



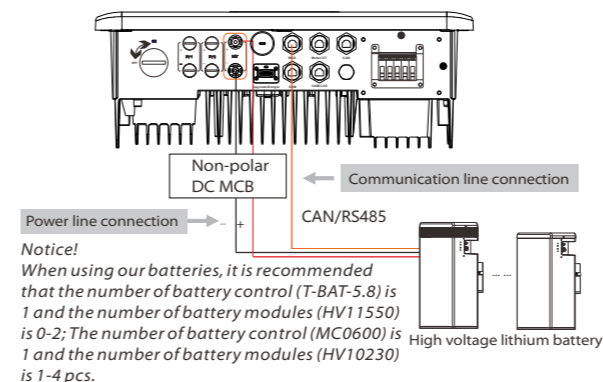
Quick Installation Guide

X1-Fit 3.7KW-7.5KW

IV

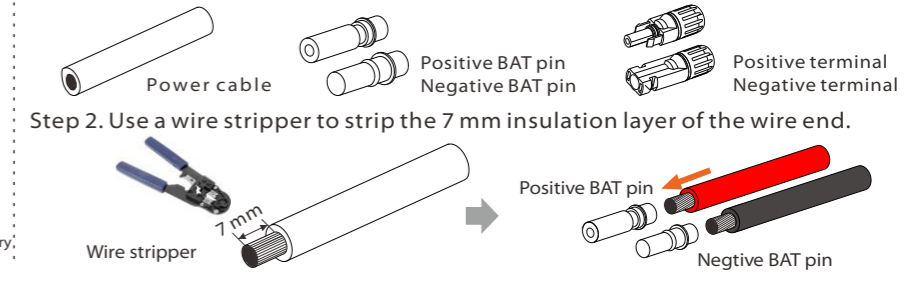
Battery Connection

Battery connection diagram:

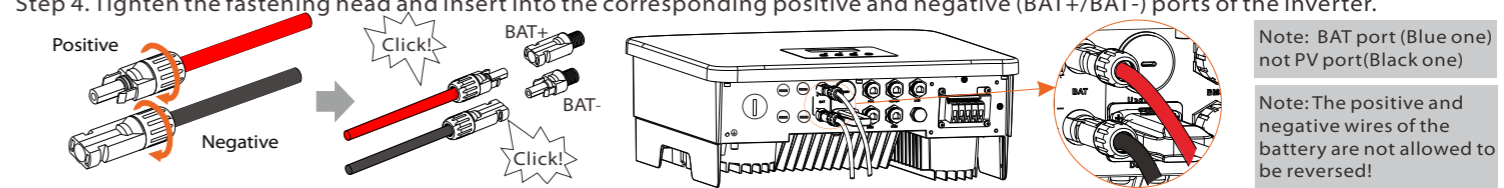
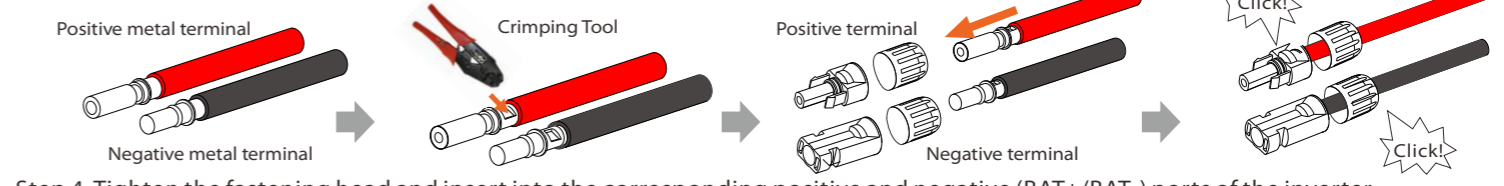


Notice!
When using our batteries, it is recommended that the number of battery control (T-BAT-5.8) is 1 and the number of battery modules (HV11550) is 0-2; The number of battery control (MC0600) is 1 and the number of battery modules (HV10230) is 1-4 pcs.

Battery port connection line of the M series inverter is on the X1-Matebox, just connect it. It is necessary to wire the D series according to the following steps.
Step 1. Turn off the DC switch, connect the BAT module, prepare a 6 mm² BAT cable, and find the BAT (+) terminal and BAT (-) terminal in the package.



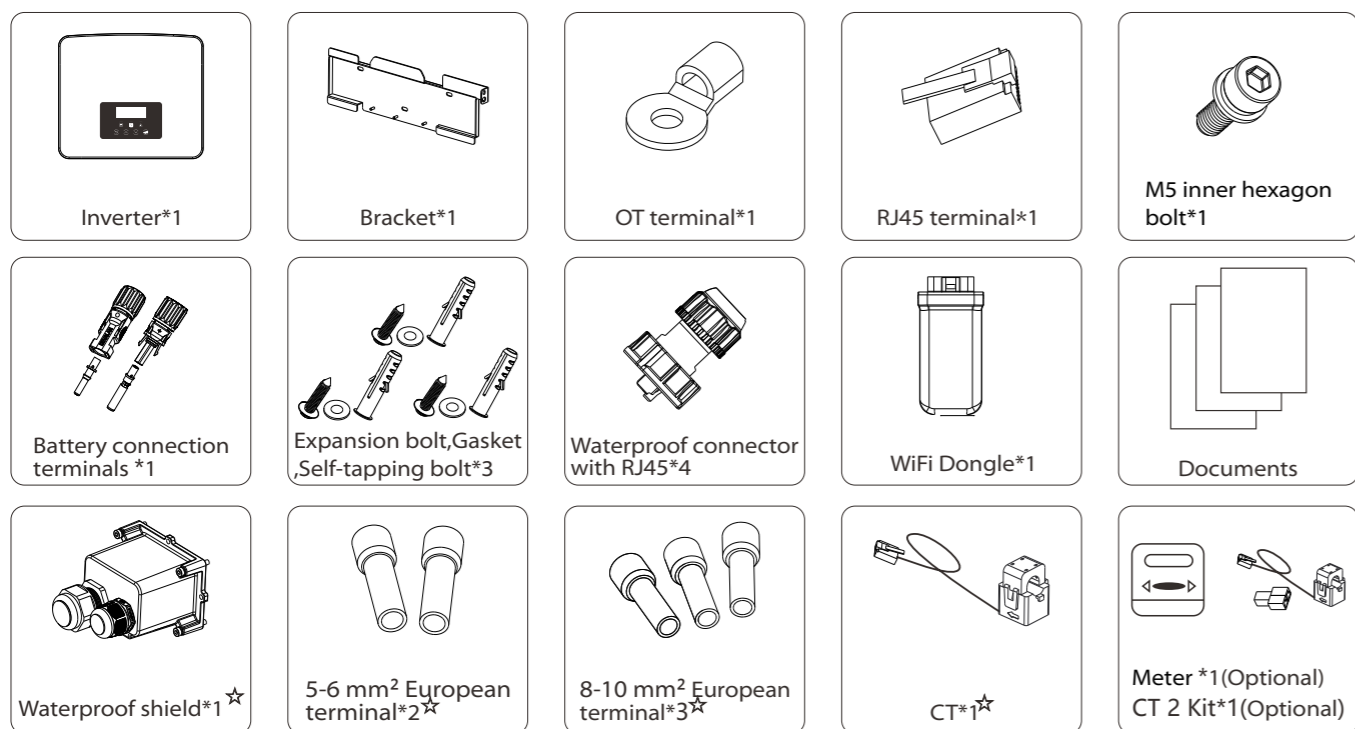
Step 2. Use a wire stripper to strip the 7 mm insulation layer of the wire end.
Step 3. The BAT joint is divided into 2 parts, the plug and the fastening head. Pass the cable through the fastening head and the alignment plug. Note that the red and black lines correspond to different pairs of plugs. Finally, force the cable into the plug and hear a "click" to indicate that the connection is completed.



Step 4. Tighten the fastening head and insert into the corresponding positive and negative (BAT+/BAT-) ports of the inverter.
Note: BAT port (Blue one) not PV port (Black one)
Note: The positive and negative wires of the battery are not allowed to be reversed!
Notice: After the BMS communication between the battery and the inverter is finished, the battery will work normally.

I

Packing List



Note: Accessories with the mark * are not contained in the M-version inverter accessories package, but they are contained in the X1-Matebox.

V

Grid and EPS(Off-grid) Connection

Diagram A: Neutral line and PE line are separated from each other, and the common load is connected to the EPS(Off-grid) port; (For most countries)

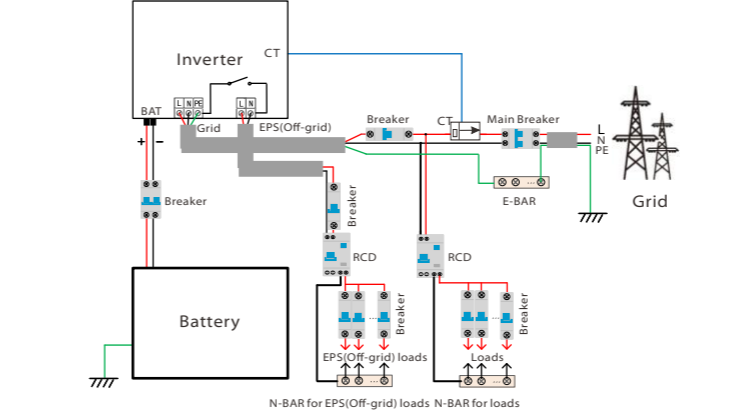


Diagram B: Neutral line and PE line are separated from each other, all loads connect to the EPS(Off-grid) port; (For most countries)

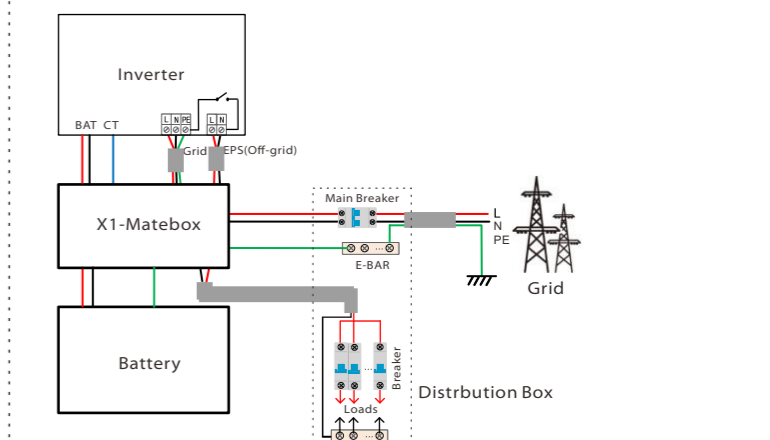


Diagram C: Neutral line and PE line are combined together, and the common load is connected to the EPS(Off-grid) port; (Apply to Australia)

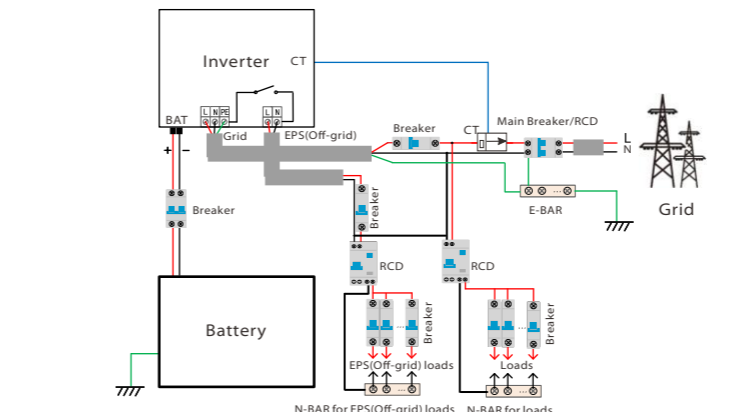
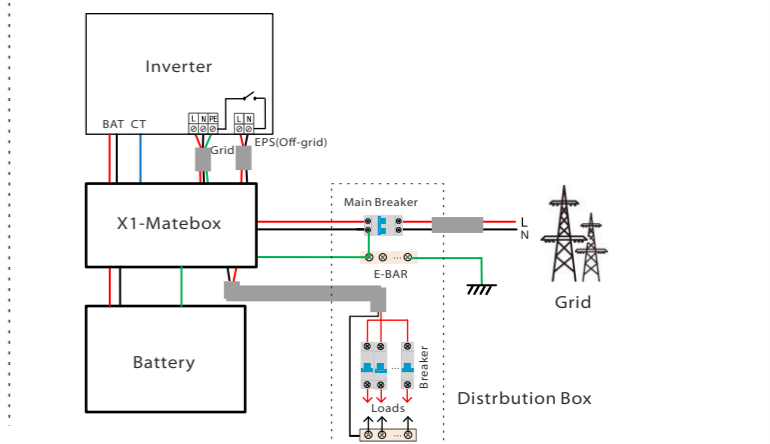
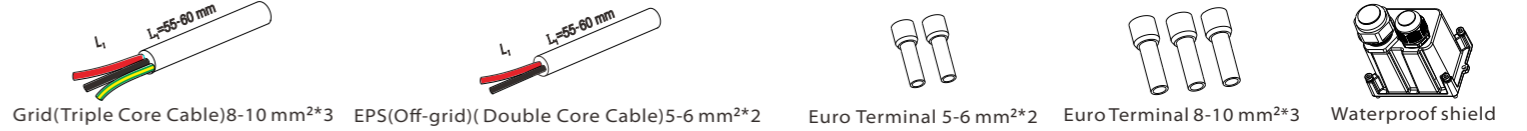


Diagram D: Neutral line and PE line are combined together, all loads connect to the EPS(Off-grid) port; (Apply to Australia)



The Grid and EPS(Off-grid) ports of M version inverter have been connected, and the W version needs to be wired according to the following steps.

Step 1. Prepare a Grid cable (Triple Core Cable) and an EPS(Off-grid) cable (Double Core Cable), and then find the European terminal and waterproof shield in the accessory bag.



Grid Cable and Micro-breaker recommended

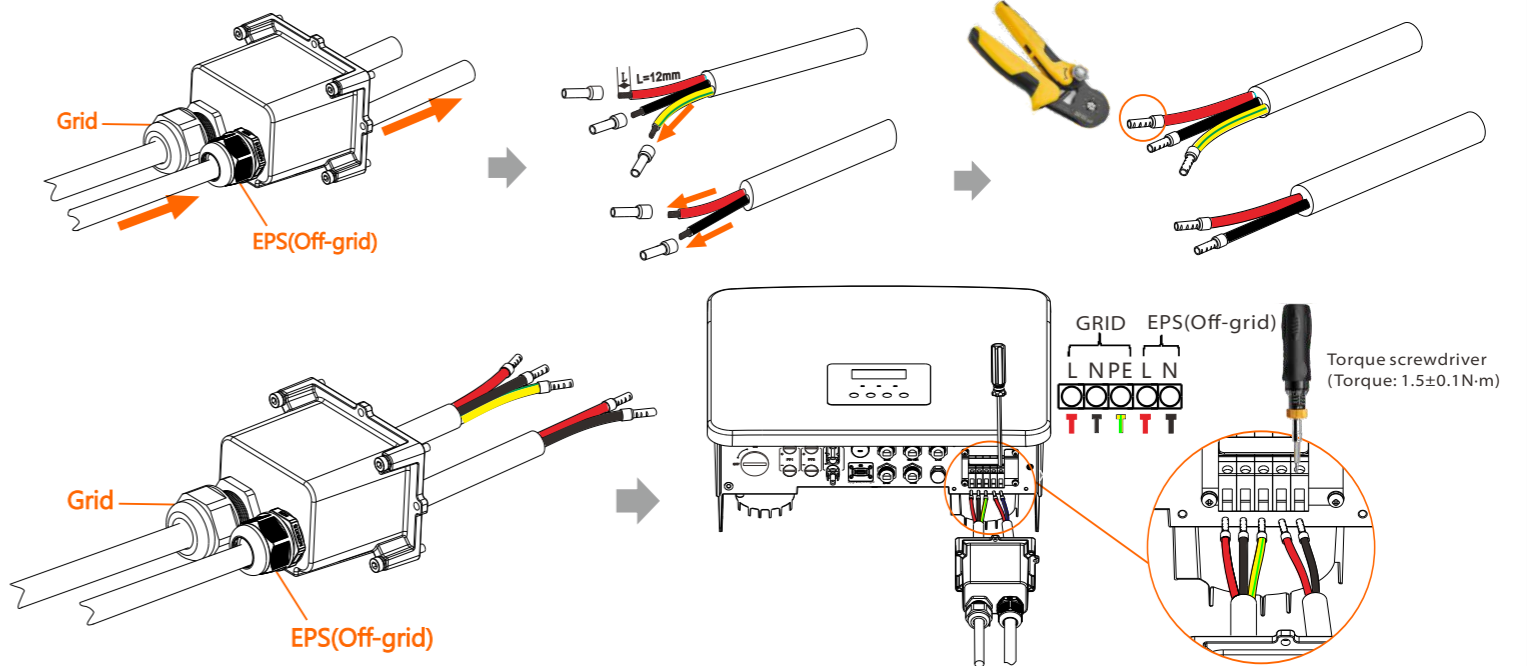
Model	X1-Fit-3.7-W	X1-Fit-5.0-W	X1-Fit-6.0-W	X1-Fit-7.5-W
Cable (copper)	6-8 mm ²	8-10 mm ²	8-10 mm ²	8-10 mm ²
Micro-Breaker	40 A	50 A	50 A	50 A

Model	X1-Fit-3.7-M	X1-Fit-5.0-M	X1-Fit-6.0-M	X1-Fit-7.5-M
Cable (copper)	3-4 mm ²	4-6 mm ²	4-6 mm ²	6-8 mm ²
Micro-Breaker	25 A	32 A	32 A	40 A

EPS(Off-grid) Cable and Micro-breaker recommended

Model	X1-Fit-3.7-W X1-Fit-3.7-M	X1-Fit-5.0-W X1-Fit-5.0-M	X1-Fit-6.0-W X1-Fit-6.0-M	X1-Fit-7.5-W X1-Fit-7.5-M
Cable (copper)	3-4 mm ²	4-6 mm ²	4-6 mm ²	6-8 mm ²
Micro-Breaker	25 A	32 A	32 A	40 A

Step 2. The Grid and EPS(Off-grid) cables go through the corresponding Grid and EPS(Off-grid) ports of the waterproof cover. Remove the 12 mm insulation layer at the end of the wire. Insert the European-style terminals respectively, and make sure that the stripped ends are inserted into the European-style terminal, and finally use crimping pliers to press tightly.



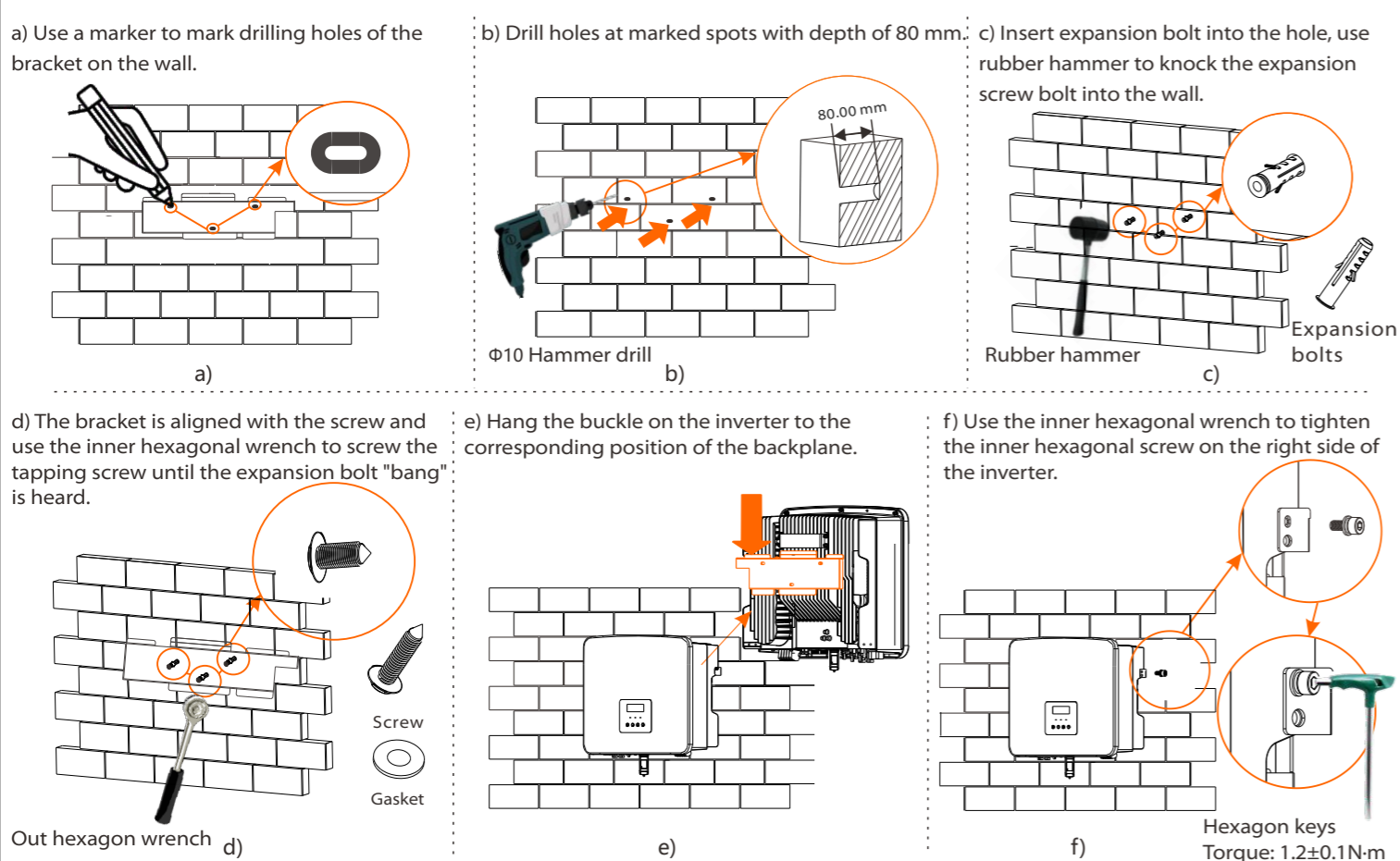
II

Tool Preparation



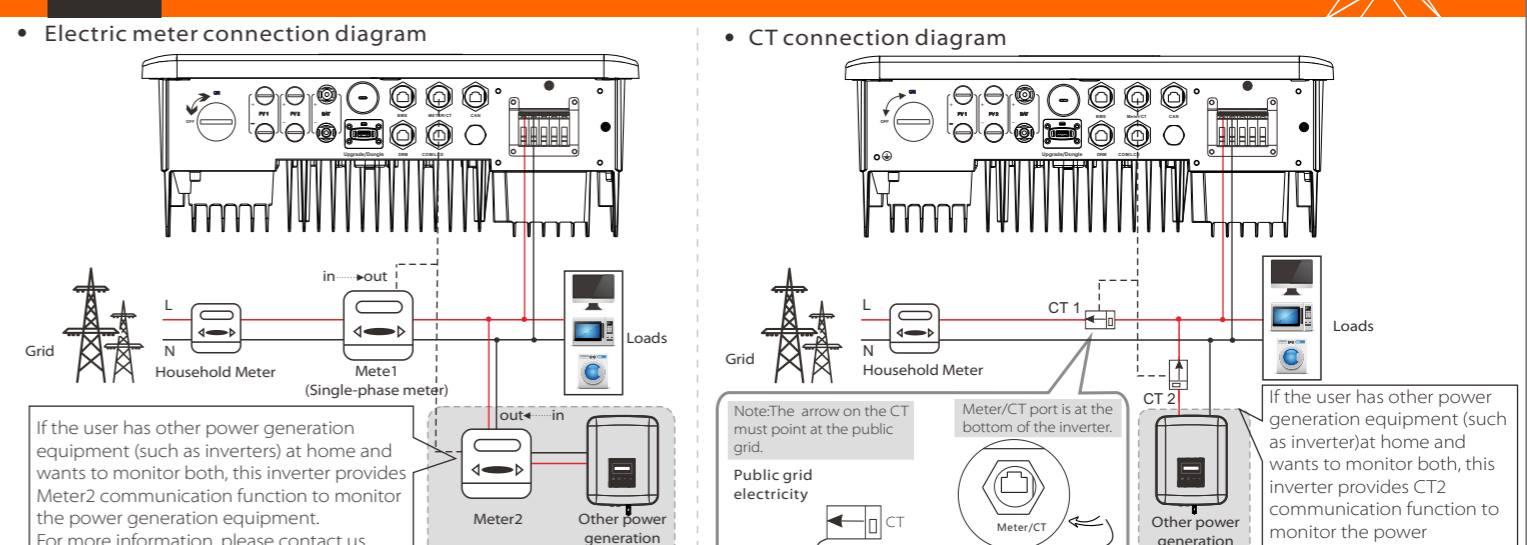
III

Mounting Steps



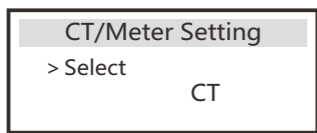
VI

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



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

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

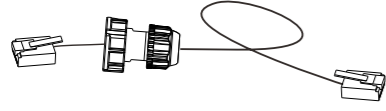


Meter /CT PIN is defined as follows:

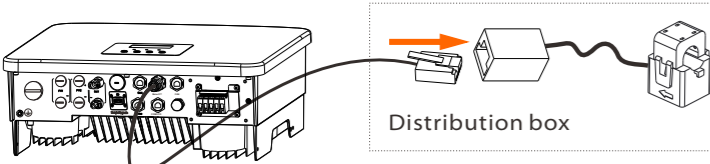
1	2	3	4	5	6	7	8
CT1-1	X	CT2-1	485A	485B	CT2-2	X	CT1-2

Notice: Only one of the Meter and CT connections can be selected. Meter cable goes to pin terminal 4 and 5; CT cable goes to pin terminal 1 and 8; reserve CT cable goes to pin terminal 3 and 6. If you need this feature, please contact us for assistance.

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.

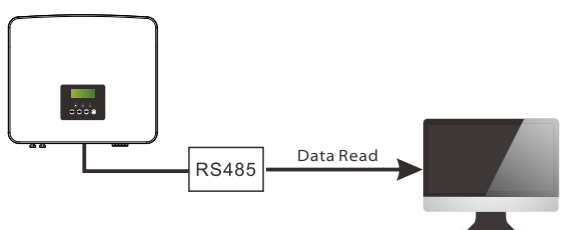


2) One side of the finished cable, Communication line adapter is inserted into the inverter, and one side of the RJ45 terminal is inserted into the CT connection.

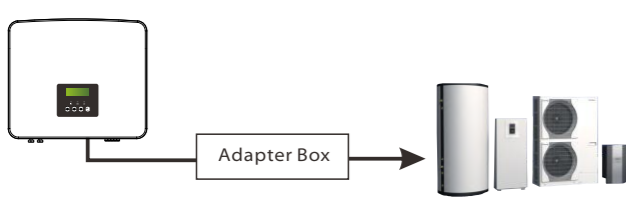


COM Communication

External communication equipment controls the inverter:



Inverter communication control external equipment:



The COM pin is defined as follows:

1	2	3	4	5	6	7	8
Drycontact_A(In)	Drycontact_B(In)	+12V	485A	485B	GND	Drycontact_A(Out)	Drycontact_B(Out)

Note! Customers can communicate or control the inverter and external devices through the COM interface. Professional users can use pins 4 and 5 to realize data acquisition and external control functions. The communication protocol is Modbus RTU. For details, please contact us. If the user wants to use the inverter dry contact to control external equipment (such as a heat pump), it can be used with our Adapter Box. For details, please refer to the Quick Installation Manual of the Adapter Box.

The BMS pin is defined as follows:

1	2	3	4	5	6	7	8
BAT_TEMP	GND	GND	BMS_CANH	BMS_CANI	X	BMS_485A	BMS_485B

Note! The BMS port on the inverter is the communication port for connecting the battery. The communication port on the lithium battery must be consistent with the definition of pins 4, 5, 7, and 8 above;

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(SHUTDOWN)	GND	GND

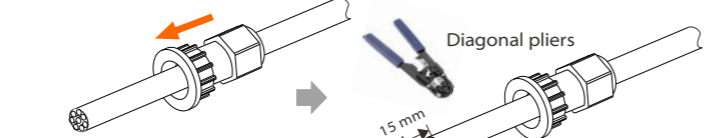
Note: For AS4777 DRM function, currently only PIN6 (DRM0) and PIN1 (DRM1/5) are functional, other PIN functions are under development.

Communication Connection Steps

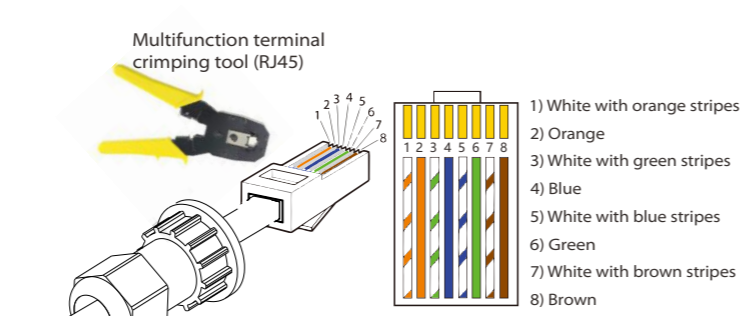
Step 1. Prepare a communication cable, and find the communication adapter in the accessory bag.



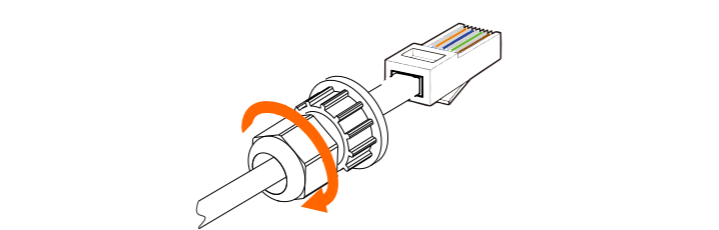
Step 2. Insert the communication cable through the communication Adapter, and peel off the outer insulation layer of 15 mm.



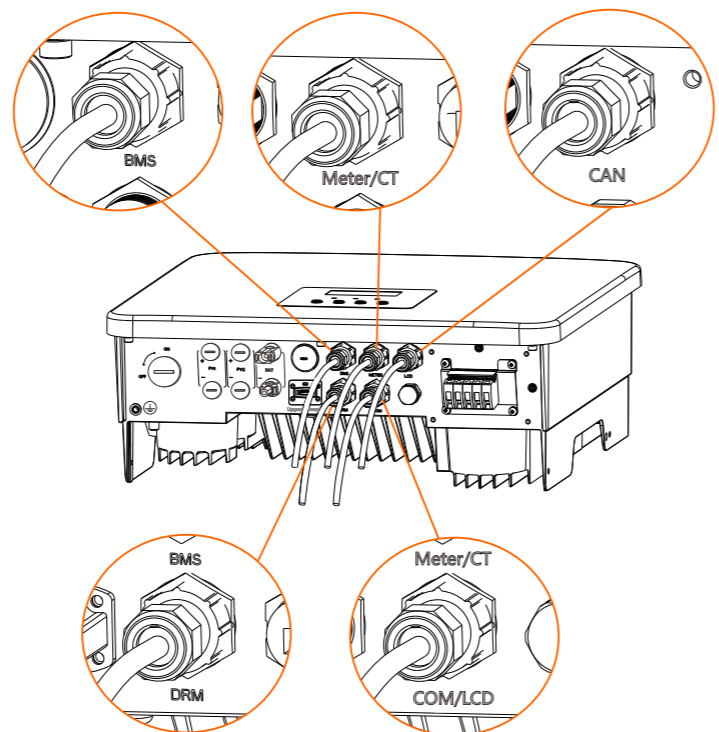
Step 3. Insert the prepared communication cables into the RJ45 terminals in sequence, and then use network cable crimping pliers to press them tightly.



Step 4. Tighten the completed BMS / Meter / CT / DRM / COM / LCD communication line and tighten the waterproof plug.



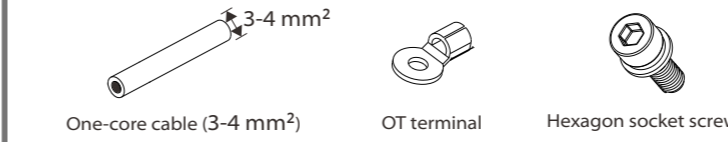
Step 5. Finally, find the corresponding BMS / Meter / CT / DRM / CAN / COM / LCD ports on the inverter and insert the communication cable into the corresponding ports.



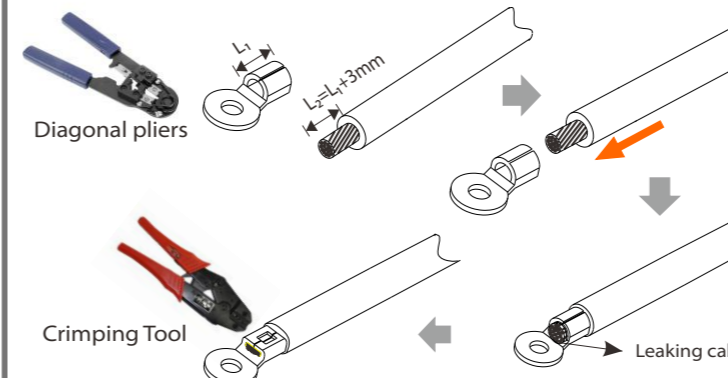
VII Grounding Connection(mandatory)

The ground wire port of M version inverter has been connected, and the W version needs to be wired according to the following steps.

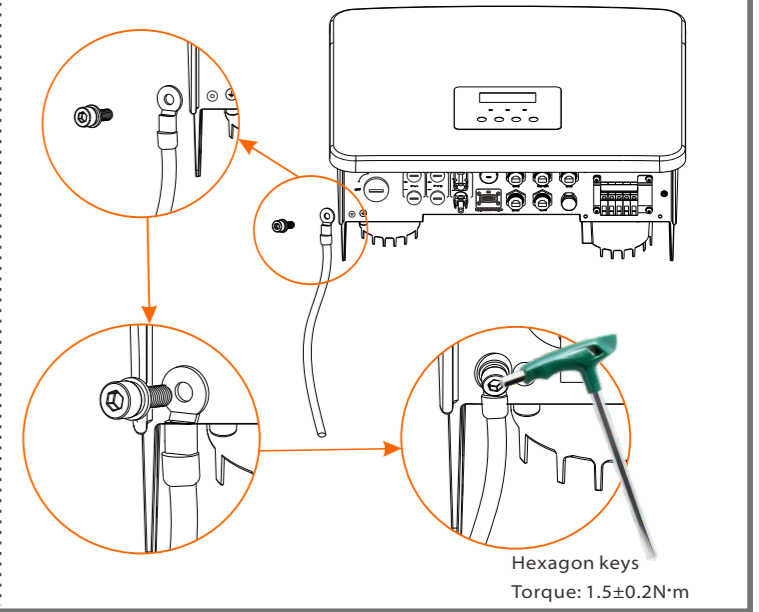
Step 1. Prepare a one-core cable (3-4 mm²), and then find the ground terminal in the accessories.



Step 2. Strip the grounding cable insulation (length "L₂"), insert the stripped cable into the ring terminal, and then clamp it.

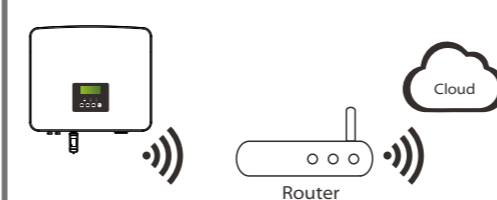


Step 3. Find the ground connection port on the inverter, and screw the ground wire on the inverter with an M5 Allen key.



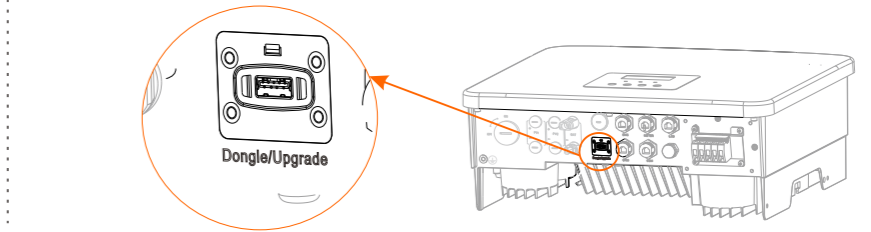
VIII Monitoring Operation

Dongle connection diagram

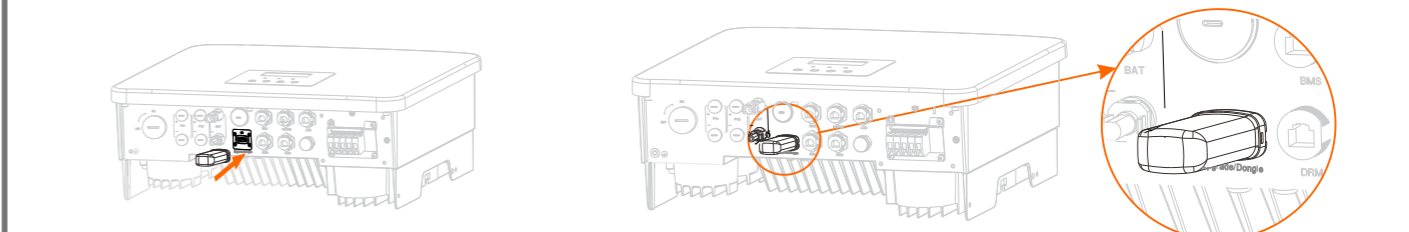


Wireless monitoring accessories connection steps:

Step 1. First find the DONGLE port of the inverter.



Step 2. Plug WiFi Dongle into the DONGLE port.



IX Start Guide

1. Set date time

Date time	2017 ->06 <06
	10:19

2. Set language

Language	English
	Deutsch
	Italian

3. Set the safety standard

Safety Country	>VDE0126
----------------	----------

4. CT/Meter Setting

CT/Meter Setting	>Meter
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5*. Set export control

Export Control Use Value:	10000W
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6*. Set work mode

Work Mode	>Mode Select
	self use

7. External ATS

External ATS	>Select
	Enable

8*. External ATS

If an external ATS is to be used, please enable this function, otherwise disable it.

6*. Set work mode

There are 4 work modes for choice: Self use/Feed-in Priority/ Backup Mode/ EPS(Off-grid).

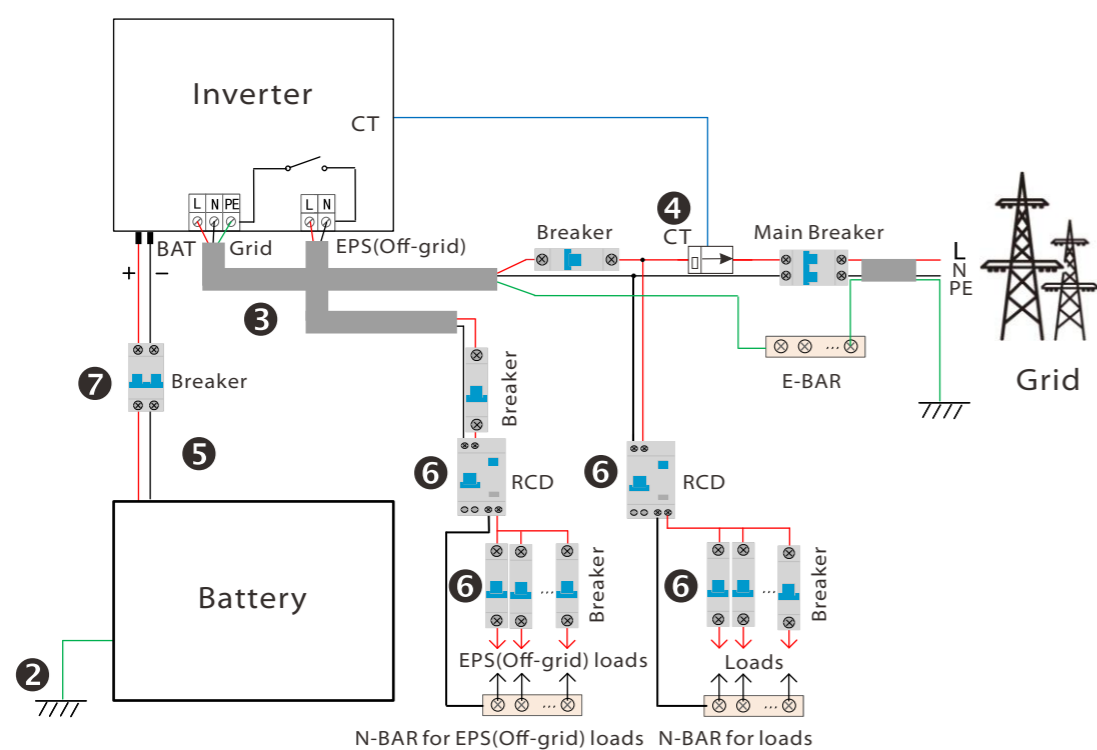
Name	Description
Self Use	The self-use mode is suitable for areas with low feed-in subsidies and high electricity prices. ① When the power of PV is sufficient Active Charging or Discharge time period: PV will power the loads firstly, and surplus power will charge to the battery. If the battery is fully 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 supplies 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. (PV < Load, PV + Grid → Load) Battery min SOC can be set: 10%-100%; Charge battery to min SOC can be set: 10%-100%.
Feed-in priority	The Feed-in priority mode is suitable for areas with high feed-in subsidies, but has feed-in power limitation. ① When the power of PV is sufficient Active Charging time period: PV will power the loads first, then charges the battery to set capacity, then sell electricity for the grid, and continues to charge the battery with the remaining power. (PV > Load, PV → Load → Battery → Grid) → Battery Active Discharge time period: PV will power the loads firstly, and surplus power will feed-in to the grid. ② When the power of PV is insufficient Active Charging time period: PV will power the loads first, the remaining power will be taken from the grid. The battery will not discharge. (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 first. 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%; Charge battery to 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%; Charge battery to min SOC can be set: 30%-100%.
EPS (Off-grid)	The EPS(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 first, 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 → Load) 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) EPS(Off-grid) SOC-min condition is adjustable within the range of 10%-25%.

X 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 AC lines are connected.
- Make sure the CT is connected.
- Make sure the battery is well connected.
- Turn on the Load switch and EPS(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)

XI Firmware Upgrading

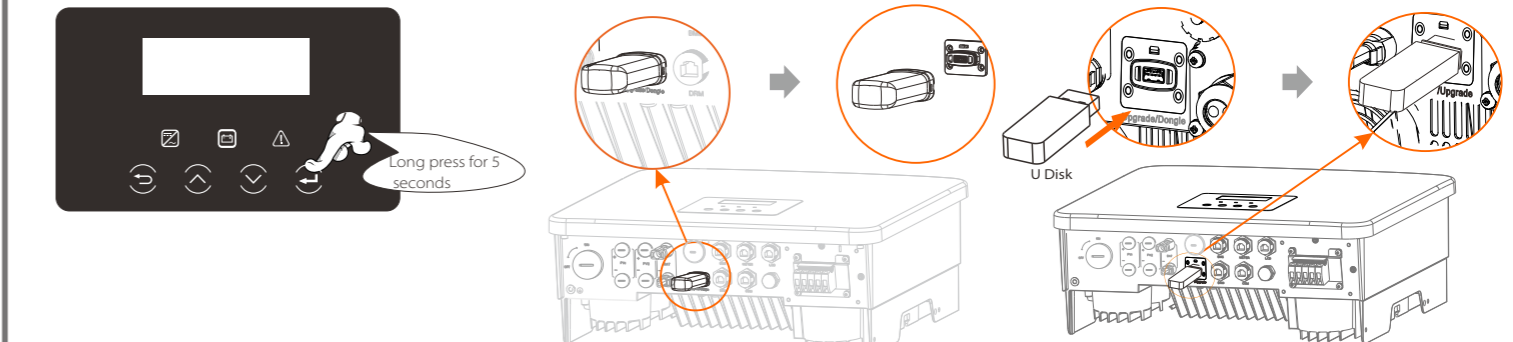
-In order to upgrade the firmware smoothly, if the DSP and ARM firmware needs to be upgraded, please note that ARM firmware must be upgraded first, then DSP firmware!
-Make sure this directory is completely consistent with the above table, do not modify the firmware file name, Otherwise, the inverter may not work!
-For this inverter, ensure that the PV input voltage is greater than 100V (upgrade on sunny days). Please ensure that the battery SOC is greater than 20% or the battery input voltage is greater than 90V. 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

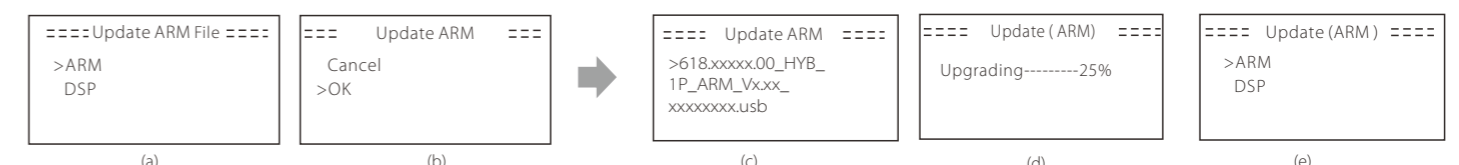
- Please check the inverter version and prepare a U disk (USB 2.0/3.0) and personal computer before upgrading.
- Please contact our service support to obtain the firmware, and store the firmware in the U disk according to the following path.
Update:
For ARM file:update\ARM\618.xxxx.00_HYB_1P_ARM_Vxxx_xxxxxxx.usb;
For DSP file:update\DSP\618.xxxx.00_HYB_1P_DSP_Vxxx_xxxxxxx.usb;
Note:Vx.xx is version number, xxxxxxxx is file completion date.

Upgrade steps

- Please save the "Update" firmware in your U disk first, and press the "Enter" button on the inverter screen for 5 seconds to enter the OFF mode.
- Locate the "Upgrade" port of the inverter, unplug the monitoring module (WiFi Dongle/LAN Dongle/4G Dongle) by hand, and insert the USB flash drive.



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.

