



A Guide to Quick Installation

Single-phase Grid-tied PV String Inverter:

1K/2K/2.5K/3K/3.6K
3K/3.6K/4K/4.6K/5K/6K

Quality Guarantee

Where otherwise agreed to in a contract, quality warranty period of the inverter is 60 months. The PV inverter defective or damaged within its quality warranty period shall be repaired or replaced for free. However, warranty or liability will be void if damage is caused from below operations/situations:

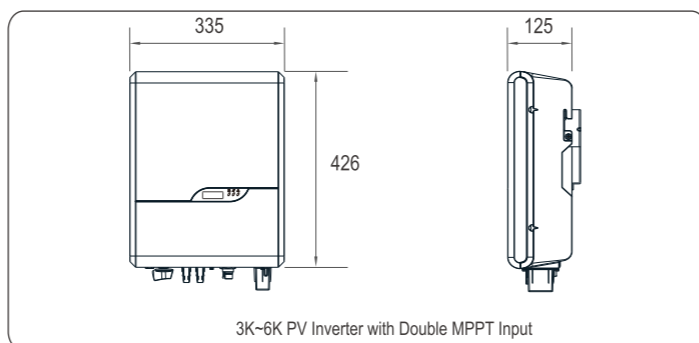
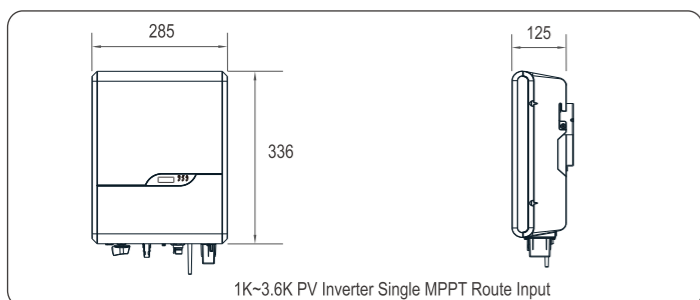
1. The warranty period expired;
2. The damage caused during transit;
3. The damage caused by force majeure including, but not restricted to the following: earthquake, flood, fire, explosion, debris flow etc;
4. Operation in adverse environments beyond that described in User Manual;
5. Any installation and operation environment beyond the relevant national standards;
6. Any installing, reconfiguring, or using faulty;
7. Any revising the product or modifying its software code without authorization;
8. Maintenance faulty caused by the technician personnel unauthorized;
9. Any operation ignoring the safety precautions stipulated in User Manual;

Symbol Conventions

Read through the safety symbols used in this manual, which highlight potential safety risks and important safety information, before using the inverter.

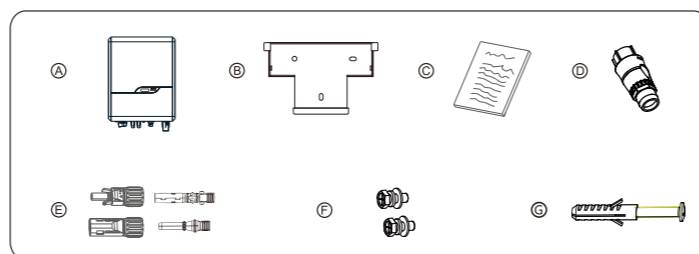
Symbol	Description
	DANGER Indicates an imminently hazardous situation which, if not correctly followed, will result in serious injury or death.
	WARNING Indicates a potentially hazardous situation which, if not correctly followed, could result in serious injury or death.
	CAUTION Indicates a potentially hazardous situation which, if not correctly followed, could result in moderate or minor injury.
	NOTICE Indicates a potentially hazardous situation which, if not correctly followed, could result in equipment failure to run, or property damage.
	NOTE Calls attention to important information, best practices and tips: supplement additional safety instructions for your better use of the PV inverter to reduce the waste of your resource.

Outline and Dimensions



Installation

The deliverables in the fittings of inverter



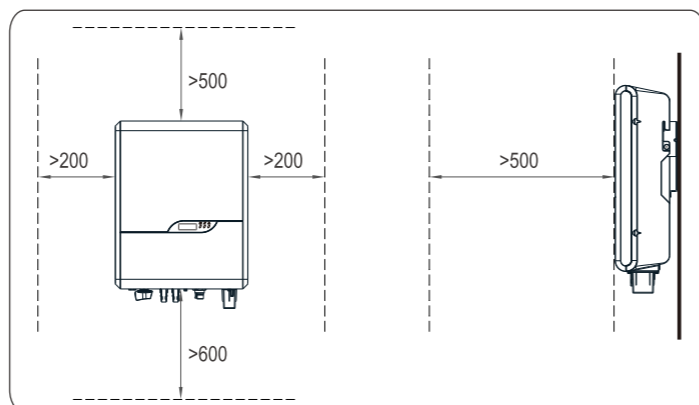
Items	Deliverables
A	The inverter
B	Rear panel
C	File package
D	AC output Connectors
E	DC terminal connector group
F	Screw
G	Expansion screw (reserved for tightening the support and rear panel)

Determining the Installation Position

The inverter must be installed on the place where is free from direct exposure to sunlight, rain, and snow to extend its service life.

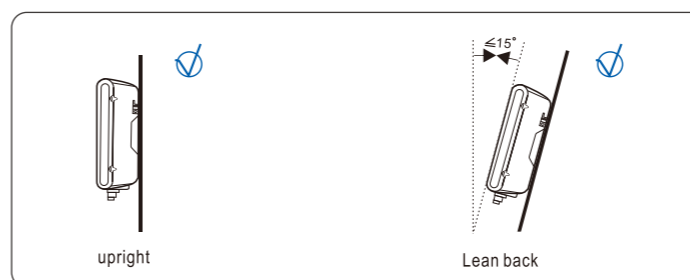
Installation Space Requirements

Reserve enough clearance around the inverter to ensure sufficient space for installation and heat dissipation, as shown in below Figure. When installing multiple inverters, ensure 200mm distance between inverters' lateral sides, 500mm-600mm between inverters' top and/or bottom sides, and 500mm clearance between inverters' front sides.

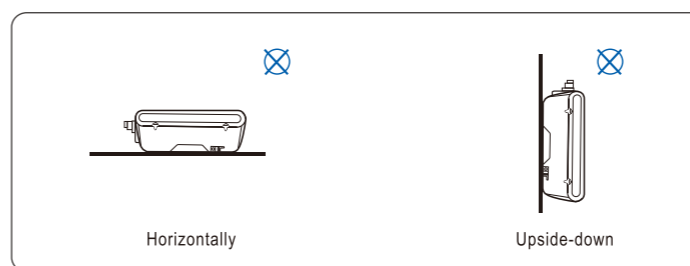


Installation Mode Requirements

The correct installation mode.



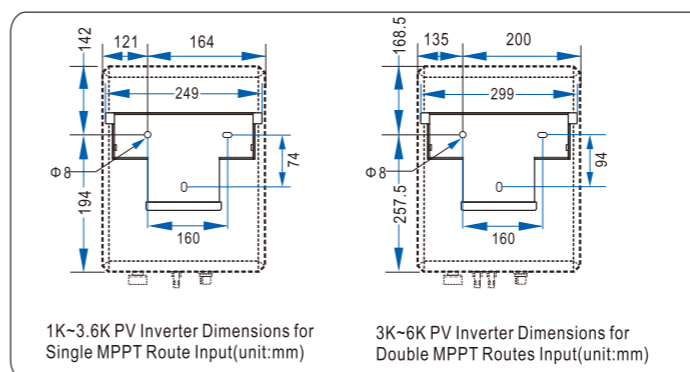
The wrong installation mode.



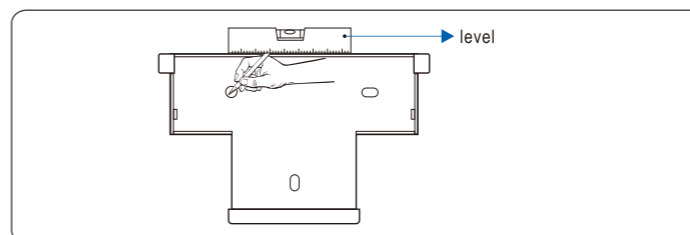
Inverter fixation

Step 1 Move out the rear panel from the packing case.

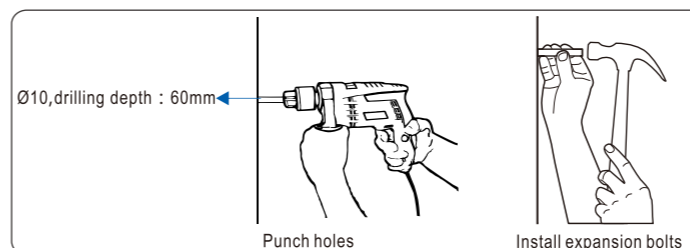
Step 2 Determine the positions for drilling holes using the rear panel.



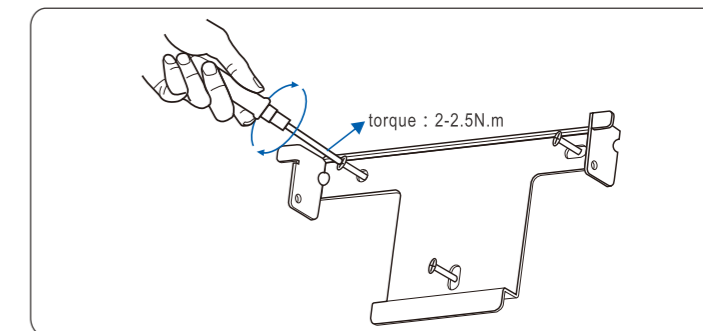
Step 3 Level the hole positions using a level, and mark the hole positions using a marker.



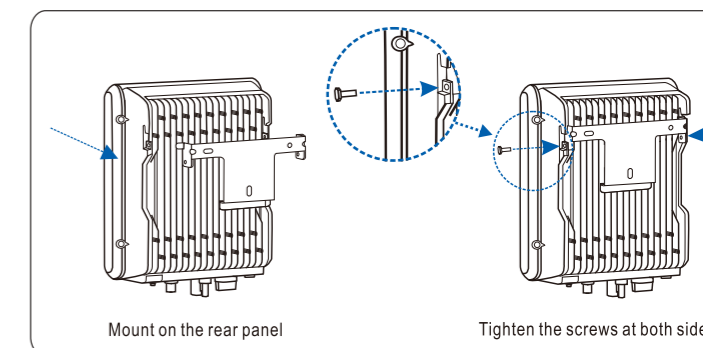
Step 4 Drill a hole in a marked position using a hammer drill, and tighten and knock the expansion bolt completely into the hole using a rubber mallet.



Step 5 Install the rear panel.



Step 6 Mount the inverter on the rear panel and tighten the screws at both sides.

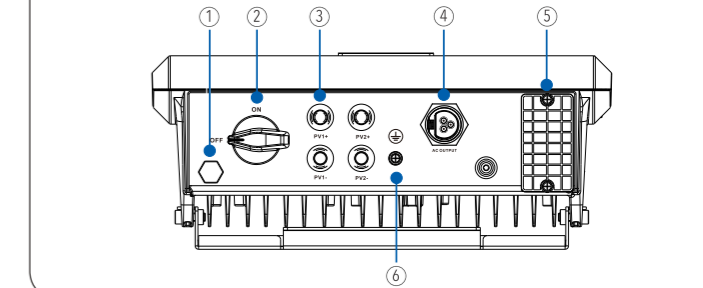


Installation Self-check

1. Ensure that the supporting points (on the rear side of the inverter) align with the holes of the support.
2. Ensure that the inverter is well fixed.
3. Ensure that the inverter is locked on the support.

Preparation before wiring

1. Vent valve
2. DC isolation breaker
3. PV Strings connectors
4. AC OUTPUT CONNECTORS
5. Communications interface
6. External Protection Ground interface



Electrical Connections

DANGER Before performing any electrical connections, ensure that both DC and AC Switches are OFF. Otherwise, fatal injury can occur due to the high voltage caused from AC and DC cables.

CAUTION Grounding the PV Strings needs below prerequisites.

An isolation transformer must be installed on the AC side of each inverter; Ensure that the neutral wire of the isolation transformer must be disconnected from the PGND cable.

One isolation transformer is with one PV inverter: do not install a single isolation transformer for multiple inverters; otherwise, circulating current generated by the inverters will lead to operation failure.

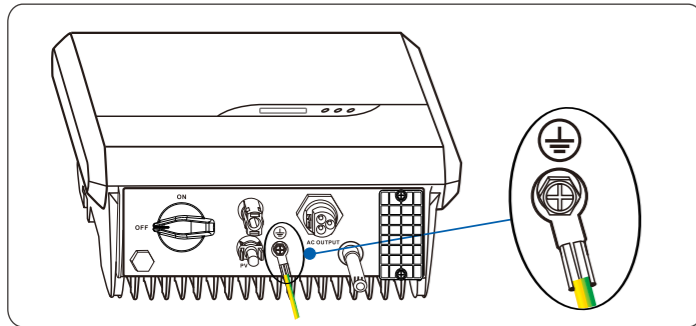
Select "Isolation SET" on the APP, and set in "Input Grounded", "With TF".

Cable specifications (recommended)

Cable	Cable type	Cross-sectional Area (mm ²)		Cable Outer Diameter (mm)
		Range	Recommended Value	Range
AC cable	multi-core outdoor cable	4~6	4	10~14
DC cable	common PV cables in the industry (model: PV1-F)	4~6	4	5~8
External PGND cable	multi-core outdoor cable	4~6	6	NA

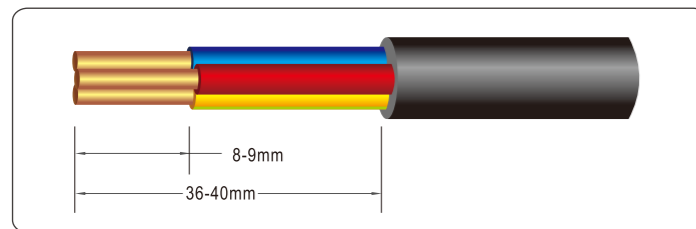
Cable Installation

Step 1 Connect External Protection Ground (PGND) Cables.

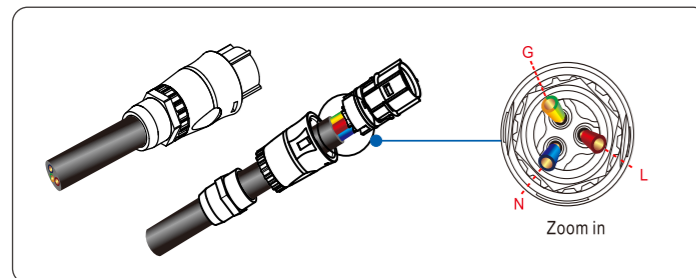


NOTICE Connecting External Protection Ground (PGND) Cables cannot substitute the PE of connecting the AC power cables. Ensure that both connectings are grounding well; otherwise, warranty or liability will be void if damage is caused by electrical connection faults.

Step 2 Remove an appropriate length of the jacket and insulation layer from the AC output cable.

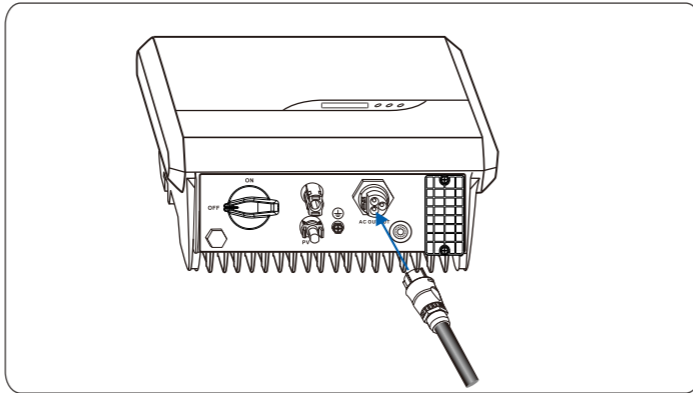


Step 3 Connect AC wire to AC connector: Earth Wire to G terminal of AC connector, neutral wire to N terminal, line wire to terminal.

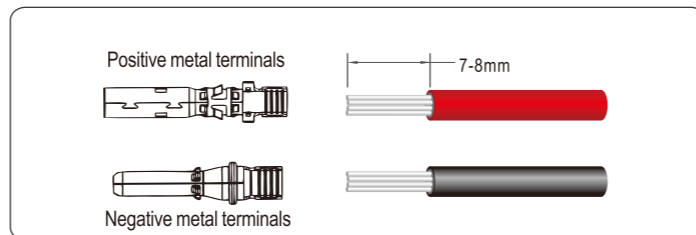


NOTICE Earth, neutral, and line wires must correspond to G, N, and L terminals of AC connectors respectively. Otherwise, the connection faulty will lead to the inverter performance failure.

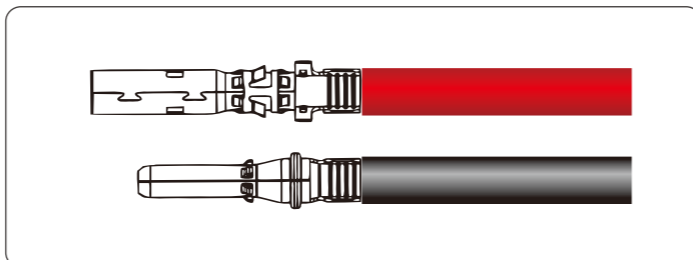
Step 4 After AC wiring, route the AC connector into the AC terminal of the PV inverter.



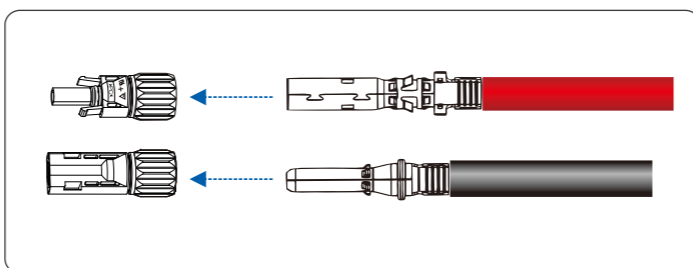
Step 5 Remove an appropriate length of the insulation layer from the PV Strings power cables.



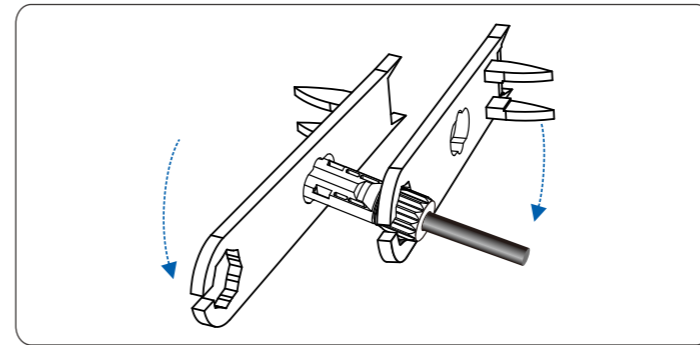
Step 6 Insert the exposed areas of the positive and negative power cables into the metal terminals of the positive and negative connectors respectively and crimp them using a crimping tool. (Connect the red wire to the positive metal terminal, and the black to the negative).



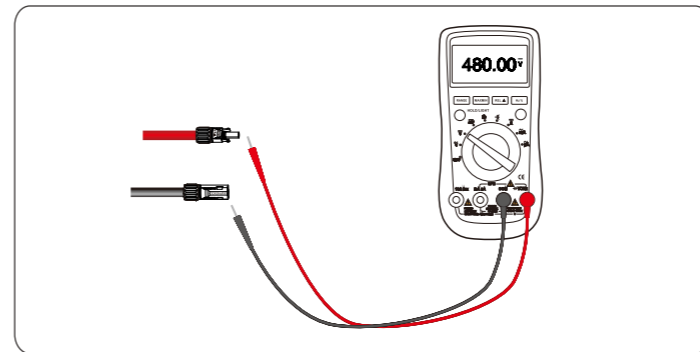
Step 7 Insert the crimped positive and negative power cables into the corresponding positive and negative connectors until a "click" sound is heard.



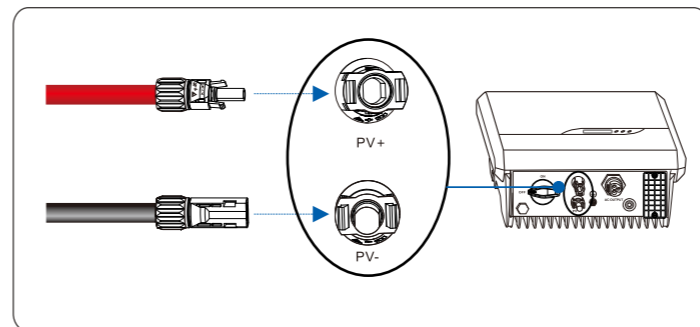
Step 8 Tighten the locking nuts on the positive and negative connectors using a removal wrench.



Step 9 Measure the voltage of every route Strings using a multimeter, and check that the the polarities of the DC input power cables are correct.



Step 10 Insert the positive and negative connectors into the corresponding connector terminals of the inverter until a "click" sound is heard.



NOTE To prevent corrosion, apply silica gel or fireproof mud to the terminal or interface after connecting external PGND cables, AC cables, RS485 port, and Ethernet port.

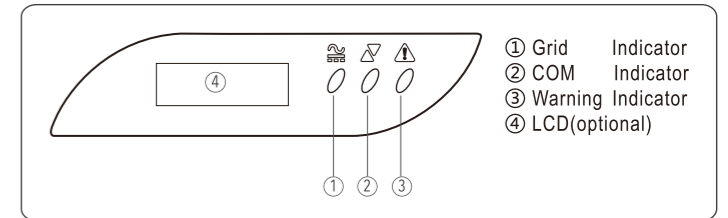
System Operation

Switch ON the AC circuit breaker and set the DC SWITCH of the inverter to ON. Observe statuses of grid-connecting light on the inverter for a while, and if the lights display that the inverter has entered gridconnecting, it means the inverter is operating well. Any query during operating the PV inverter, call your dealer.

To power OFF the Inverter, switch off the circuit breaker at AC terminal, and set the DC SWITCH to OFF.

WARNING After the inverter power is off, the remaining electricity and heat may still cause electrical shock and body burns. Please only begin servicing the inverter 10 minutes after the power-off.

Interface



LED Indicator

LED Indicator	status	descriptions
Grid Indicator	blink	Power grid abnormal, and can't meet the requirements for inverter grid-connecting to generate power.
	on	When grid-on, the blink (every cycle last 30s) of Grid Indicator means loading amounts: quantity of blink means power size, and after that the Indicator keeps ON. When less than 20% rated power, blink one time; 20%~40% rated power, blink twice every 30s; 40%~60% rated power, blink three times every 30s; 60%~80% rated power, blink four times every 30s; 80%~100% rated power, blink five times every 30s.
COM Indicator	blink	Communications data transmission is underway.
	off	No external communications is connected or no communications data transmission.
Warning Indicator	on/blink	Refer LED status in warning table.
	off	No warning.

Maintenance

Check periodically that the heat sink is free from dust and blockage. If necessary, clean periodically the heat sink to ensure its good heat dissipation.

The Inverter Troubleshooting

If any abnormal phenomena occur, refer to below table for trouble shooting. If failed, call your dealer for help.

Issue	Solution
No display	1. Check DC switch of inverter is on or off 2. If there is PV combiner box, check fuse, terminal, wires
No generation	1. Check AC breaker is on or off 2. Wait stronger sunshine 3. Check the number of PV panel 4. To operate according to inverter's manual
Inverter abnormal	1. Disconnect both AC and DC breakers 2. Wait as less 10 minutes and switch on AC and DC breaker 3. Check whether inverter run normally or not
Power generation is less than expected	1. Ensure that inverter is free from direct sun exposure and good ventilation 2. Check that inverter isn't dust clogging, fans run normally 3. Ensure enough installation distance between inverters