

Quick Installation Guide

X1-Matebox Advanced



1. Introduction

X1-Matebox is a critical part for SolaX all in one energy storage system, which integrates the DC breaker/AC breaker/switch unit/CT and so on, it can easily be installed compare to the traditional separate system, this unit can be used with SolaX X1-Hybrid G4 and X1-Fit G4 series inverters.

There are 2 wiring diagrams for your system connection reference, please follow your local policy to chose which one is suitable for your side.

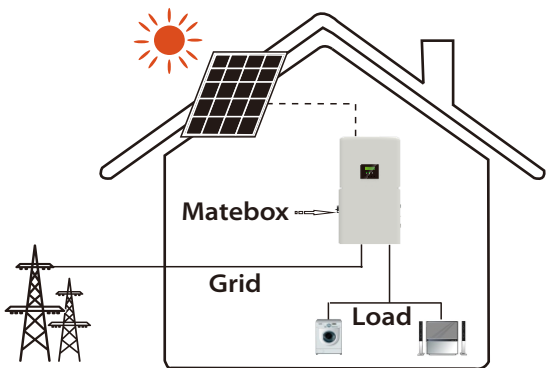


Diagram A: Neutral line and PE line are separated from each other, all loads connect to the Off-grid port;

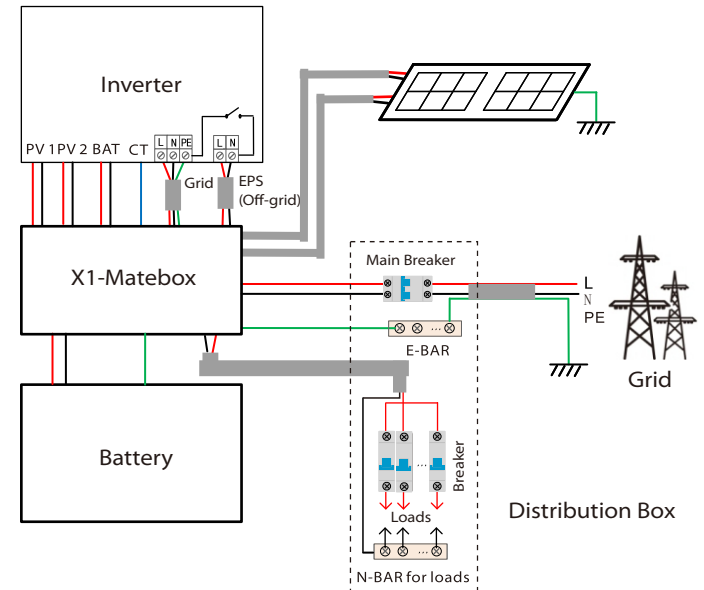
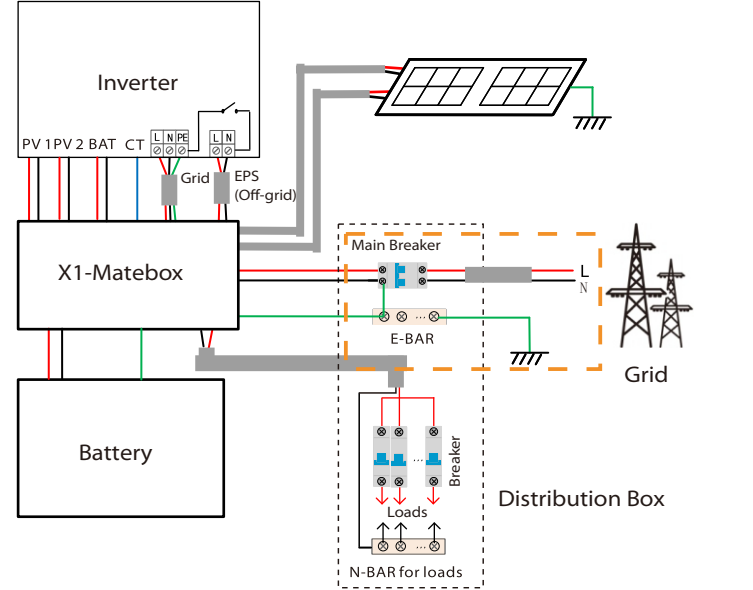
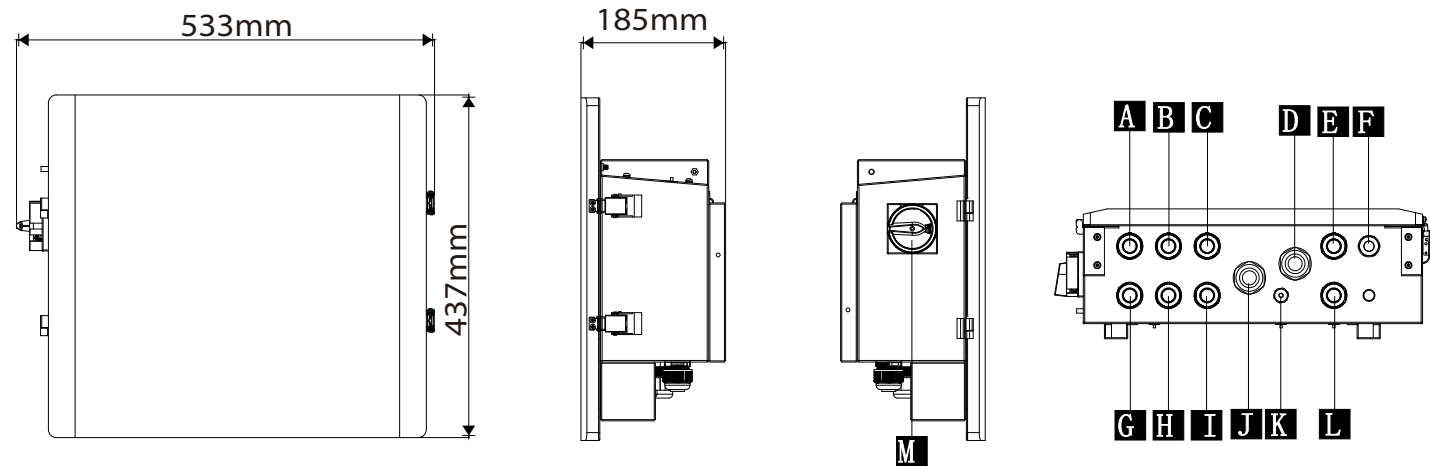


Diagram B: Neutral line and PE line are combined together, all loads connect to the Off-grid port;



2. Overview

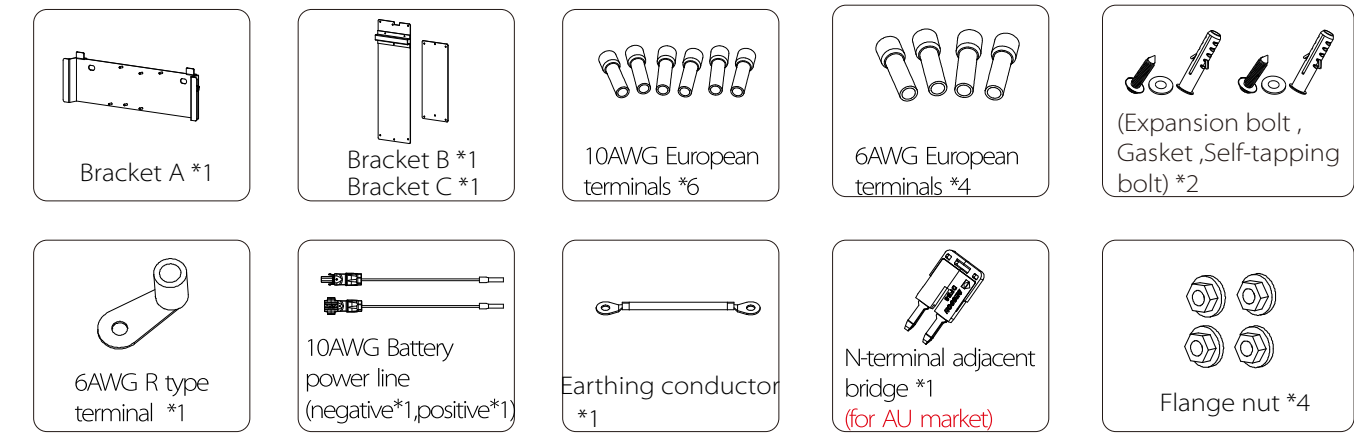


Object	Name	Description
A	PV	PV connection port (PV array)
B	EPS(Off-grid)1	Off-grid1 output portof the inverter
C	Grid1	Grid1 output portof the inverter
D	Load	Load connection port
E	BAT	Battery connection port(tobatterypack)
F	CAN	Reserved
G	PV (INV)	PV connection port of the inverter
H	EPS(Off-grid)2	Reserved
I	Grid 2	Reserved
J	Grid	Gridconnection port (to local grid)
K	CT	CT connection port of the inverter
L	BAT(INV)	Battery connection port of the inverter
M	DC Switch	DC switch

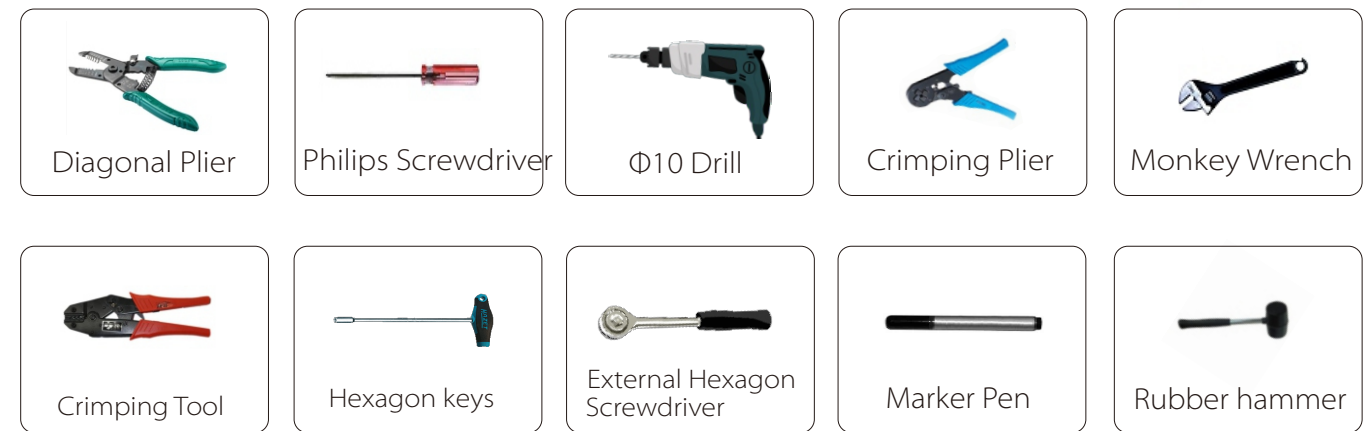
3. Preparation

3.1 Check Packing List

Open the package and check the materials and accessories according to the following list.

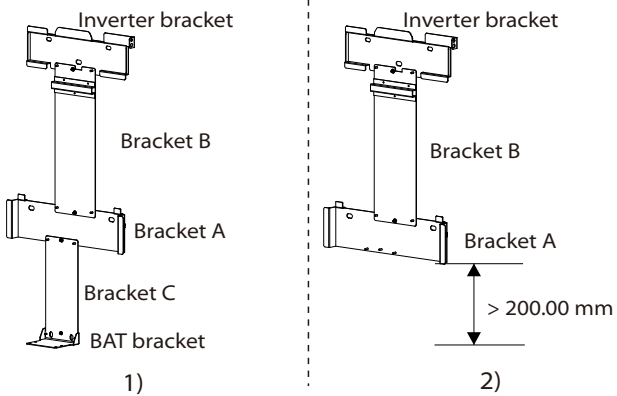


3.2 Tools



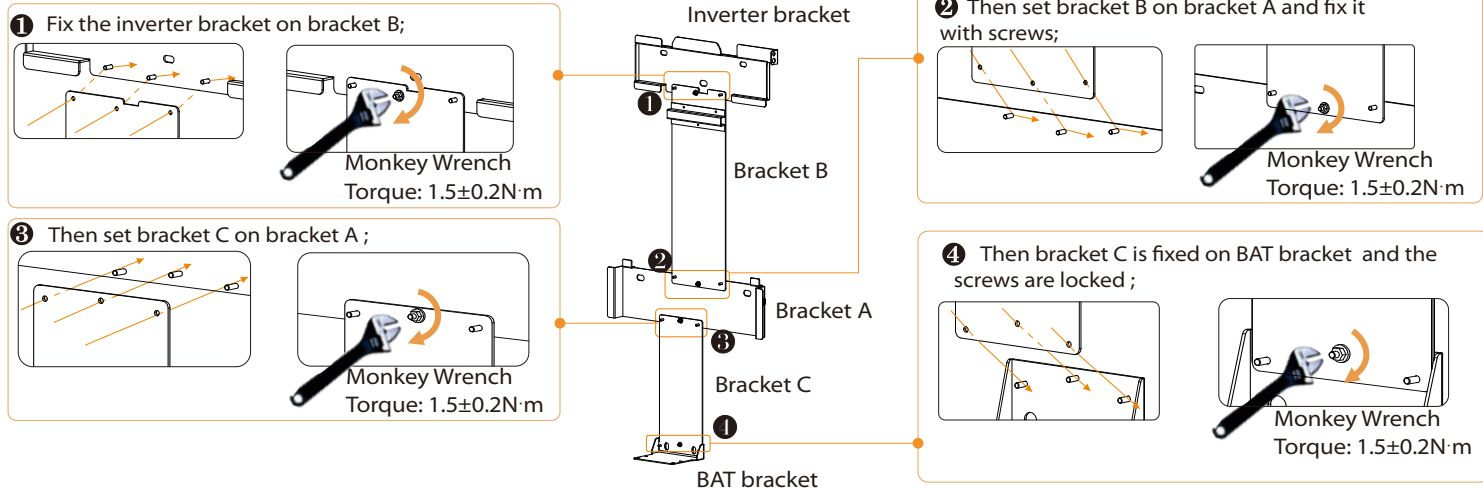
4. Mounting

The bracket of the matebox is composed of three parts. Bracket A is used to install the matebox. Bracket B is used to fix the bracket position of the inverter, and Bracket C is used to fix the bracket position of the battery.

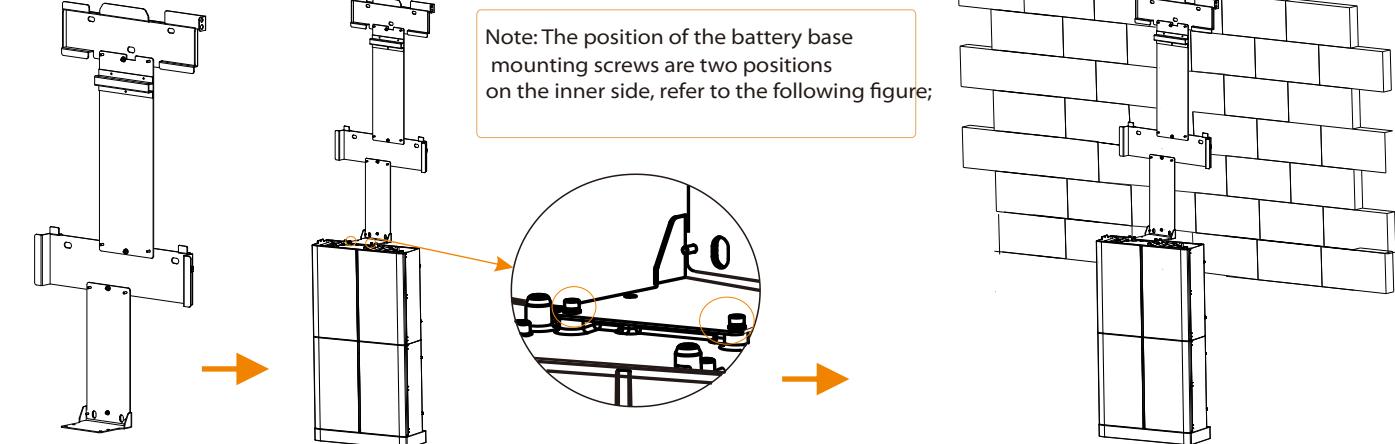


Step 1: Connect all brackets

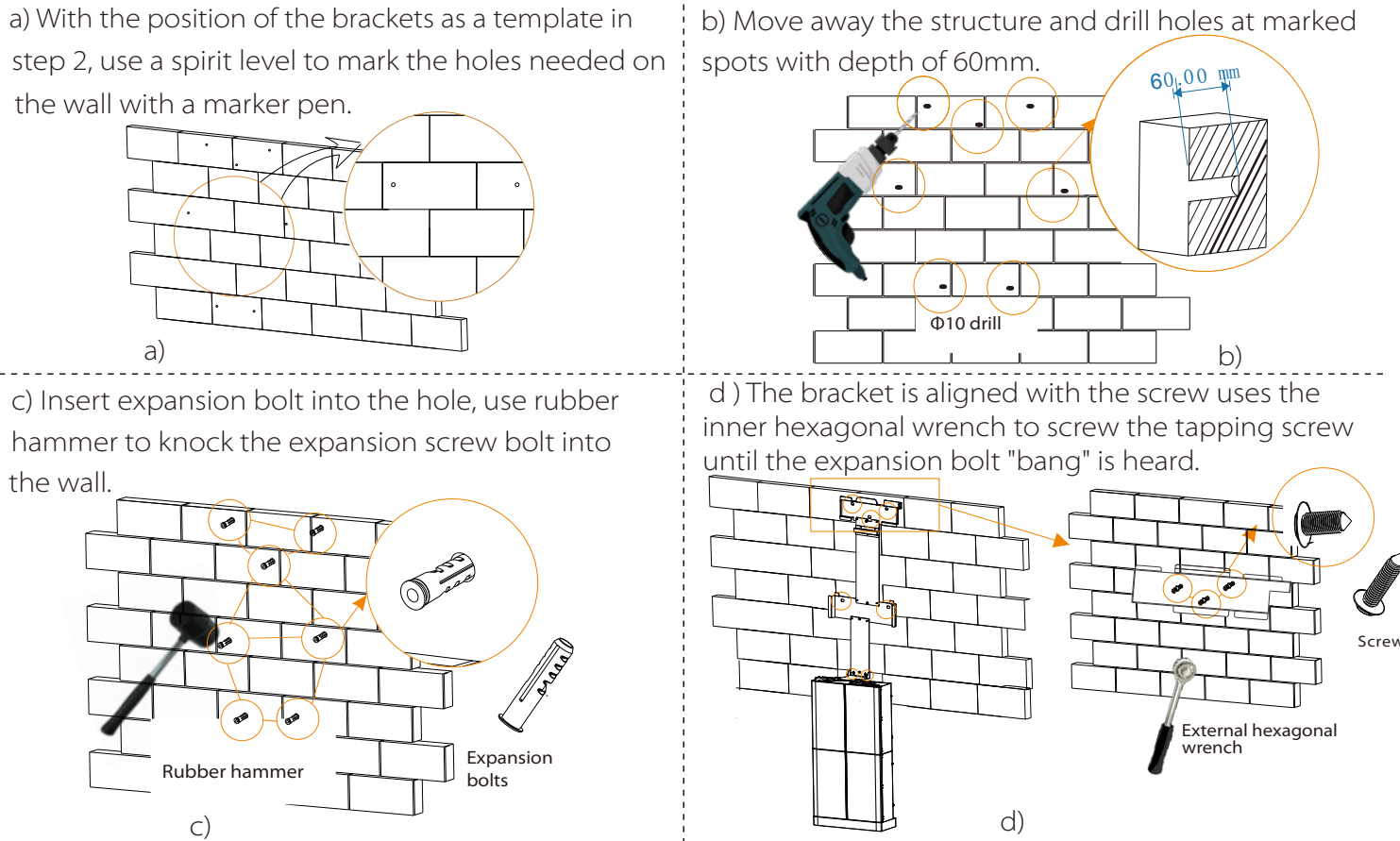
First of all, connect inverter bracket, Bracket B, Bracket A, Bracket C and BAT bracket all together with flange nuts.



Step 2: Connect the BAT bracket and the battery and push the whole structure to the wall

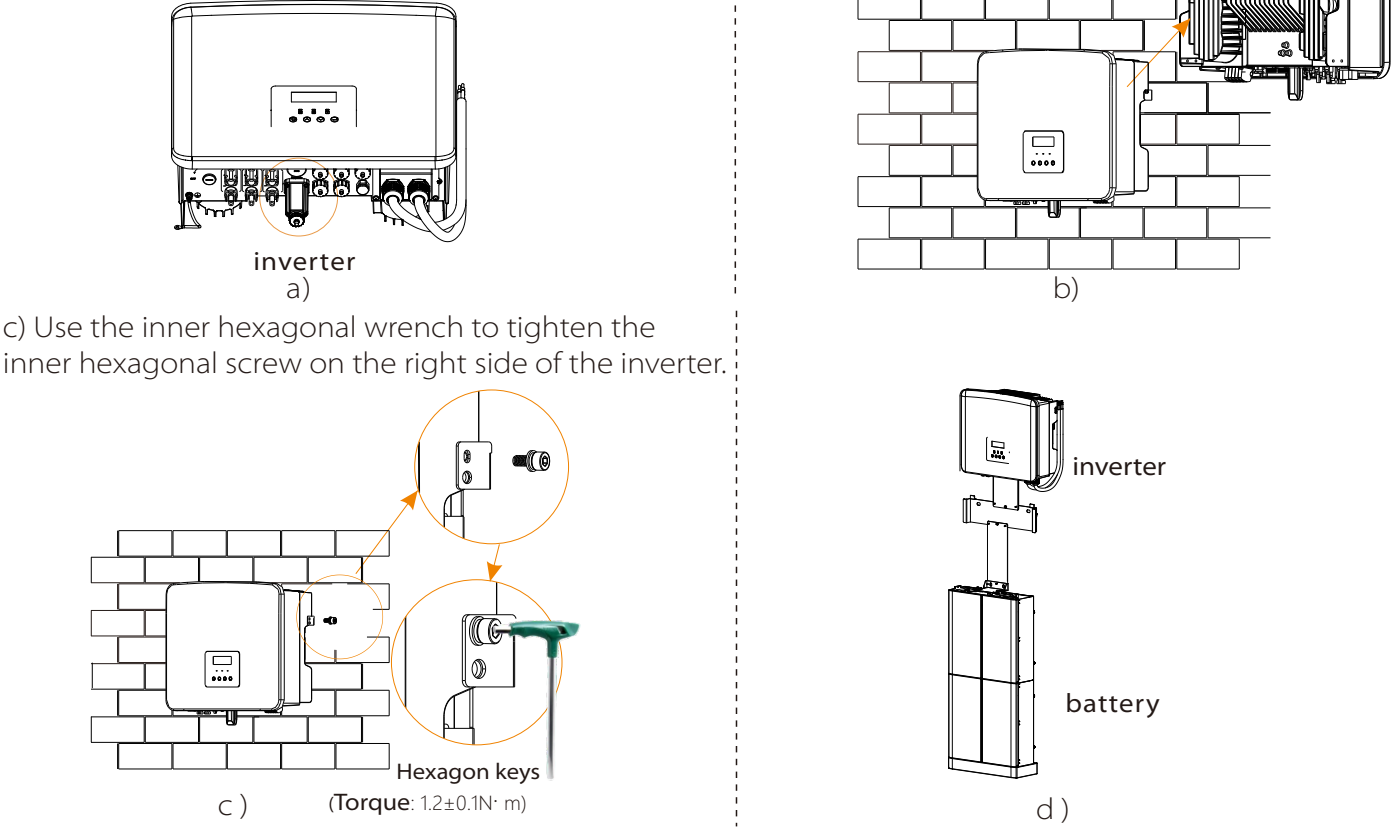


Step 3: Fix the position, drill holes and install the whole structure on the wall



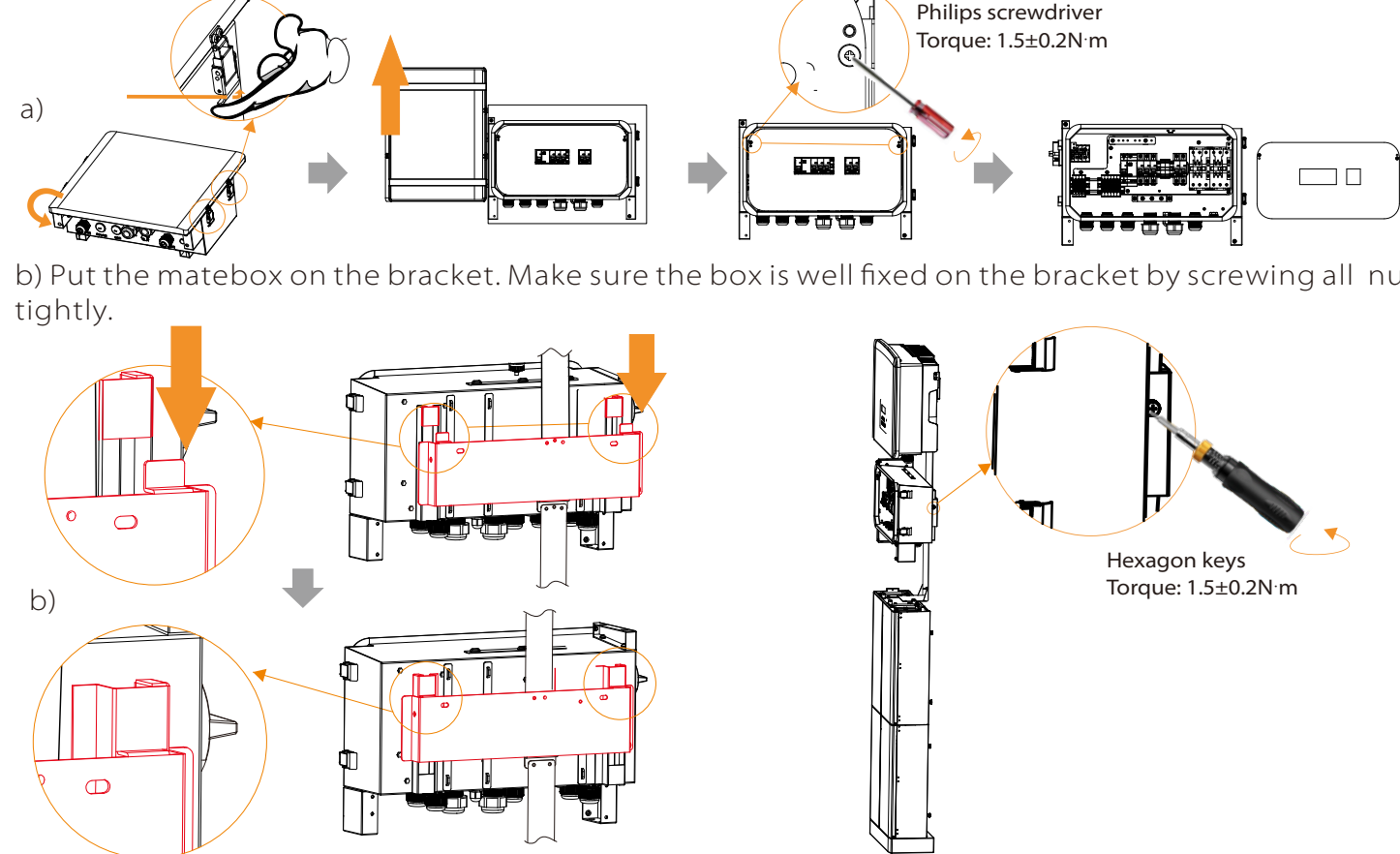
Step 4: Install the inverter

Make sure all brackets (bracket A, bracket B, bracket C, inverter bracket and BAT bracket) are well and firmly installed. a)Before install the inverter,remove the "DONGLE" waterproof plug (for the installation of communication accessories); Insert wifi into DONGLE port and lock the four screws on the wifi to fix its position. b) Hang the buckle on the inverter to the corresponding position of the backplane.



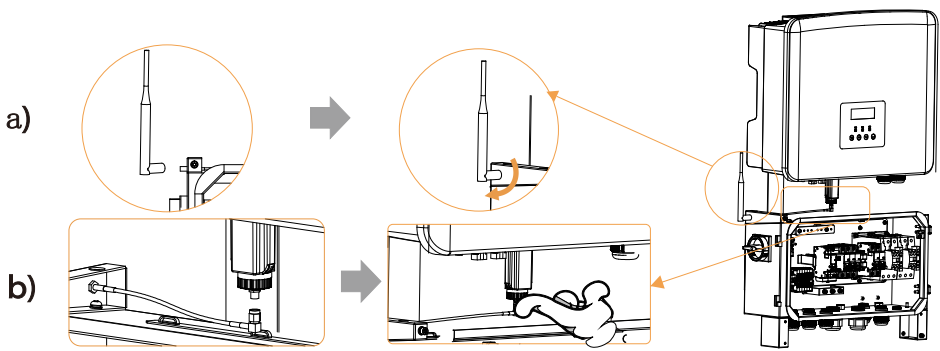
Step 5: Install matebox

a) Cut off all strips of the box except the strips on the back of the box before installing the box. Open the buckler of the matebox, open the upper cover and remove the protective cover; (open the button by hand, open the cover and slide upwards.)



5. Monitor the antenna connections of accessories

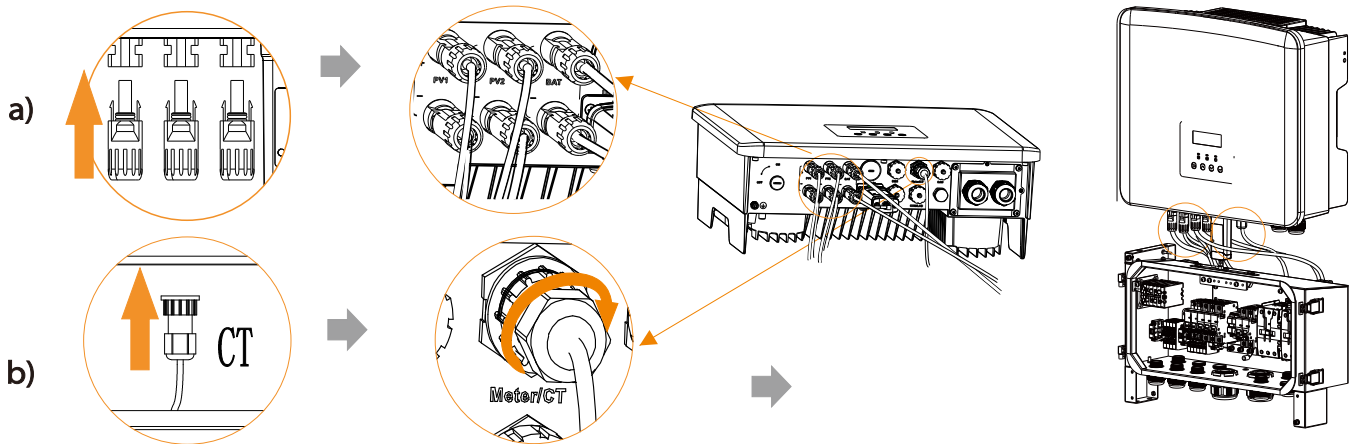
- There is an antenna in the box of monitoring accessories.
- a) Install the antenna on bracket A and tighten it by hand;
- b)Then connect the antenna cable to the end of the pocket WiFi.



6. Wiring Connection

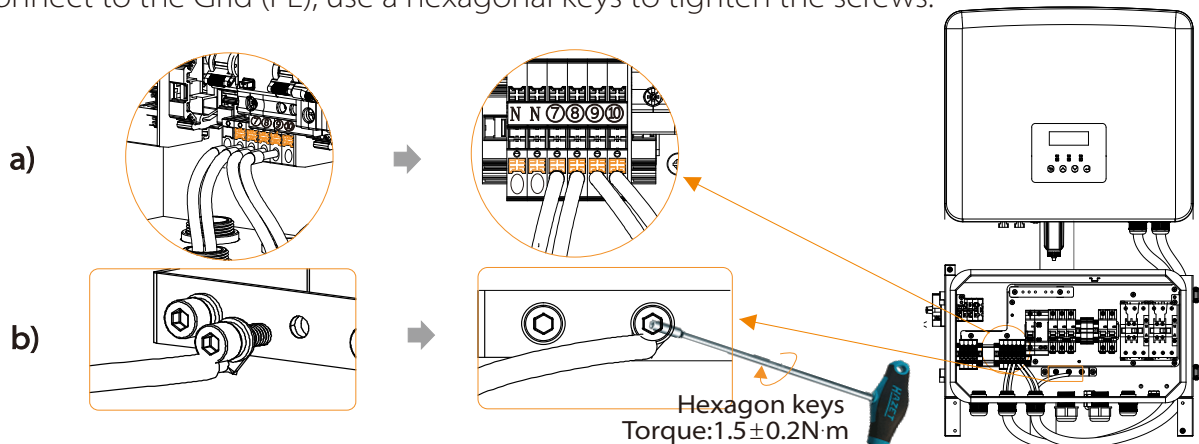
6.1 Inverter side connection

- a) According to the PV 1 (INV)+ / PV1 (INV)- / PV2(INV)+ / PV2(INV)- /BAT(INV)+ / BAT(INV) line symbol on matebox, Correspond to the PV 1 + / Pv1- / PV2 + / Pv2- / BAT + / BAT- ports of the inverter.
- b) Connect the CT cable of the matebox to the CT port of the inverter, and tighten the water proof plug.

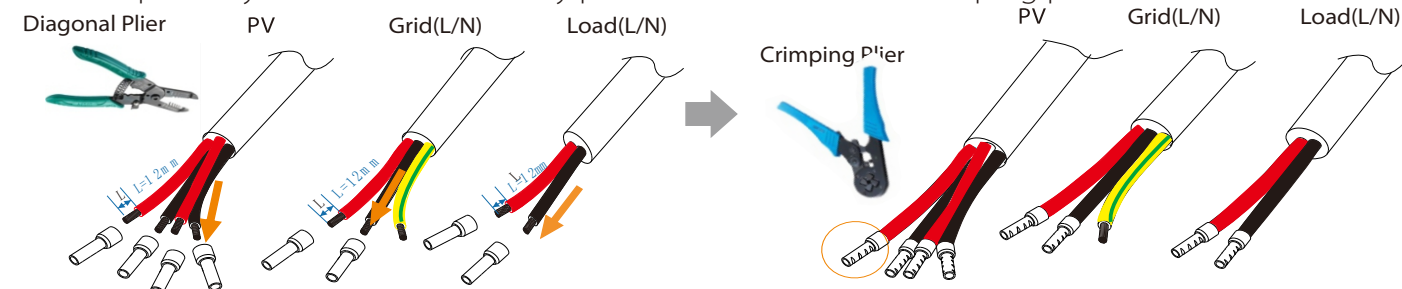


6.2 Matebox side connection

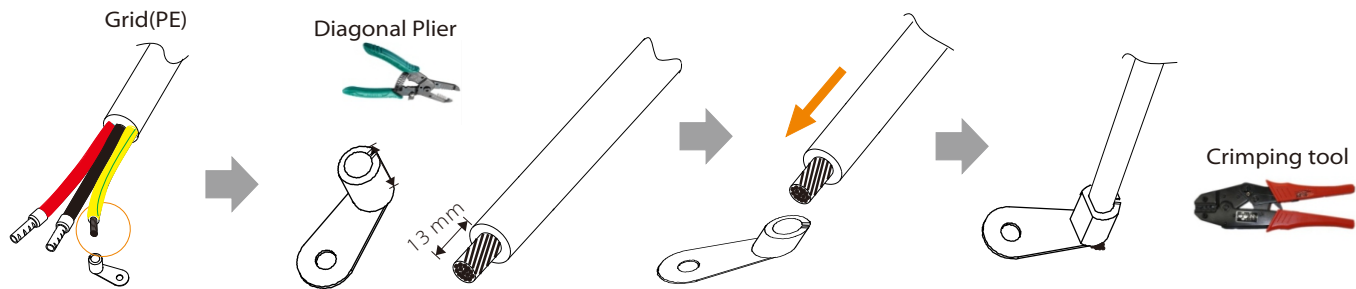
- 1) Open the protective cover. Connect the Grid1 L/N and EPS1 L/N/PE lines between the inverter and the matebox. The connection method is as follows:
- a) First, insert Grid1 L/N and EPS1 L/N into the matebox port firmly, and then gently pull to check if they are connected properly and screw waterproof plug tightly;
- b) Connect to the Grid (PE), use a hexagonal keys to tighten the screws.



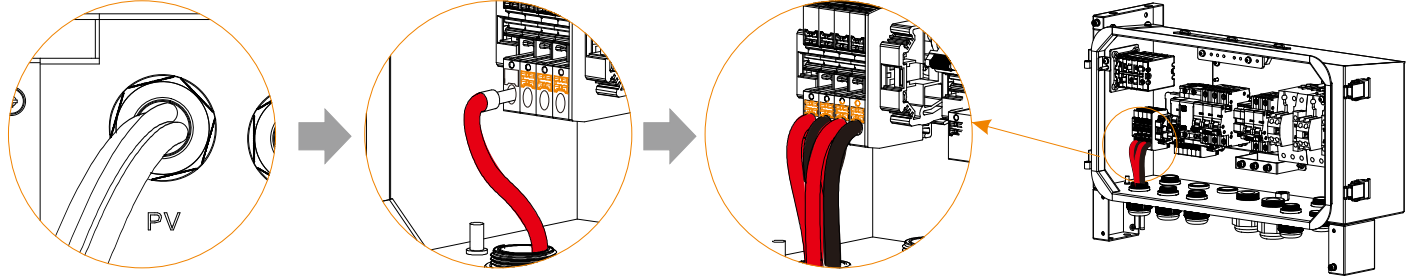
- 2) PV(PV1+/PV1-/PV2+/PV2-) /Grid(L/N/PE) /Load(L/N) side connection.
- a) PV(PV1+/PV1-/PV2+/PV2-) /Grid(L/N/PE) /Load(L/N) wire, remove the 12 mm insulation layer at the end of the wire .Insert The European-style terminals respectively. The stripped terminals must be inserted into the European-style terminals and finally pressed down with the crimping pliers.



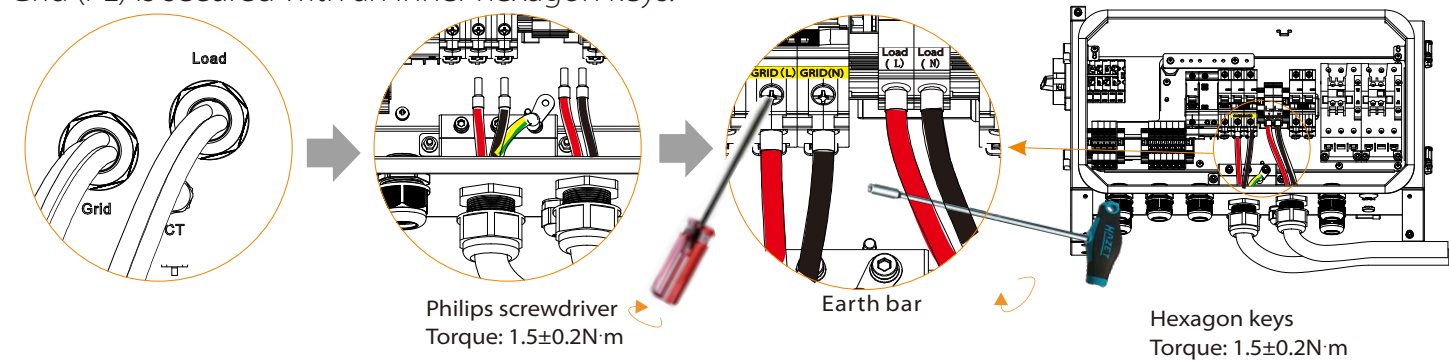
- b) Grid(PE) strip the grounding cable, remove the 13 mm insulation layer at the end of the wire.. Insert the stripped cable into the R type terminal, and then clamp it.



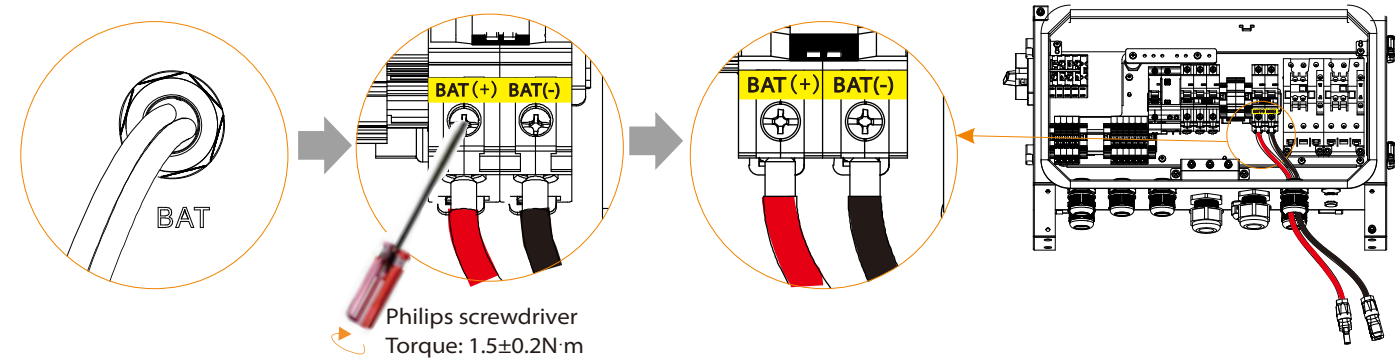
- 3) Pass the PV line through the PV port of the matebox, and then find PV1+/PV1-/PV2+/PV2+ port inside the matebox. Force the wire harness directly into the hole to jam, gently twist not to loosen.



- 4) Pass the Grid/Load line through the Grid/Load port of the matebox, then find the Grid (L/N) and Load (L/N) ports in the matebox, insert each line accordingly, and use the screwdriver to lock the screws.
- Grid (PE) is secured with an inner hexagon keys.

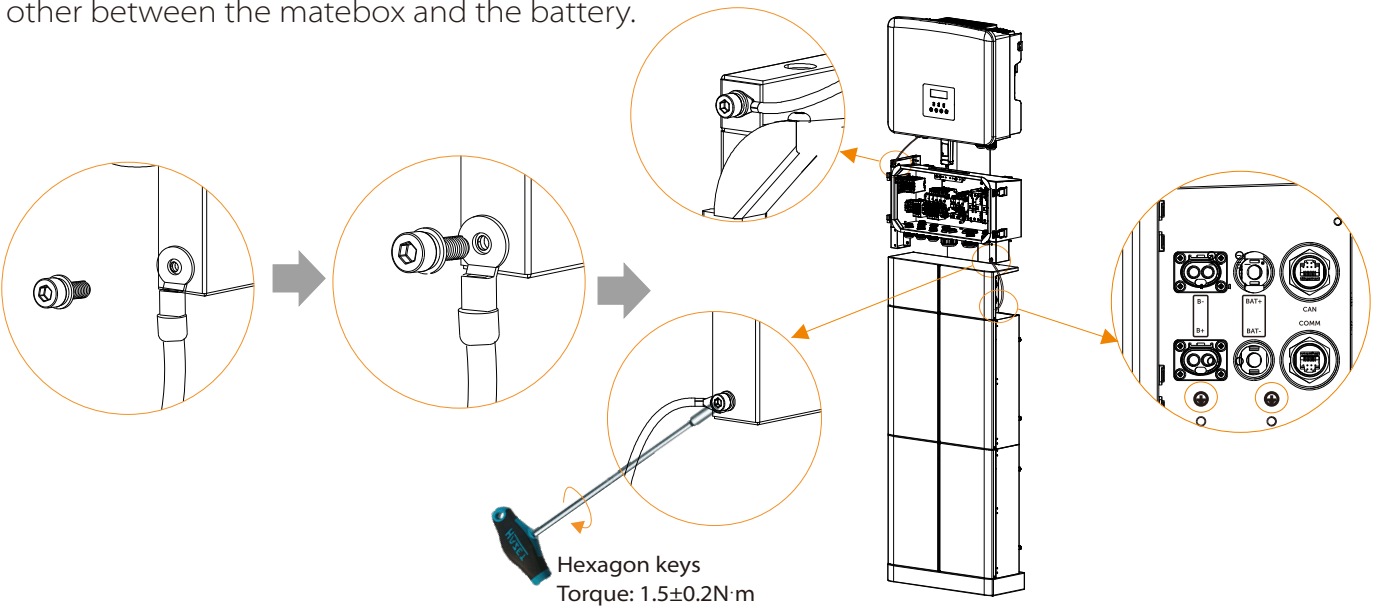


- 5) Pass the battery power wire through the BAT port of the matebox, then find the BAT+ and BAT-ports in the matebox, insert each wire accordingly, and use the philips screwdriver to lock the screws.



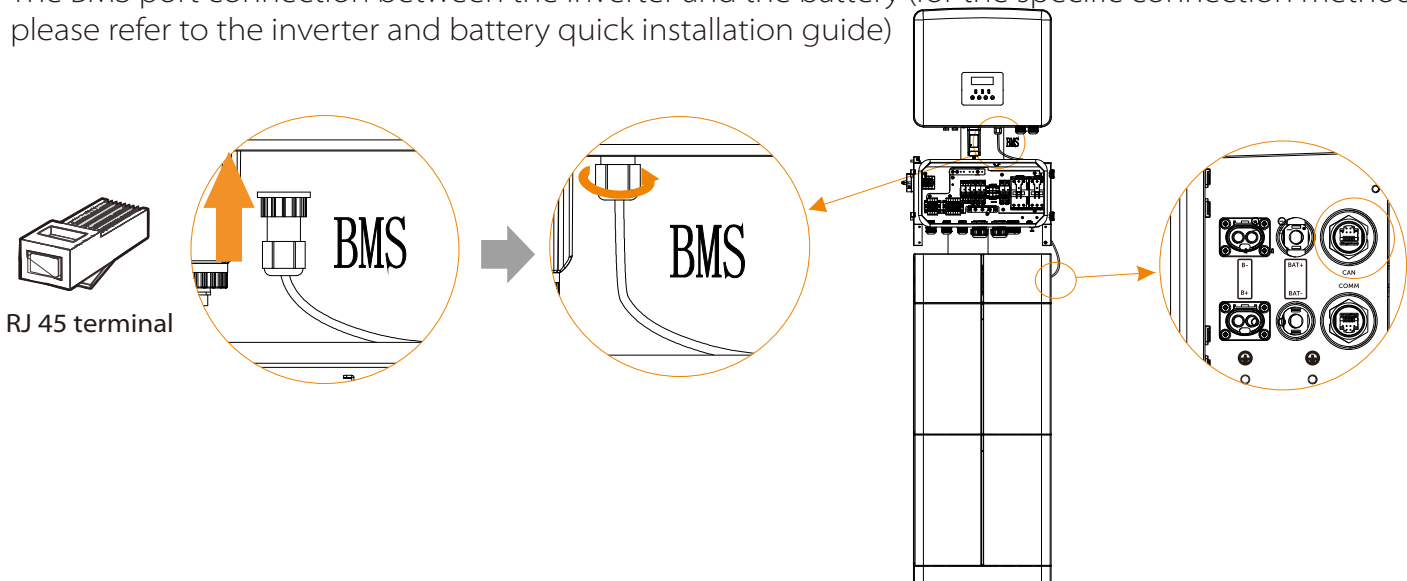
6.3 Ground wire connections

There are two areas that need to be grounded, one between the inverter and the matebox and the other between the matebox and the battery.



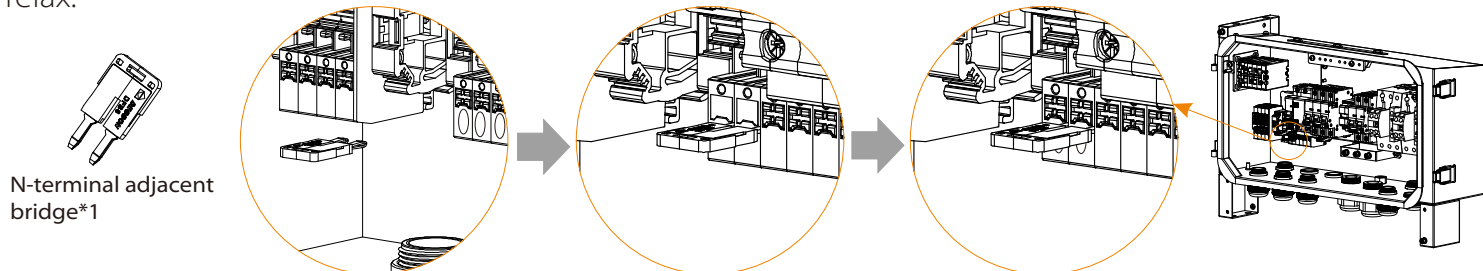
6.4 Battery's communication wire connection

- When the distance between the matebox and the battery is< 1 m, you can use the BMS communication line in the accessory bag.
- When the distance between the matebox and the battery is> 1 m, you need to prepare the regular network cable and find the RJ45 terminal of the accessory package to make the cable.
- The BMS port connection between the inverter and the battery (for the specific connection method, please refer to the inverter and battery quick installation guide)

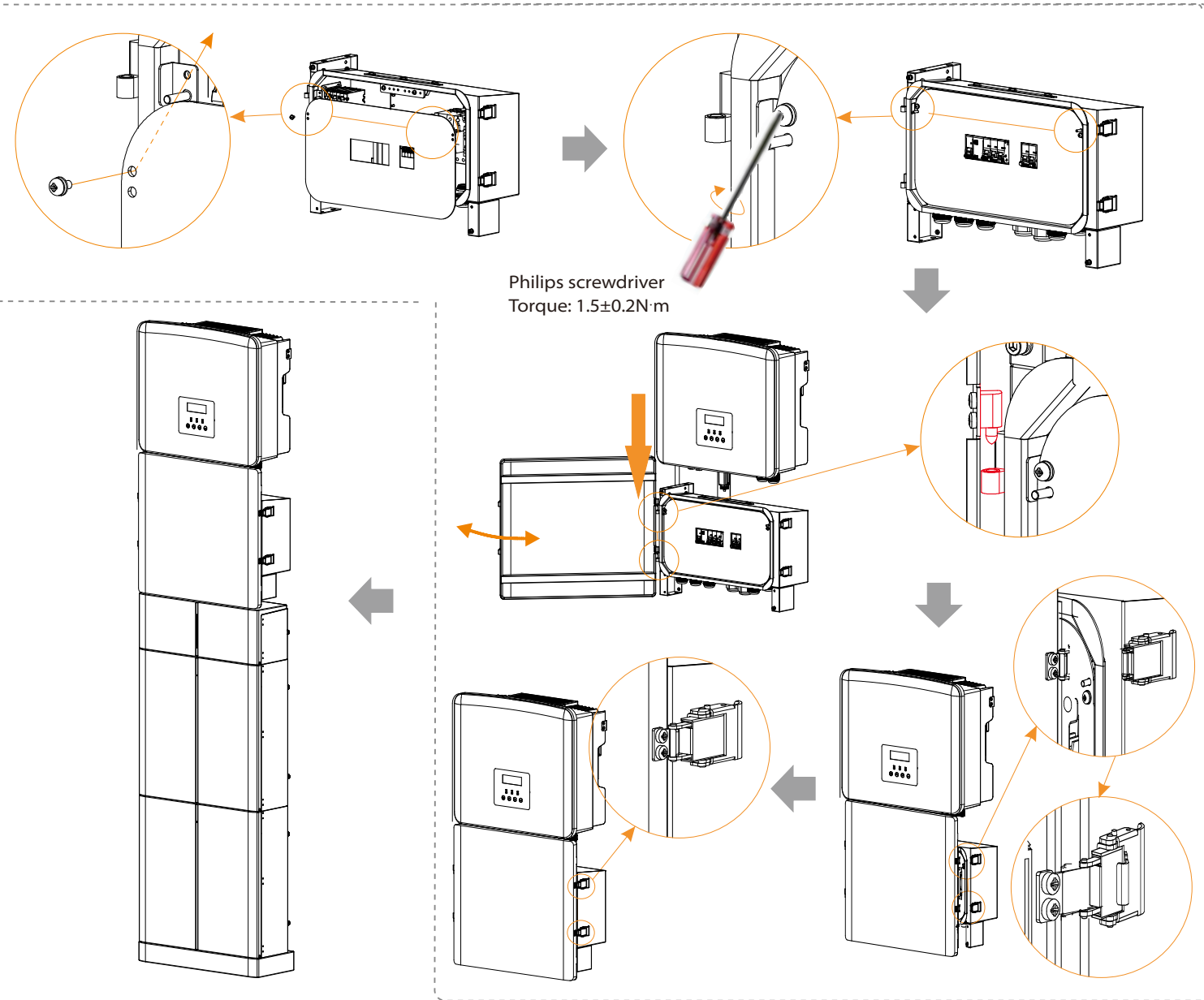


6.5N lines short circuit (applicable in Australia)

- According to local regulations, the continuity of the neutral line of EPS load and that of the grid is not interrupted when the inverter disconnects from the grid. (for wiring Australia and New Zealand regulations AS/ NZs_3000:2012)
- First, find N-terminal adjacent Bridge in the accessory package.
- Forcibly insert n-terminal adjacent bridge into the n-terminal hole and jam it. Gently twist and do not relax.



- 6.6 Finally, use a philips screwdriver to install the baffle back, install the upper cover, and then lock the buckle by hand.



7. Technical Parameters

DC Input/Output	
Max. Input Voltage	600 V d.c.
Max. DC Short Circuit Current	20 A/20 A
Max. MPPT Current	16 A
Battery Voltage Range	80-480 V d.c.
Max. Charge/Discharge Current	30 A/30 A
GRID Input/Output	
Rated Grid Voltage ,Frequency	220/230 V a.c., 50/60 Hz
Max. Grid Input Current	100 A
LOAD	
Rated Grid Voltage ,Frequency	220/230 V a.c., 50/60 Hz
Max. Load Current	100 A
Installation Specification	
Dimension (L*W*H)	185 mm * 533 mm * 437 mm
Weight	10 kg
Operating Temperature	-35℃~+60℃
Installation	Wall Mounted