding the second column, attach the top cover to the top battery module using the screws (M5×14 mm, included).
Figure: Install the top cover for the second column.



5.2 Floor Mounting with Floor Bridge Base

Only use the floor bridge base when installing two power modules. It is not suitable for a system with only one power module.

Step 1: Mark pilot holes for the first module.

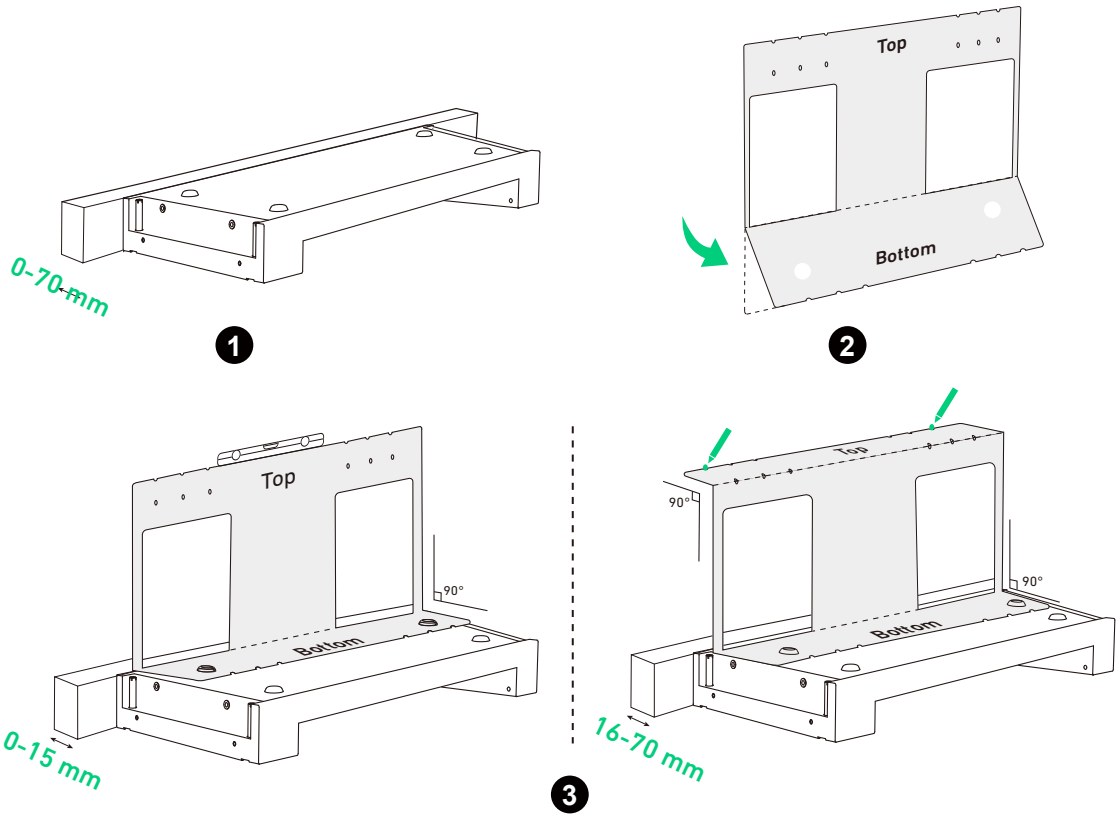
❶ Position the floor bridge base on a level surface against the wall or the baseboard.

❷ Fold the positioning card (included with the power module package) along the crease.

❸ Align the card with the top of the floor bridge base and use a level to ensure it is horizontal. Verify the spacing and mark one hole on each side to secure the first module.

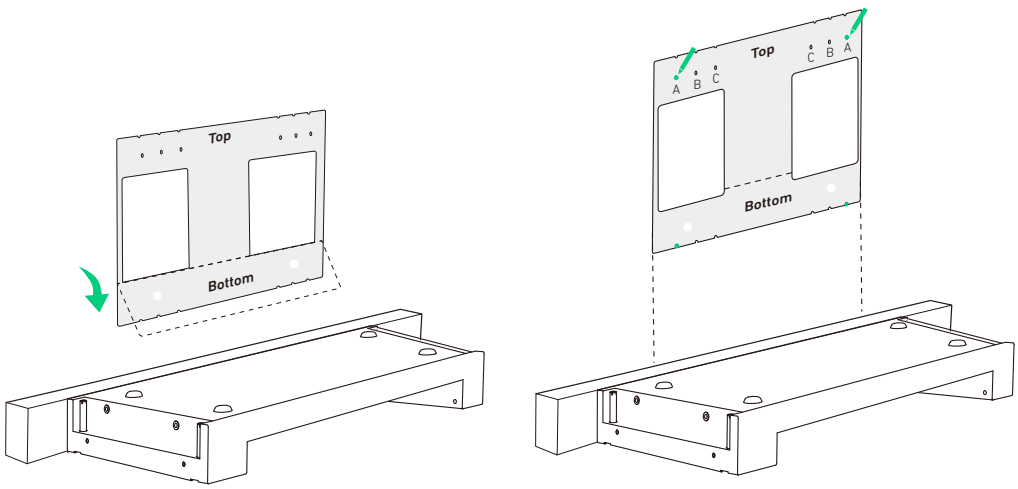
- If there is no baseboard, or the baseboard is 0–15 mm thick, fold the positioning card only along the bottom crease.
- If the baseboard is 16–70 mm thick, fold the positioning card along the top crease and move the floor bridge base so that the top edge of the card touches the wall at a 90° angle.

- Markings are for reference only. Select position A, B, or C based on your actual installation conditions.
- If anchoring to a wall with studs, select position A for studs spaced 508 mm apart, position B for studs spaced 406 mm apart, or position C for studs spaced 304 mm apart.

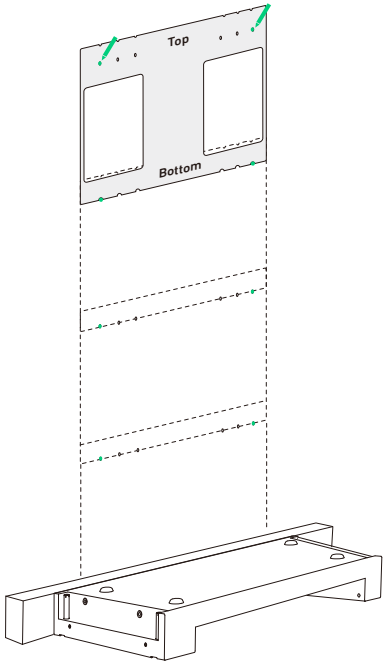


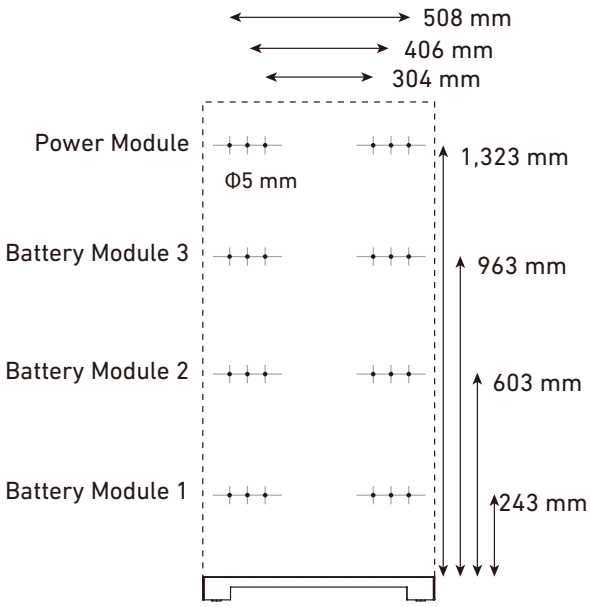
Step 2: Mark pilot holes for the remaining modules.

❶ Unfold the positioning card and align the bottom row of holes with the marked holes. Choose and mark a hole on each side at the top for the second module.



❷ Repeat the previous step to mark any remaining pilot holes as required.





Step 3: Attach mount brackets to the wall.

❶ Drill the marked pilot holes in the wall. Make sure the drill bit is aligned with the center of each hole.

❷ Insert the expansion bolts (M6×50 mm) into the pilot holes and ensure they are flush with the wall.

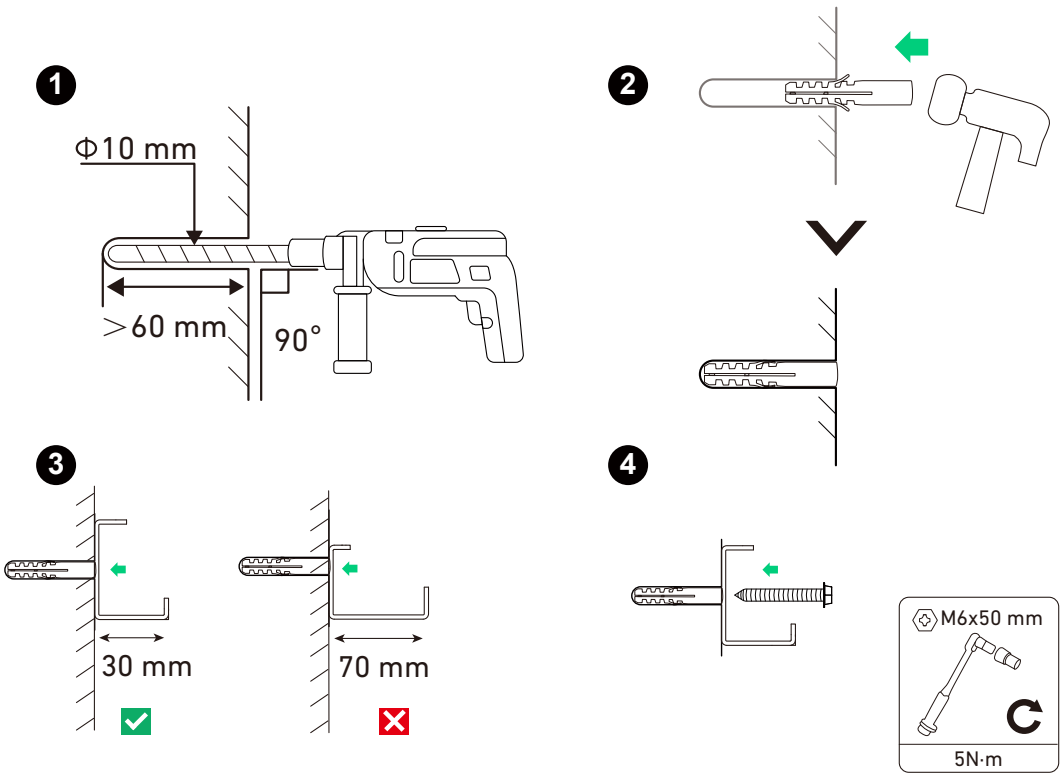
❸ Check the baseboard and position the mount bracket properly against the wall. Tighten the self-tapping screws (M6×50 mm, included with the anchors) to secure the mount bracket.

• If there is no baseboard or the baseboard is under 15 mm thick, position the wide bar of the mount bracket against the wall.

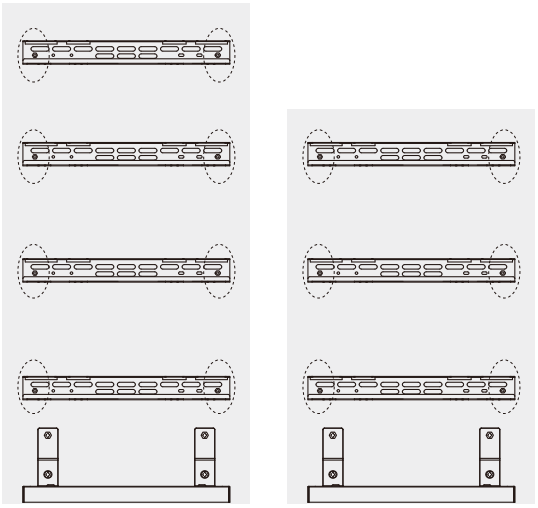
• If the baseboard is 16–70 mm thick, position the narrow bar of the mount bracket against the wall.

❹ Repeat steps 1 to 3 to install all of the mount brackets onto the wall.

After drilling, clear any debris that has accumulated inside or around the equipment.



5



Step 4: Mount modules onto the brackets.

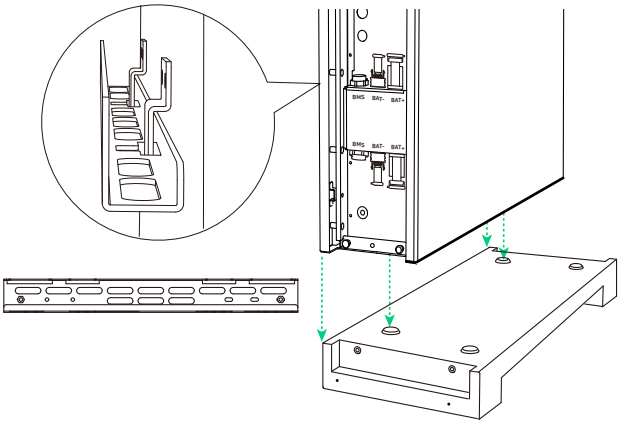
1 Place the first battery module on the inner side of the floor bridge base. Ensure the battery module is hanged onto the mount bracket.

Before mounting, adjust the levelling screws to ensure that the floor mounting base is levelled horizontally.

a

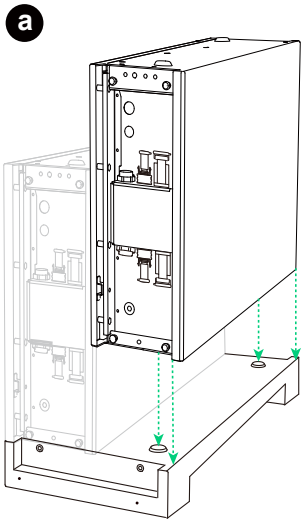


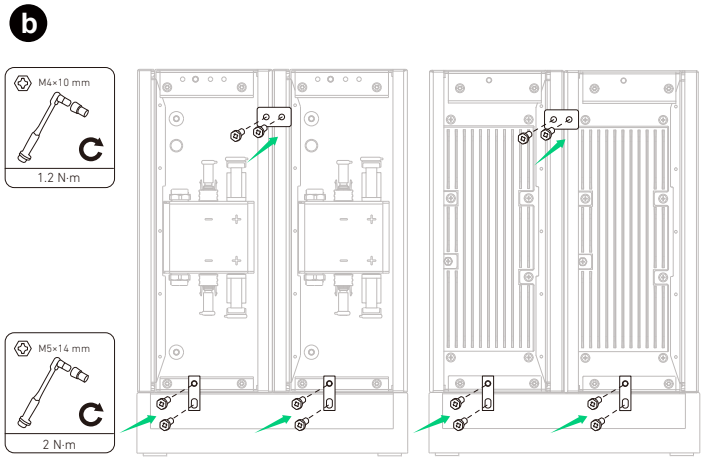
b



2 Place the second battery module on the outer side of the floor bridge base. Secure the floor bridge base to the battery modules using the interlockers with the M5×14 mm screws included in the battery module box, and also fasten the two battery modules with the interlockers included in the floor bridge base accessory kit with the M4 × 10 mm screws.

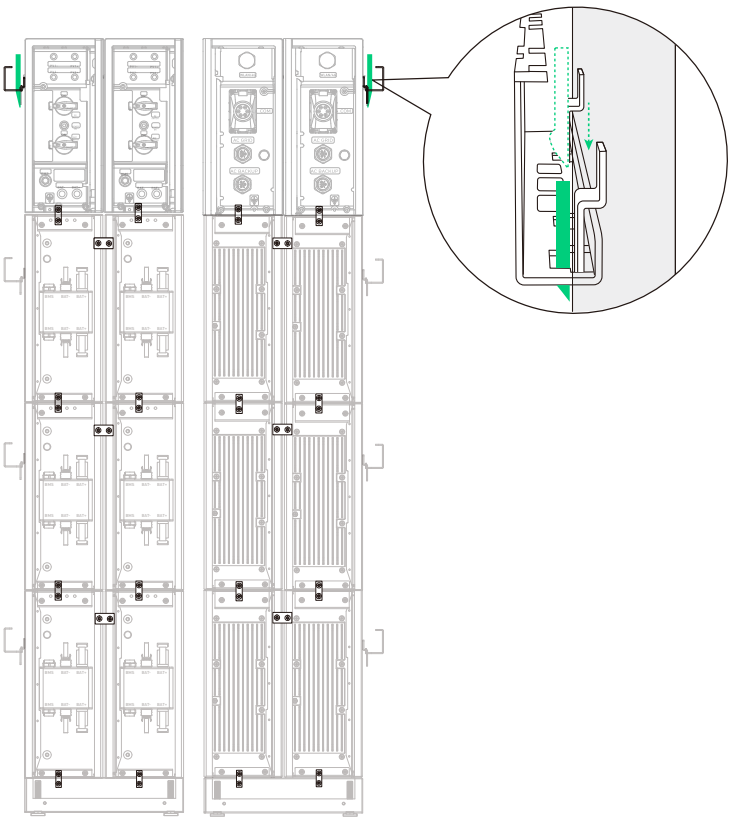
When securing the interlockers, ensure the inner edges of the floor bridge base and all modules are aligned within a tolerance of 1 mm.





❸ Mount the remaining modules from bottom to top by repeating previous steps 1 and 2. The modules placed against the wall must be hung onto the mount bracket. Modules stacked vertically should be secured using the smaller interlockers (38×17 mm), while modules stacked front to back should be secured using the larger interlockers (51×22 mm).

- The power modules must be installed at the top of the column.
- If necessary, insert the included wedge shim into the top module mount bracket to ensure stability.



5.3 Wall Mounting

Step 1: Install the baseplate and bracket holders on the wall.

❶ To secure the baseplate and bracket holders, select a set of screw holes based on the wall conditions and tighten the screws (M4x10 mm, included).

❷ Position the baseplate and bracket holders on the wall, ensuring that they are level, and mark four pilot holes.

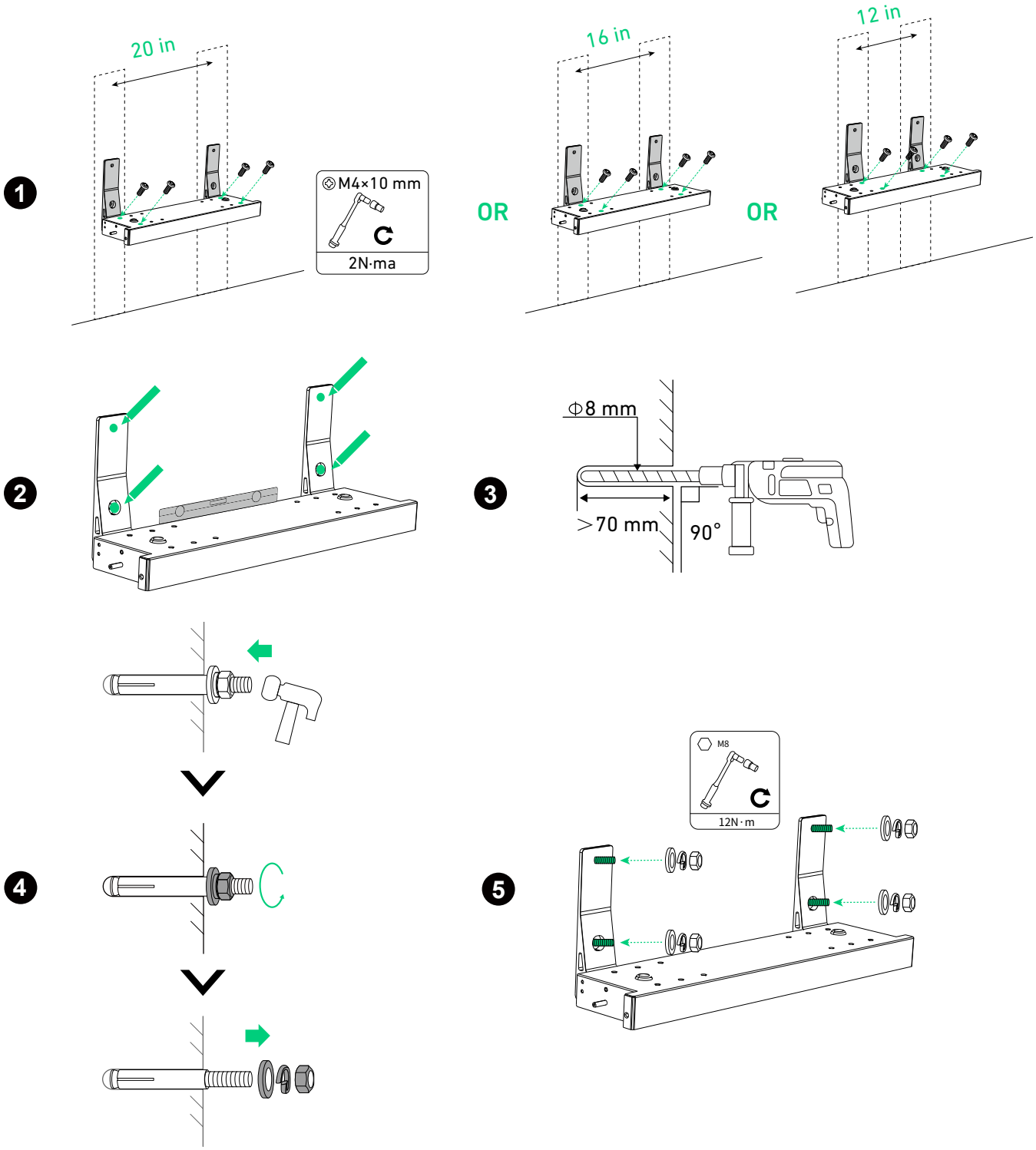
❸ Drill the marked pilot holes in the wall. Make sure the drill bit is aligned with the center of the holes.

❹ Insert the expansion bolts (M8×70 mm, included with the wall mount kit) into the pilot holes and remove the washers and nuts.

❺ Align the bolts with the corresponding screw holes of the bracket holders, and screw the washers and nuts into the bolts.

If anchoring to a wall with studs, use the self-tapping screws (M8×70 mm) in lieu of the expansion bolts (M8×70 mm).

Figure: Install the baseplate and bracket holders on the wall.



Step 2: Mark pilot holes on the wall.

❶ Fold the positioning card (included with the power module package) along the bottom crease.

❷ Align the card with the top of the floor mounting base and use a level to ensure it is horizontal.

❸ Select and mark a hole on each side based on the wall conditions to secure the first module.

If anchoring to a wall with studs, select position A for studs spaced 508 mm (20 in) apart, position B for studs spaced 406 mm (16 in) apart, or position C for studs spaced 304 mm (12 in) apart.

❹ Unfold the positioning card and align the bottom row of holes with the marked holes. Choose and mark a hole on each side at the top for the second module.

❺ Repeat the previous step to mark any remaining pilot holes as necessary.

Figure: Mark pilot holes on the wall.

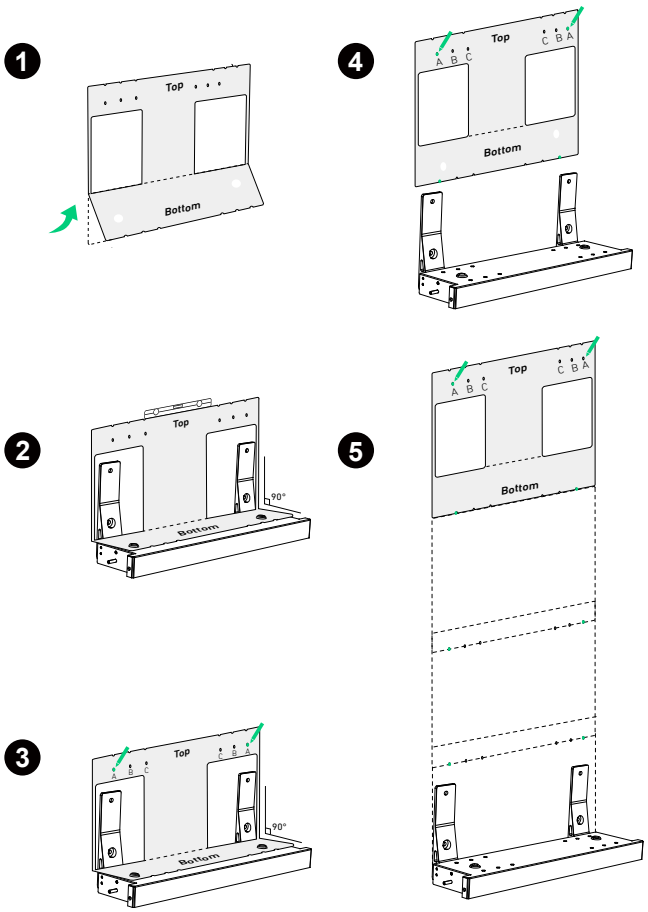
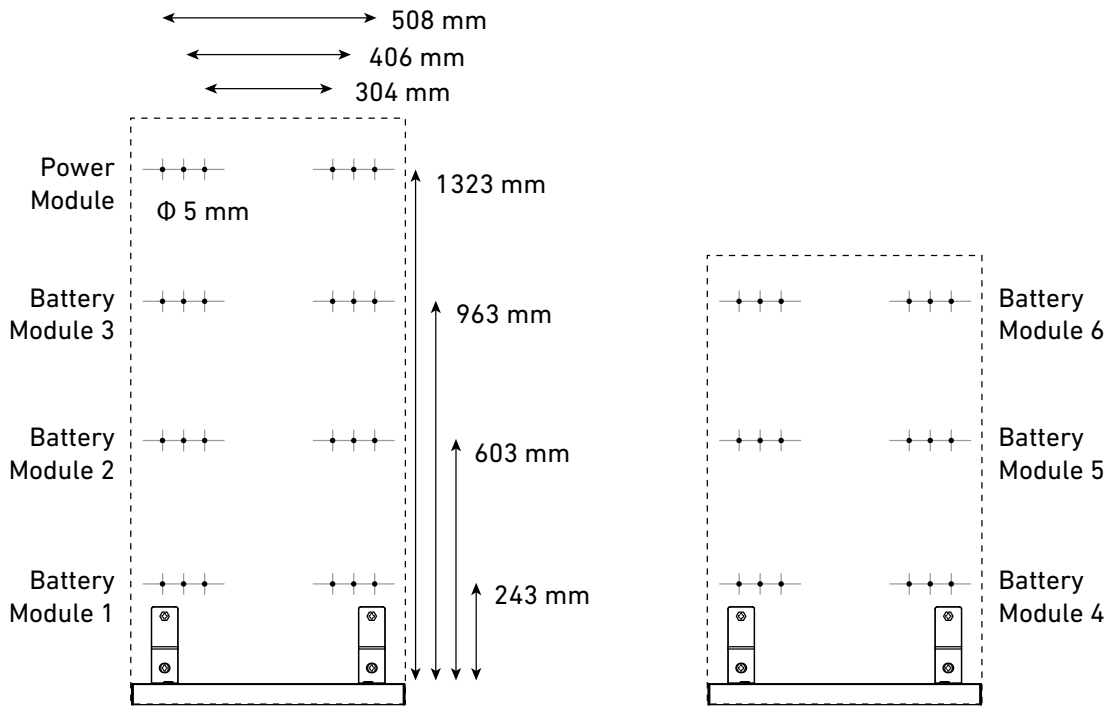


Figure: Dimensions of pilot holes.

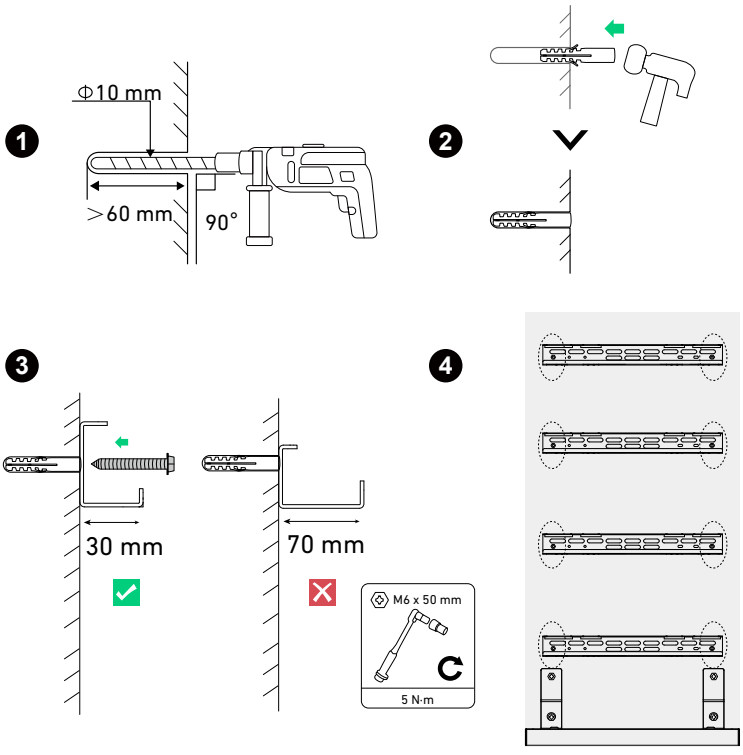


Step 3: Attach mount brackets to the wall.

1. Drill the marked pilot holes in the wall. Make sure the drill bit is aligned with the center of the holes.
2. Insert the plastic anchors (M6×50 mm, included) into the pilot holes. Make sure the anchors are flush with the wall.
3. Align the anchors with the corresponding slots of the mount bracket. Verify that the mount bracket is level and its wide bar is placed against the wall.
4. Tighten the self-tapping screws (M6×50 mm, included with the anchors) to secure the mount bracket.
5. Repeat the above steps to install all of the mount brackets onto the wall.

After drilling, clean up any shavings that have accumulated inside or outside the equipment.

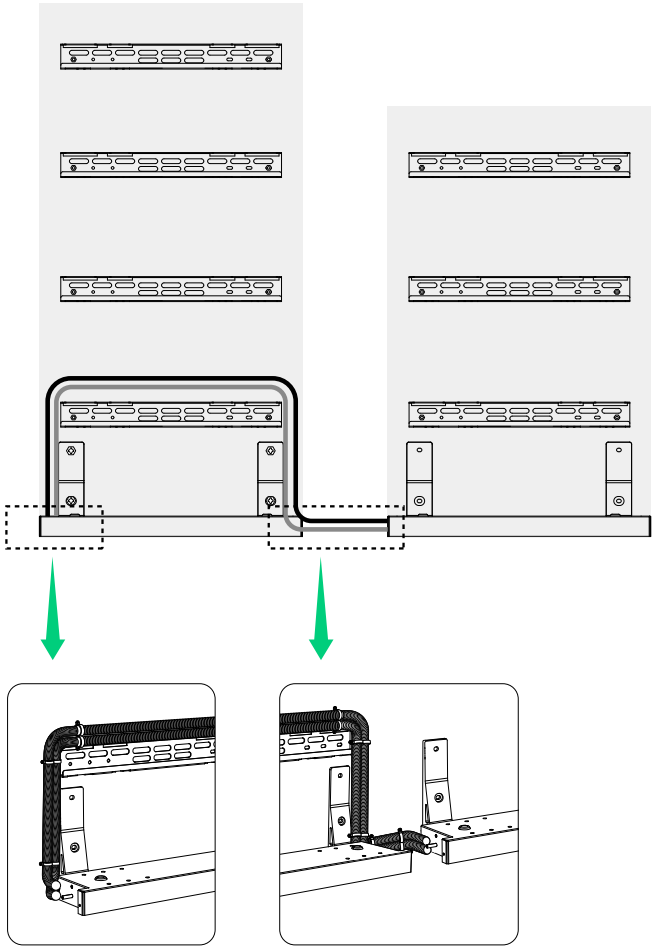
Figure: Attach mount brackets to the wall.



Step 4: Install conduits between the two columns.

When installing two columns, run conduits from the back of the first column to the second column.

Figure: Install conduits when adding a second column.

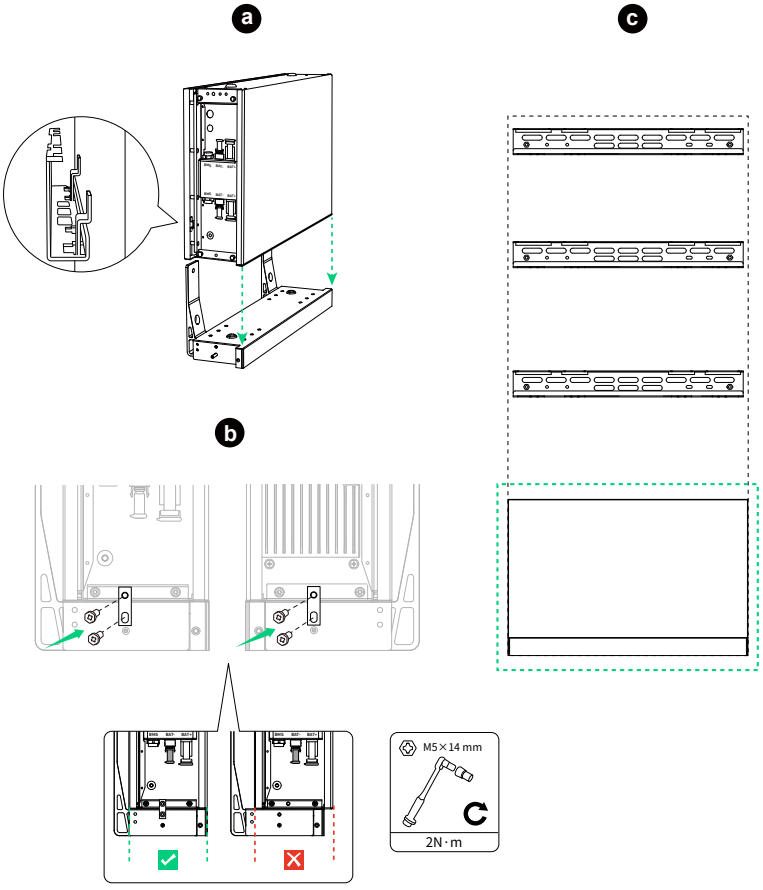


Step 5: Mount modules onto the brackets.

❶ Hang the first battery module onto the mount bracket and fasten the module to the baseplate.

When securing the module interlockers, make sure that the inner edges of the baseplate and all the modules are aligned within a tolerance of 1 mm.

Figure: Mount the first battery module.



❷ Mount the remaining modules from bottom to top. After installing a module, tighten the module interlockers using the screws (M5×14 mm, included), and then mount the next module.

Figure: Mount the second and third battery modules.

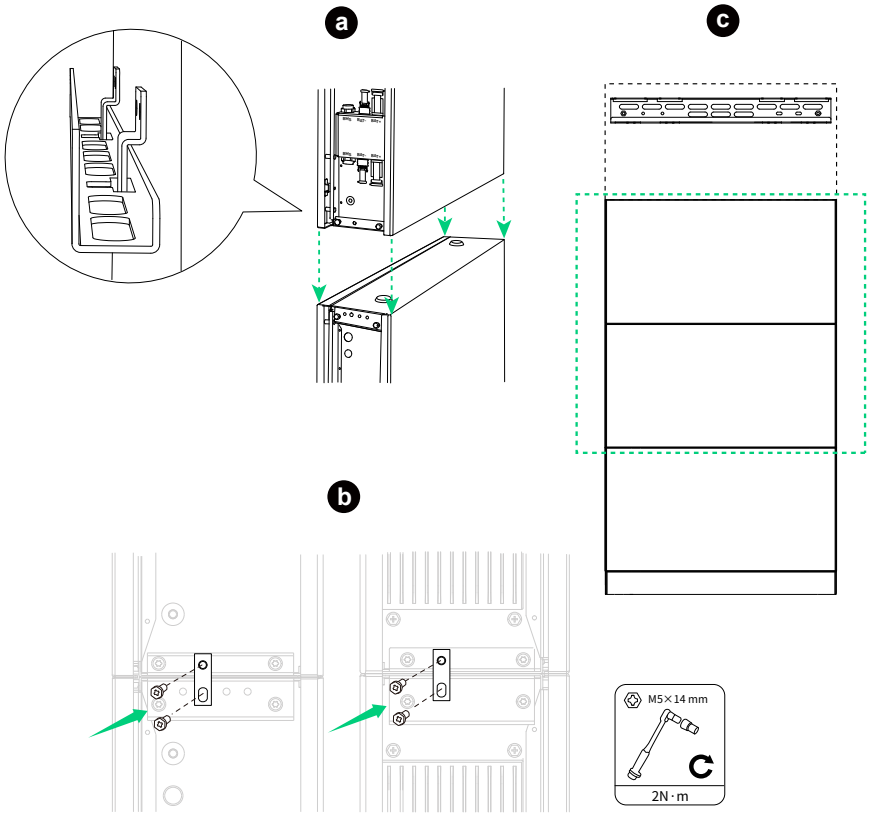
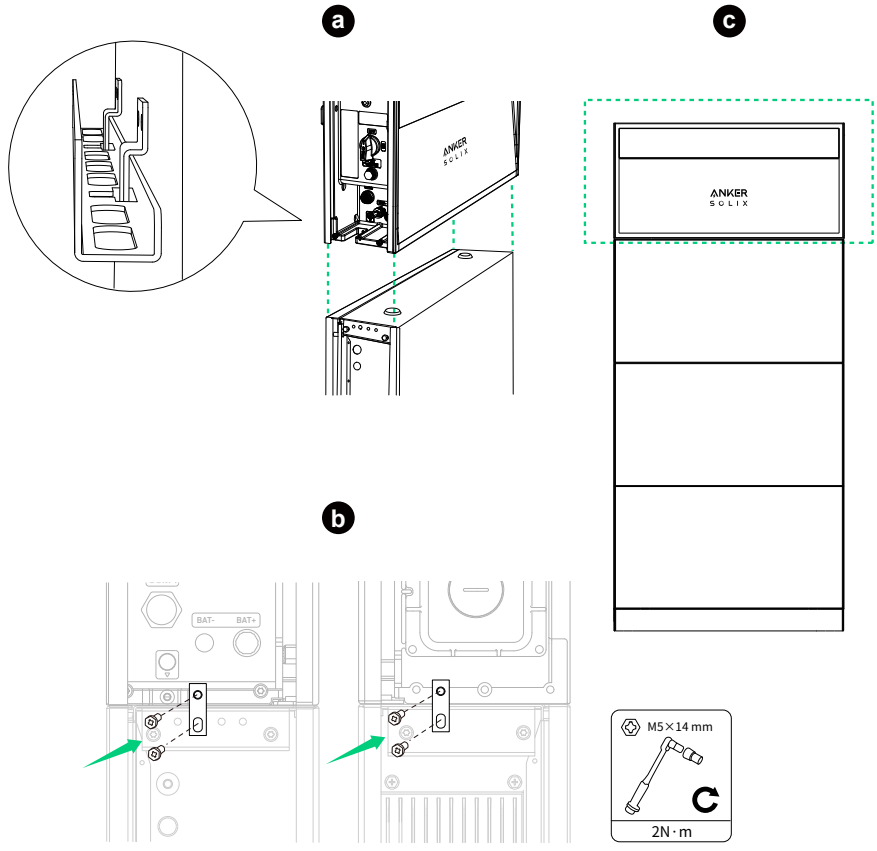
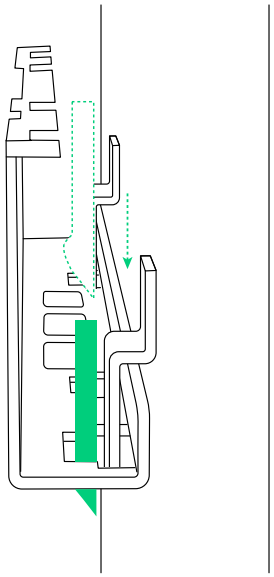


Figure: Mount the power module.

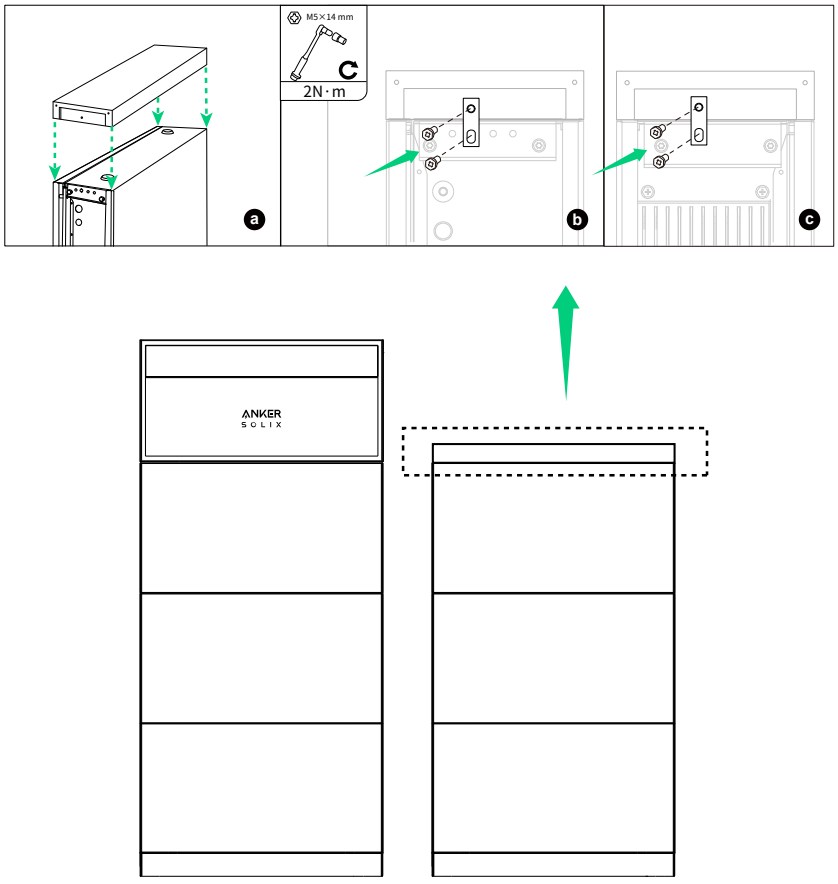


If necessary, insert the included wedge shim into the power module's mount bracket to ensure stability.

Figure: Mount the power module.



❸ When adding the second column, attach the top cover to the top battery module using the screws (M5×14 mm, included).
Figure: Install the top cover to the second column.



6. Electrical Connections

Before connecting cables, ensure the BAT switch on the power module is off.
Depending on local requirements, the wiring can be installed through conduits or cable glands.
The power modules shown in the figures below are for reference only and may vary by model.

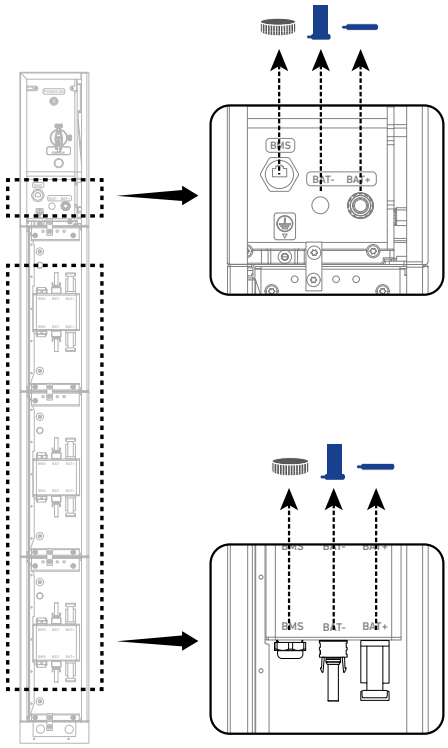
6.1 Connect One Column of Modules

Connect One Column of Modules

To connect one column, which generally consists of a power module and a maximum of three battery modules, follow the steps below.

1. Remove the dustproof plugs from all the modules' BMS ports and power ports (BAT+ and BAT-).

Figure: Remove dustproof plugs from modules.



2. Connect a GND cable from the power module to the external ground point.

❶ Strip the insulation layer of a GND cable (6 mm^2, yellow/green, not included).

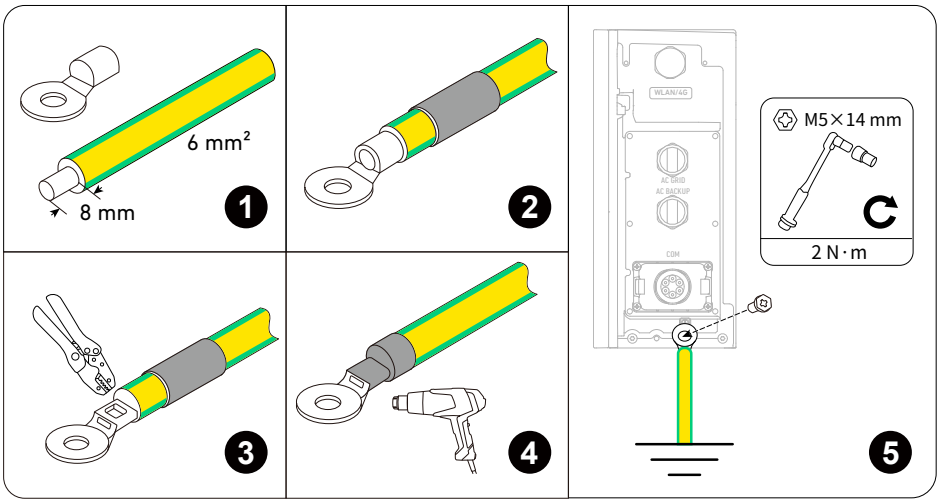
❷ Insert a heat shrink tubing (included) and a ring terminal (included) into the GND cable.

❸ Crimp the ring terminal onto the GND cable.

❹ Wrap the wire crimping area with the heat shrink tubing using a heat gun.

❺ On the right side of the power module, secure the GND cable's ring terminal using the screw (M5×14 mm, included).

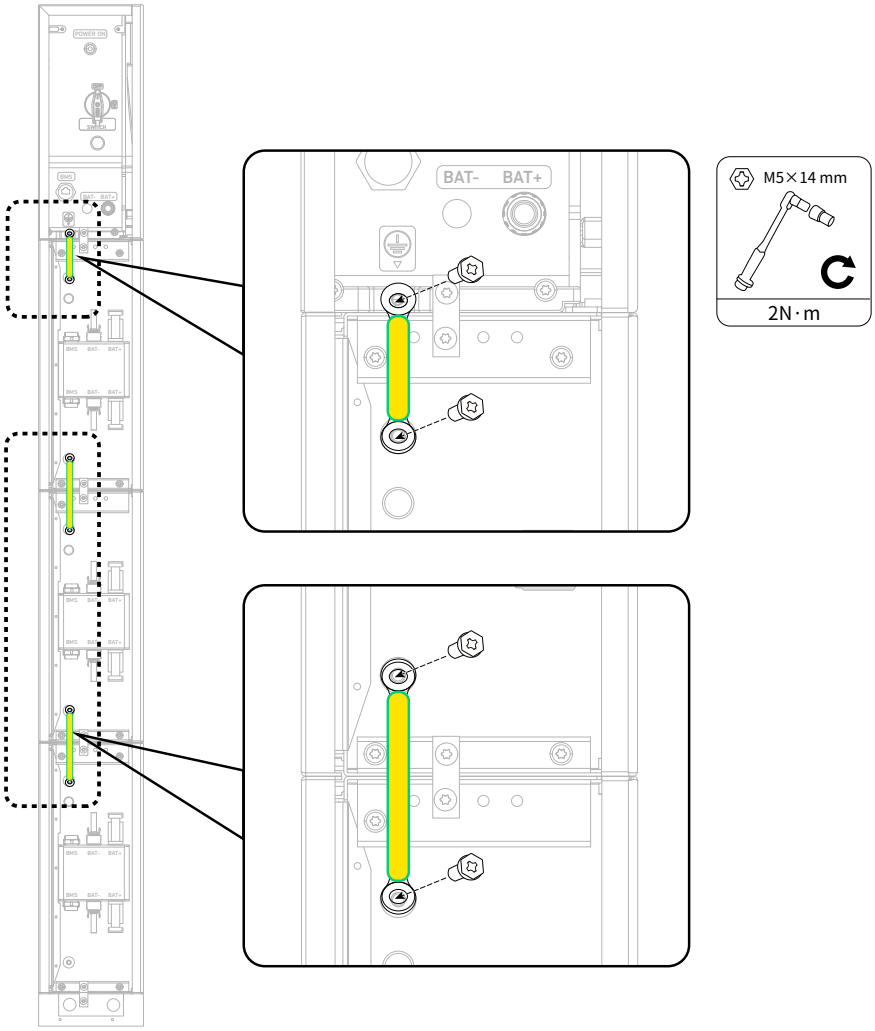
Figure: Connect to the external ground point.



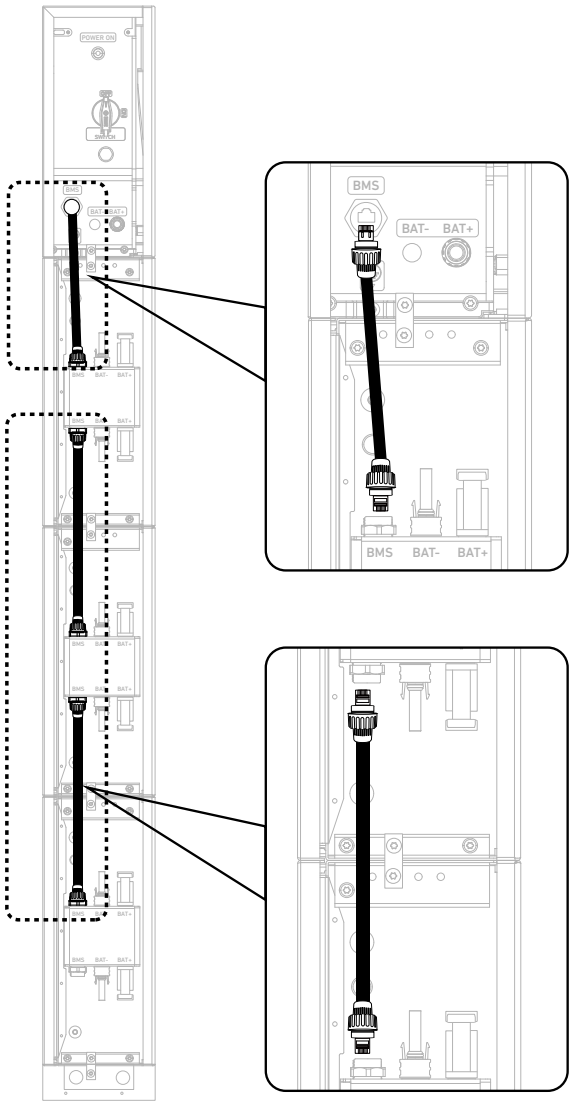
3. Connect the GND cables between the modules.

Secure the GND cables (6 mm^2, yellow/green, included) using the screws (M5×14 mm, included).

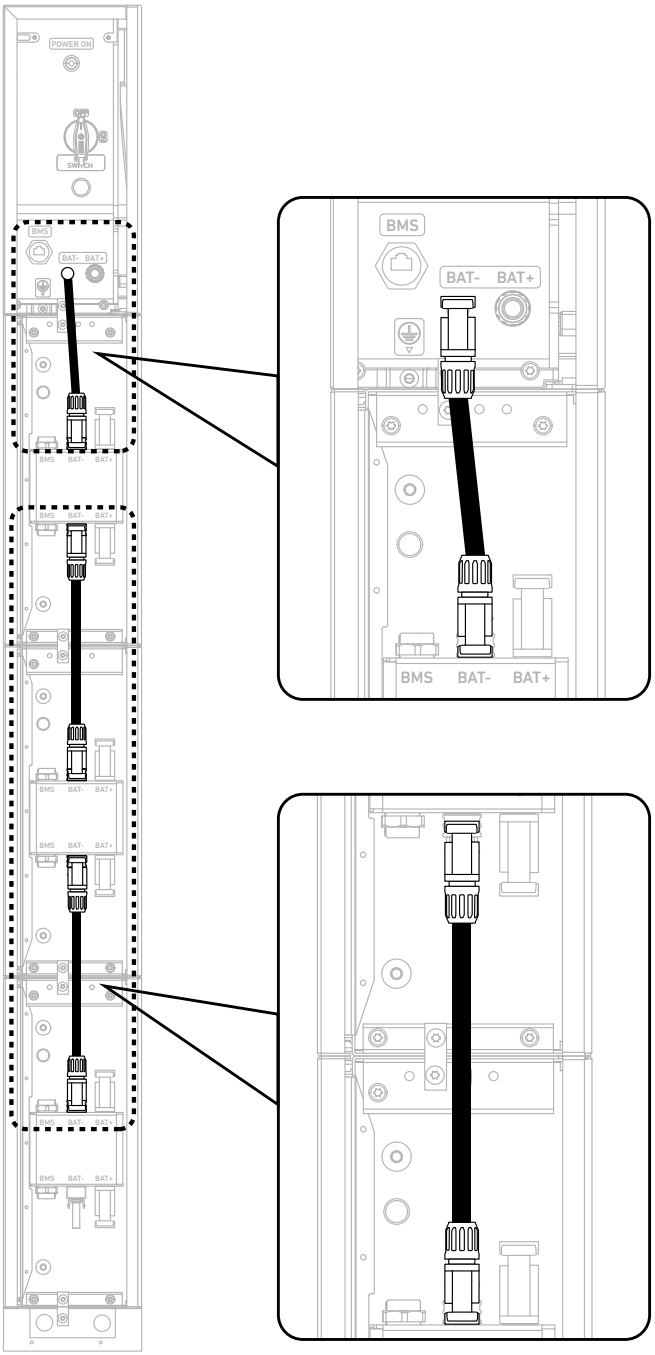
Figure: Connect GND cables between modules.



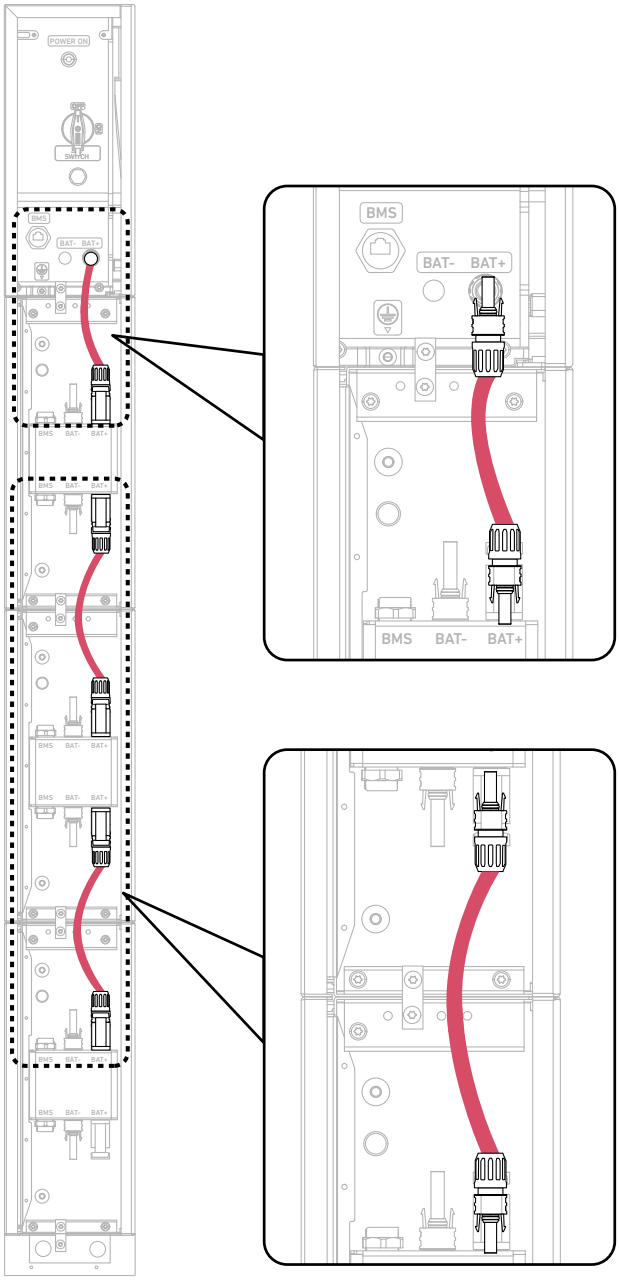
4. Connect the RJ45 signal cables between the modules.
Loosen the locking caps, insert the RJ45 signal cables (black, included) into the BMS ports, and rotate the locking caps to secure.
Figure: Connect RJ45 signal cables between modules.



5. Connect the negative DC power cables between the modules.
Insert the negative DC power cables (black, included) into the modules' negative power ports (BAT-).
Figure: Connect negative DC power cables between modules.

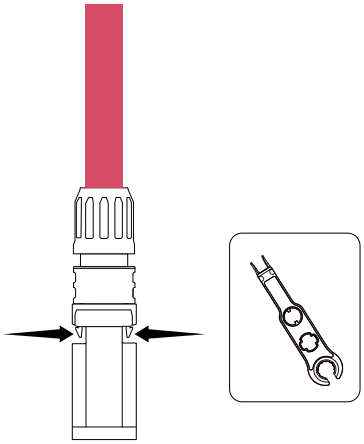


6. Connect the positive DC power cables between the modules.
Insert the positive DC power cables (red, included) into the modules' positive power ports (BAT+).
Figure: Connect positive DC power cables between modules.



Use a disassembly tool (not included) to remove the connected DC power cables.

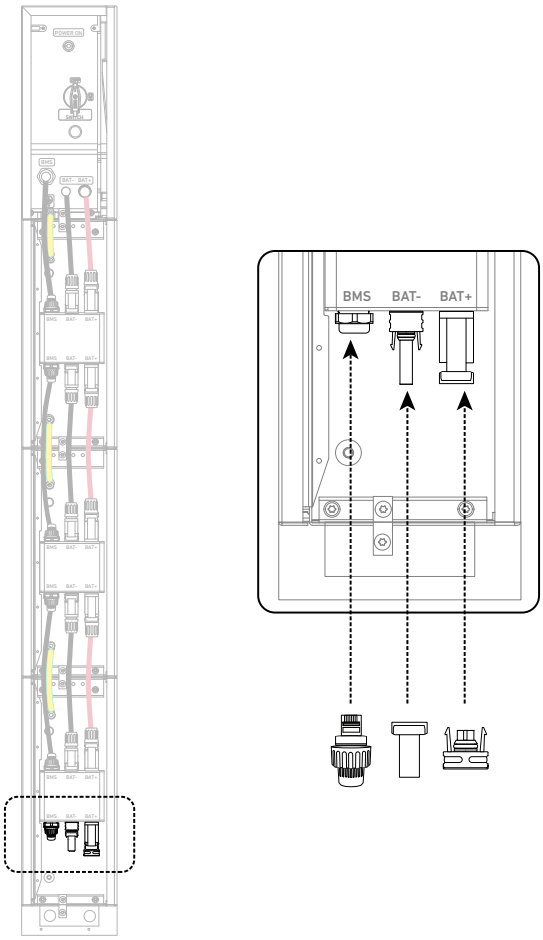
Figure: Disconnect the DC power cables.



7. Seal unused ports.

On the bottom battery module, insert an RJ45 connector (with 2×120Ω terminating resistor, included) into the BMS port, a female dustproof cap (included) into the negative DC power port (BAT-), and a male dustproof cap (included) into the positive DC power port (BAT+).

Figure: Seal unused ports.



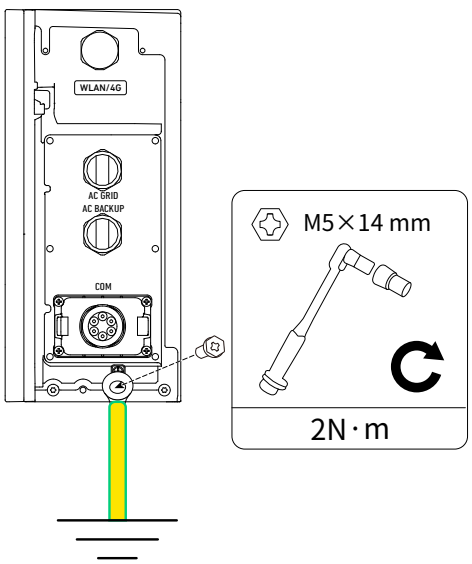
6.2 Connect Two Columns of Modules (Side by Side)

To connect two columns, which generally consist of a power module and over three battery modules, follow the steps below.

1. Connect a GND cable from the power module to the external ground point.

Refer to "*6.1 Connect One Column of Modules*" for detailed instructions.

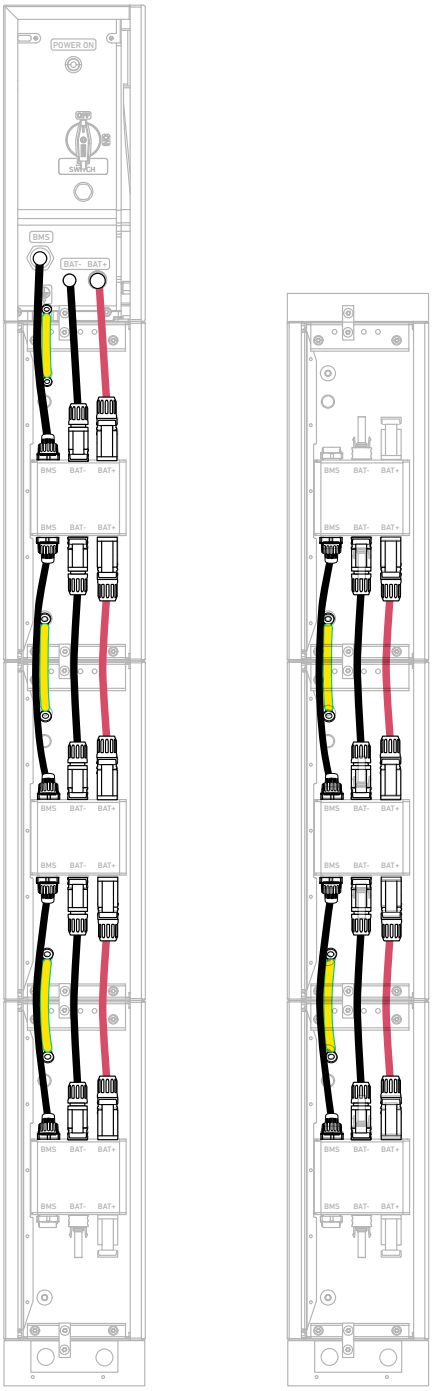
Figure: Connect to the external ground point.



2. Connect the GND, RJ45 signal, and DC power cables between vertically adjacent modules.

Refer to "*6.1 Connect One Column of Modules*" for detailed instructions.

Figure: Connect cables between adjacent modules.



3. Connect cables between the bottom modules.

❶ Thread cables through conduits.

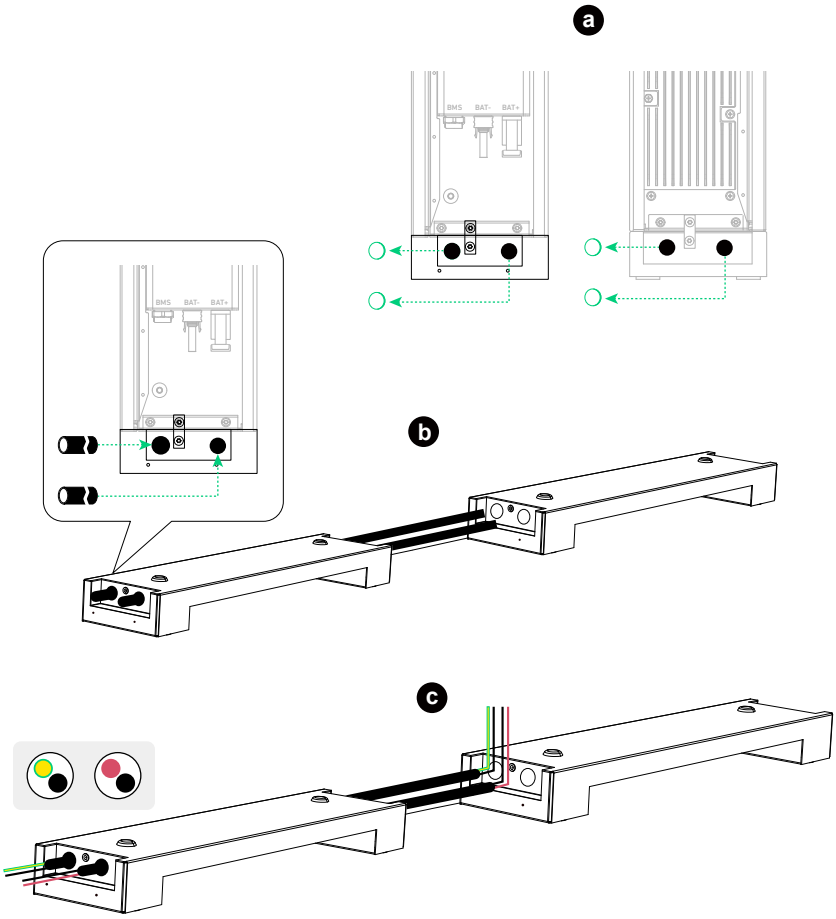
Floor-Mounted Modules

a. Remove the cable knockouts from the floor mounting base in the first column.

b. Insert two cable conduits (not included) into the openings. Use rigid metal conduits with an inner diameter of 3/4 in (20 mm) and an outer diameter of 1 in (25 mm), made of 304 stainless steel.

c. Thread a GND cable (6 mm^2, yellow/green, not included) and a signal cable (Cat 5 or higher, 5-6 mm in diameter, not included, shielding recommended) through the cable conduit near the wall.
Thread the positive DC power cable (8 mm^2, red, not included) and negative DC power cable (8 mm^2, black, not included) through the outward cable conduit.

Figure: Thread cables through conduits for floor mounting.

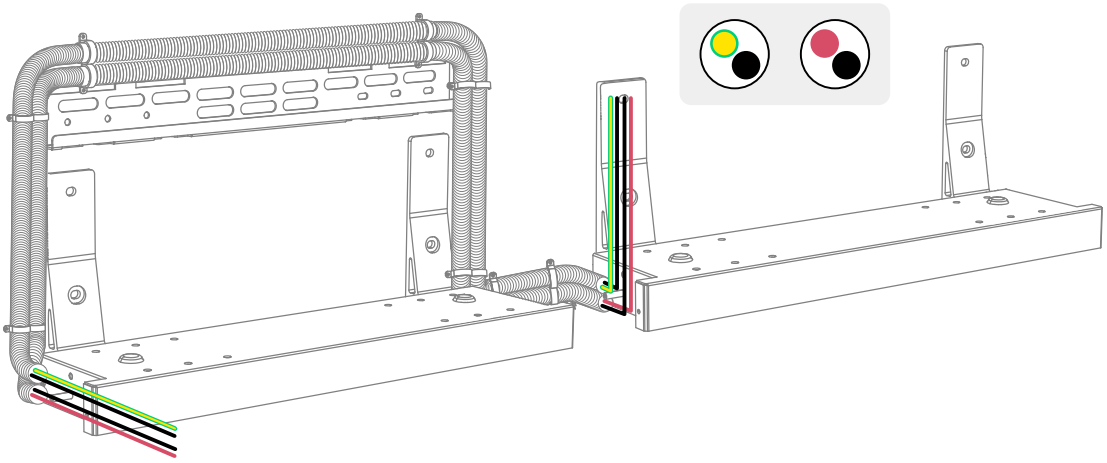


Wall-Mounted Modules

Thread a GND cable (6 mm^2, yellow/green, not included) and a signal cable (Cat 5 or higher, 5-6 mm in diameter, not included, shielding recommended) through the upper conduit.

Thread the positive DC power cable (8 mm^2, red, not included) and negative DC power cable (8 mm^2, black, not included) through the lower conduit.

Figure: Thread cables through conduits for wall mounting.



❷ Assemble the GND cable and RJ45 signal cable.

To assemble the GND cable:

a. Strip the insulation layers from both ends.

b. Insert the heat shrink tubing (included) and ring terminals (included).

c. Crimp the ring terminals onto the GND cable.

d. Wrap the crimping area with the heat shrink tubing using a heat gun.

To assemble the RJ45 signal cable:

a. Insert the signal cable into the RJ45 cable glands, and strip the insulation layers from both ends.

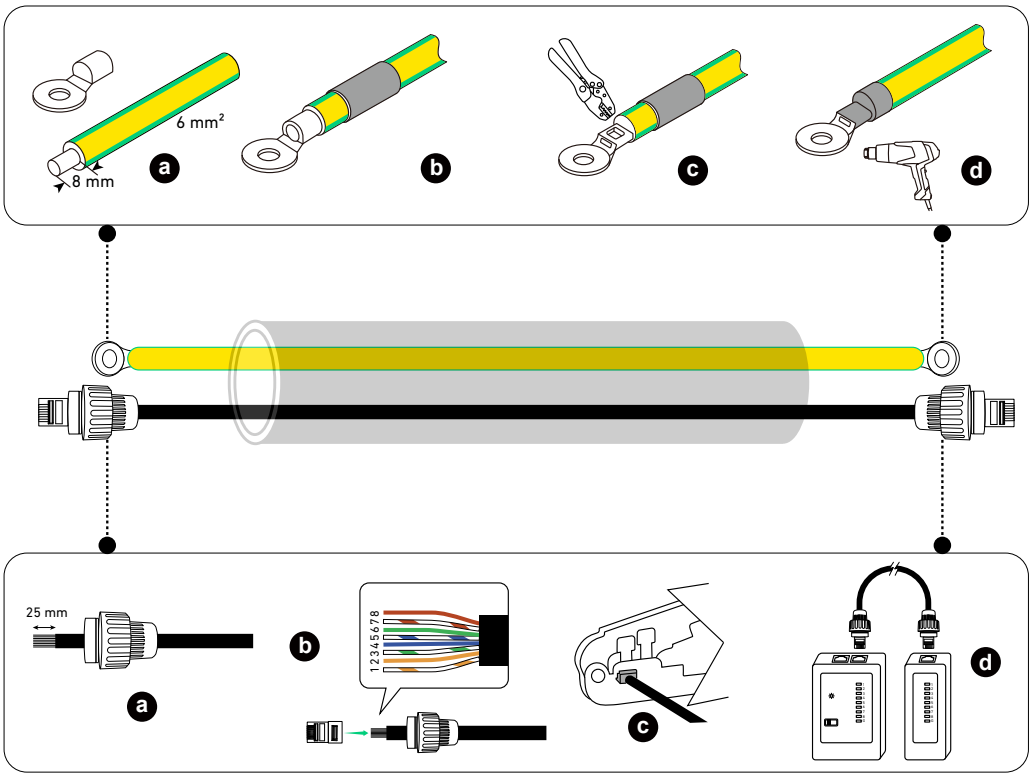
b. Insert the wires into the RJ45 connectors (included) in the EIA/TIA 568B order.

From Bottom to Top (Clip Faces Away)								
Pin	1	2	3	4	5	6	7	8
Wire color	Orange-white	Orange	Green-white	Blue	Blue-white	Green	Brown-white	Brown

c. Crimp the RJ45 connectors using the RJ45 crimping tool.

d. Use a cable tester to verify proper wiring and continuity.

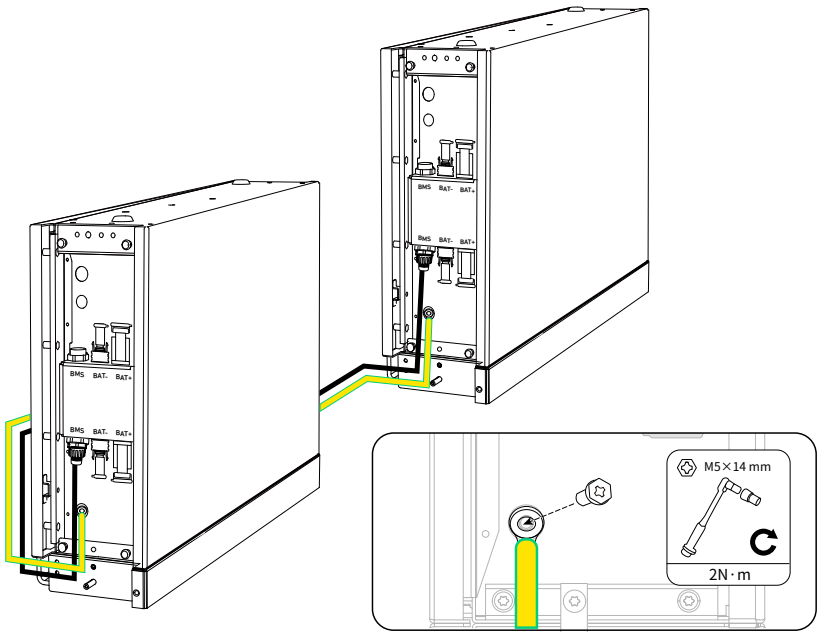
Figure: Assemble the GND cable and RJ45 signal cable.



❸ Install the GND cable and RJ45 signal cable.

On the bottom battery modules in both columns, connect the GND cable to the ground points and the RJ45 signal cable to the BMS ports.

Figure: Install the GND cable and RJ45 signal cable.



❹ Assemble the positive and negative DC power cables.

a. Strip the insulation layers from both ends.

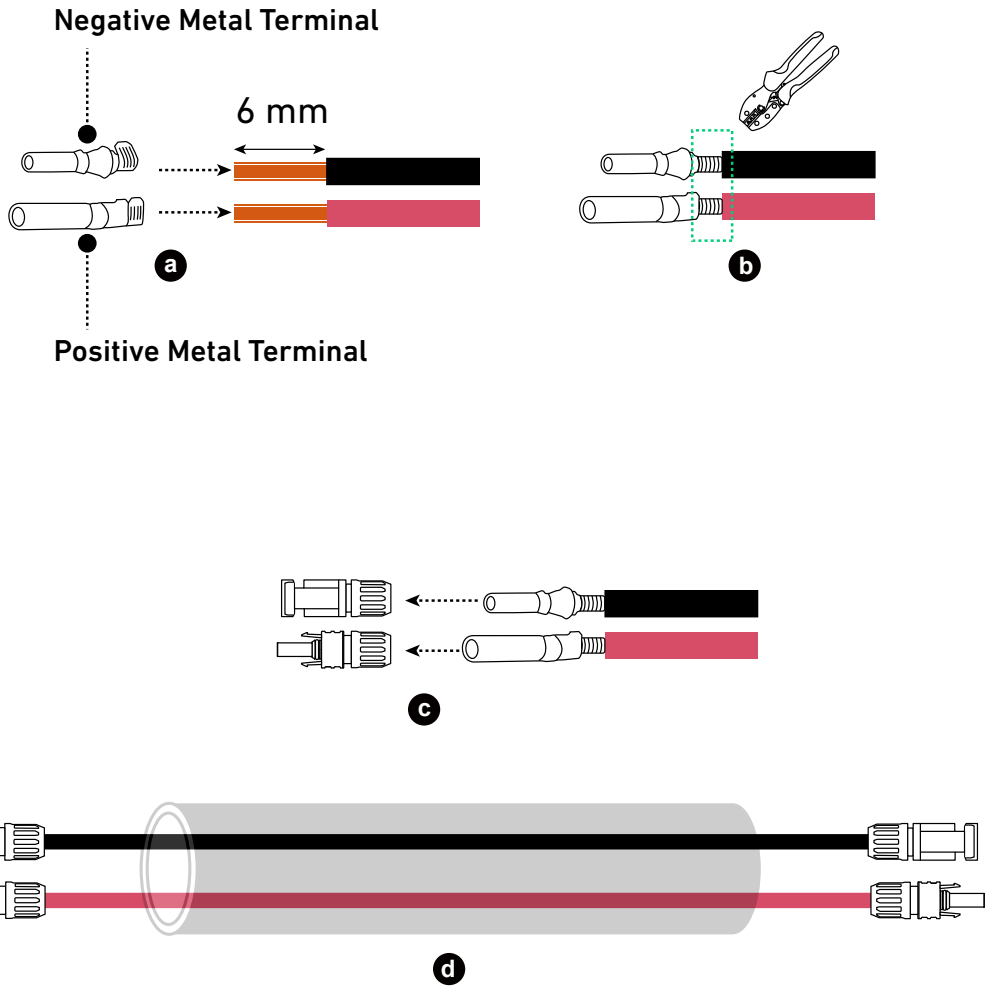
b. Crimp the positive and negative metal terminals (included) onto the corresponding cables. Make sure the terminals are

securely attached and cannot be pulled out.

c. Insert the positive and negative metal terminals into the corresponding DC power connectors. You should hear a click when they are properly connected.

d. Tighten the locking nuts to secure the connection.

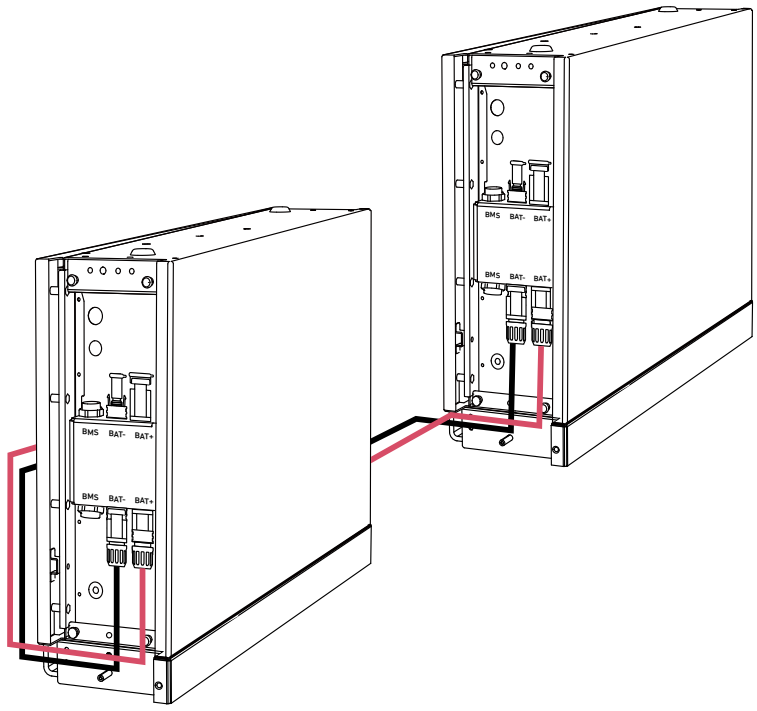
Figure: Assemble the DC power cables.



❺ Install the positive and negative DC power cables.

On the bottom battery modules in both columns, connect the negative DC power cables (black) to the negative power ports (BAT-) and the positive DC power cables (red) to the positive power ports (BAT+).

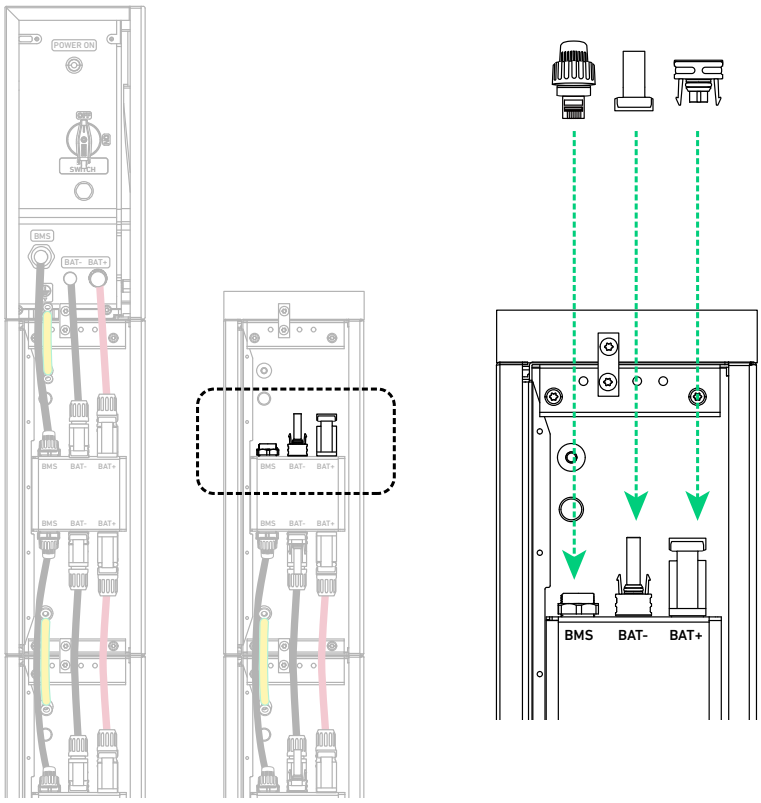
Figure: Install the DC power cables.



4. Seal unused ports.

On the top battery module in the second column, insert an RJ45 connector (with 2×120Ω terminating resistor, included) into the BMS port, a female dustproof cap (included) into the negative DC power port (BAT-), and a male dustproof cap (included) into the positive DC power port (BAT+).

Figure: Seal unused ports.



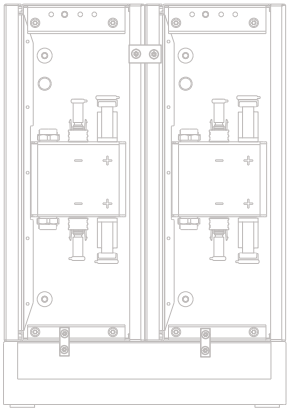
6.3 Connect Two Columns (Front and Back)

To connect two columns of modules placed front to back on the floor bridge base, follow the steps below.

❶ Connect the GND, RJ45 signal, and DC power cables between vertically adjacent modules in the second column.

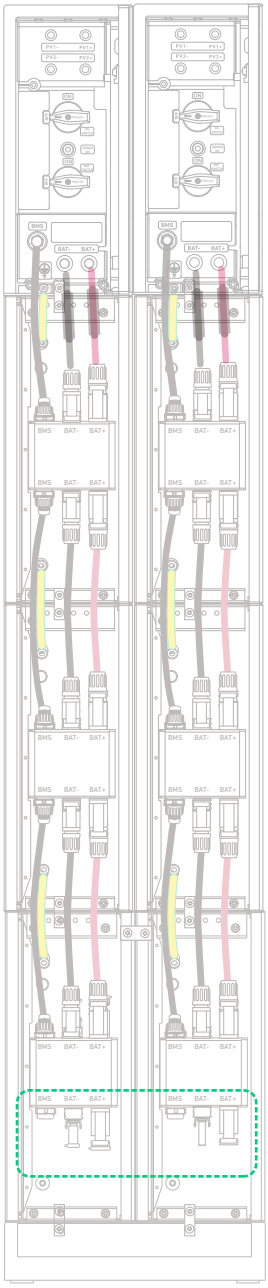
Refer to “6.1 Connect One Column of Modules” for detailed instructions.

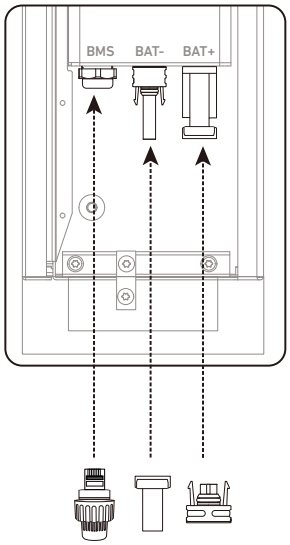
❷ When making cascaded connections between two power modules, ensure that the GND, RJ45 signal and DC power cables are not connected to the bottom modules.



❸ Seal unused ports.

On each bottom battery module, insert an RJ45 connector (with 2 × 120Ω terminating resistor, included) into the BMS port, a female dustproof cap (included) into the negative DC power port (BAT-), and a male dustproof cap (included) into the positive DC power port (BAT+).



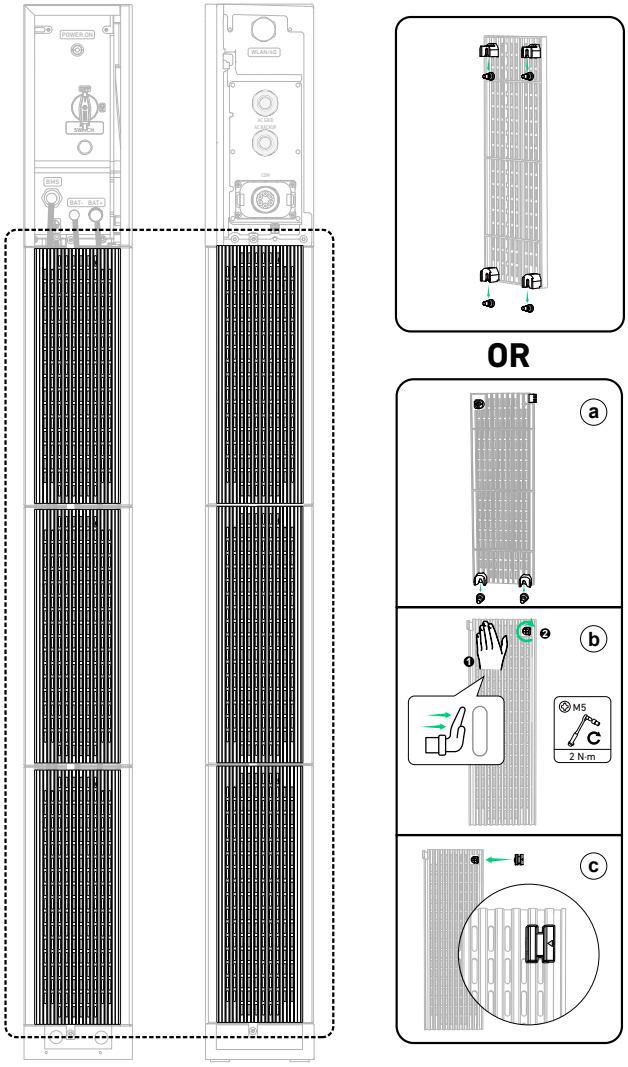


6.4 Complete Connections

1. Install the side covers* on the battery modules from the bottom up.

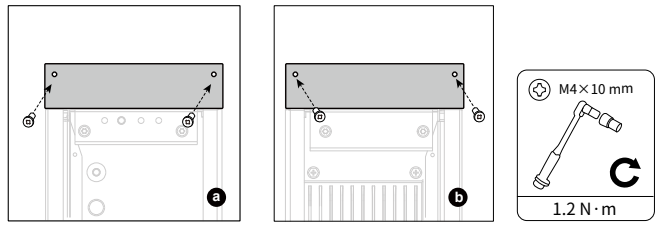
*The side covers may vary due to batch variations.

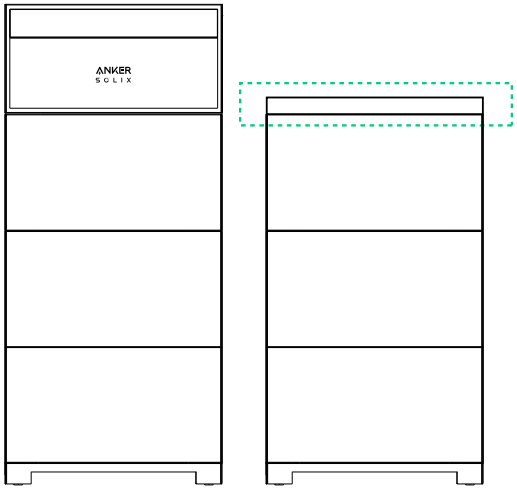
Figure: Install side covers to battery modules.



2. Install the side covers to the power module. For detailed instructions, refer to the corresponding installer guide.
3. Install the top cover baffles when installing two columns of modules.

Figure: Install the top cover baffles.





4. Install the base baffles when installing two columns of modules.

Wall-Mounted Modules

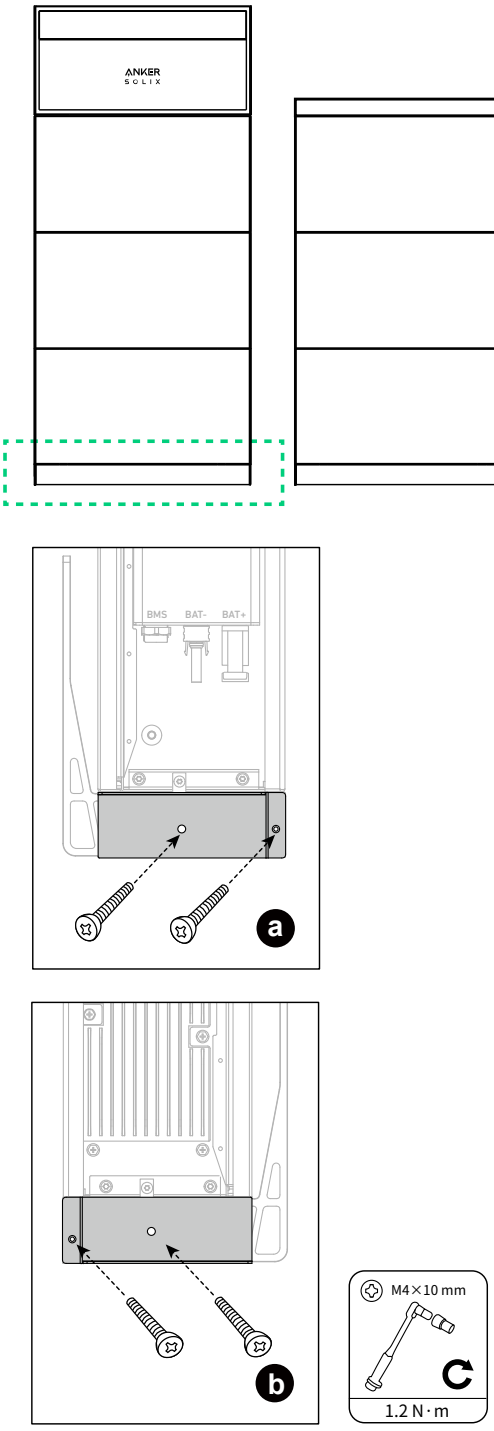


Figure: Install the base baffles for wall mounting.

Floor-Mounted Modules

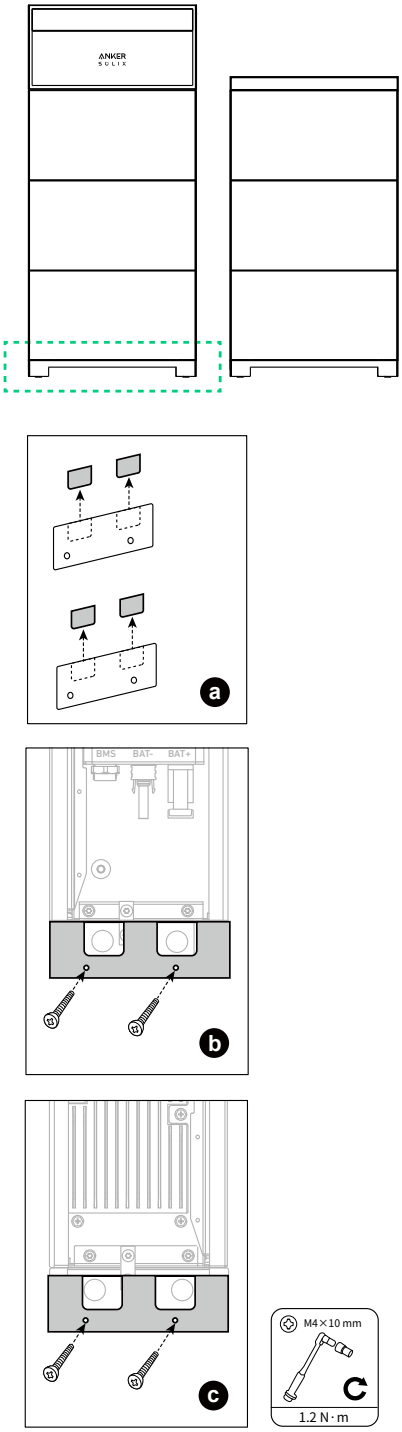


Figure: Install the base baffles for floor mounting.

7. Maintenance

7.1 Power On / Off

After commissioning, please inform the owner that the equipment can only be turned off using the Anker app until grid connection approval is granted. Once approval is complete, the equipment can be turned on and off using the Anker app.

To manually power on or off the system including the battery module, please follow the steps below.

Power Module	Power On the System	Power Off the System
AC-Coupled Models • X1-P6K-US	1. Toggle the BAT switch of the power module to ON. 2. Close the backup controller's Power Module 1 breaker and Power Module 2 breaker (if available), PV system breaker, and generator breaker (if available). 3. Close the main breaker (if available) of the backup controller.	1. Press the black start button of the power module for 8 seconds. 2. Open the backup controller's Power Module 1 breaker and Power Module 2 breaker (if available), PV system breaker, and generator breaker (if available). 3. Toggle the BAT switch of the power module to OFF. 4. Disconnect the backup controller from the grid if it is serving as the main service equipment.
AC-Coupled Models • X1-P6K-S	1. Toggle the BAT switch of the power module to ON. The power module should be connected to AC power. 2. Close the panel breaker connected to the power module.	1. Press the black start button of the power module for 8 seconds. 2. Open the panel breaker connected to the power module. 3. Toggle the BAT switch of the power module to OFF.
Hybrid Single-Phase Models • X1-H3.68K-S • X1-H4.6K-S • X1-H5K-S • X1-H6K-S	1. Toggle the BAT switch of the power module to ON. 2. Close the circuit breaker between the power module and the grid. 3. Toggle the PV switch of the power module to ON.	1. Toggle the PV switch of the power module to OFF. 2. Press the black start button of the power module for 8 seconds. 3. Disconnect the circuit breaker between the power module and the grid. 4. Toggle the BAT switch of the power module to OFF.
Hybrid Three-Phase Models • X1-H5K-T • X1-H8K-T • X1-H10K-T • X1-H12K-T		

- Only qualified professionals or trained personnel are allowed to operate and maintain the equipment.
- Use appropriate personal protective equipment (PPE) and follow safe electrical work practices.
- After the system powers off, residual electricity and heat may still cause electric shocks and burns. Wait for at least 6 minutes after powering off the system before performing any operations.
- To force a startup of the power module, press the black start button for 3 seconds. To force a shutdown of the power module, press the same button for 8 seconds.

7.2 Routine Maintenance

To ensure the energy storage system operates properly for an extended period, it is recommended to perform routine maintenance. Only qualified professionals or trained personnel are allowed to operate and maintain the equipment.

Power off the system before cleaning it, connecting cables, and ensuring grounding reliability.

Check Item	Check Method	Maintenance Interval
System cleanliness	Check periodically that the heat sinks are free from obstacles and dust.	Once every 6 to 12 months
System running status	1. Check that the battery is not damaged or deformed. 2. Check that the battery does not produce abnormal sound during operation. 3. Check that the battery parameters are correctly set when the battery is running.	Once every 6 months
Electrical connection	1. Check that cables are securely fastened. 2. Check that cables are intact, specifically ensuring the parts touching the metallic surface are not scratched. 3. Check that unused terminals and ports are secured by waterproof or dustproof caps.	The first inspection is 6 months after the initial commissioning. Afterward, the interval can be 6 to 12 months.
Grounding reliability	Check that ground cables are securely connected.	The first inspection is 6 months after the initial commissioning. Afterward, the interval can be 6 to 12 months.

7.3 Troubleshooting

Once a system fault is detected, you will receive push notifications via the Anker Professional app, web platform, or email. Please refer to the notifications for troubleshooting measures. If you require further assistance, please contact Anker Customer Service.

8. Customer Service

support@anker.com

(US/Canada) +1 (800) 988 5541
(UK) +44 (0) 1616 056 301
(DE) +49 (800) 000 2522
(AU) +61 1800 929 112
(IT) +39 800 776 561

10-Year Limited Warranty
Please visit ankersolix.com/warranty for full warranty details.

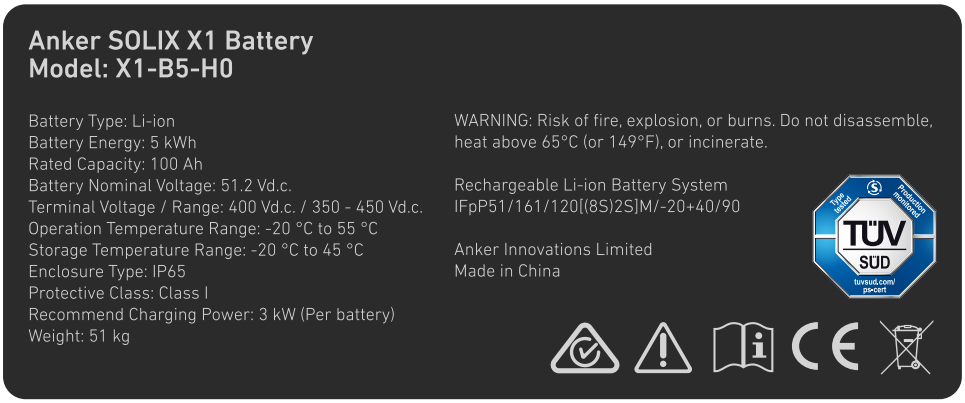
9. Product Information

9.1 Nameplate

Figure: Nameplate (X1-B5-H).



Figure: Nameplate (X1-B5-H0).



9.2 Specifications

Specifications are subject to change without notice.

Anker SOLIX X1 Battery Module

Model	X1-B5-H	X1-B5-H0
Performance		
Battery Energy[1]	5 kWh	
Battery Type	Li-ion (LFP)	
Battery Voltage Range	350 to 550 VDC	350 to 450 VDC
Maximum Charge / Discharge Power	3 kW	
Maximum Charge / Discharge Current	7.6 A	
Others		
Dimensions (W x H x D)	(670 ± 2) x (360 ± 2) x (150 ± 2) mm	
Weight	(51 ± 0.5) kg	
Enclosure Type	NEMA TYPE 4, IP66	
Operating Temperature	–20°C to 55°C	
Maximum Operating Altitude	Up to 4,000 m; Power derating from 2,000 m	
Warranty	10 Years[2]	

[1]The initial capacity (design capacity) of an expansion battery is 5 kWh. The actual capacity may vary depending on environmental conditions, such as temperature, transportation methods, and storage conditions.
[2]Refer to warranty terms for details.

Stacked Battery Modules

Model	X1-B5-H	X1-B10-HC	X1-B15-HC	X1-B20-HC	X1-B25-HC	X1-B30-HC
Number of Battery Modules	1	2	3	4	5	6
Battery Type	Li-ion					
Rated Capacity	100 Ah	200 Ah	300 Ah	400 Ah	500 Ah	600 Ah
Rated Energy Capacity	5 kWh	10 kWh	15 kWh	20 kWh	25 kWh	30 kWh
Voltage Range of Battery Module	350 to 550 VDC					

Maximum Charging / Discharging Power	3 kW	6 kW	9 kW	12 kW	15 kW	18 kW
Maximum Charging / Discharging Current	7.6 ADC.	15.2 ADC.	22.8 ADC.	30.4 ADC.	38 ADC	45.6 ADC
Ambient Operating Temperature	-20 to 55 °C					
Storage Temperature	-20 to 45 °C					
Protection Class	Class I					
Ingress Protection	IP66					
Dimensions (W x H x D)	670 × 360 × 150 mm	670 × 720 × 150 mm	670 × 1080 × 150 mm	670 x 1080 x 150 mm + 670 x 360 x 150 mm	670 x 1080 x 150 mm + 670 x 720 x 150 mm	670 x 1080 x 150 mm + 670 x 1080 x 150 mm
Weight	51 kg	102 kg	153 kg	204 kg	255 kg	306 kg

Model	**X1-B5-H0**	**X1-B10-H0**	**X1-B15-H0**	**X1-B20-H0**	**X1-B25-H0**	**X1-B30-H0**
Number of Battery Modules	1	2	3	4	5	6
Battery Type	Li-ion					
Rated Capacity	100 Ah	200 Ah	300 Ah	400 Ah	500 Ah	600 Ah
Rated Energy Capacity	5 kWh	10 kWh	15 kWh	20 kWh	25 kWh	30 kWh
Voltage Range of Battery Module	350 to 450 VDC					
Maximum Charging / Discharging Power	3 kW	6 kW	9 kW	12 kW	15 kW	18 kW
Maximum Charging / Discharging Current	7.6 ADC.	15.2 ADC.	22.8 ADC.	30.4 ADC.	38 ADC	45.6 ADC
Ambient Operating Temperature	-20 to 55 °C					
Storage Temperature	-20 to 45 °C					
Protection Class	Class I					
Ingress Protection	IP66					
Dimensions (W x H x D)	670 × 360 × 150 mm	670 × 720 × 150 mm	670 × 1080 × 150 mm	670 x 1080 x 150 mm + 670 x 360 x 150 mm	670 x 1080 x 150 mm + 670 x 720 x 150 mm	670 x 1080 x 150 mm + 670 x 1080 x 150 mm
Weight	51 kg	102 kg	153 kg	204 kg	255 kg	306 kg

10. Safety Information

10.1 IMPORTANT SAFETY INSTRUCTIONS

Symbols

Symbol	Description
CAUTION	**Caution** Indicates a low-risk hazard. Failure to avoid this hazard could result in minor or moderate injury.
WARNING	**Warning** Indicates a hazard with a moderate level of risk. Failure to avoid this hazard could result in death or serious injury.
DANGER	**Danger** Indicates a highly risky hazard. Failure to avoid this hazard could result in death or serious injury.
	Refer to Operating Instructions Indicates that users should refer to operating or installation instructions before proceeding.
6min	**Risk of Electric Shock from Stored Energy** Indicates discharge time is 6 minutes from de-energization.
	Risk of Electric Shock Indicates components that present risk of electrical shock.
	Caution, Hot Surface Indicates that equipment surfaces may be hot and pose a burn risk.

General Information

SAVE THESE INSTRUCTIONS - This document contains important instructions that must be followed during installation, use, and maintenance.

CAUTION Read instructions carefully before performing any operation on the equipment.

Do not make any changes or create settings that are not described in this document. If physical injury, loss of data, or damage is caused by failure to follow instructions, the warranty does not apply.

Battery Safety

General Instructions Regarding Removal and Installation of Batteries:

- When replacing batteries, replace with the same type and number of batteries.
- Do not dispose of batteries in a fire. The batteries may explode.
- Do not open or damage batteries. Released electrolytes may be toxic and are harmful to skin and eyes.
- A battery can present a risk of electrical shock and high short-circuit current. The following precautions should be observed when working on batteries:
  a) Remove watches, rings, or other metal objects.
  b) Use tools with insulated handles.
  c) Wear rubber gloves and boots.
  d) Do not lay tools or metal parts on top of batteries.
  e) Disconnect the charging source prior to connecting or disconnecting battery terminals.
  f) Determine if the battery is inadvertently grounded. If inadvertently grounded, remove the source from the ground. Contact with any part of a grounded battery can result in electrical shock. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance (applicable to equipment and remote battery supplies not having a grounded supply circuit).

WARNING: A BATTERY CAN PRESENT A RISK OF ELECTRICAL SHOCK, BURN FROM HIGH SHORT-CIRCUIT CURRENT, FIRE, OR EXPLOSION FROM VENTED GASES. OBSERVE PROPER PRECAUTIONS.
WHEN REPLACING BATTERIES, USE THE SAME NUMBER AND THE FOLLOWING TYPE OF BATTERIES: LiFePO4.
PROPER DISPOSAL OF BATTERIES IS REQUIRED. REFER TO YOUR LOCAL CODES FOR DISPOSAL REQUIREMENTS.

WARNING:

- Replacing a battery with an incorrect type may nullify safeguards and create danger;
- Disposal of the battery/equipment in a fire or another source of significant heat, or by mechanically crushing or cutting the battery/equipment may result in an explosion;
- Leaving the battery/equipment in an extremely hot environment may result in an explosion or leakage of flammable liquids

or gases;
- Subjecting the battery/equipment to extremely low air pressure may result in an explosion or leakage of flammable liquids or gases.

Personal Safety

WARNING Never touch the enclosure of an operating device.

- Ensure that power is off during installation. Do not install or remove a cable with the power on.
- Non-standard and improper operations on the energized equipment may cause fire, electric shocks, or explosion, resulting in property damage, personal injury, or even death.
- Before operations, remove conductive objects such as watches, bracelets, bangles, rings, and necklaces to prevent electric shocks.
- During operations, use dedicated insulated tools to prevent electric shocks or short circuits.
- Do not make contact with other conductors, or indirect contact with power supply equipment through damp objects.
- Do not power on the equipment until it has been installed or confirmed by a professional.
- Only qualified professionals or trained personnel are allowed to install, operate, and maintain the equipment.
- If there is a probability of personal injury or equipment damage during operations on the equipment, immediately stop the operation, report the case to the supervisor, and take feasible protective measures.
- Do not touch the energized equipment, as the enclosure may be hot.

Electrical Safety

CAUTION Do not disconnect under load.

DANGER Start maintaining the device at least 6 minutes after the device disconnects from all external power supplies.

- Before installation, ensure that the equipment is intact. Otherwise, electric shocks or fires may occur.
- Non-standard and improper operations may result in fire or electric shocks.
- Prevent foreign matter from entering the equipment during operations.
- Do not route cables behind the air intake and exhaust vents of the equipment.
- For the equipment that needs to be grounded, install the ground cables first when installing the equipment and remove the ground cables last when removing the equipment.
- Before installing or removing power cables, the equipment and its switches must be disconnected.
- Do not damage the grounding conductors.
- The equipment terminals are used for electrical connections only.
- Ensure that all electrical connections comply with local electrical standards.
- Obtain approval from the local electric utility company before using the equipment in grid-tied mode.
- Ensure that the cables you prepared meet local regulations.
- The maximum operating temperature for the included cables is 105°C (221 °F).
- Use dedicated insulated tools when performing high-voltage operations.
- Before making electrical connections, switch off the disconnector on the upstream device to cut off the power supply if people may come into contact with energized components.
- Before connecting a power cable, check that the label on the power cable is correct.
- If the equipment has multiple inputs, disconnect all the inputs before operating the equipment.

Environmental Requirements

- Do not expose the equipment to flammable or explosive gas or smoke. Do not perform any operation on the equipment in such environments.
- Do not store any flammable or explosive materials near the equipment.
- Install the equipment in an area far away from liquids and in a well ventilated environment.
- Do not install equipment in living spaces or habitable areas of dwelling units, such as living rooms.
- Natural disasters, such as floods, debris flows, earthquakes, and typhoons, can cause damage to equipment due to force majeure.

- To prevent fire due to high temperature, ensure that the ventilation vents or heat dissipation system are not blocked when the equipment is running.

Mechanical Safety

- Do not drill holes into the equipment.
- Wear goggles and protective gloves when drilling holes.
- When moving the equipment by hand, wear protective gloves to prevent injuries.
- Clean up any debris that may have accumulated within or around the equipment after drilling.
- Be cautious to avoid injury when moving heavy objects.

Commissioning

When the equipment is powered on for the first time, ensure that professional personnel set parameters correctly. Incorrect settings may result in inconsistency with local certification and affect the normal operation of the equipment.

Maintenance and Replacement



Only certified professionals are allowed to install and maintain the battery and external power supplies. Establish secure earth connections to mitigate high touch current before connecting to the power supply.

- High voltage generated by the equipment during operation may cause an electric shock, which could result in death, serious injury, or serious property damage.
- Prior to maintenance, power off the equipment and strictly comply with the safety precautions in this document and relevant documents.
- After powering off the equipment, wait at least 6 minutes before disassembling any cables or components.
- Maintain the equipment with proper tools, testing equipment, and sufficient knowledge of this document.
- Turn off the equipment switches when maintaining the electric devices or power distribution devices connected to the equipment.
- Place temporary warning signs or erect fences to prevent unauthorized access to the maintenance site.
- If the equipment is faulty, contact your supplier.
- The equipment can be powered on only after all faults are rectified. Failing to do so may escalate faults or damage the equipment.

10.2 Notice

Declaration of Conformity

Hereby, Anker Innovations Limited declares that this equipment is in compliance with Directives (EU)2023/1542 & 2014/30/EU & 2011/65/EU. The full text of the EU declaration of conformity is available at the following internet address: https://support.anker.com/s/articleRecommend?otherType=Anker_EN_Extemal_Manual_and_Download&secondType=doc

UK PSTI Statement

Hereby, Anker Innovations Limited declares that this equipment is in compliance with the Product Security and Telecommunications Infrastructure (Security Requirements for Relevant Connectable Products) Regulations 2023. The full text of the Statement of Compliance is available at the following website: https://www.anker.com/uk/psti-related

The following importer is the responsible party (contract for EU matters):
Anker Innovations Deutschland GmbH I Georg-Muche-Strasse 3, 80807 Munich, Germany
The following importer is the responsible party (contract for UK matters):
Anker Technology (UK) Limited I GNR8, 49 Clarendon Road, Watford, Hertfordshire, WD17 1HP, United Kingdom

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15

of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
(1) Reorient or relocate the receiving antenna.
(2) Increase the separation between the equipment and receiver.
(3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
(4) Consult the dealer or an experienced radio / TV technician for help.

The following importer is the responsible party.
Company Name: Fantasia Trading LLC
Address: 5350 Ontario Mills Pkwy, Suite 100, Ontario, CA 91764
Telephone: +1-800-988-7973

Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment can be used in portable exposure conditions.

IC Statement
This digital apparatus complies with CAN ICES (B)/NMB (B).

Déclaration IC
Cet appareil numérique est conforme aux normes CAN ICES (B)/NMB (B).



Not permitted on aircraft.



This symbol indicates "separate collection" for all batteries and accumulators. Danger of explosion if battery is incorrectly replaced. To reduce risk of fire, explosion or leakage of flammable liquid/gas, don't disassemble, crush, puncture, short external contacts, expose to temperature above 60°C (140°F), sunshine or like, expose to extremely low air pressure or dispose of in fire or water. Replace only with specified batteries.

License Holder: Anker Innovations Limited
Anker Innovations Limited I Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong