X1-BOOST G4

2.5 kW / 3 kW / 3.3 kW / 3.6 kW / 4 kW / 4.2 kW / 5 kW / 6 kW

Installation Manual

Version 0.0

www.solaxpower.com

X1-BOOST G4
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 of SolaX for more information.

Descriptions of Labels

	CE mark of conformity		TUV certification
	RCM mark of conformity		BIS mark of conformity
	Caution, hot surface		Caution, risk of electric shock
	Caution, risk of danger		Read the enclosed documentations
	Do not dispose of the inverter together with household waste.		Additional grounding point
	Do not operate this inverter until it is isolated from mains and on-site PV generation suppliers.		
	Danger of high voltage. 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 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 ≤ Maximum DC input voltage of the inverter. Overvoltage may cause permanent damage to the inverter, which is NOT covered by the warranty.

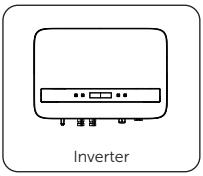
CAUTION!

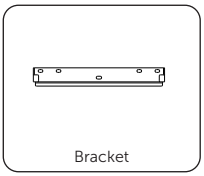
- Keep children away from the inverter.
- Pay attention to the weight of the inverter. Personal injuries may be caused if not handled properly.

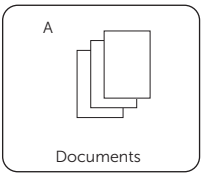
NOTICE!

- 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.

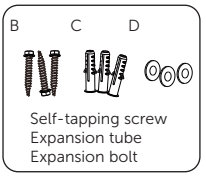
Packing List


Inverter

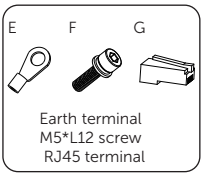

Bracket



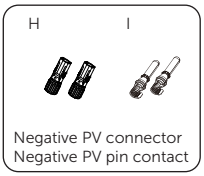
Documents



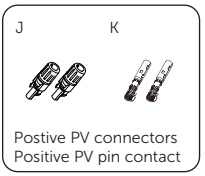
Self-tapping screw
Expansion tube
Expansion bolt



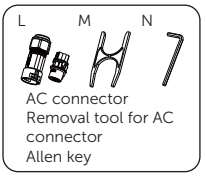
Earth terminal
M5*L12 screw
RJ45 terminal



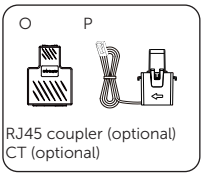
Negative PV connector
Negative PV pin contact



Postive PV connectors
Positive PV pin contact



AC connector
Removal tool for AC connector
Allen key



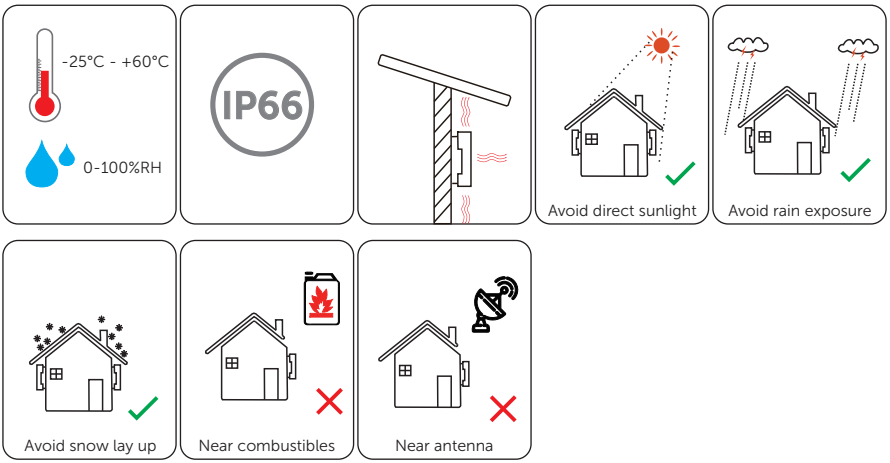
RJ45 coupler (optional)
CT (optional)


Dongle (optional)

*Refer to the actual delivery for the optional accessories.

Item No.	Items	Quantity
/	Inverter	1 pc
/	Bracket	1 pc
/	AC connector	1 pc
A	Documents	/
B	Self-tapping screw	3 pc
C	Expansion tube	3 pc
D	Expansion bolt	3 pc
E	Earth terminal	1 pc
F	M5*L12 screw	1 pc
G	RJ45 terminal	1 pc
H	Negative PV connector	2 pc
I	Negative PV pin contact	2 pc
J	Positive PV connector	2 pc
K	Positive PV pin contact	2 pc
L	AC connector	1 pc
M	Removal tool for AC connector	1 pc
N	Allen key	1 pc
O	RJ45 coupler (optional)	1 pc
P	CT (optional)	1 pc
/	Dongle (optional)	1 pc

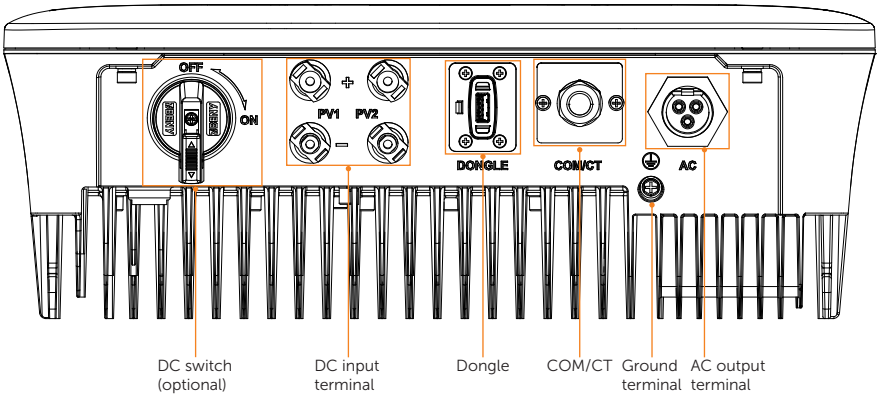
Installation Site



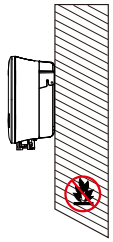
NOTICE!

- 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 temperaturerise poses no safety risks, but may impact the device performance.

Terminal Description

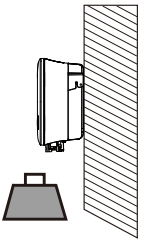


Installation Carrier

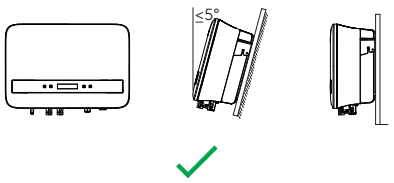


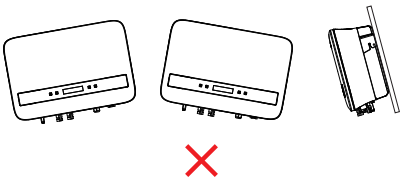
Fire resistant

Be suitable for the dimension (404 x 274 x 146 mm) and weight (refer to technical data) of the inverter

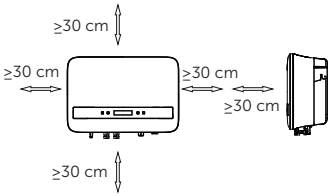


Installation Angle

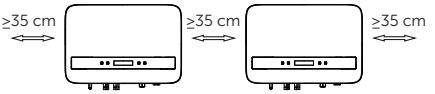




Installation Space



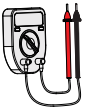
Single inverter



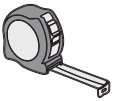
Multiple inverters

Installation Tools

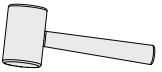
Hammer drill



Multimeter

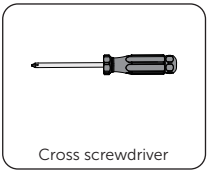


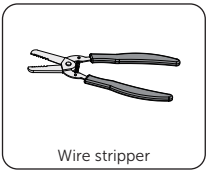
Measuring tape

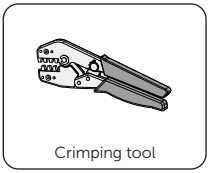


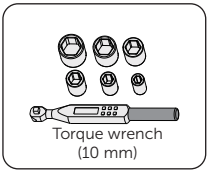
Rubber mallet

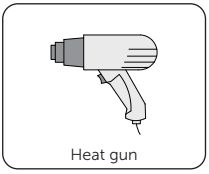

Marker

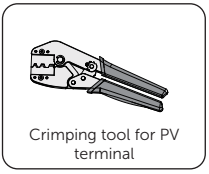

Cross screwdriver

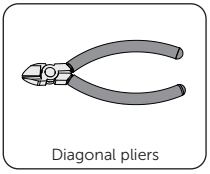

Wire stripper

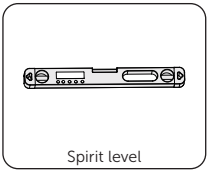

Crimping tool

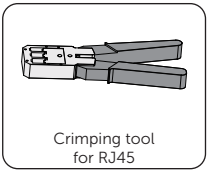

Torque wrench (10 mm)

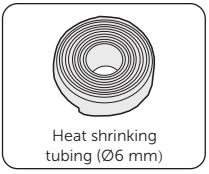

Heat gun

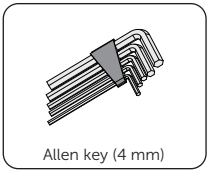

Crimping tool for PV terminal


Diagonal pliers

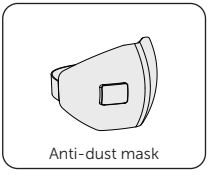

Spirit level


Crimping tool for RJ45


Heat shrinking tubing (Ø6 mm)


Allen key (4 mm)


Safety goggles


Anti-dust mask

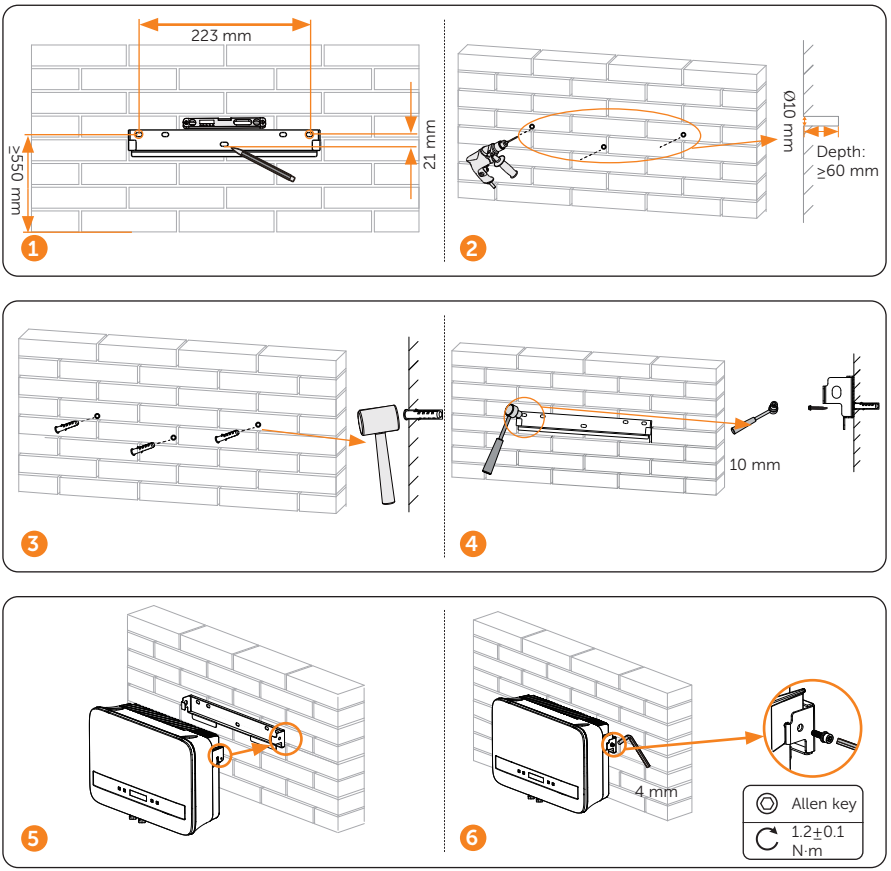

Safety gloves


Safety boots

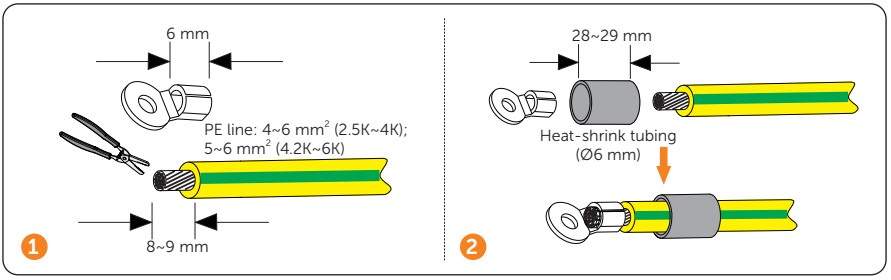
Additionally Required Materials

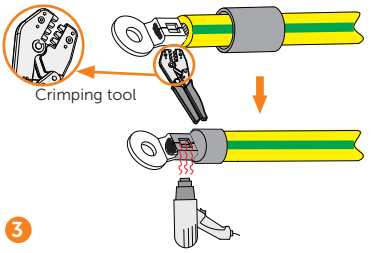
No.	Required Material	Type	Size
1	AC circuit breaker	/	/
2	PV cable	Dedicated PV wire withstand voltage 600 V	4~6 mm^2 (cross sectional area)
3	AC cable	Three-core copper wire	Cross sectional area: 4~6 mm^2 (2.5 K-4 K); 5~6 mm^2 (4.2 K-6 K); * The cross-sectional area of PE line should be the same as that of L/N line.
4	Communication cable	Network cable CAT5	Ø2-6 mm (external diameter)
5	PE cable	Conventional yellow and green wire	Cross sectional area: 4~6 mm^2 (2.5 K-4 K); 5~6 mm^2 (4.2 K-6 K);

Mechanical Installation

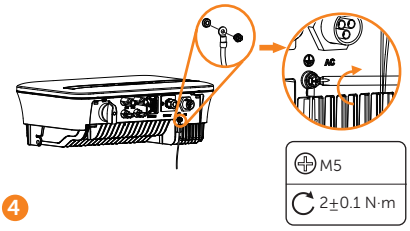


PE Connection



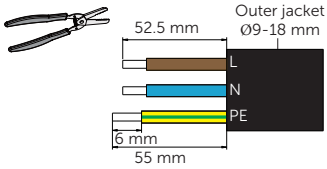


3



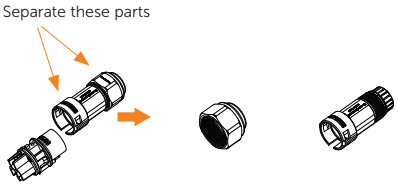
4

AC Side Connection

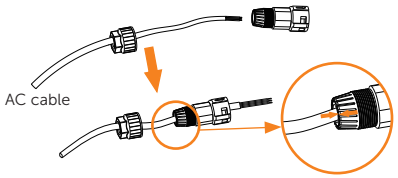


L/N/PE line: 4~6 mm² (2.5K~4K); 5~6 mm² (4.2K~6K)
* The cross-sectional area of PE line should be the same as that of L/N line.

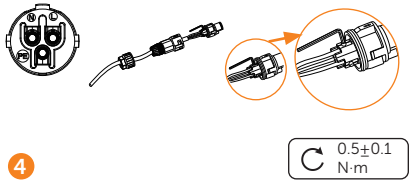
1



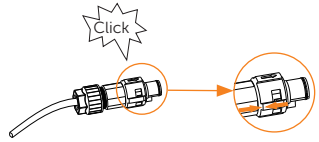
2



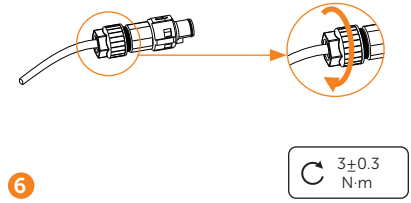
3



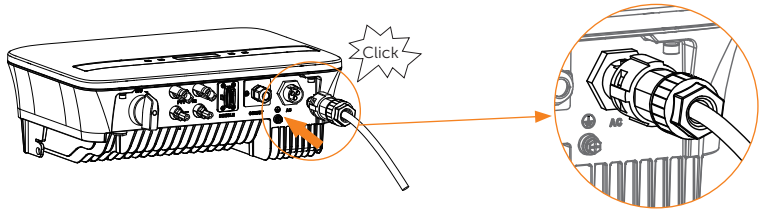
4



5

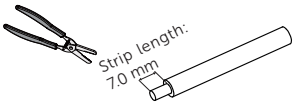


6



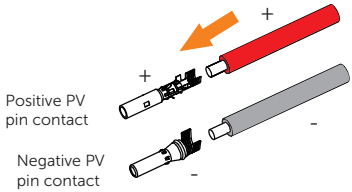
7

DC Side Connection

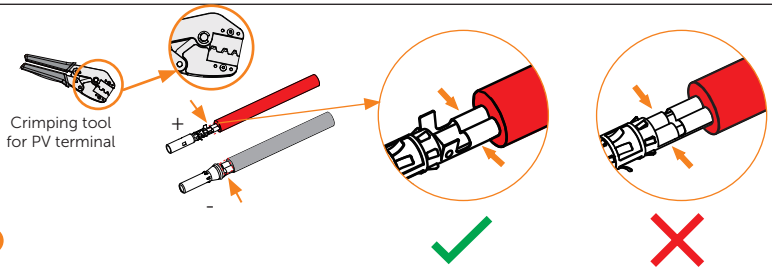


PV line: 4~6 mm^2 (2.5K~4K);
5~6 mm^2 (4.2K~6K)

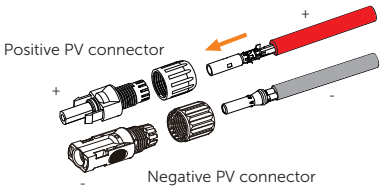
1



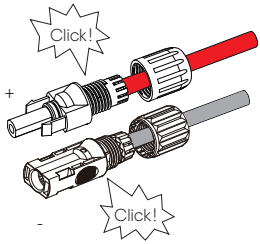
2



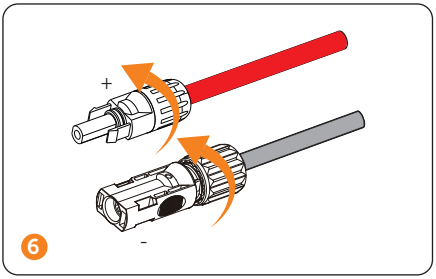
3

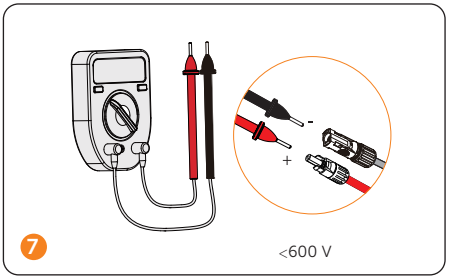


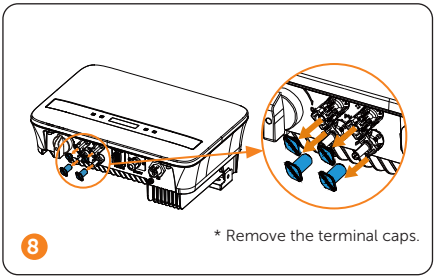
4

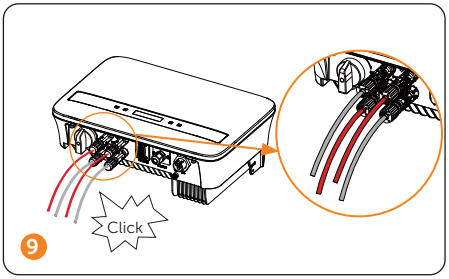


5

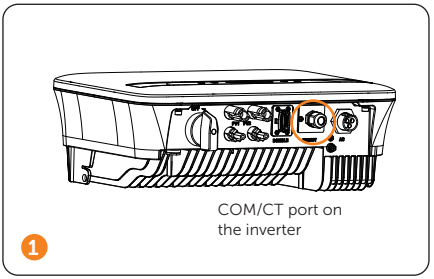


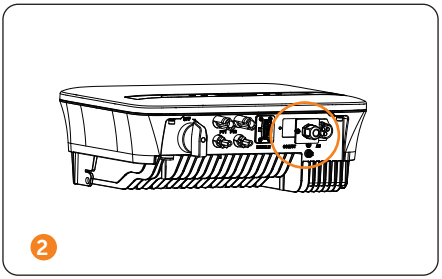


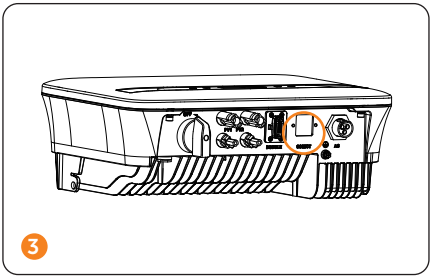


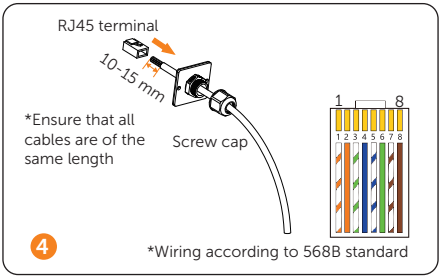


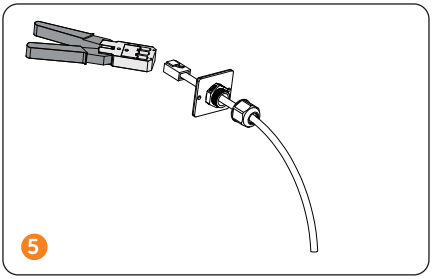
Communication Connection

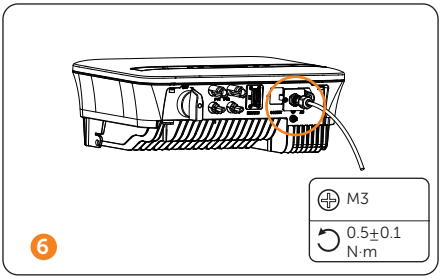


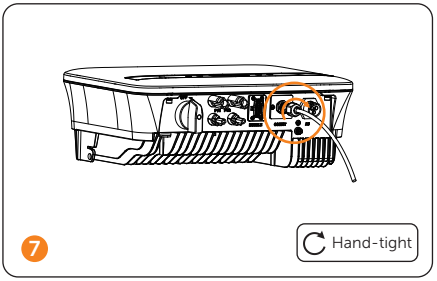


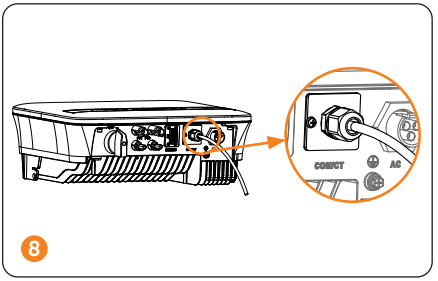










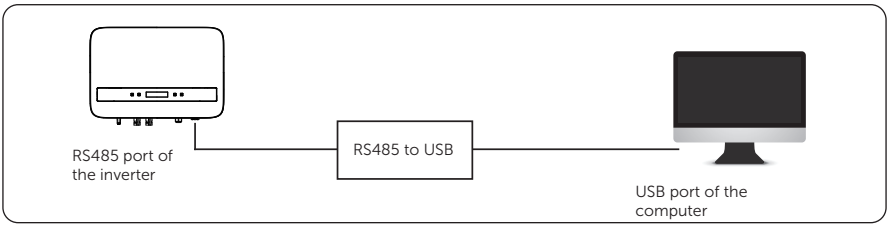


- Pin definition

Function	CT	DRM	Heat Pump	RS485/ Meter	RS485/ Meter	Heat Pump	DRM	CT
Pin	1	2	3	4	5	6	7	8
Pin Definition	CT+	DRM0	Heat Pump-	485_A	485_B	Heat Pump+	+3.3V	CT-

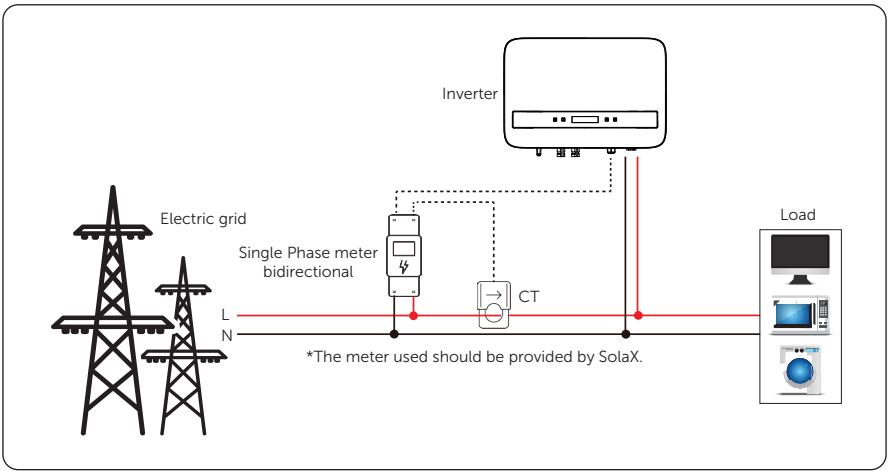
*Note: DRM0 here is for AS4777.2 AU/NZ.

- For RS485:

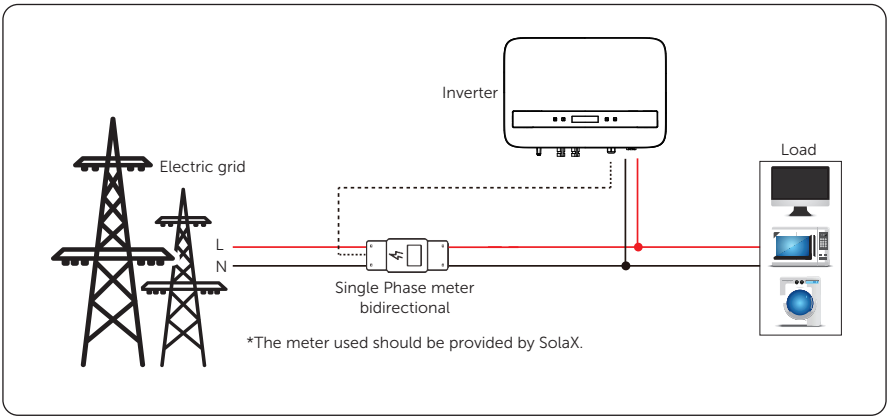


- For meter:

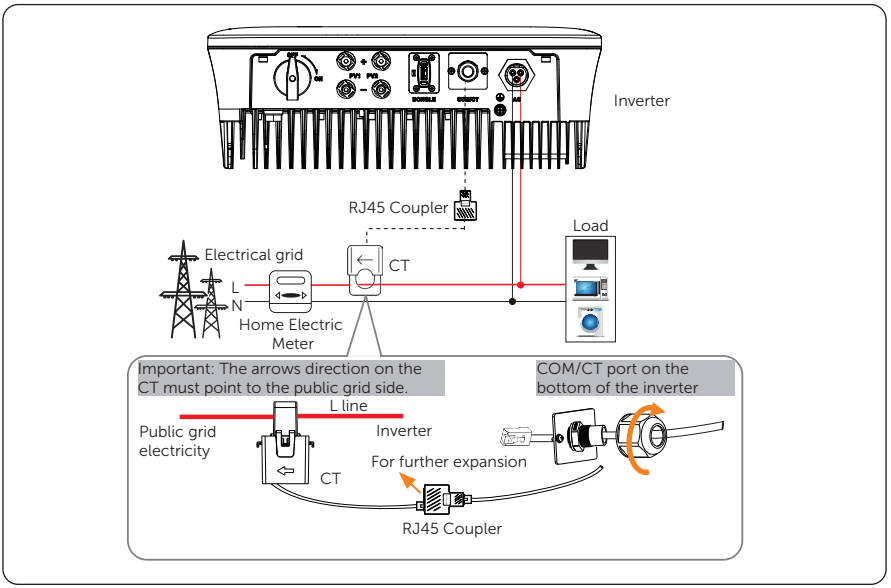
i. For meter with CT



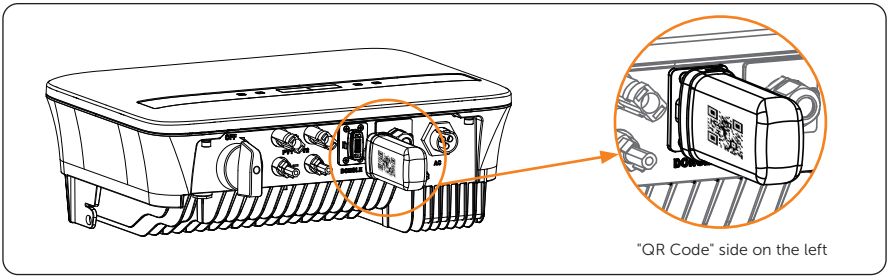
ii. For meter without CT



- For direct CT connection:

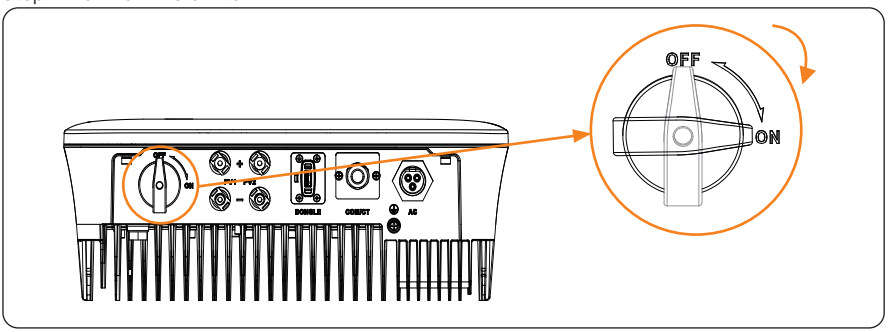


Monitoring Connection

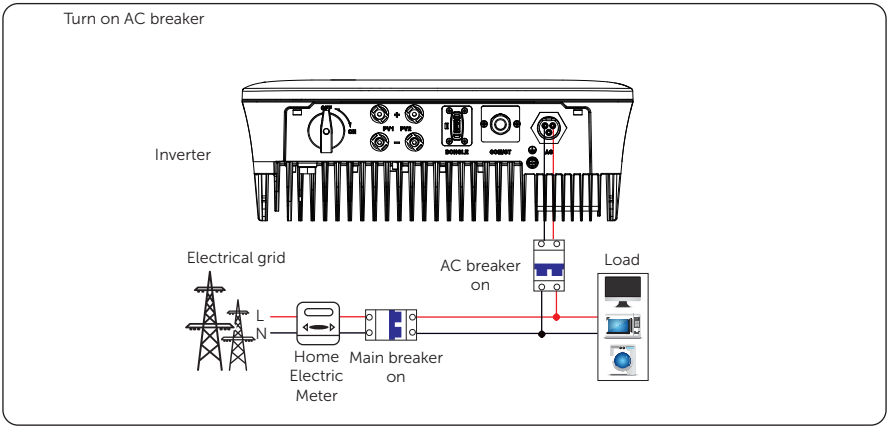


Power on the System

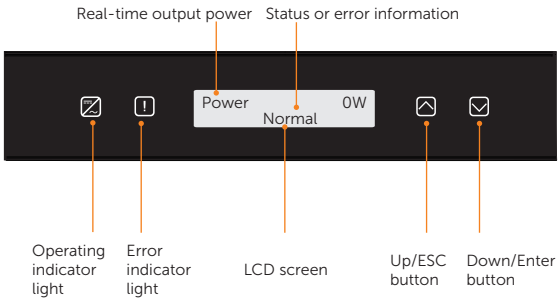
Step 1: Turn on DC switch.



Step 2: Turn on AC breaker.



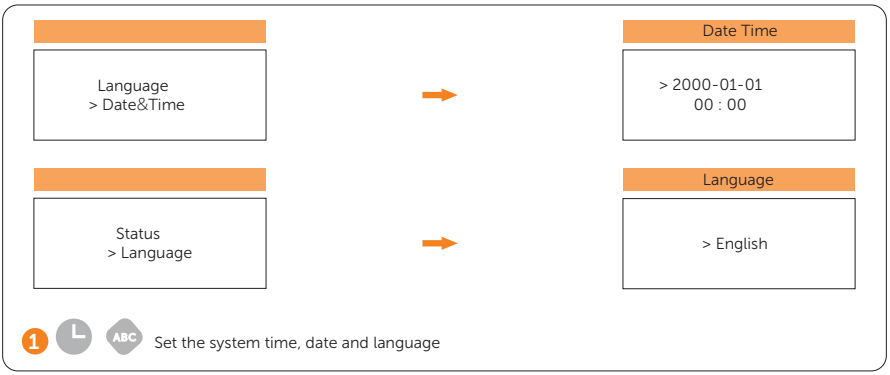
LCD Panel

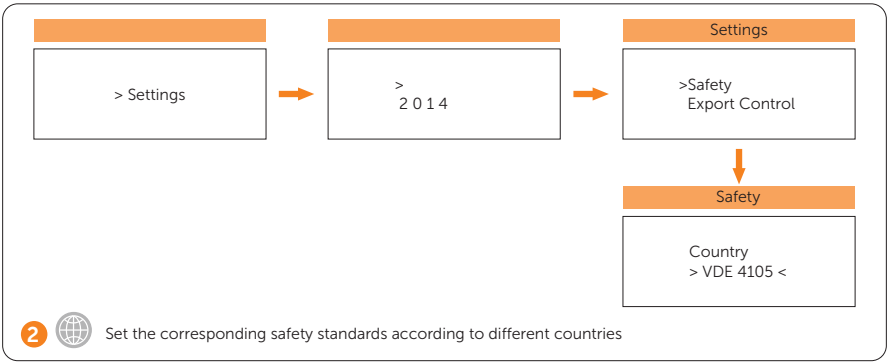


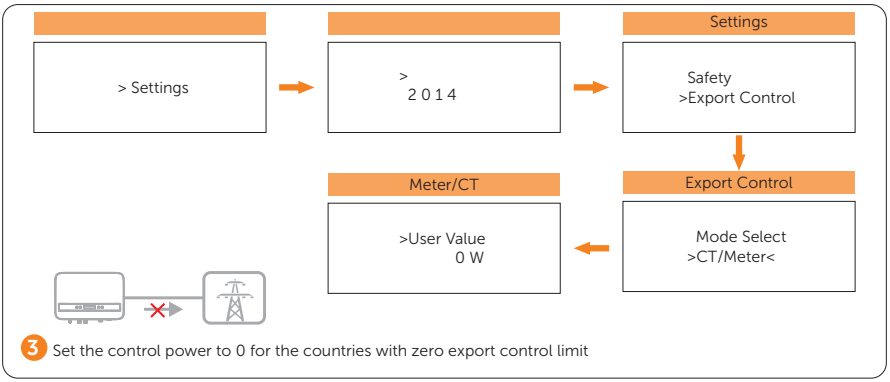
- In normal status, the "Power"/"Pgrid"/"Today"/"Total" information will be displayed respectively. You can press the keys to switch information.
- In error status, the fault message and error code will be displayed, please refer to corresponding solutions in the user manual.

Item	Description
LCD screen	Display the information of the inverter.
Operating indicator light	Light in blue: The inverter is in normal status. Flash in blue: The inverter is in waiting status.
Error indicator light	Light in red: The inverter is in fault status.
Up/ESC button	Up/ESC button: Short press to move cursor up or increase value; Long press to return from current interface or function.
Down/Enter button	Down/Enter button: Short press to move the cursor down or decrease value. Long press to confirm or change the parameters.

General Setting







*The initial password is 2014 which should be changed for the consideration of account security.

Technical Data

- DC input

Model	X1-BOOST-2.5K-G4	X1-BOOST-3K-G4	X1-BOOST-3.3K-G4	X1-BOOST-3.6K-G4
Max. PV array input power [Wp]	6000	6000	6600	7200
Max. PV voltage [d.c.V]	600	600	600	600
Startup voltage [d.c.V]	50	50	50	50
Nominal input voltage [d.c.V]	360	360	360	360
MPPT voltage range [d.c.V]	40-560	40-560	40-560	40-560
No. of MPP trackers/Strings per MPP tracker	2/1			
Max. PV current [d.c.A]	16/16			
I_{sc} PV array Short Circuit SC Current [d.c.A]	22/22			
Max. inverter backfeed current to the array [d.c.A]	0			

Model	X1-BOOST-4K-G4	X1-BOOST-4.2K-G4	X1-BOOST-5K-G4	X1-BOOST-6K-G4
Max. PV array input power [kWp]	8000	8000	10000	12000
Max. PV voltage [d.c.V]	600	600	600	600
Startup voltage [d.c.V]	50	50	50	50
Nominal input voltage [d.c.V]	360	360	360	360
MPPT voltage range [d.c.V]	40-560	40-560	40-560	40-560
No. of MPP trackers/Strings per MPP tracker	2/1			
Max. PV current [d.c.A]	16/16			
I_{sc} PV array Short Circuit SC Current [d.c.A]	22/22			
Max. inverter backfeed current to the array [d.c.A]	0			

- AC output

Model	X1-BOOST-2.5K-G4	X1-BOOST-3K-G4	X1-BOOST-3.3K-G4	X1-BOOST-3.6K-G4
Rated output apparent power [VA]	2500	3000	3300	3680
Nominal AC output current [a.c.A]	10.9	13.1	14.4	16
Max. output apparent power [VA]	2750	3300	3630	4048[1]
Max. output continuous current [a.c.A]	12	14.4	15.8	17.6[2]
Nominal AC voltage [a.c.V]/ Grid range	220/230/240; 90-290			
Nominal grid frequency [Hz]	50/60; ±5			
Displacement power factor	0.8leading-0.8lagging			
ITHDi (rated power) [%]	<3			
Nominal AC Voltage [a.c.V]	220/230/240			
Current (inrush) [a.c.A]	13.5			
Maximum output fault current [a.c.A]	59 (3 ms)			
Maximum output overcurrent protection [a.c.A]	50			

Model	X1-BOOST-4K-G4	X1-BOOST-4.2K-G4	X1-BOOST-5K-G4	X1-BOOST-6K-G4
Rated output apparent power [VA]	4000	4200	5000[5]	6000
Nominal AC output current [a.c.A]	17.4[3]	18.3	21.7[6]	26.1[9]
Max. output apparent power [VA]	4000	4620	5000[7]	6000
Max. output continuous current [a.c.A]	17.4[4]	20.1	21.7[8]	27.3
Nominal AC voltage [a.c.V]/ Grid range	220/230/240; 90-290			
Nominal grid frequency [Hz]	50/60; ±5			
Displacement power factor	0.8leading-0.8lagging			

Model	X1-BOOST-4K-G4	X1-BOOST-4.2K-G4	X1-BOOST-5K-G4	X1-BOOST-6K-G4
ITHDi (rated power) [%]	<3			
Nominal AC Voltage [a.c.V]	220/230/240			
Current (inrush) [a.c.A]	50			
Maximum output fault current [a.c.A]	58 (15 ms)			
Maximum output overcurrent protection [a.c.A]	35			

Note:

1. 4048 (3680 for G98, TOR and PPDS)
2. 17.6 (16 for G98, TOR and PPDS)
3. 17.4 (16 for G98)
4. 17.4 (16 for G98)
5. 5000 (4600 for VDE4105; 4999 for AS4777.2)
6. 21.7 (20 for VDE4105)
7. 5000 (4600 for VDE4105; 4999 for AS4777.2)
8. 21.7 (20 for VDE4105)
9. 26.1 (25 for EN50549_Ireland)

- System Data, Protection and Standard

Model	X1-BOOST-2.5K-G4	X1-BOOST-3K-G4	X1-BOOST-3.3K-G4	X1-BOOST-3.6K-G4
Max. efficiency [%]	98	98	98	98
Euro. efficiency [%]	97	97	97	97
Standby consumption [W] @Night	3			
Ingress protection	IP66			
Protective class	I			
Overvoltage category	II (DC), III (AC)			
Operating ambient temperature range [°C]	-25-60			
Max. operation altitude [m]	4000			
Humidity [%]	0-100			
Typical noise emission [dB]	25[1]			
Storage temperature [°C]	-30-70			
Dimensions(W×H×D) [mm]	404x274x146			
Weight [kg]	11	11	11	11
Cooling concept	Nature cooling			
Communication interfaces	RS485/DRM/USB/Heat Pump, Optional: CT/Meter			
Optional monitoring dongle	Pocket WiFi/LAN/4G			
Over/under voltage protection	YES			
DC isolation protection	YES			
Monitoring ground fault protection	YES			
Grid monitoring	YES			
DC injection monitoring	YES			
Back feed current monitoring	YES			
Residual current detection	YES			
Anti-islanding protection	YES			
Over temperature protection	YES			
SPD (PV/AC)	II/II			
AFCI	Optional			
Safety	EN/IEC62109-1/2			
EMC	EN61000-6-1/2/3/4;EN61000-3-2/3/11/12			
Grid monotoring	IEC61727, EN50549, G98/G99, AS 4777.2, VDE4105, CEI 0-21, VFR, PPDS, TOR			
Inverter typology	Non-isolated			
Active anti-islanding method	Frequency shift			
Micro-breaker	20A			

Note:

1. For models with internal fan (optional), typical noise emission is 30 dB.

Model	X1-BOOST-4K-G4	X1-BOOST-4.2K-G4	X1-BOOST-5K-G4	X1-BOOST-6K-G4
Max. efficiency [%]	98	98	98	98
Euro. efficiency [%]	97	97	97	97
Standby consumption [W] @Night	3			
Ingress protection	IP66			
Protective class	I			
Overvoltage category	II (DC), III (AC)			
Operating ambient temperature range [°C]	-25-60			
Max. operation altitude [m]	4000			
Humidity [%]	0-100			
Typical noise emission [dB]	25[1]			
Storage temperature [°C]	-30-70			
Dimensions(W×H×D) [mm]	404x274x146			
Weight [kg]	11	11	11.5	11.5
Cooling concept	Nature cooling			
Communication interfaces	RS485/DRM/USB/Heat Pump, Optional: CT/Meter			
Optional monitoring dongle	Pocket WiFi/LAN/4G			
Over/under voltage protection	YES			
DC isolation protection	YES			
Monitoring ground fault protection	YES			
Grid monitoring	YES			
DC injection monitoring	YES			
Back feed current monitoring	YES			
Residual current detection	YES			
Anti-islanding protection	YES			
Over temperature protection	YES			
SPD (PV/AC)	II/II			
AFCI	Optional (AFCI type: F-I-AFPE-1-2-1)			
Safety	EN/IEC62109-1/2			
EMC	EN61000-6-1/2/3/4;EN61000-3-2/3/11/12;EN55011			
Grid monotoring	IEC61727, EN50549, G98/G99, AS 4777.2, VDE4105, CEI 0-21, VFR, PPDS, TOR			
Inverter typology	Non-isolated			
Active anti-islanding method	Frequency shift			
Micro-breaker	20 A	25 A	32 A	32 A

Note:

1. For models with internal fan (optional), typical noise emission is 30 dB.
2. F-I-AFPE-1-2-1:
   - Full coverage
   - Intergrated
   - AFPE
   - 1 monitored string per input port,
   - 2 input port per monitored channel,
   - 1 monitored channel.

Wi-Fi Quick Guide (Optional)

Descriptions of Labels

CE mark of conformity	FCC mark of conformity
RCM mark of conformity	ANATEL certification
Telefication mark of conformity	
Do not dispose of the device together with household waste.	

CE DECLARATION OF COMFORMITY

- 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.
- Manufacturer: SolaX Power Network Technology (Zhejiang) Co., Ltd.
  Product type: Pocket WiFi
  [CE DECLARATION OF COMFORMITY]: https://www.solaxpower.com/uploads/file/pocket-wifi-ce-declaration-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 forcompliance could void the user's authority to operate the equipment.

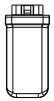
FCC RULES

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:



Pocket WiFi V3.0 × 1

For Pocket WiFi V3.0 -P:

Pocket WiFi V3.0 -P × 1

External antenna × 1

For Pocket WiFi V3.0 -E:

Pocket WiFi V3.0 -E × 1

Extended antenna × 1

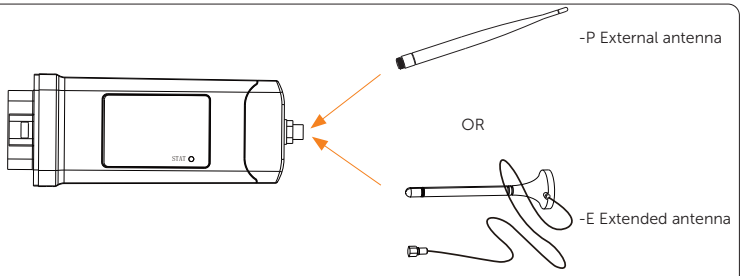
Installation

Installation steps

⚠WARNING!

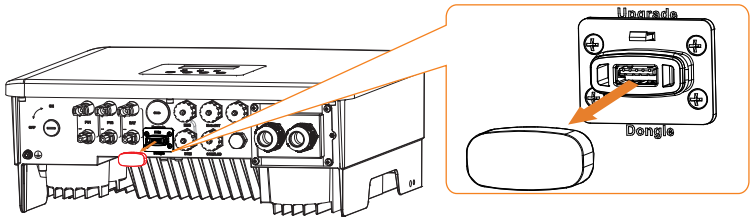
- Ensure that all power has been turned off at least 5 minutes prior to installation.

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).

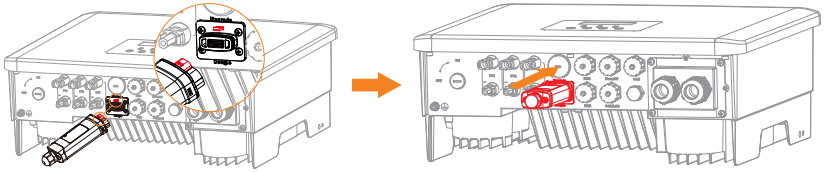


1

Step 2: Remove the cover of DONGLE port at the bottom of the inverter and plug the Pocket WiFi into the correct port of inverter.



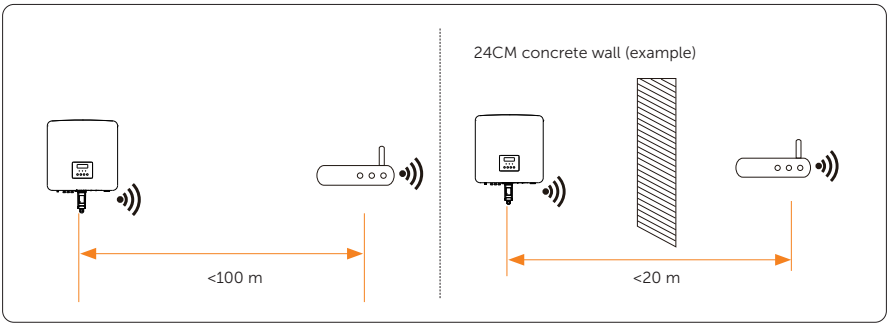
2 Remove the dust cover



3 Buckles on the same side.

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.

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 the **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].

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 to check it.

SolaX Power Network Technology (Zhejiang) Co., Ltd.

ADD.: No. 278, Shizhu Road, Chengnan Sub-district, Tonglu County,
Hangzhou, Zhejiang, China
E-mail: info@solaxpower.com

320102132500