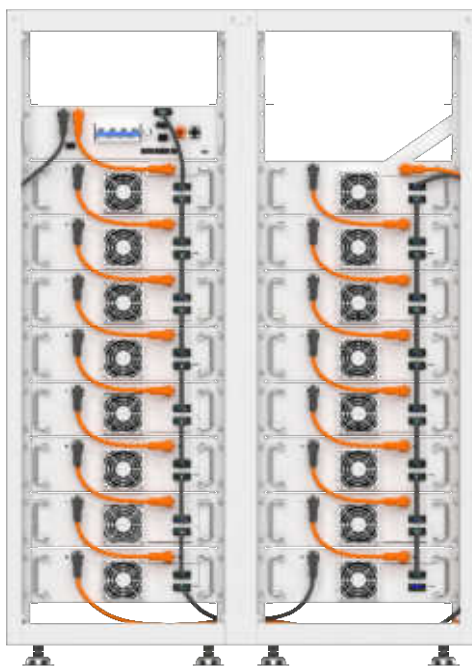


AXE 15.0~80.0H-1HR-E1

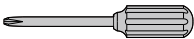
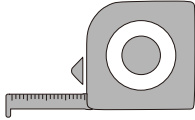
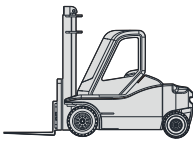
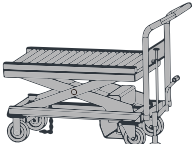
Quick Guide



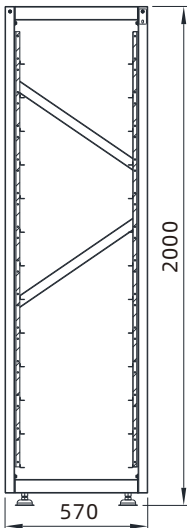
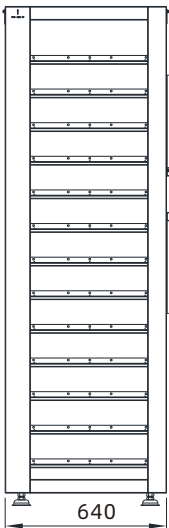
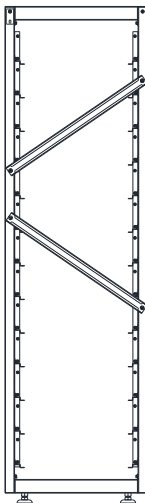
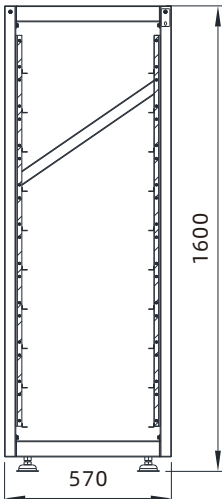
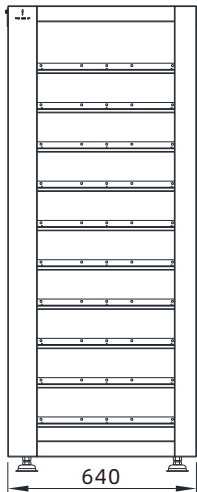
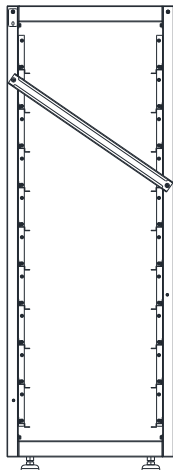
Installation environment

 Max.+50°C	 Min.-10°C	 RH+5%~+95%
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Installation tools

 Knife	 Cross-head screwdriver	 Wrench	 Measuring tape
 Electric screwdriver	 Level	 Forklift	 Lifting platform

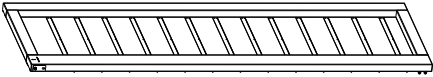
Appearance & Dimensions

AXE battery rack comes in two version. The standard version has 13 tiers, supports up to 12 battery modules; the smaller version has 10 tiers, supports up to 9 battery modules.			Unit: mm
Standard version			
Front view	Side view	Rear view	
			
Smaller version			
Front view	Side view	Rear view	
			

1.Checking before installation

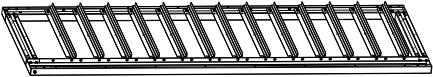
1-1

Introduction to the rack components



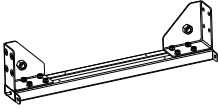
Right frame

A



Left frame

B



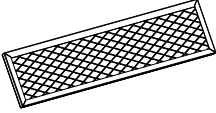
Horizontal frame

C



Diagonal support

D



Dust-proof net

E



Foot mount

F



M6*16 screw

G



Quick installation guide

H



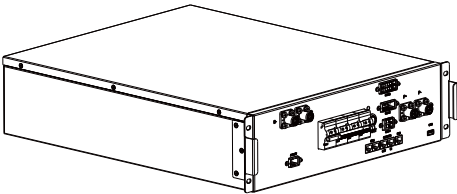
Ground terminal

I

Version	Composition
Standard	A+B+4*C+2*D+12*E+4*F+95*G+1*H+2*I
Smaller	A+B+4*C+1*D+9*E+4*F+80*G+1*H+2*I

1-2

Checking the package of high voltage box



High voltage box (CM)

A

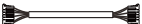
B

C

D



Warranty Card



E

F

G

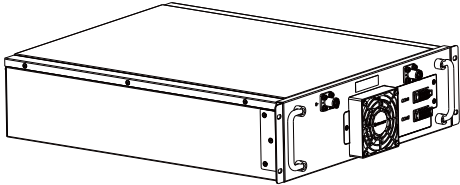
H

I



1-3

Checking the package of battery module



Battery module (BM)

A

B

C



Warranty Card



A

B

C



Warranty Card



2.Component description

2-1 Introduction to the panel of the high voltage box

The diagram shows the front panel of a high voltage box. It includes two battery terminals (A: BAT-, B: BAT+), a circuit breaker (C), a start button (D), and three communication terminals (E: COM3, F: COM2, I: COM1). There are also power output terminals (G: PCS-, H: PCS+), common wiring terminals (J), and an auxiliary power supply port (K). Various boards like SEM, OVER, PCS, and USB are also indicated.

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/off 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

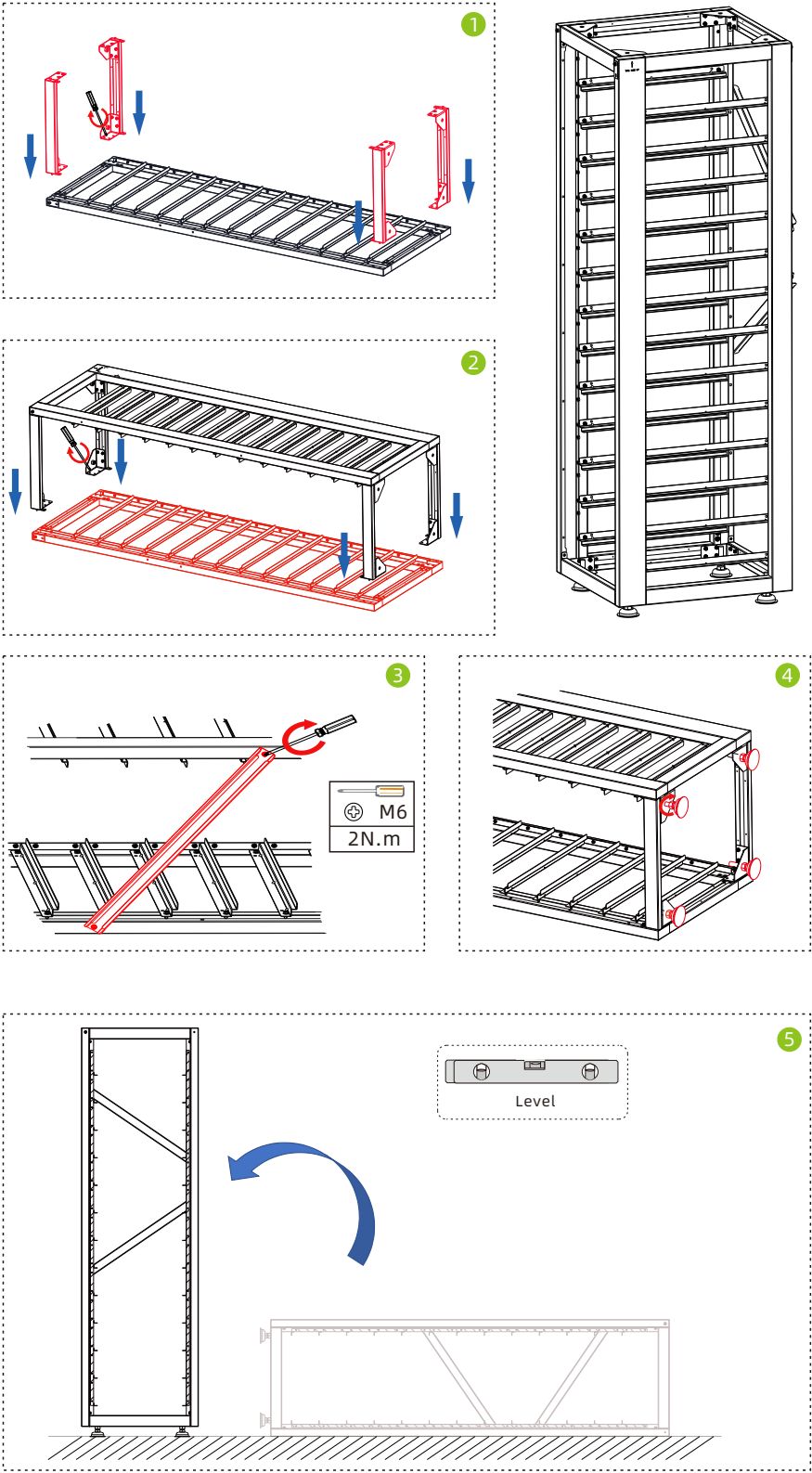
2-2 Introduction to the panel of the battery pack

The diagram shows the front panel of a battery pack. It features a negative battery pack terminal (A), a cooling fan (B), a positive battery pack terminal (C), and two communication terminals (D: COM1, E: COM2).

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
E	COM2 communication terminal	For communication between battery packs, and power supply

3. Installation

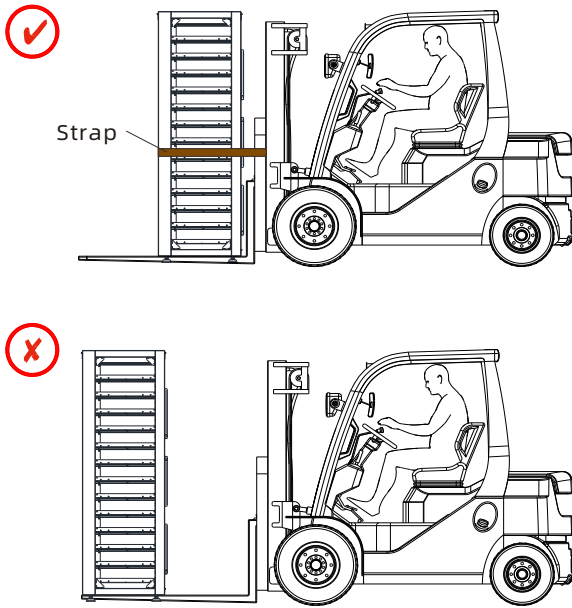
3-1 Installation of the rack



- 1 Assemble the right frame, left frame and 4 horizontal frames to form a rectangular support rack.
- 2 Secure the horizontal frames to the left and right frames using the M6 combination screws.
- 3 Attach the two diagonal supports to the rear of the rectangular rack using the M6 combination screws.
- 4 Rotate the four foot mounts to the bottom of the rack and tighten them with a wrench or by hand. Upon completion of installation, stand the rack upright.
- 5 Stand the rack up and adjust the foot mount to ensure the rack is level.

3-2 Transportation of the rack

When moving the equipment with a forklift, secure it properly according to the actual situation to avoid tip-overs. Note: Forklifts cannot transport racks with batteries installed.



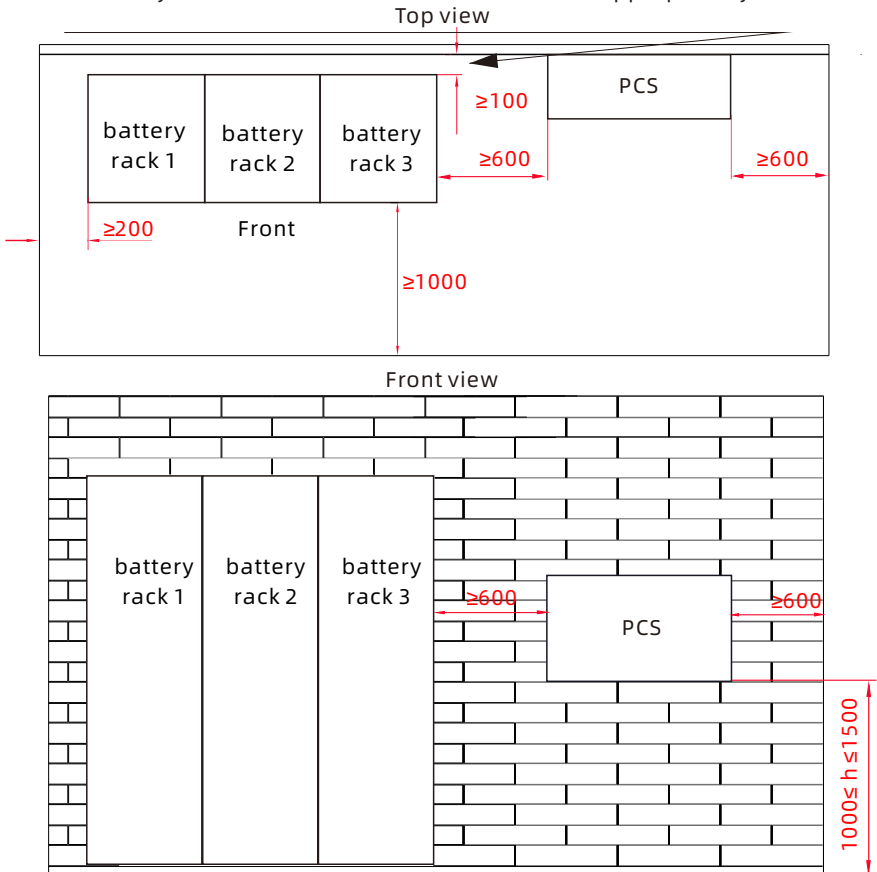
3-3 Installation of environmental requirements

The battery system is necessary to be installed in closed rooms at least 14km offshore, or closed rooms with air conditioning 5-14km offshore. The battery energy storage system may only be installed and operated in closed rooms, and works in an ambient temperature range of -10°C to 50°C and at a maximum humidity of 95%. The battery rack may not be exposed to direct sunlight or placed directly beside sources of heat.

① The clearance requirements of the AXE 15.0H-60.0H-1HR are shown below. Take the installation of three battery racks connected with the PCS (WIT 29.9-50K-XHU) as an example.

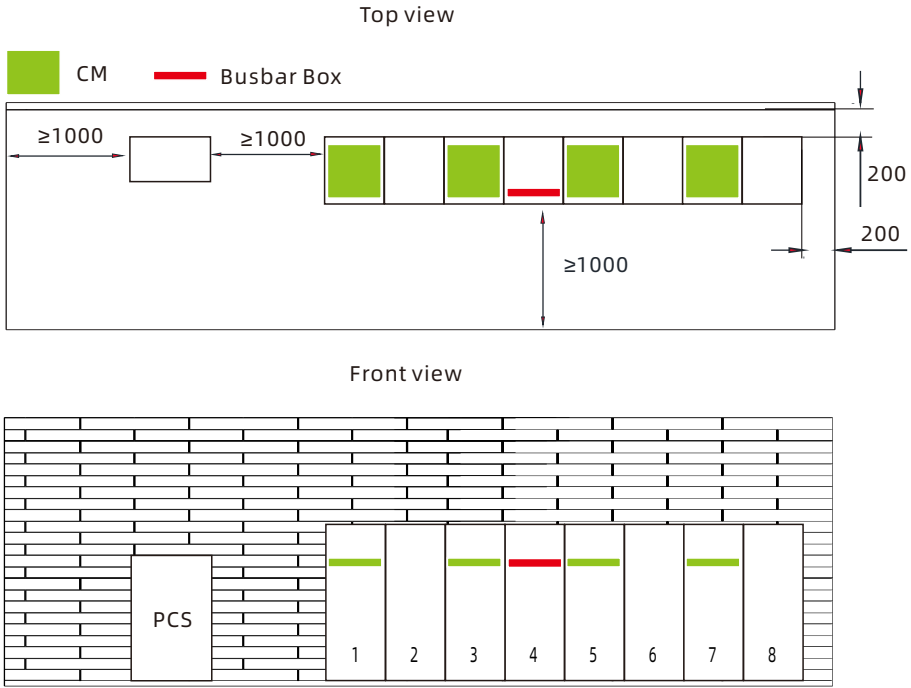
Unit: mm

For dust-proof net's maintenance accessibility, the clearance between the battery rack and wall surface can be increased appropriately.



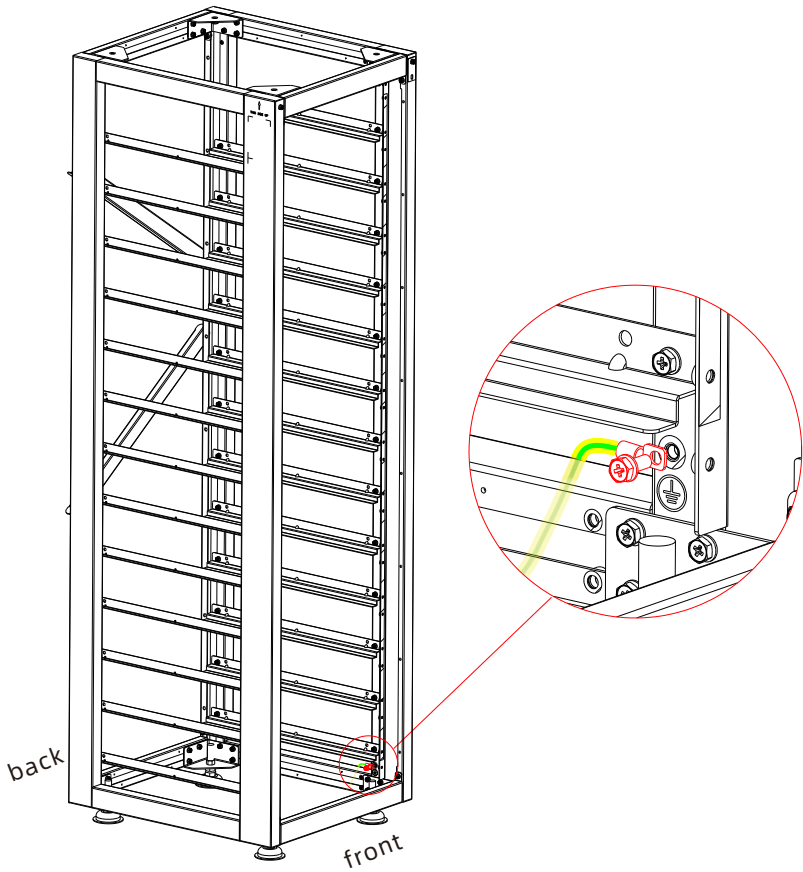
② The clearance requirements of the AXE 75.0H-80.0H-1HR are shown below. Take the installation of eight battery racks connected with the PCS (WIT 50-100K-HU) as an example.

Unit: mm

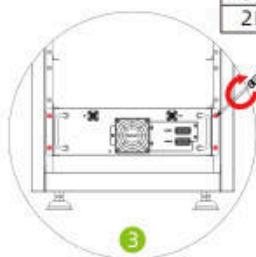
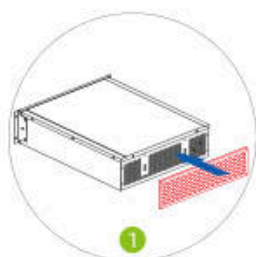
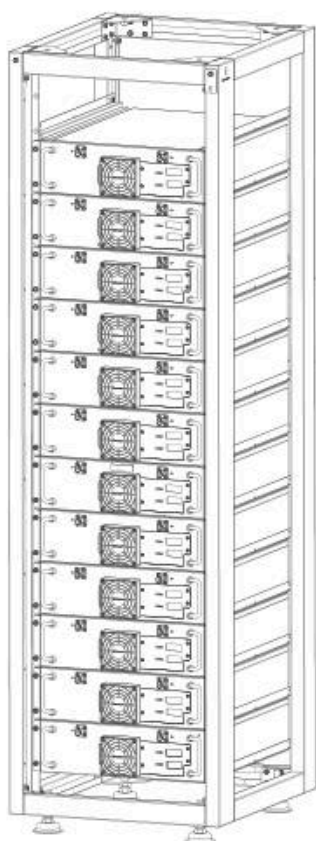


4. Installation of battery modules and cable connections

4-1 Wiring of the grounding cable of the rack



4-2 Installation of battery modules

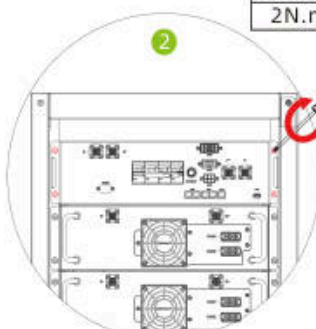
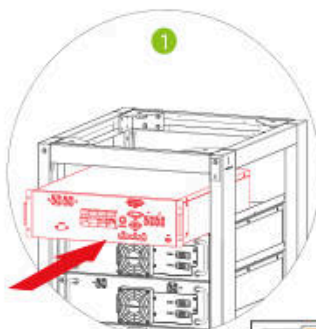
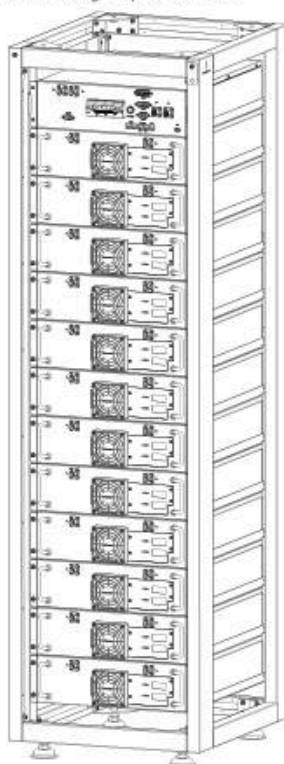


⊕ M6
2N.m

- 1 Install the dust filter at the rear of the battery module.
- 2 Install the battery modules into the slots of the rack from bottom to top.
- 3 Secure the battery modules to the rack using the M6 combination screws.

4-3 Installation of the high voltage box

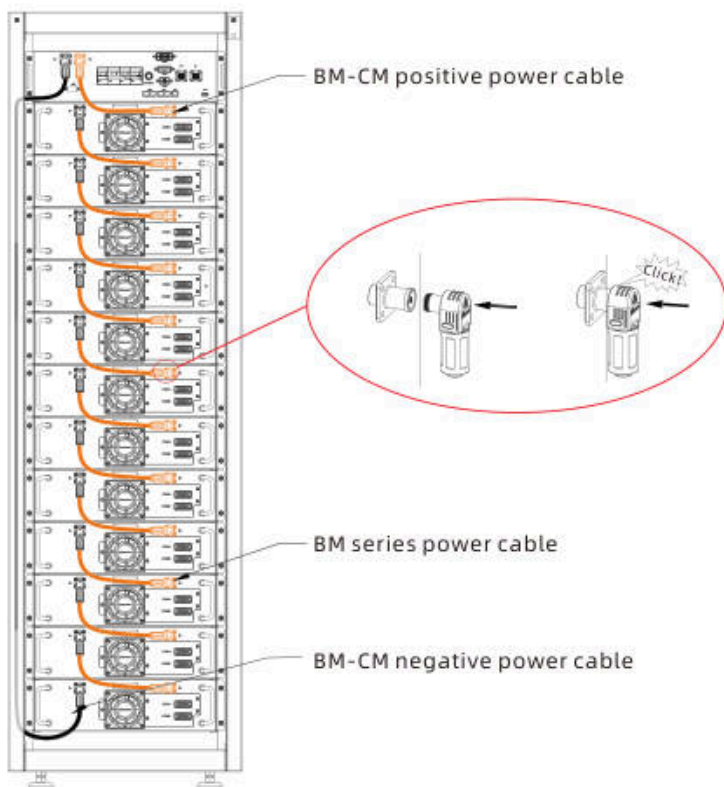
The high-voltage box can be installed on the top or bottom of the battery rack. Top mounting is preferred.



⊕ M6
2N.m

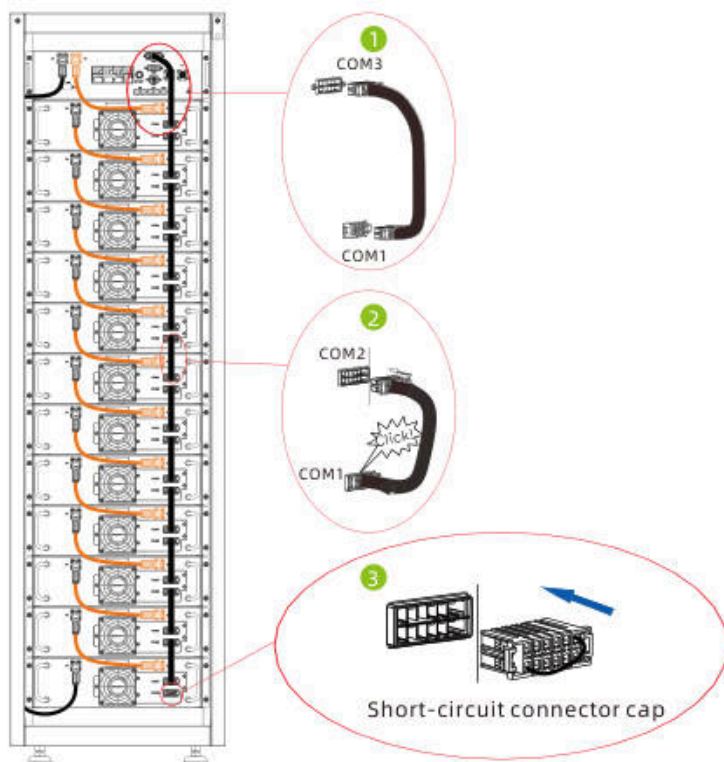
- 1 Push the high voltage box to the topmost slot.
- 2 Secure the high voltage box to the rack using the M6 combination screws.

1 Wiring of power cables between battery modules



Please measure the voltage of each battery pack accurately before connecting the power cable. The bottom battery pack "B-" terminal is connected to the high-voltage box "B-" terminal. The "B +" terminal of the top battery pack is connected to the "B +" terminal of the high-voltage box.

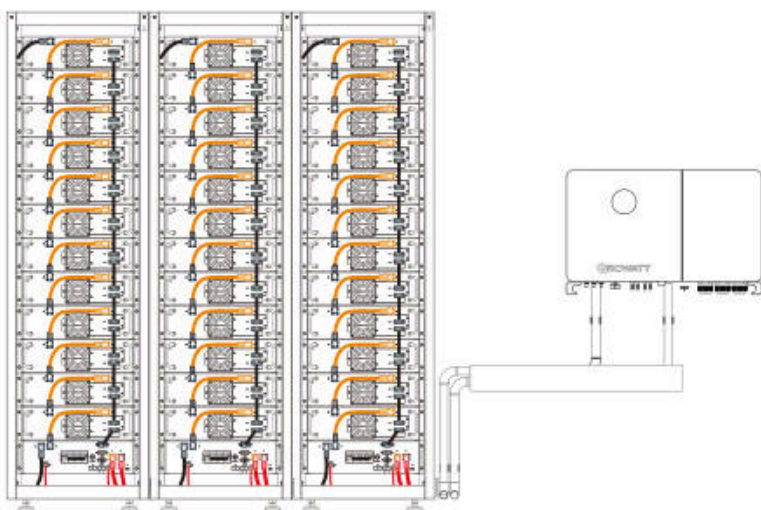
2 Wiring of communication cables between battery modules



- 1 The top battery pack COM1 is connected to the high-voltage box COM3 with a communication cable
- 2 Connect the COM1 and COM2 terminals between the battery packs with a communication cable
- 3 Bottom Battery Pack COM2 Terminal Insert short-circuit connector cap

3 Wiring of cables between the battery system and the WIT 29.9-50K-XHU

Up to 3 clusters of AXE battery system can be connected to a WIT 29.9-50K-XHU, as show below:



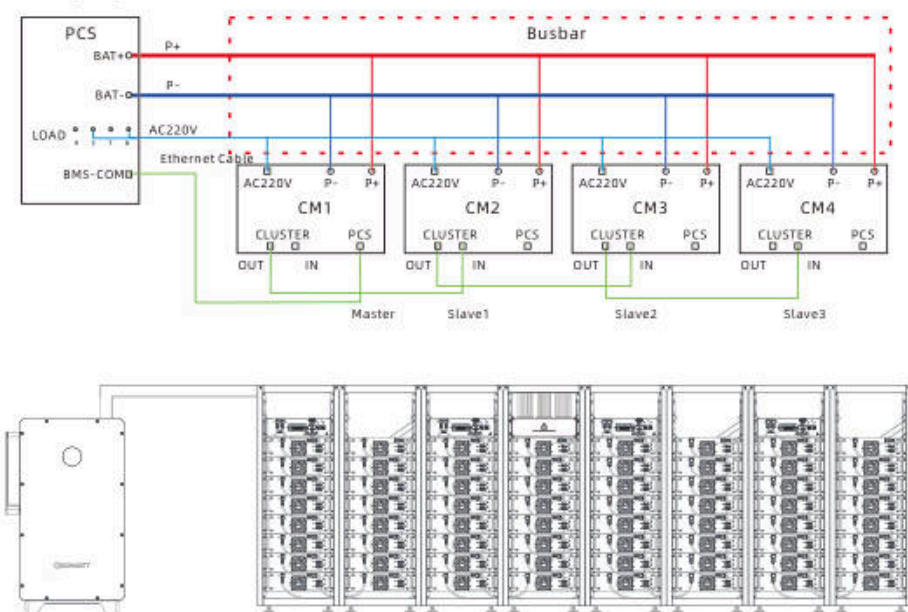
Cable requirements for connecting the battery cabinet and the WIT 29.9-50K-XHU:

1. AXE AC auxiliary power supply wiring: The AC 220V terminal of the high-voltage box should be connected to the AC terminals of the PCS. When connecting, choose a phase on the load terminals of PCS to connect (either one of R/S/T phase +N wire). When connecting multiple battery cabinets, the auxiliary power connections should be distributed to different phases to balance the load.
2. BMS communication wiring: The PCS terminal of the high-voltage box is connected to the BMS1/BMS2/BMS3 terminal of the PCS.
3. The P+/P- terminal of the high-voltage box is connected to the Battery+/Battery- terminal of the PCS.

4 Wiring of cables between the battery system and the WIT 29.9-50K-XHU

Up to 4 clusters of AXE battery system can be connected in parallel to a WIT 50-100K-HU, as show below:

Wiring Diagram



Cable requirements for connecting the battery cabinet and the WIT 50-100K-HU:

1. For single cluster, the AC 220V and P± of the high-voltage box should be directly connected to the PCS. For multiple clusters in parallel, the AC 220V and P± of the high-voltage box should be connected in parallel through the busbar box and then connected to the PCS.
2. AXE AC auxiliary power wiring: The AC 220V terminals of the high-voltage box should be connected to the AC busbar of the busbar box, and then through the busbar box, connected to the AC terminals of the PCS. When connecting, choose a phase on the load terminals of PCS to connect (either one of R/S/T phase +N wire).

3.BMS communication wiring: The PCS terminal of the first cluster of high-voltage box is connected to the BMS terminal of the PCS. The OUT terminal of the CLUSTER terminal of the first cluster of high-voltage box is connected to the IN terminal of the CLUSTER terminal of the next cluster of high-voltage box, and this connection continues in this manner until the last cluster.

4.Power cable wiring: The P+ / P- terminals of the high-voltage box are connected to the B+/B- busbars of the busbar box, and then through the busbars, they are connected to the B+/B- terminals of the PCS.

5. Check before power-on

5-1 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.
5	Switch	• The switch on the external AC distribution panel or the distribution panel is in the OFF position. • The switch on the high voltage box is in the OFF position.

5-2 Rack inspection

No.	Checking item	Acceptance criteria
1	Installation	• Installation complies with the design requirements. • The rack is level, and each battery module can be properly installed.
2	Appearance	• The surface is free from cracks, dents and scratches. If the paint flakes off, re-paint the spotted area.
3	Rack grounding	• Each rack has at least one grounding point 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.

5-3 Internal inspection

No.	Checking item	Acceptance criteria
1	Battery module	The exterior of each battery module is free from damage.
2	High voltage box	The exterior of the high voltage box is free from damage.
3	Foreign object	All foreign objects have been removed from the rack, such as tools and leftover installation materials.

6. Power on/off the equipment

6-1 Power-on procedure

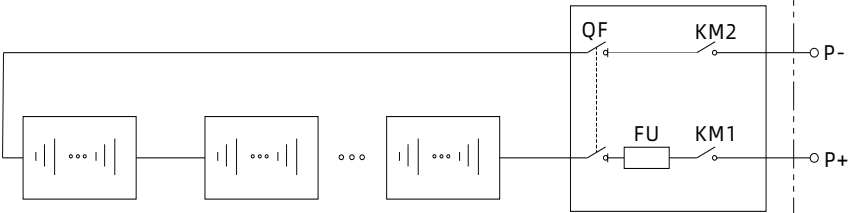
1	Turn on the DC and/or PV Switch on the Inverter and the circuit breaker on the AC side according to the Inverter operating instructions.
2	Turn on the circuit breaker on the high voltage box.
3	Press and hold the START button on the high voltage box for more than 2 seconds.

6-2 Power-off procedure

1	Turn off the DC and/or PV switch on the inverter and the circuit breaker on the AC side.
2	Turn off the circuit breaker on the high voltage box of battery system.

7. Electrical schematic

Primary schematic diagram of the energy storage system



8. Service and contact

E
W

For local customer support, please visit



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