Alpha·ESS
your smart energy

QUICK INSTALLATION GUIDE

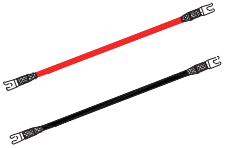
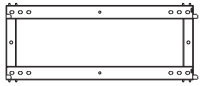
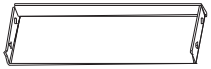
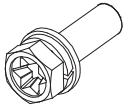
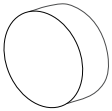
SMILE-BAT-5P
V02

Suitability

This document is only valid for the following systems:
1. SMILE-B3 PLUS
2. SMILE-B5
3. SMILE-S3.6
4. SMILE-S5
5. SMILE-S6

The above systems are collectively referred to as the Energy System in this document.

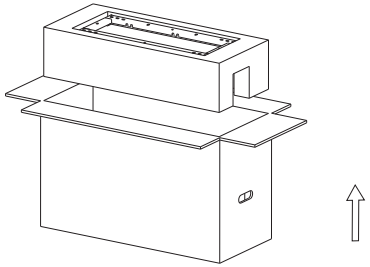
Packing list

SMILE-BAT-5P			
			
Positive Power Cable (X1) Negative Power Cable (X1)	Communication Cable (X1)	Side Cover (X1)	Battery Wall Bracket (X1)
			
Expansion Bracket (X2)	Screw M6*16 (X4) Screw M5*12 (X1)	Wall Anchor ST6*55 (X8)	M4 Flange (X13, 2 for spare)
			
Rubber Plug (X8,1 for spare)	Quick Installation Guide (X1)		

Mounting the Expansion Batteries

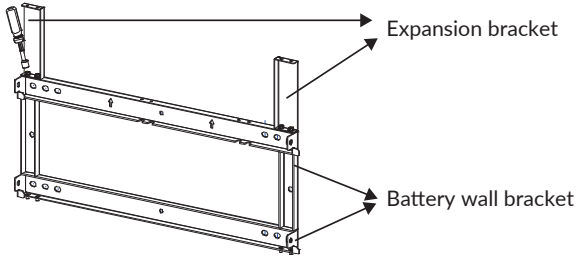
Step1

Take out the battery from the packing box.



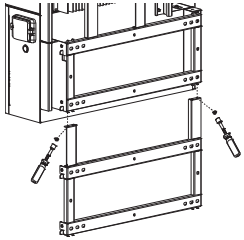
Step2

Take out the expansion brackets and the battery wall bracket, then fix them together with four 4*M4 flange nuts (tools: Socket wrench SW7, torque: 1.6 Nm).



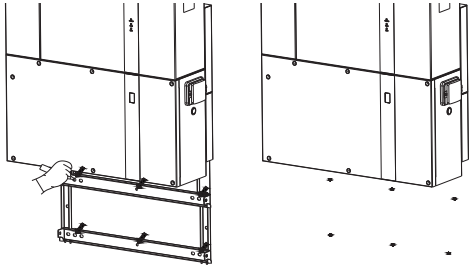
Step3

Use 2*M4 flange nuts to fix the wall bracket assembled in the step 2 to the wall bracket of the energy system(tools: Socket wrench SW7, torque: 1.6 Nm).



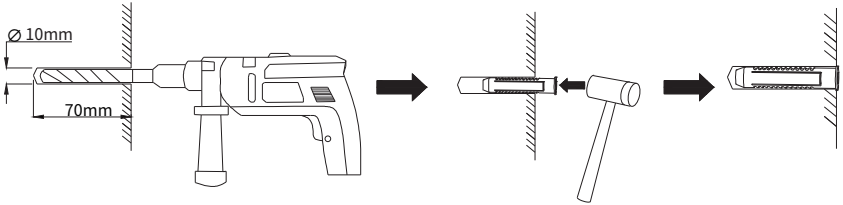
Step4

Mark the positions according to holes on the bracket and remove the assembled wall bracket.



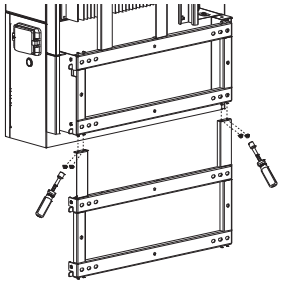
Step5

Drill 6 holes on the wall with Φ10mm drill, insert 6 screw anchors into the drill holes.



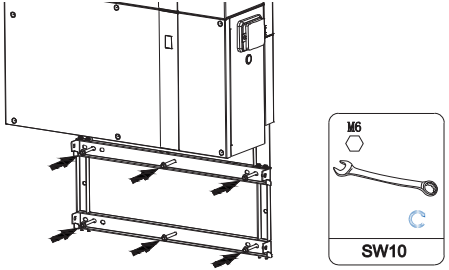
Step6

Use four M4 flange nuts to fix the wall bracket assembled in the step 2 to the wall bracket of top battery again (tools: Socket wrench SW7, torque: 1.6 Nm).



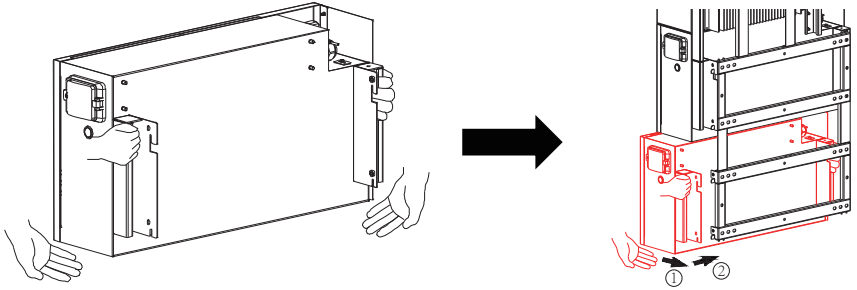
Step7

Attach the expansion bracket to the wall by tightening the screws with SW10 hexagon sleeve.



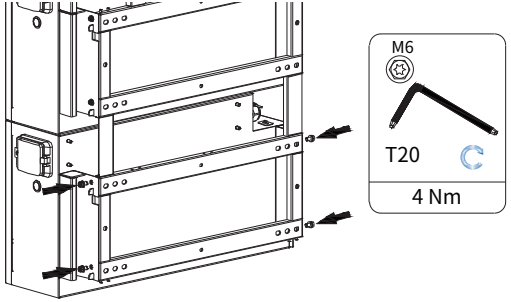
Step8

Hold the handles on both sides of the battery pack and install the battery pack on the wall bracket. At least, two people are required for this step.



Step9

Tighten the wall bracket and the battery pack with screw M6*16 (X4) (tool: T20 screwdriver, torque: 3.0 Nm).



The following have to be noticed before connection:

DANGER

Before connecting cables, ensure that all breakers of the inverter and the battery pack and all the switches connected to the inverter and the battery pack are switched OFF. Otherwise, the danger voltage of the product may result in electric shocks.

WARNING

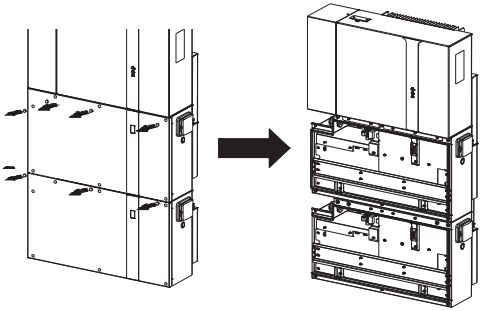
- The device damage caused by incorrect cable connections is not covered under any warranty.
- Only certified electricians are allowed to connect cables.
- Operati on personnel must wear proper PPE when connecting

NOTICE

The cable colors shown in the electrical connection diagrams provided in this chapter are for reference only.
Select cables in accordance with local cable specifications (green-and-yellow cables are only used for PE).

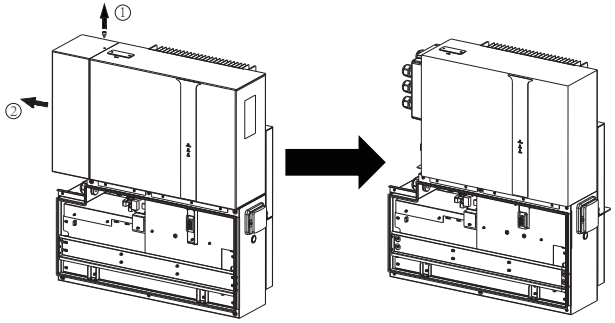
Step10

Remove the rubber plugs from the top battery, and remove the screws on the cover of batteries with T20 screwdriver.

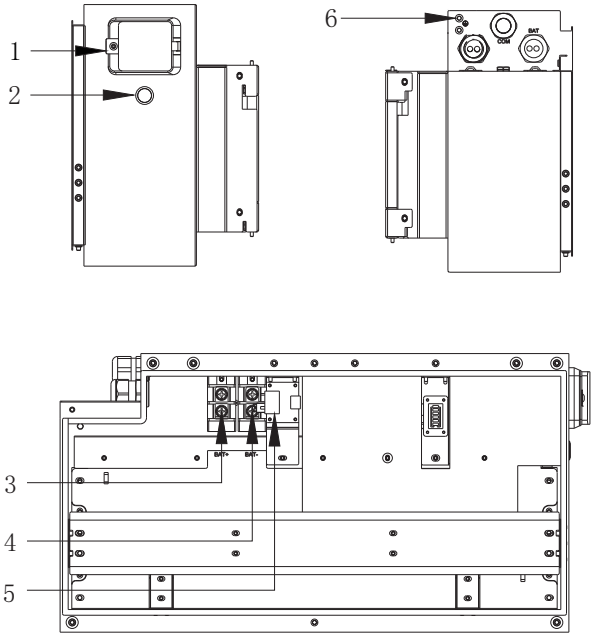


Step11

Remove the cable cover by unscrewing the screws at the top of the inverter and perform electrical connection work.



Overview of the Connection Area



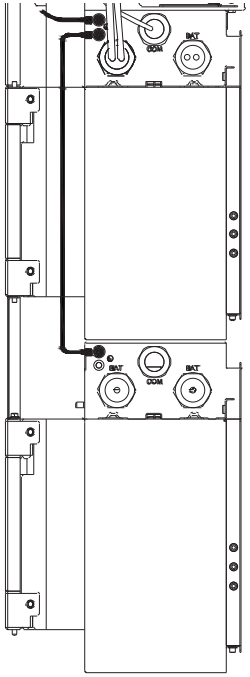
Position	Designation
1	Battery breaker of battery pack
2	Power button of battery pack
3	BAT+ connection port
4	BAT- connection port
5	BMS communication connectors
6	Connection point for an additional grounding

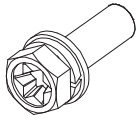
Step12

Connecting Additional Grounding

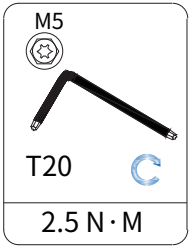
a) Prepare M5 OT terminals, strip the grounding cable insulation and insert the stripped part of the grounding cable into the ring terminal lug and crimp it.

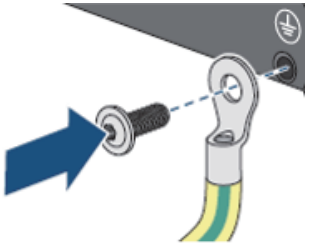
b) Connect the expanded battery to the ground point of the energy system with the grounding cable.





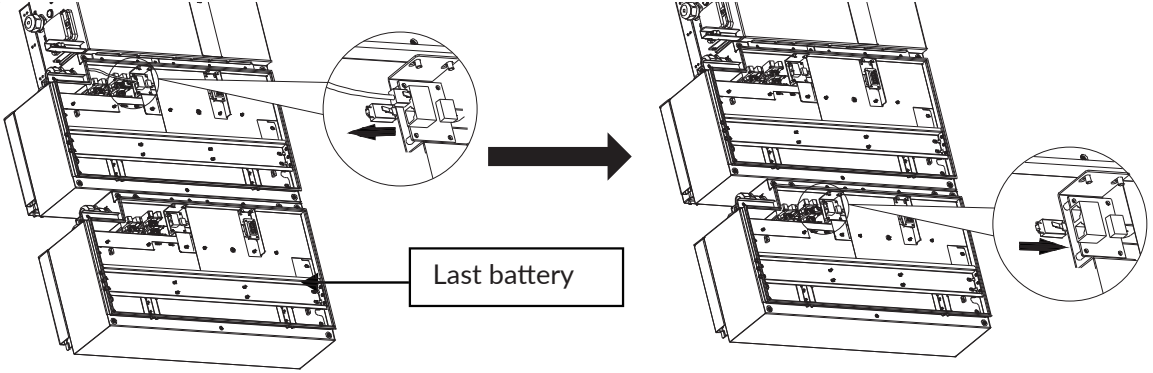
M5*10 Screw





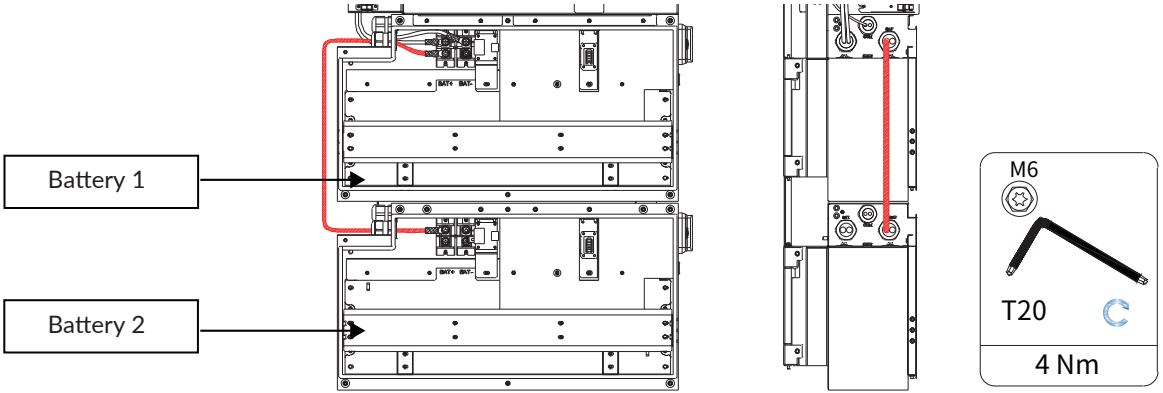
Step 13

Remove the terminal resistance from the battery and plug it into the BMS communication port of the last installed battery (the battery furthest from the inverter).



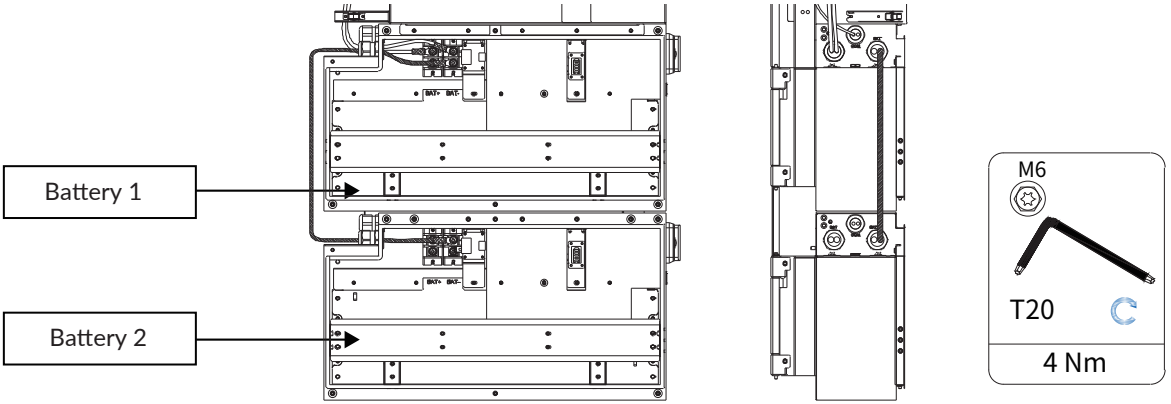
Step14

Connect the positive power cable from battery 2 to battery 1 (tool: T20 screwdriver, torque: 3 Nm).



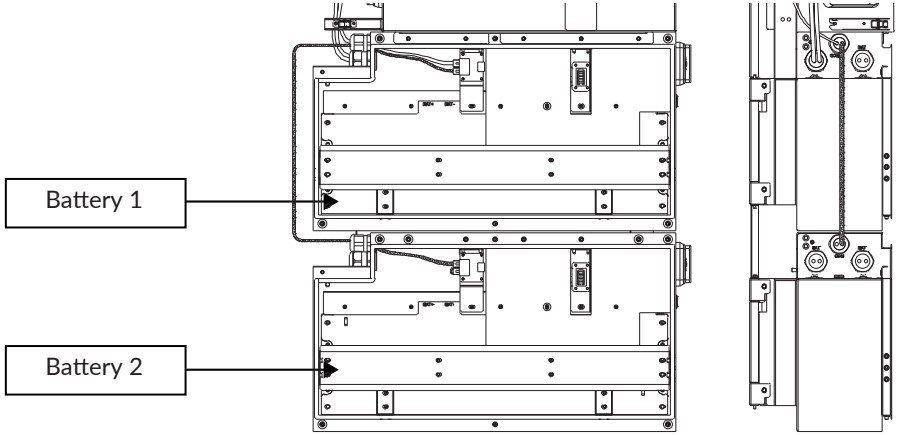
Step15

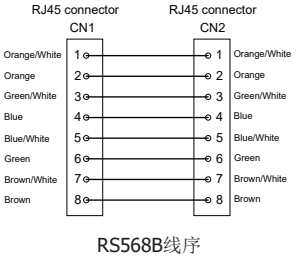
Connect the negative power cable from battery 2 to battery 1 (tool: T20 screwdriver, torque: 3 Nm).



Step16

Connect the BMS communication cable from battery 2 to battery 1.



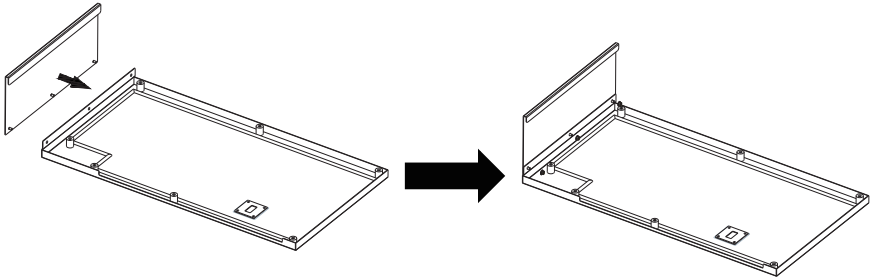


RS568B线序

NOTE:
Power cables and communication cables are needed to be made by installers if the expanded batteries are not installed downward.
1.The sequence standard of the communication cable is RS568B.
2.The requirements of power cables:
a) Cross-sectional Area： 25mm²;
b) Withstand Voltage: 600 V;
c) Temperature Resistance: 90℃;
d) Terminal type: SC25-6, or other terminal with the same performance.

Step17

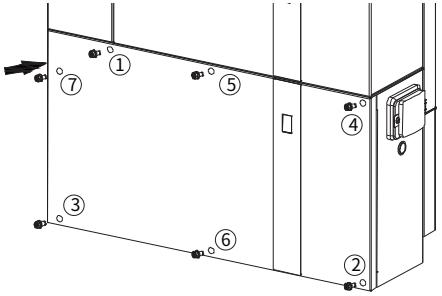
Assemble front cover and side cover of the expanded battery with 3*M4 flange nuts (tools: Socket wrench SW7, torque: 1.6 Nm).



Step18

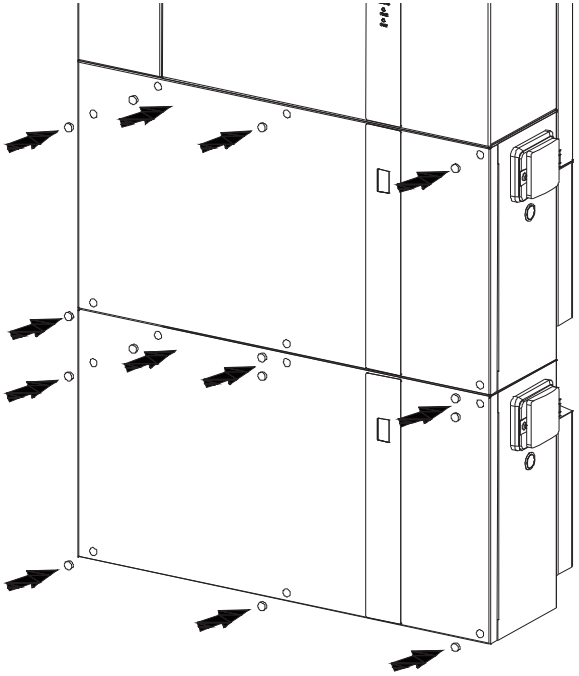
Attach the cover to the battery pack.
Fasten the cover on the battery with screws in sequence 1-7 with screw M5*12 (X4) (tool: T20 screwdriver, torque: 2.5 Nm).

NOTE:
Seven screws should be pre-locked and then fastened together at the end.



Step19

Insert the rubber plugs of the batteries.



Step20

1.Checking Before Power-On

No.	Check Item	Acceptance Criteria
1	Mounting environment	The mounting space is proper, and the mounting environment is clean and tidy, without any foreign object.
2	Battery pack and inverter mounting	The battery pack and inverter are mounted correctly, securely and reliably.
3	WiFi installation	The WiFi module is installed correctly, securely, and reliably.
4	Cable layout	Cables are routed properly as required by the customer.
5	Cable tie	Cable ties are secured evenly and no burr exists.
6	Grounding	The ground cable is connected correctly, securely, and reliably.
7	Switch and breakers status	The PV switch (If it exists) and battery breakers and all the switches and breakers connecting to the product are OFF.
8	Cable connections	The AC cables, battery cables, and communication cables are connected correctly, securely, and reliably.

Step21

2. Check the Running State

Short press the power button on the right side of battery pack and switch on the battery breaker on the battery pack, then the LED light is on.
Switch on the battery breaker of the inverter.
Switch on the external AC breaker between the grid and the inverter.
Set the operating parameters through the APP.
Wait about 3 minutes for the inverter to enter the grid-connected state, and observe the indicators states on the display panel of the inverter. At this time, the following 2 LEDs (“Normal”, “Com”) on the display panel is always on.
If the “Fault” LED indictor on the inverter or the battery shows red, please refer to troubleshooting in “Installation Manual Energy Storage System (ESS)”

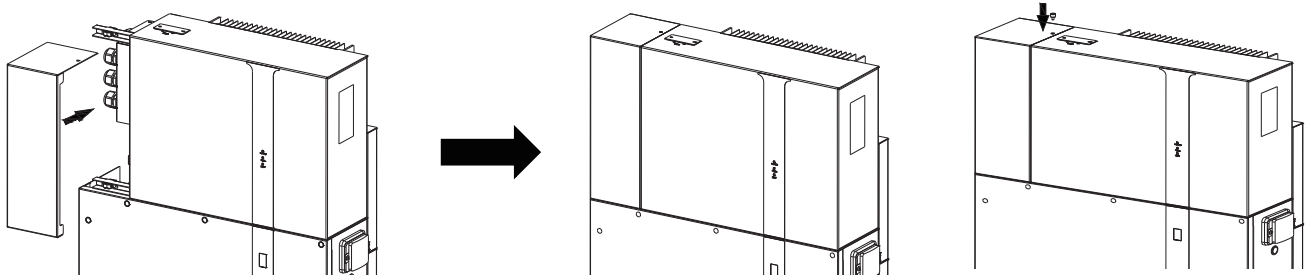
3. Powering Off the Product

Switch off the AC breaker between the inverter and the grid.
Long press the power button of battery pack for 6 seconds, then switch off the battery breaker of battery pack.
Switch off the battery breaker of the inverter.

Mounting the Cable Box Cover

Step22

Insert the cable cover in the order indicated by the arrow until installation is completed. Fix the cable cover by tightening the screws by hand.



Battery Technical Data

Energy Storage Battery	SMILE-BAT-5P
Battery Type	LFP(LiFePO4)
Max. Charge Current	60 A
Max. Discharge Current	60 A
Rated Voltage	48 V
Voltage Range	45 ~ 54 V
Installed Capacity	5.04 kwh
Usable Capacity	4.79 kWh
DoD	95%
Protection Class	I
Operating Temperature	-10℃ ~50℃
Enclosure	IP65
Battery Designation	IFpP37/131/201/ [P15S]M/-10+50/95

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