

SigenStack Energy Storage System

Installation Guide

Version: 07

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Revision History

Version	Date	Description
07	2026.07.02	Updated Installer-provided Cables .
06	2026.03.03	Updated BAT, Cover, and BC-BST/BC Installation .
05	2026.02.03	Updated Protective Ground Cable of Base MAIN . Updated BC-BST/BC DC Cable .
04	2025.11.19	Updated BAT, Cover, and BC-BST/BC Installation .
03	2025.09.28	Updated Location Requirements .
02	2026.09.19	Updated Installer-provided Cables .
01	2025.08.15	First official release.

Preface

Overview

This document primarily describes the installation, wiring, power-on, and creation of a new system for the SigenStack energy storage system.

Intended Audience

- Professionally trained and qualified installers.
- Technical support engineers.

Icon Definition

The following icons may be used in the document to indicate safety precautions or key information. Before installation and operation, please be familiar with and master the icons and the corresponding definitions.

Icon	Definition
 Danger	Danger. Indicates an imminently hazardous situation which, if not avoided, will result in death or serious personal injury.
 Warning	Warning. Indicates an imminently hazardous situation which, if not avoided, will result in serious personal injury or property damage.
 Caution	Caution. Indicates a potentially hazardous situation which, if not avoided, will result in property damage.
Tips	Indicates important or key information and provides operation tips.

Chapter 1 Important Notice

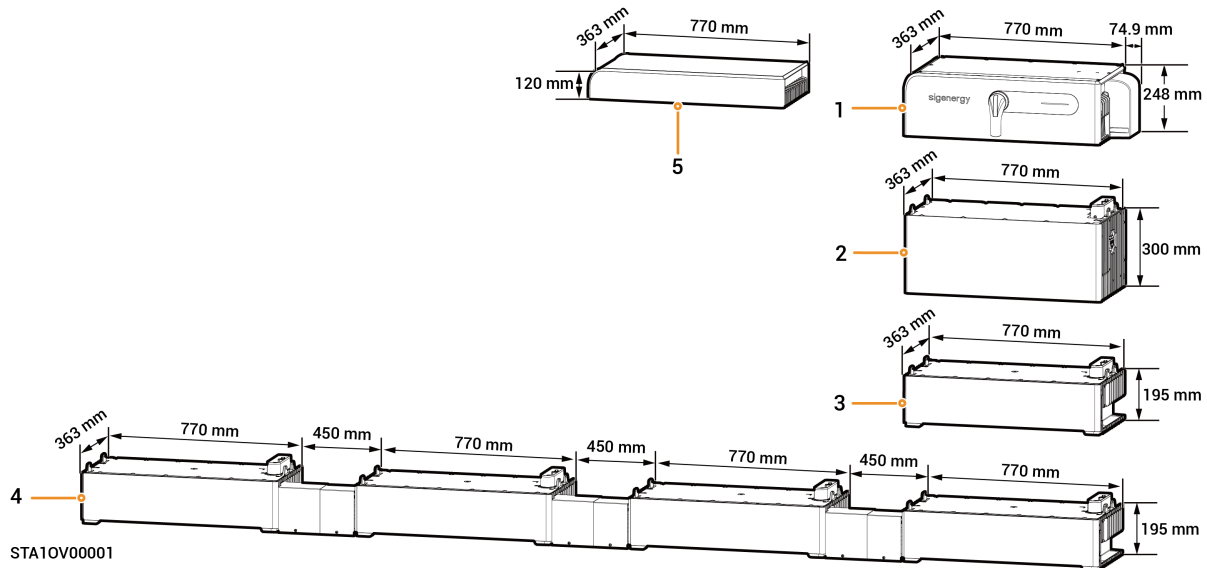


Caution

- Only trained or qualified persons with electrical engineering knowledge can work directly on the device.
- Operators should be familiar with national and local laws, regulations, and standards, and the compositions and operating principles of relevant systems.
- Before operations, please carefully read operating requirements and precautions in this document and [User Manual](#). Any device damage caused by improper operation will not be covered under warranty.

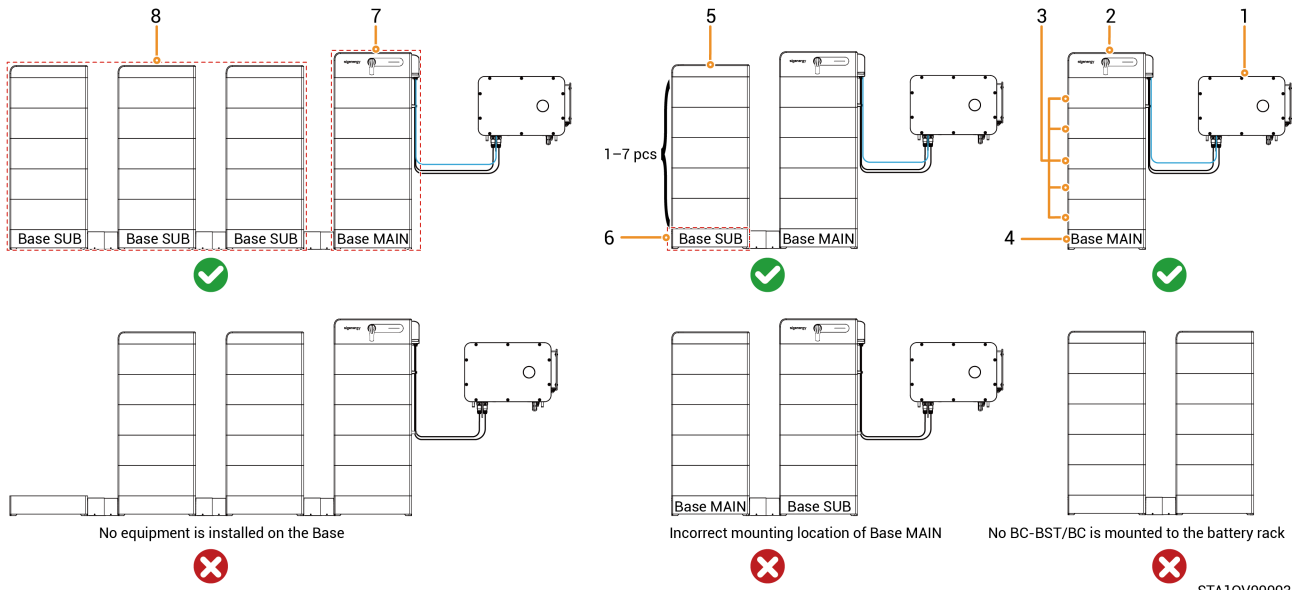
Chapter 2 Product Introduction

Appearance and Dimensions



No.	Model	Description	Abbreviated Form
1	SigenStack BC M2-1C-BST	Battery controller (including DC-DC boost converter module).	BC-BST
	SigenStack BC M2-0.5C-BST		
	SigenStack BC M2-1C-BST-L		
	SigenStack BC M2-0.5C-BST-L		
	SigenStack BC M2-0.5C	Battery controller.	BC
2	SigenStack BAT 12.0	Energy storage battery.	BAT
3	SigenStack Base MAIN-0.5C	Main base, used for the Main Stack containing the battery controller.	Base MAIN
	SigenStack Base MAIN-1C		
	SigenStack Base SUB-0.5C	Auxiliary base, used for the Sub Stack containing the energy storage battery top cover.	Base SUB
	SigenStack Base SUB-1C		
4	SigenStack Base 4S-0.5C	Quadruple base, including one main base and three auxiliary bases.	Base 4S
5	SigenStack Cover	Energy storage battery top cover, used for the Sub Stack containing auxiliary bases.	Cover

Configuration Overview



The SigenStack energy storage system cannot currently be integrated with our company's SigenStor series devices. If you have any questions, please contact our technical personnel.

No.	Description	No.	Model
1	Sigen	Sigen C&I inverter	
7	Main Stack inverter	2	SigenStack BC M2-0.5C/0.5C-BST/1C-BST/0.5C-BST-L/1C-BST-L
		3	SigenStack BAT 12.0
		4	SigenStack Base MAIN-0.5C/1C
8	Sub Stack	5	SigenStack Cover
		3	SigenStack BAT 12.0
		6	SigenStack Base SUB-0.5C/1C

Tips

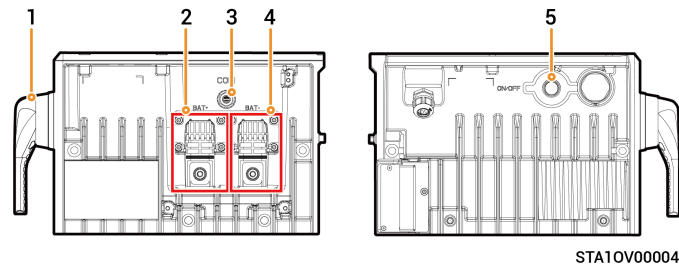
- Each inverter can connect to 4 to 21 BAT units.
- 1 to 7 BATs can be mounted onto both the Main Stack and the Sub Stack.
- Base MAIN works with BC-BST or BC, and Base SUB works with the Cover.
- BC-BST application scenarios in energy storage systems:
 - AC-side rated phase-to-phase voltage greater than 400 V
 - Applicable to PV storage system wiring
 - Applicable to pure storage system wiring, connected to the Sigen PV HYA series inverter and BATs ≤ 19 in the energy storage system
 - Applicable to pure storage system wiring, connected to the Sigen PV HYB series inverter
- BC application scenario in energy storage systems:

Tips

- Applicable to pure storage system wiring, connected to the Sigen PV HYA series inverter and BATs ≥ 20 in the energy storage system

Overview of Ports and Switches

Fig 2-1 SigenStack BC M2-0.5C/0.5C-BST/1C-BST/0.5C-BST-L/1C-BST-L



No.	Description	Marking
1	Disconnecting switch	–
2	Battery power port (+)	BAT+
3	Communication port	COM
4	Battery power port (-)	BAT-
5	Power button	ON/OFF

Chapter 3 Location Requirements

Tips

- Before installing the device, be sure to read the following installation requirements carefully. The company shall not be held liable for any device malfunction, damage, or personal injury occurring during operation due to failure to follow operational requirements.
- During actual installation, the selection of the installation location should simultaneously meet local building, fire protection, environmental protection and other regulations and technical specifications. Reference standards include, but are not limited to, "GB 51048 Design Code for Electrochemical Energy Storage Station", "GB 50016 Code for Fire Protection Design of Buildings", "NFPA 855 Standard for the Installation of Stationary Energy Storage Systems", etc. The specific installation location plan shall be determined by the installer or EPC (Engineering, Procurement, Construction) requirements.

Installation Environment Requirements

- Do not install the device in a smoky, flammable, or explosive environment.
- Do not install the device in an environment with conductive metal dust or magnetic dust.
- Do not install the device in an environment that is prone to mold and fungi.
- Do not install the device in an environment with strong electromagnetic interference (EMI).
- The temperature and humidity of the installation environment should meet device requirements.
- The device shall be installed in an area at least 500 m from corrosion sources such as areas with high salinity or high acidity (corrosion sources include, but are not limited to, seacoasts, thermal power plants, chemical plants, smelters, coal plants, rubber plants, electroplating plants, etc.).
- To ensure the device's long-term stable operations and optimal heat dissipation performance, avoid installing the device in environments with severe air pollution (such as excessive oil, dust, or fiber lint). Failure to do so may result in performance derating. If installation in such environments is unavoidable, regularly clean the dirt from the heat-dissipation channels.

Installation Location Requirements

- Do not tilt the device or place it upside down. Ensure that the device is horizontally installed.
- Do not install the device in a place with fire hazards or is prone to moisturizing.
- Do not install the device in locations that are sealed, poorly ventilated, lacking fire protection measures, or difficult for firefighters to access.
- Do not install the device under water sources, including but not limited to water pipes and air conditioner outlet windows, where condensate or water leakage may occur. Otherwise, liquid may enter the device and cause short circuit.

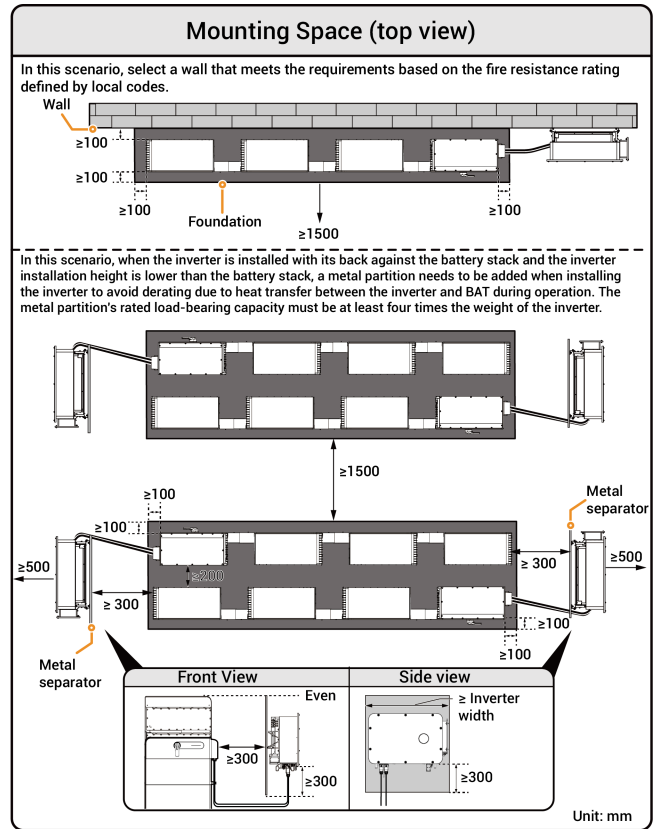
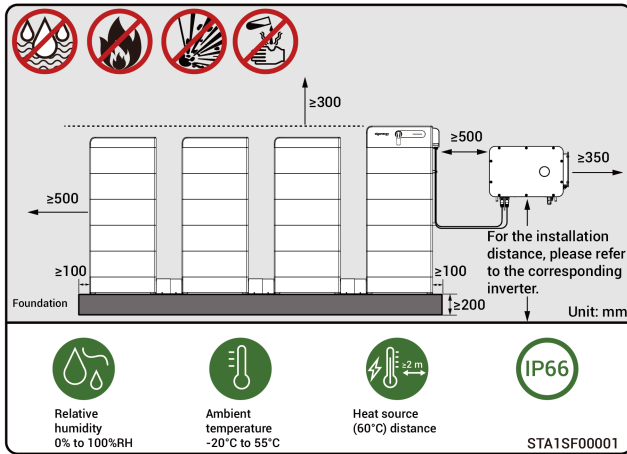
- Do not install the device in mobile scenarios such as recreational vehicles, cruise ships, and trains.
- The device is hot when it is operating. Ensure that the installation environment is well ventilated. Do not allow the ambient temperature to rise by more than 5°C due to device operation, and prevent the temperature increase from causing device derating.
- The device generates heat when it is operating. Do not install the device in areas easily accessible to heat dissipation surfaces.
- You are recommended to install the device in a location where you can easily access, install, operate, maintain it, and view the indicator status.

Installation Base Requirements

- The device must be installed on concrete or other non-combustible surfaces, and the mounting location must be level, solid, and flat and feature sufficient load-bearing capacity.
- The device foundation should be prepared according to the total weight of the device. Recheck the foundation design if the load-bearing capacity is insufficient.
- The device foundation can be drilled for the installation of expansion bolts.
- Ensure that the height of the device base is above the highest recorded water level in the area and at least 200 mm above the ground level, and avoid installing the device in low-lying areas prone to waterlogging.
- The foundation should not have a contact surface level error of greater than 3 mm with the device. Avoid local stress that may lead to instability.
- The installation base should be flat, and the installation area should meet the installation space requirements.
- No plumbing or electricity routing should be inside the installation base to avoid potential drilling hazards during device installation.
- The base of the device is made of aluminum. Suppose the device is installed on a metal base that is prone to electrochemical corrosion (such as high-chromium stainless steel, austenitic stainless steel, nickel-plated steel, etc.). In that case, insulation pads must be placed between the device and the base. (such as non-metallic PC insulation pads, PTFE insulation pads, PVDF insulation pads, etc.)

Tips

- To ensure optimal performance of the device, it is suggested that the installation distance between the device and surrounding obstacles be planned with reference to the diagram. If the installation site is well-ventilated, the optimal solution may be deployed based on actual requirements.
- To ensure unobstructed access for installation tools (such as lifting tools or forklifts), it is suggested that a clearance of at least 1500 mm be reserved in front of the battery stack, which may be adjusted based on actual conditions.
- After installation, please ensure that there is no water accumulation at the bottom of the device, and add drainage channels if necessary.



Chapter 4 Inspections Before Installation

4.1 Appearance and Included Components

1. Check that the outer packaging is intact without damage (including labels), and verify the model number. If any abnormality is found, do not unpack and contact your installer or sales representative promptly.

Tips

- ❑ To ensure the device remains as new, it is recommended not to remove the outer packaging too early. It is recommended to unpack within 24 hours before installation.
- ❑ During unpacking, handle with care to avoid damaging the device. Damage to devices caused by human actions (such as stepping on or dragging the device) is not covered by the company's warranty.

2. After unpacking, immediately inspect the device for any visible damage, scratches, deformation, correct model, and intact and clear labels. If any abnormality is found, contact your installer or sales representative without delay.
3. Check whether the components are entirely supplied against the packing list and whether the appearance is in good condition. For any problem, contact your installer or sales representative.

Tips

Components and accessories supplied with the packing box are personal assets of the owner and must not be taken away from the installation site.

4.2 Personal Protective Equipment

Check and ensure the completeness of personal protective equipment; replenish if necessary.



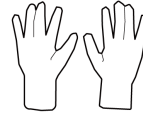
Safety hat



Goggles



Dust mask



Protective gloves



Insulating gloves



Insulating shoes

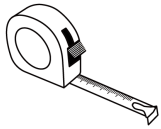


Safety vest

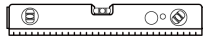
4.3 Installer-provided Tools

Check and ensure the completeness of connection tools; replenish if necessary.

Tools for Device Installation



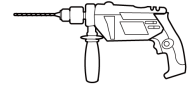
Tape measure



Spirit level



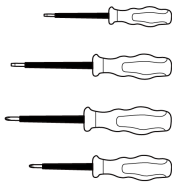
Marker



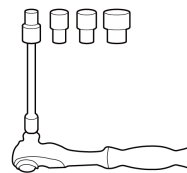
Power drill



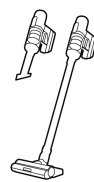
Digital torque socket wrench



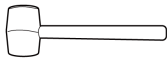
Insulated screwdriver set



Insulated socket wrench



Vacuum cleaner



Rubber mallet



Stainless steel plastic-covered wire rope
(Preparation required for lifting installation if our company's lifting tools are not purchased)

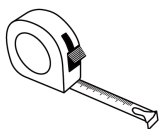


Forklift

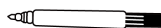


6 mm hexagonal L-shaped wrench

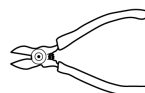
Tools for Wiring



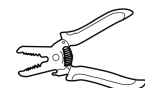
Tape measure



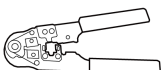
Marker



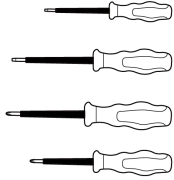
Wire cutter



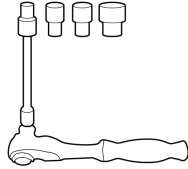
Wire stripper



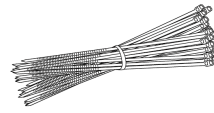
Network cable pliers



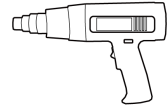
Crimping pliers



Scissors



Open-end wrench
(Model: H4TW0008;
Supplier: Amphenol)



Insulated screwdriver
set



Insulated socket wrench

Cable ties

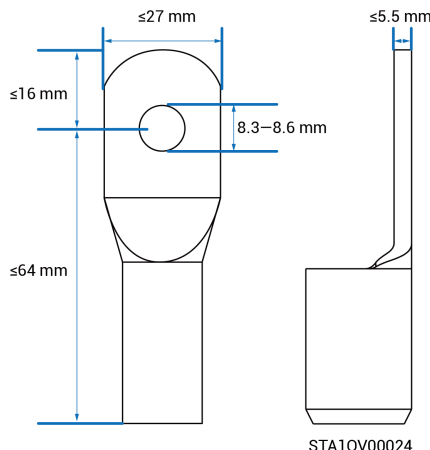
Heat gun

Heat shrinkable sleeve

4.4 Installer-provided Cables

Caution

- Check and ensure the correctness of quantity and specifications of the installer-provided cables; re-prepare if necessary.
- The installer-provided wire specifications shall conform to the regulations and standards on cables in the countries/regions where they are located.

No.	Cable Name	Recommended Specification
1	Protective Ground Cable of Base MAIN	Outdoor single-core copper cable Cable cross-sectional area: $\geq 25 \text{ mm}^2$
2	DC cables between the inverter and BC-BST/BC ^[1]	Outdoor single-core copper cable ● Rated voltage: 1500 Vd.c. ● Cable cross-sectional area (S): 70 mm^2 to 120 mm^2 ● Cable outer diameter: 11 mm to 22 mm ● Single cable length (L): $\leq 50 \text{ m}$ ● Use M8 OT/DT terminals; refer to the recommended dimensions in the illustration. 
3	Signal cable between the inverter and BC-BST/BC	Outdoor shielded twisted-pair cable (eight-core) or an EIA/TIA 568B-compliant network cable ● Conductor cross-sectional area: 0.13 mm^2 to 0.2 mm^2 ● Outer diameter: 4 mm to 7.5 mm ● Single cable length: $\leq 50 \text{ m}$ ^[2]

Note [1]:

- Recommended: When $S = 70 \text{ mm}^2$ and ambient temperature $\leq 40^\circ\text{C}$, $L \leq 10 \text{ m}$; when $70 \text{ mm}^2 < S \leq 120 \text{ mm}^2$, $10 \text{ m} < L \leq 50 \text{ m}$.
- You may also purchase the DC cables between the inverter and BC-BST/BC provided by our company. For details, contact our technical personnel.

Note [2]: The cable length should be limited for good communication. Too long cable degrades the communication effect.

Chapter 5 Device Installation



Caution

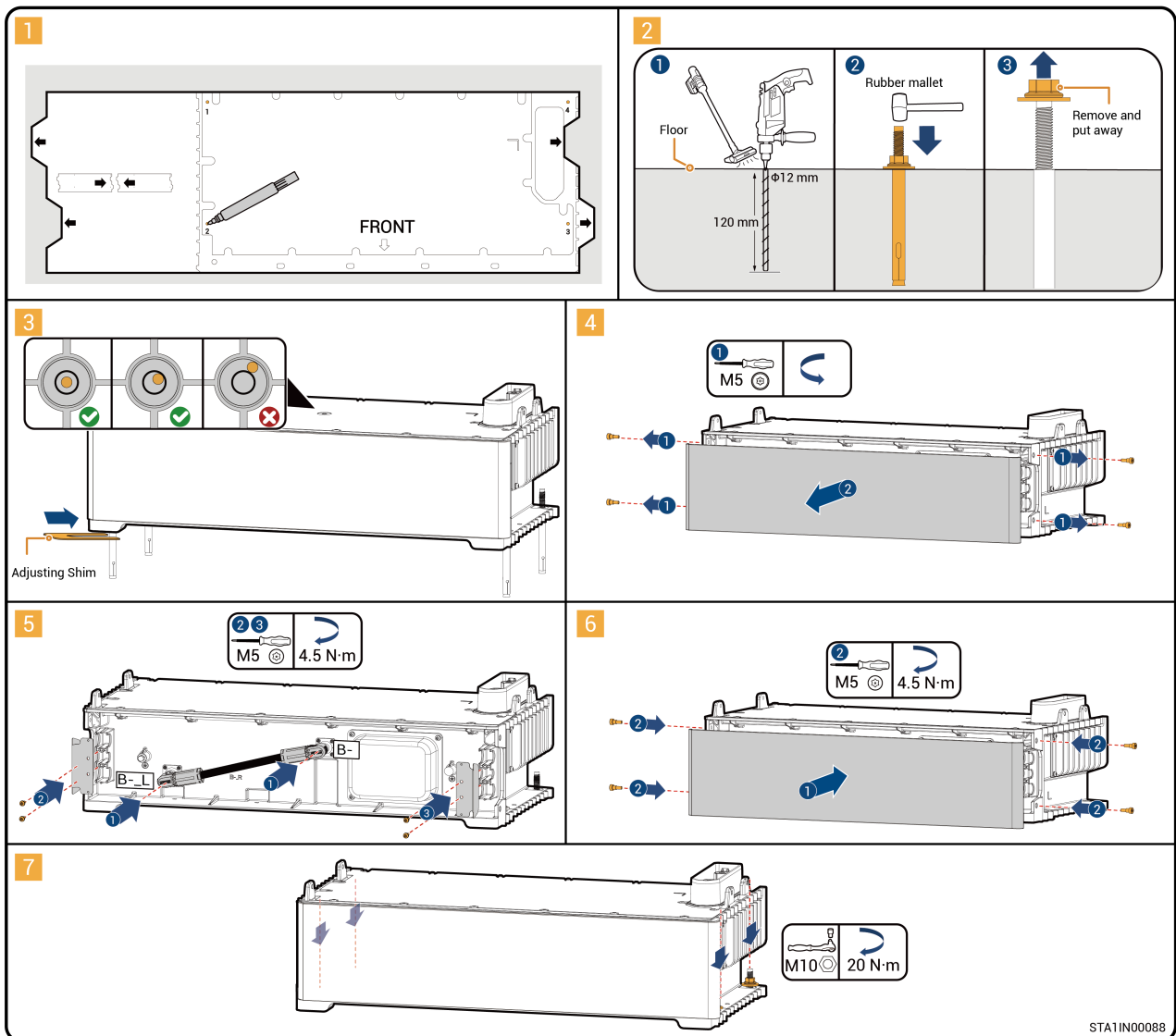
- The device is heavy. Do not slide it during handling to prevent it from falling and injuring the operator.
- During the installation process, avoid rain, snow, wind, sand, and other foreign objects from entering the device port.

5.1 Base installation

Base installation methods vary depending on the specific scenario. Refer to the instructions in the corresponding section for the actual installation environment.

5.1.1 Single Battery Stack

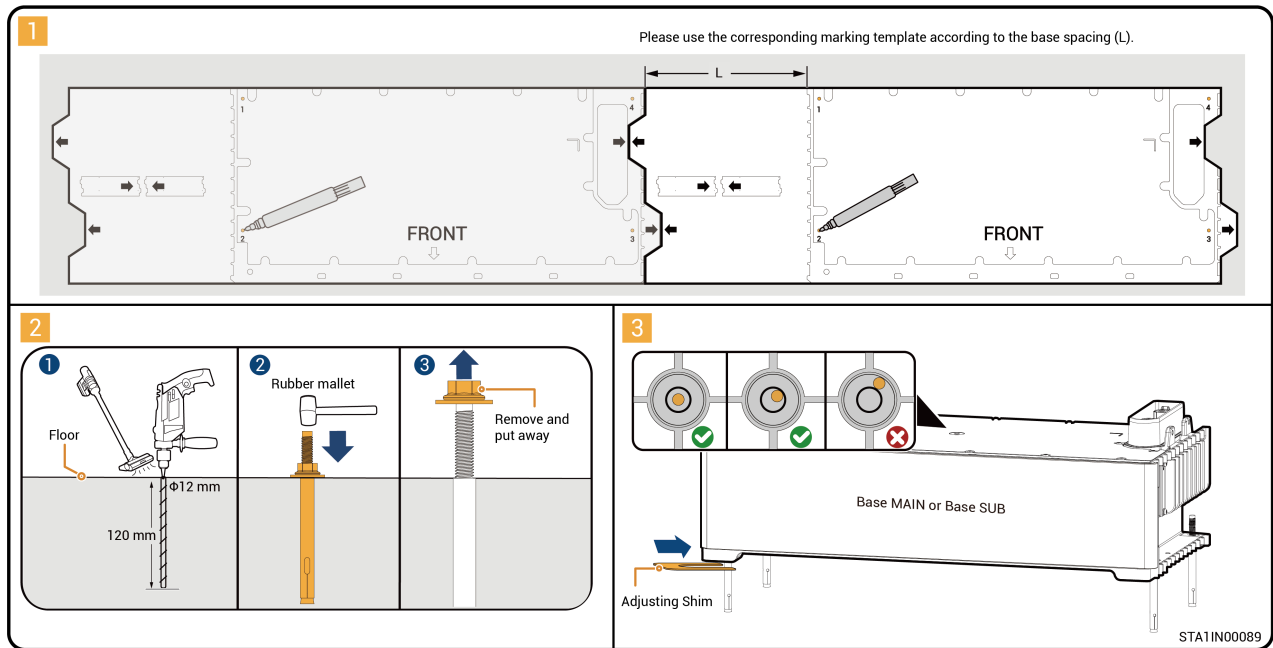
- Refer to the description on the marking template to locate the mounting holes and drill the holes.
- If there is a gap between the base and the plane after placement, a shim provided with the box can be placed in the gap.



5.1.2 Multiple Battery Stacks

Base Placement

- When installing multiple bases, it is necessary to splice the marking template before locating and hold drilling.
- If there is a gap between the base and the plane after placement, a shim provided with the box can be placed in the gap.

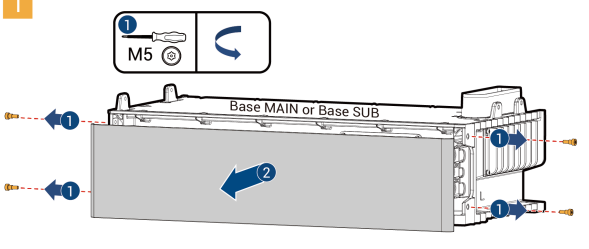


Base Wiring

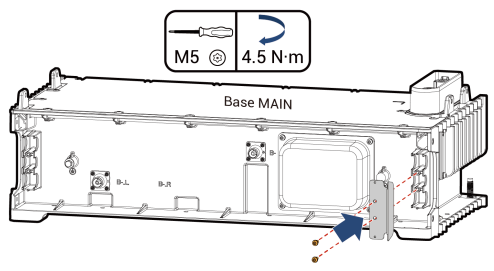
Table 5-1 Port Description

Marking	Description	Marking	Description	Marking	Description	Marking	Description
B+	Battery stack positive connection port	B- _R	Bus- right connection port	B+ _R	Port on the right side of the auxiliary Bus+	B+ _L	Port on the left side of the auxiliary Bus+
B-	Battery stack negative connection port		Grounding point	BAL _R	Battery balancing right connection port	BAL _L	Battery balancing left connection port
B- _L	Bus- left connection port	-	-	COM _R	Communication port on the right of the battery	COM _L	Communication port on the left of the battery

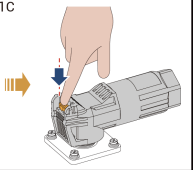
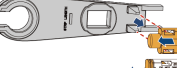
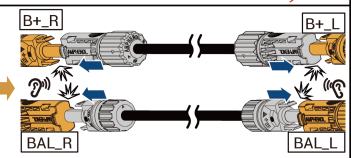
1



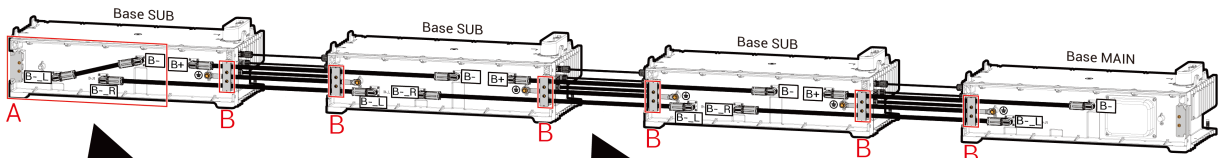
2



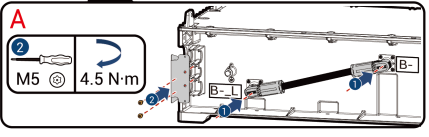
3 Cables are supplied with the packing box.

Connection between Base SUB and Base SUB		Connection between Base SUB and Base MAIN		Wiring diagram	
Base SUB	Base SUB	Base SUB	Base MAIN		
B+	B-	B+	B-	Base MAIN-0.5C/Base SUB-0.5C	Base MAIN-1C/Base SUB-1C
B+_R	B+_L	B+_R	B+_L		
B+_R	B+_L	B+_R	B+_L		
BAL_R	BAL_L	BAL_R	BAL_L		
COM_R	COM_L	COM_R	COM_L		

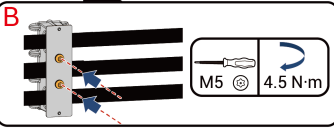
Example of the docking relationship



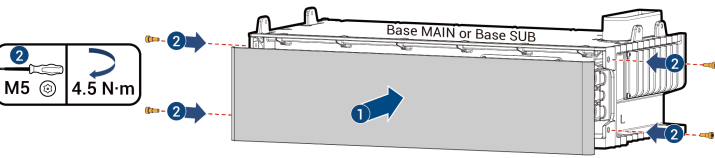
A



B



4

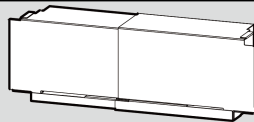


STA1IN00090

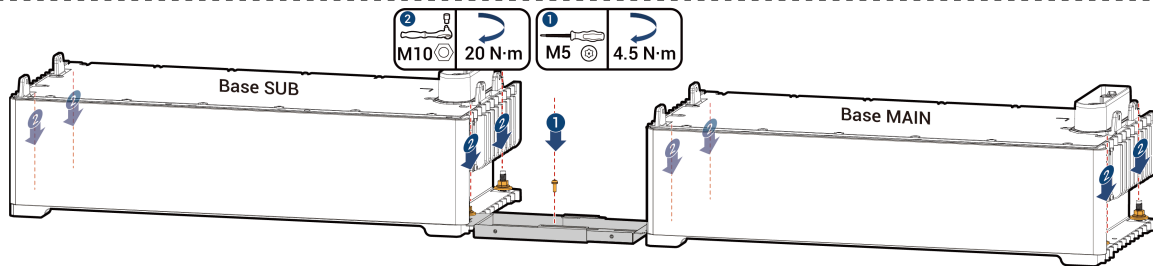
Base Fixing

The base wire protective box is available in two different appearances. Please refer to the corresponding steps based on the actual product received.

Appearance 1

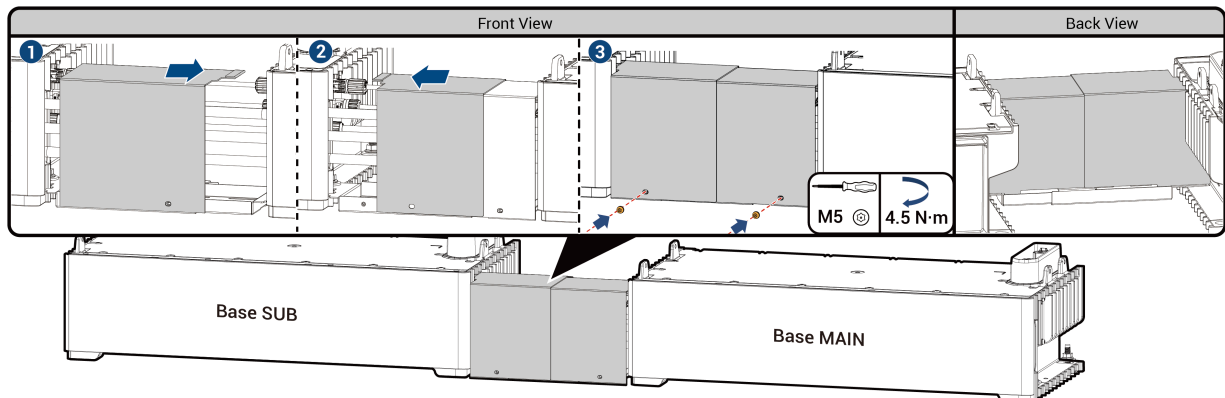


1

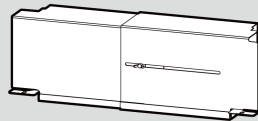


2

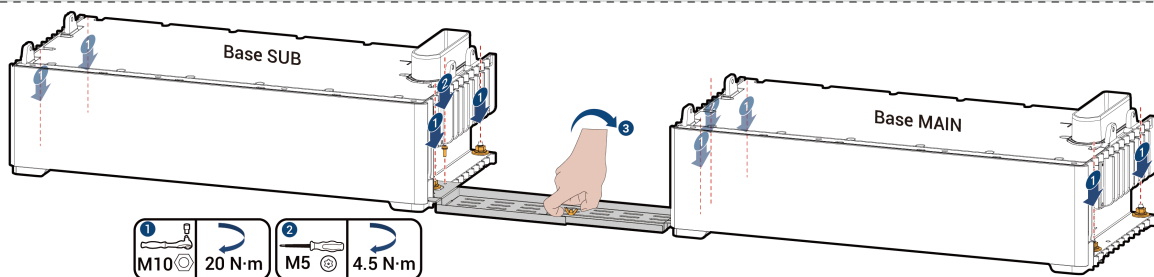
Before this step, you may choose to tie the cables as needed.



Appearance 2

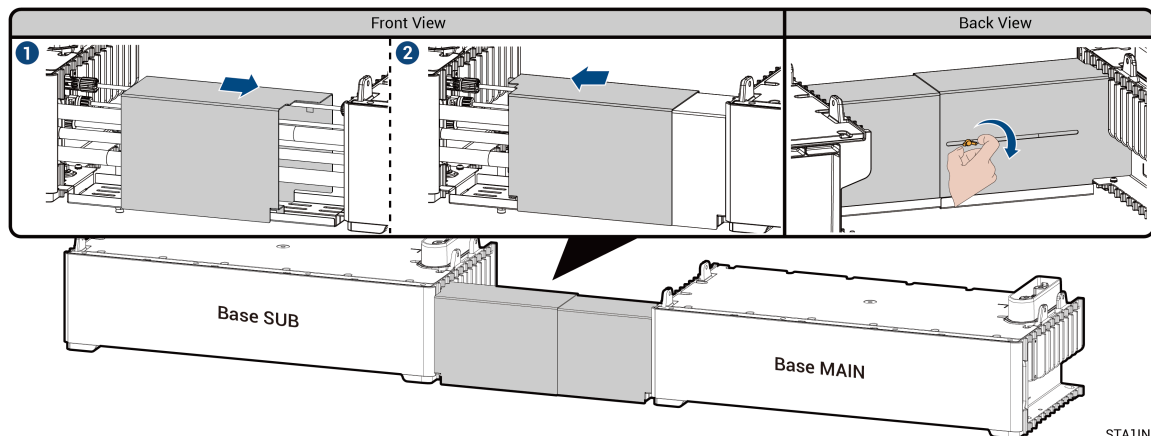


1



2

Before this step, you may choose to tie the cables as needed.

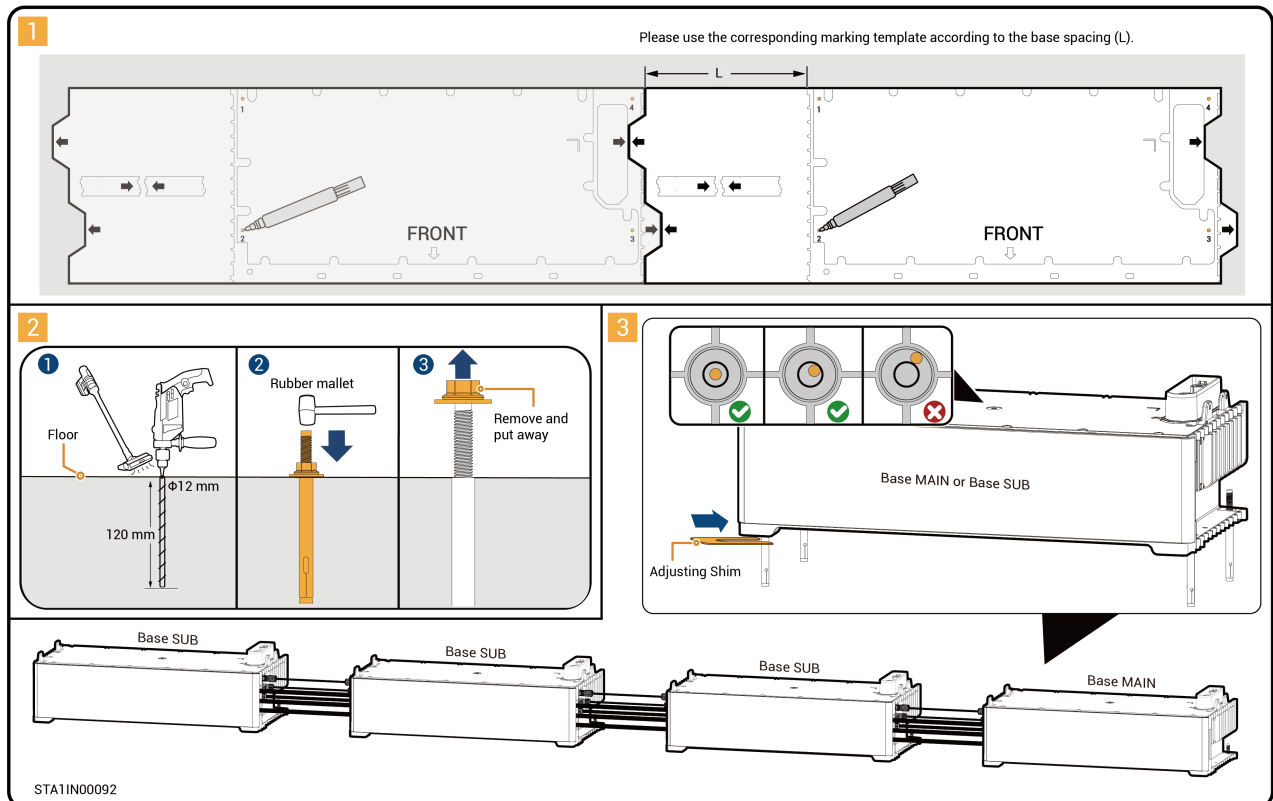


STATIN00091

5.1.3 Quadruple Base

- If the base you purchased is Base 4S, have multiple people carry and place the base at the designated fixed location.
- If there is a gap between the base and the plane after placement, a shim provided with the box can be placed in the gap.

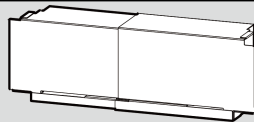
Base Placement



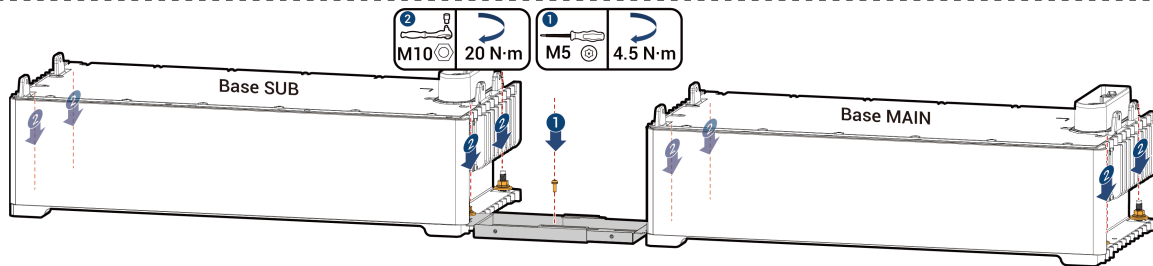
Base Fixing

The base wire protective box is available in two different appearances. Please refer to the corresponding steps based on the actual product received.

Appearance 1

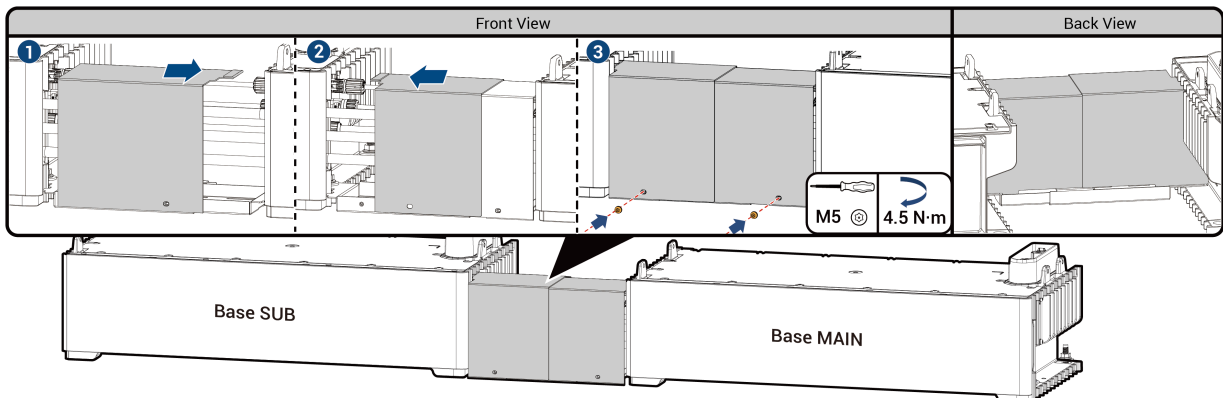


1

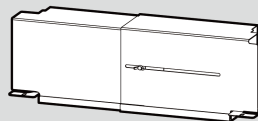


2

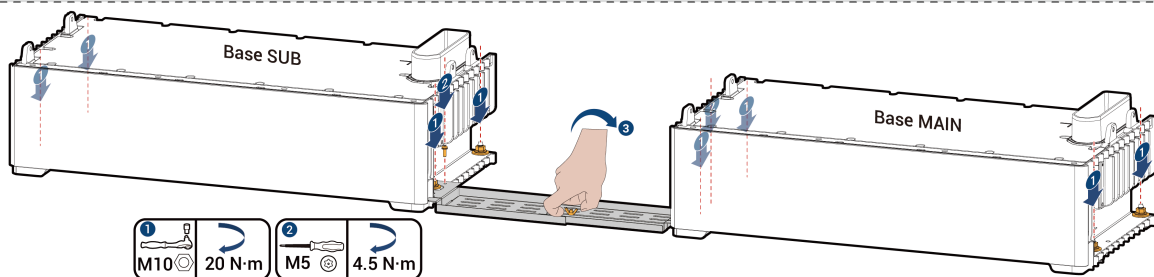
Before this step, you may choose to tie the cables as needed.



Appearance 2

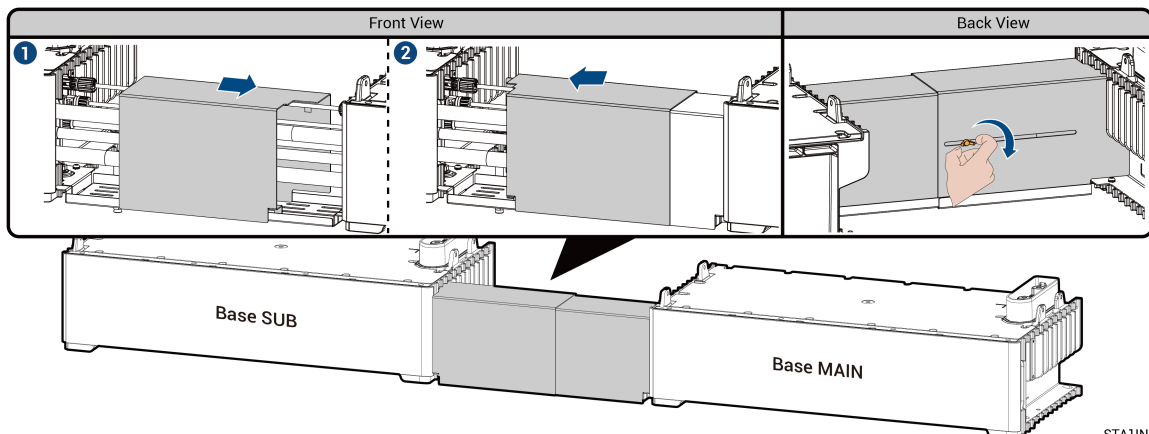


1



2

Before this step, you may choose to tie the cables as needed.



STATIN00091

5.2 BAT, Cover, and BC-BST/BC Installation



Caution

- The device is heavy. Please handle it with care to avoid sprains, crushing injuries, or other harm.
- Do not use the BAT that has been dropped. Replacement is at your own expense.
- Do not drag the device during installation.
- Check that the handles of the BAT are securely attached before lifting. The number of devices to be installed via per set of handles is recommended to be no more than 100. If the handles become deformed, please replace the handles.

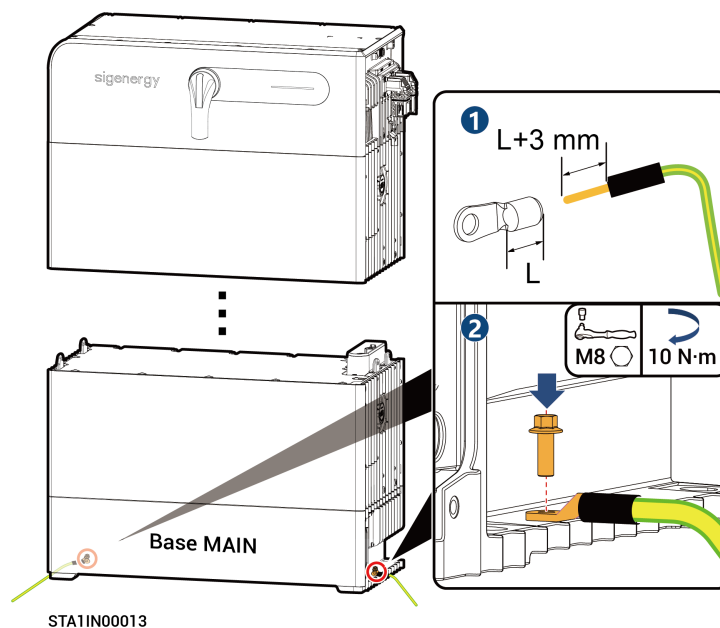
Chapter 6 Cable Connections

- After the cables are connected, take protective measures to avoid them from being soaked by rain or snow or being eaten by animals.
- Power cables and signal cables must be tied separately.

6.1 Protective Ground Cable of Base MAIN

Tips

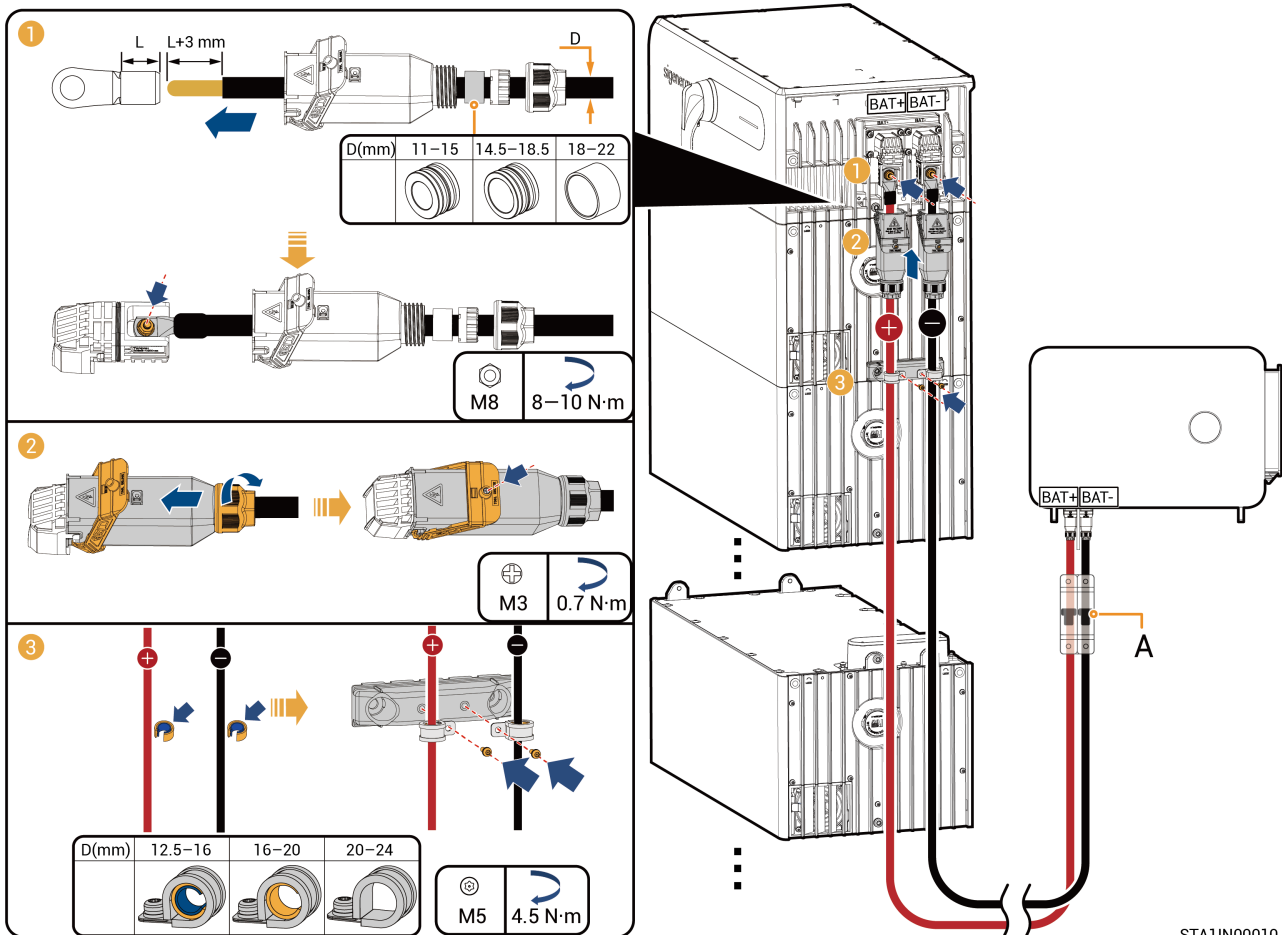
- Connect the protective ground cable to a nearby grounding point or to the inverter's grounding point.
- The Base MAIN comes in two versions, with one grounding point or two grounding points. If the device you receive has two grounding points, connect both grounding points to the grounding cable.



6.2 BC-BST/BC DC Cable

Danger

Please use a multimeter to measure the BAT+ and BAT- ports of the BC-BST/BC and inverter, and only perform wiring after confirming that there is no voltage.



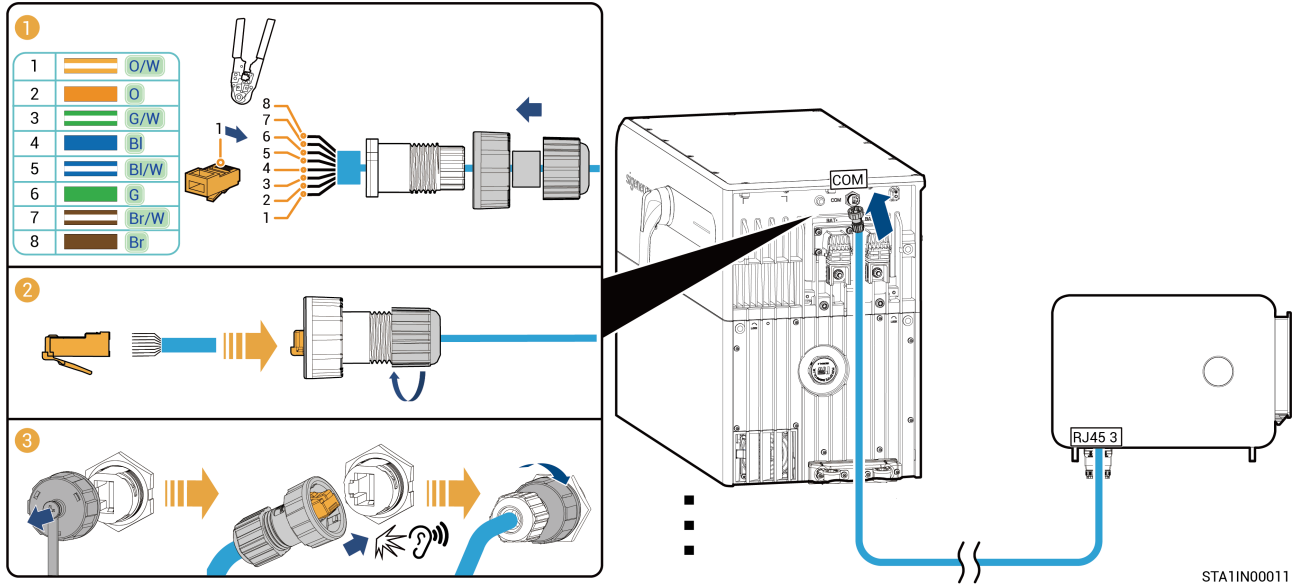
STA1IN00010

Tips

- If you choose to secure the cables, refer to the procedure shown in Step ③.
- For specific operations on the inverter side, refer to the Installation Guide for the corresponding model.
- Component A shown in the diagram is an optional feature for the Australian region. According to AS/NZS 5139, when the cable length between the BC-BST/BC and the inverter is greater than 2 m, an isolation device needs to be installed on the inverter side. When the cable length between the BC-BST/BC and the inverter is greater than 3 m, an isolation device with overcurrent protection needs to be installed on the inverter side. In other regions, determine whether installation is required in accordance with local laws and regulations.

6.3 BC-BST/BC Signal Cable

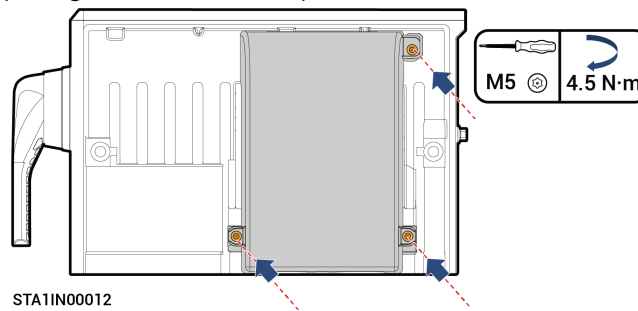
For specific operations on the inverter side, refer to the Installation Guide for the corresponding model.



6.4 Inspections After Installation

No.	Check Item
1	The device is securely installed.
2	Grounding cables, AC cables, and signal cables are properly connected without omission.
3	All screws and terminal blocks on the device have been installed and are secure.
4	Cutouts of cable ties are free of burr or sharp edges.
5	The disconnecting switch is in the OFF position.
6	Unused ports are protected with water-proof covers or water-proof plugs.
7	No construction residue inside and outside the device.

After checking that everything is OK, install the protective cover for the BC-BST/BC.



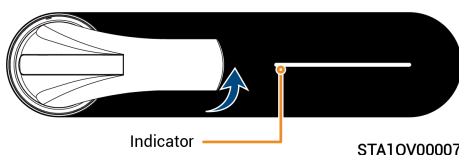
Chapter 7 System Operation

7.1 Device Power-on

1. Place the BC/BC-BST disconnecting switch in the ON position.
2. Start the inverter. For specific operating instructions, refer to the corresponding model's Installation Guide.
3. Check the indicator status of the BC/BC-BST.

Tips

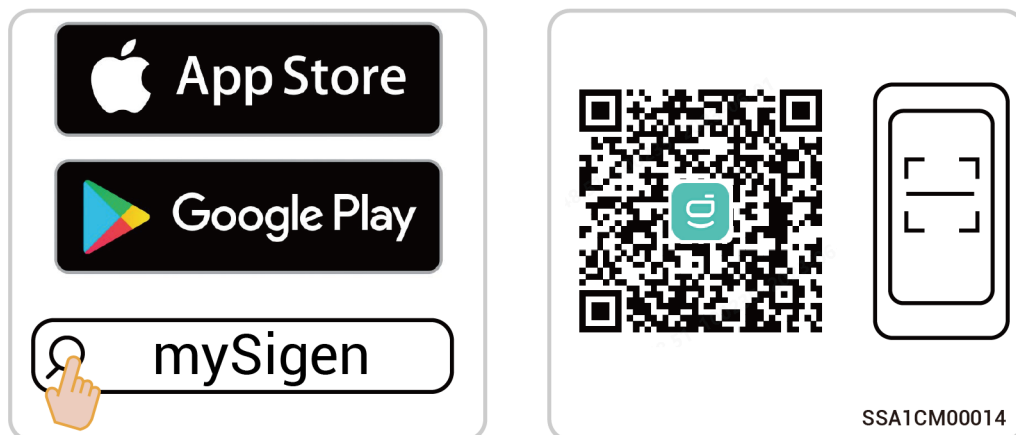
The indicator correctly indicates the real-time power and status of the battery rack.



Color	Status	Meaning
	Off	The energy storage system is dormant.
	Steady on	The energy storage system is on standby.
	Breathing blink	Charging.
	Breathing blink	Discharging.
	Steady on	The communication between the battery cluster and the inverter is abnormal.
	Breathing blink	The communication between the BAT and BC/BC-BST is abnormal.
	Steady on	Device failure.

7.2 App Download and New System Creation

1. Download the app.



2. Sign up.
 - Open the App, tap the "Register" button at the bottom, and complete the account registration according to your actual situation.
 - Please visit our company's website (<https://business.sigencloud.com/business-service/user/register>) and complete the account registration based on your circumstances.
3. Log in to your account and complete the system creation operations. The operation method for creating a new system that integrates both the SigenStack energy storage system and the inverter is different from that for adding the SigenStack energy storage system to an existing system. For details, please refer to "[mySigen App Creating New Systems Guide](#)".