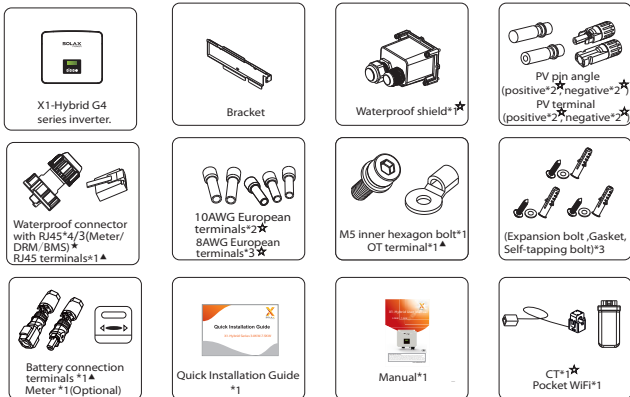




Quick Installation Guide

X1-Hybrid 3.0KW-7.5KW

I Packing List



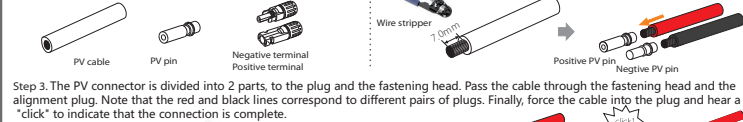
Note:

- Accessories marked with "*" indicate that they are not included in the accessory package of M-series inverter, but included in X1-Matebox.
- Accessories marked with "*" indicates that, the D-series inverter is equipped with 4 pieces for Australia and 3 pieces for other countries, and the M-series inverter is equipped with 3 pieces for Australia and 2 pieces for other countries.
- Accessories marked with "*" indicate that they are included in the D-series inverter, but not the M-series inverter.

IV PV Connection

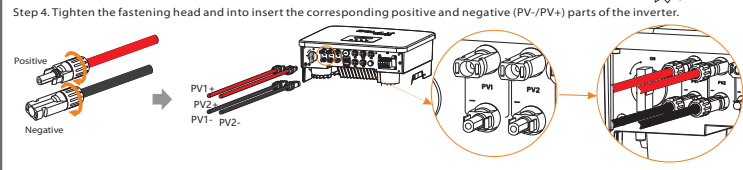
The PV port wiring of X1-Hybrid G4 M-series inverter has been completed. On X1-Matebox, the D-series needs to be wired according to the following steps.

Step 1. Turn off the DC switch, connect the PV module, prepare a 12 AWG PV cable, and find the PV (+) terminal and PV (-) terminal in the package.

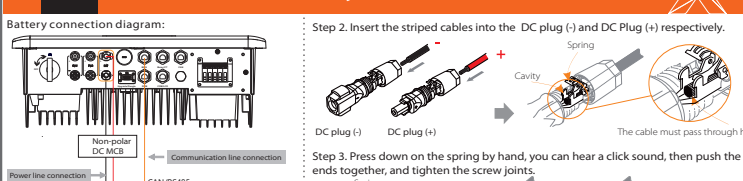


Step 2. Use a wire stripper to strip the 7mm insulation layer of the wire end.

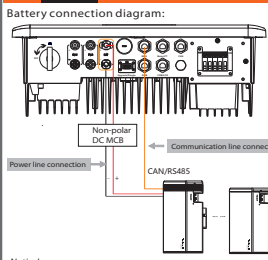
Step 3. The PV connector is divided into 2 parts, to the plug and the fastening head. Pass the cable through the fastening head and the alignment plug. Note that the red and black lines correspond to different pairs of plugs. Finally, force the cable into the plug and hear a "click" to indicate that the connection is complete.



Step 4. Tighten the fastening head and into insert the corresponding positive and negative (PV-/PV+) parts of the inverter.



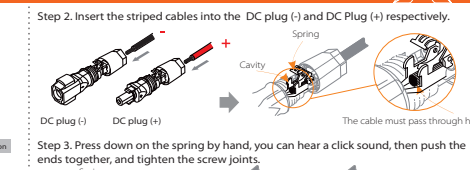
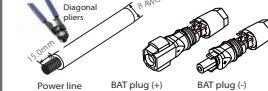
VI Battery Connection



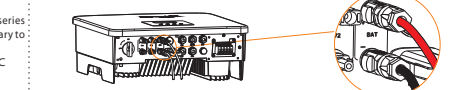
Notice! When using Solax batteries, it is recommended that the number of battery control (T-BAT-5.8) is 1 and the number of battery modules (HV1 1550) is 0-2. The number of battery control (MC0600) is 1 and the number of battery modules (HV10250) is 1-4 pcs.

Battery port connection line of the X1-Hybrid G4 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. Prepare 8 AWG battery power line, find the DC plug (+), DC plug (-) in the accessory bag.



Step 3. Press down on the spring by hand, you can hear a click sound, then push the ends together, and tighten the screw joints.



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

Notice: BAT port, not PV port!

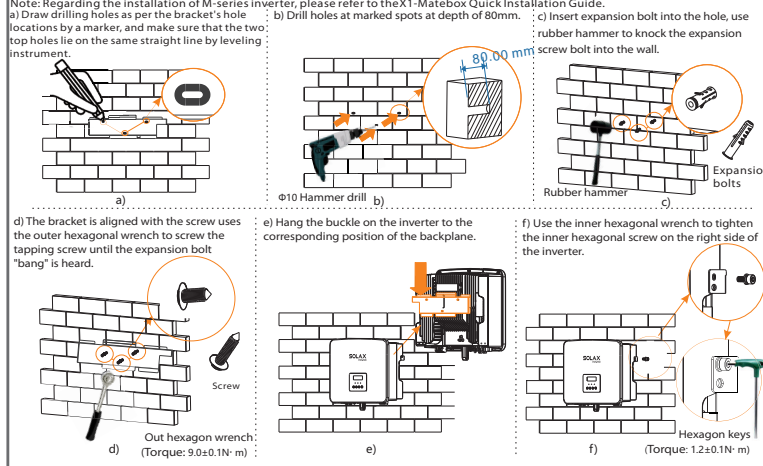
Notice: The positive and negative wires of the battery are not allowed to be reversed!

II Tool Preparation



III Mounting Steps

Note: Regarding the installation of M-series inverter, please refer to the X1-Matebox Quick Installation Guide.



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)

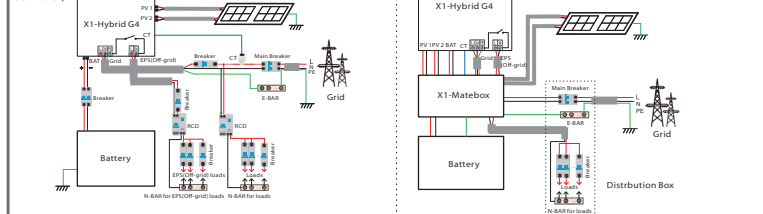


Diagram B: Neutral line and PE line are separated from each other, all loads connect to the EPS(Off-grid) port; (For most countries)

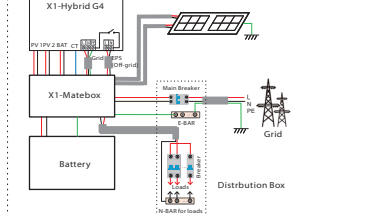


Diagram C: Neutral line and PE line are combined together, and the common load is connected to the EPS(Off-grid) port; (Apply to Australia)

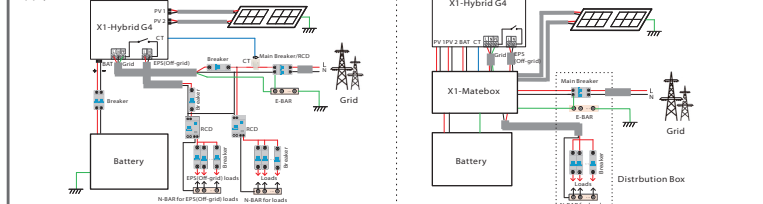
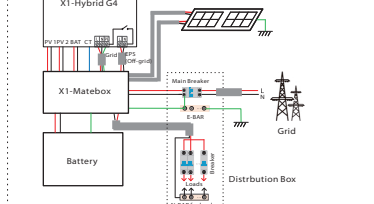
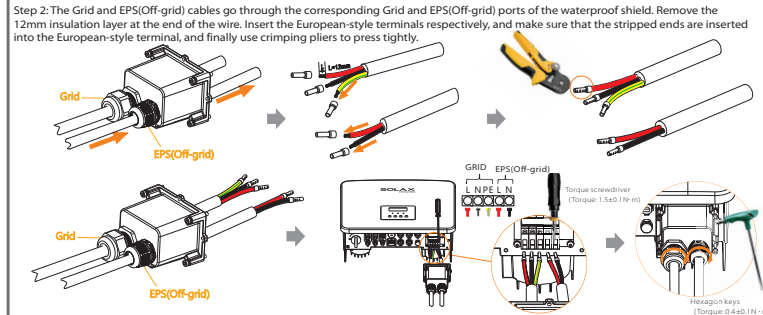
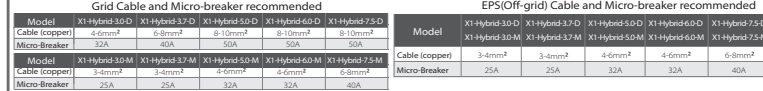


Diagram D: Neutral line and PE line are combined together, all loads connect to the EPS(Off-grid) port; (Apply to Australia)



The Grid and EPS(Off-grid) ports of X1-Hybrid G4 M series inverter have been connected, and the D series needs to be wired according to the following steps.

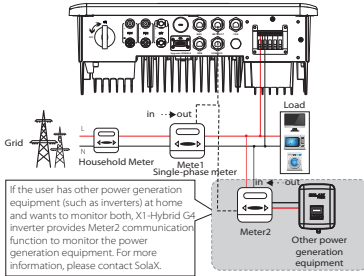
Step 1. Prepare a Grid cable (three-core wire) and an EPS(Off-grid) cable (two-core wire), and then find the European terminal and waterproof shield in the accessory bag.



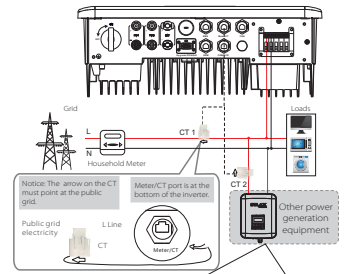
Notice: The positive and negative wires of the battery are not allowed to be reversed!

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

Electric meter connection diagram



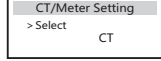
CT connection diagram



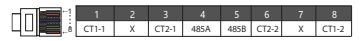
If the user has other power generation equipment (such as inverter) at home and wants to monitor both, X1-Hybrid G4 inverter provides Meter2 communication function to monitor the power generation equipment. For more information, please contact Solax.

LCD settings

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



Meter /CT PIN is defined as follows



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 2. Reserve CT cable goes to pin terminal 3 and 6. If you need this feature, please contact us Solax for assistance.

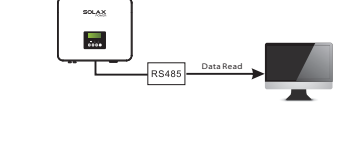
1) To connect the Communication line of the CT line, the lines need to be made on both sides, connecting the RJ45 terminal on one side and the Communication line Adapter on the other.



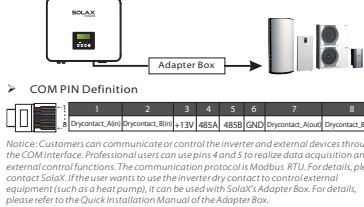
2) One side of the finished cable, communication line adapter is inserted into the inverter, and one side of the RJ45 terminal is inserted into the CT connection.

COM Communication

External communication equipment controls the inverter:



Inverter communication control external equipment:



COM PIN Definition
 1: Drycontact_Alow, 2: Drycontact_Blow, 3: +13V, 4: 485A, 5: 485B, 6: GND, 7: Drycontact_Alow, 8: Drycontact_Blow

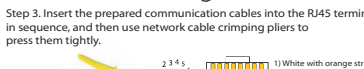
The BMS pin is defined as follows
 1: BAT_TEMP, 2: GND, 3: BMS_CANH, 4: BMS_CANA, 5: GND, 6: BMS_485A, 7: BMS_485B

The DRM pin is defined as follows
 1: DRM1/5, 2: DRM2/6, 3: DRM3/7, 4: DRM4/8, 5: +3.3V, 6: DRM0, 7: GND, 8: GND

Notice: 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 then 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 15mm.



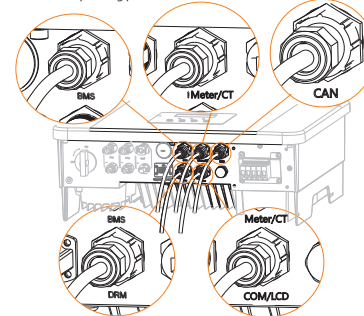
Step 3. Insert the prepared communication cables into the RJ45 terminals in sequence, and then use network cable crimping pliers to press them tightly.



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



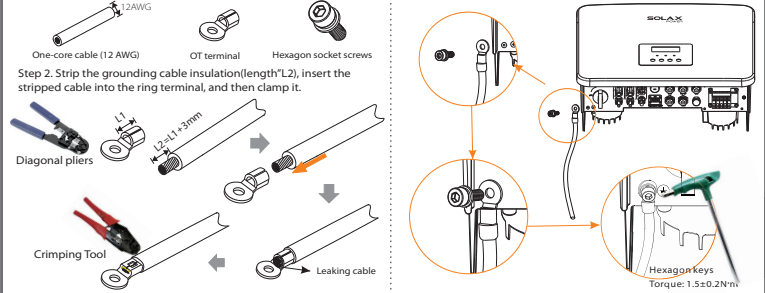
Step 5. Finally, find the corresponding BMS / Meter / CT / CAN / DRM / COM / LCD ports on the inverter and insert the communication cable into the corresponding ports.



VIII Grounding Connection (mandatory)

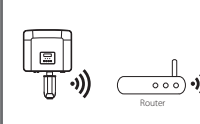
The ground wire port of X1-Hybrid G4 M series inverter has been connected, and the D series needs to be wired according to the following steps.

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



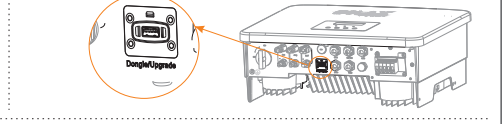
IX Monitoring Operation

DONGLE connection diagram

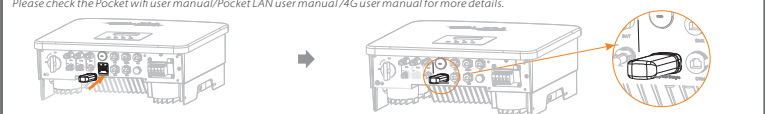


Wireless monitoring accessories connection steps:

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



Step 2. Plug Pocket WIFI into the DONGLE port.

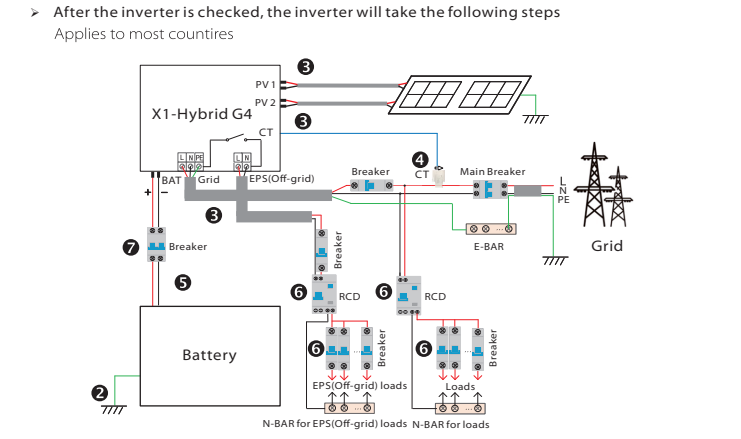


X Start Guide

| | | |
|--|---|--|
| 1. Set date time Date time 2017 -> 06 -> 06 10:19 | 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. |
| 3. Set the safety standard Country >VDE0126 | 4. CT/Meter Setting CT >Meter | 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 Charge / 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 Charge 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) 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) |
| 5*. Set export control Export Control Use Value: 10000W | 6*. Set work mode Work Mode >Mode Select self use | Self Use Active Charge time period: The grid supplies the loads and also can charge the battery. (PV+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+Battery+Grid -> Load). Battery+Self SOC can be set: 100%. Charge battery from SOC can be set: 100%. ① When the power of PV is sufficient Active Charge time period: PV will power the loads firstly, and also can charge the battery. (PV+Grid+Load+Battery) 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+Grid+Load) ② Without PV power Active Charge time period: The grid will power the home loads and also charge the battery. Active Discharge time period: PV will power the loads firstly, the remaining power will be taken from the grid. The battery will not discharge. (PV+Load, PV+Grid -> Load) |
| 7.X1-Matebox Setting X1-Matebox Setting >disable enable | Feed-in priority Active Charge time period: PV will power the loads firstly, 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 Charge time period: The grid will power the home loads and also charge the 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+Battery+Grid -> Load). The backup 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, to ensure that the emergency loads can be used when the grid is off. Customers no need to worry about the battery capacity. Battery+Self SOC can be set: 100%. Charge battery from SOC can be set: 100%. In case of power failure, the system will power EPS loads through PV and battery. Battery must be installed, and EPS loads shall not exceed battery's max. output power. | Backup mode The backup 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, to ensure that the emergency loads can be used when the grid is off. Customers no need to worry about the battery capacity. Battery+Self SOC can be set: 100%. Charge battery from SOC can be set: 100%. |
| 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. | EPS (Off-grid) The battery will power the emergency loads until the battery reached the min SOC, then the inverter will enter an idle mode. (PV+Battery -> Load) If EPS grid SOC min condition is adjustable within the range of 10%-25%. | |

XI Start Inverter

Start inverter
 After the inverter is checked, the inverter will take the following steps
 Applies to most countries



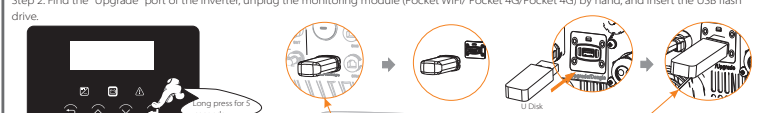
- Make sure that the inverter is fixed on the wall.
 - Ensure that all ground wires are grounded.
 - Confirm that all DC lines and AC lines are connected.
 - Make sure the CT is connected.
 - Make sure the battery is well connected.
 - Turn on the Load switch and EPS(Off-grid) switch.
 - Turn on the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

XII Firmware Upgrading

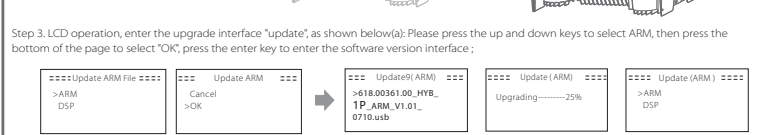
-In order to upgrade the firmware smoothly, if the DSP and ARM firmware needs to be upgraded, please note that ARM firmware must be upgraded first, then DSP firmware.
 -Make sure that this directory is completely consistent with the above table, do not modify the firmware file name. Otherwise, the inverter may not work.
 -For X1-Hybrid G4, 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
 1) Please check the inverter version and prepare a U disk (USB 2.0/3.0) and personal computer before upgrading.
 2) 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\618.00361.00_HYB_1P_ARM_V1.01_0710.usb;
 For DSP file: update\DSP\618.00360.00_HYB_1P_DSP_V1.01_0710.usb;

> Upgrade steps
 Step 1. Please save the "Upgrade" firmware in your U disk first, and press the "Enter" button on the inverter screen for 5 seconds to enter the OFF mode.



Step 2. Find the "Upgrade" port of the inverter, unplug the monitoring module (Pocket WIFI/ Pocket 4G/ Pocket 4G) 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.