Quick Installation Manual

APX 5.0-30.0M-S3



Shenzhen Growatt New Energy Co., Ltd.

Environment requirements



Max. +55℃ (+131℉)

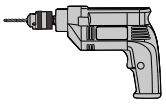
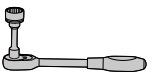
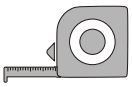


Min. -20℃ (-4℉)



RH. 5%~95%

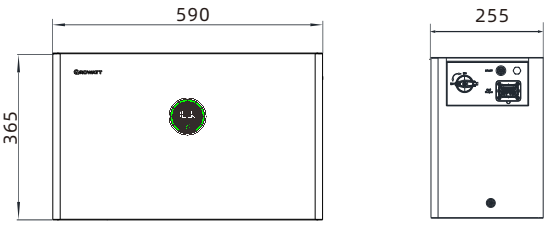
Installation tools

 M6 Drill	 M4-1N·m Screw Driver	 M6-2N·m Socket Wrench	 Marker
 Tap Measure	 Multimeter	 Level	

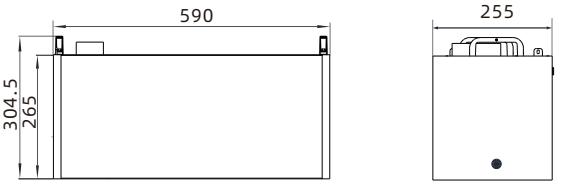
Dimensions

Unit:mm

APX 5.0M-B3
(Master Module)

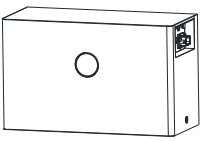


APX 5.0P-B3
(Battery Module)

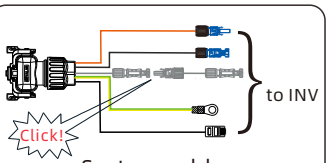


1. Inspection upon delivery

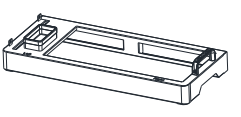
1-1 Check the packing list for the APX 5.0M-B3



APX 5.0M-B3

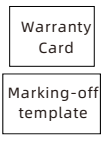


System cable
(Length: 2000mm)



APX 5.0P-B3
Base *1



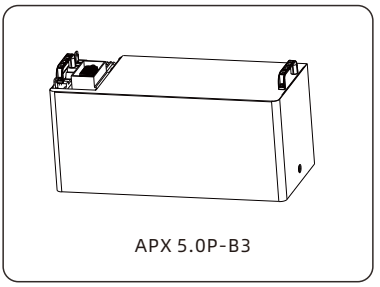


A Quick Guide *1
B Warranty Card *1
C Marking-off template *1

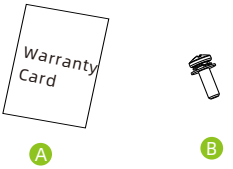


A Anti-tipping plate *2
B M6 expansion screw *2
C M4x9 stainless steel screw *5
D 1mm shim *4 E 2mm shim *4

1-2 Check the packing list for the APX 5.0P-B3



APX 5.0P-B3



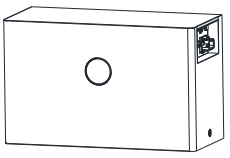
A

B

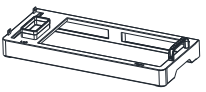
A Warranty card *1

B M4x9 stainless steel screw *3

1-3 Check the APX 5.0-30.0M-S3 Battery System of different capacities

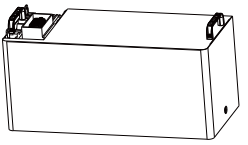


APX 5.0M-B3



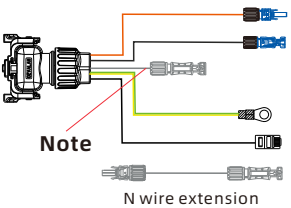
APX 5.0P-B3 Base

A



APX 5.0P-B3

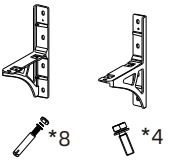
B



System cable

C

Optional (purchase separately)



Wall bracket

D

Optional (purchase separately)



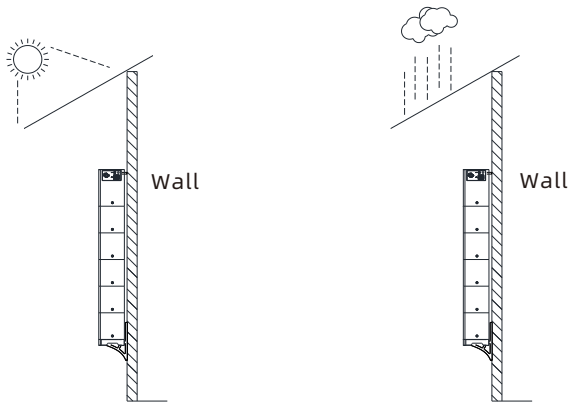
APX M-S3 cascading communication cable

E

Note: In the old version, the N wire was blue and two meters long; in the new version, the N wire is gray and comes with an extension cord.

Battery System Capacity	Floor-mounted Installation Compound Mode	Wall-Mounted Installation Compound Mode
5kWh	A+C	A+C+D
10kWh	A+B+C	A+B+C+D
15kWh	A+B*2+C	A+B*2+C+D
20kWh	A+B*3+C	A+B*3+C+D
25kWh	A+B*4+C	A+B*4+C+D
30kWh	A+B*5+C	A+B*5+C+D
40kWh	A*2+B*6+C*2+E	A*2+B*6+C*2+D*2+E
50kWh	A*2+B*8+C*2+E	A*2+B*8+C*2+D*2+E
60kWh	A*2+B*10+C*2+E	A*2+B*10+C*2+D*2+E
70kWh	A*3+B*11+C*3+E*2	A*3+B*11+C*3+D*3+E*2
80kWh	A*3+B*13+C*3+E*2	A*3+B*13+C*3+D*3+E*2
90kWh	A*3+B*15+C*3+E*2	A*3+B*15+C*3+D*3+E*2

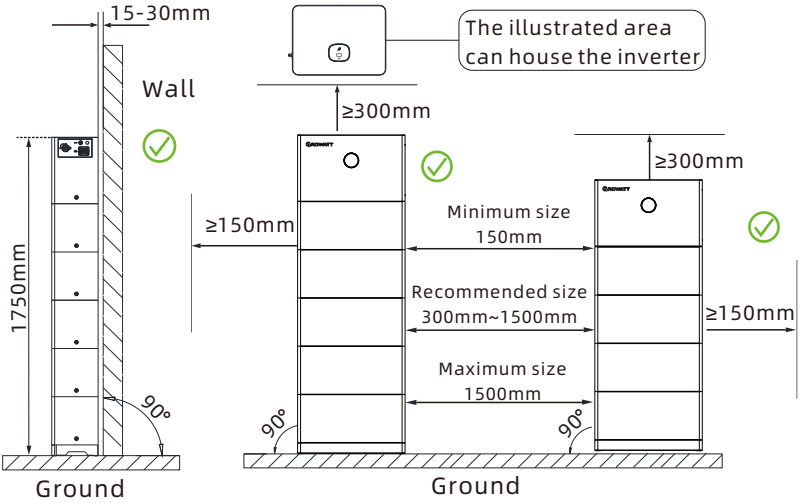
2. Installation environment requirement



Note :
When installed outdoors, build a sun/rain shelter to protect the battery system from direct sunlight and rain.

3. Floor-mounted installation

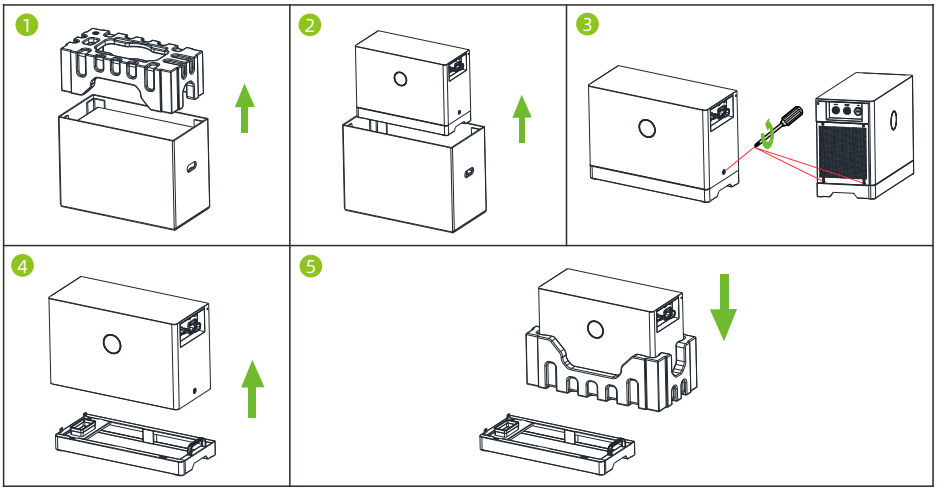
3-1 Installation location requirements



Note: For the floor-mounted installation, a single column can be configured with up to six modules (1 Master Module + 5 Battery Modules).
The battery should be installed below the inverter or at the air intake. Installation at the inverter's air outlet is prohibited to prevent battery derating.

3-2 Preparation work before installation

➢ Before shipment, the Master Module and base are pre-installed together. If customers require additional Battery Module, the base must first be removed. Follow these steps:

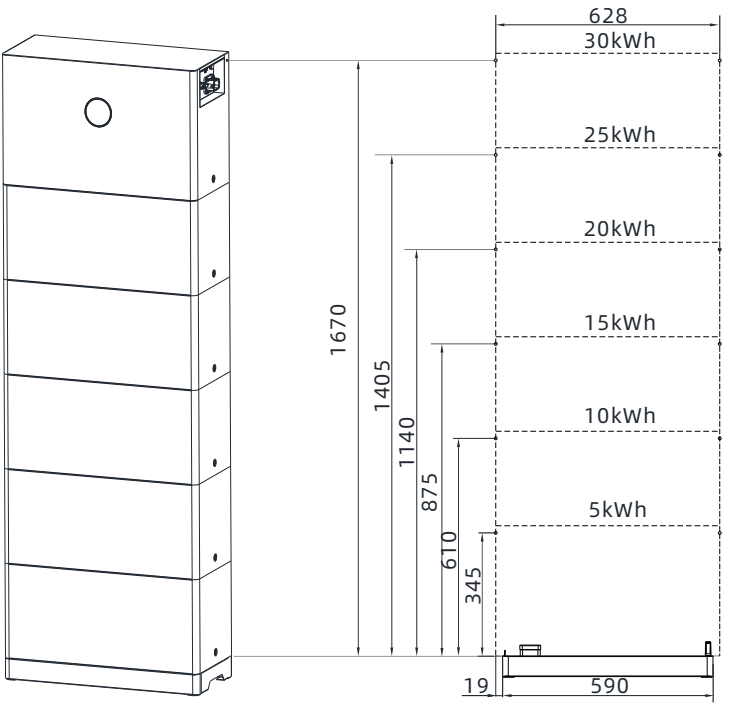


1. Remove the top buffer cotton.
2. Take out the Master Module + base.
3. Remove the screws (3PCS) between the Master Module and the base.
4. Lift the Master Module upward to separate the base from the Master Module.
5. Place the top buffer cotton upside down and put the Master Module on it.

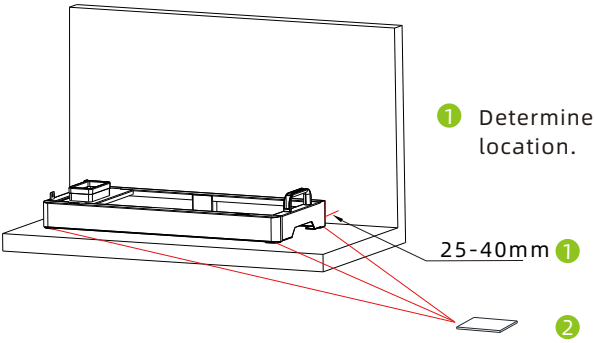
3-3 Installation procedure

Unit:mm

Mounting hole dimensions:



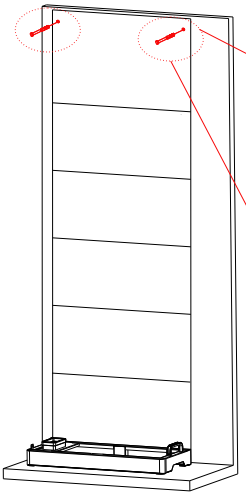
1

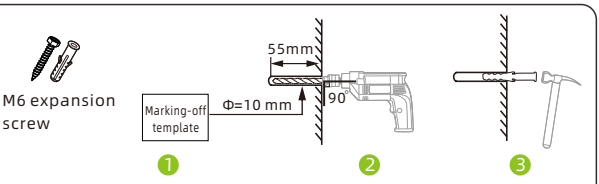


1 Determine the installation location.

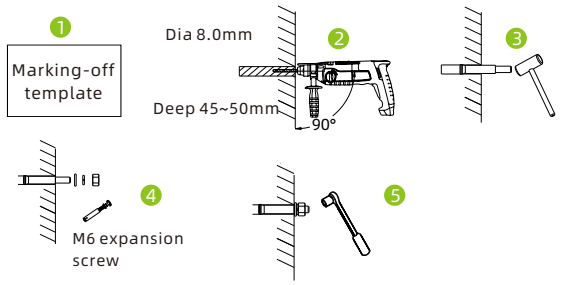
2 Add shims beneath the base to level it according to the actual installation location requirements.

2





1 2 3 Install the M6 expansion bolt and tighten the nut.

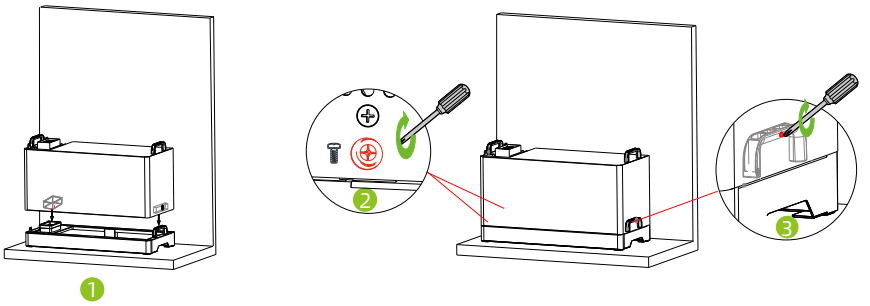


1 The Marking-off template ensures that the alignment marks are properly placed on the wall.

2 3 4 5 Fix the M6 expansion bolt into the wall.

Note: Choose either of the two installation methods.

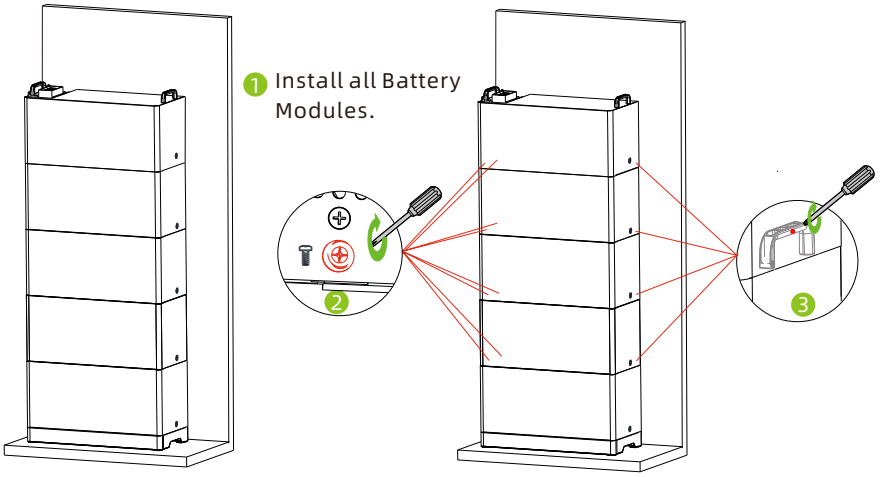
3



1 Place the first Battery Module on the base.

2 3 Install the mounting screws securing both sides of the Battery Module to the base.

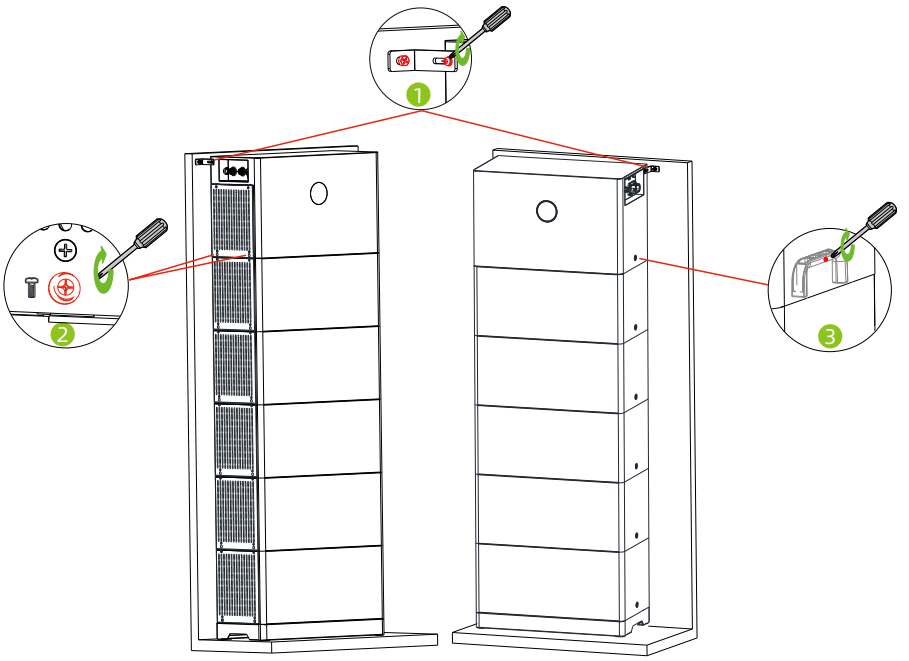
4



1 Install all Battery Modules.

2 3 Install the mounting screws on both sides of the Battery Module.

5

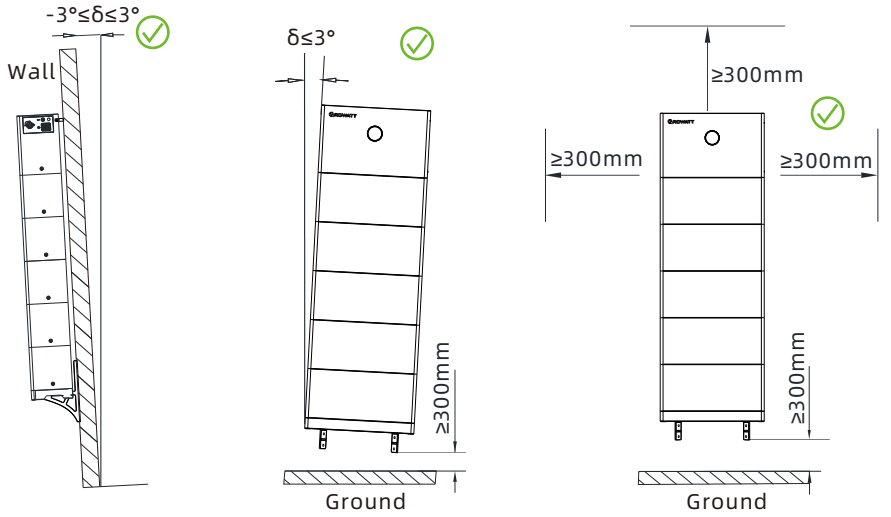


1 Install the Master Module at the very top position, then install the connectors on both sides of the Master Module. Finally, tighten the two screws to secure the Master Module to the wall.

2 3 Install the mounting screws on both sides of the Master Module and Battery Module.

4. Wall-mounted installation

4-1 Installation location requirements

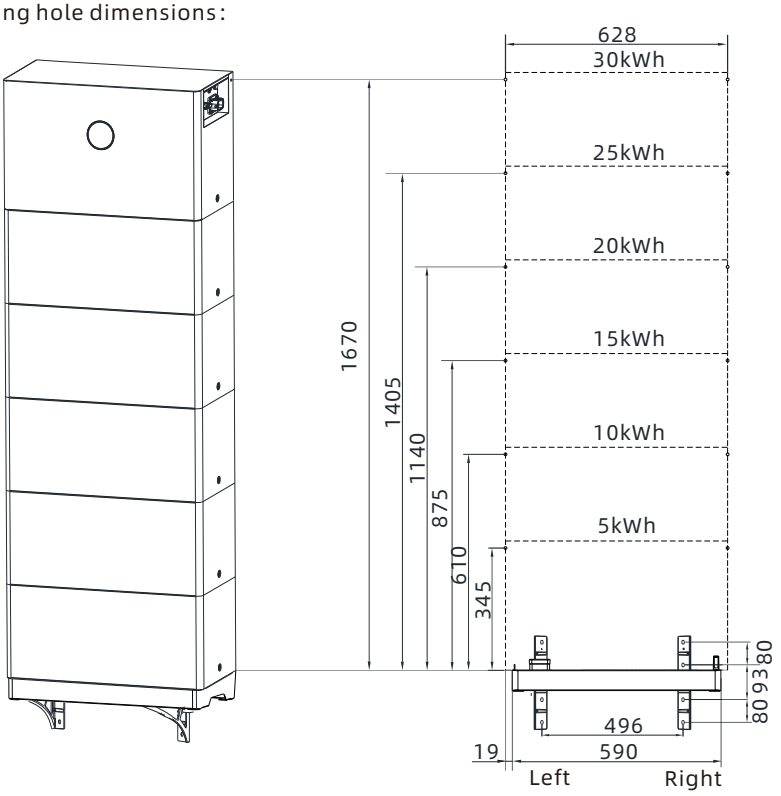


Note: For wall-mounted installations, a single column can be configured with up to six modules (1 Master Module + 5 Battery Modules).

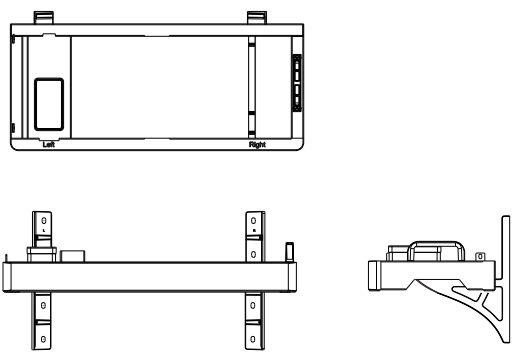
4-2 Installation location requirements

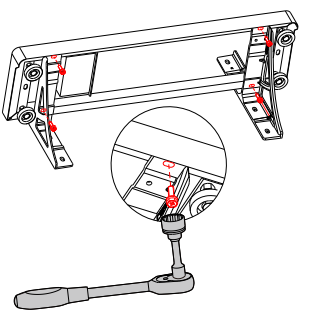
Unit:mm

Mounting hole dimensions:



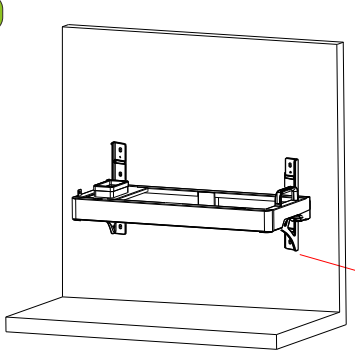
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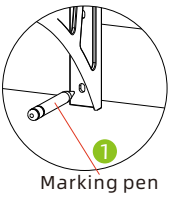


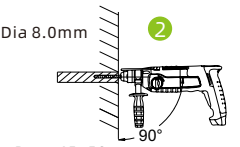


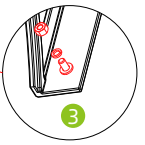
install the wall bracket

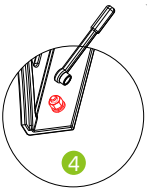
2





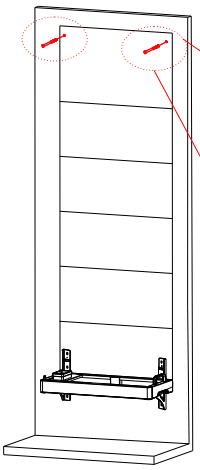






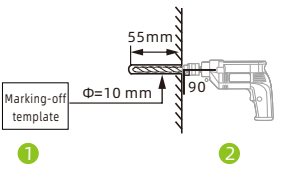
1 Mark the hole positions. 2 Drilling eight holes. 3 4 Fix the bracket on the wall.

3

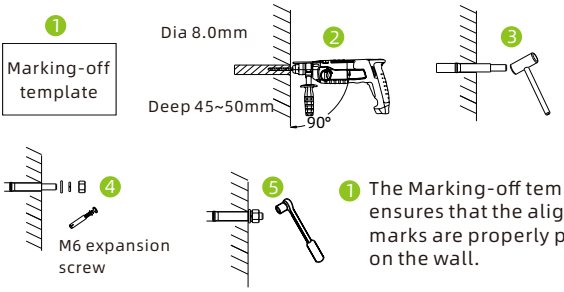


Note: Choose either of the two installation methods.





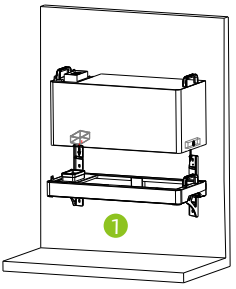
1 2 3 Install the M6 expansion bolt and tighten the nut.

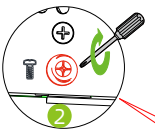


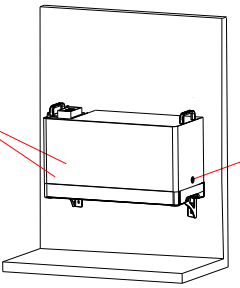
1 The Marking-off template ensures that the alignment marks are properly placed on the wall.

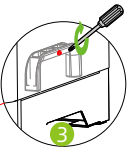
2 3 4 5 Fix the M6 expansion bolt into the wall.

4





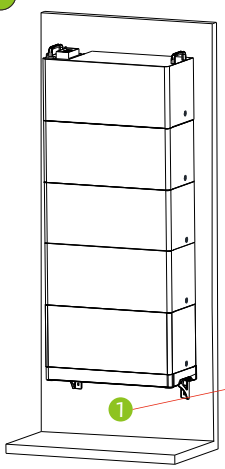




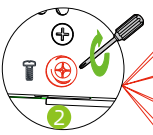
1 Place the first Battery Module on the Wall bracket.

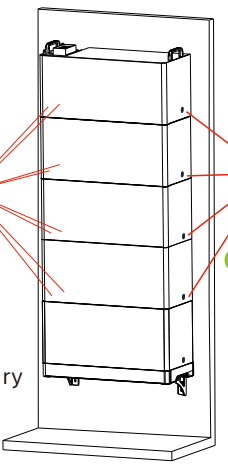
2 3 Install the mounting screws securing both sides of theBattery Module to the Wall bracket.

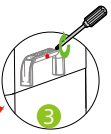
5



Install all Battery Modules

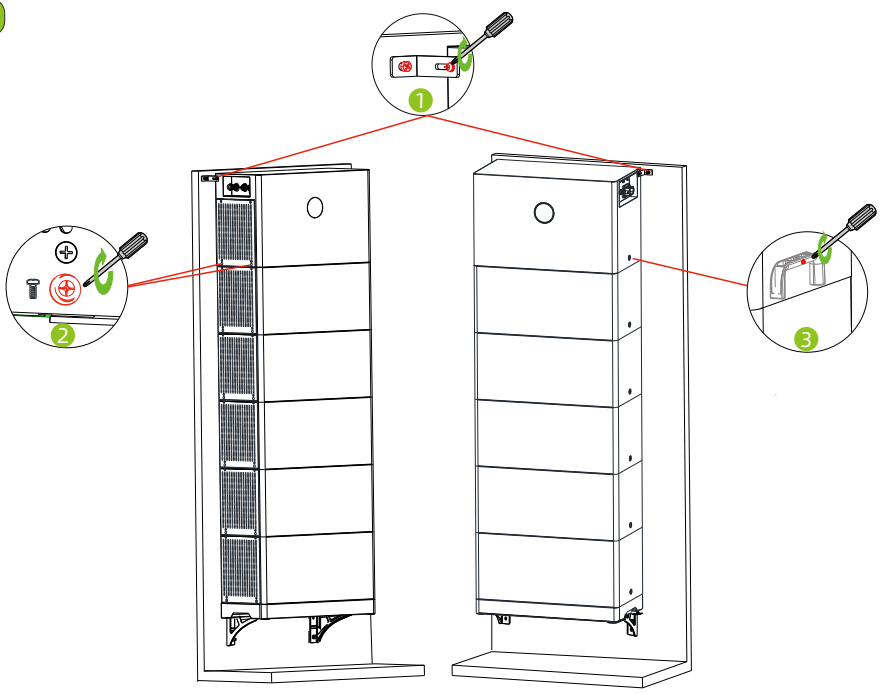






2 3 Install the mounting screws on both sides of the Battery Module.

6

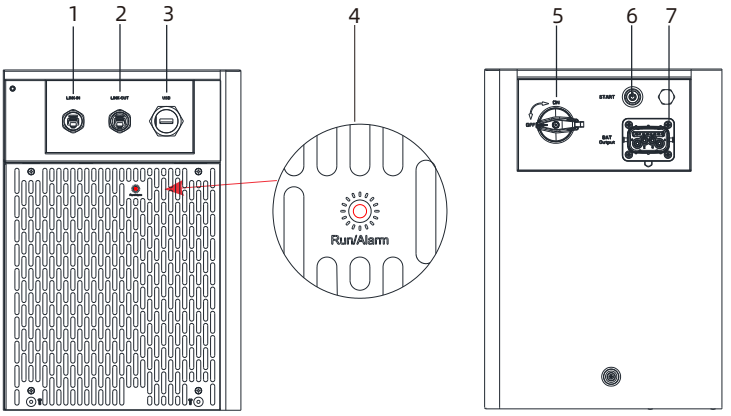


1 Install the Master Module at the very top position, then install the connectors on both sides of the Master Module. Finally, tighten the two screws to secure the Master Module to the wall.

2 3 Install the mounting screws on both sides of the Master Module and Battery Module.

5. Cable connection

5-1 APX 5.0M-B3 terminal&key description

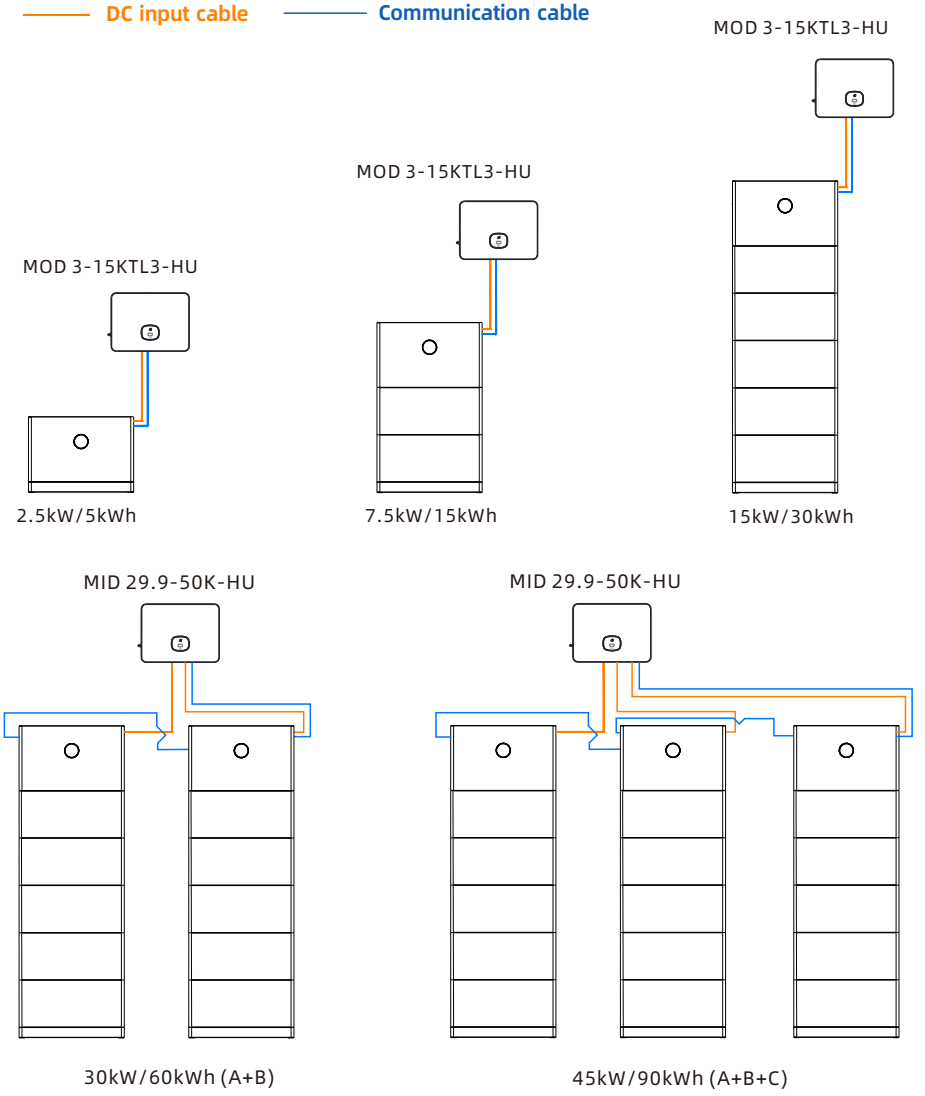


No.	Port	Function
1	Link-in	APX M-S3 cascading communication input port
2	Link-out	APX M-S3 cascading communication output port
3	USB	USB port for inserting a USB flash drive to update the firmware
4	LED	LED status indicator, Steady green:Normal; Steady red:Fault; Permanent darkness: Hibernation
5	DC switch	Turn on/off the power connection from Master Module to inverter
6	Start button	Wake up the Battery Module (Press and hold for over 5 seconds)
7	Power and communication integrated terminal	Power and communication interfaces connected to the inverter (Connect the system cable after removing the cover).

5-2 Battery capacity description

A single APX M-S3 system can connect 0 to 5 Battery Modules parallel to increase the capacity and power of the battery system, and it communicates with the inverter through RS485/CAN communications. At the same time, it supports the cascading of up to 3 APX M-S3 systems. One APX M-S3 system communicates with another APX M-S3 system through CAN communication.

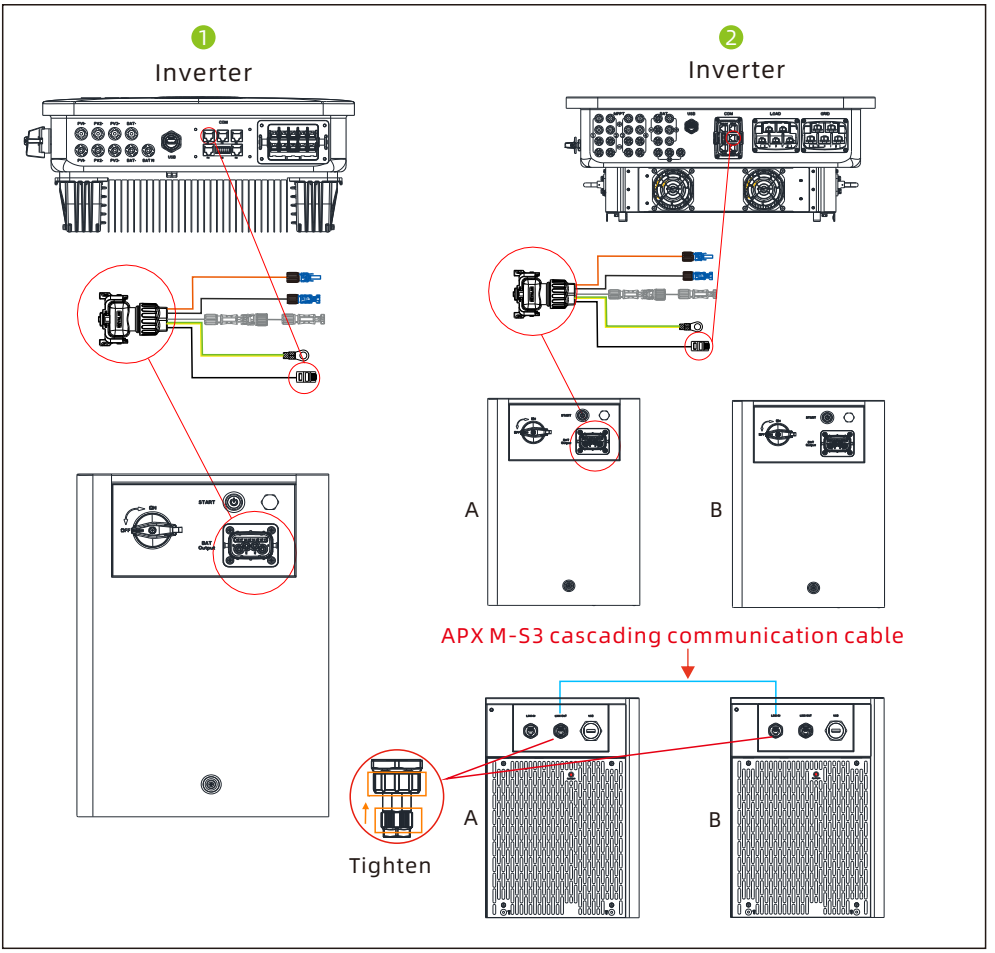
DC input cable Communication cable



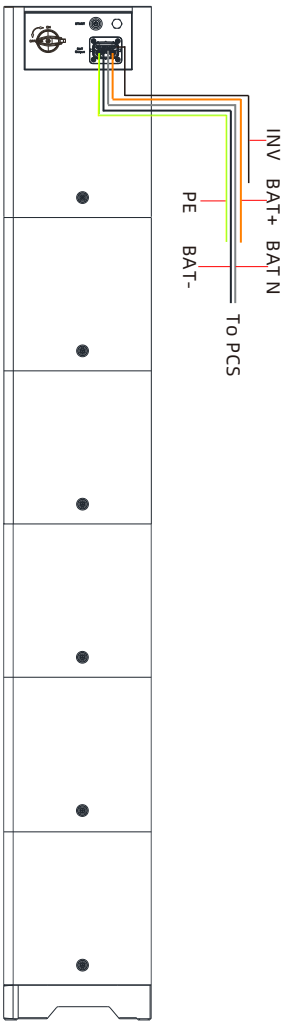
5-3 Communication port connection

APX 5.0-30.0M-S3			MOD-HU/MID-HU			MIN-XH2 (Rj45 version)			Communication port pinout
INV	1	INV.EN(-)	COM-BAT	1	BAT.EN-	COM-BAT	1	BAT.EN-	
	2	INV.EN(+)		2	BAT.EN+		2	BAT.EN+	
	3	M3_CAN2_L		3	CAN.L.M3		3	\	
	4	DSP_CAN2_L		4	CAN.L.DSP		4	\	
	5	DSP_CAN2_H		5	CAN.H.DSP		5	\	
	6	M3_CAN2_H		6	CAN.H.M3		6	\	
	7	RS485_B(B)		7	485B.BAT		7	485B/CAN.L	
	8	RS485_A(A)		8	485A.BAT		8	485A/CAN.H	

The communication port definition for the APX 5.0-30.0M-S3 is as follows:
Pin 1-2: Battery wake-up signal
Pin 3-6: CAN communication between the battery and the inverter
Pin 7-8: RS485 communication between the battery and the inverter
For the corresponding port definition on the inverter side, please refer to the inverter's user manual.



5-4 System wiring diagram

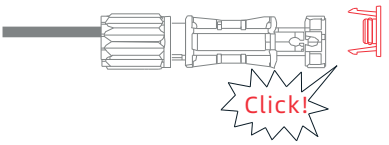


Note1: When connecting the communication cable, ensure the protective cover is fully tightened to maintain waterproof integrity. Water damage resulting from improper installation is not covered under the warranty.

Note2: It is strongly recommended not to install a DC circuit breaker between the battery and the inverter. If one must be installed, ensure its rated voltage exceeds 1000V and its rated current exceeds 40A. Never operate the breaker while the system is energized, as this can cause severe equipment damage.

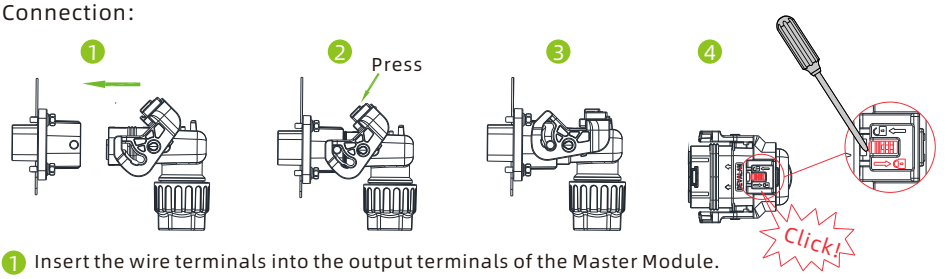
Note3: When the APX M-S3 system is used with a single-phase inverter (such as the MIN-XH2 series), the gray N wire does not need to be connected; instead, seal its connector socket with a dust cap. The N wire extension is also not required.

Note4: When the N line (gray or blue) does not need to be connected to the inverter, the connector plug of the N line must be sealed with a waterproof plug.The extension cable of the N line does not need to be installed.



6. Connection & disconnection of power and communication integrated terminal

Connection:

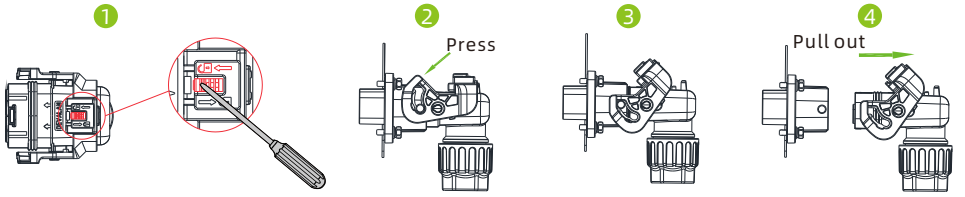


1 Insert the wire terminals into the output terminals of the Master Module.

2 3 Press the knob in the direction shown.

4 Use a screwdriver to push the latch in the direction shown to lock the terminal.

Disconnection:

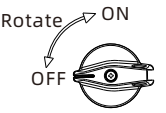


1 Use a screwdriver to push the clip in the direction shown to unlock the terminal.

2 3 Press the knob in the direction shown.

4 Pull the wire terminals outward.

7. Powering on/off the battery system

Power on	1. Turn on the DC Switch 2. Press the start button for more than 5s	
Power off	Turn off the DC Switch (wait for over 90s)	

Note:

1. Before performing maintenance or inspection work, ensure that the AC circuit breaker and the DC switch of the inverter, as well as the the DC switch on the APX 5.0M-B3 are all disconnected. After powering down the system, wait for 2 minutes and confirm that the LED display light on the APX 5.0M-B3 has turned off. Do not perform any operations until the system is completely shut down.
2. Do not touch the machine while it is running to avoid burns.
3. When cascading multiple APX M-S3 systems, pressing the start button on any Master Module will activate the entire system.
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