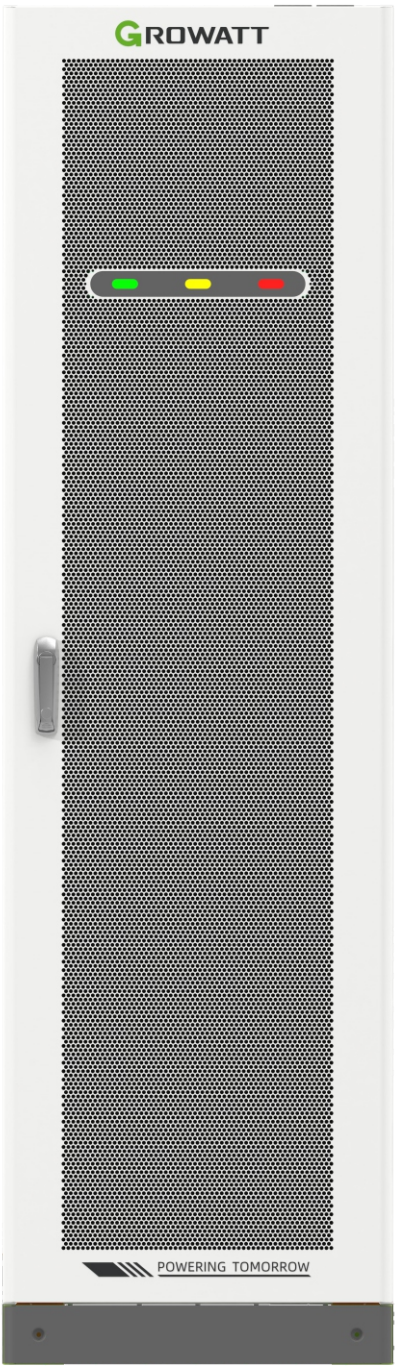
AXE 15.0~60.0H-2HC-S1
Quick Guide



Shenzhen Growatt New Energy Co., Ltd

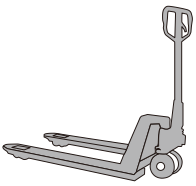
Installation environment

Max.+50℃

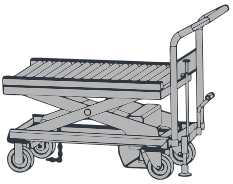
Min.-10℃

RH+5%~+95%

Installation tools



Manual forklift



Lifting trolley

Electric screwdriver

Impact drill

Hammer

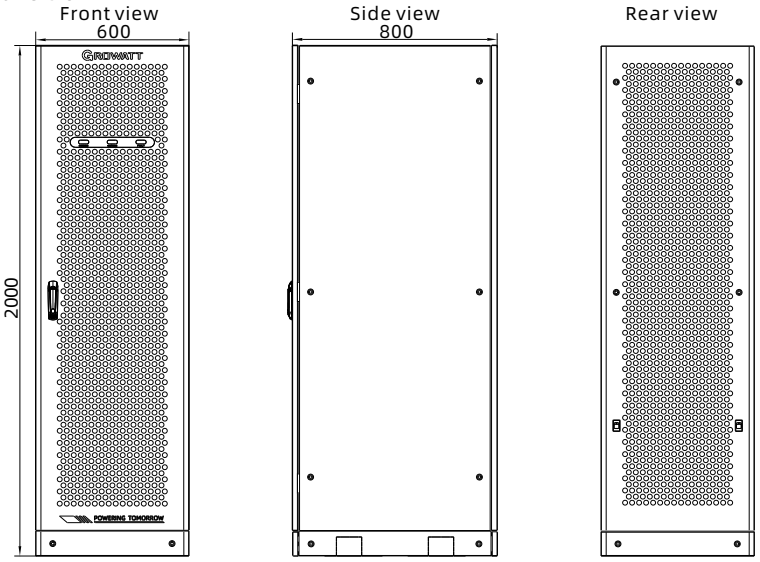
Marker

Appearance & dimensions

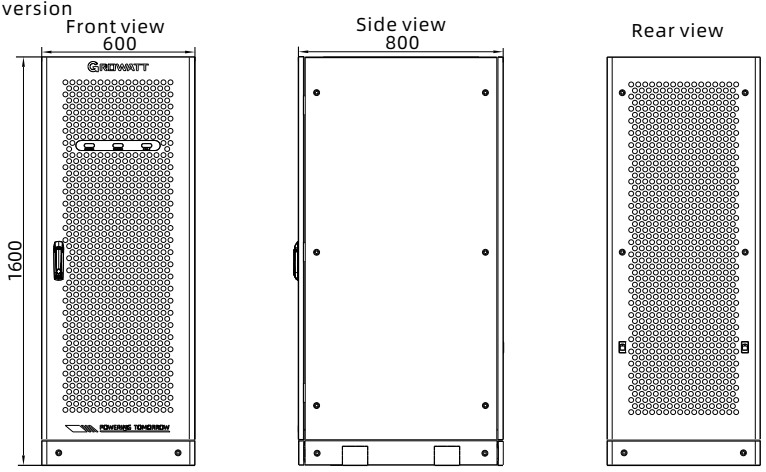
This battery cabinet comes in two versions: for the standard version, up to 12 battery modules can be installed; for the smaller version, a maximum of 8 battery modules can be installed.

Unit: mm

Standard version



Smaller version



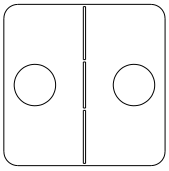
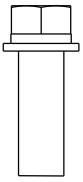
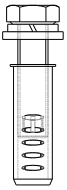
1. Inspection upon delivery

1-1 Check the scope of delivery

No.	Item	Qty
1	Battery cabinet	1
2	Battery pack	Configured based on customer's needs
3	High voltage box	1
4	Quick Guide	1
5	User Manual	1
6	Certificate of Conformity	1
7	Desiccant	2

1-2 Check the accessories

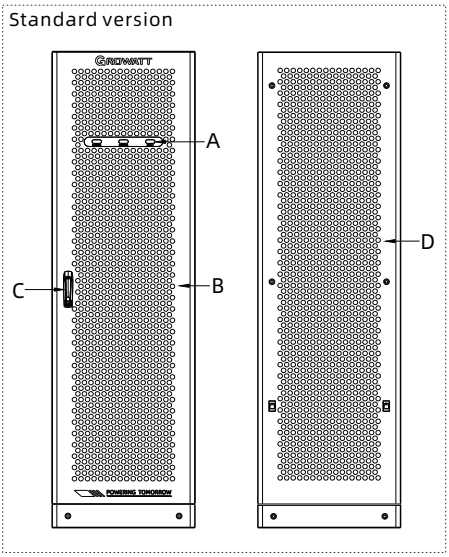
List of the installation kit

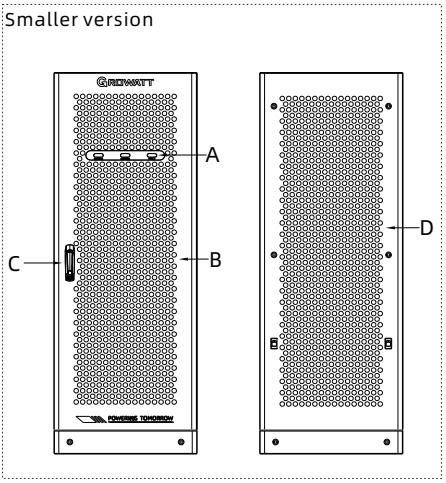
Anchor bracket, screw for fastening the battery and expansion bolt		
		

2. Introduction to the battery cabinet

2-1 Introduction to the panels of the battery cabinet

Appearances of the two versions:

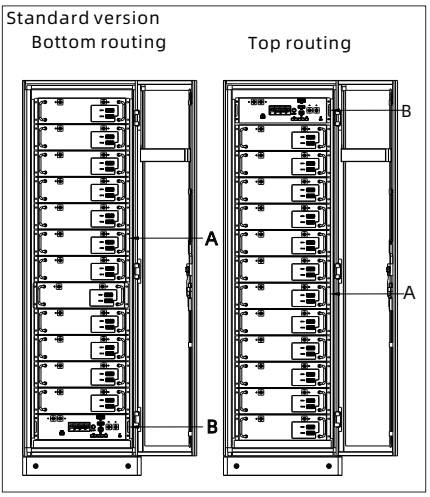


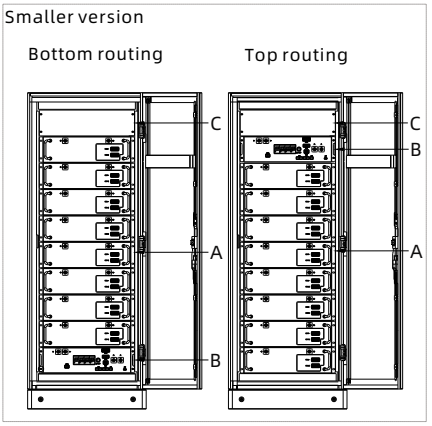


No.	Component	Description
A	LED indicator	Indicates the operating status of the energy storage system Green: running normally; yellow: alarm; red: fault
B	Air outlet	Exhaust air
C	Lock	Safety gear
D	Air intake	Take in air

2-2 Introduction to intra-cabinet components

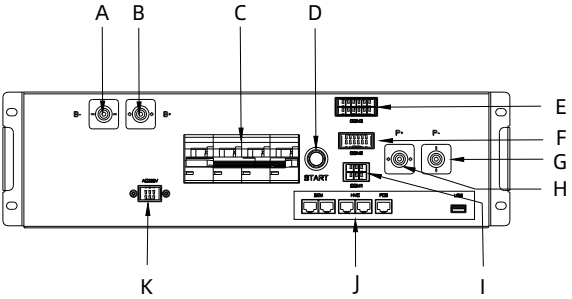
Configurations of installation modules for the two versions:





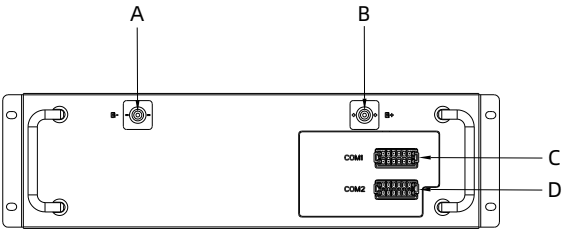
Position	Module	Description
A	Battery pack	Energy storage device
B	High voltage box	Battery charge/discharge control device
C	Decorative panel	To enhance the visual appearance

2-3 Introduction to the panel of the high voltage box



Position	Item	Description
A	BAT- power terminal	Connected to the negative power terminal of the battery cluster
B	BAT+ power terminal	Connected to the positive power terminal of the battery cluster
C	Circuit breaker	To control the battery output
D	Start button	To power on the energy storage system
E	COM3 communication terminal	Connected to the communication port of the battery pack's BM board and the 24V power supply port
F	COM2 communication terminal	Connected to panel indicators, tripping control board and emergency stop switch, etc.
G	PCS-power output terminal	Connected to the negative terminal on the DC side of the PCS
H	PCS+ power output terminal	Connected to the positive terminal on the DC side of the PCS
I	COM1 communication terminal	Connected to the RS485 communication port and the 24V power supply port of the EM (Environmental Monitor) board
J	Common wiring terminals	Connected to communication terminals of PCS, SEM and USB
K	Power supply port	Auxiliary AC 220V power input

2-4 Introduction to the panel of the battery pack



Position	Item	Description
A	Negative battery pack terminal	Negative battery pack connector
B	Cooling fan	For battery heat dissipation
C	Positive battery pack terminal	Positive battery pack connector
D	COM1 communication terminal	For communication between battery packs, and power supply
F	COM2 communication terminal	For communication between battery packs, and power supply

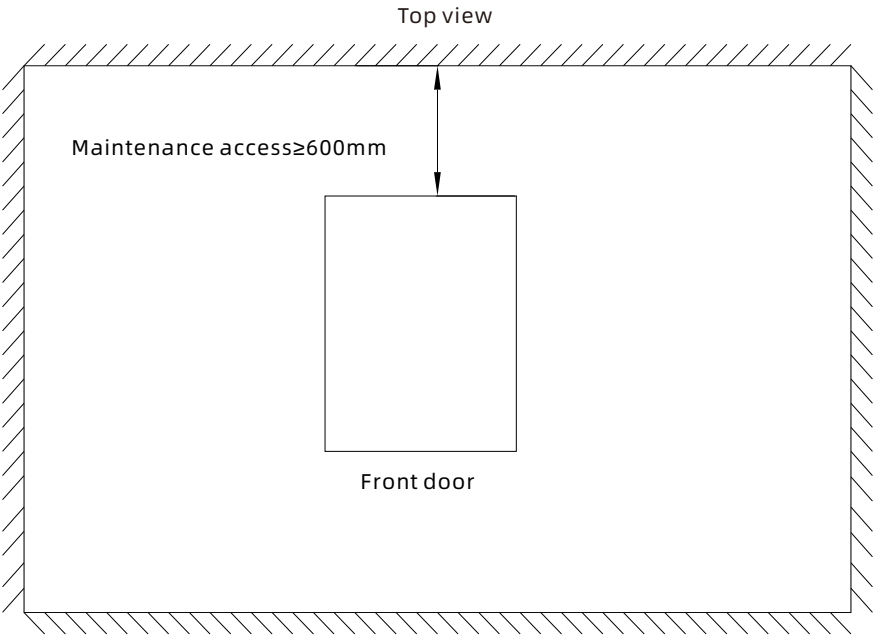
3. Basic installation requirements

3-1 Safety clearance requirements

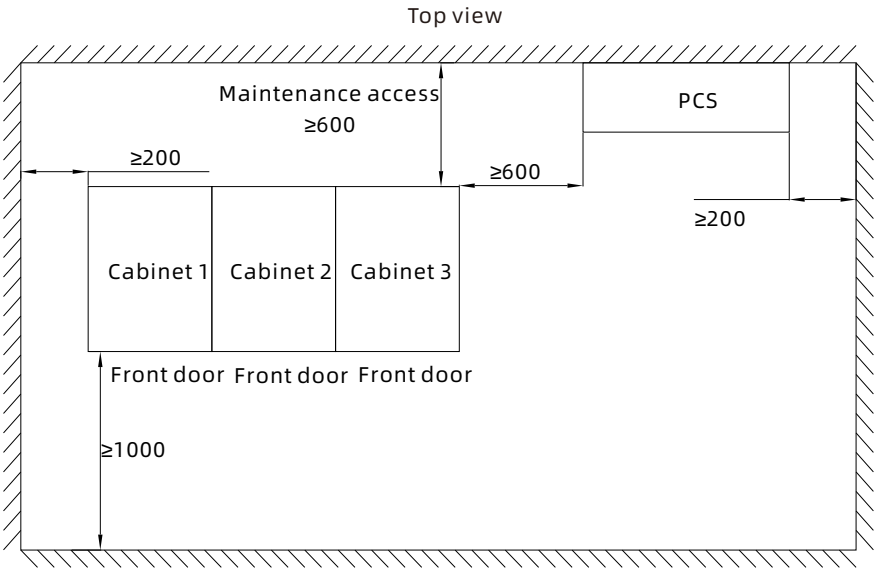
Unit: mm

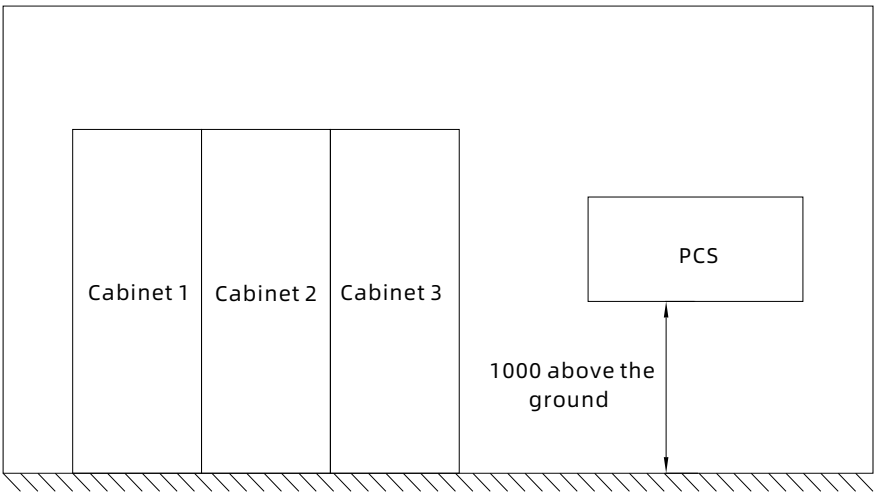
Energy Storage System Installation Environmental Requirement:
Indoor environments more than 14 km away from the coast, or 5-10 km away from the coast with air-conditioning.
Installation in closer proximity than the above is not recommended. (If installation is necessary, consult with the distributor or our company's engineer for confirmation).

A single cabinet:
For maintenance purposes, please leave a clearance of not less than 600 mm from the back door of the cabinet, as shown in the figure below.



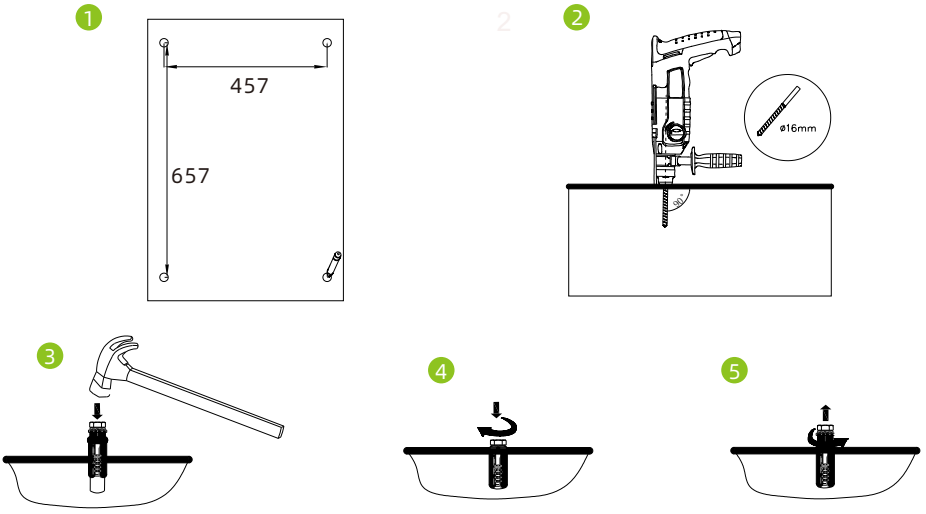
Multiple cabinets in parallel:
A maximum of 4 cabinets can be configured in parallel and the cabinets can be mounted side by side with no gap in between. The figure below takes the configuration of three cabinets in parallel working with the PCS (WIT-30-55K-XHU) as an example:





4. Transportation and installation

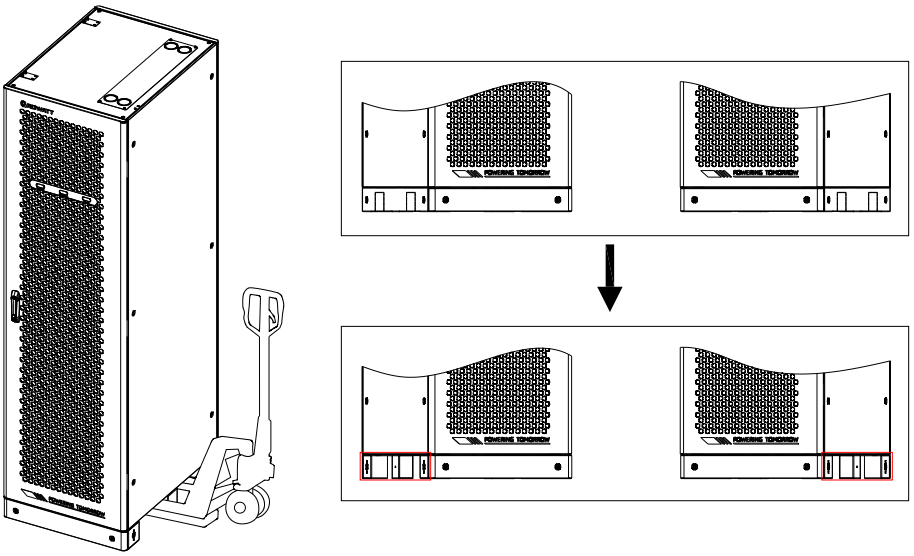
4-1 Drill holes into the ground



1. Mark hole positions at the pre-determined installation location according to the dimensions indicated below.
2. Drill holes at the marked positions.
3. Insert the expansion bolts into the holes.
4. Tighten the bolts to expand the sleeve.
5. Remove the bolts.

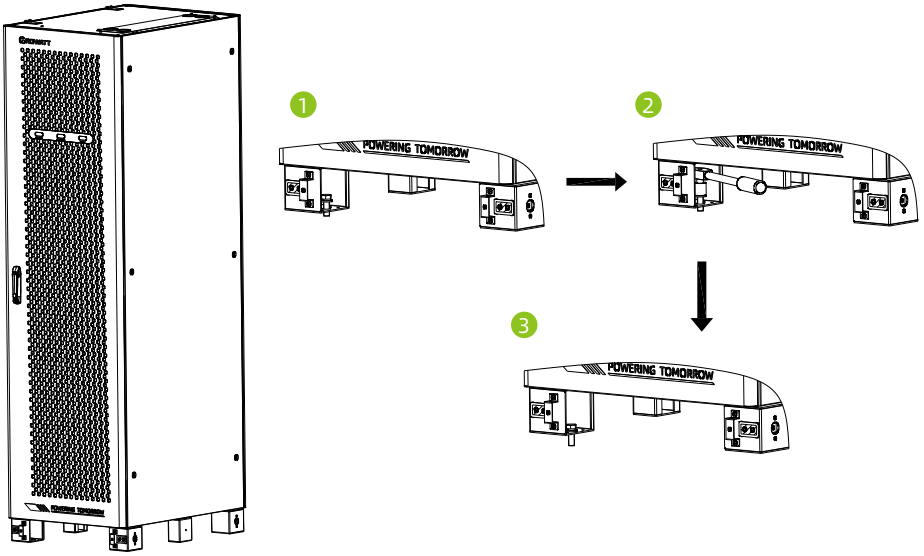
4-2 Transport the battery cabinet with a forklift

Step 1: Remove the decorative panels from the sides of the base for transportation using a forklift and store the panels for reinstallation.
Step 2: When moving the equipment with a forklift, secure it appropriately based on the actual situation to avoid tip-overs.

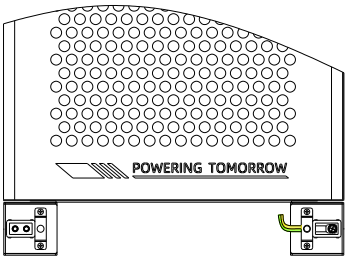


4-3 Secure the battery cabinet

Step 1: After moving the equipment to the mounting location, re-install the decorative panels.
Step 2: In case that the cabinet is unstable, use the leveling plate to level it, then secure it with the anchor brackets.
Step 3: Remove the front and rear decorative panels, then secure the four bases of the cabinet.



4-4 Install the main PE cable

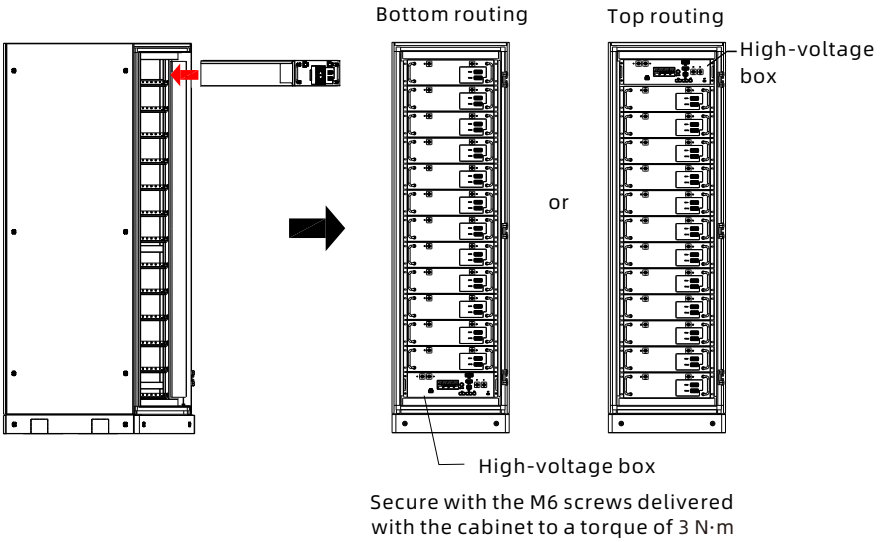


Remove the cover plate from the front door to access the grounding hole.
Secure the PE cable to the hole.
Re-install the cover plate.

M8 wiring terminal
Secure with the M8 screw
Torque: 13 N·m

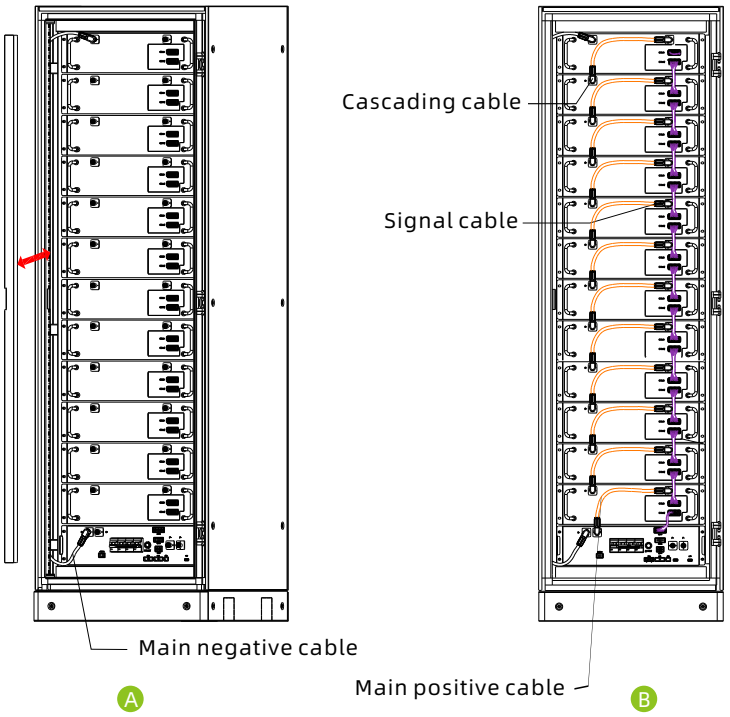
4-5 Install the battery cabinet and connect cables

Install the battery packs and the high voltage box to the corresponding slots using the lifting trolley. Up to 13 battery packs can be configured. If less than 13 battery packs are configured, please install the 3U panels at the empty positions for battery packs.(Take the standard version as an example).



5. Cable connections

Step 1: Wiring of the battery and CM (Take the bottom routing of the standard version as an example).

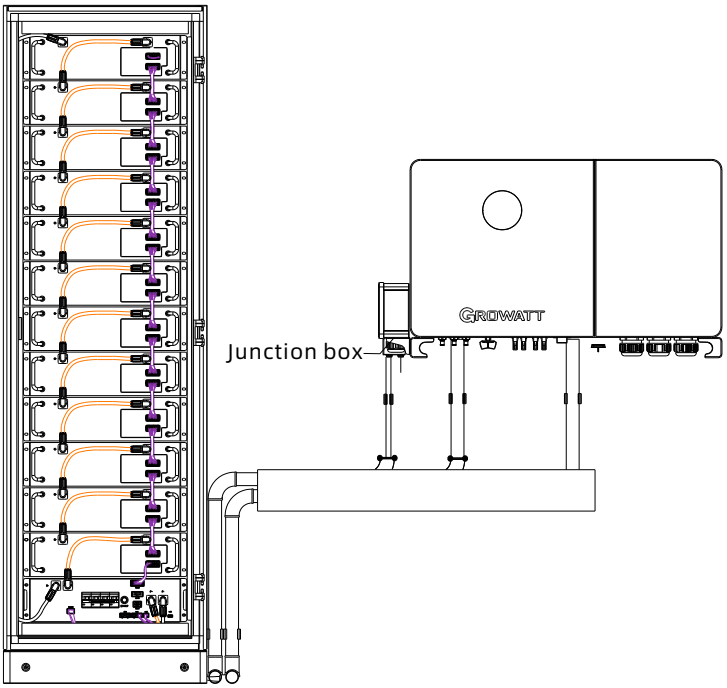


A Remove the left panel of the cabinet, then connect the negative terminal of the top battery to the CM's B- terminal. Upon completion of the cable connection, re-install the left panel.

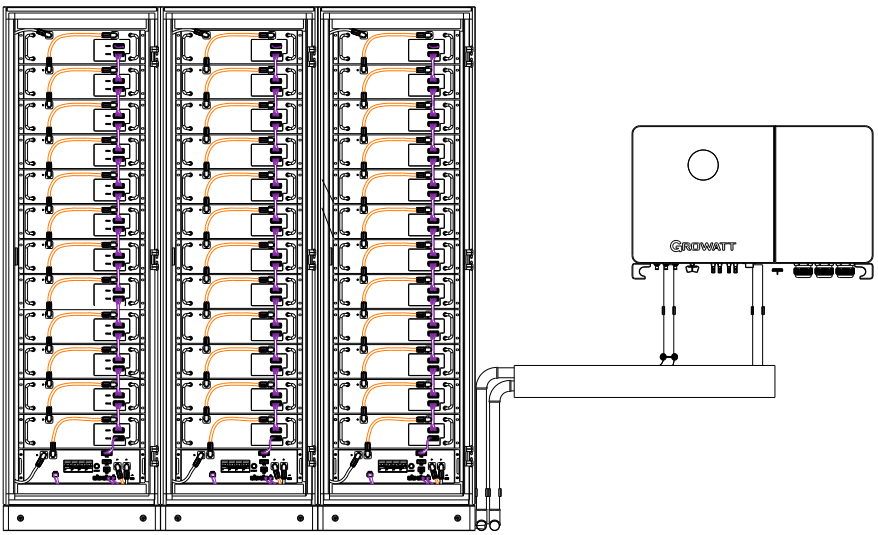
B Connect the positive terminal of the battery to the CM's B+ terminal. Then, connect the cascading cables and signal cables between the batteries as shown.

Step 2: Wiring on the customer side. Take connecting to the WIT30-55K as an example.

For a single cabinet, a junction box is required, as shown below:



For multiple cabinets in parallel, a junction box is not required. Up to 3 cabinets can be connected in parallel when working with the WIT30-55K, as shown below:



Cable requirements for connecting the battery cabinet and the PCS:

1. P+: UL10269/3AWG/Orange/P057C025B-04 terminal/P057C025B-08 terminal
2. P-: UL10269/3AWG/Orange/P057C025A-04 terminal/P057C025A-08 terminal

6. Check before power-on

6-1 Routine check

No.	Checking item	Acceptance criteria
1	Equipment appearance	• The equipment is intact, free from damage, rust or paint loss. If the paint flakes off, please re-paint the spotted area. • Equipment labels are clear and damaged labels should be replaced in time.
2	Cable appearance	• The cable sheath is properly wrapped with no visible damage. • The cable conduits are intact.
3	Cable connection	• Cables are connected at the designate positions. • Wiring terminals are prepared as required and connected reliably. • Labels on both end of each cable is clear and facing toward the same direction
4	Cable routing	• Electrical cables and extra low voltage cables are routed separately. • The cables are neat and tidy. • Cable tie joints are evenly cut without burs. • Leave the cable slack at bending points to avoid stress. • Cables are routed neatly without twists or crossovers in the cabinets.

6-2 Battery cabinet installation inspection

Cabinet inspection

No.	Checking item	Acceptance criteria
1	Installation	• Installation complies with the design requirements. • The cabinet is level, and each door opens properly.
2	Appearance	• The surface of the cabinet is free from cracks, dents and scratches. If the paint flakes off, re-paint the spotted area.
3	Cabinet grounding	• Each cabinet has at least two grounding points and should be grounded reliably. The site ground resistance should be less than or equal to 0.1Ω.
4	Label	• Labels are correct, clear and complete.

6-3 Intra-cabinet inspection

No.	Checking item	Acceptance criteria
1	Circuit breaker	The circuit breakers are OFF.
2	Cable	The bolts for securing the cables have been tightened and no loose cable connections.
3	Battery packs	All battery packs are intact.
4	Foreign object	Foreign objects, such as tools and installation leftovers are removed from the cabinet.
5	Cabinet grounding	The grounding conductor is reliably connected to the cabinet's grounding terminal block or copper bar.

7. Power on/off the equipment

7-1 Power-on procedure

1	Test the voltage between BAT+ and BAT- with a multimeter.	Voltage range: 603.2 -738.4V
2	Turn on the HVC's DC load switch	

a: Before turning on the internal switches of the auxiliary power supply in the energy storage system, ensure that the AC auxiliary power supply voltage is within the normal range (220V±10%).

7-2 Commissioning

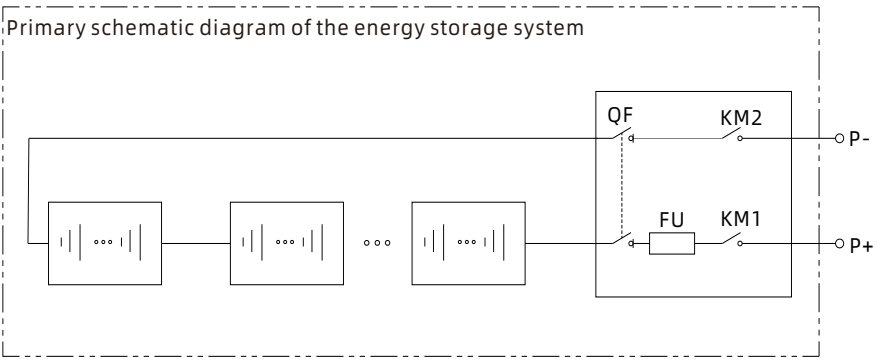
Prerequisites

1) All devices on site have passed the on-site tests.
2) The system has been powered on and no alarm/fault is reported.
3) The commissioning tools are available on site.

7-3 Power-off procedure

1	Turn off the AC power supply, including the HVC and socket
2	Turn off the main breaker of the auxiliary power supply in the AC distribution box.
3	Turn off the HVC's DC load switch.
4	Turn off the DC circuit breaker of the high voltage box.

8. Electrical schematic



9. Service and contact

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For local customer support, please visit https://en.growatt.com/support/contact

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