



Quick Installation Guide

X3-Fit 6.0KW-15.0KW

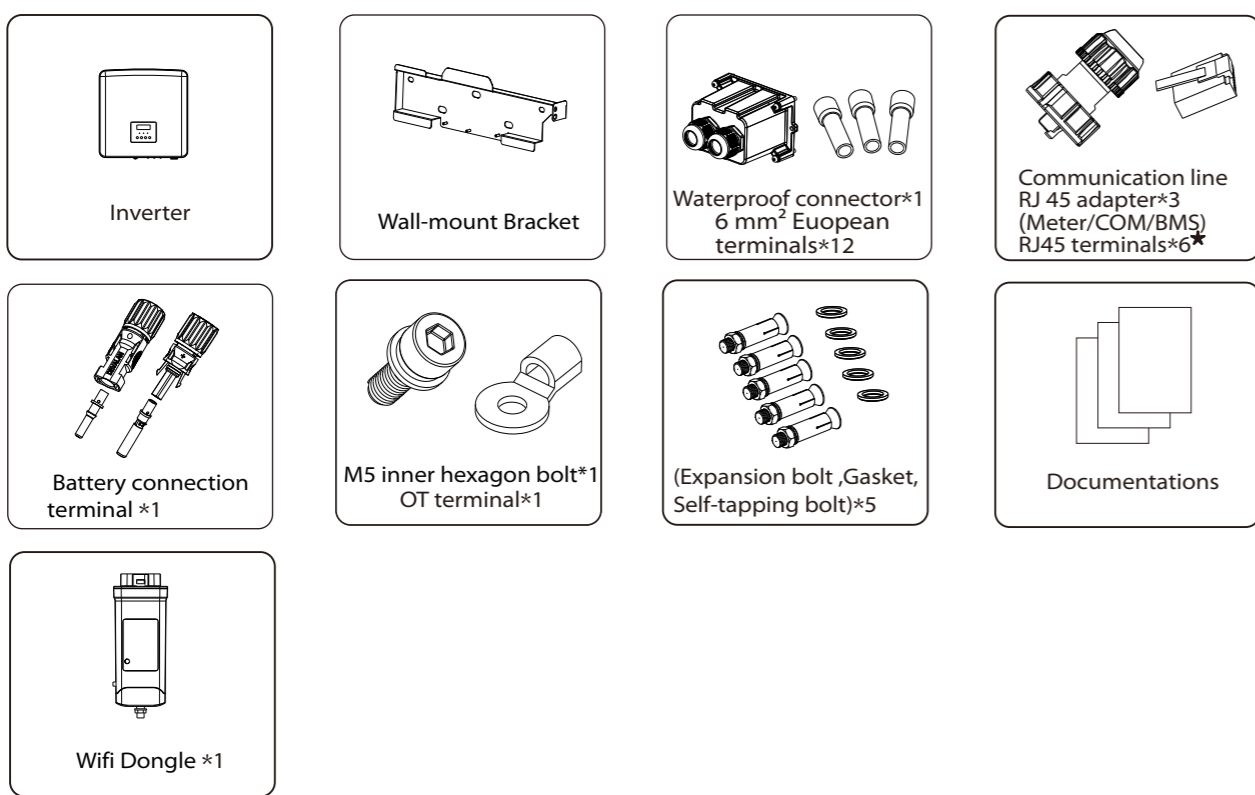
II

Tool Preparation

| | | | |
|---|---|---------------------------------------|--|
| Hammer drill (Bit Ø8) | Multimeter DC Voltage range ≥1100 V DC | Torque screwdriver (Crosshead M5) | Socket wrench set (Hexagon) |
| OT terminals press clamp (0.5-6mm ²) | Diagonal plier | Utility knife | Multifunction terminal crimping tool (RJ45) |
| Diagonal pliers | Hexagon keys | Rubber hammer | Tape measure |
| Crimping Tool | Marker | Euro terminal crimping tool | Spirit level |

I

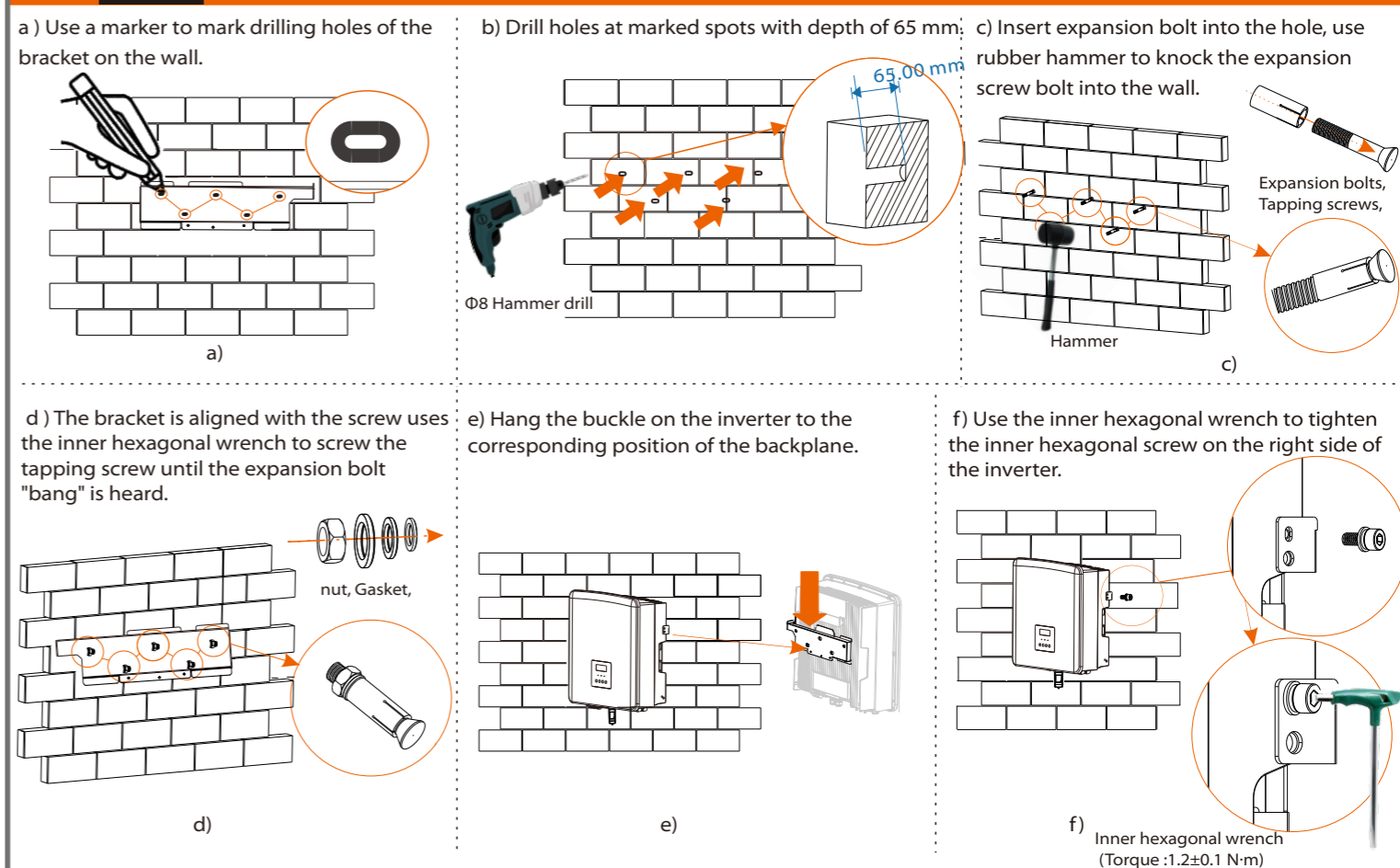
Packing List



Note: *★ The inverter in Australia needs to be connected to DRM, which is 1 more communication line adapter than that in other countries

III

Mounting Steps



IV

Grid and EPS (Off-grid) Connection

Diagram A: N line and PE line separate wiring;
(For most countries)

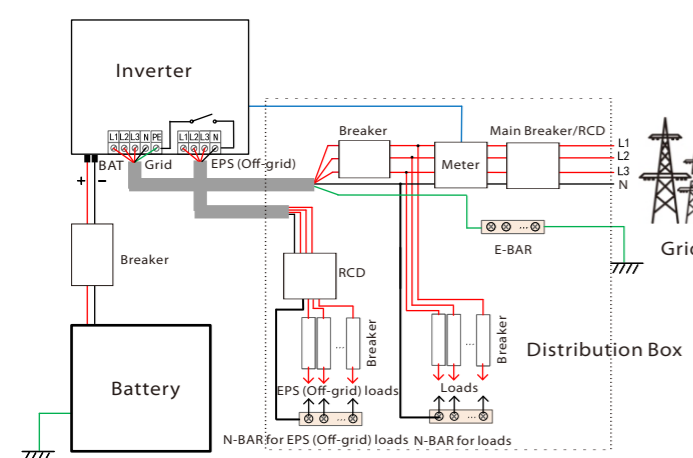


Diagram B: N line and PE line separate wiring;
(For most countries)

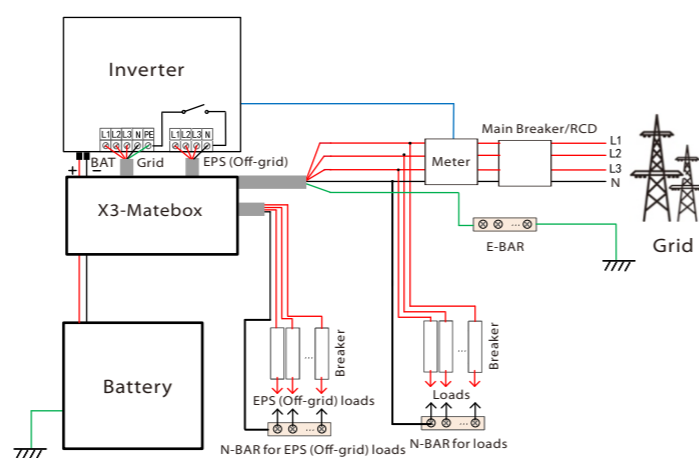


Diagram C: N line and PE line together;
(Applicable to Australia)

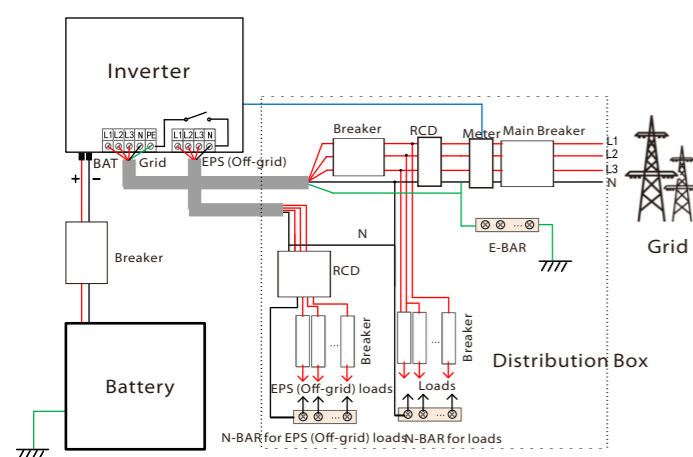
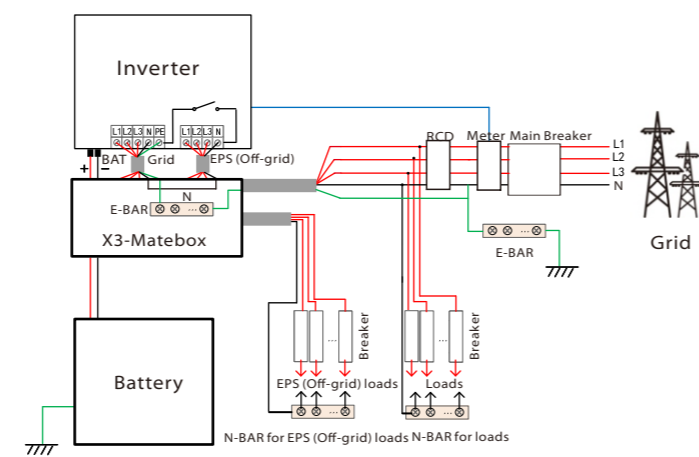


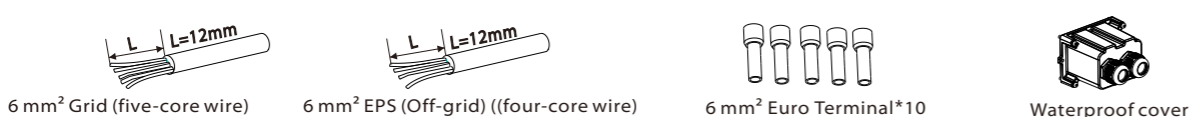
Diagram D: N line and PE line together;
(Applicable to Australia)



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

* The Grid and the EPS (Off-grid) ports of the inverter have been connected, for specific installation details, please refer to the X3-Matebox Quick Installation Guide and the W series needs to be wired according to the following steps.

Step 1. Prepare a Grid cable (five-core wire) and an EPS (Off-grid) cable (four-core wire), and then find the European terminal and waterproof cover in the accessory bag.



Grid Cable and Micro-breaker recommended

| Model | X3-FR-6.0-W X3-FR-6.0-M | X3-FR-8.0-W X3-FR-8.0-M | X3-FR-10.0-W X3-FR-10.0-M | X3-FR-15.0-W X3-FR-15.0-M |
|----------------|----------------------------|----------------------------|------------------------------|------------------------------|
| Cable (copper) | 4-6mm ² | 4-6mm ² | 5-6mm ² | 5-6mm ² |
| Micro-Breaker | 20A | 32A | 40A | 40A |

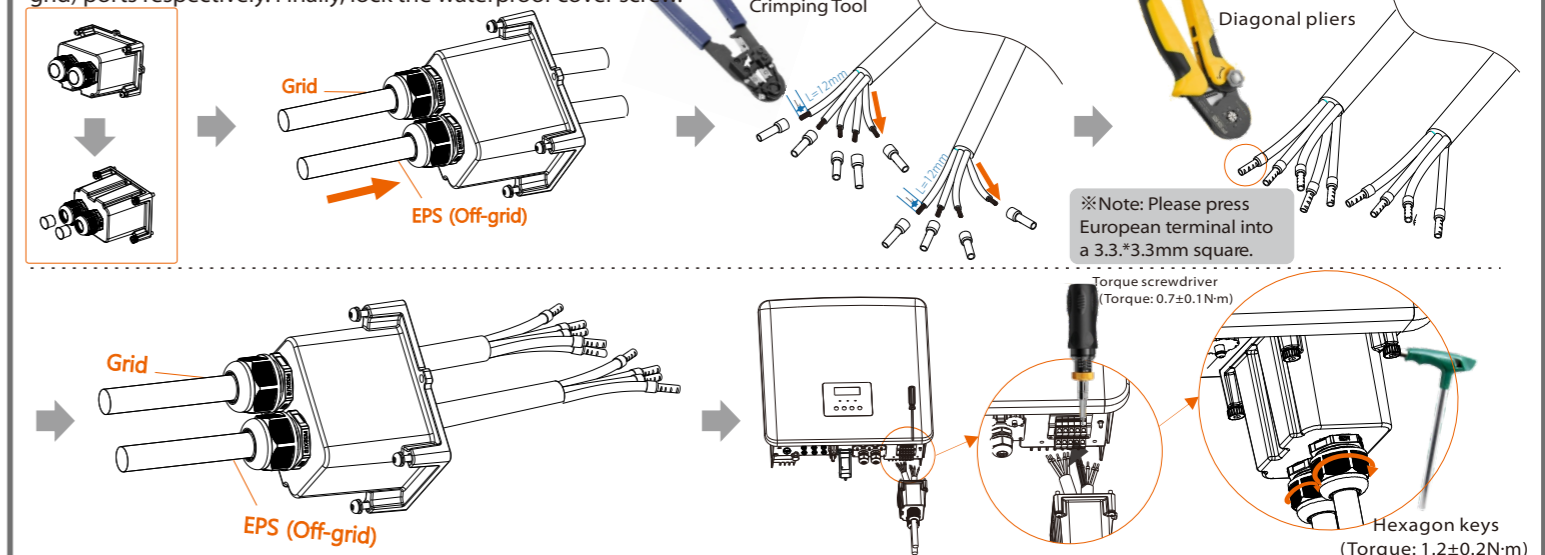
EPS (Off-grid) Cable and Micro-breaker recommended

| Model | X3-FR-6.0-W X3-FR-6.0-M | X3-FR-8.0-W X3-FR-8.0-M | X3-FR-10.0-W X3-FR-10.0-M | X3-FR-15.0-W X3-FR-15.0-M |
|----------------|----------------------------|----------------------------|------------------------------|------------------------------|
| Cable (copper) | 4-6mm ² | 4-6mm ² | 4-6mm ² | 4-6mm ² |
| Micro-Breaker | 16A | 20A | 25A | 32A |

IV

Grid and EPS (Off-grid) Connection

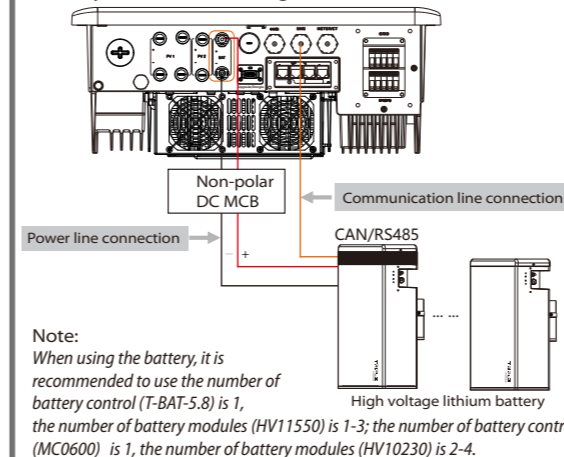
Step 2: First remove the waterproof housing plug, The GRID and EPS (Off-grid) cables go through the corresponding GRID and EPS (Off-grid) ports of the waterproof cover. Remove the 12mm insulation layer at the end of the wire. Insert the European-style terminals respectively, and make sure that the stripped ends are inserted into the European-style terminal, and use crimping pliers to press tightly. And locked in the Grid and EPS (Off-grid) ports respectively. Finally, lock the waterproof cover screw.



V

Battery Connection

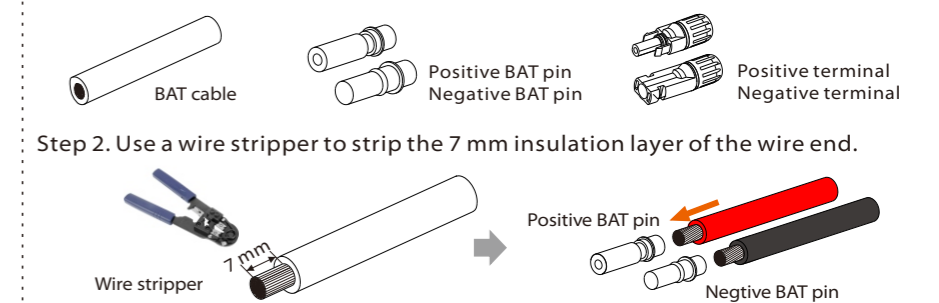
Battery connection diagram:



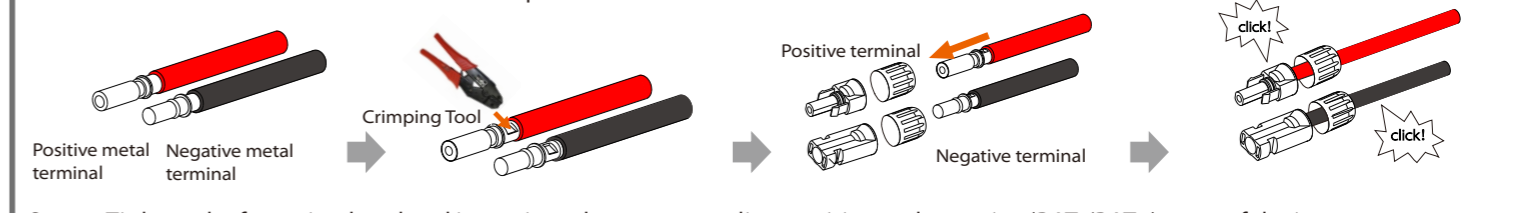
Note: When using the battery, it is recommended to use the number of battery control (T-BAT-5.8) is 1, the number of battery modules (HV115S0) is 1-3; the number of battery control (MC0600) is 1, the number of battery modules (HV10230) is 2-4.

Battery port connection line of the 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 inverter according to the following steps.

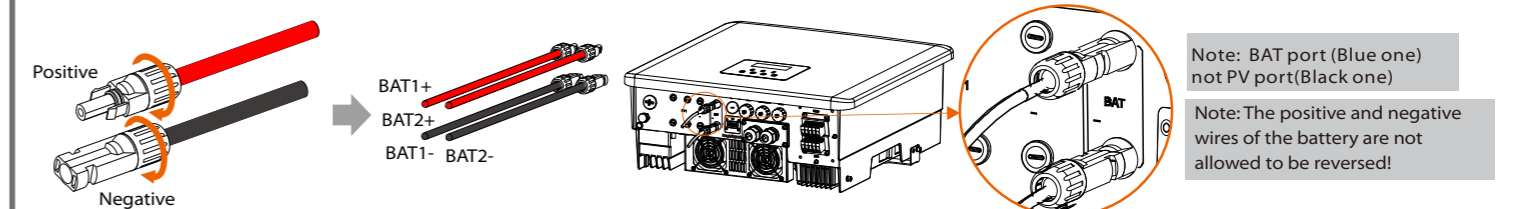
Step 1. Turn off the DC switch, connect the BAT module, prepare a 6 mm² BAT cable, and find the BAT (+) terminal and BAT (-) terminal in the package.



Step 3. The BAT joint is divided into 2 parts, to 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+) parts of the inverter.



Note: BAT port (Blue one) not PV port (Black one)

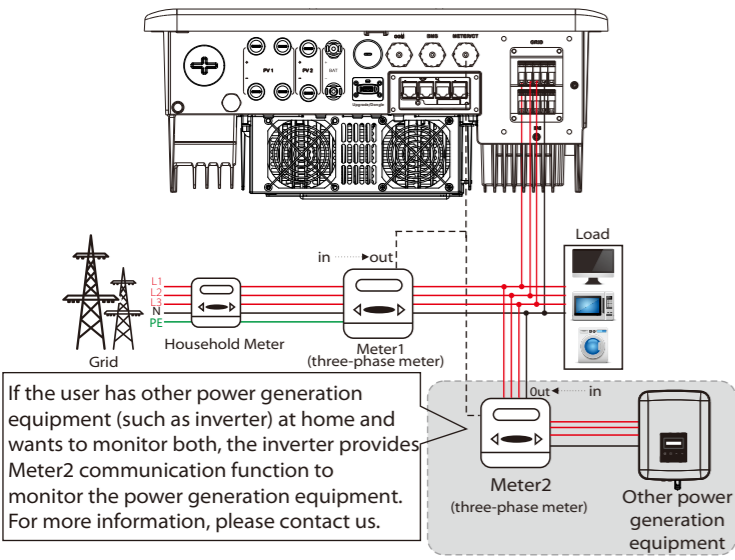
Note: The positive and negative wires of the battery are not allowed to be reversed!

Notice! After the BMS communication between the battery and the inverter is finished, the battery will work normally.

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

Note: Only meters can be used when the inverters work.

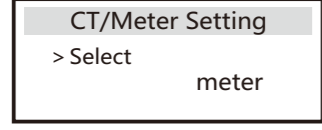
Electric meter connection diagram



Note: To connect the meter, please connect the GND terminal of the Meter1 to the ground.

LCD settings

To select meter, you need to enter Use setting, then enter CT/Meter Setting.



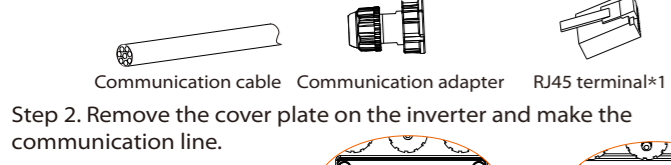
Meter PIN is defined as follows:

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

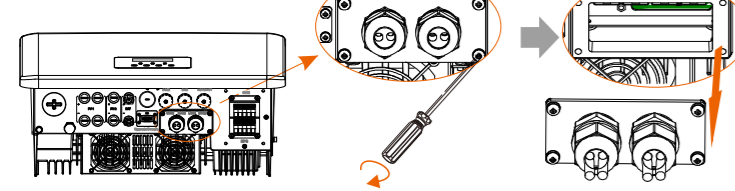
Note: Only meter connections can be selected. Meter cable goes to pin terminal 4 and 5.

Communication Connection Steps

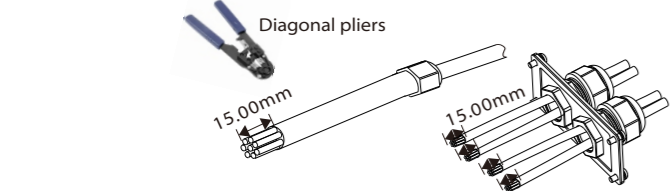
Step 1. Prepare a communication cable, and then find the communication adapter in the accessory bag.



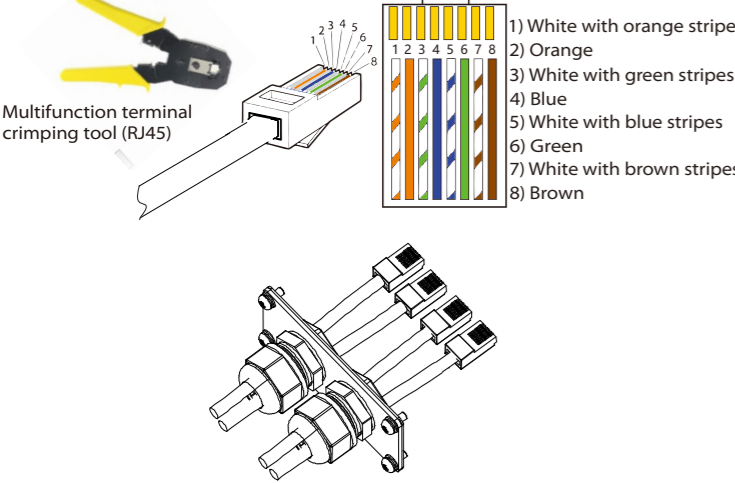
Step 2. Remove the cover plate on the inverter and make the communication line.



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.



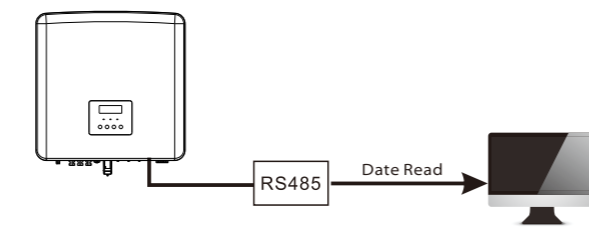
The DRM pin is defined as follows:

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

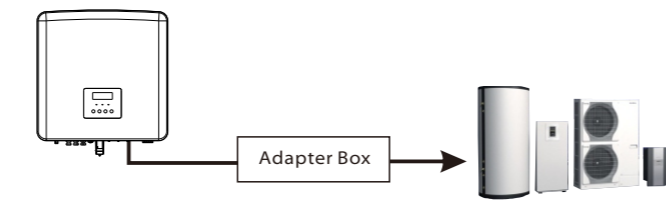
Note: Currently only PIN6 (DRM0) and PIN1 (DRM1/5) are functional, other PIN functions are under development.

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

COM Communication



Inverter communication control external equipment:



COM PIN Definition

| | | | | | | | |
|----------------|----------------|------|------|------|-----|-------------------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Drycontact_Aln | Drycontact_Bln | +13V | 485A | 485B | GND | Drycontact_Alnout | Drycontact_Blnout |

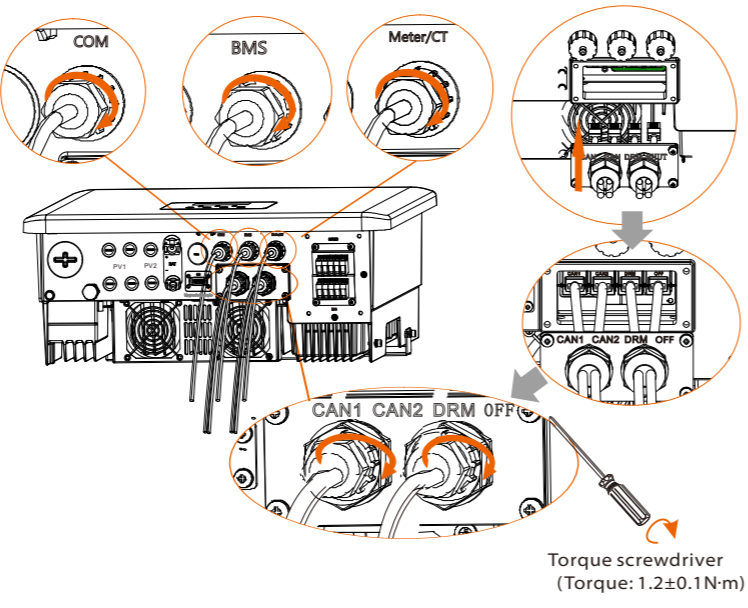
Note: Customers can communicate or control the inverter and external devices through the COM interface. Professional users can use pins 4 and 5 to realize data acquisition and external control functions. The communication protocol is Modbus RTU. For details, please contact us.

If the user wants to use the inverter dry contact to control external equipment (such as a heat pump), it can be used with the 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 |
| X | X | X | BMS_CANH | BMS_CANL | X | BMS_485A | BMS_485B |

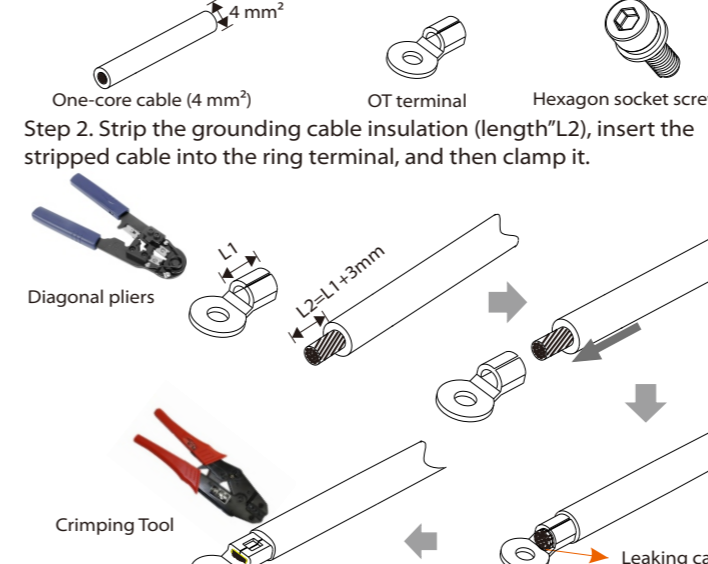
Note: The communication port on the lithium battery must be consistent with the definition of pins 4, 5, 7, and 8 above.



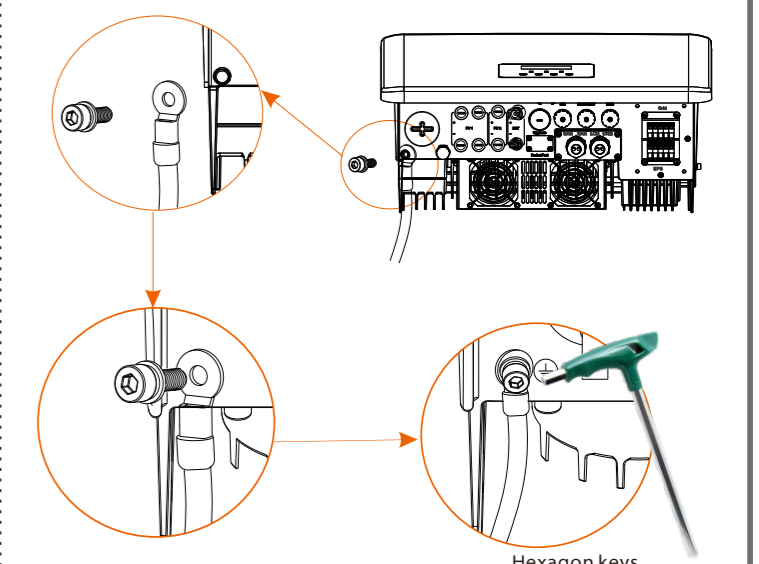
VII Grounding Connection (mandatory)

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

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

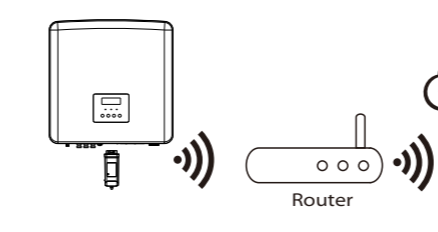


Step 4. Find the ground connection port on the inverter, and screw the terminal of the ground wire on the inverter with an M5 Allen key.



VIII Monitoring Operation

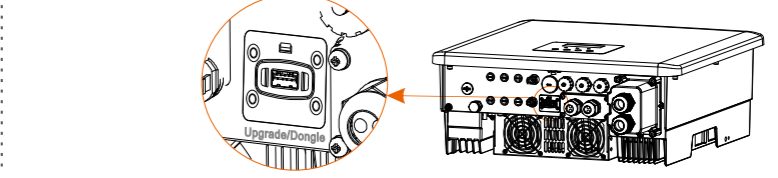
DONGLE connection diagram



Wireless monitoring accessories connection steps:

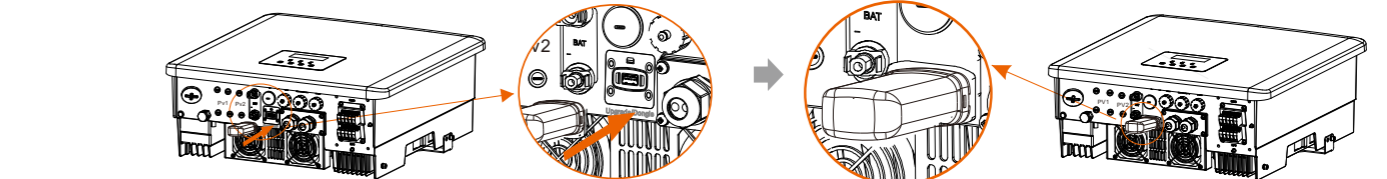
* DONGLE port connection line of the inverter is on the X3-Matebox, for specific installation details, please refer to the X3-Matebox Quick Installation Guide. It is necessary to wire the W series according to the following steps.

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



Step 2. Plug WiFi Dongle into the DONGLE port.

Please check the WiFi Dongle user manual/LAN Dongle user manual/4G user manual for more details.



IX Start Guide

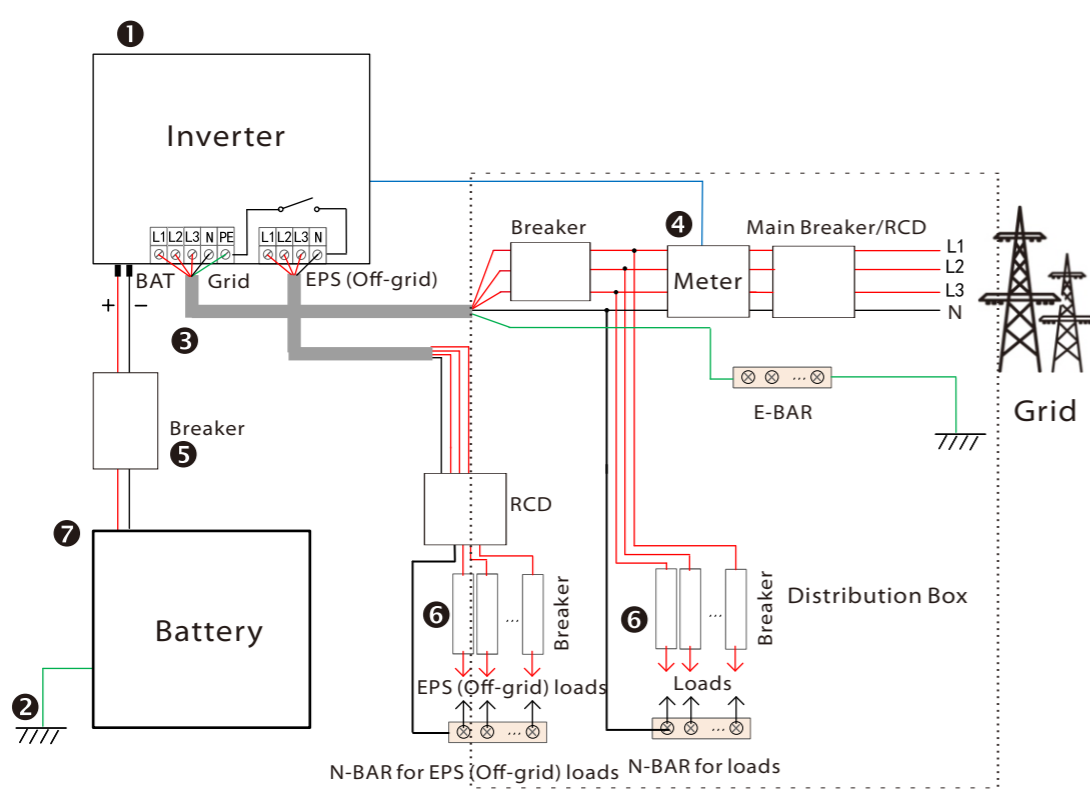
| | | |
|--|--|---|
| 1. Set date time Date time 2021->11<-10 10:05 | 2. Set language Language English Deutsch Italian | 6*. Set work mode There are 4 work modes for choice. Self use/ Back Up Mode/ Feed in Priority/ Force Time Use All these work modes is available for on-grid condition only: Name Description 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 time period: PV will power the battery. When the battery is fully charged, PV will power the load, and 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 > Battery charge, PV → Battery → Load → Grid) ② When the power of PV is insufficient Active Charging time period: PV will power the battery and the remaining power will be taken from the grid when PV is not enough. PV and grid power will charge the battery until it reaches the set value. And then PV will power the load and the remaining power will be taken from the grid when PV is not enough. The battery will not discharge at this time. (PV < Battery charge, PV + Grid → Battery) Active Discharge time period: PV & Grid 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. Set the safety standard Safety Country > VDE0126 | 4. CT/Meter Setting CT/Meter Setting > Meter | Self Use 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 power the battery to the set value, and then power the load, and sell the surplus power to the grid. If the local grid company limits the grid-connected power of the inverter, the excess energy continues to charge the battery. (PV > Battery, PV → Battery → 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) |
| 5*. Set export control Export Control Use Value: 10000W | 6*. Set work mode Work Mode > Mode Select self use | Feed-in priority 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%. 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) |
| 7. X3-Matebox Setting X3-Matebox Setting > Disable Enable | 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. | Backup mode 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 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) |
| 8. 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 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) | 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 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) | 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%. 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) |

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 meter is well 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)

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

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

-For the inverter, 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.

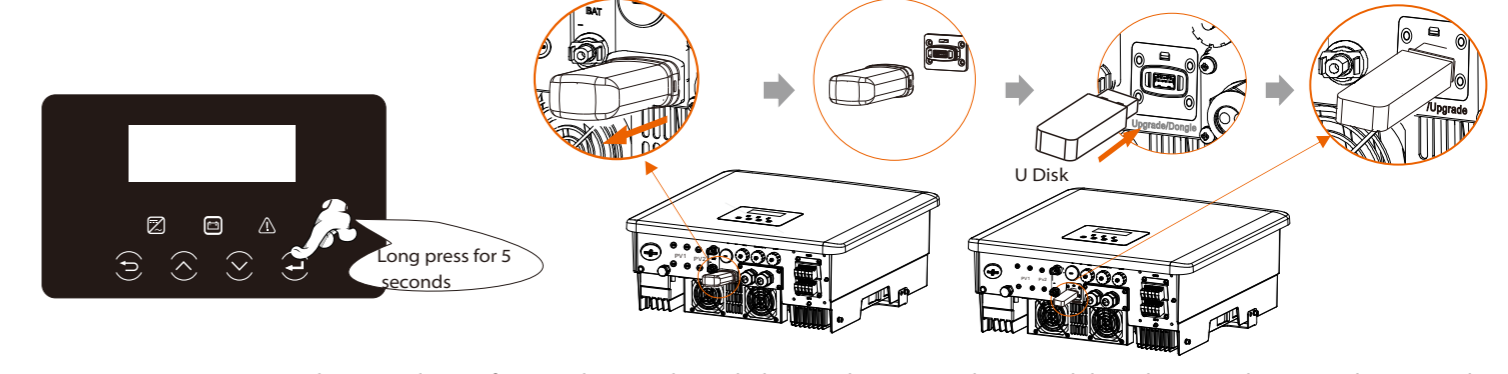
Upgrade preparation

- Please check the inverter version and prepare a U disk (USB 2.0/USB3.0) 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.

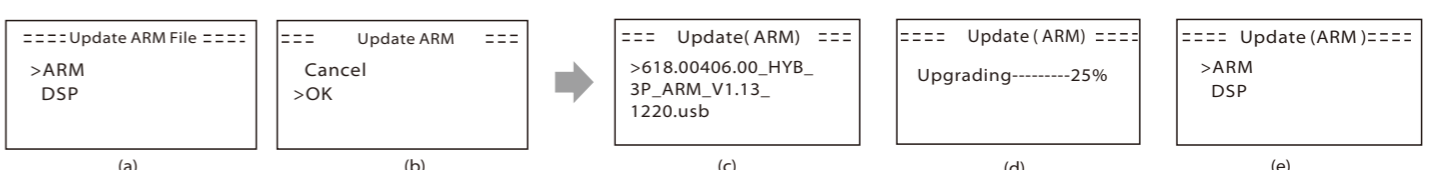
Update:
 For ARM file: "update \ARM\618.00406.00_HYB_3P_ARM_V1.13_1220.usb";
 For DSP file: "update \DSP\618.00405.00_HYB_3P_DSP_V1.14_1215.usb";

Upgrade steps

Step 1. Please save the "Udate" 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 "upgrade" port at the bottom of the inverter.
 Step 2. Find the "Upgrade" port of the inverter, unplug the monitoring module (WiFi Dongle/ 4G Dongle/ LAN 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.

