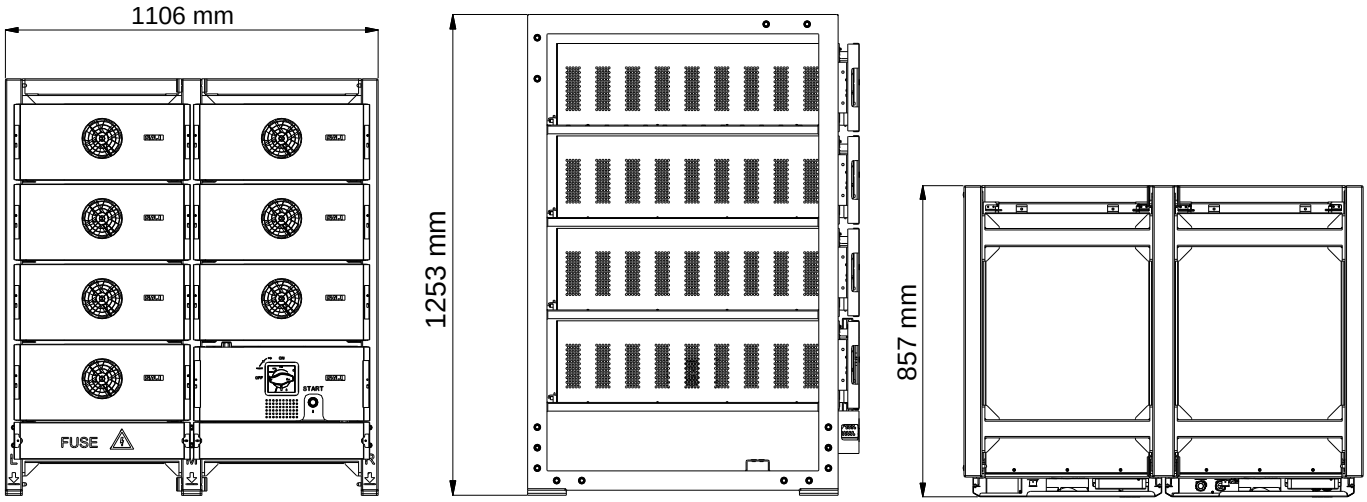
CB2-X-HV5 Quick Installation Guide

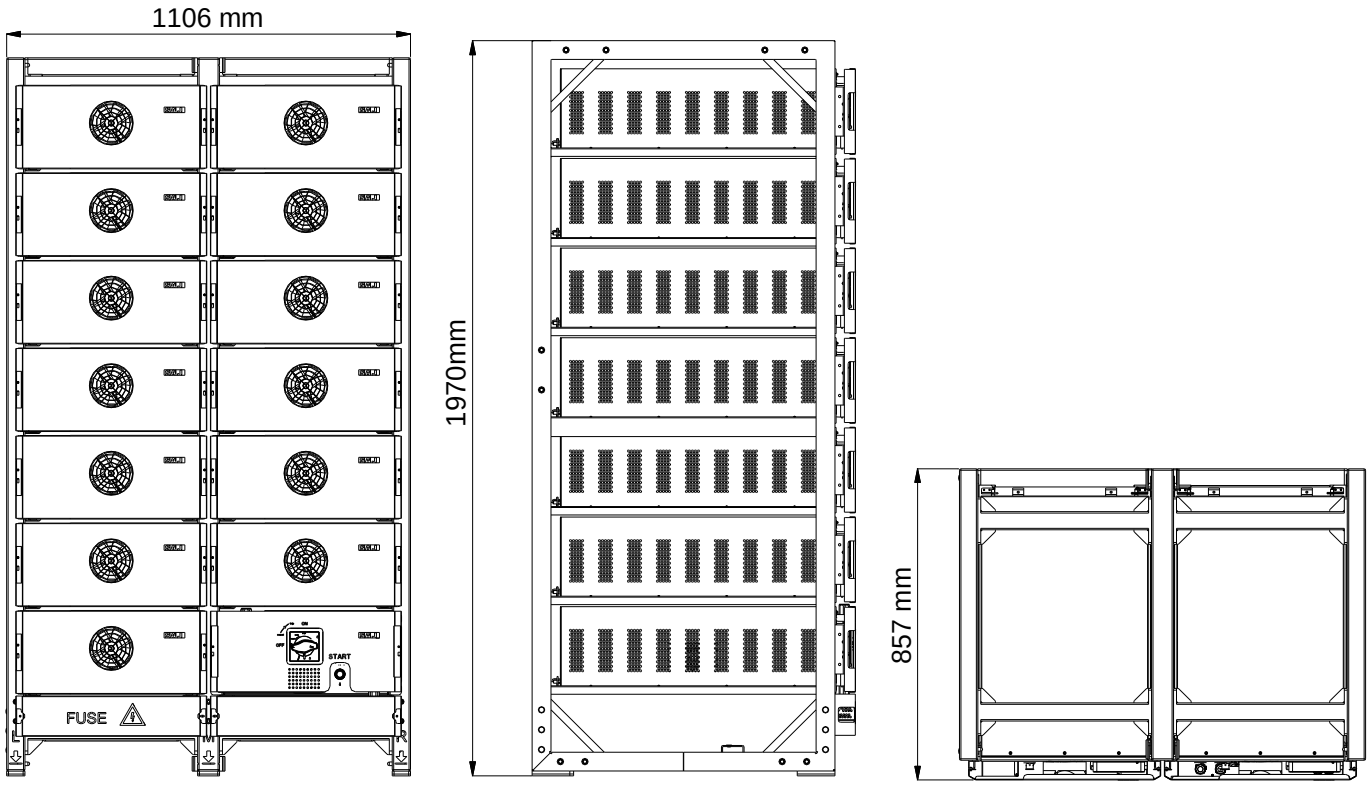
This quick installation guide is applicable for the installation of CB2-X-HV5. For detailed instructions, refer to the CB2-X-HV5 User Manual.

☐ 1. Installation space requirement

- Dimensions of CBT2-100.3-HV5 battery rack:



- Dimensions of CBT2-186.2-HV5 battery rack:



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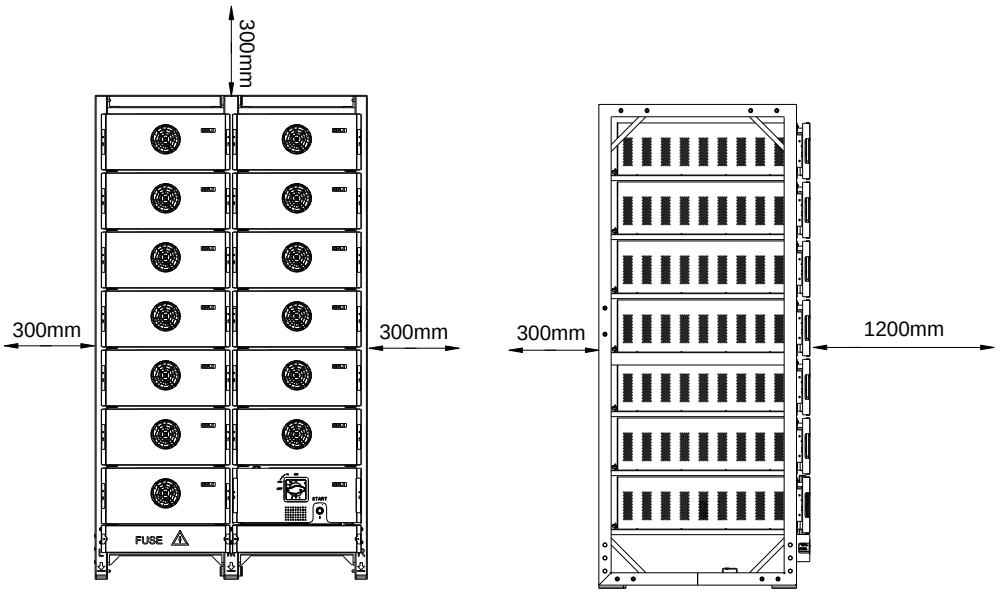
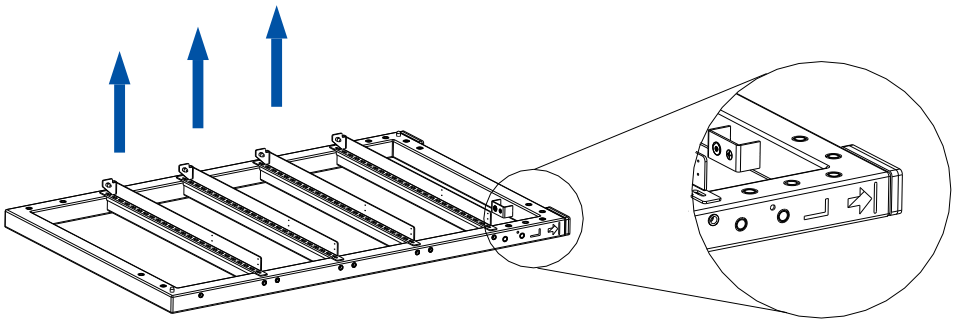
The equipment can only be installed indoors.

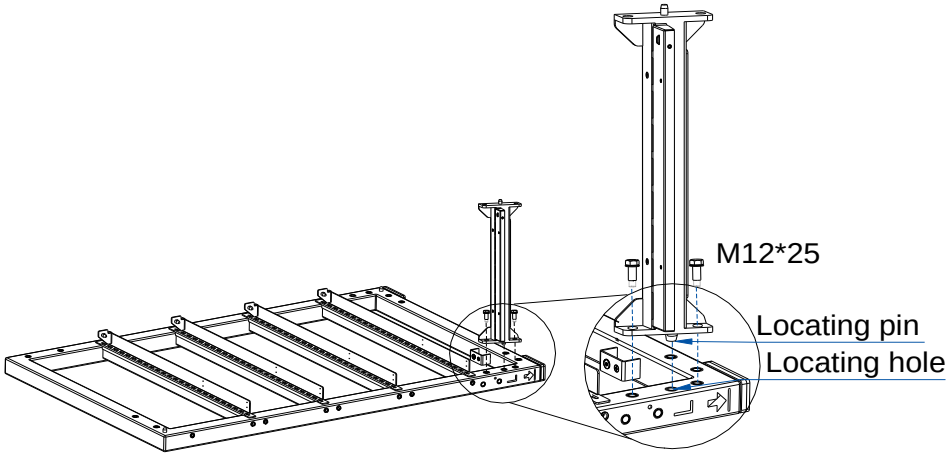


☐ 2. Assemble the CB2 battery system

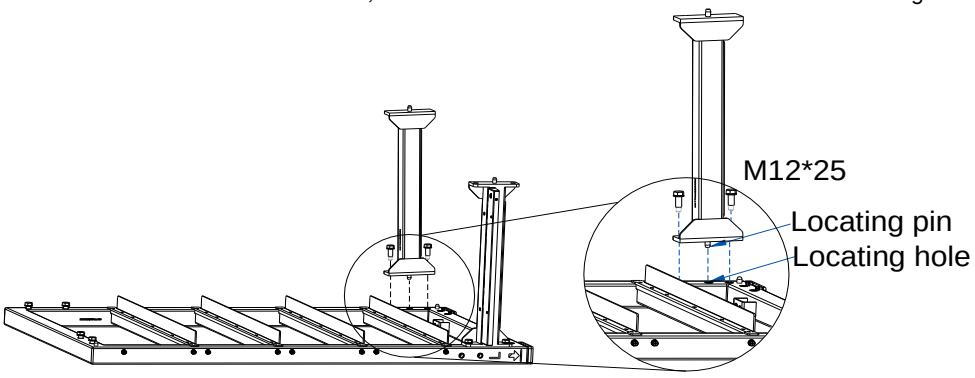
Step 1. Place the left (**L**) side frame of the rack on the floor with the inside facing upwards.



Step 2. Insert the front bottom beam onto the frame, and secure the beam a little with two screws without tightening completely. (M12*25)



Step 3. Insert the left bottom beam onto the frame, and secure the beam a little with two screws without tightening completely.



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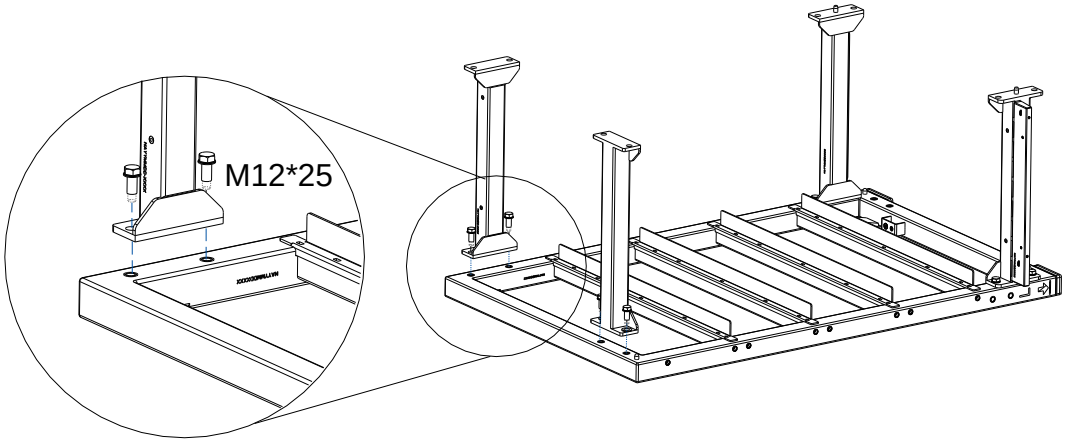
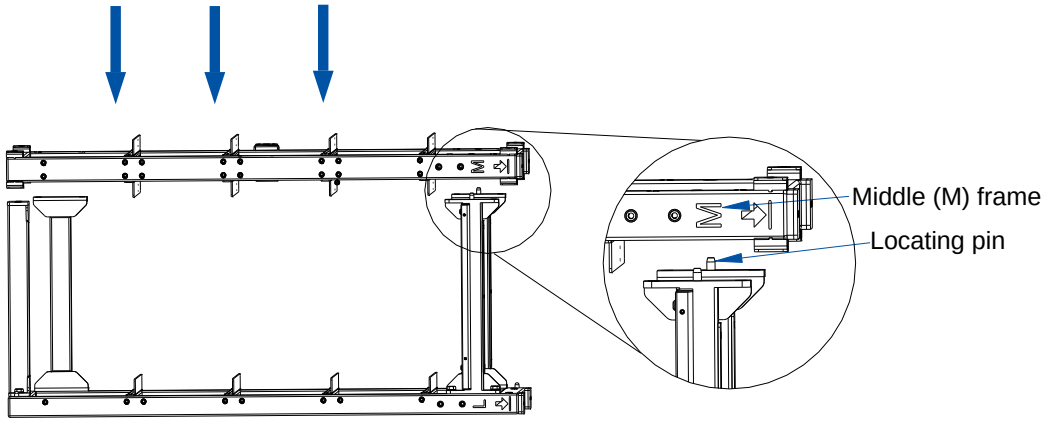
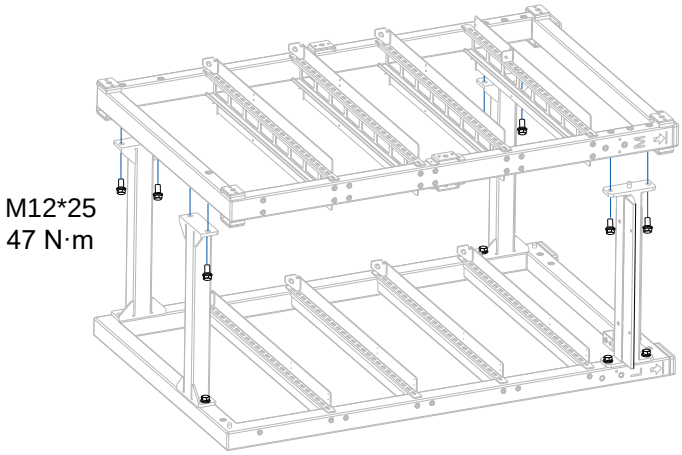
Step 4. Place the top two beams onto the frame, and secure the beam a little bit. (M12*25)



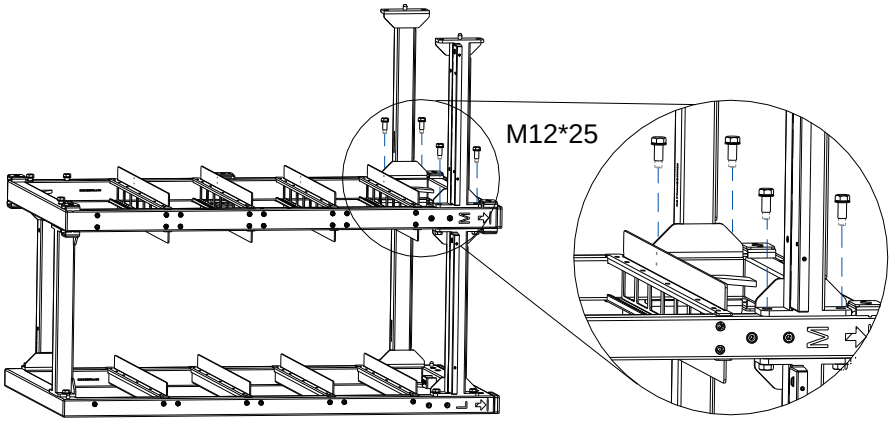
Step 5. Place the middle (**M**) side frame of the rack onto the four beams. Align with the help of the bottom locating pins and the securing holes of the top beams.



Step 6. Tighten all the 16 screws of the four beams completely. (M12*25; 47 N·m)



Step 7. Insert the two right bottom beams onto the frame as step 2 and 3, and secure each beam a little with two screws without tightening completely. (M12*25)



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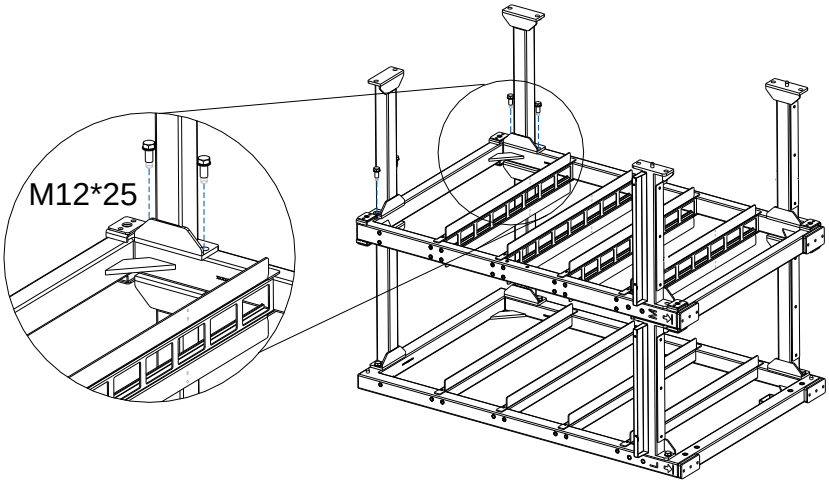
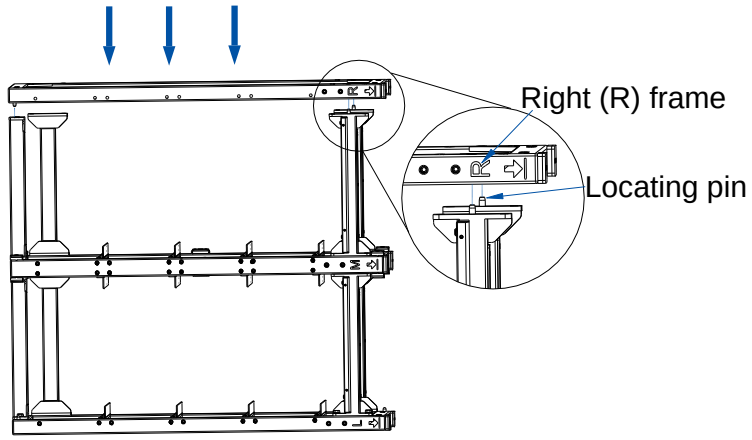
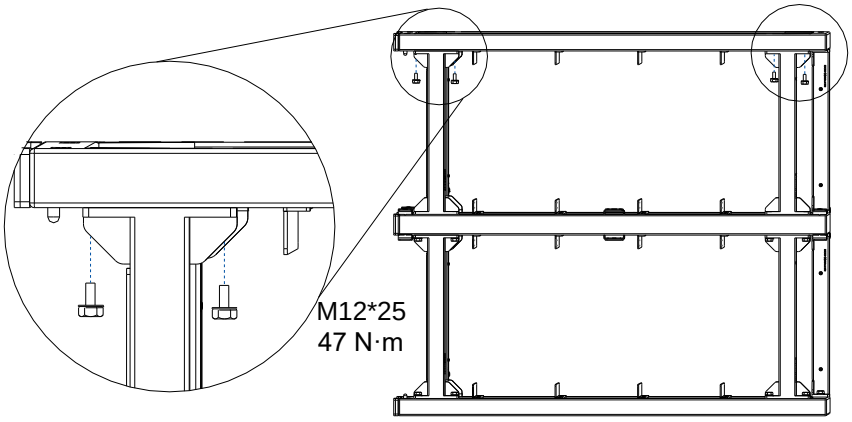
Step 8. Place the top two beams onto the frame as step 4, and secure the beam a little bit. (M12*25)



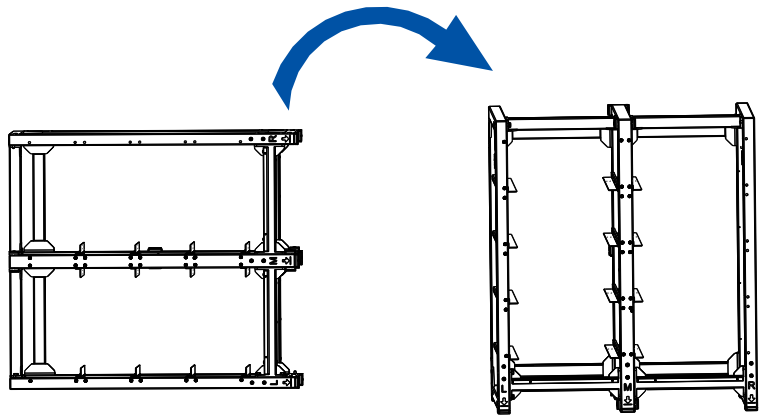
Step 9. Place the right (**R**) side frame of the rack onto the four beams as step 5. Align with the help of the bottom locating pins and the securing holes of the top beams.



Step 10. Tighten all the 16 screws of the four beams completely. (M12*25; 47 N·m)



Step 11. Turn the whole battery rack to stand it upright. At least two installation engineers are required.



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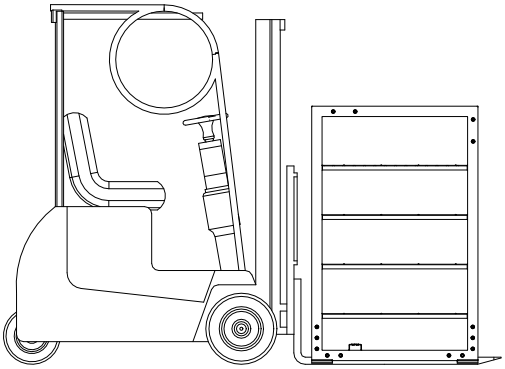
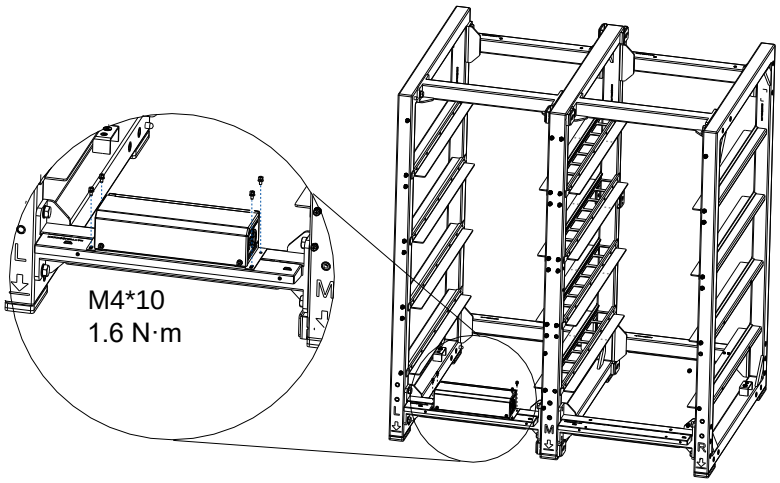
Step 12. Lift the battery rack from the front side of the rack, and move the rack to the target position with a forklift or roller conveyor.

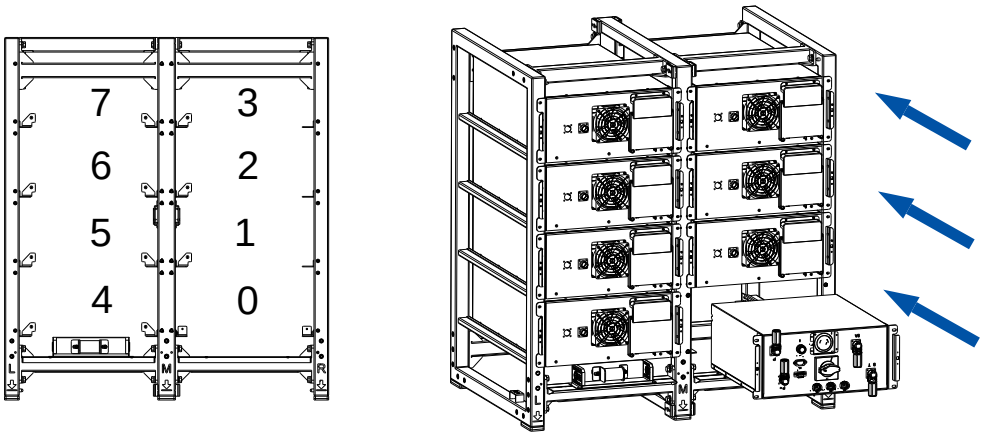
Note: Make sure that the battery rack is located within the reach to the inverter through cable connections. The provided power and communication cables are of 5000 mm.



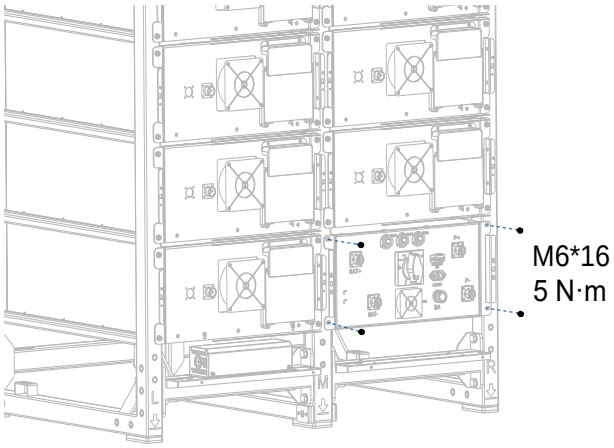
Step 13. Install the fuse box on the left bottom beam. (M4*10; 1.6 N·m)



Step 14. Push the battery modules into sections 1–7 of the rack, and push the battery control unit into section 0 of the rack.



Step 15. Lock each battery module and the battery control unit with four bolts. (M6*16; 5 N·m)



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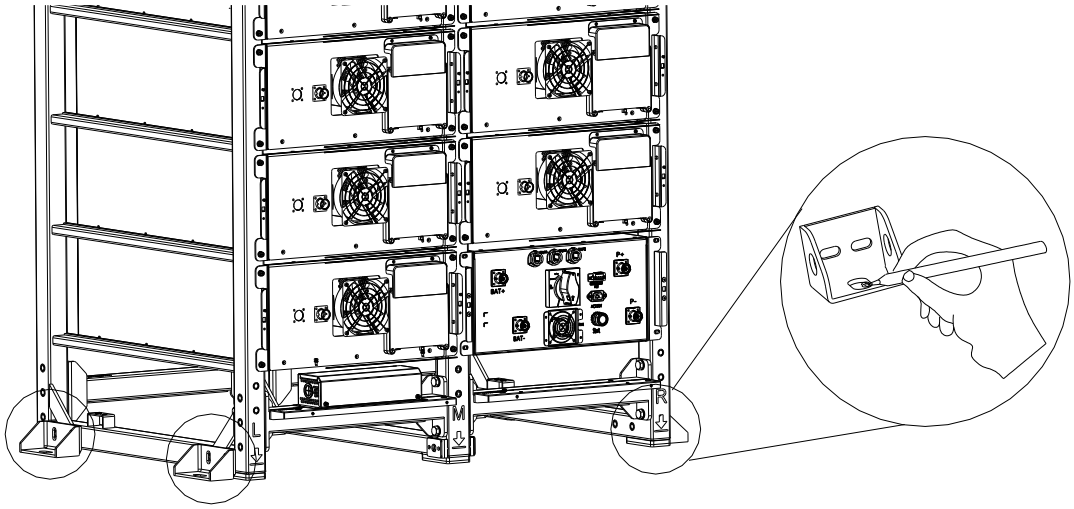
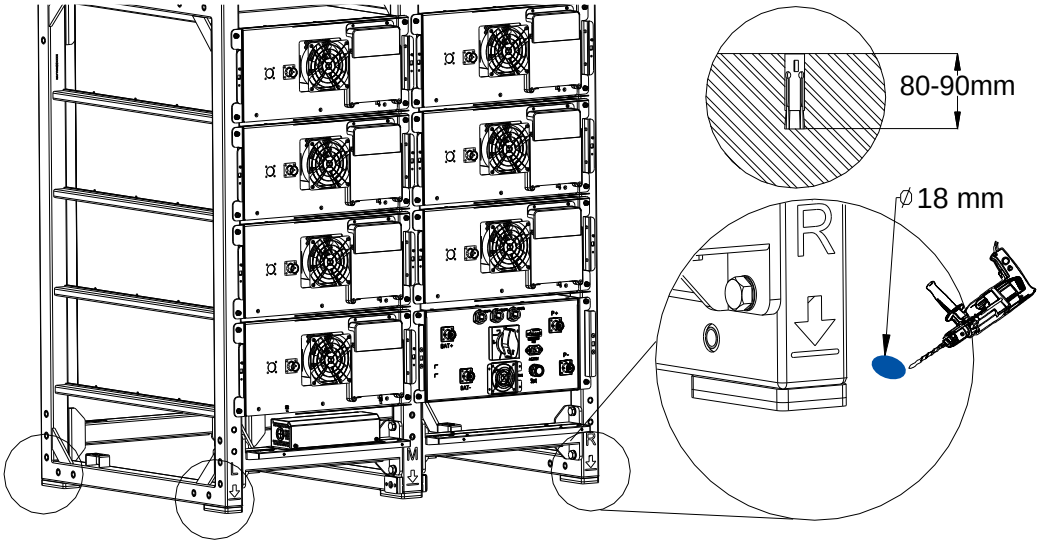
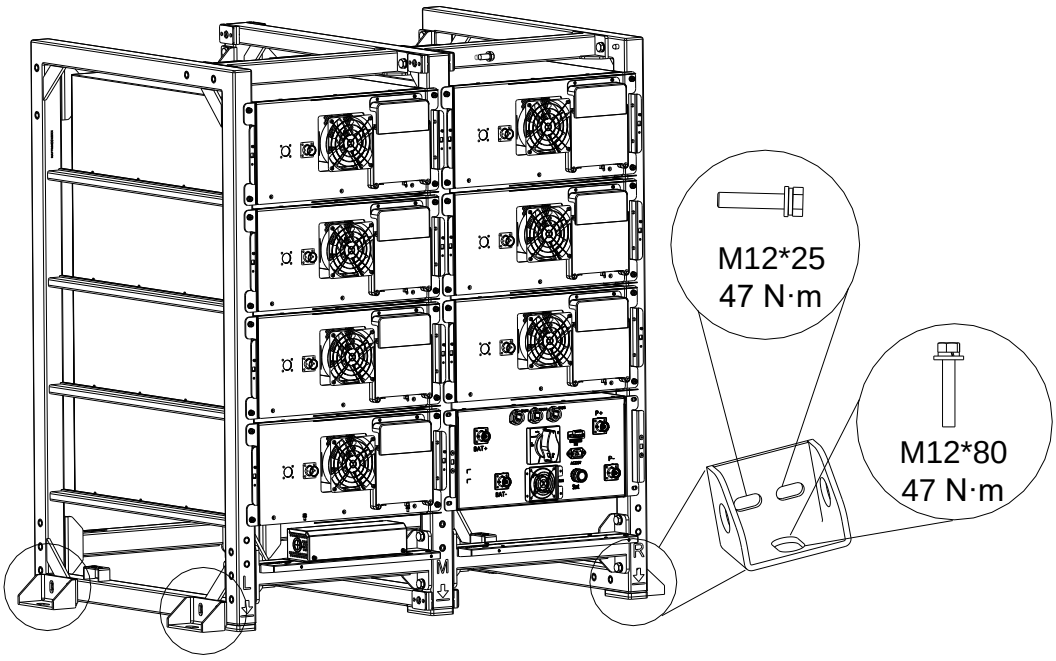
Step 16. Place the four mounting brackets onto the right and left side of the rack and mark the drilling holes.



Step 17. Drill four holes on the ground according to the marked drilling holes at the depth of 80–90 mm.



Step 18. Install the mounting brackets to both sides of the rack with the screws. (M12*25; 47 N·m) (M12*80; 47 N·m)



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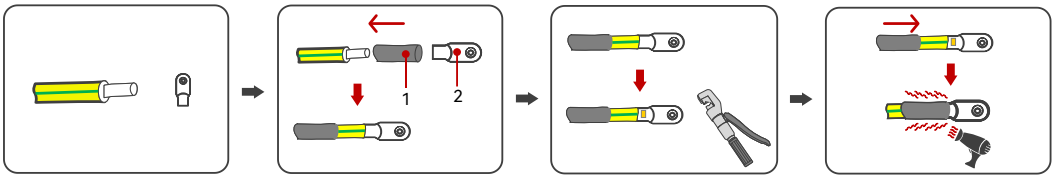
☐ 3. Connect the grounding cable

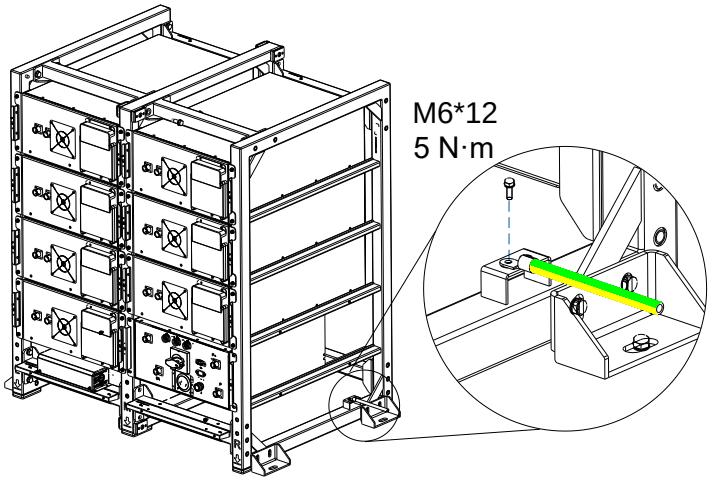
Cross-sectional area of cables (mm^2)
≥ 6

Step 1. Prepare the cable end with the OT/DT terminal.



1. Heat shrink tubing 2. OT/DT terminal

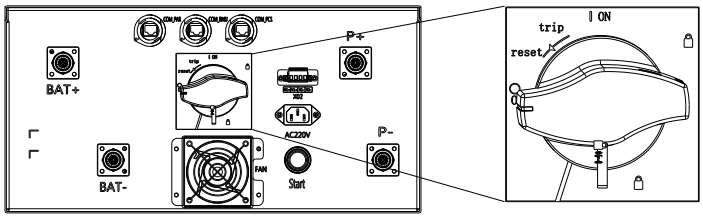
Step 2. Secure the OT/DT terminal to connect the grounding cable. Connect the other cable end to the standard grounding bar. (M6*12; 5 N·m)



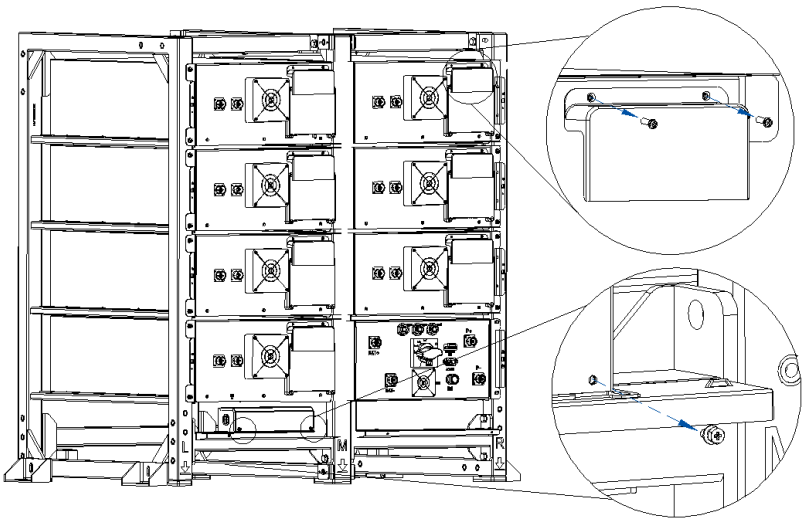
☐ 4. Connect the battery power cables

⚠ WARNING
· The electrical connection of high voltage battery systems must be operated by qualified technicians in accordance with local and national power grid standards and regulations. · Power off the battery system before connecting the power cable to avoid high voltage danger. · On one battery, do NOT connect its positive port to its negative port.

Step 1. Make sure the main switch is at the OFF position.



Step 2. Remove the covers of all the fan control units and the fuse box.



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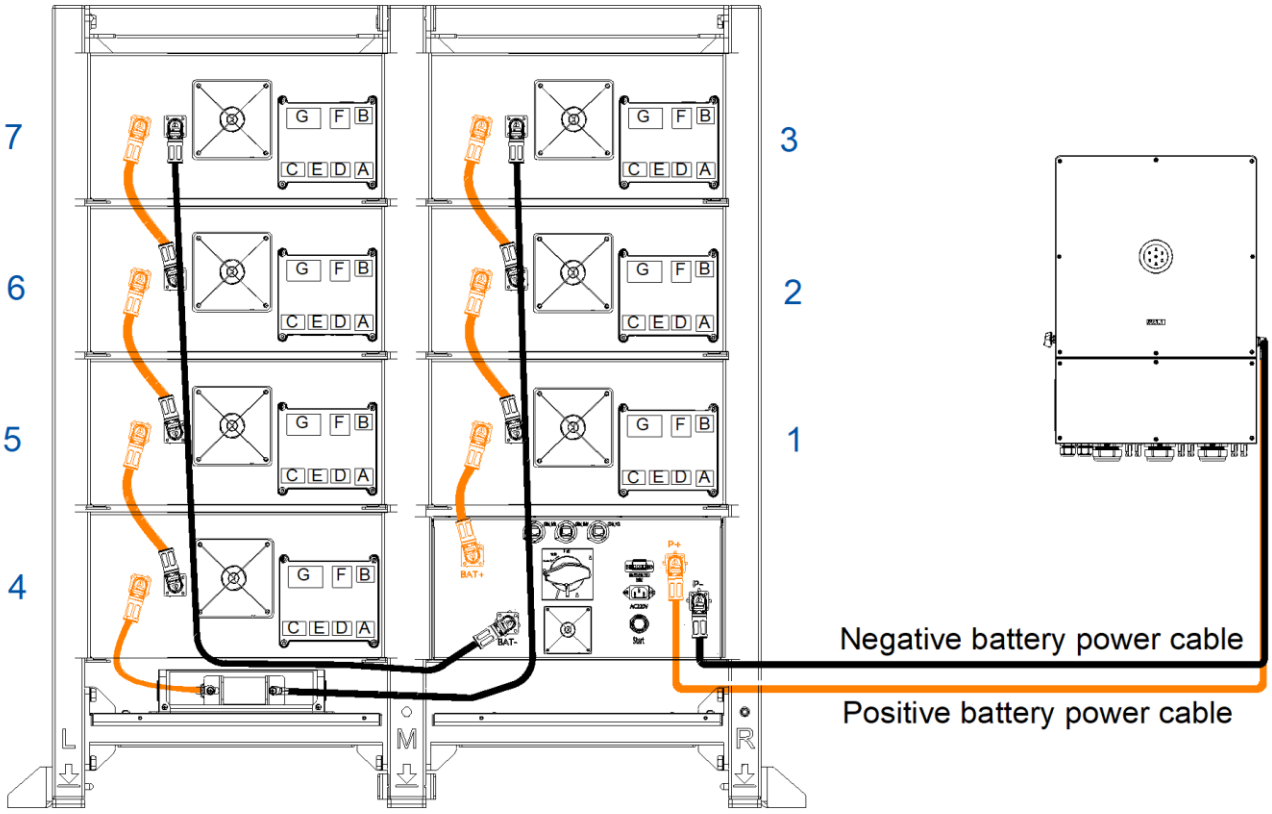
Step 3. Connect the battery power cable according to the following figure and cable descriptions. The figure shows the full configuration of 7 battery units as an example.



Package	Cable Length (mm)	From port	To port
CBU2	280	CBU2 Unit *N* negative (black)	CBU2 Unit *N+1* positive (orange)
CBT2-100.3	220	CBC2 BAT+	CBU2 Unit 1 positive (orange)
	1750	CBC2 BAT-	CBU2 Unit 7 negative (black)
	1200	CBU2 Unit 3 negative (black)	Fuse negative (right)
	280	CBU2 Unit 4 positive (orange)	Fuse positive (left)
	5000	CBC2 P+	CH2 inverter battery positive
	5000	CBC2 P-	CH2 inverter battery negative
CBT2-186.2	220	CBC2 BAT+	CBU2 Unit 1 positive (orange)
	2400	CBC2 BAT-	CBU2 Unit 13 negative (black)
	1900	CBU2 Unit 6 negative (black)	Fuse negative (right)
	280	CBU2 Unit 7 positive (orange)	Fuse positive (left)
	5000	CBC2 P+	CH2 inverter battery positive
	5000	CBC2 P-	CH2 inverter battery negative

Table 4.1. Battery power cable connections

Note:

- CBU2 Unit *N* refers to any battery module in the system; Unit *N+1* refers to the next battery module.
- For CBT2-100.3 deployed with less than 7 CBU2 battery modules, CBU2 Unit 7 represents the last battery module on the top left shelf.
- For CBT2-186.2 deployed with less than 13 CBU2 battery modules, CBU2 Unit 13 represents the last battery module on the top left shelf.

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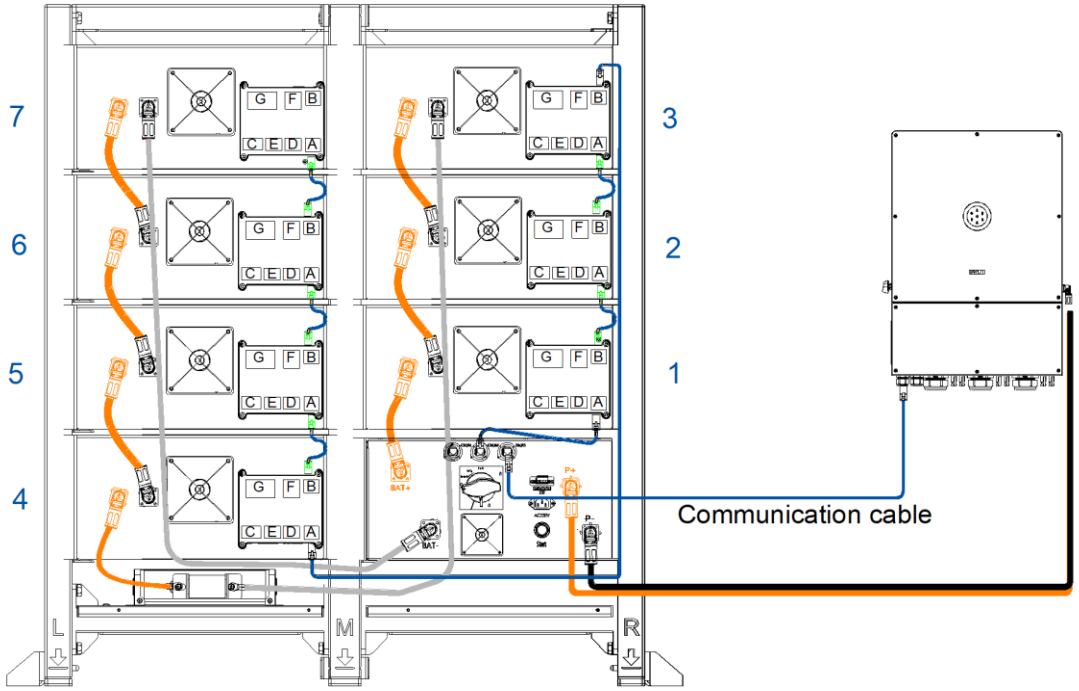
☐ 5. Connect the battery communication cables

Step 1. Connect the battery communication cables according to the following figure and cable descriptions.

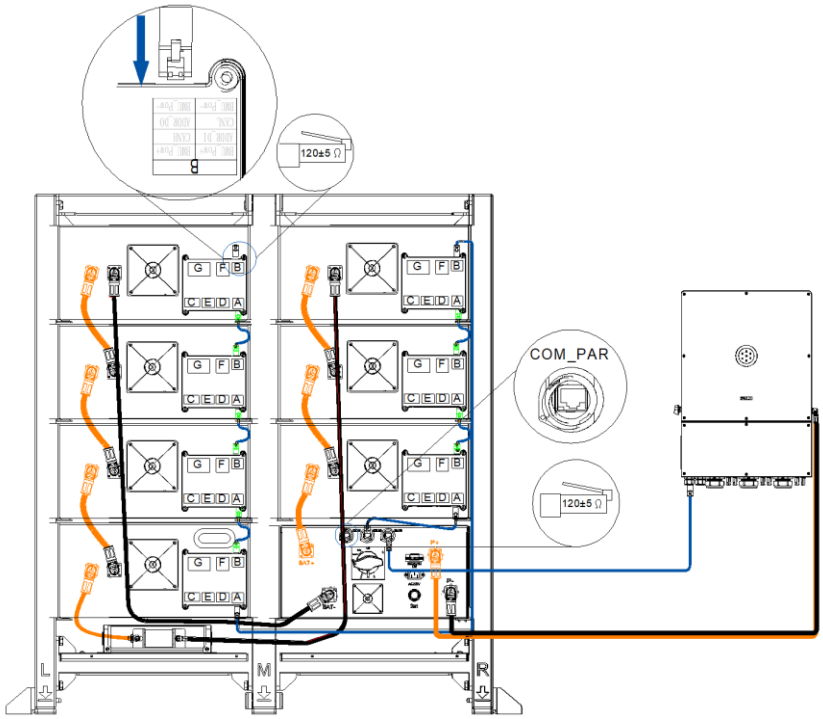


Package	Cable Length (mm)	From port (Silkscreen)	To port (Silkscreen)
CBU2	200	A of CBU2 Unit *N* (BMS:A)	B of CBU2 Unit *N+1* (BMS:B)
CBT2-100.3	300	CBC2 COM (COM_BMU)	CBU2 Unit 1 A (BMS1:A)
	1750	CBU2 Unit 3 B (BMS3:B)	CBU2 Unit 4 A (BMS4:A)
	5000	CBC2 COM_PCS (COM_PCS)	CH2 inverter COM1 or COM2 (PCS:BMS1)
CBT2-186.2	300	CBC2 COM (COM_BMU)	CBU2 Unit 1 A (BMS1:A)
	2400	CBU2 Unit 6 B (BMS6:B)	CBU2 Unit 7 A (BMS7:A)
	5000	CBC2 COM_PCS (COM_PCS)	CH2 inverter COM1 or COM2 (PCS:BMS1)

Table 5.1. Battery communication cable connections

Step 2. Insert the RJ45 termination resistors into the following ports:

- CBC2 COM_PAR port
- B port of the last CBU2 Unit



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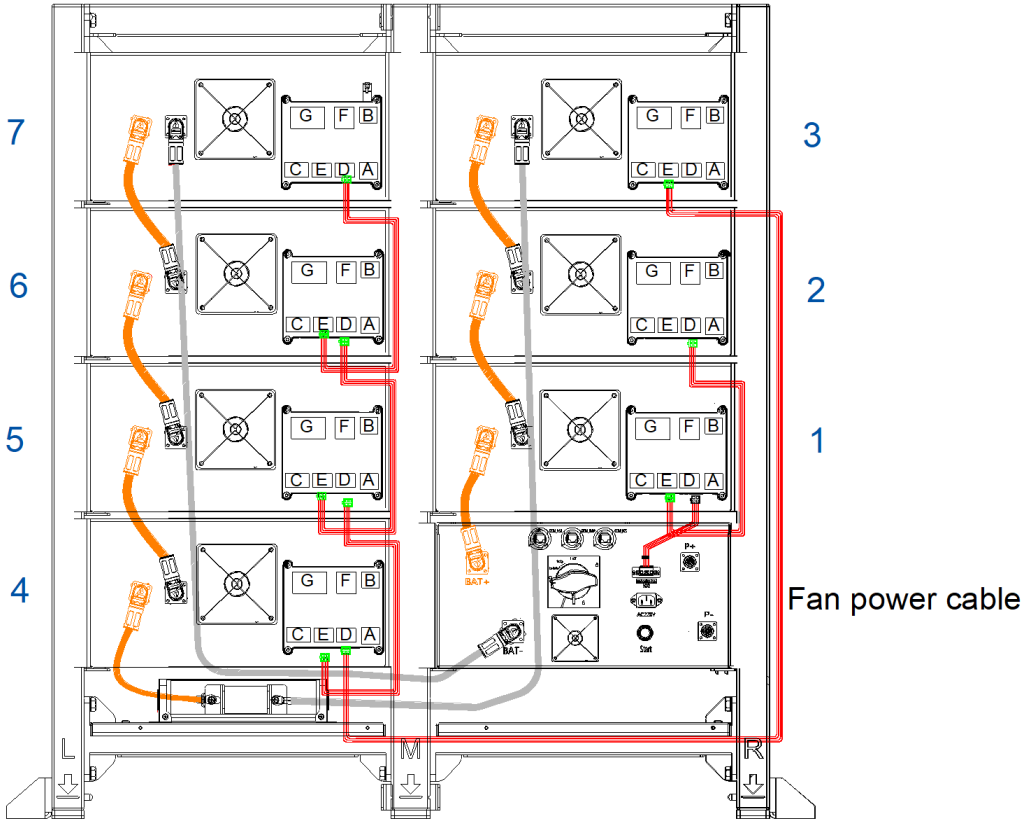
☐ 6. Connect the battery fan power cables

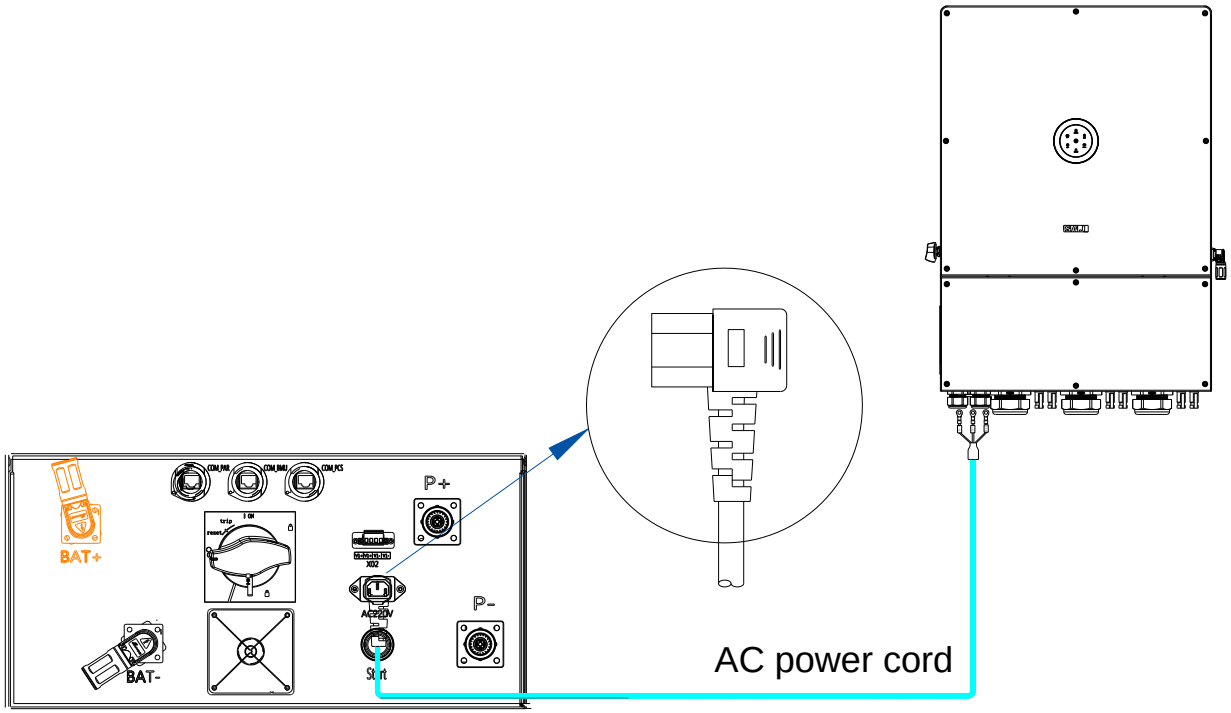
Step 1. Connect the battery fan power cables according to the following figure and cable descriptions.



Package	Cable Length (mm)	From port	To port
CBU2	380	E of CBU2 Unit *N*	D of CBU2 Unit *N+1*
CBT2-100.3	1700	CBU2 Unit 3 E	CBU2 Unit 4 D
	150	CBC2 X02	CBU2 Unit 1 D
CBT2-186.2	2350	CBU2 Unit 6 E	CBU2 Unit 7 D
	150	CBC2 X02	CBU2 Unit 1 D

Table 6.1. Fan power cable connections

Step 2. Plug in one end of the AC power cord to the CBC2 battery control unit.



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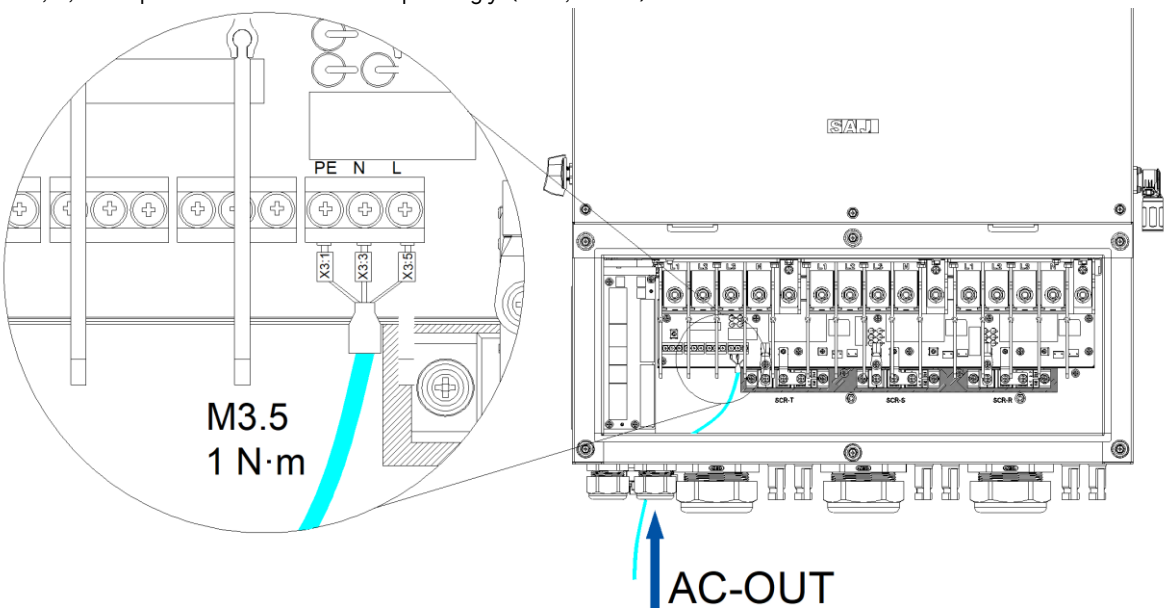
Package	Cable Length (mm)	From port	To port
CBT2-100.3	5000	CBC2 AC220V	CH2 inverter AC-OUT
CBT2-186.2	5000		

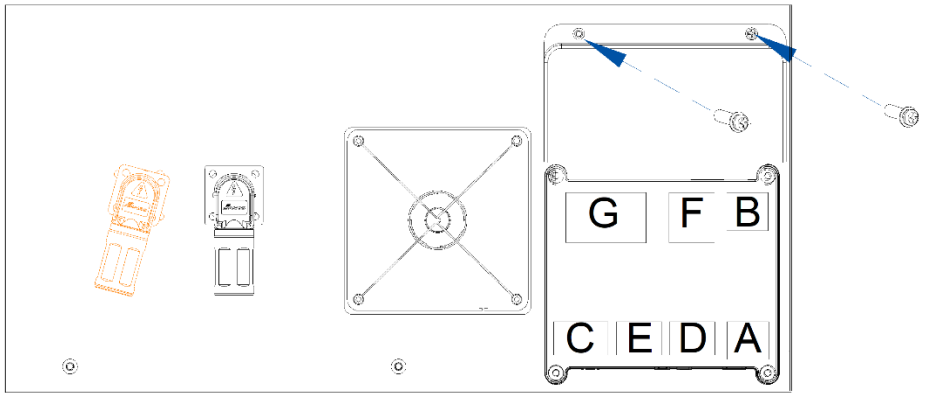
Table 6.2. AC power cord connection

Step 3. Insert the other end of the AC power cable cord through the AC-OUT port of the inverter; secure the X3:1, X3:3, and X3:5 connectors to the PE, N, and L ports of the inverter correspondingly. (M3.5; 1 N·m)

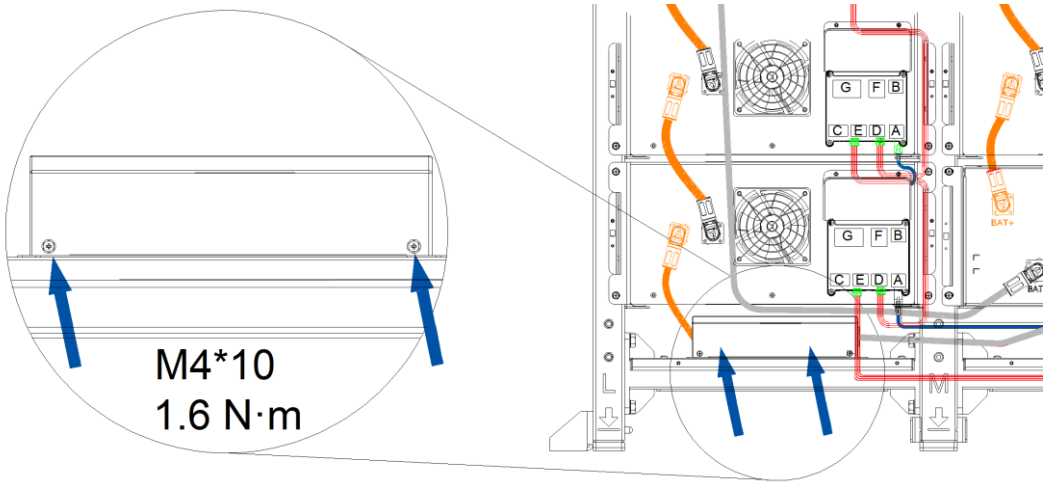


☐ 7. Install the covers

Step 1. Install back the covers of all the battery power control units with the PH1 screwdriver.



Step 2. Install back the cover of the fuse box. (M4*10; 1.6 N·m)



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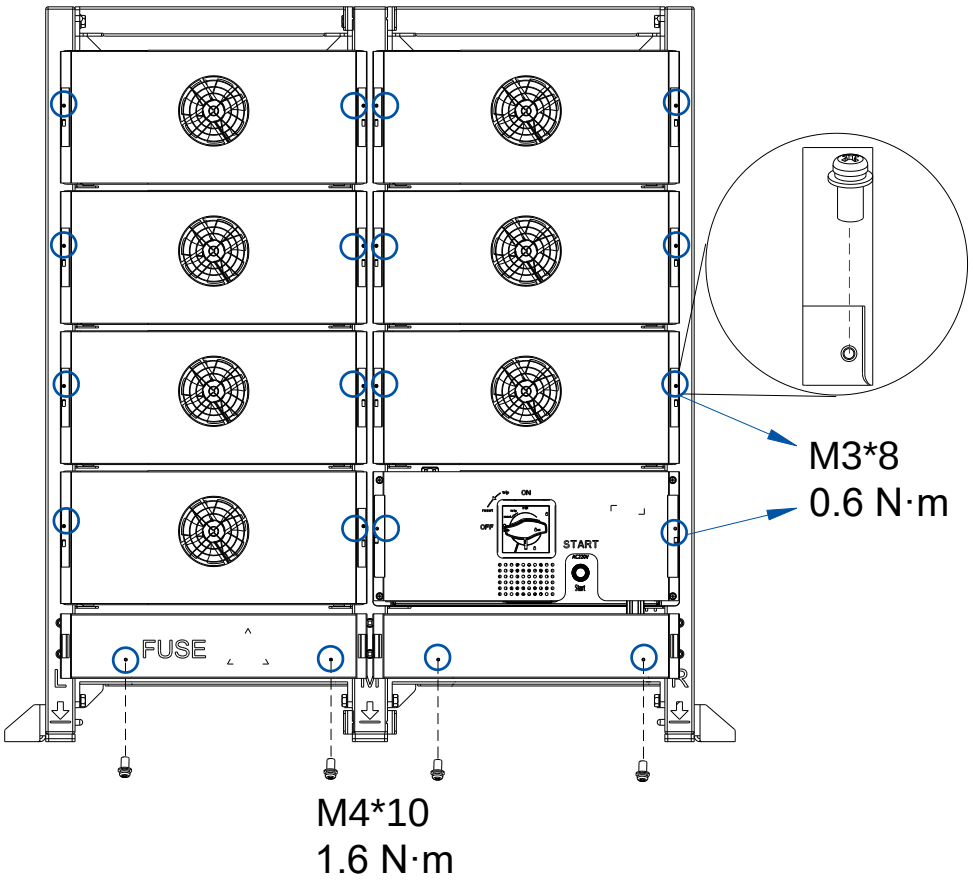
Step 3. Install the dust proof covers of all the CBU2 battery modules, the CBC2 battery control unit, and the fuse box. (CBC2 and CBU2: M3*8; 0.6 N·m) (Fuse and bottom cover: M4*10; 1.6 N·m)



☐ 8. Start up the CB2 system and complete commissioning

Step 1. Turn the main circuit switch to the ON position, and press the **Start** button for a few seconds to start up the CB2 system.

Step 2. Lock the main switch to the ON position with an external lock to avoid unexpected operation of the switch. Store the key at a proper location.

Step 3. After completing the initialization of the CH2 inverter at the Elekeeper App, check that the battery group information can be displayed on the **Device Info** page of the inverter at the Elekeeper App

Installer: _____

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