



# **X3-MIC G2**

**5 kW / 6 kW / 8 kW / 10 kW**

## **Installation Manual**

Version 1.0

[www.solaxpower.com](http://www.solaxpower.com)















eManual in the QR code or  
at <http://kb.solaxpower.com/>

# Safety

## General Notice

1. Contents may be periodically updated or revised. SolaX reserves the right to make improvements or changes in the product(s) and the program(s) described in this manual without the prior notice.
2. The installation, maintenance and grid-related setting can only be performed by qualified personnel who:
  - Are licensed and/or satisfy state and local jurisdiction regulations;
  - Have good knowledge of this manual and other related documents.
3. Before installing the device, carefully read, fully understand and strictly follow the detailed instruction of the user manual and other related regulations. SolaX shall not be liable for any consequences caused by the violation of the storage, transportation, installation, and operation regulations specified in this document and the user manual.
4. Use insulated tools when installing the device. Individual protective tools must be worn during installation, electrical connection and maintenance.
5. Please visit the website [www.solaxpower.com](http://www.solaxpower.com) of SolaX for more information.

## Descriptions of Labels

|   |  |   |   |
|---|--|---|---|
|    | CE mark of conformity  |  | TUV certification   |
|    | RCM mark of conformity   |  | BIS mark of conformity  |
|    | Caution, risk of electric shock  |  | Caution, hot surface  |
|    | Read the enclosed documentations   |  | Caution, risk of danger                                       |
|    | Additional grounding point   |  | Do not dispose of the inverter together with household waste. |
|   | Do not operate this inverter until it is isolated from mains and on-site PV generation suppliers.            |   |   |
|  | Danger of high voltage.<br>Do not touch live parts for 5 minutes after disconnection from the power sources. |   |   |

Note: The table is only used for the description of symbols which may be used on the inverter. Please be subject to the actual symbols on the device.

 **DANGER!**

**Lethal danger from electrical shock due to the inverter**

- Only operate the inverter when it is technically faultless. Otherwise, electric shock or fire may occur.
- Do not open the enclosure in any case without authorization from SolaX. Unauthorized opening will void the warranty and cause lethal danger or serious injury due to electric shock.

 **DANGER!**

**Lethal danger from electrical shock due to the PV**

- When exposed to sunlight, high DC voltage will be generated by PV modules. Death or lethal injuries will occur due to electric shock.
- Never touch the positive or negative pole of PV connecting device. Touching both of them at the same time is prohibited as well.
- Do not ground the positive or negative pole of the PV modules.
- Only qualified personnel can perform the wiring of the PV panels.

 **WARNING!**

**Risk of personnel injury or inverter damage**

- During operation, do not touch any parts other than DC switch (if any) and LCD panel.
- Never connect or disconnect the AC and DC connectors when the inverter is running.
- Turn off the AC and DC power and disconnect them from the inverter, wait for 5 minutes to fully discharge the voltage before attempting any maintenance, cleaning or working on any circuits connected.
- Make sure that the input DC voltage  $\leq$  Maximum DC input voltage of the inverter. Overvoltage may cause permanent damage to the inverter, which is NOT covered by the warranty.

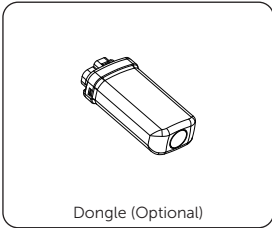
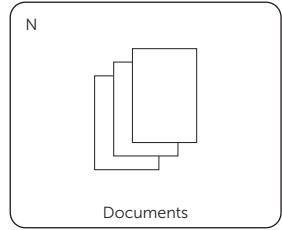
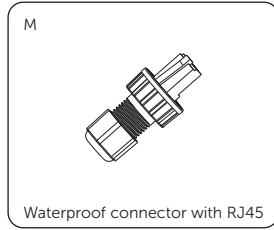
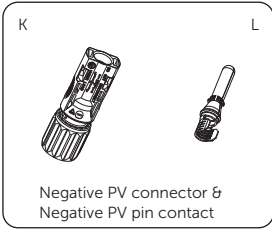
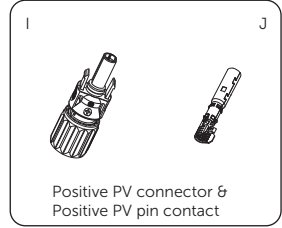
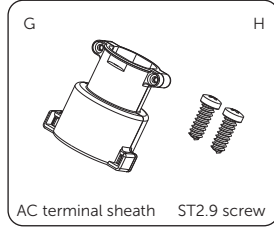
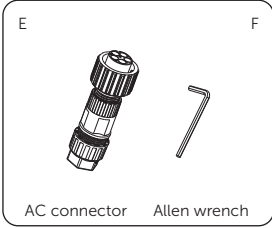
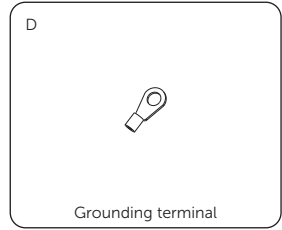
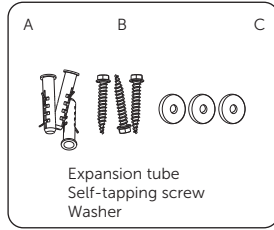
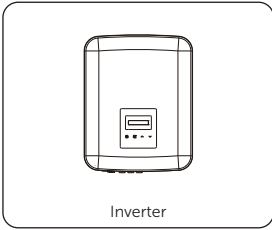
 **CAUTION!**

- Keep children away from the inverter.
- Pay attention to the weight of the inverter. Personal injuries may be caused if not handled properly.

**NOTICE!**

- The inverter has an integrated Type-B Residual Current Monitoring Unit (RCMU). If an external RCD is required by local regulations, check which type of RCD is required for relevant electric codes. It is recommended to use a Type-A RCD with the value of 300 mA.
- All the product labels and nameplate on the inverter shall be maintained clearly visible.

## Packing List



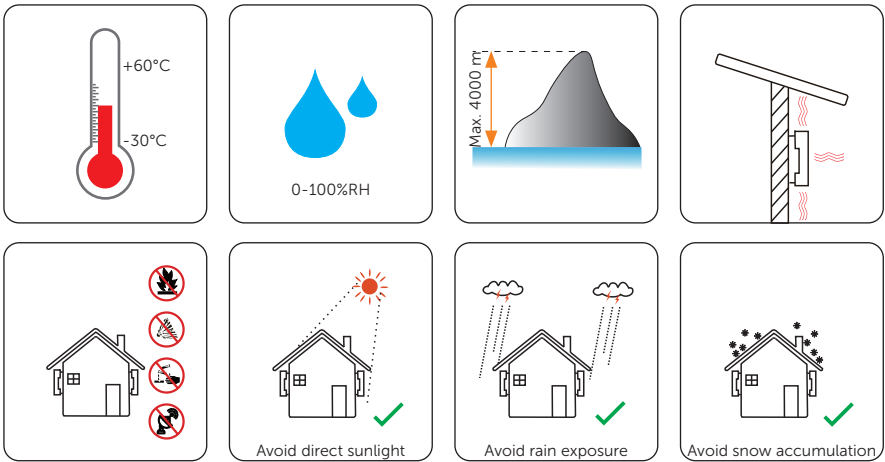
| Item | Description        | Quantity |
|------|--------------------|----------|
| /    | Inverter           | 1 pc     |
| A    | Expansion tube     | 3 pcs    |
| B    | Self-tapping screw | 3 pcs    |
| C    | Washer             | 3 pcs    |
| D    | Grounding terminal | 1 pc     |
| E    | AC connector       | 1 pc     |
| F    | Allen wrench       | 1 pc     |



| Item | Description                    | Quantity   |
|------|--------------------------------|--|
| G    | AC terminal sheath             | 1 pc   |
| H    | ST2.9 screw                    | 2 pcs  |
| I    | Positive PV connector          | 2 pairs for 5 kW~8 kW and 10 kW (PV1: one string),<br>3 pairs for 10 kW (PV1: two strings) |
| J    | Positive PV pin contact        |  |
| K    | Negative PV connector          | 2 pairs for 5 kW~8 kW and 10 kW (PV1: one string),<br>3 pairs for 10 kW (PV1: two strings) |
| L    | Negative PV pin contact        |  |
| M    | Waterproof connector with RJ45 | 1 pc   |
| N    | Documents                      | /  |
| /    | Dongle (Optional)              | /  |

\* Refer to the actual delivery for the optional accessories.

### Installation Site

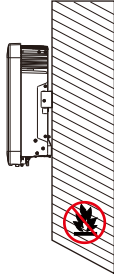


### NOTICE!

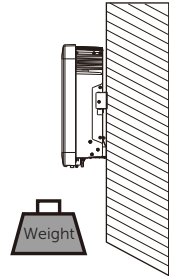
- For outdoor installation, precautions against direct sunlight, rain exposure and snow accumulation are recommended.
- Exposure to direct sunlight raises the temperature inside the device. This temperature rise poses no safety risks, but may impact the device performance.

## Installation Carrier

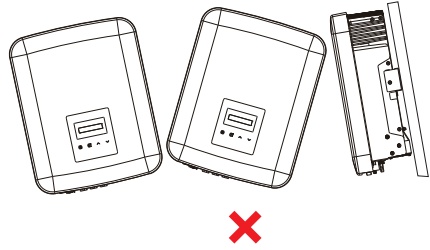
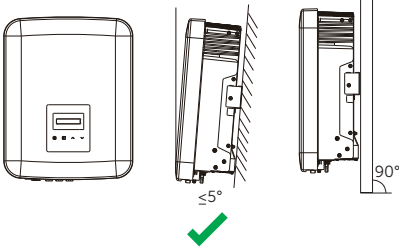
Fire resistant



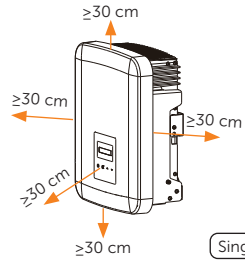
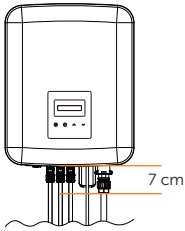
Withstand four times inverter's weight and be suitable for installation and dissipation (Please refer to "Technical Data")



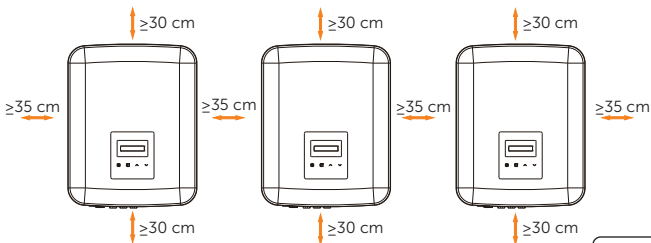
## Installation Angle



## Installation Space



Single inverter

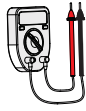


Multiple inverters

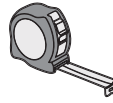
## Installation Tools



Hammer drill  
(drill bit: Ø10 mm)



Multimeter  
(≥ 1000 V DC)



Measuring tape



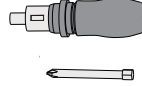
Utility knife



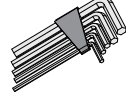
Marker



Spirit level



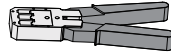
Torque screwdriver  
(Phillips head: M4 / ST2.9)



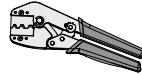
Allen key  
(including M5)



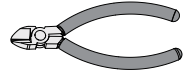
Wire stripper



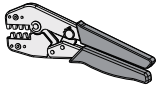
Crimping tool  
for RJ45



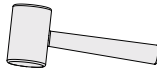
Crimping tool  
for PV terminal



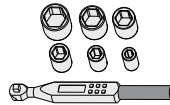
Diagonal pliers



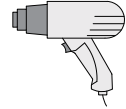
Crimping tool



Rubber mallet



Torque wrench  
(including 10 mm wrench)



Heat gun



Heat shrink tubing  
(Ø6 mm)



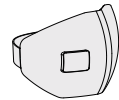
Safety gloves



Safety boots



Safety goggles



Anti-dust mask

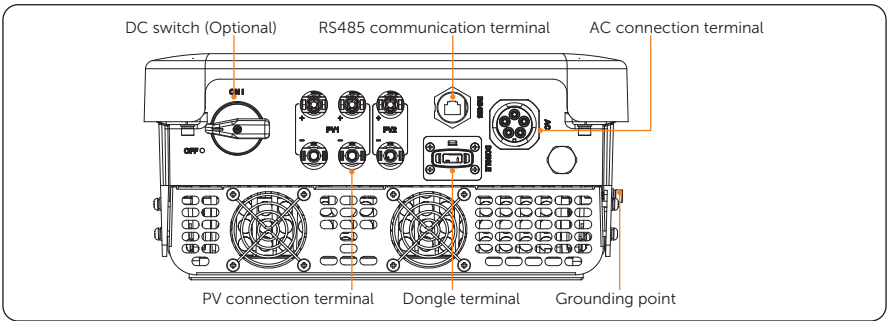
## Additionally Required Materials

| No. | Required Material   | Type                                       | Conductor Cross-section              |
|-----|---------------------|--|--------------------------------------|
| 1   | AC circuit breaker  | Refer to below tables                      | /                                    |
| 2   | PV cable            | Dedicated PV wire withstand voltage 1000 V | 4 mm <sup>2</sup>                    |
| 3   | AC cable            | Five-core copper wire                      | Refer to below tables                |
| 4   | Communication cable | Network cable CAT5                         | 0.2 mm <sup>2</sup>                  |
| 5   | Additional PE cable | Conventional yellow and green wire         | 4 mm <sup>2</sup> -6 mm <sup>2</sup> |

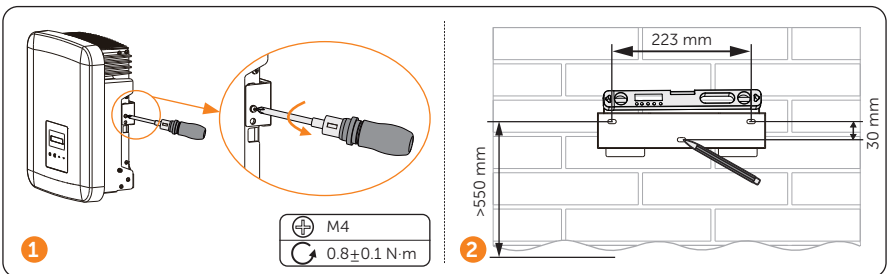
- AC Cable and AC circuit breaker recommended

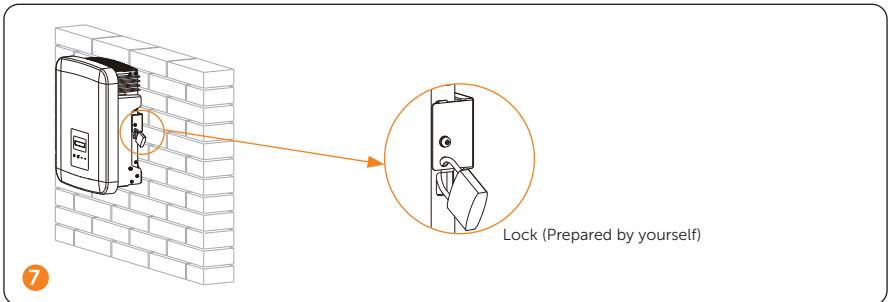
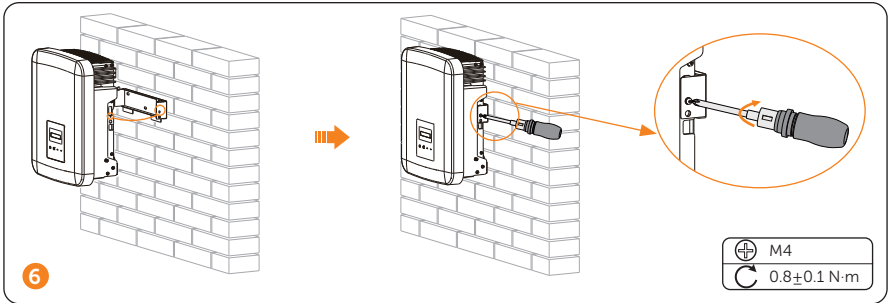
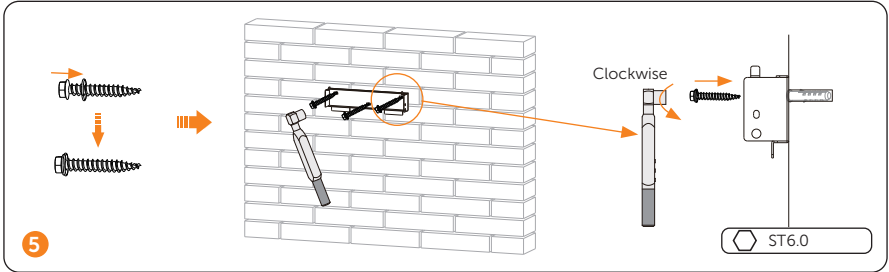
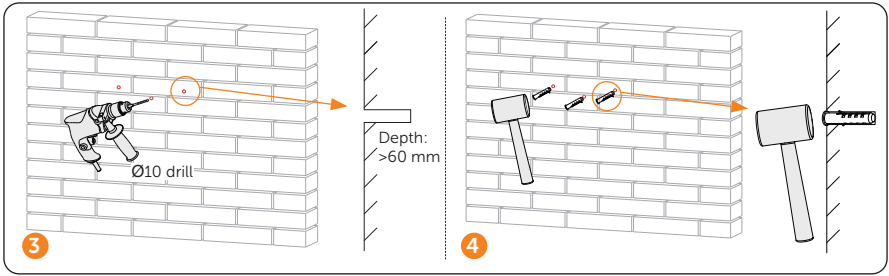
| Model           | X3-MIC-5K-G2          | X3-MIC-6K-G2          | X3-MIC-8K-G2          | X3-MIC-10K-G2         |
|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|
| L1, L2, L3 wire | 4-5 mm <sup>2</sup>   | 5-6 mm <sup>2</sup>   | 5-6 mm <sup>2</sup>   | 5-6 mm <sup>2</sup>   |
| N, PE wire      | 2.5-5 mm <sup>2</sup> | 2.5-6 mm <sup>2</sup> | 2.5-6 mm <sup>2</sup> | 2.5-6 mm <sup>2</sup> |
| Circuit breaker | 16 A                  | 20 A                  | 20 A                  | 20 A                  |

## Terminals and Parts of Inverter

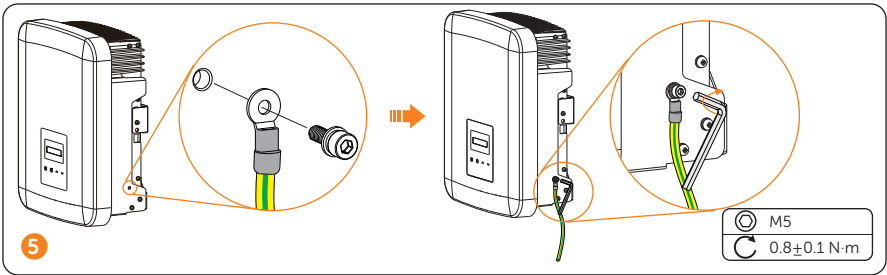
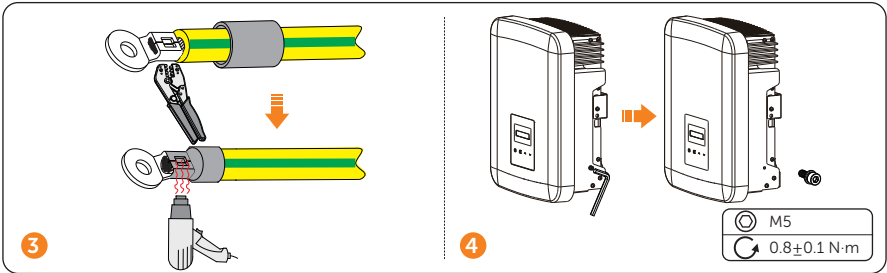
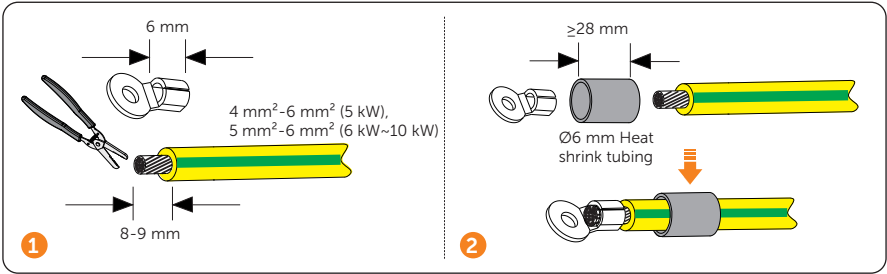


## Mechanical Installation

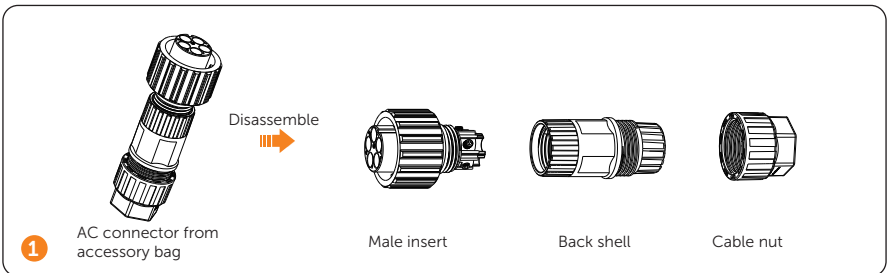


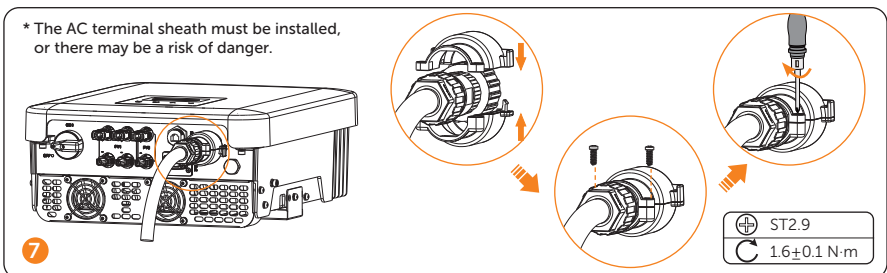
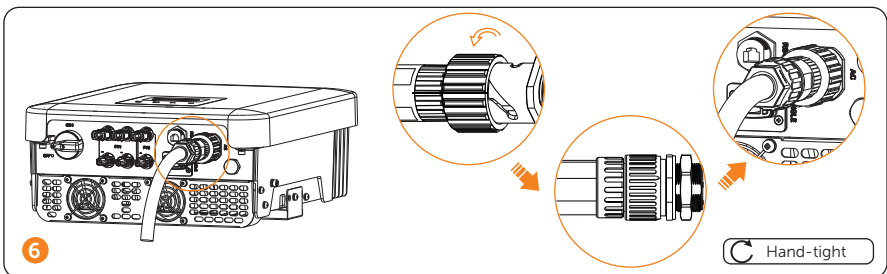
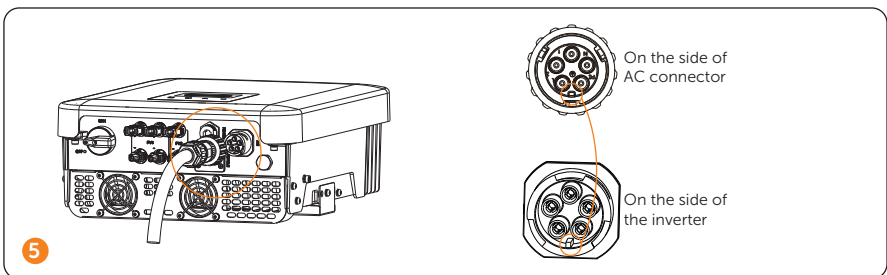
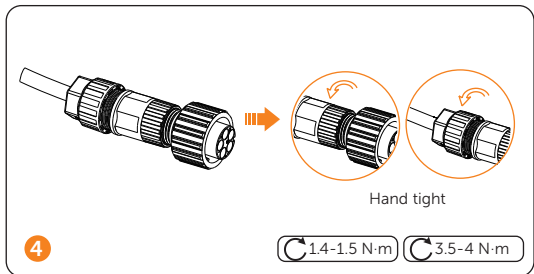
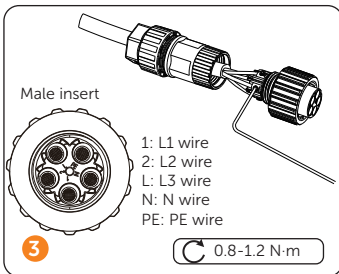
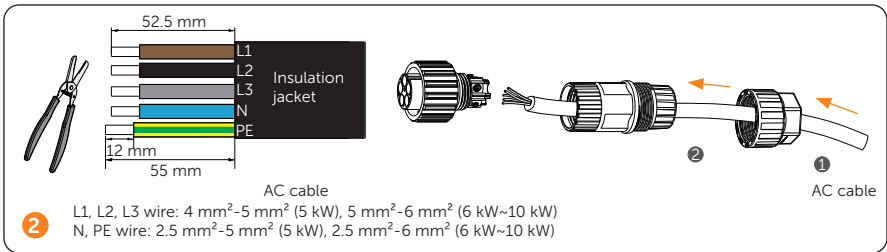


## PE Connection

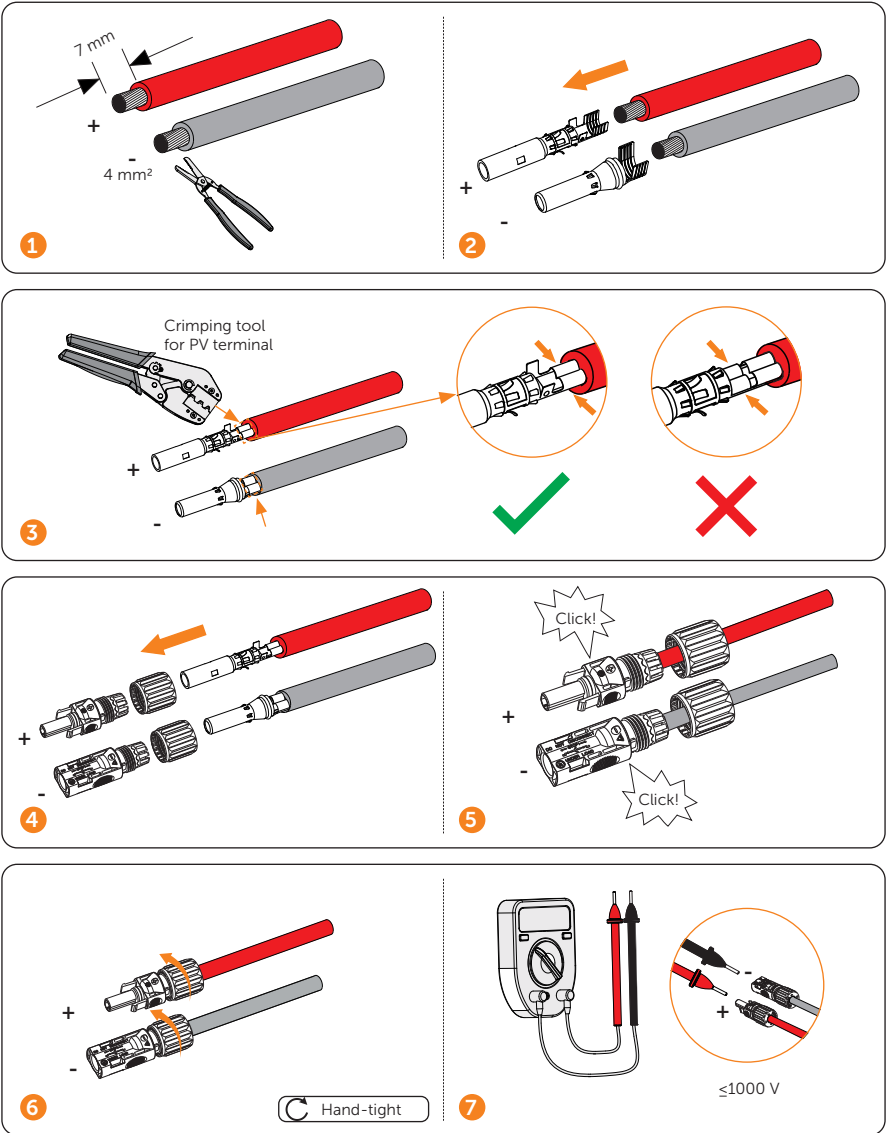


## AC Side Connection

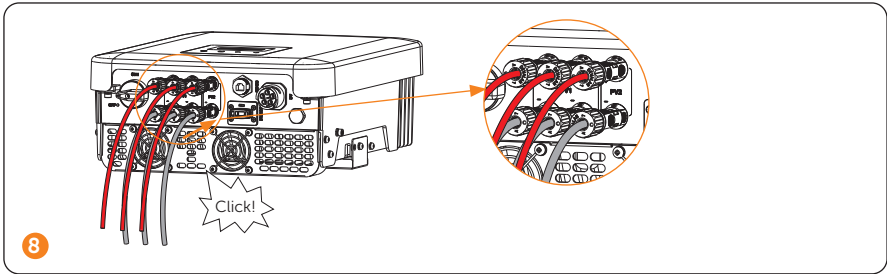




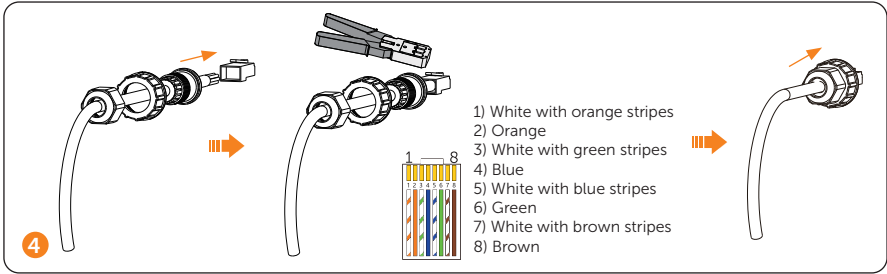
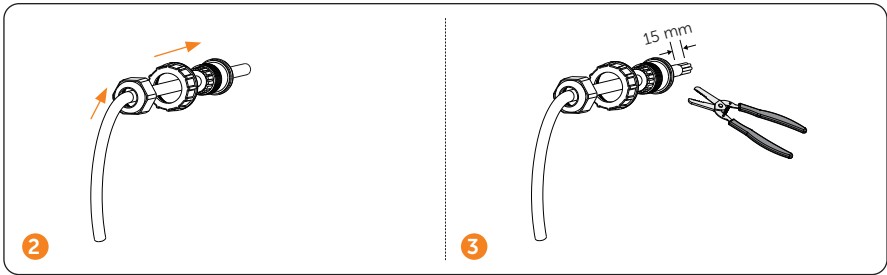
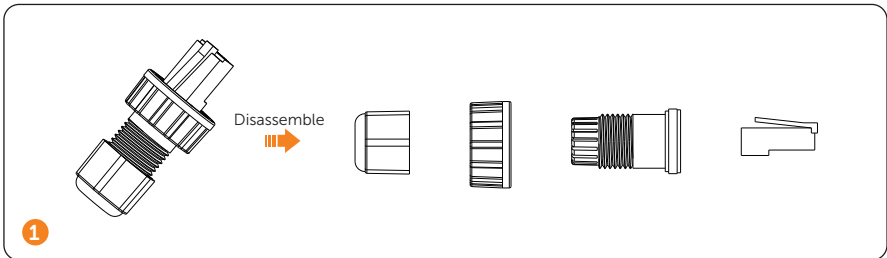
# DC Side Connection

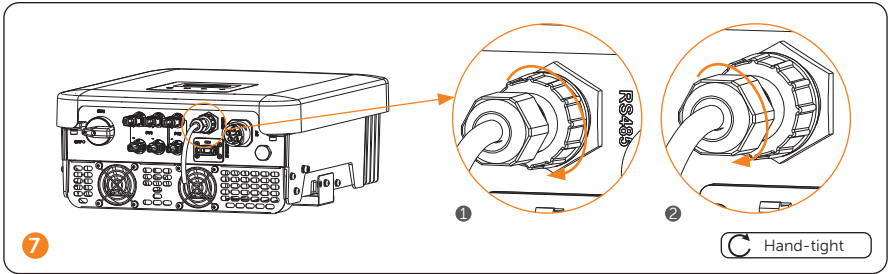
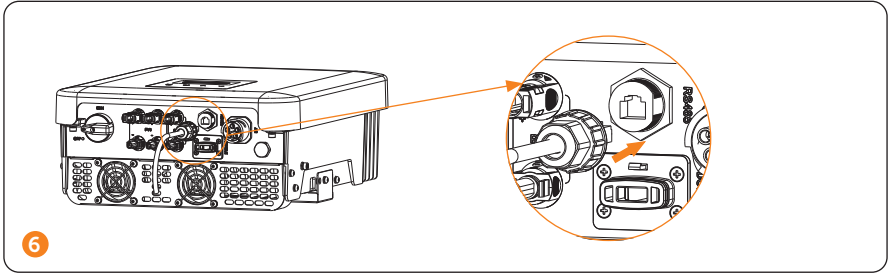
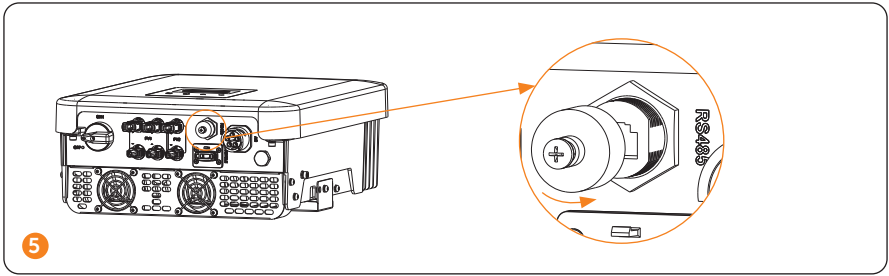






**Communication Connection**



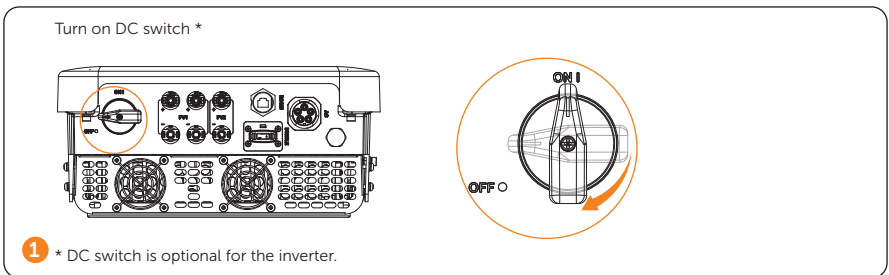


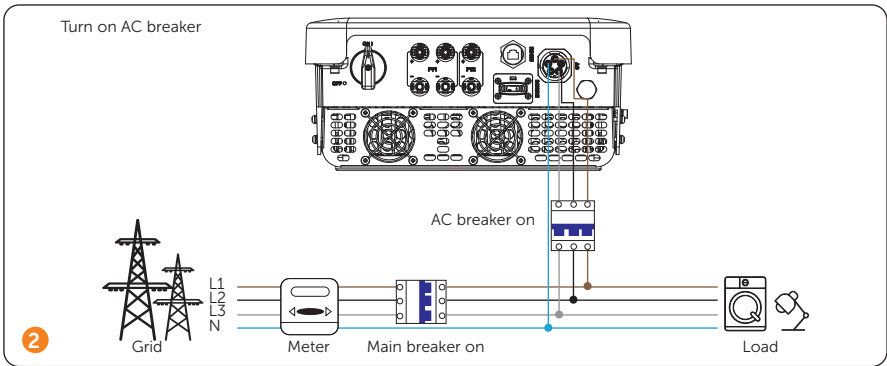
- Pin definition for RS485/Meter/DRM (For AU / NZ)/Heat Pump Controller

| Item           | DRM  |      | Heat Pump |           | RS485/Meter |         | Heat Pump |   | - | - |
|----------------|------|------|-----------|-----------|-------------|---------|-----------|---|---|---|
| Pin            | 1    | 2    | 3         | 3         | 4           | 5       | 6         | 7 | 7 | 8 |
| Pin Definition | +12V | DRM0 | Heat Pump | Heat Pump | RS485_A     | RS485_B | GND       | X | X | X |

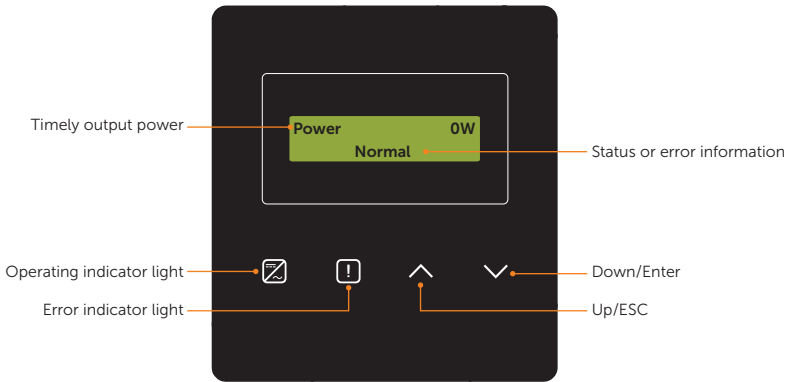
\* For DRM, only DRM 0 is available now.

### Power on the System





LCD Panel



- In normal state, the "Power" / "Pgrid" / "Today" / "Total" information will be displayed respectively. You can press the keys to switch information.
- In error state, the fault message will be displayed, please refer to corresponding solutions in the user manual.

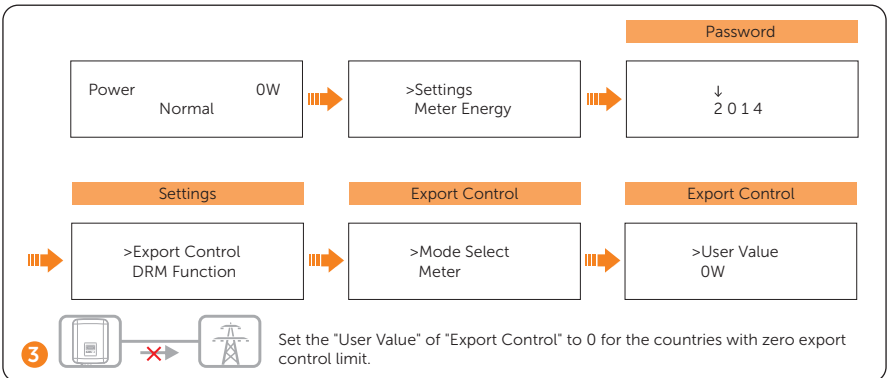
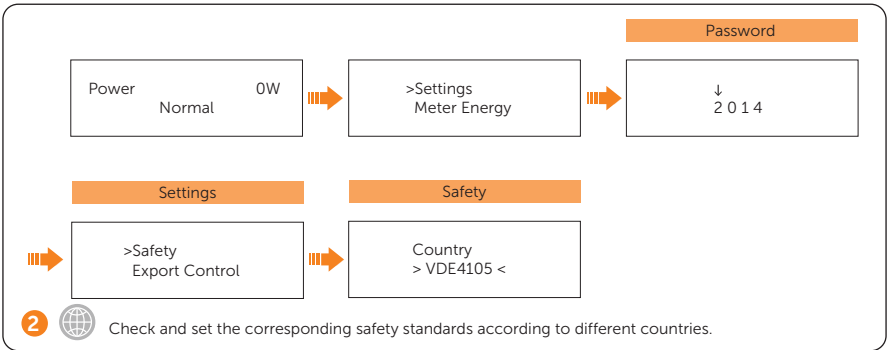
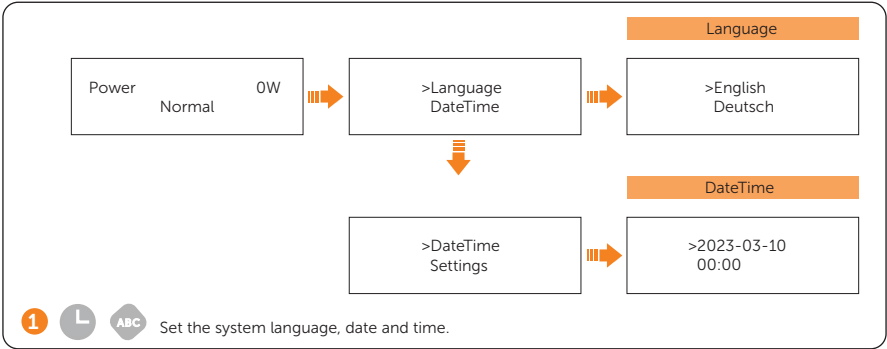
LED indicator Definition

- Light in blue: The inverter is in normal state.  
Flash in blue: The inverter is in waiting or checking state.
- Light in red: The inverter is in fault state.

Key Definition

- Short press: Up, move the cursor to the upper part or increase the value.  
Long press: ESC, exit from the current interface or function, or confirm the function setting to take effect.
- Short press: Down, move the cursor to the lower part or decrease the value.  
Long press: Enter, confirm the selection or value change.

## General Setting



\* The initial password is 2014 which should be changed for the consideration of account security. Refer to user manual for more settings.

## Technical Data

### • DC input

| Model  | X3-MIC-5K-G2 | X3-MIC-6K-G2 | X3-MIC-8K-G2 | X3-MIC-10K-G2      |
|--|--------------|--------------|--------------|--------------------|
| Max. PV array input power [W]                        | 10000        | 12000        | 16000        | 20000              |
| Max. PV voltage [d.c. V]                             | 1000         | 1000         | 1000         | 1000               |
| Rated input voltage [d.c. V]                         | 640          | 640          | 640          | 640                |
| MPPT voltage range [d.c. V]                          | 120-980      | 120-980      | 120-980      | 120-980            |
| MPPT voltage range @ full load [d.c. V]              | 250-800      | 250-800      | 250-800      | 250-800            |
| Max. PV current [d.c. A]                             | 20/20        | 20/20        | 20/20        | 20/20 <sup>1</sup> |
| Isc PV array short circuit current [d.c. A]          | 25/25        | 25/25        | 25/25        | 25/25 <sup>1</sup> |
| Startup voltage [d.c. V]                             | 150          | 150          | 150          | 150                |
| No. of MPPT  | 2            | 2            | 2            | 2                  |
| Strings per MPPT                                     | 1/1          | 1/1          | 1/1          | 1/1 <sup>1</sup>   |
| Max. MPPT power limit per MPPT [W]*                  | 5000         | 6000         | 8000         | 8000               |
| DC disconnection switch                              | Optional     |              |              |                    |
| Max. inverter backfeed current to the array [d.c. A] | 0            |              |              |                    |

\* "Max. MPPT power limit per MPPT" means the maximum PV production when using one of the MPPTs only.

<sup>1</sup> PV1 connection terminal is optional with two strings (Max. PV current: 40 d.c. A, Isc PV array short circuit current: 50 d.c. A, Strings per MPPT: 2/1).

### • AC output

| Model  | X3-MIC-5K-G2                               | X3-MIC-6K-G2 | X3-MIC-8K-G2 | X3-MIC-10K-G2      |
|--|--|--------------|--------------|--------------------|
| Rated output apparent power [VA]               | 5000 <sup>1</sup>                          | 6000         | 8000         | 10000 <sup>2</sup> |
| Max. output apparent power [VA]                | 5500 <sup>1</sup>                          | 6600         | 8800         | 11000 <sup>2</sup> |
| Nominal AC voltage [a.c. V]                    | 3~/N/PE, 220/380, 230/400; 3~/PE, 380, 400 |              |              |                    |
| Nominal AC frequency [Hz]                      | 50/60 (±5)                                 |              |              |                    |
| Rated output current [a.c. A]*                 | 7.6, 7.3                                   | 9.1, 8.7     | 12.2, 11.6   | 15.2, 14.5         |
| Max. output continuous current [a.c. A]        | 8.0  | 9.6          | 12.8         | 16.0               |
| Current (inrush) [a.c. A]                      | 30 (20 μs)                                 |              |              |                    |
| THDi, rated power                              | <3%  |              |              |                    |
| Power factor range                             | 0.8 leading-0.8 lagging                    |              |              |                    |
| Feed-in phase                                  | Three-phase                                |              |              |                    |
| Maximum output fault current [a.c. A]          | 44   |              |              |                    |
| Maximum output overcurrent protection [a.c. A] | 39   |              |              |                    |
| Short circuit current [a.c. A]                 | 30   |              |              |                    |

\* For this parameter, the first data corresponds to 220/380 V, the second data corresponds to 230/400 V.

<sup>1</sup> 4999 for AS/NZS 4777.2

<sup>2</sup> 9999 for AS/NZS 4777.2

- Efficiency, safety and protection

| Model                               | X3-MIC-5K-G2 | X3-MIC-6K-G2 | X3-MIC-8K-G2   | X3-MIC-10K-G2 |
|-------------------------------------|--------------|--------------|--|---------------|
| MPPT efficiency                     |              |              | 99.90%   |               |
| Euro efficiency                     |              |              | 97.80%   |               |
| Max. efficiency                     |              |              | 98.30%   |               |
| <b>Safety &amp; Protection</b>      |              |              |  |               |
| Over/under voltage protection       |              |              | Yes  |               |
| DC isolation protection             |              |              | Yes  |               |
| DC injection monitoring             |              |              | Yes  |               |
| Back feed current monitoring        |              |              | Yes  |               |
| Residual current detection          |              |              | Yes  |               |
| Active anti-islanding method        |              |              | Frequency Shift  |               |
| Over temperature protection         |              |              | Yes  |               |
| SPD protection                      |              |              | Yes  |               |
| Arc-fault circuit interrupter(AFCI) |              |              | Optional   |               |
| AC auxiliary power supply(APS)      |              |              | Optional   |               |
| Safety                              |              |              | IEC/EN 62109-1/-2  |               |
| Grid monitoring                     |              |              | EN50549, VDE-AR-N 4105, G98, G99, AS/NZS 4777.2,UTE C15, CEI 0-21, VFR2019 |               |

- General Data

| Model                                    | X3-MIC-5K-G2                                      | X3-MIC-6K-G2 | X3-MIC-8K-G2      | X3-MIC-10K-G2     |
|--|---|--------------|-------------------|-------------------|
| Dimensions (W x H x D) [mm]              | 342x434x144.5                                     |              | 342x434x156       |                   |
| Dimension of packing (W x H x D) [mm]    |   |              | 433x515x247       |                   |
| Net weight [kg]                          | 15.5  | 15.5         | 17.0              | 17.0 <sup>1</sup> |
| Installation                             | Wall-mounted                                      |              |                   |                   |
| Operating ambient temperature range [°C] | -30 to +60  |              |                   |                   |
| Storage temperature [°C]                 | -30 to +60  |              |                   |                   |
| Storage/Operation relative humidity      | 0%~100%   |              |                   |                   |
| Altitude [m]                             | 4000  |              |                   |                   |
| Ingress protection                       | IP66  |              |                   |                   |
| Isolation type                           | Transformerless                                   |              |                   |                   |
| Protective class                         | I   |              |                   |                   |
| Night-time consumption [W]               | <3  |              |                   |                   |
| Overvoltage category                     | III(MAINS), II(DC)                                |              |                   |                   |
| Pollution degree                         | II(Inside), III(Outside)                          |              |                   |                   |
| Cooling concept                          | Natural cooling                                   |              | Smart fan cooling |                   |
| Noise level [dB]                         | <30   |              | <45               |                   |
| Inverter topology                        | Non-isolated                                      |              |                   |                   |
| Communication interface                  | USB / RS485 / DRM / WiFi/LAN/4G dongle (Optional) |              |                   |                   |

<sup>1</sup> PV1 connection terminal is optional with two strings (Net weight: 18.0 kg).

# Quick Installation Guide for WiFi

## (Optional)

### Safety

#### Descriptions of Labels



CE mark of conformity



FCC mark of conformity



RCM mark of conformity



ANATEL certification



Telecommunication mark of conformity



Do not dispose of the device together with household waste.

#### CE DECLARATION OF CONFORMITY

- The product conforms to RF specifications and technical standards.
- The device complies with DOC declaration.
- The device meets the basic requirements and other relevant provisions of 2014/53/EU directive.
- The device is allowed to be used in all EU member states.
- Hereby, [SolaX Power Network Technology (Zhejiang) Co., Ltd.] declares that the radio equipment type [Pocket WiFi] is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [https:// www.solaxpower.com/uploads/file/pocket-wifi-cedeclaration-of-conformity-en.pdf](https://www.solaxpower.com/uploads/file/pocket-wifi-cedeclaration-of-conformity-en.pdf)

#### FCC RULES

This device complies with part 15 of the FCC Rules Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## FCC RULES

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

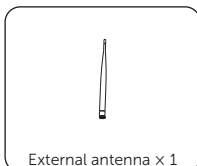
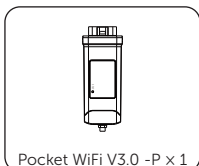
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## Packing List

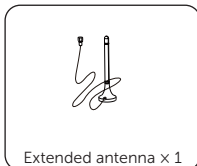
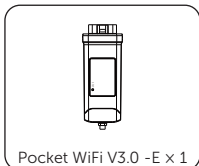
For Pocket WiFi V3.0:



For Pocket WiFi V3.0 -P:



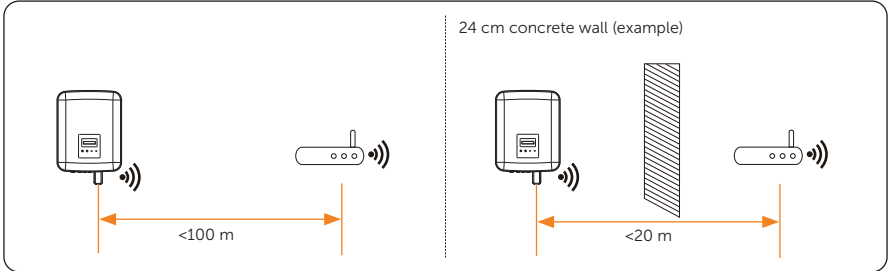
For Pocket WiFi V3.0 -E:





## Installation Requirements

For Wi-Fi mode, the longest connection distance between the router and the equipment should be no more than 100 meters; if there is a wall between the router and the equipment, the longest connection distance is 20 meters.



## NOTICE!

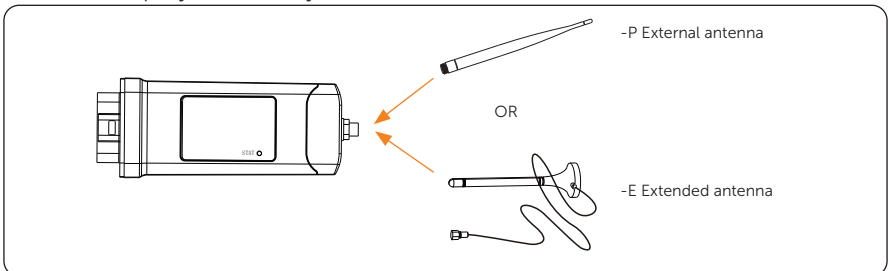
- When the Wi-Fi signal is weak, please install a Wi-Fi signal booster at the appropriate location.

## Installation Steps

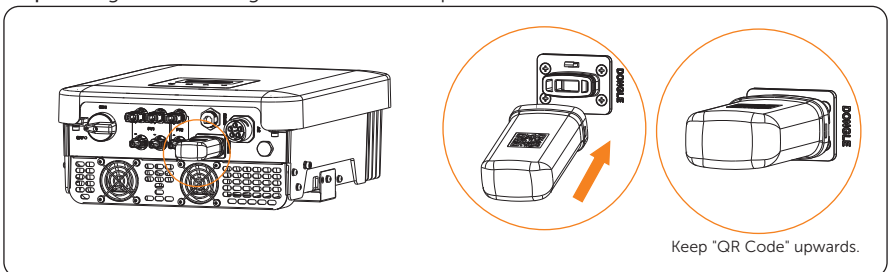
### ! WARNING!

- Ensure that all power has been turned off at least 5 minutes prior to installation.

**Step 1:** For the -P/-E version of Pocket WiFi, screw the antenna to the end of the shell. (Skip this step if you didn't buy the -P/-E version).



**Step 2:** Plug the WiFi dongle into the correct port of the inverter.



## Wi-Fi Configuration

Scan the following QR code or search for the keyword "SolaxCloud" in the APP Store to download the monitoring APP.

Scan the following QR code to read **WiFi Configuration Guide** online.



DOWNLOAD APP



CONFIGURATION GUIDE

### NOTICE!

- If you need to download the **CONFIGURATION GUIDE**, please scroll down to the bottom of the interface and click [Download].

## Indicator Description

### NOTICE!

- Only -P/-E version is equipped with indicator.

| Indicator status                         | Description                                   |
|--|---|
| Blinks quickly (on and off every second) | Inverter connected;<br>Server disconnected    |
| On for 3 s and off for 200 ms            | Inverter disconnected;<br>Server connected    |
| On and off every 3 s                     | Inverter disconnected;<br>Server disconnected |
| Constant on                              | Normal connection                             |

## Technical Data

|                               |                                   |
|-------------------------------|-----------------------------------|
| Product Name                  | Pocket WiFi                       |
| Model                         | Pocket WiFi V3.0 (-P/-E)          |
| Power Supply                  | 5 V DC                            |
| Rated Power                   | 1.3 W                             |
| EIRP Power                    | 17.41 dBm (Measured Max. Average) |
| Frequency                     | 2.4 GHz                           |
| Antenna Gain                  | 3 dBi                             |
| Antenna Type                  | IPEX                              |
| Degree of Protection          | IP65                              |
| Operating Temperature         | -40 to 85 °C                      |
| Wireless Mode                 | 802.11 b/g/n                      |
| Dimension                     | 95.5x45.7x28.5 mm                 |
| Dimension (-P/-E)             | 112x45.7x28.5 mm                  |
| Weight                        | 50 g (-P/-E <107g)                |
| WiFi configuration IP address | 192.168.10.10                     |

# Warranty Registration Form



## For Customer (Compulsory)

Name \_\_\_\_\_ Country \_\_\_\_\_  
Phone Number \_\_\_\_\_ Email \_\_\_\_\_  
Address \_\_\_\_\_  
State \_\_\_\_\_ Zip Code \_\_\_\_\_  
Product Serial Number \_\_\_\_\_  
Date of Commissioning \_\_\_\_\_  
Installation Company Name \_\_\_\_\_  
Installer Name \_\_\_\_\_ Electrician License No. \_\_\_\_\_

## For Installer

### Module ( If Any )

Module Brand \_\_\_\_\_  
Module Size(W) \_\_\_\_\_  
Number of String \_\_\_\_\_ Number of Panel Per String \_\_\_\_\_

### Battery ( If Any )

Battery Type \_\_\_\_\_  
Brand \_\_\_\_\_  
Number of Battery Attached \_\_\_\_\_  
Date of Delivery \_\_\_\_\_ Signature \_\_\_\_\_

Please visit our warranty website: <https://www.solaxcloud.com/#/warranty> or use your mobile phone to scan the QR code to complete the online warranty registration.



For more detailed warranty terms, please visit SolaX official website: [www.solaxpower.com](http://www.solaxpower.com) to check it.





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