



# Quick Installation Guide

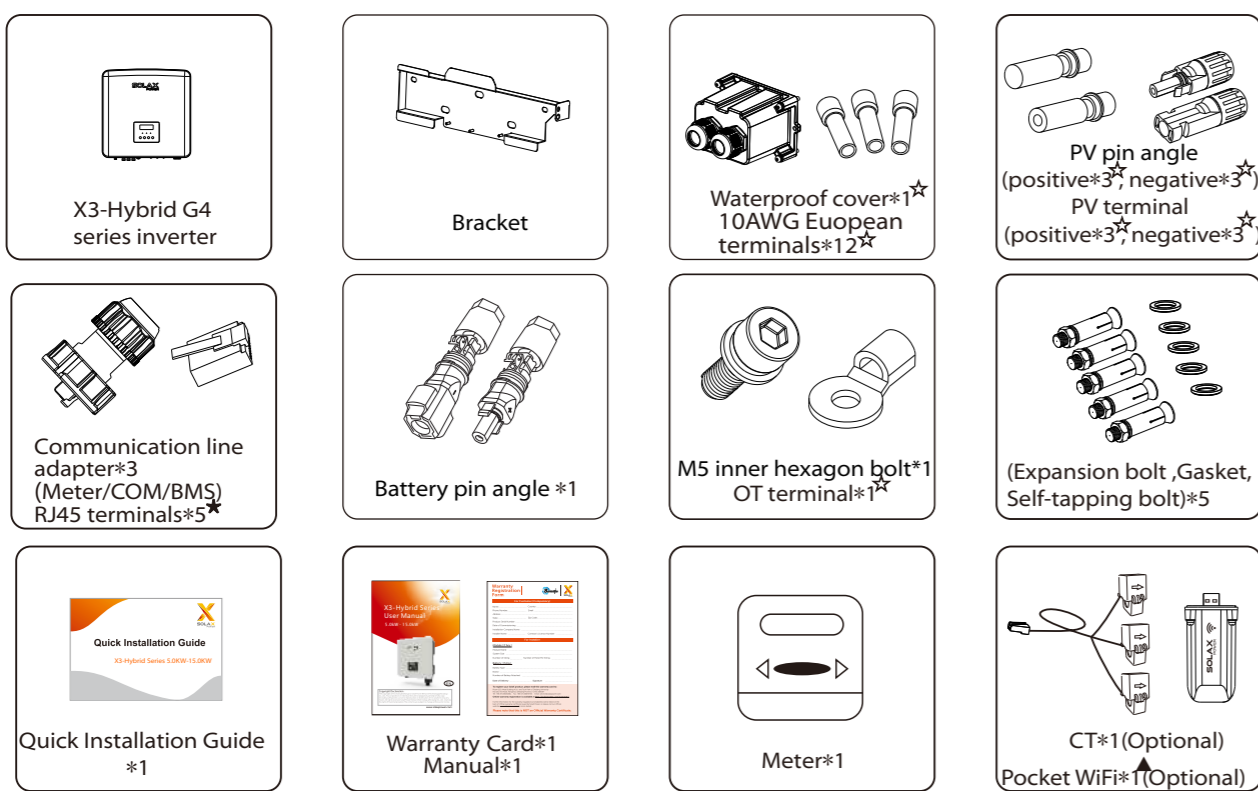
## X3-Hybrid 5.0KW-15.0KW

II

## Tool Preparation


I

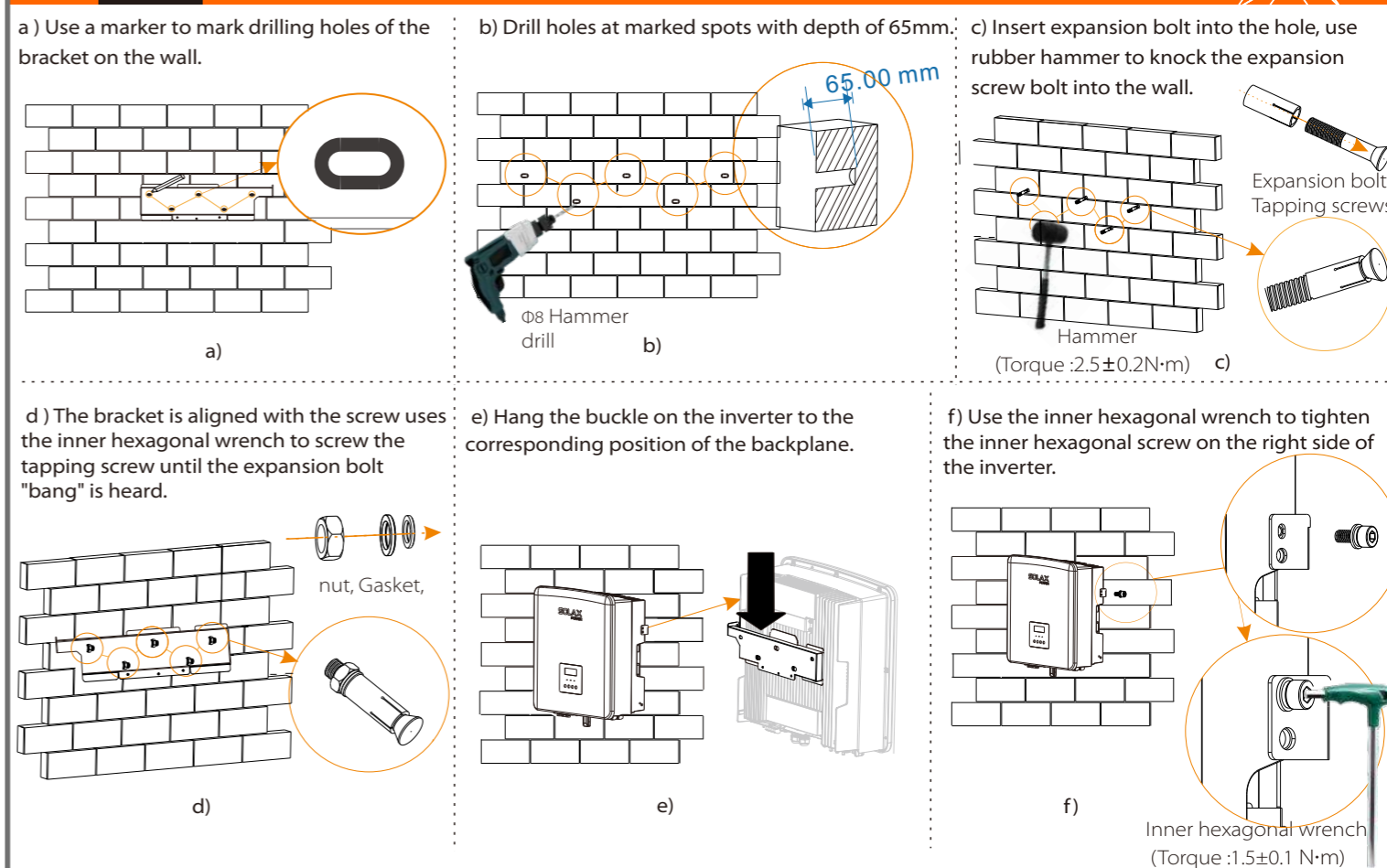
## Packing List



Note: \* ★ attachments are not included in the M series inverter attachment package and will be included in the X3-Matebox.  
 ★ The inverter in Australia needs to be connected to DRM, which is 1 more communication line adapter than that in other countries.  
 ▲ Is the standard accessory in the M-series inverter and the optional accessory in the D-series inverter.

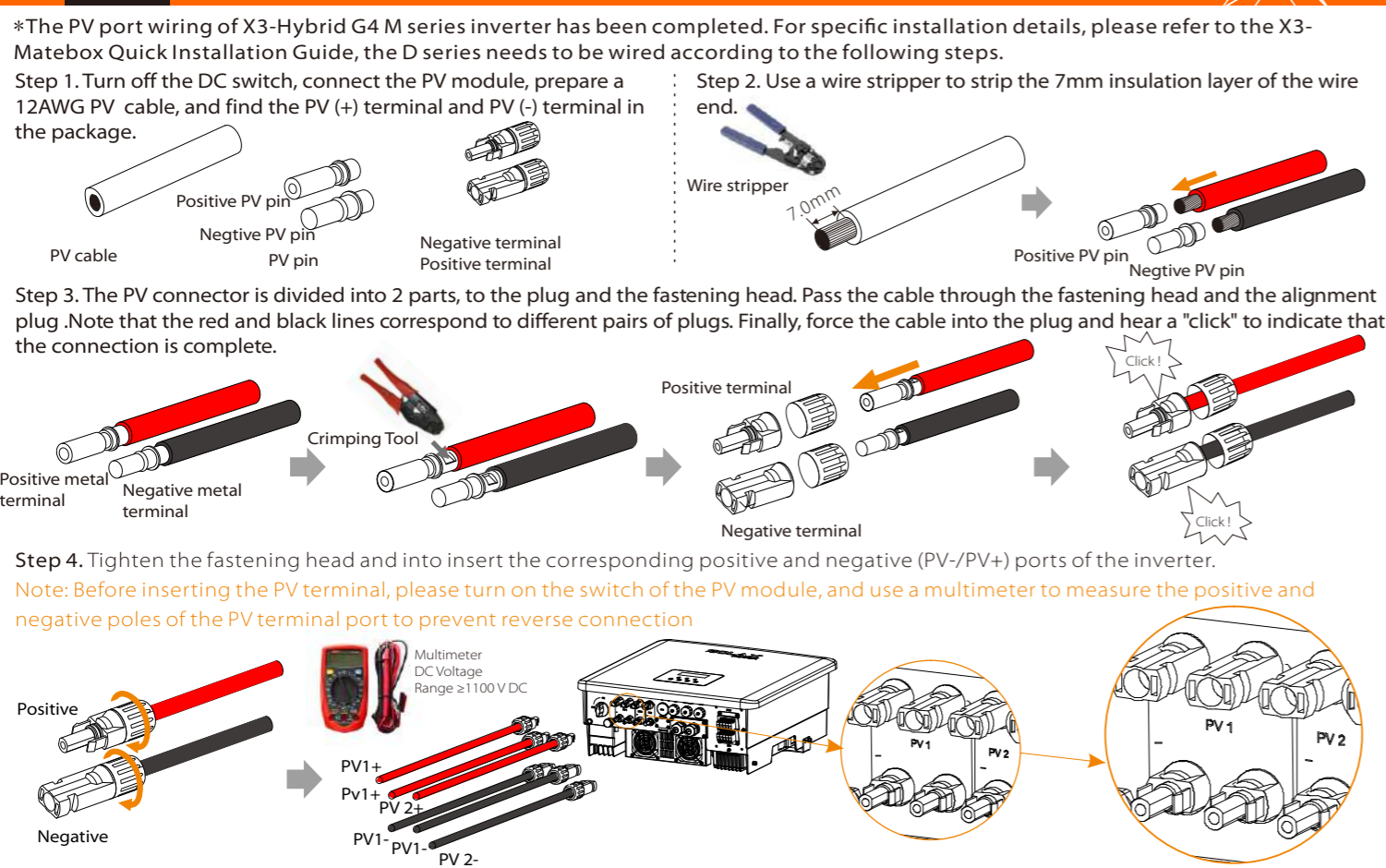
III

## Mounting Steps



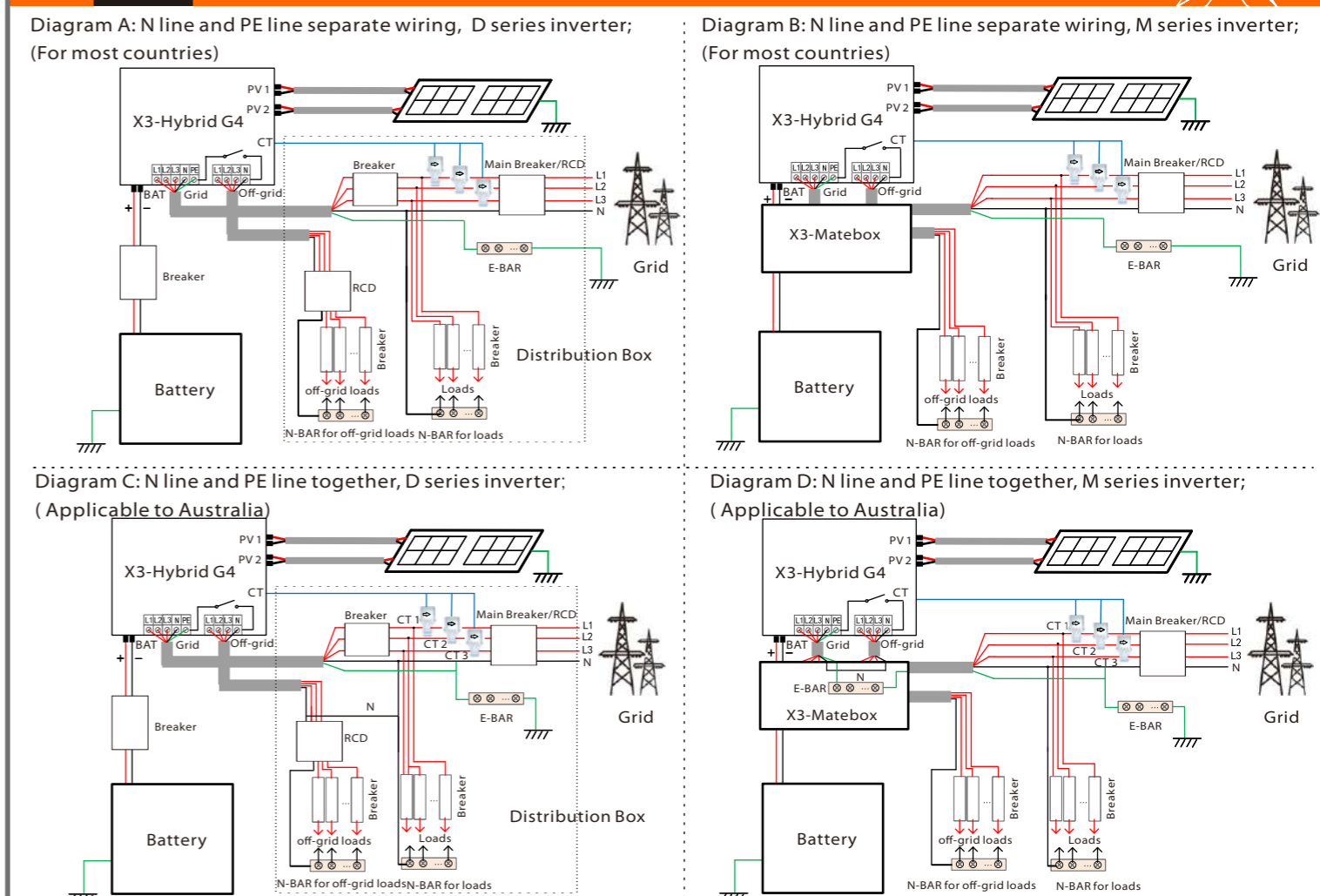
IV

## PV Connection



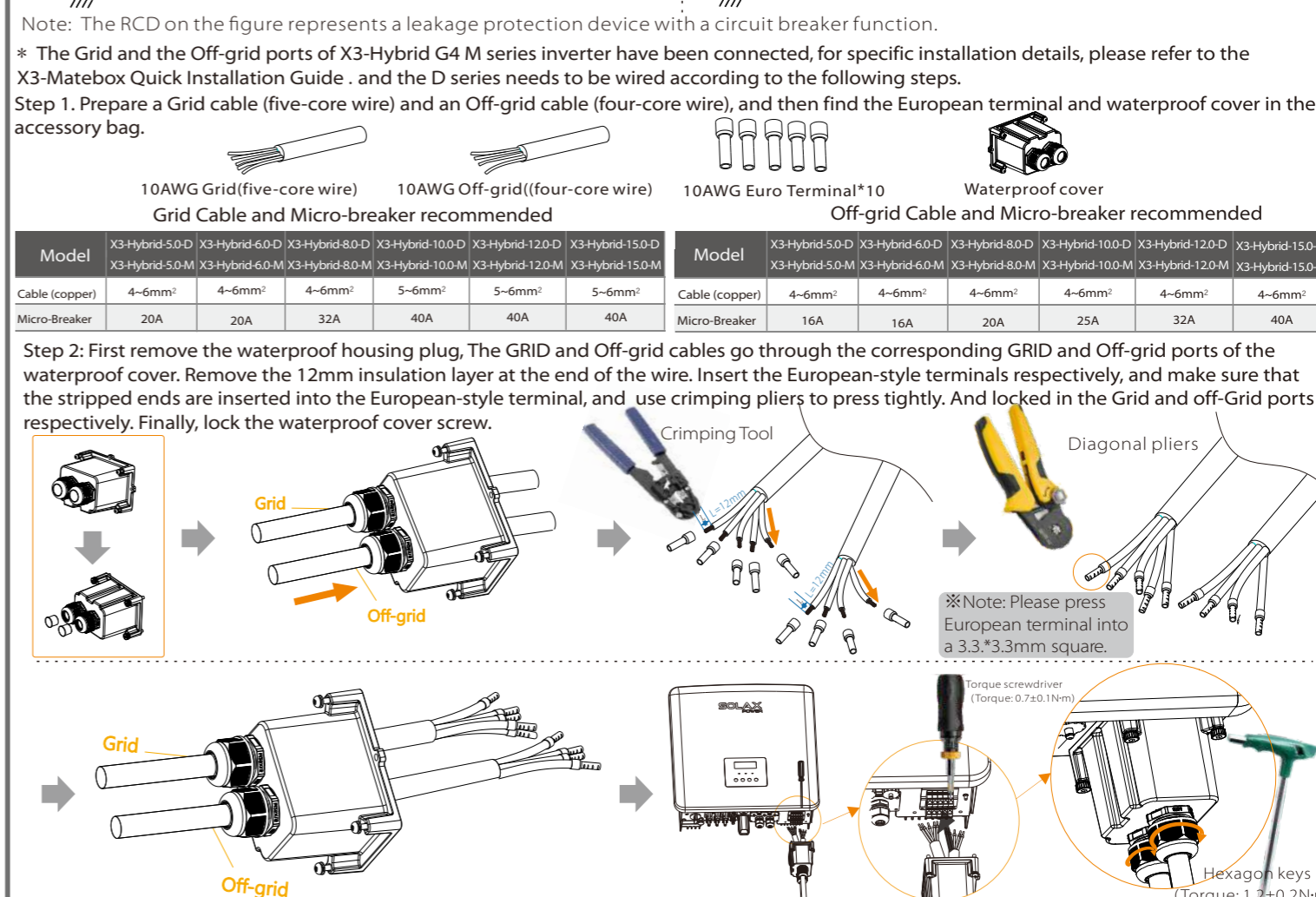
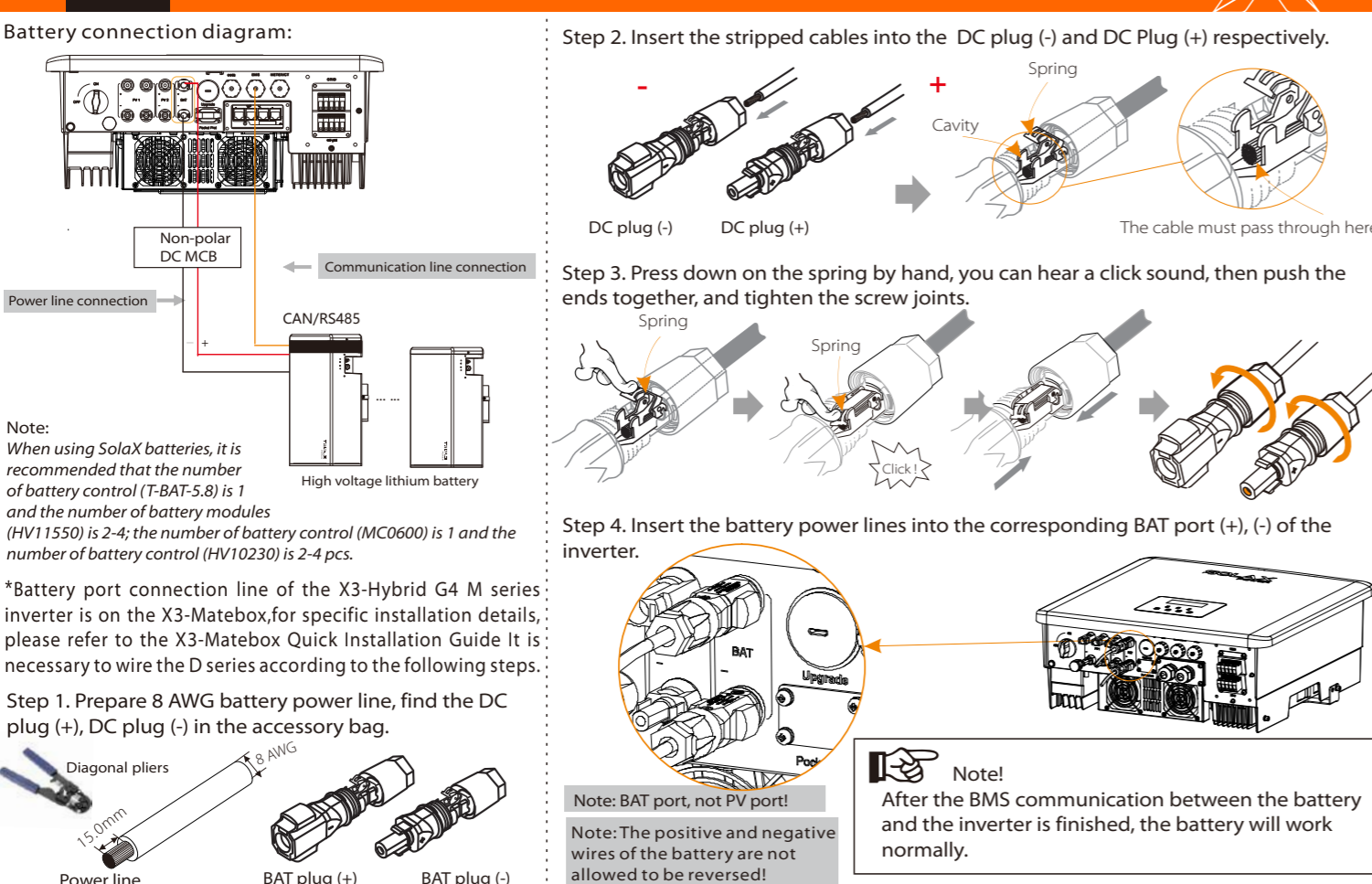
V

## Grid and Off-grid Connection



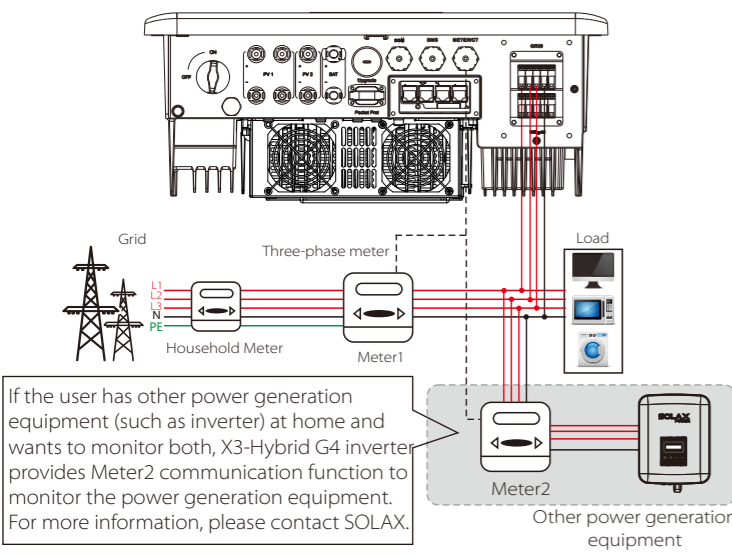
IV

## Battery Connection

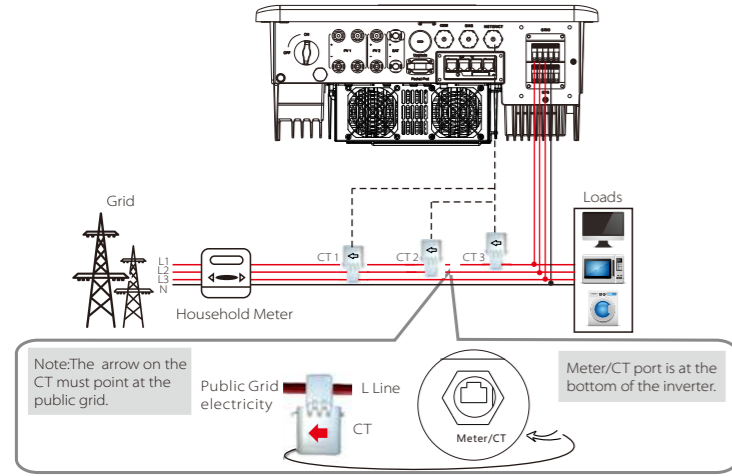


# VI Communication Connection (BMS/Meter/CT/COM/DRM)

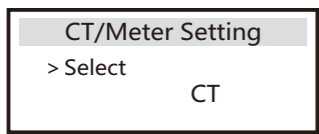
## Electric meter connection diagram



## CT connection diagram



**LCD settings**  
To select CT, you need to enter Use setting, then enter CT/Meter Setting.

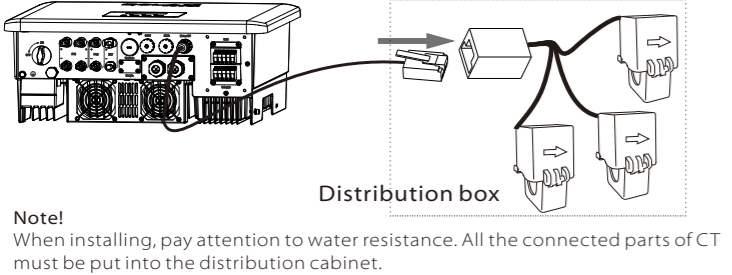
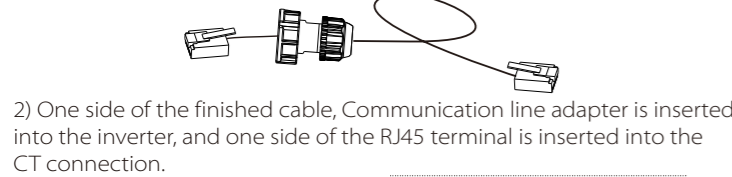


## Meter/CT PIN is defined as follows:

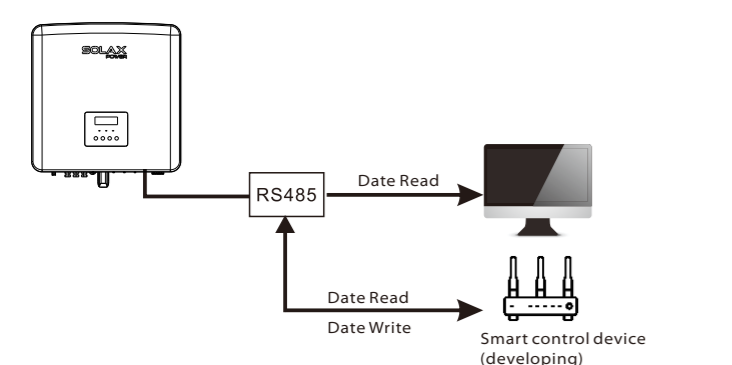
1	2	3	4	5	6	7	8
CT1-1	CT2-1	CT3-1	485A	485B	CT3-2	CT2-2	CT1-2

Note!  
Only one of the Meter and CT connections can be selected. Meter cable goes to pin terminal 4 and 5; CT1 cable to PIN Terminal 4 and 5; CT2 cable to PIN Terminal 1 and 8; CT3 cable is connected to terminals 3 and 6.

1) To connect the Communication line of the CT line, the lines need to be made on both sides, connecting the RJ45 terminal on one side and the Communication line Adapter on the other.



## COM Communication



## COM PIN Definition

1	2	3	4	5	6	7	8
Drycontact_A(In)	Drycontact_B(In)	+13V	485A	485B	GND	Drycontact_A(Out)	Drycontact_B(Out)

## The BMS pin is defined as follows:

1	2	3	4	5	6	7	8
X	X	X	BMS_CANH	BMS_CANL	X	BMS_485A	BMS_485B

## The DRM pin is defined as follows:

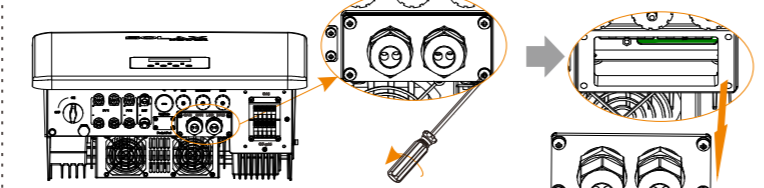
1	2	3	4	5	6	7	8
DRM1/5	DRM2/6	DRM3/7	DRM4/8	+3.3V	DRM0	GND	GND

## Communication Connection Steps

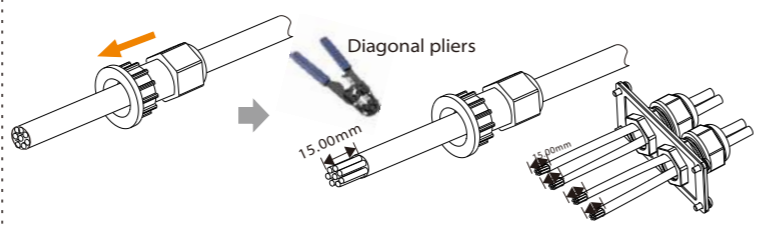
Step 1. Prepare a communication cable, and then find the communication adapter in the accessory bag.



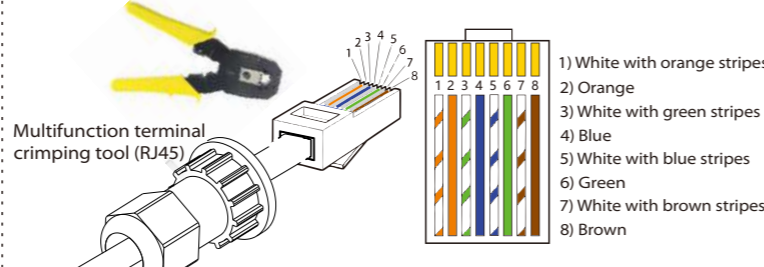
Step 2. Remove the cover plate on the inverter. Will make the communication line.



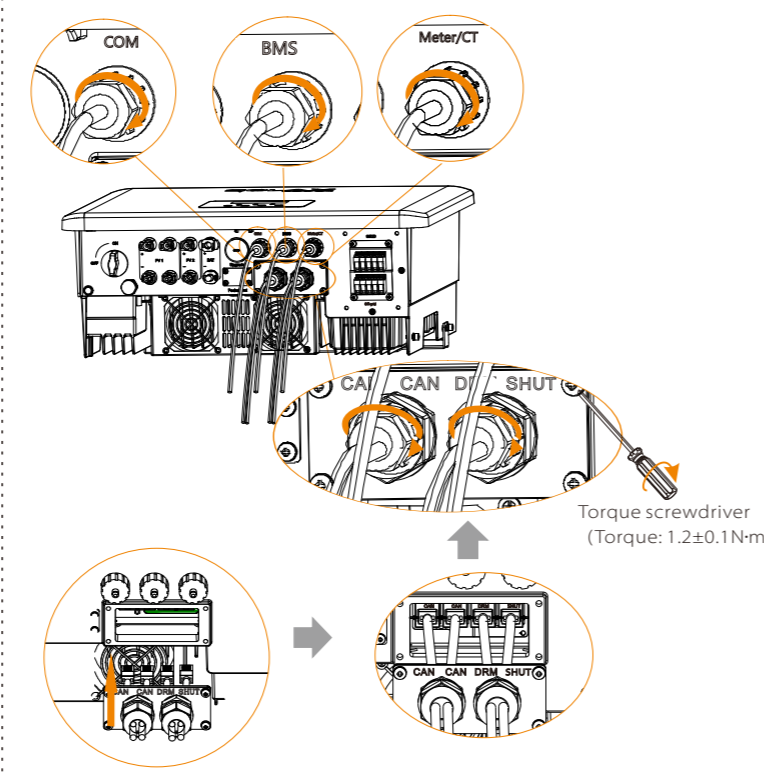
Step 3. Insert the communication cable through the communication adapter, and peel off the outer insulation layer of 15 mm.



Step 4. Insert the prepared communication cables into the RJ45 terminals in sequence, and then use network cable crimping pliers to press them tightly.



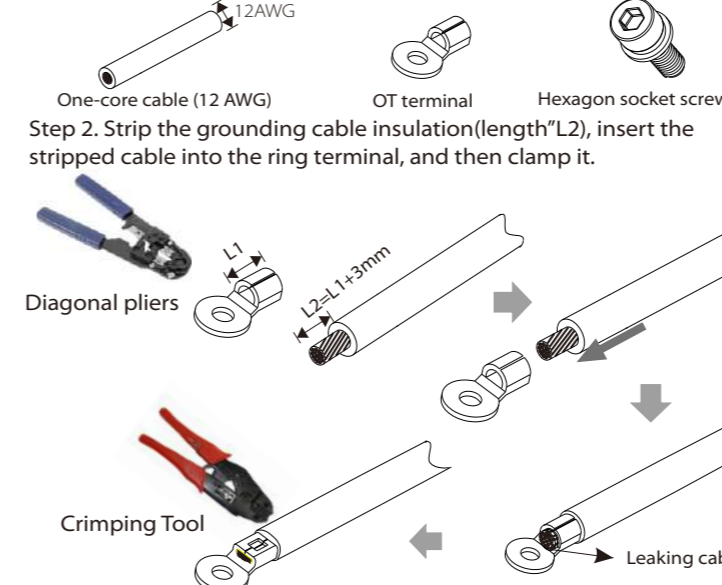
Step 5. Insert the communication line (CAN/DRM/SHUT) into the corresponding port, lock the cover plate, and tighten the fastening head. Finally, the corresponding COM, METER, CT and BMS can be found to insert the corresponding ports of the inverter communication cable.



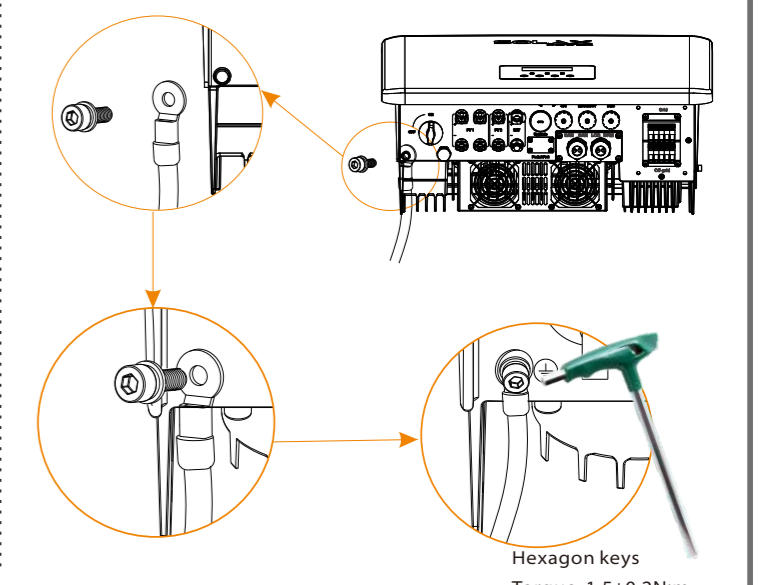
# IX Grounding Connection (mandatory)

\* The ground wire port of X3-Hybrid G4 M series inverter has been connected, and the D series needs to be wired according to the following steps.

Step 1. Prepare a one-core cable (12AWG), and then find the ground terminal in the accessories.

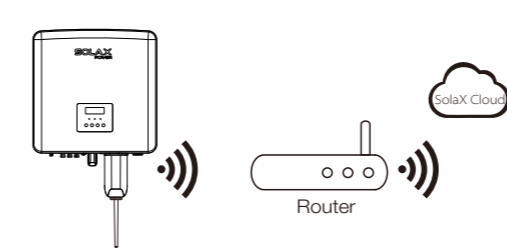


Step 4. Find the ground connection port on the inverter, and screw the ground wire on the inverter with an M5 Allen key.

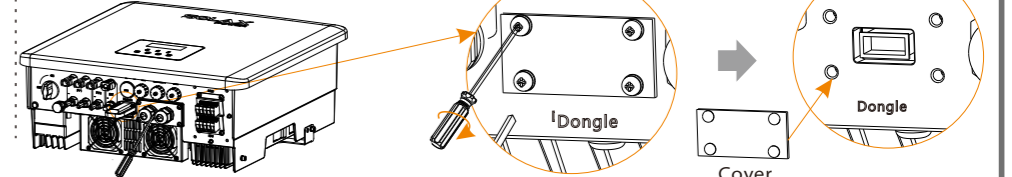


# VII Monitoring Operation

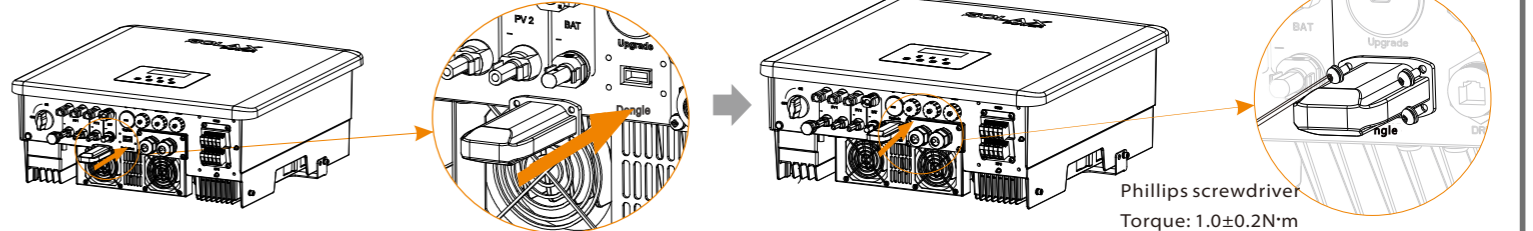
## DONGLE connection diagram



Wireless monitoring accessories connection steps:  
\* DONGLE port connection line of the X3-Hybrid G4 M series inverter is on the X3-Matebox, for specific installation details, please refer to the X3-Matebox Quick Installation Guide. It is necessary to wire the D series according to the following steps. Step 1. Of the DONGLE port of the inverter needs to unscrew the screw and take off the cover.

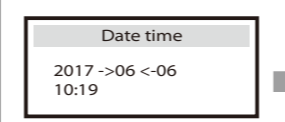


Step 2. Plug the Pocket WiFi Plus into the DONGLE port, use step 1 to remove the four screws and tighten it.

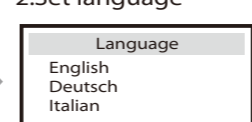


# VIII Start Guide

## 1. Set date time



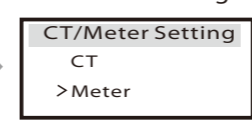
## 2. Set language



## 3. Set the safety standard



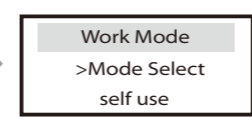
## 4. CT/Meter Setting



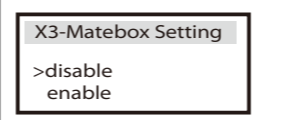
## 5\*. Set export control



## 6\*. Set work mode



## 7. X3-Matebox Setting



## 5\*. Export Control

This function allows the inverter able to control energy exported to the grid. There are user value and factory value. The factory value is default which can not be changed by user. The user value set by installer must be less than the factory value.

## 6\*. Set work mode

There are 4 work modes for choice. Self-use/Back Up Mode/Feed in Priority/Force Time Use. All these work modes is available for on-grid condition only:

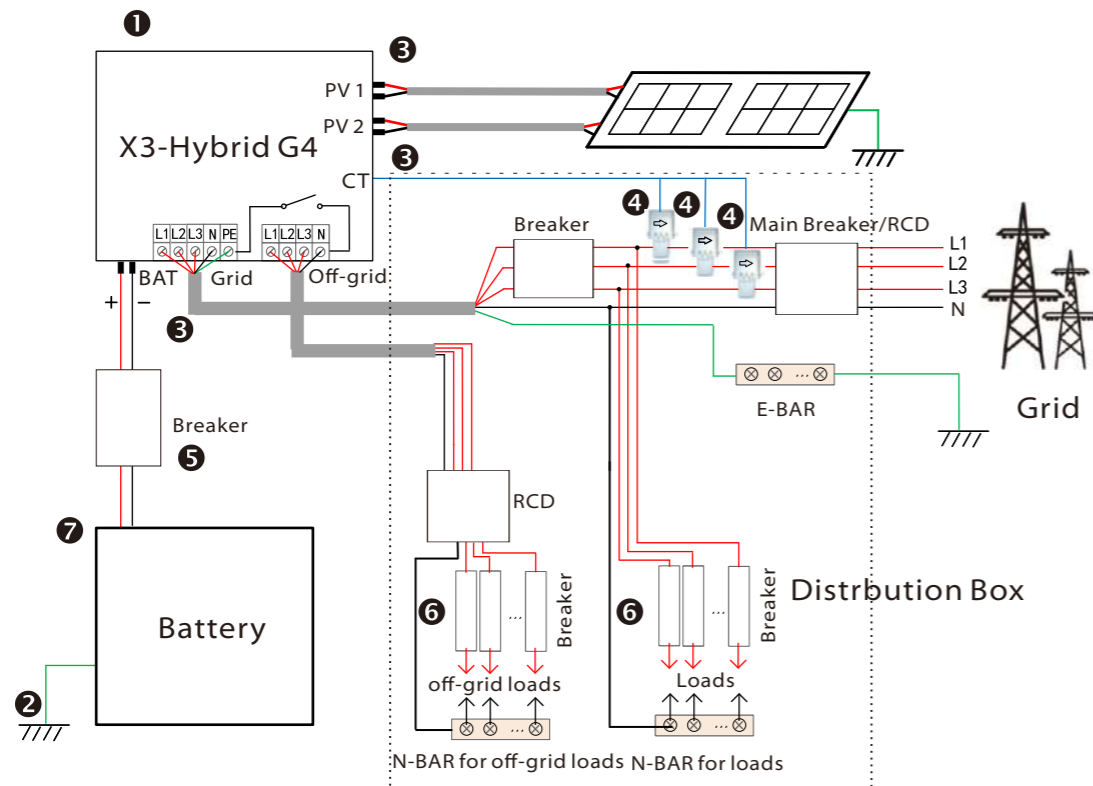
Name	Description
Self Use	The self-use mode is suitable for areas with low feed-in subsidies and high electricity prices. ① When the power of PV is sufficient: Active Charging or Discharge time period: PV will power the loads firstly, and surplus power will charge to the battery. If the battery is fully charged, then sell the surplus power to the grid. (The inverter will limit the output: If feed-in limit or zero feed-in is needed.) (PV > Load, PV → Load → Battery → Grid) ② When the power of PV is insufficient: Active Discharge time period: PV + BAT will power the loads together. If the power is still not enough, the remaining power will be taken from the grid. (PV < Load, PV + Battery → Grid → Load) ③ Without PV power: Active Charging time period: The grid will power the loads and also can charge the battery. (PV=0, Grid → Load + Battery) Active Discharge time period: The battery will power the home loads firstly. If the battery power is not enough, the remaining power will be taken from the grid. The inverter will enter into the standby state. (PV=0, Battery + Grid → Load, Battery min SOC can be set: 10%-100%)
Feed-in priority	The feed-in priority mode is suitable for areas with frequent power outages, but has feed-in power limitation. Active Charging time period: PV will power the loads firstly, and surplus power will feed-in to the grid. If the feed-in power has been limited, the surplus power can charge the battery. (PV > Load, PV → Load → Grid → Battery) Active Discharge time period: PV will power the loads firstly, and surplus power will feed-in to the grid. (PV > Load, PV → Load → Grid) ② When the power of PV is insufficient: Active Charging time period: PV will power the loads firstly, the remaining power will be taken from the grid. The battery will not discharge at this time. (PV > Load, PV + Grid → Load) Discharge time period: PV + BAT will power the loads together. If the power is still not enough, the remaining power will be taken from the grid. (PV < Load, PV + Battery + Grid → Load) ③ Without PV power: Active Charging time period: The grid will power the home loads and also charge the battery. (PV=0, Grid → Load + Battery) Active Discharge time period: The battery will power the home loads firstly. If the battery power is not enough, the remaining power will be taken from the grid. The inverter will enter into the standby state. (PV=0, Battery + Grid → Load, Battery min SOC can be set: 10%-100%)
Backup mode	The back-up mode is suitable for areas with frequent power outages. Same working logic with "Self-use" mode. This mode will maintain the battery capacity at a relatively high level. (Users' setting) to ensure that the emergency loads can be used when the grid is off. Customers no need to worry about the battery capacity. Battery min SOC can be set: 30%-100%. Backup mode: SOC adjustment range: 30%-100%. In Backup mode, SOC-min under off-grid condition is 10%, which cannot be modified.
Off-grid	The off-grid mode is used when the power grid is off. System will provides emergency power through PV and batteries to supply power to the household loads. (Battery is necessary) ① When the power of PV is sufficient: PV will power the loads firstly, and surplus power will charge to the battery. (PV > Load, PV → Load → Battery) ② When the power of PV is insufficient: The remaining power will be taken from the battery. (PV < Load, PV + Battery → Load → Battery) ③ Without PV power: The battery will power the emergency loads until the battery reached the min SOC, then the inverter will enter into the idle mode. (PV=0, Battery → Load)

# IX Start Inverter

## Start inverter

After the inverter is checked, the inverter will take the following steps:

Applies to most countries



- Make sure that the inverter is fixed on the wall.
  - Ensure that all ground wires are grounded.
  - Confirm that all DC lines and AC lines are connected.
  - Make sure the CT are connected.
  - Make sure the battery is well connected.
  - Turn on the Load switch and Off-grid switch
  - Turn on the battery switch.
- Long press Enter for 5 seconds to exit the shutdown mode. Mode is the mode when it is turned off for the first time; factory default: off mode)

Note: The RCD on the figure represents a leakage protection device with a circuit breaker function.

# X Firmware Upgrading

-In order to upgrade the firmware smoothly, if the DSP and ARM firmware needs to be upgraded, please note that ARM firmware must be upgraded first, then DSP firmware!

-Make sure that this directory is completely consistent with the above table, do not modify the firmware file name, otherwise, the inverter may not work!

-For X3-Hybrid G4, ensure that the PV input voltage is greater than 180V (upgrade on sunny days), please ensure that the battery SOC is greater than 20% or the battery input voltage is greater than 180V. Otherwise, it may cause serious failure during the upgrade process!

-If the ARM firmware upgrade fails or stops, please do not unplug the U disk and power off the inverter and restart it. Then repeat the upgrade steps.

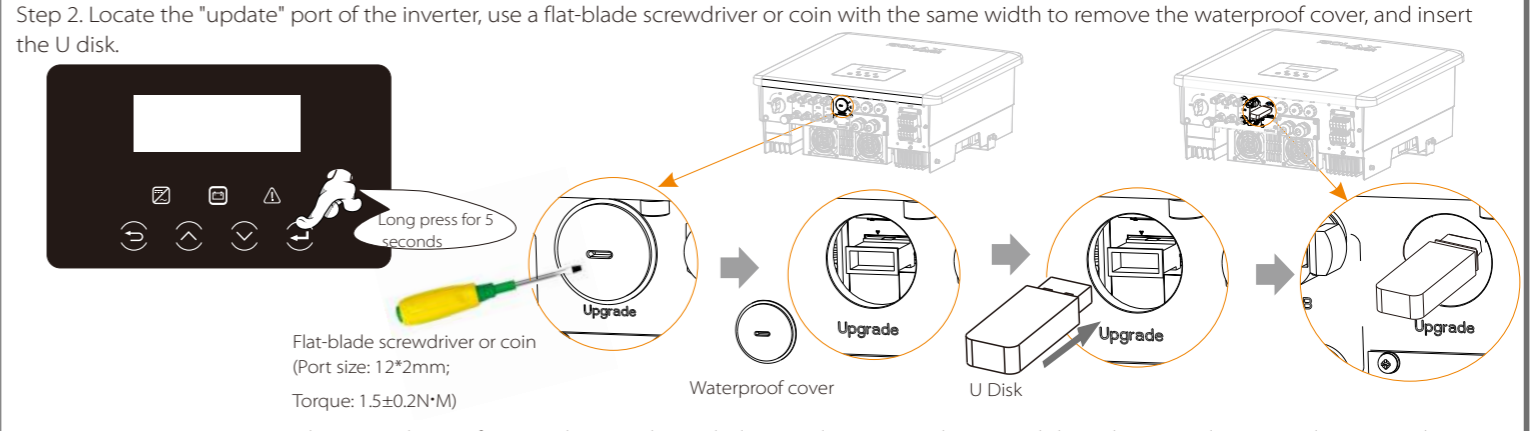
## Upgrade preparation

- Please check the inverter version and prepare a U disk (USB 2.0) and personal computer before upgrading.
- Please contact our service support through service@solaxpower.com to obtain the firmware, and store the firmware in the U disk according to the following path.  
Update:  
For ARM file: "update\ARM\618.00406.00\_Hybrid\_X3G4\_ARM\_V1.01.0710.usb";  
For DSP file: "update\DSP\618.00405.00\_Hybrid\_X3G4\_DSP\_V1.01.0710.usb";

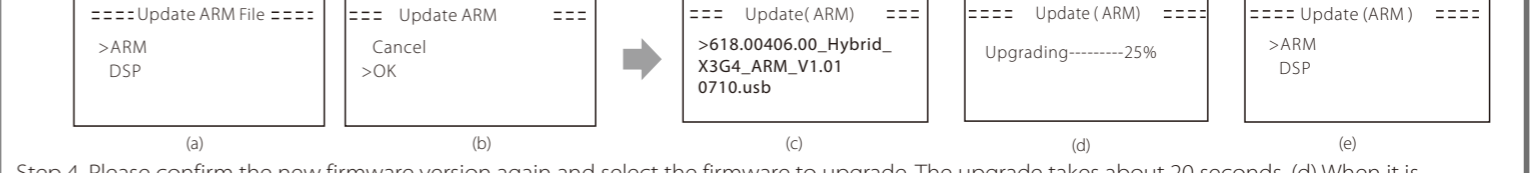
## Upgrade steps

Step 1. Please save the "update" firmware in your U disk first, and press the "Enter" button on the machine screen for 5 seconds to enter the shutdown mode. Then unscrew the waterproof cover, insert the U disk into the "update" port at the bottom of the inverter.

Step 2. Locate the "update" port of the inverter, use a flat-blade screwdriver or coin with the same width to remove the waterproof cover, and insert the U disk.



Step 3. LCD operation, enter the upgrade interface "update", as shown below (a); Please press the up and down keys to select ARM, then press the bottom of the page to select "OK", press the enter key to enter the software version interface;



Step 4. Please confirm the new firmware version again and select the firmware to upgrade. The upgrade takes about 20 seconds. (d) When it is completed, the LCD screen returns to the "Update" page.

