



User Manual

Energy Storage Battery System

HPB-16LV

Copyright © Shenzhen Hithium Hero Energy Equity Technology Co., Ltd. All rights reserved.

Without prior written authorization from Shenzhen Hithium Hero Energy Equity Technology Co., Ltd., all content of this manual shall not be reproduced, disseminated, or uploaded to third-party platforms such as public networks in any form.

Trademark Authorization



The trademark used in this manual is the property of Xiamen Hithium Energy Storage Technology Co., Ltd. All other trademarks or registered trademarks mentioned in this manual are the property of their respective owners.

Notice

Due to product version upgrades or other reasons, the content of the document will be updated irregularly. Unless otherwise specifically agreed, the content of the document shall not replace the safety precautions in the user manual. All descriptions in the document are provided solely as usage guidance.

Table of Contents

1. Preface 3

1.1 Applicable Products 3

1.2 Applicable Personnel 3

1.3 Symbol Definition 3

2. Safety Precautions 4

2.1 General Safety 5

2.2 Battery Safety 5

2.3 Emergency Response Measures 6

2.4 EU Declaration of Conformity 7

3. Product Introduction 7

3.1 Product Introduction 7

3.2 Coding Rules 7

3.2.1 Model Coding Rules 7

3.2.2 SN Coding Rules 7

3.3 Application Scenarios 8

3.4 Product Introduction 9

4. Equipment Inspection and Storage 10

4.1 Inspection Before Receipt 10

4.2 Packing List 10

4.3 Device Storage 11

5. System Installation 11

5.1 Installation Requirements 11

5.2 Equipment Handling 15

5.3 Battery System Installation 15

5.3.1 Installation Tools 15

5.3.2 Install the battery system 16

5.4 Electrical connection 17

5.4.1 Safety Precautions 17

5.4.2 Connect protective ground wire 18

5.4.3 Electrical connection 19

5.4.3.1 Communication Port Definition 19

5.4.3.2 Single Battery System 19

5.4.3.3 Parallel Battery System 20

6. System Operation 21

6.1 Check before power-on 21

6.2 Battery system power-on 22

6.3 Device Networking 23

7. Maintenance 23

7.1 System Shutdown 23

7.2 Common Fault Handling 24

7.3 Regular Maintenance 25

8. System Parameters 26

1. Preface

This document mainly introduces the Energy Storage Battery System product information, installation wiring, configuration and commissioning, troubleshooting, and maintenance content. Please carefully read this manual before installing and using this product to understand the product safety information and familiarize yourself with the product's functions and features. The document may be updated periodically. Please obtain the latest version of the materials and more product information from the official website.

1.1 Applicable Products

This document applies to products with the model number HPB-16LV

1.2 Applicable Personnel

Only applicable to professionals who are familiar with local regulatory standards and electrical systems, have received professional training, and are well-versed in the relevant knowledge of this product.

1.3 Symbol Definition

To better use this manual, the following symbols are used in the manual to highlight relevant important information. Please carefully read the symbols and their descriptions.

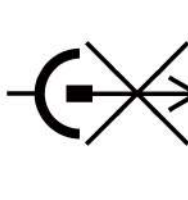
**Danger**
Indicates a high potential danger that, if not avoided, could result in death or serious injury.

**Warning**
Indicates moderate potential danger if a situation that could lead to death or serious injury is not avoided.

**Be careful**
Indicates a low potential danger that, if not avoided, could result in moderate or mild personal injury.

**Attention**
Emphasizes and supplements content, may also provide tips or tricks for optimizing product use, helping you solve a problem or save time.

Symbol Description

	There are potential hazards when the equipment is in operation. Please take appropriate protective measures when operating the equipment.		The equipment should be kept away from open flames or sources of ignition.
	High voltage is dangerous. High voltage exists when the equipment is operating. When operating the equipment, please ensure that the equipment has been powered off.		The device should be kept away from areas accessible to children.
	Please use the equipment properly. Using it under extreme conditions may pose an explosion risk to the equipment.		Do not lift the device after the battery system has completed wiring or when the battery system is in operation.
	The device contains corrosive electrolyte. Please avoid contact with leaked electrolyte or volatile gases.		Do not directly disconnect or plug/unplug DC terminals during the operation of the device.
	Batteries contain flammable materials, beware of fire.		Recycling symbol.
	Please read the product manual carefully before operating the equipment.		CE Certification Mark.
	Personal protective equipment must be worn during installation, operation, and maintenance.		Protective grounding wire connection point.
	The device should not be disposed of as household waste. Please contact the local recycling service partner for proper disposal.		

2. Safety Precautions

 **Warning!**

- The safety precautions information contained in this document must always be strictly adhered to when operating the equipment.
- The device has been strictly designed in accordance with safety regulations and has passed the tests. However, as an electrical device, it is necessary to comply with relevant safety instructions before performing any operations on the device. Improper operation may result in serious injury or property damage.

2.1 General Safety

⚠ Attention!

- Please carefully read this document to understand the product and precautions before installing the equipment.
- All operations of the equipment must be carried out by professional and qualified electrical technicians who are familiar with the relevant standards and safety regulations at the project location.
- When operating equipment, insulated tools should be used and personal protective equipment should be properly worn to ensure personnel safety. When contacting electronic devices, electrostatic gloves, electrostatic wristbands, or anti-static clothing should be worn to prevent electrostatic damage to the equipment.
- The device manufacturer shall not be liable for any damage to the device or injury to personnel caused by failure to install, use, or configure the device in accordance with the document requirements.

2.2 Battery Safety

⚠ Danger!

- Before operating any device within the system, be sure to confirm that the device has been completely powered off to prevent electric shock accidents. During the operation, you must strictly follow the safety instructions in this manual and the safety signs at the device site.
- It is strictly prohibited to disassemble, modify, or repair the battery system without the manufacturer's authorization. Otherwise, it may lead to risks such as electric shock and equipment damage, and all consequences arising therefrom shall be borne by the operator, and the manufacturer shall not be liable.
- Do not impact, pull, drag, squeeze, or step on the equipment. Do not throw the battery into fire to avoid explosion.
- Batteries should not be placed in high-temperature environments, ensuring they are kept away from heat sources and direct sunlight.
- If any obvious defects, cracks, damage, or other abnormalities are found in the battery system, please stop using it immediately. Battery damage may lead to electrolyte leakage.

- Battery transportation must be carried out by trained and qualified professionals. During transportation, operations should be standardized, equipment should be kept stable, and dropping should be avoided to ensure that the battery and its components remain undamaged.
- Battery equipment is heavy, and sufficient personnel should be arranged according to the equipment's weight during handling to avoid injuries caused by overloading a single person.
- Do not move the system while the battery is operating.
- Ensure that the battery system is not damaged during transportation and storage. Transportation must be carried out by trained professionals, and the operations during the process must be recorded. Ensure that the equipment is placed stably without tilting, as equipment tipping may lead to equipment damage and personal injury.

2.3 Emergency Response Measures

1. Battery electrolyte leakage

If the battery module leaks electrolyte, avoid contact with the leaked liquid or gas. The electrolyte is corrosive, and contact may cause skin irritation or chemical burns. If a person accidentally comes into contact with the leaked material, please follow the following emergency procedures:

- Inhalation: Immediately evacuate the leak area, move to fresh air, and seek medical assistance promptly.
- Eye contact: Immediately flush the eyes continuously with running water for at least 15 minutes, and try to hold the eyelids open during flushing. Then seek medical assistance immediately.
- Skin contact: Immediately remove contaminated clothing, thoroughly wash the affected area with soap and water for at least 15 minutes, and seek medical assistance immediately.
- In case of accidental ingestion: Seek immediate medical attention.

2. Fire

- When the battery temperature exceeds 150°C, the battery has a fire risk, and after the battery catches fire, it may release toxic and harmful gases.
- To prevent fires, please ensure that carbon dioxide, Novec1230, or FM-200 fire extinguishers are available near the equipment.
- In case of fire, do not approach, immediately call the fire department, notify firefighters, and provide relevant product information.
- When extinguishing a fire, do not use dry powder fire extinguishers. Firefighters must wear protective clothing and self-contained breathing apparatus.

2.4 EU Declaration of Conformity

Equipment that can be sold in the European market meets the requirements of the following directives:

- Electromagnetic compatibility Directive 2014/30/EU (EMC)
- Electrical Apparatus Low Voltage Directive 2014/35/EU (LVD)
- Battery Directive 2006/66/EC and Amending Directive 2013/56/EU
- Waste Electrical and Electronic Equipment 2012/19/EU
- Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No 1907/2006 (REACH)

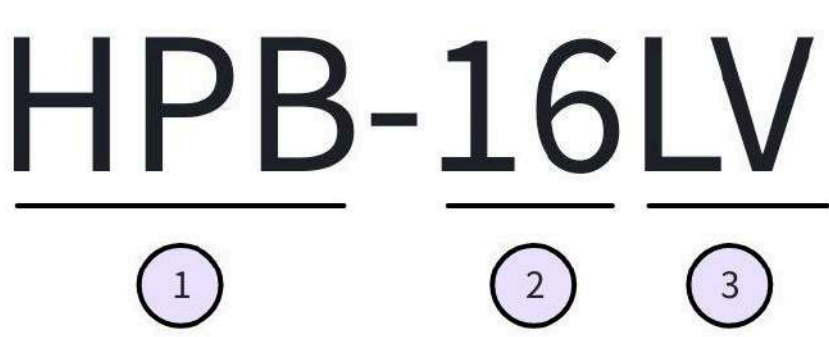
3. Product Introduction

3.1 Product Introduction

HPB-16LV is a lithium iron phosphate (LiFePO₄) energy storage system, and it is one of the new energy storage products developed and produced by Shenzhen Hithium Hero Energy Equity Technology Co., Ltd. It is mainly used to store electricity generated by solar, wind, or other Renewable Energy sources, can meet the daily electricity needs of households, and provides an emergency Backup Power Supply during power outages in the grid.

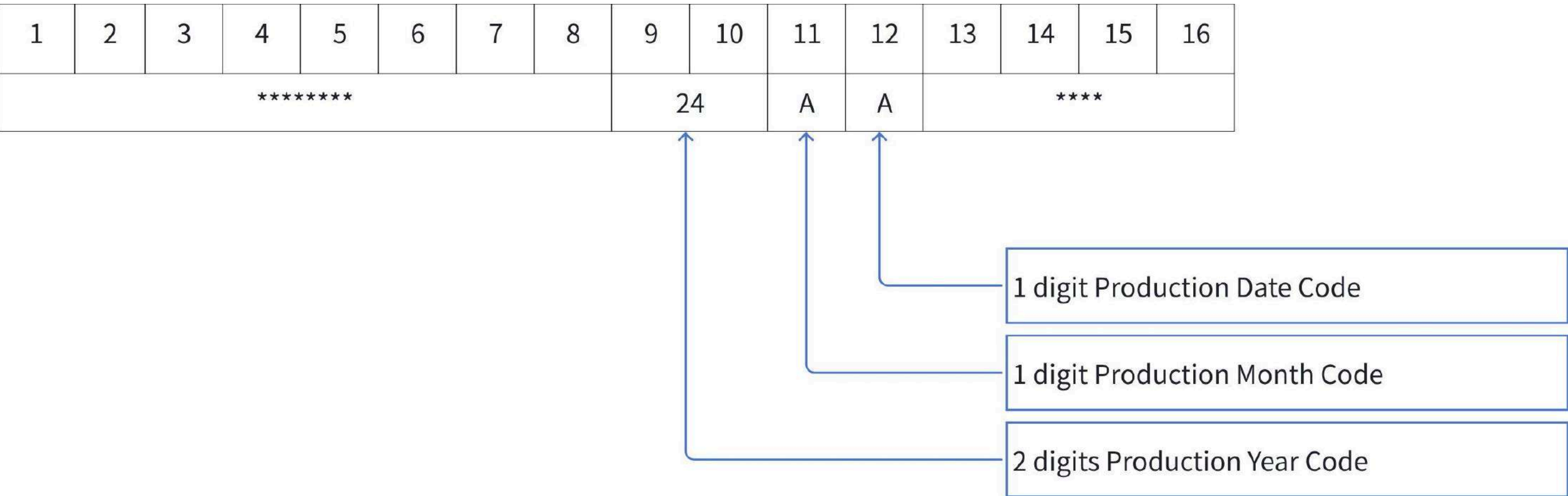
3.2 Coding Rules

3.2.1 Model Coding Rules



Serial Number	Meaning
1	Residential Energy Storage System
2	Capacity of 16kWh
3	Product series

3.2.2 SN Coding Rule



HPB-16LV

1. Production Year (First 2 digits)

The first 2 digits represent the last two digits of the production year.

- Example: "23" = 2023, "24" = 2024
- Range: 2000-2099

2. Production Month (3rd digit)

The 3rd digit represents the production month:

Month	Jan-Sep	Oct	Nov	Dec
Code	1-9	A	B	C

3. Production Date (4th digit)

The 4th digit represents the production date:

Number Codes (1-9, 0):

- 1-9 represent 1st to 9th;
- 0 represent 31st;

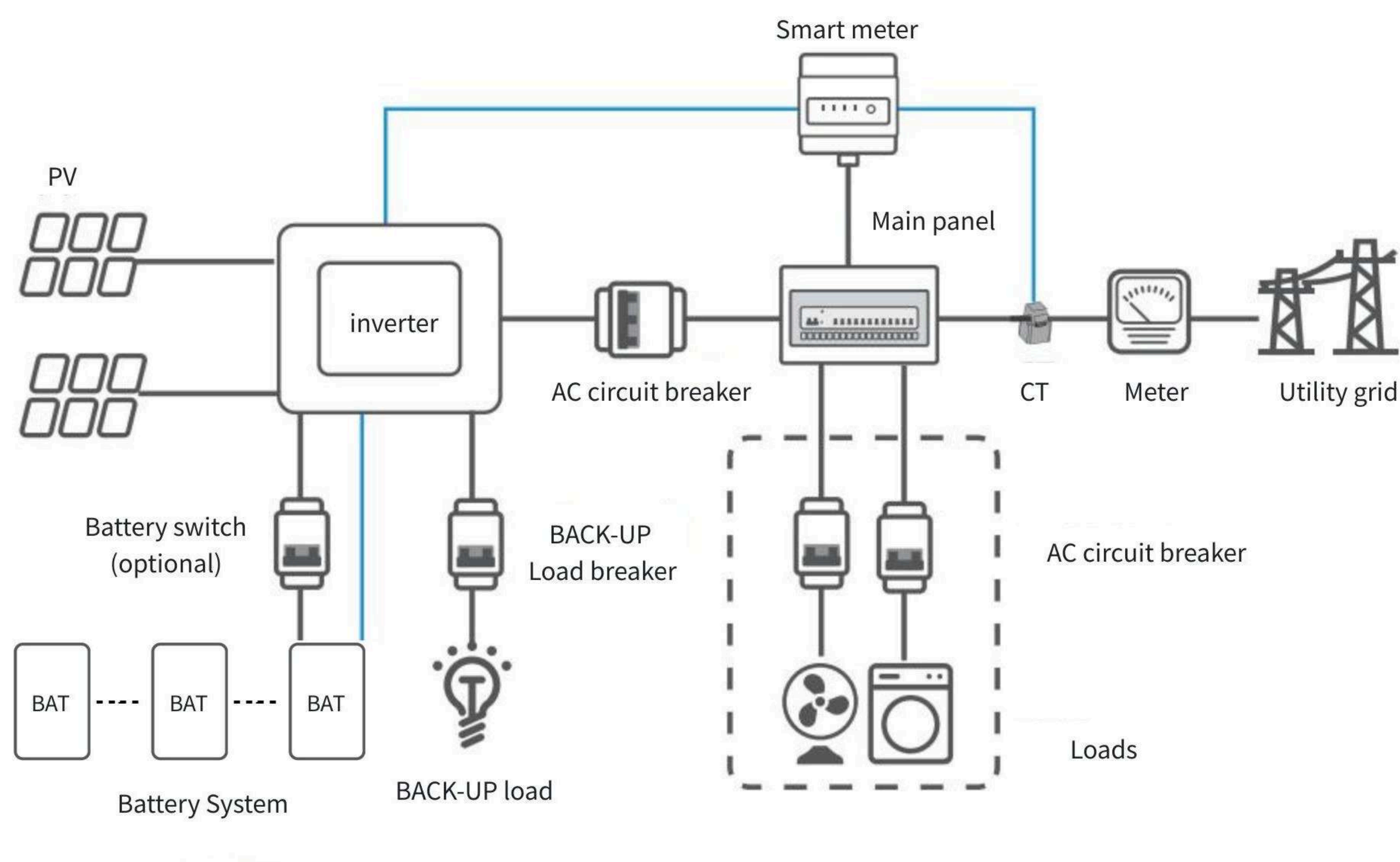
Letter Codes (A-Y, excluding I, O, Q, U):

- Represent 10th to 30th
- Excluded letters: I, O, Q, U (to avoid confusion with numbers 1, 0 and for internal conventions)

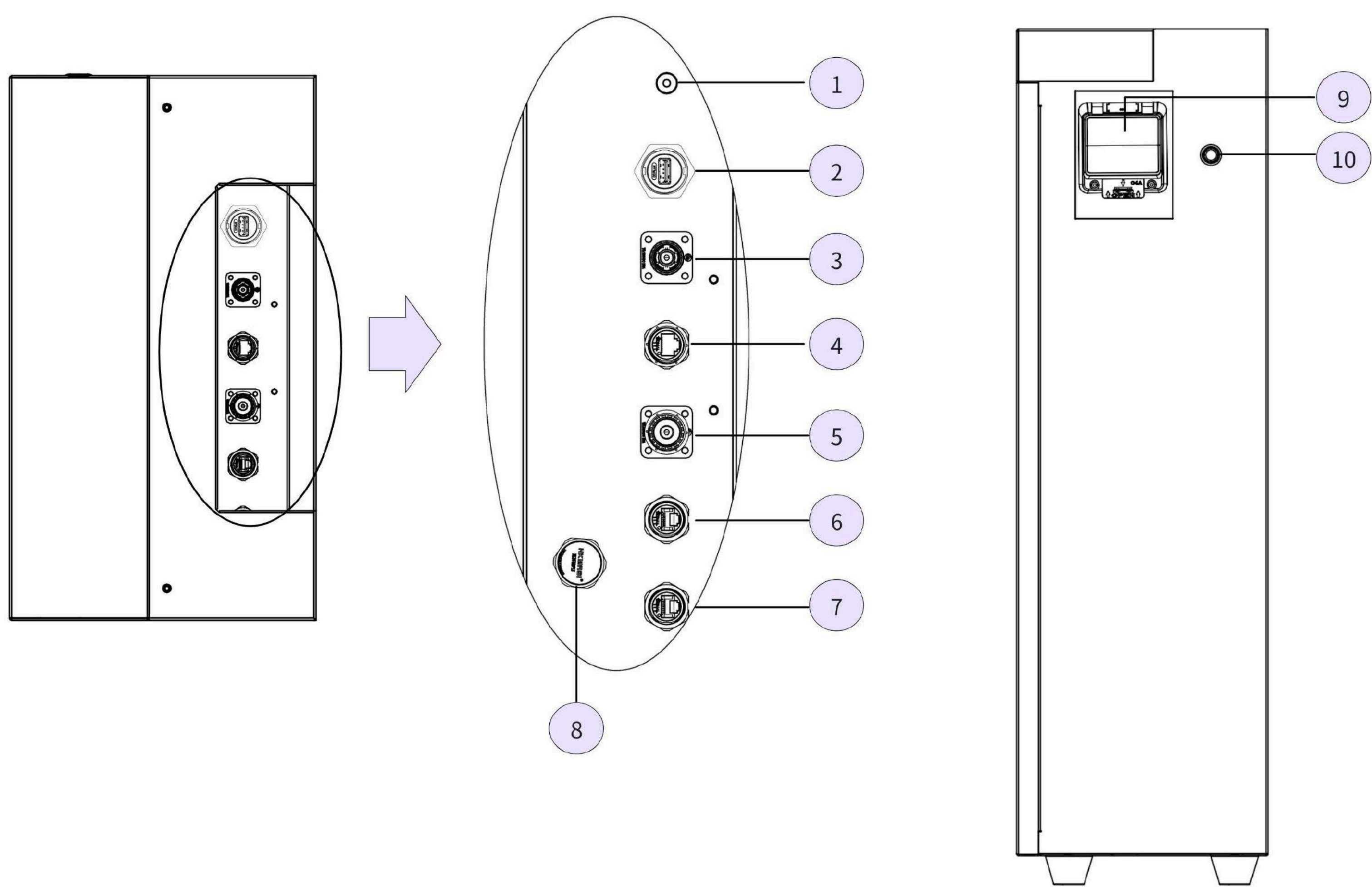
Complete Date Code Correspondence:

Date	1-9	10	...	18	...	23	...	27	...	31
Code	1-9	A	...	J	...	P	...	V	...	0

3.3 Application Scenarios



3.4 Product Introduction



Serial Number	Part Name	Description
1	Grounding point	Grounding screw hole, connect the ground wire to ensure electrical safety
2	Data Logger Communication Port	Communication port for communicating with Data Logger
3	Positive Pole of DC Port	Battery Positive Terminal
4	Inverter communication port	Connect the data line interface of the inverter for information exchange and control
5	Negative Pole of DC Port	Battery Negative Terminal
6	Parallel output port	Battery communication output port, which transmits signals to the next device
7	Parallel input port	Battery communication input port, connects to the signal lines of other batteries
8	Pressure Relief Valve	Safety relief valve to prevent excessive internal pressure in the battery
9	Miniature Circuit Breaker Switch	Circuit safety switch automatically cuts off power to protect equipment when the current is too high
10	Power On/Off Button (Self-Reset)	Power On/Off Button

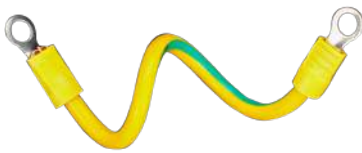
4. Equipment Inspection and Storage

4.1 Inspection Before Receipt

Before accepting the product, please check the following

- 1. Outer packaging condition: Check for damage, deformation, perforation, or other signs that may affect the internal equipment. If damage is found, do not unpack and contact your dealer immediately.
- 2. Check the device model: Confirm that the device model shown on the packaging is consistent with the model you ordered. If the model does not match, do not open the packaging and contact your dealer promptly.
- 3. Packing list verification: Check that all items are complete and undamaged. If any issue is found, contact your dealer promptly.

4.2 Packing List

Name	Quantity	Specification	Picture
Energy Storage Battery System	1	HPB-16LV	
Wall Mounting Bracket	1	/	
Negative Power Line (Optional)	1	1.5m	
Positive Power line (Optional)	1	1.5m	
Expansion bolt	3	ST6*55	
Triple combination screw	4	M5*12	
Waterproof Plug	3	/	
RJ45 Connector	2	/	
Manual	1	/	
Network Cable	2	1.5m	
Ground Wire	1	1.5m	

4.3 Device Storage

If the equipment is not to be put into use immediately, please strictly follow the following storage requirements:

1. Keep the original packaging intact and ensure the desiccant remains inside.
2. Repack the device after unpacking if not installed.
3. Follow stacking instructions on the packaging.
4. Store away from flammable, explosive, or corrosive materials.
5. Store in a cool place, away from direct sunlight.
6. Maintain a clean, dry environment with no condensation.
7. Do not install the battery if moisture is present at the interface.
8. When a lithium battery is not used for a long time (e.g., more than 6 months), it should be charged to 40%-60% of its capacity, disconnected from the load, removed from the device, and stored in a dry and cool environment, and the battery should be charged once every 3 months. This is to prevent the battery from having too low a charge due to self-discharge during long storage periods. This could lead to irreversible capacity loss.
9. If you have long-term storage requirements, please consult your dealer or after-sales service center.

5. System Installation

5.1 Installation Requirements

1. Installation Environment Requirements

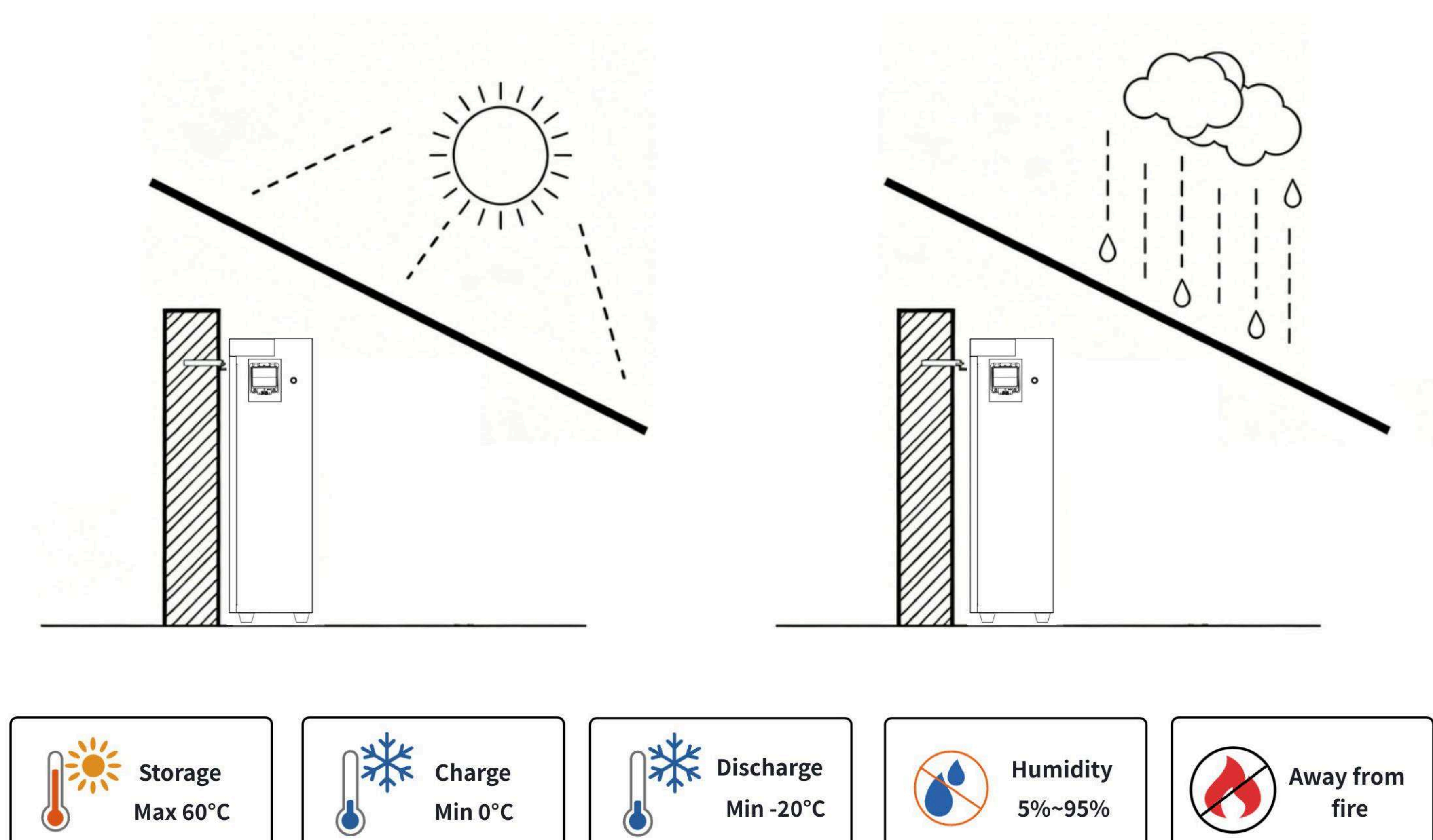
ⓘ Attention!

- The recommended optimal operating temperature range is $10^{\circ}\text{C} < T < 35^{\circ}\text{C}$. At a temperature $> 40^{\circ}\text{C}$, the operation of the equipment may trigger a power derating that prevents the equipment from operating optimally. The higher the temperature, the shorter the service life of the equipment.

To ensure the safe and stable operation of the equipment, please strictly follow the following environmental requirements during installation:

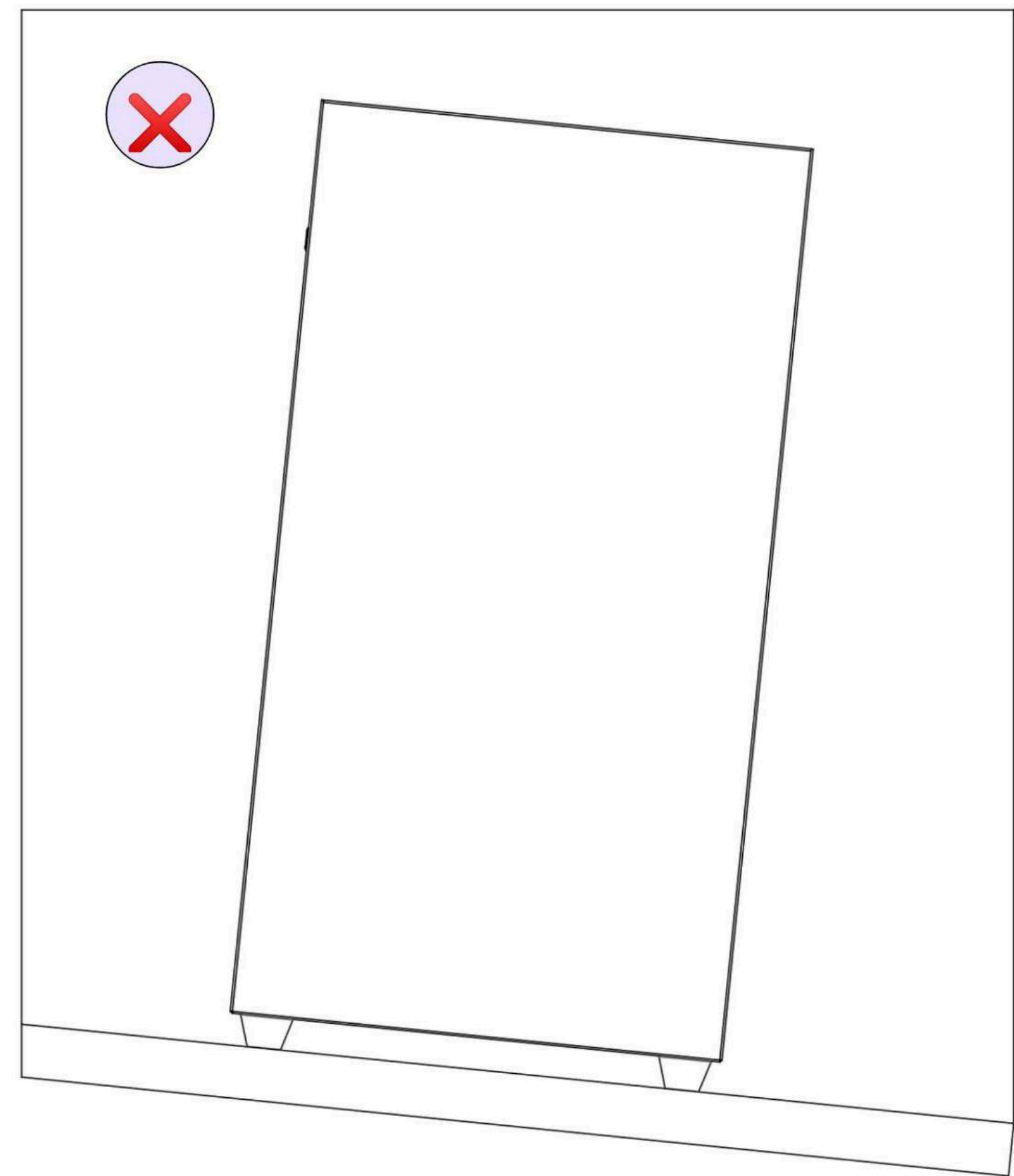
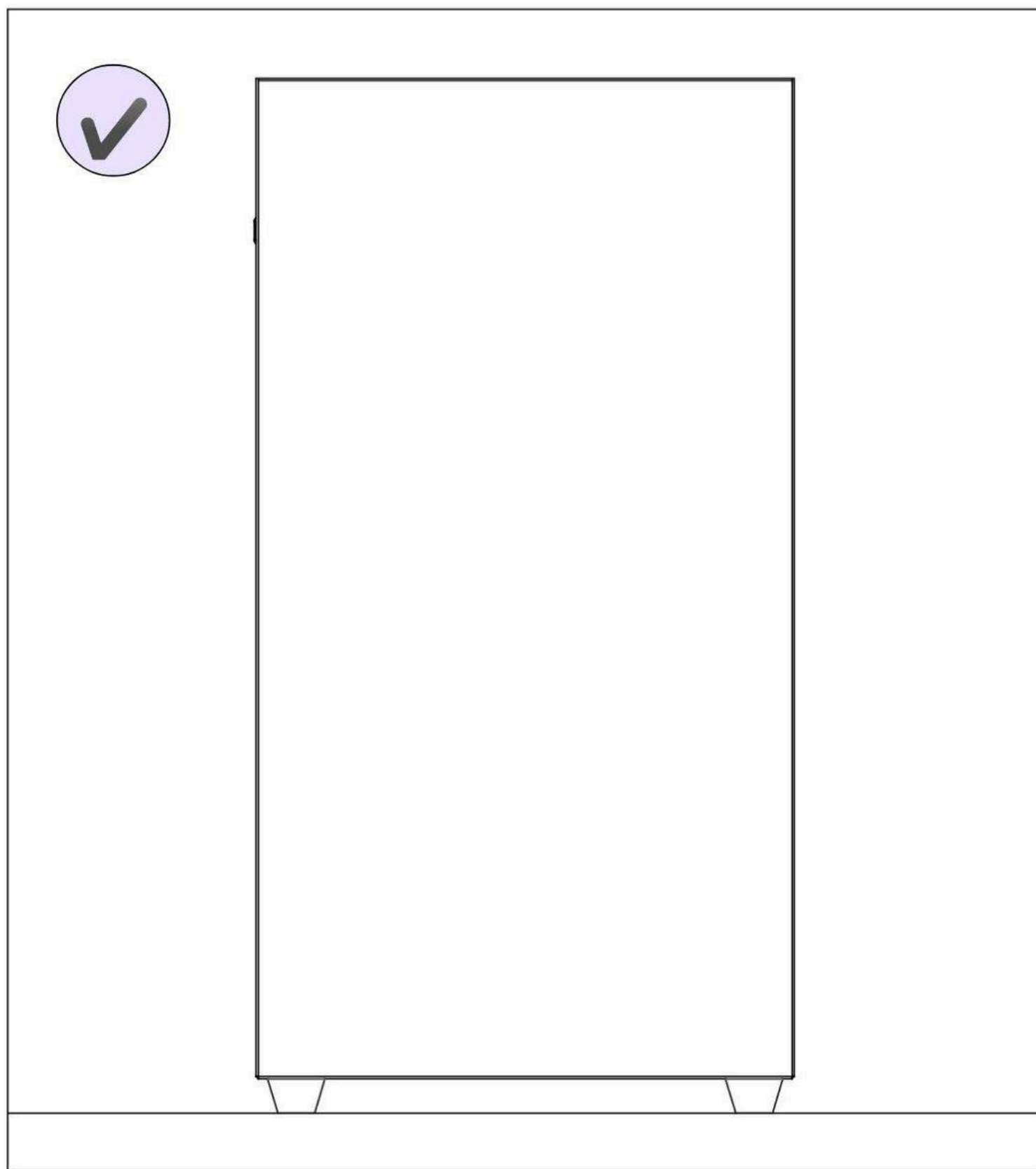
1. Safety First: Choose a stable, dry, and well-ventilated location, and avoid placing this product near flammable materials or in areas prone to flooding.

2. Easy Access: This product should be installed in a location that is convenient for users' daily operation and maintenance, while ensuring that the installation location does not interfere with other equipment or activities.
3. Environmental Considerations: Consider the impact of ambient temperature on battery performance. Avoid installing this product in environments with extreme high or low temperatures.
4. Space Requirements: Ensure there is sufficient space around this product to facilitate heat dissipation and prevent overheating.
5. Protective Measures: If this product will be installed outdoors, consider using appropriate protective measures, such as awnings or waterproof enclosures, to protect this product from the impact of harsh weather.
6. Load-bearing Capacity: Ensure that the installation surface can withstand the weight of the Battery Pack.
7. Electrical Connection: Consider the connection paths between this product, the power source, the load, and other electrical equipment to ensure that the wiring is reasonable and safe, and avoid excessive bending or stretching of cables.
8. Regulatory Compliance: Comply with local electrical installation and safety regulations to ensure that the installation meets all applicable standards and requirements.
9. Maintenance and Inspection: Select a location that facilitates regular inspection and maintenance to promptly identify and address potential issues.

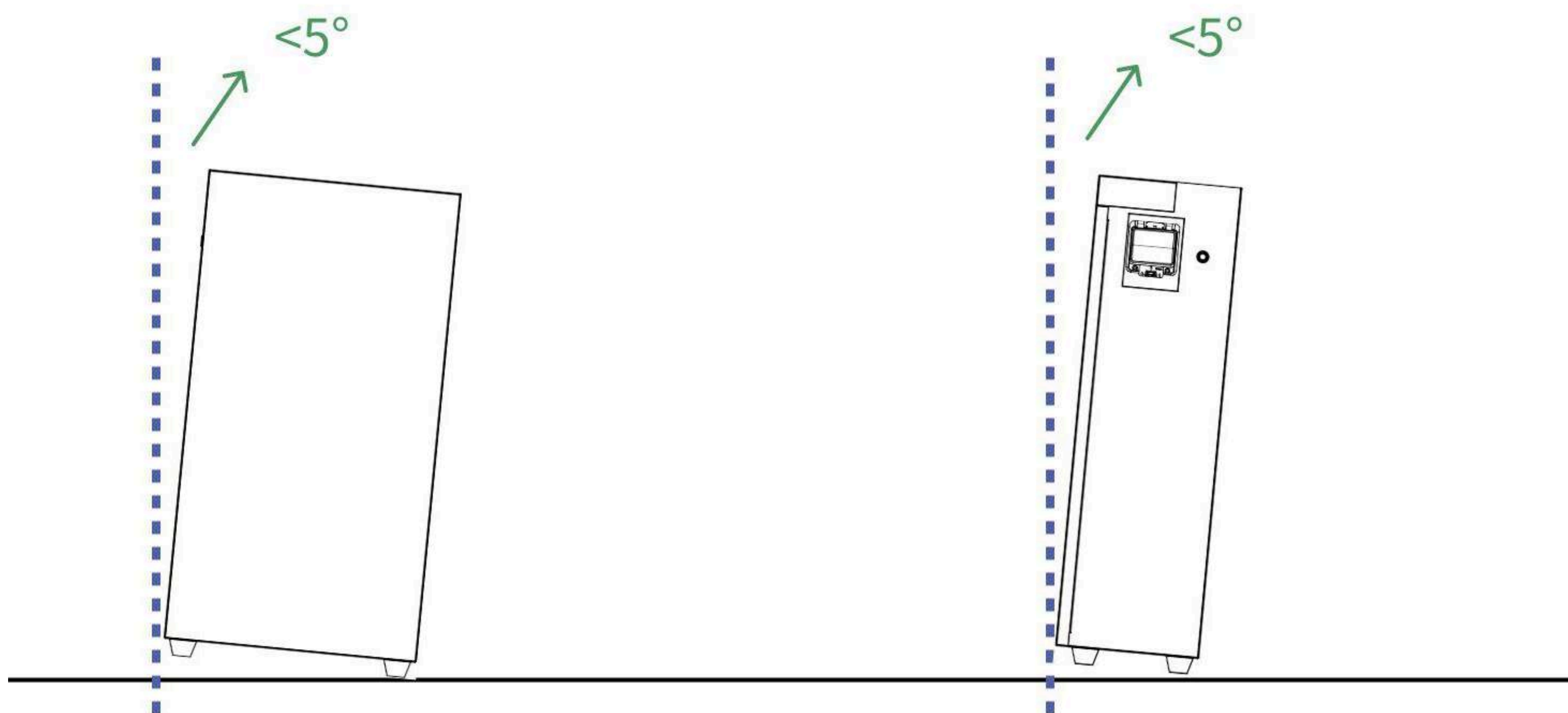


2. Installation Angle Requirements

- Ensure the device is installed horizontally and vertically, avoiding tilting or inversion. When leveling with feet is insufficient, use leveling plates for leveling.



3. The installation tilt angle shall be measured using a spirit level, and the inclination angle shall be less than 5°.



4. Installation Carrier Requirements

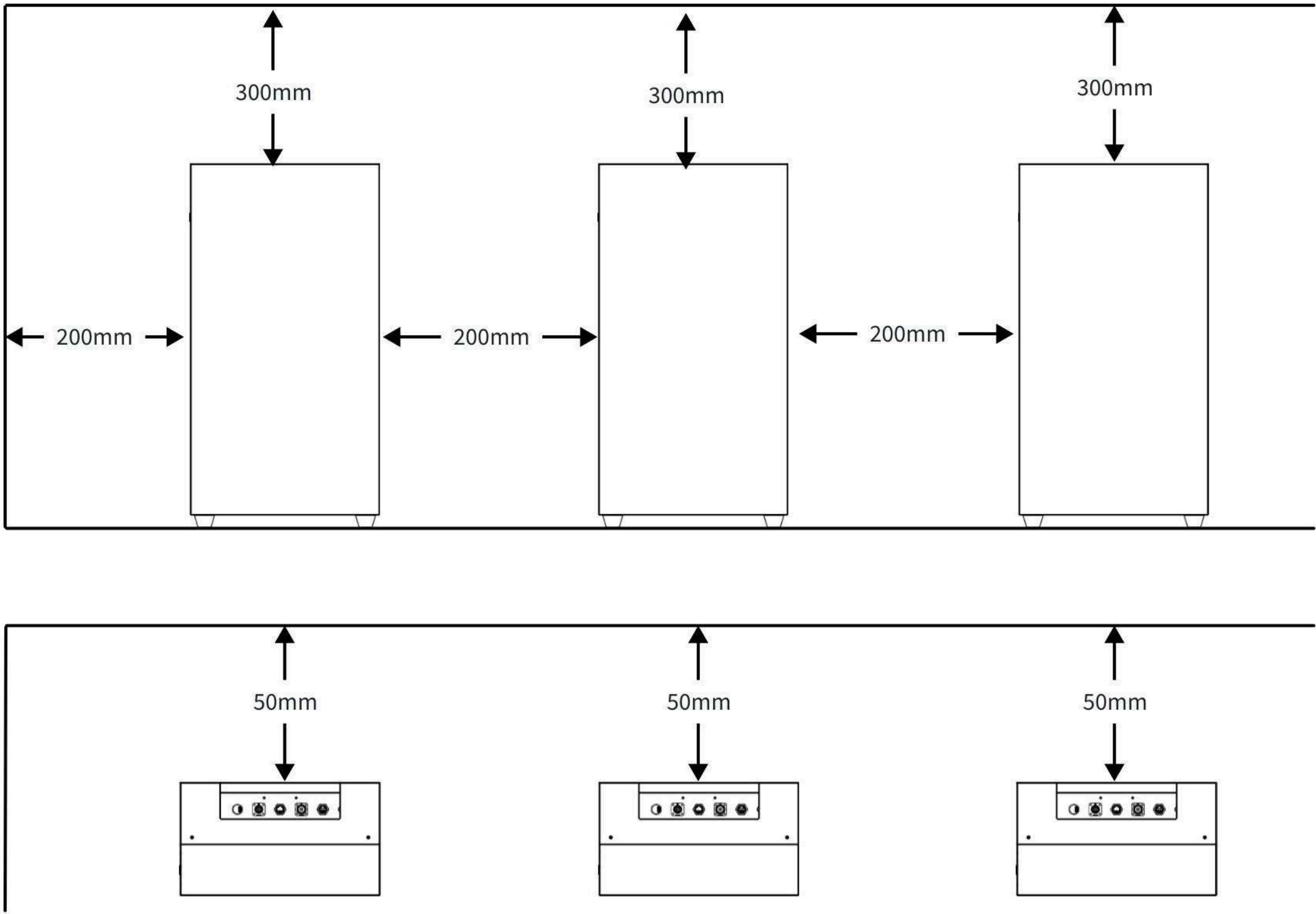
1. The mounting carrier must be made of fireproof materials, and the use of flammable materials is strictly prohibited.
2. The installation carrier shall be structurally strong, stable and reliable, with sufficient load-bearing capacity to support the equipment and all loads during its operation over a long period.

- 3. During installation, the battery system should be close to stable structures such as walls, and special anti-tipping brackets or other effective fixing devices should be installed to ensure that the equipment has no risk of tipping under any circumstances.

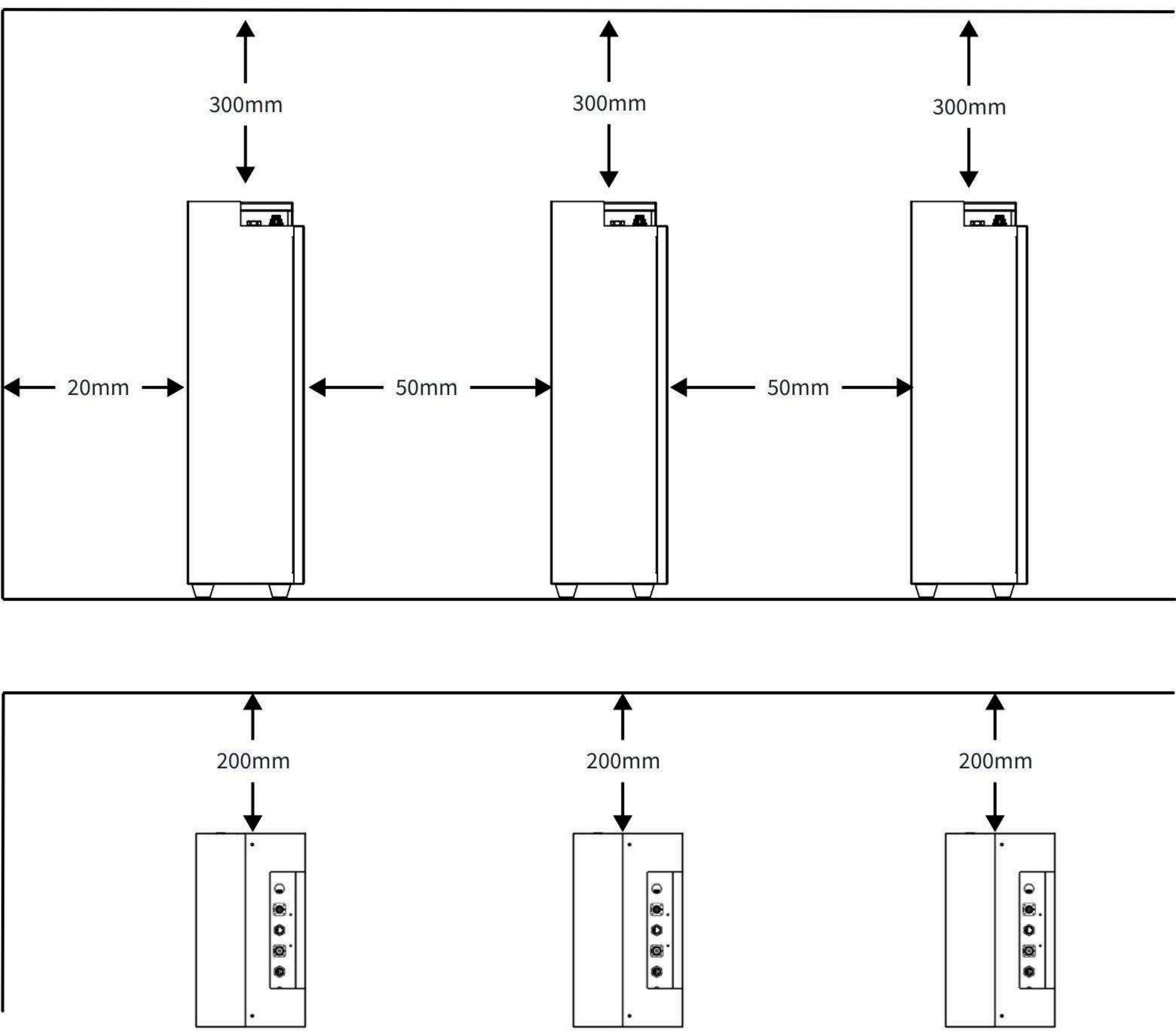
5. Installation Space Requirements

To ensure equipment heat dissipation and space for operation and maintenance, the following minimum clearances must be met during installation:

Placement Method 1:



Placement Method 2:



5.2 Equipment Handling

- When transporting, handling, and installing equipment, it is necessary to strictly comply with the laws, regulations, and relevant standards of the country and region where the equipment is located.
- Before installation, the equipment needs to be transported to the designated location. To ensure the safety of personnel and equipment, please note the following points during transportation:
 1. Operators should wear safety gloves throughout the process to avoid cuts and bumps.
 2. Arrange sufficient personnel to handle the equipment according to its weight, and it is strictly prohibited for a single person to work beyond their capacity to prevent being crushed.
 3. During the handling process, the equipment must be kept stable, lifted and placed gently, and strictly protected against dropping and collision.

5.3 Battery System Installation

5.3.1 Installation Tools

During installation, you need to use the following tools



Crimping Tool



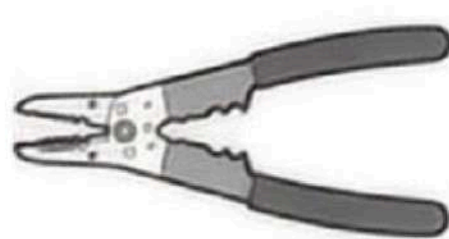
Pen



Phillips Screwdriver



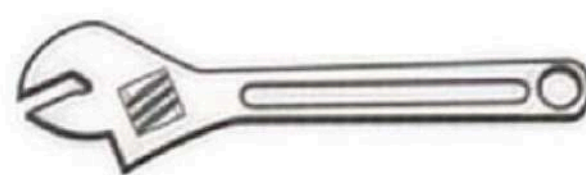
Flats Crewdriver



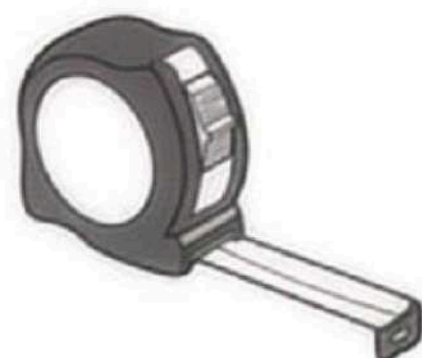
Wire Stripper



Hydraulic Crimping



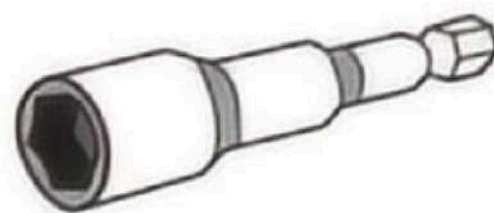
Wrench



Tape Measure



Heat Gun



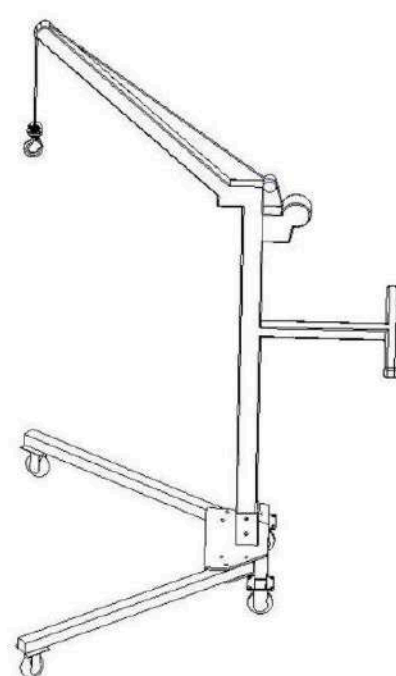
Socket Wrench



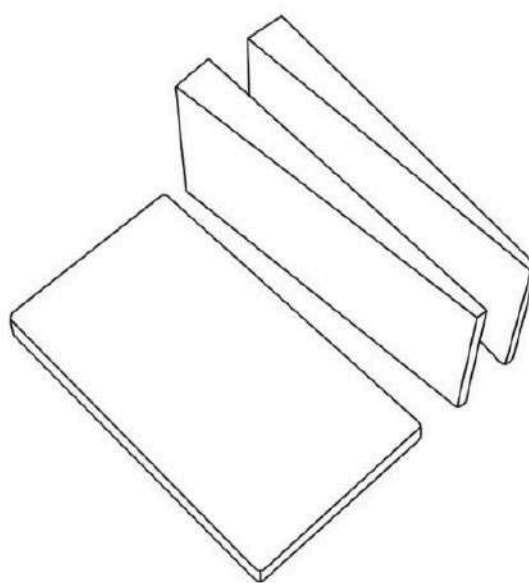
Torque Wrench



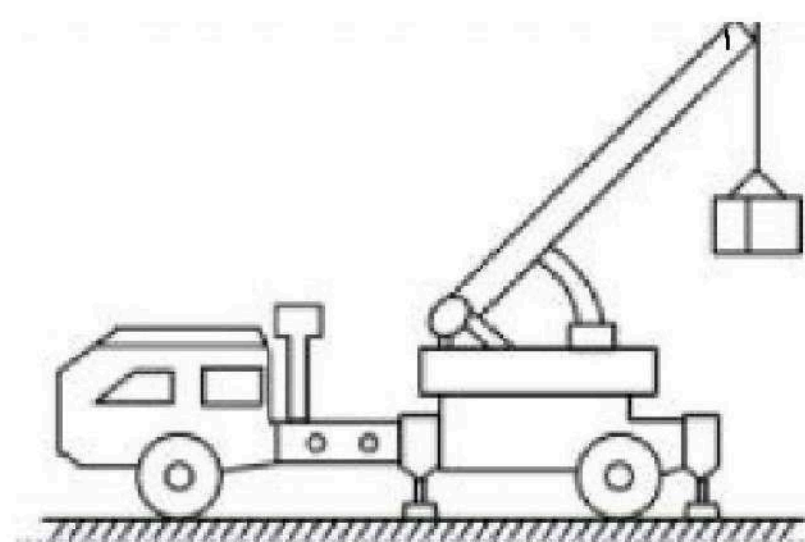
Drilling Machine



Manual Jack
(Recommended)

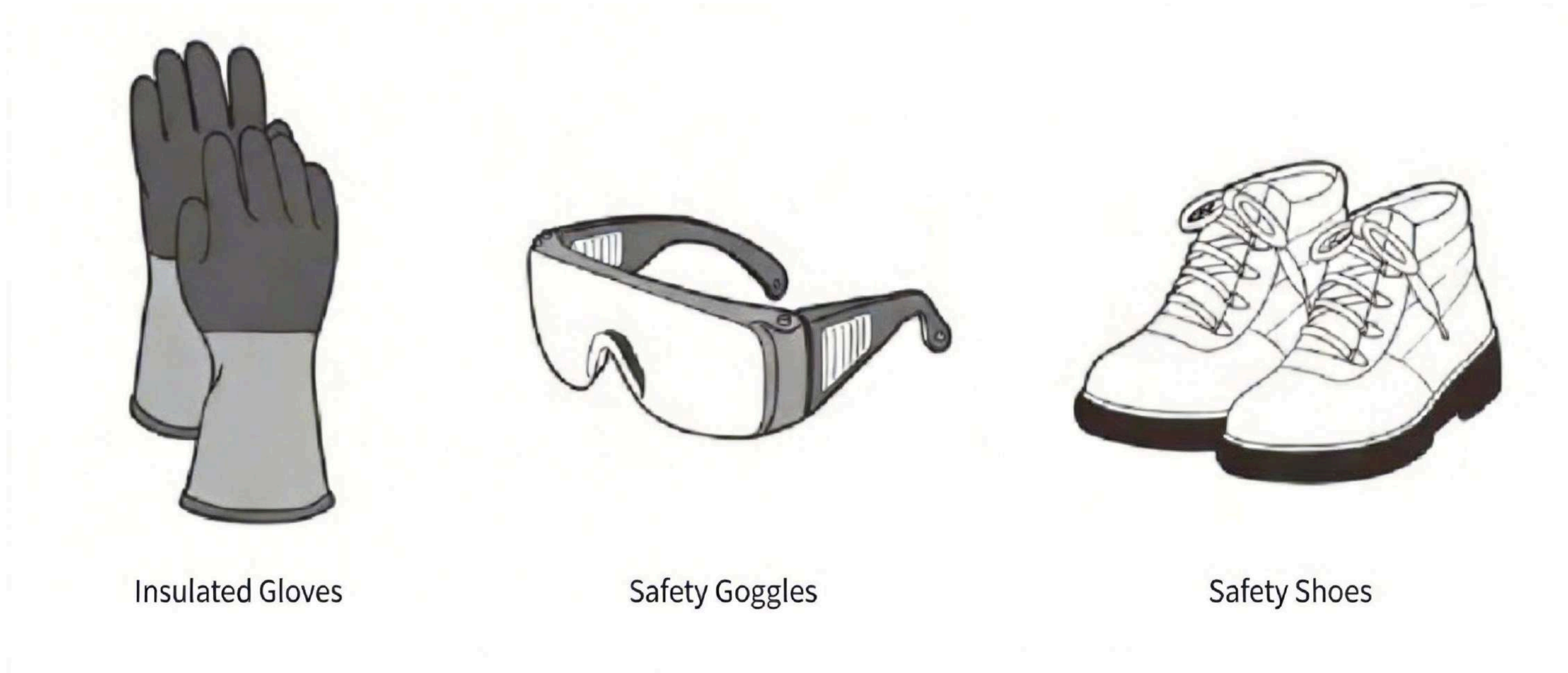


Leveling Plate
(Recommended)



Crane
(Recommended)

We recommend wearing the following safety equipment when handling batteries:



5.3.2 Install the battery system

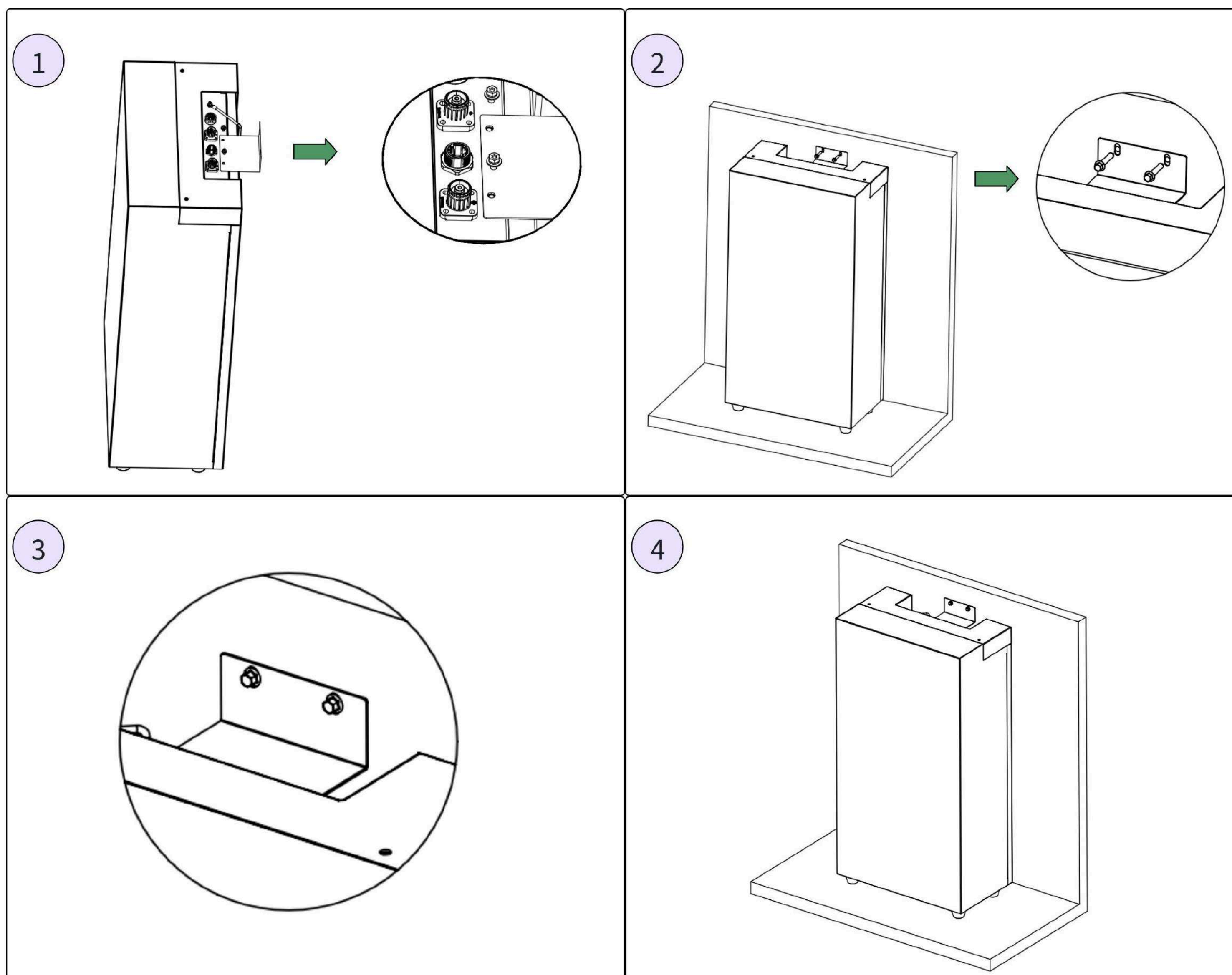
⚠ Attention!

- During the installation process, trolleys are used to transport products. Please ensure that trolleys are prepared in the installation tools to ensure the smooth progress of the work.
- When drilling holes in the wall, facilities such as circuits and pipes should be avoided, the drilling diameter is 10mm, and the drilling depth is $\geq 70\text{mm}$.
- After installation is complete, use cable ties to secure the power cable and communication cable separately, and ensure that the cables are bent in a U-shape to reduce the risk of water flowing into the battery along the cables.



The installation steps are as follows:

1. Unload, using a cart to remove wooden crates from the truck, place the wooden crates on the ground via the cart, remove the wooden crates and foam, and take out the accessories.
2. Forklift the box to a location near the installation site, and on the box install the bolted wall bracket.
3. Insert the transport box into the appropriate installation position and bolt the battery to the wall, the wall-bolting screw torque should not be less than $6\text{N}\cdot\text{m}$.



5.4 Electrical Connection

5.4.1 Safety Precautions

⚠ Danger!

Before electrical installation, you must carefully read and comply with the following safety instructions:

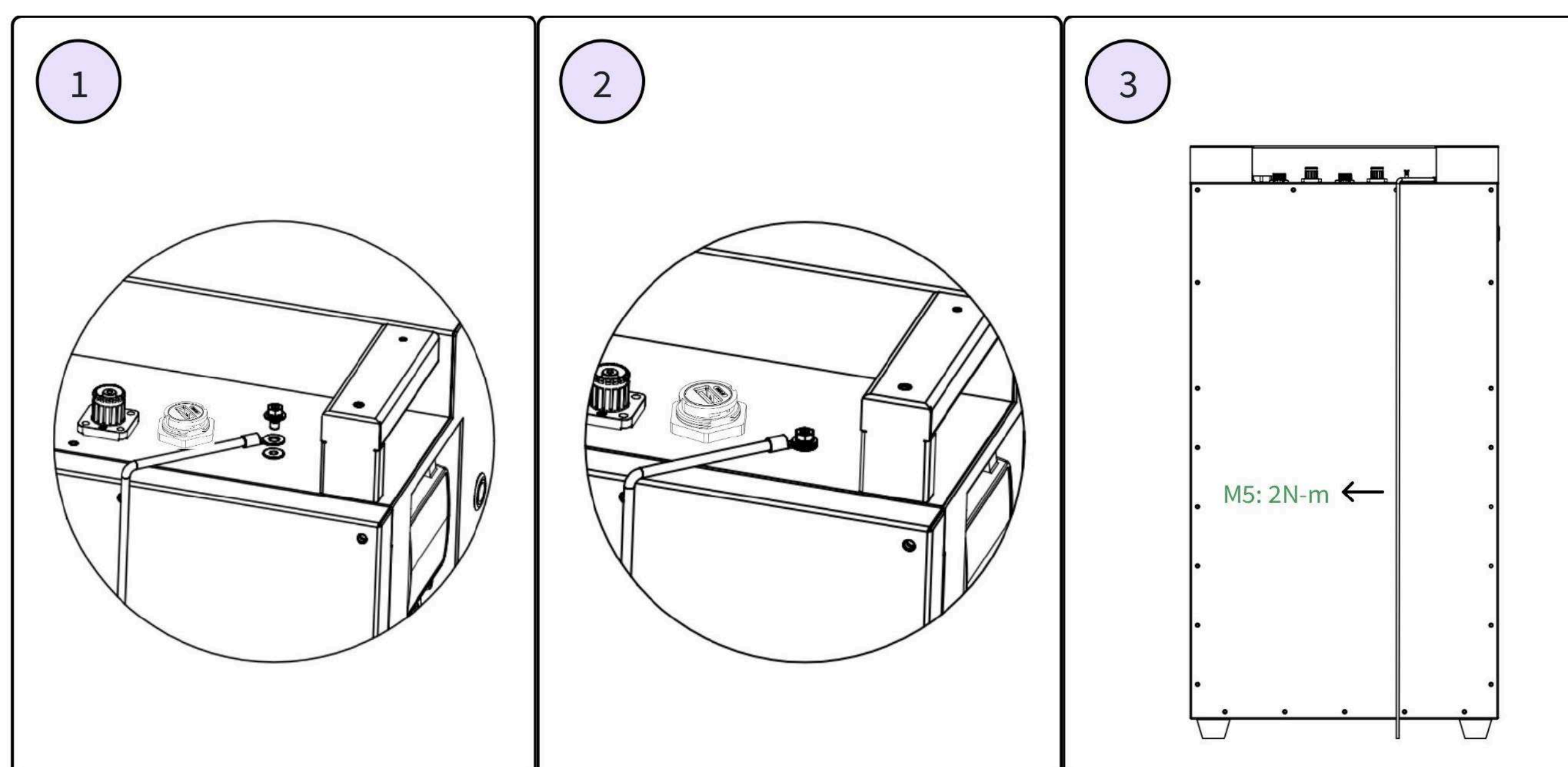
- During the entire operation process, it is essential to confirm that the equipment has been completely powered off to prevent electric shock. The safety regulations of this manual and on-site equipment markings must be strictly followed.

- All electrical connection operations, cables used, and component specifications must comply with the laws, regulations, and industry standards of the installation location.
- During wiring, harness connections shall be routed through cable trays. Cables of the same type shall be neatly bundled, arranged separately from cables of different types, and kept at a distance. Mutual entanglement or cross-laying is strictly prohibited to avoid interference.
- When crimping the terminal, ensure that the conductor part of the cable is in full contact with the terminal, and it is strictly prohibited to crimp the cable insulation sheath into the terminal together. Poor crimping may cause the equipment to fail to operate normally, or damage the battery terminal due to excessive resistance and abnormal heating at the connection point, leading to malfunctions.
- Only professionals are allowed to perform operations related to electrical connections.
- When performing electrical connections, please wear personal protective equipment such as safety shoes, protective gloves, and insulating gloves as required.
- Cables of the same type should be bundled together, and it is prohibited to wind or cross each other. A certain distance should be maintained between the cables and the periphery of heat-generating devices or heat source areas.

5.4.2 Connect Protective Ground Wire

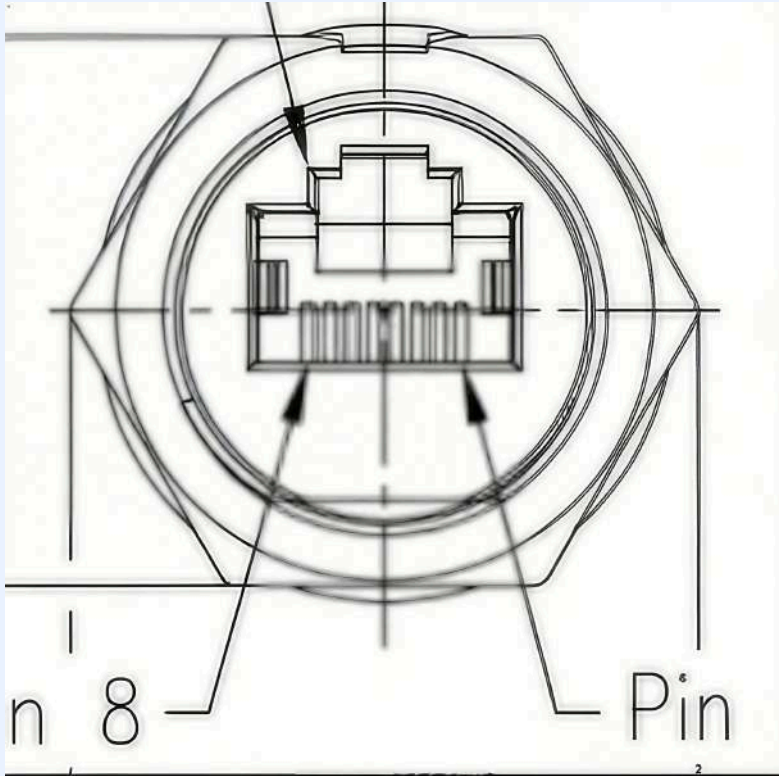
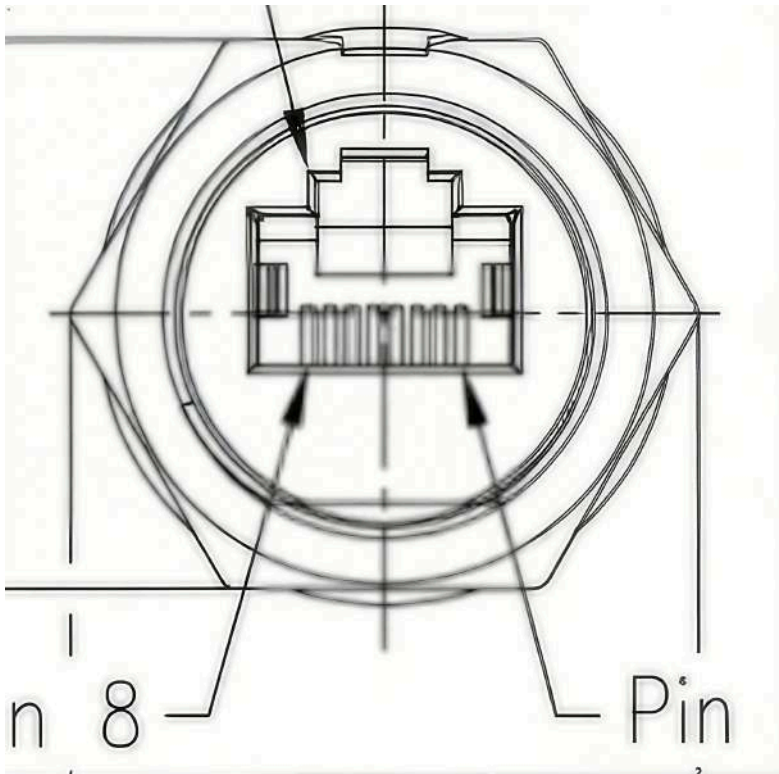
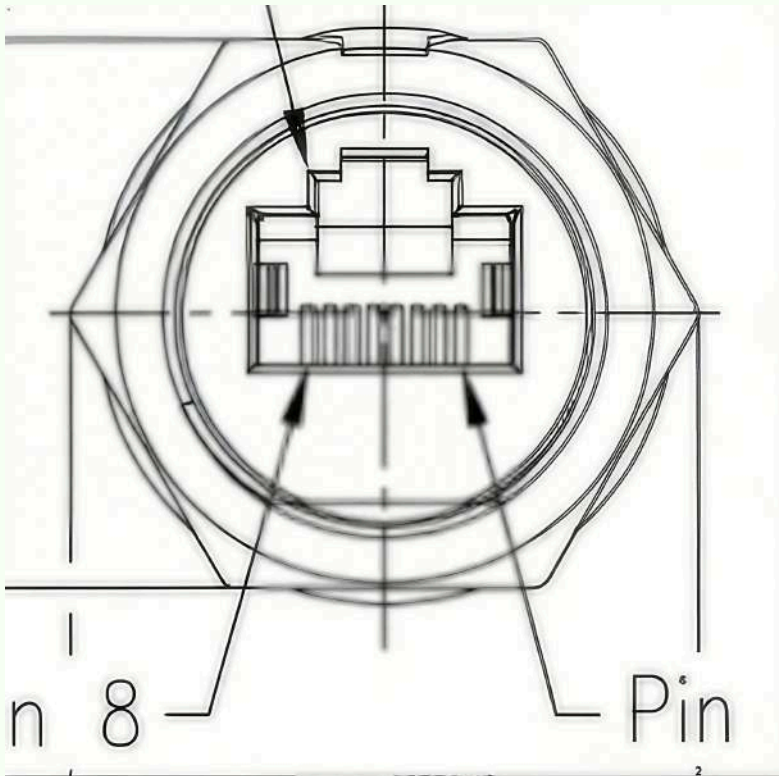
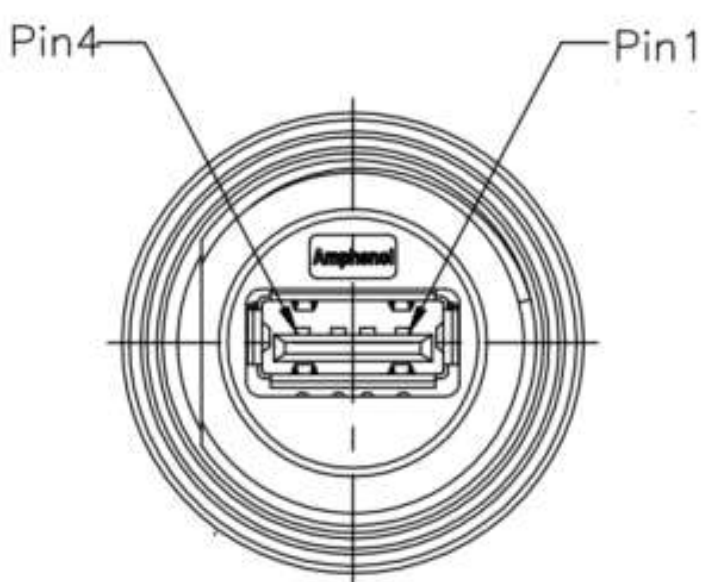
⚠ Attention!

- When installing equipment, the protective ground wire must be installed first; when removing equipment, the protective ground wire must be removed last.
- Please ensure that the pull-out force after cable crimping is $>400\text{N}$.



5.4.3 Electrical connection

5.4.3.1 Communication Port Definition

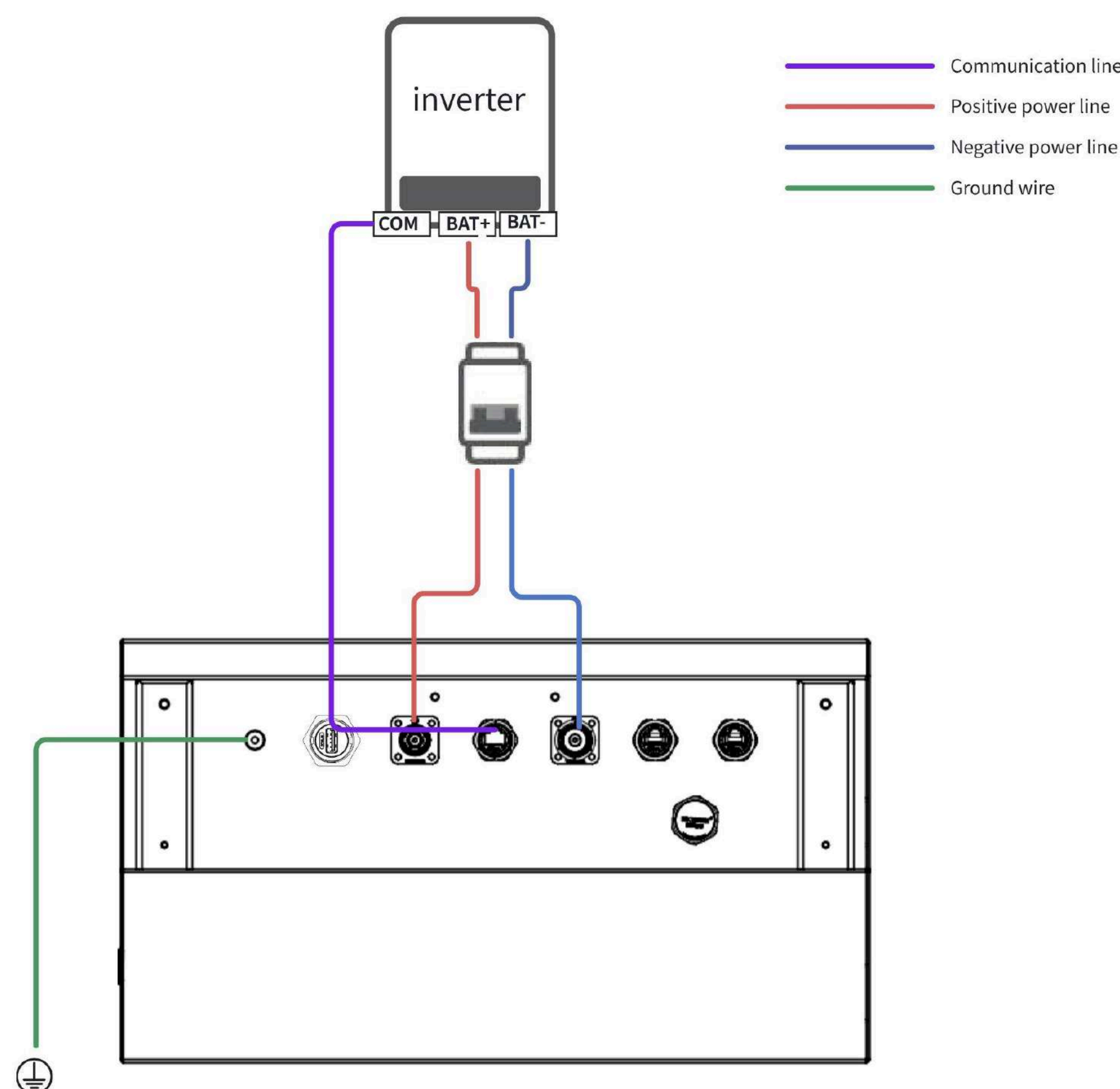
Interface	Definition	
COM IN 	Pin 1	DI- B
	Pin 2	DI-A
	Pin 3	GND
	Pin 4	CAN-H
	Pin 5	CAN-L
	Pin 6	GND
	Pin 7	RS485-A
	Pin 8	RS485-B
COM OUT 	Pin 1	DO- B
	Pin 2	DO-A
	Pin 3	GND
	Pin 4	CAN-H
	Pin 5	CAN-L
	Pin 6	GND
	Pin 7	RS485-A
	Pin 8	RS485-B
PCS 	Pin 1	RS485-B
	Pin 2	RS485-A
	Pin 3	GND
	Pin 4	CAN-H
	Pin 5	CAN-L
	Pin 6	GND
	Pin 7	RS485-A
	Pin 8	RS485-B
WIFI 	Pin 1	12VDC
	Pin 2	RS485-A
	Pin 3	RS485-B
	Pin 4	GND

5.4.3.2 Single battery system

 Danger!

1. When connecting a single battery system, please connect the protective ground wire first.

2. The maximum current supported by the power connection cable is 200A. If it exceeds 200A, it will cause the connector and cable to heat up, and in severe cases, it may even lead to a fire.
3. Please seal unused power ports on the battery.
4. When installing a single unit, the installation space requirements in 5.1 shall be met.



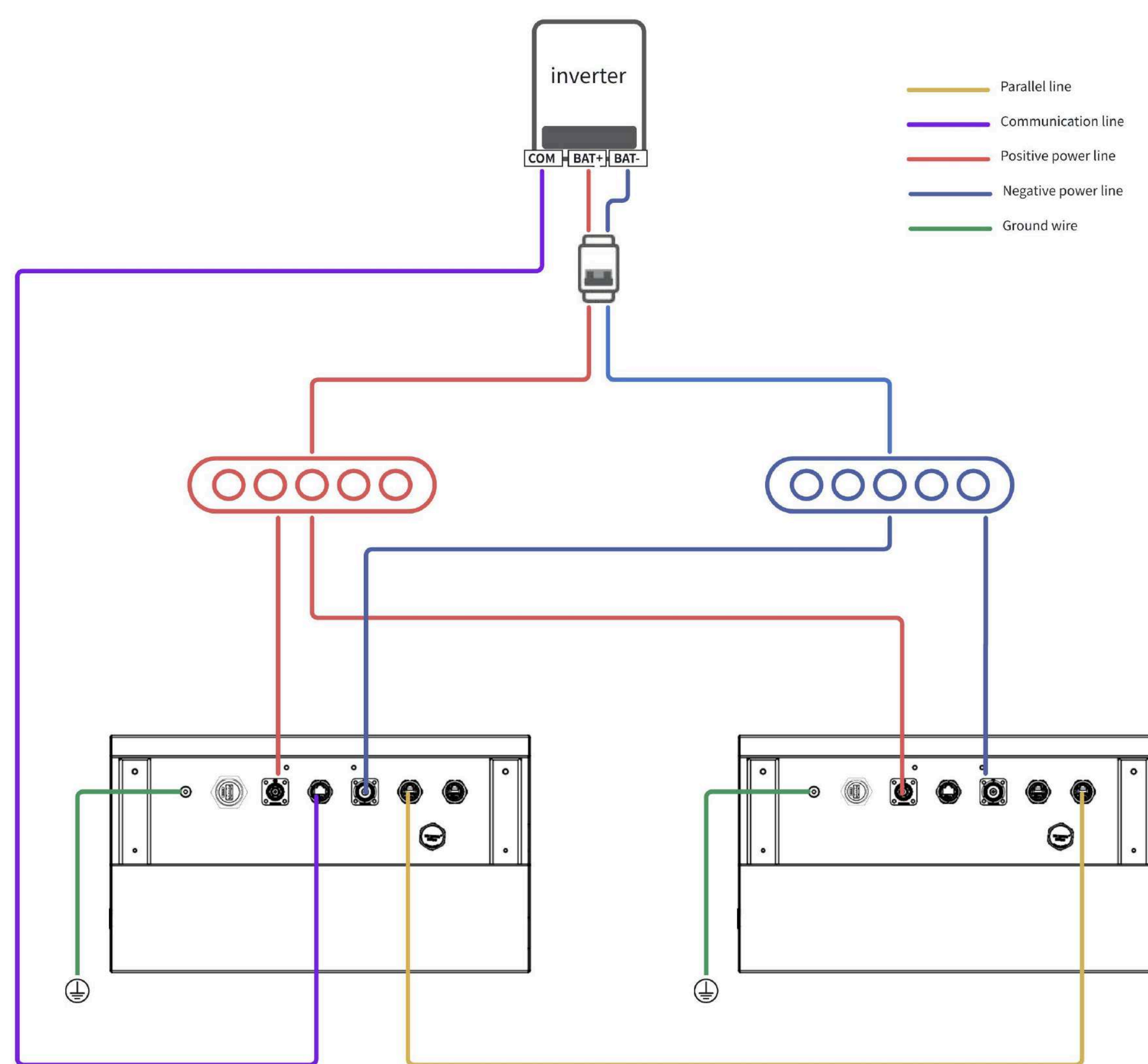
5.4.3.3 Parallel battery system

⚠ Danger!

1. When installing in parallel, the installation space requirements in 5.1 shall be met.
2. When connecting each battery system in a parallel system, please install the protective ground wire first.
3. Do not parallel connect devices while they are energized. Ensure all devices are de-energized when parallel connecting.
4. The maximum number of parallel units supported is 32.
5. Please use cables of the same specification to connect the batteries, and use two copper bars to connect the positive and negative electrodes of the batteries respectively, ensuring that the connection resistance between each battery cell is consistent and reducing battery imbalance caused by differences in connection resistance.
6. The communication port functions of the batteries are consistent. Please ensure that only the communication cable of the master battery is connected to the inverter, and the other communication ports are connected to the communication ports of other batteries. The connection method for the communication cables in a

parallel system is as follows: Parallel port OUT of the master unit -> Parallel port IN of slave unit 1 / Parallel port OUT of slave unit -> Parallel port IN of slave unit 2, and so on.

7. The maximum current supported by the power connection cable is 200A. If it exceeds 200A, it will cause the connector and cable to heat up, and in severe cases, it may even lead to a fire.
8. If there are multiple inverters in the system, please independently configure a dedicated DC circuit breaker for each inverter, and close them one by one in sequence. Violation of this operation may trigger the Short Circuit Protection of the battery and interrupt the system operation.
9. Please install the DC circuit breaker according to the maximum current of the inverter. The rated current of the DC circuit breaker should be greater than or equal to 1.25 times the maximum current of the inverter.
10. Please block the unused power ports on the battery.



6. System Operation

6.1 Check before power-on

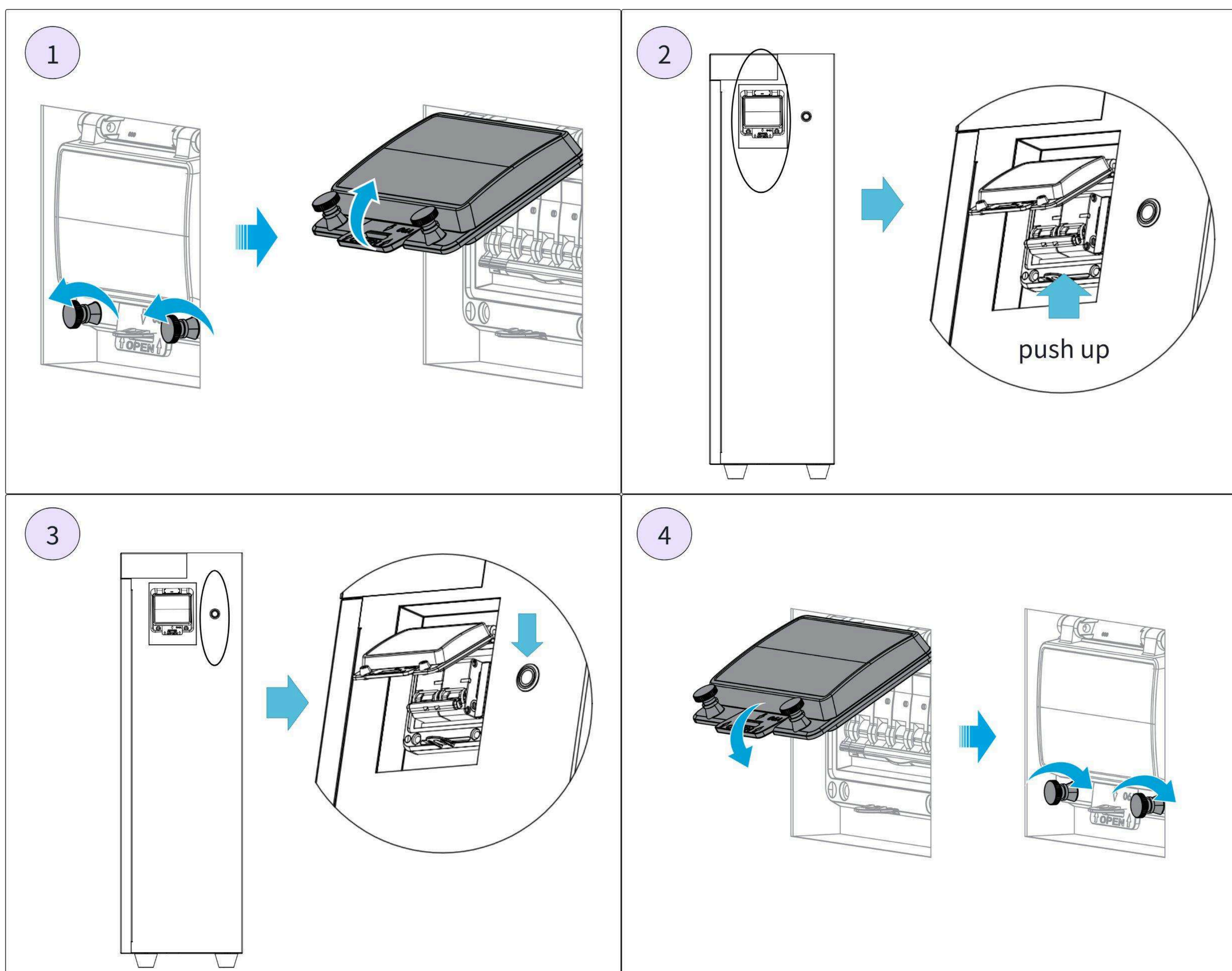
⚠ Danger!

When powering on the battery system, please be sure to check the following items to prevent system damage.

1. The equipment is firmly installed, the installation location is convenient for operation and maintenance, the installation space is convenient for ventilation and heat dissipation, and the installation environment is clean and tidy.
2. The protective ground wire, power line, communication line, and terminal resistor are connected correctly and securely.
3. Cable binding meets routing requirements, is reasonably distributed, and has no damage.
4. Unused ports have been blocked.

6.2 Battery system power-on

1. Open the circuit breaker protective cover.
2. Push up to close the circuit breaker.
3. Press the self-resetting switch button to start the battery system. Wait for the battery system to start, during which the ring indicator light flashes; wait for the indicator light to stabilize, and the startup is complete. (When the parallel system is connected, start the main battery first, then start the slave battery.)
4. Close the circuit breaker protective cover.



Self-resetting Switch Function

Function	Operation	Meaning
Power On/Activate	3s	When in sleep mode, press and hold the button for 3 seconds and then release it to switch to normal operating mode.
Shutdown/Hibernate	3s	When the device is powered on, press and hold the button for 3 seconds and then release it to enter the sleep state.
Reset	10s	When the device is powered on, press and hold the button for 10 seconds and then release it, the system will reset.

Description of the Ring Indicator

Status Name	Status Description	Light Language Interaction	Light Signal Definition
Sleep	In shutdown state, BMS is in sleep mode	No light	
Upgrade	System is upgrading, operation is prohibited	Blue Strobe	Blue light on for 0.5s / off for 0.5s
Standby	System is in normal standby	Blue always on	
Charge	System is charging	Green Breath	3s on / 3s off (fade in/fade out)
Discharge	System discharging	Green dot flashing	Green light on for 0.25s / off for 1.5s
Low Battery	SOC battery level is low, please pay attention to charging	Red Breath	3s On / 3s Off (Fade In/Fade Out)
Extremely Low Battery	Needs to be charged immediately	Red Dot Flashing	Red light on for 0.25s / off for 1.5s
Alarm	System Abnormality Alarm	Red Strobe	Red light on for 0.5s / off for 0.5s
Fault	System Failure	Red Light On Continuously	

6.3 Device Networking

- After the battery system is powered on, if you need to connect the device to the network, please refer to the user manual of the Data Logger.

7. Maintenance

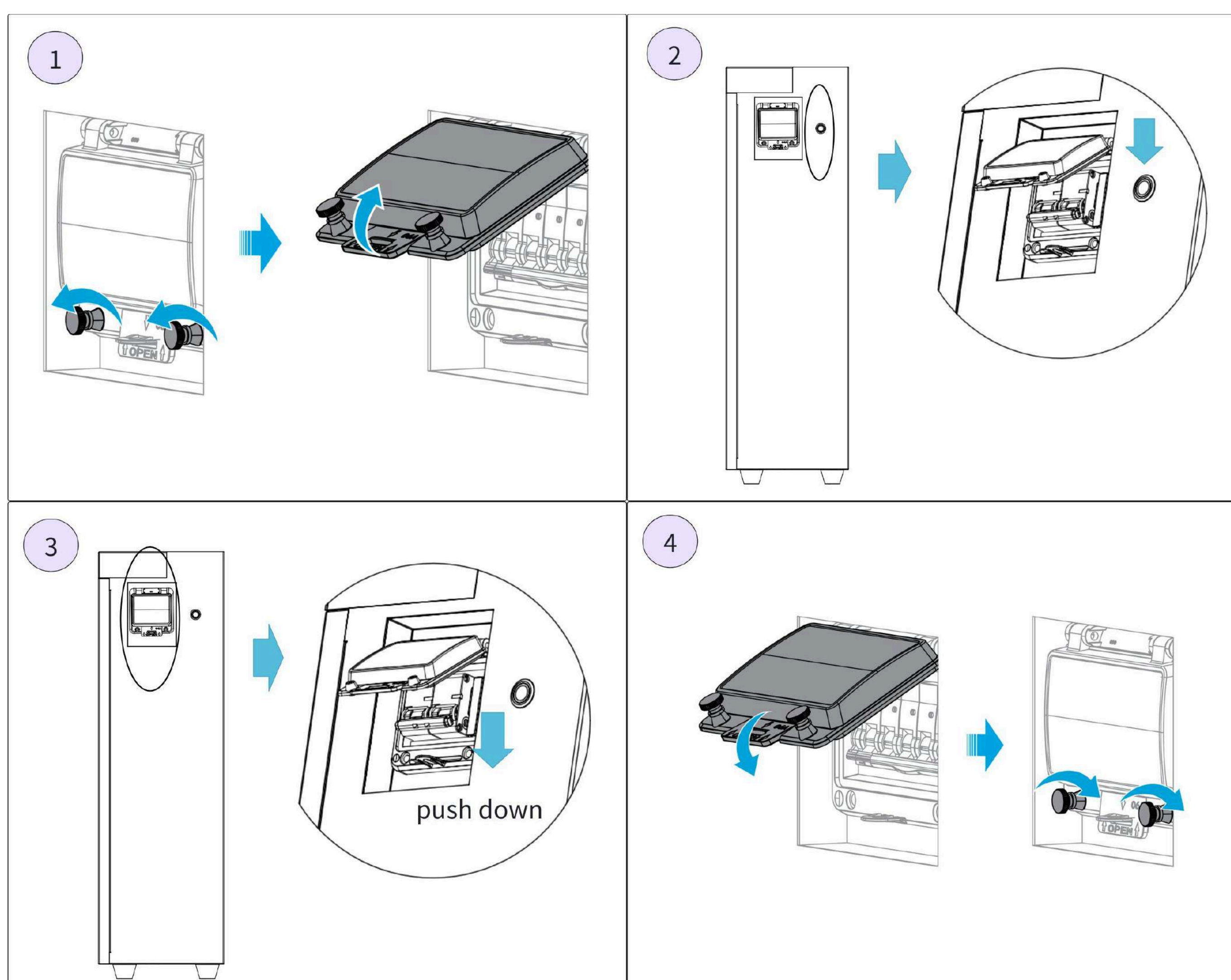
7.1 System Shutdown

⚠ Danger!

- When operating and maintaining , please power off the battery system. Operating the equipment while it is live may cause equipment damage or pose a risk of electric shock.
- When shutting down the battery system, please strictly adhere to the shutdown requirements to prevent damage to the battery system.

The shutdown steps are as follows:

1. Open the protective cover.
2. Press the switch button and wait for the button color to disappear.
3. Close the circuit breaker.
4. Close the protective cover.



7.2 Common Fault Handling

When the battery system malfunctions, it may cause the battery system to automatically shut down or some functions to malfunction. Please troubleshoot the fault according to the following methods. If the troubleshooting methods cannot assist you, please contact the after-sales service center. When contacting the after-sales service center, please collect the following information to facilitate quick problem resolution.

1. Battery information, such as serial number, software version, device installation time, fault occurrence time, fault occurrence frequency, etc.
2. Equipment installation environment, such as weather conditions, etc. The recommended installation environment can provide files such as photos and videos to assist in analyzing problems.

Fault Phenomenon	Failure Cause	Solution
Product tilt	Uneven ground or ground deformation	Install on a stable surface
The product shakes after being fixed to the wall	Wall bolts not tightened, excessive gap between product and wall	Position the product at an appropriate distance from the wall and tighten the wall-mounting screws
During operation, the indicator light goes out and the switch trips	Cable short circuit or internal fault in the battery system	Check if the external cables are short-circuited, let it stand for 2 hours, and then turn it on
Ring indicator flashes red	System Abnormality Alarm	Enter the Data Logger APP to view the solution, or contact after-sales personnel
Red Constant of Ring Indicator	System failure	Enter the Data Logger APP to view the solution, or contact after-sales personnel

7.3 Regular Maintenance

 Warning!

To ensure the security and stability of the system, please pay attention to the following points during regular inspections:

- If any situation that may affect the normal operation of the battery or energy storage inverter system is found, please contact after-sales personnel for handling in a timely manner. Do not disassemble the equipment by yourself.
- If wire insulation damage or internal copper wire exposure is found, do not touch and stay away from the area, as high voltage is dangerous. Immediately contact after-sales personnel for handling, and self-operation is prohibited.
- In case of other sudden abnormal situations, please contact after-sales personnel immediately, and carry out emergency treatment under their guidance, or wait for professionals to arrive on site to resolve the issue.
- If you need to replace the battery, please be sure to contact the dealer or after-sales service center, and let professionals handle it.
- During the upgrade process, the device is strictly prohibited from operating under load to prevent overload failures and ensure the normal upgrade of the device.

HPB-16LV

Maintenance Content	Maintenance Cycle
Check if the anti-tipping bracket is installed loosely, and if so, tighten the corresponding position.	Once every 6 months
Check if the housing is damaged. If so, please touch up the paint or contact the after-sales service center.	Once every 6 months
Check if the exposed wires are worn. If so, please replace the corresponding cables or contact the after-sales service center.	Once every 6 months
Check if there is any debris accumulation around the battery. If so, please clean it up to avoid affecting the battery's heat dissipation.	Once every 6 months
Check for water or pests to prevent long-term intrusion into the battery.	Once every 6 months
Check the SOC, perform a full charge and discharge on the battery every 6 months, and if the Battery Pack is not used for an extended period, please maintain 50% charge.	Once every 6 months

8. System Parameters

Item Name	Specification Parameters
Product Model	HPB-16LV
Battery Type	LiFePO ₄
Nominal Energy Capacity	16076.8Wh
Usable Energy Capacity	16076.8Wh
Nominal Capacity	314Ah
System Cycle Life	≥8000 @25℃±2℃, 0.5P, 95%DoD, 70%EOL
Nominal Voltage	51.2V
Operating Voltage	44.8Vdc~57.6Vdc
Standard Charge/Discharge Current	157A/157A
Maximum Charge/Discharge Current	200A/200A
Charging Mode	Constant Current - Constant Voltage (CC-CV)
Communication Ports	CAN/RS485 (supporting wireless data logger)
Scalability	Up to 32 batteries in parallel (Combiner box parallel operation)
Ingress Protection	IP65
Type of Cooling	Natural Cooling
Protection	Over-temperature, Under-temperature, Overcharge, Under-voltage, Overcurrent, Short-circuit, Reverse connection
Dimensions	L468.2*W264.5*H900mm
Weight	About 123kg (net weight)
Charge Temperature	0℃~55℃
Discharge Temperature	-20℃~55℃
Storage Environment Temperature	-20℃~60℃ (recommend -10℃~35℃)
Relative Humidity	5%~95% (No condensing)
Altitude	3000m (>3000m Requires derating)



Shenzhen Hithium Hero Energy Equity Technology Co., Ltd.

Room 101, Building 4, No. 22, Ping'an Road, Guanlan, Zhangxi Community, Guanhu Street,
Longhua District, Shenzhen, Guangdong Province, 518000, P.R.China

Email: RESS@HITHIUM.COM

The Company reserves the right to modify information such as parameters, and specifications are subject to change without prior notice.