

Quick Installation Guide X3-Matebox



1. Introduction

X3-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 X3-Hybrid G4 and X3-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: N line and PE line separate wiring, M series inverters; (For most countries)

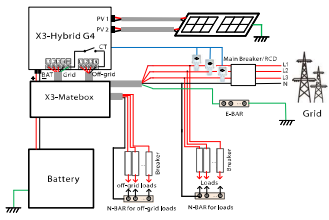
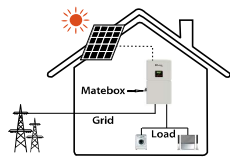
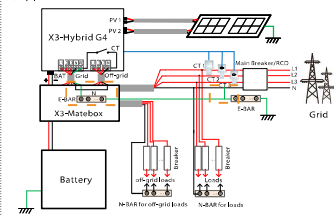
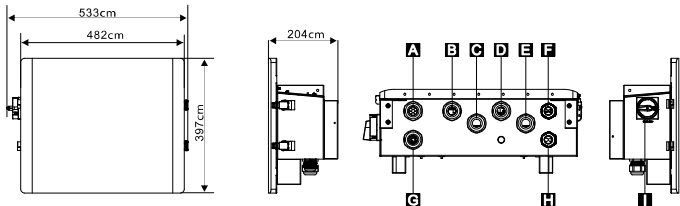


Diagram B: N line and PE line together, M series inverters; (Applicable to Australia)



2. Overview

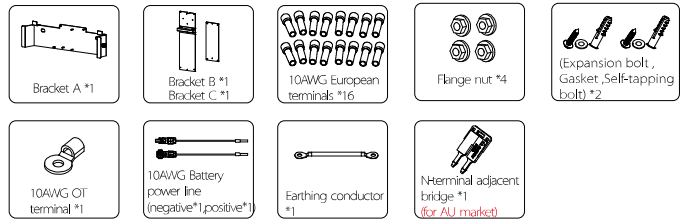


Object	Name	Description
A	PV	PV connection port (PV array)
B	Load	Load connection port
C	Grid	Grid connection port (to local grid)
D	Grid(INV)	Grid output port of the inverter
E	Off-grid (INV)	Off-grid output port of the inverter
F	BAT	Battery connection port (to battery pack)
G	PV (INV)	PV connection port of the inverter
H	BAT(INV)	Battery connection port of the inverter
I	DC Switch	DC switch

3. Preparation

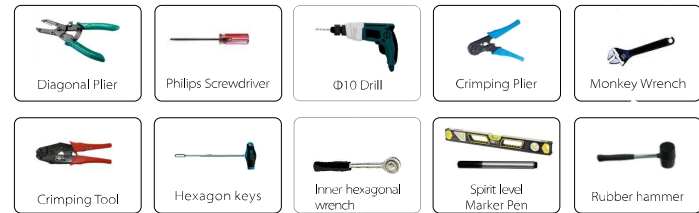
3.1 Check Packing List

Prior to installation, ensure that nothing inside the package is damaged. Open the package and check the materials and accessories according to the follow list.



3.2 Tools

The following tools need to be prepared before installation:

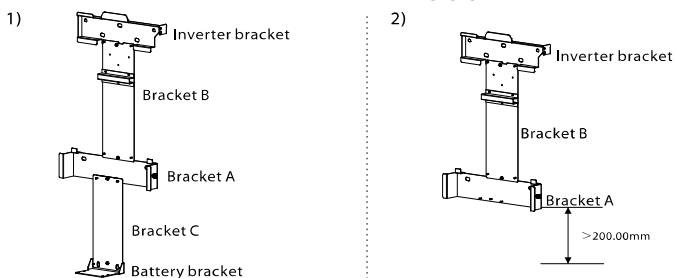


4. Mounting

The bracket of the X3-Matebox is composed of three parts. Bracket A is used to install the X3-Matebox, Bracket B is used to fix the bracket position of the inverter, and Bracket C is used to fix the bracket position of T-BAT-SYS-HV-(3.0).

The bracket can be installed in two ways:

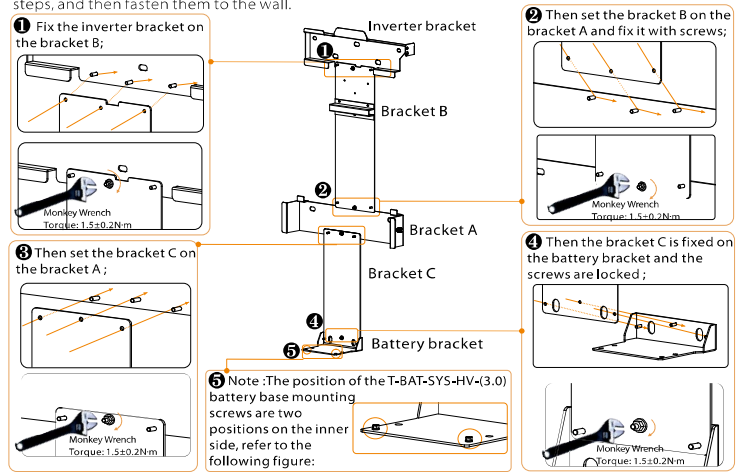
- 1) With T-BAT-SYS-HV-(3.0) battery, the installation method is as follows: (1 2 3 4 5)
- 2) With other batteries, the installation method is as follows: (1 2 3)



Note: When installing the bracket, be sure to use a spirit level to test and keep the bracket parallel to the horizontal plane. Bracket A should be installed at a distance of 200mm (at least) from the earth.

Step 1: Splicing bracket

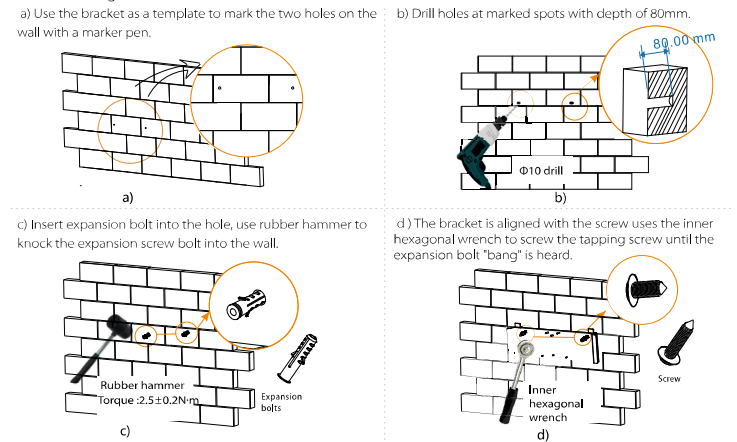
First splice the inverter bracket, bracket A, bracket B, and battery bracket according to the following steps, and then fasten them to the wall.



Step 2: Then install the T-BAT-SYS-3.0 battery bracket; (Please refer to T-BAT-SYS-3.0 battery quick installation guide)

Step 3: Mounting bracket A

The mounting method of the X3-Matebox bracket is as follows:



Step 4: Finally, install X3-Hybrid G4 inverter bracket; (Please refer to X3-Hybrid G4 inverter quick installation guide).

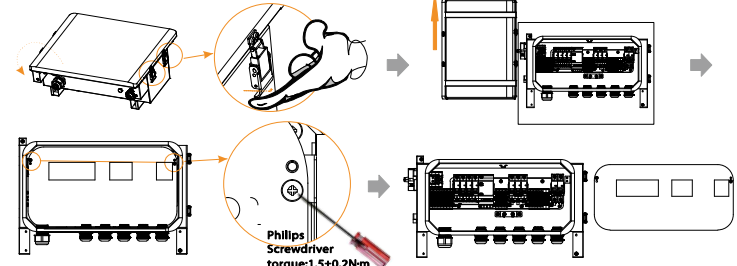
Step 5. Install the X3-Matebox on the wall and lock the screws.

Use a level first to ensure that the brackets (battery bracket, bracket A, bracket B, bracket C, inverter bracket) in the system are firmly installed and level. Then follow the steps below to hang X3-Matebox.

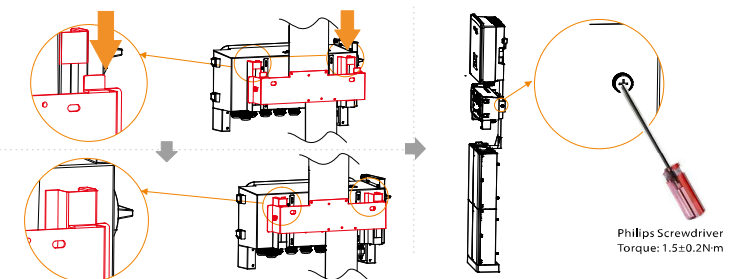
- a) Before install the inverter, connect the ground wire firstly, and remove the "DONGLE" waterproof cover (for the installation of communication accessories; (Please refer to the pocket dongle (WiFi) quick installation guide)
- b) Firstly install the battery and inverter on the wall, and then install the X3-Matebox on the wall;



c) open the upper cover of X3-Matebox and remove the baffle; (open the button by hand, open the cover and slide upwards, and remove the isolation plate)



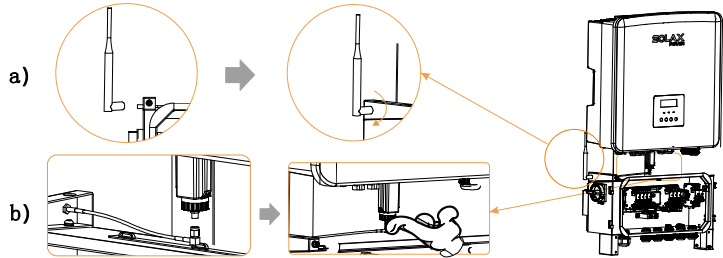
d) Mount X3-Matebox on bracket A and tighten the screws.



5. Monitor the antenna connections of accessories

There is an antenna in the box of monitoring accessories.

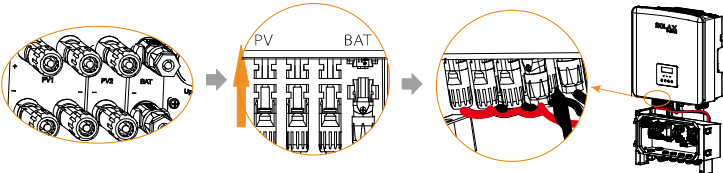
- Install the antenna on bracket A and tighten it by hand;
- Then connect the antenna cable to the end of the pocket WiFi.



6. Wiring Connection

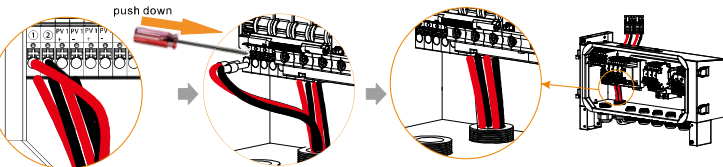
6.1 Inverter side connection

According to the PV 1(INV)+/PV1(INV)-/PV2(INV)+/PV2(INV)-/BAT(INV)+/BAT(INV)- line symbol on X3-Matebox harness, the corresponding ports of PV 1+/PV1-/PV2+/PV2-/BAT+/BAT- of the inverter are successively inserted.



※Note: X3-Hybrid-5.0-M and X3-Hybrid-6.0-M inverters have only two MPPT and two PV strings, so when connecting, you need to unplug ①/② of the PV in the X3-Matebox.

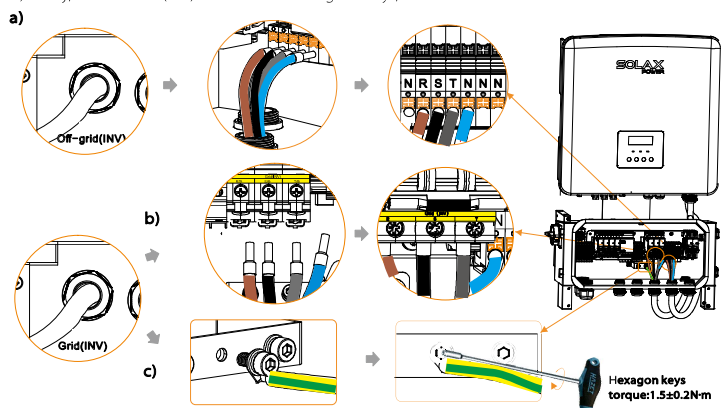
-Use a screwdriver to press down the yellow part while pulling the wire out of the port.)



6.2 X3-Matebox side connection

1) Connect the Grid(INV) L1/L2/L3/N and Off-grid (INV) L1/L2/L3/N/PE ports of the inverter to the X3-Matebox port. The connection method is as follows:

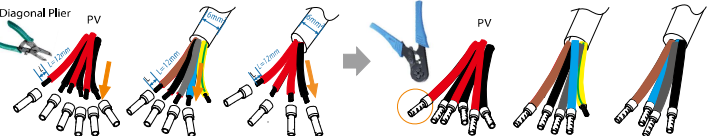
- First, insert the L1/L2/L3 Off-grid (INV) into the R/S/T port of Off-grid (INV) in X3-Matebox and the N Off-Grid(INV) directly into the hole, directly into the hole and ensure that the installation is tight;
- Then find the Grid(INV) (R/S/T) port in X3-Matebox, connect the corresponding wire harness, and lock the screw with a screwdriver.
- Finally, lock the Grid (INV) PE wire with a hexagonal keys;



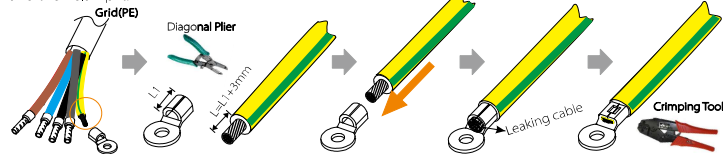
2) PV(PV1+/PV1-/PV2+/PV2-) /Grid(L1/L2/L3/N/PE) /Load(L1/L2/L3/N) side connection

a) Prepare ordinary PV(PV1+/PV1-/PV2+/PV2-) /6mm² Grid(L1/L2/L3/N/PE) /6mm² Load(L1/L2/L3/N) wire, remove the 12mm 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.

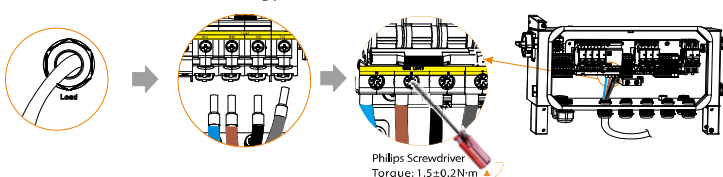
Grid(L1/L2/L3/N) Load(L1/L2/L3/N) Crimping Plier Grid(L1/L2/L3/N) Load(L1/L2/L3/N)



b) Grid(PE) strip the grounding cable insulation(lenhth*1), insert the stripped cable into the R type terminal, and then clamp it.

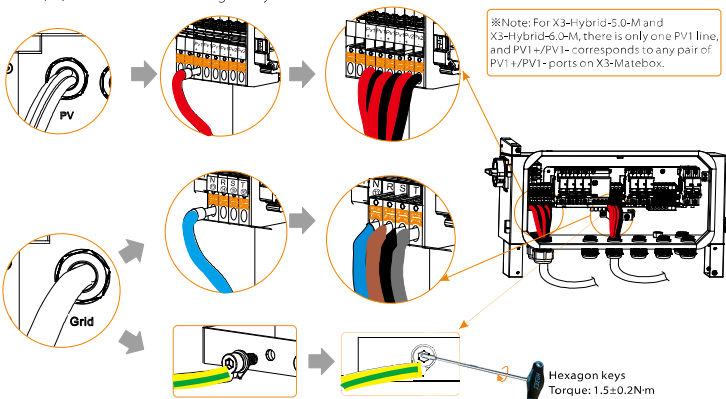


3) Pass the Load line through the Load port of the X3-Matebox, then find the Load (R/S/T/N) ports in the X3-Matebox, insert each line accordingly, and use the screwdriver to lock the screws.



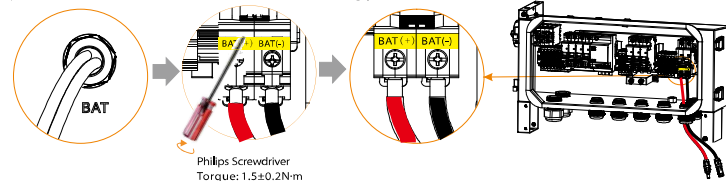
4) Pass the PV /Grid line through the PV port of The X3-MateBox, and then find PV(PV1+/PV1-/PV2+/PV2+) and Grid(R/S/T/N) port inside the X3-Matebox. Force the wire harness directly into the hole to jam, gently twist not to loosen.

Grid (PE) is locked with an Hexagon keys.



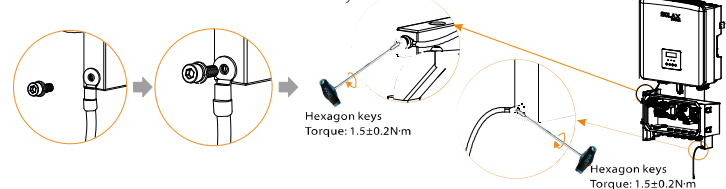
※Note: For X3-Hybrid-5.0-M and X3-Hybrid-6.0-M, there is only one PV1 line, and PV1+/PV1- corresponds to any pair of PV1+/PV1- ports on X3-Matebox.

5) Pass the battery power wire through the BAT port of The X3-Matebox, then find the BAT+ and BAT- ports in the X3-Matebox, insert each wire accordingly, and use the screwdriver to lock the screws.



6.3 Ground wire connections

There are two areas that need to be grounded, one between the inverter and X3-Matebox and the other between the X3-Matebox and the battery.

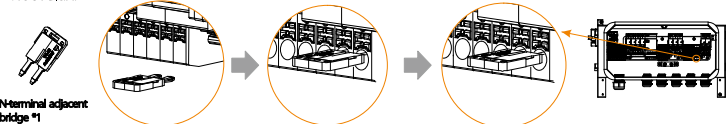


6.4 N lines of a Grid are short-connected to the N lines of an off-grid

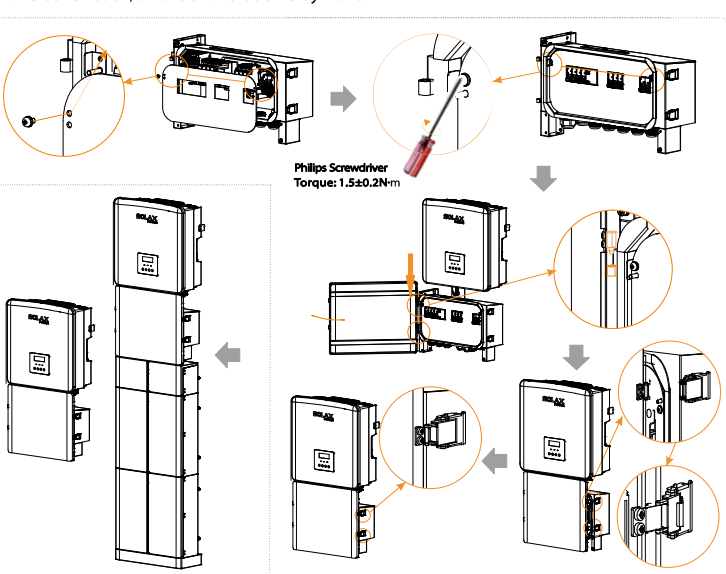
- If the user requires wiring rules for neutral wires the standby power supply cannot be isolated or switched (for wiring Australia and New Zealand regulations AS/ NZs_3000:2012).

-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.



6.5 Finally, use the screwdriver to install the baffle back, the upper cover to install the cover back, and lock the buckle by hand.



7. Technical Parameters

DC Input/Output		LOAD Input/Output	
Max. Input Voltage	1000V	Rated Grid Voltage	380/400/415Vac
Max. Short Current	30A/16A	Frequency	50/60Hz
Battery Voltage Range	180-650V	Max. Short Current	32A
Max. Charge/Discharge Current	30A/30A	Installation Specification	
GRID Input/Output		Dimension (L*W*H)	204*533*397mm
Rated Grid Voltage	380/400/415Vac	Weight	10kg
Frequency	50/60Hz	Operating Temperature	-30°C~+60°C
Max. Short Current	32A	Installation	Wall Mounted