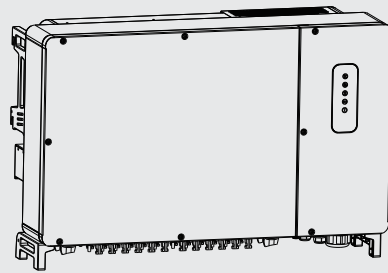


120-150

# Solar Inverter

## User Manual



## 1.Unpack And Check

### Notice

In any case, this guidance is not intended to replace the user manual or safety instructions of the product.  
Make sure that you have read completely and understand fully, and carefully follow the user's manual and relevant specifications before any operation.  
Otherwise, it will result in casualties and equipment damage.

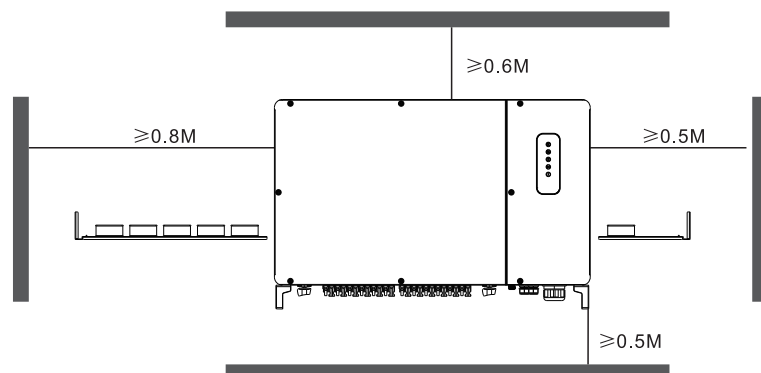
- 1) Unpack and take out inverter and accessories.
- 2) Please check if model of received inverter is correct and items listed in packing list are all included.
- 3) Please contact your local distributor if the inverter is found damaged or accessories found not comply with packing list, don't try to install it.

## 2.Inverter Fixation

### Notice

The ground surface on which the inverter is to be placed should be covered with a sponge pad, foam cushion or the like to prevent the inverter bottom from scratches.

- 1) Please refer to inverter user manual to select proper position to install the inverter. Keep enough space for heat-dissipation when there are a few inverters to be installed.



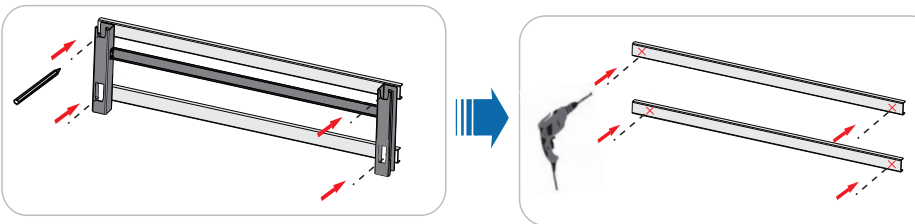
- 2) Pay attention to human and inverter safety when moving the inverters.
- 3) Inverter must be placed vertically, not allowed to flat, tilt or inverted.
- 4) Follow the steps below to fix the inverter.

Fix the rack on the metal holder. (standard: M10\*35mm, nut and flat pad)

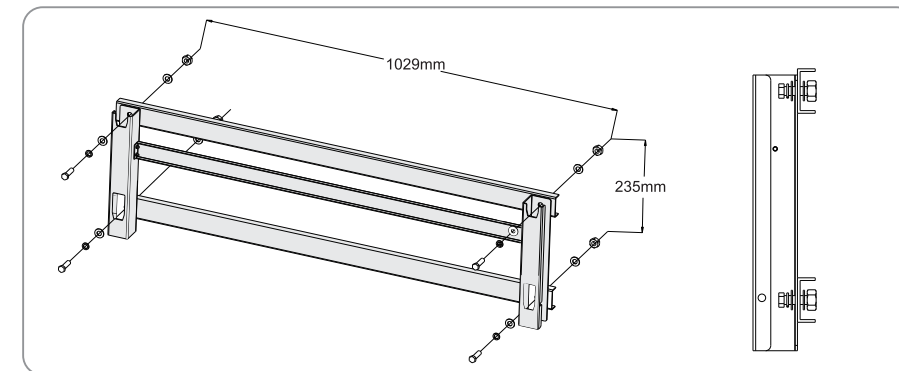
1. Assemble the mounting-bracket by using the connecting bar.



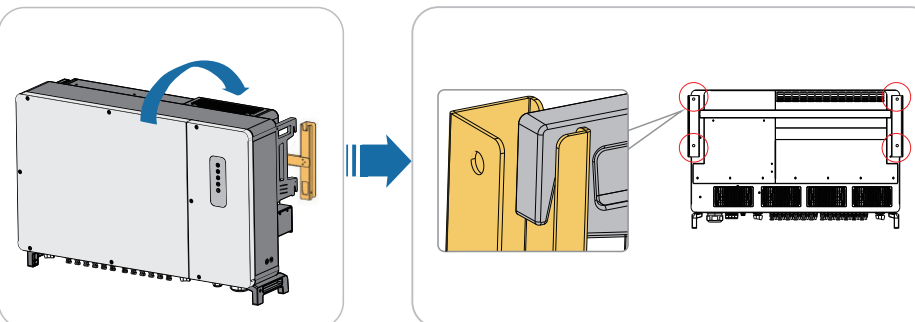
2. Level the assembled mounting-bracket by using the level, and mark the positions for drilling holes on the PV bracket. Drill the holes by using a hammer drill.



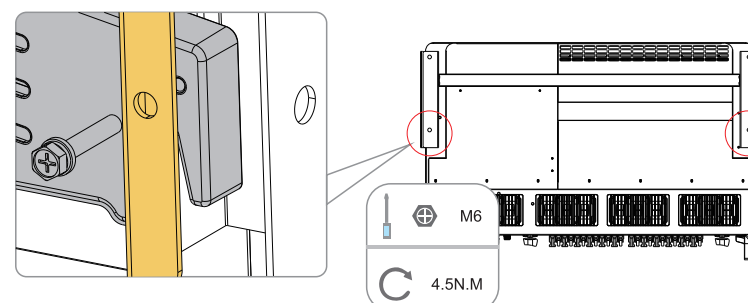
3. Secure the mounting-bracket with bolts.



4. Hang the inverter to the mounting-bracket and ensure that the mounting ears perfectly engage with the mounting-bracket.



5. Fix the inverter with two M6×35 screws.



## 3.Electric Connection

### Danger

High voltage is present inside inverter it may do harm to human safety. Before doing connection, make sure there are not power present in DC and AC cables.

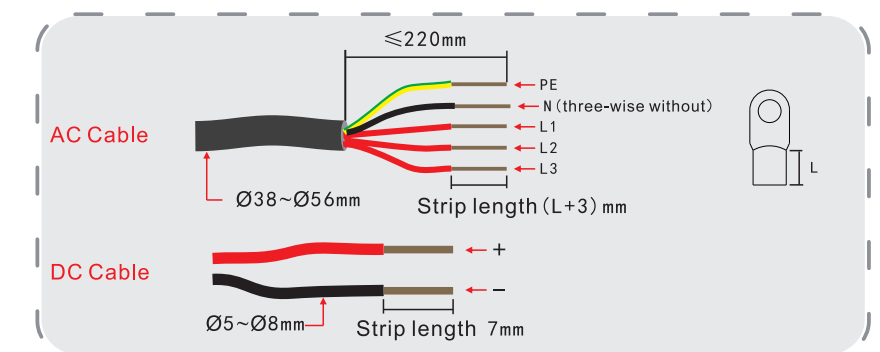
### Warning

+ and - of PV are not allow to be grounded, otherwise the inverter may be damaged Recommended open circuit voltage of PV array. Before finishing connections, DON'T switch on DC and AC breaker.

Recommend the PV array open-circuit voltage(25°C). 700... 850V

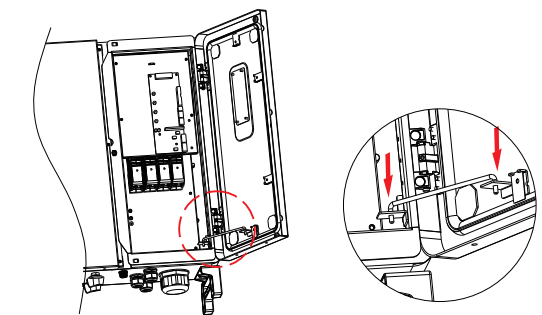
### 3.1 Ac Cable

Terminal	Sectional area range of conductor	Recommendation(copper)
AC terminal	70-95mm <sup>2</sup>	70mm <sup>2</sup>
DC terminal	4-6mm <sup>2</sup>	4mm <sup>2</sup>
Ground protection terminal	10-16mm <sup>2</sup>	10mm <sup>2</sup>

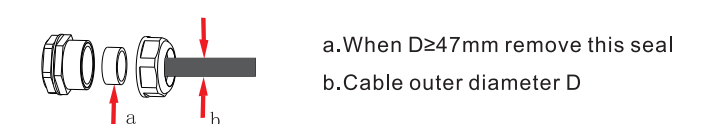


### 3.2 AC Cable Connection

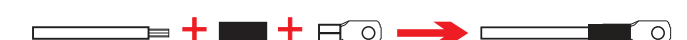
- Release three screws on the front cover of the wiring compartment with supplied wrench. Open the wiring compartment.
- Keep the wiring compartment opened during wiring through the limit lever attached to the cover.



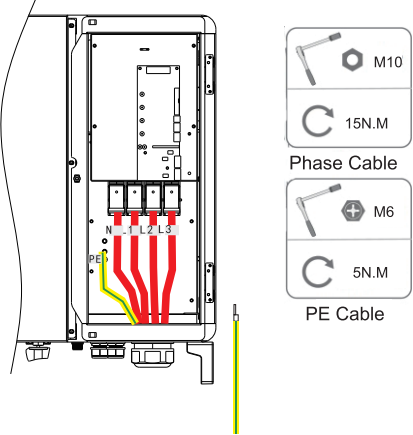
- Loosen the swivel nut of the AC waterproof connector and select a seal according to the cable outer diameter. Lead the cable through the swivel nut, seal, and wiring terminal successively.



- make the inverter output cable go through water proof sleeves of AC output cover, 5 (or 4) cores cable are crimped on the terminal (in the accessory bag) and heat shrinkable casing respectively for protection.



■ connect the 4cores to inverter output terminals L1,L2,L3,N, and PE (three-wise system do not have “N” wise) separately, Use straight screwdriver to tighten it. The AC output is three phase, mode of connection should be L1/L2/L3/N+PE or L1/L2/L3+PE . Finally, lock the lower cover.

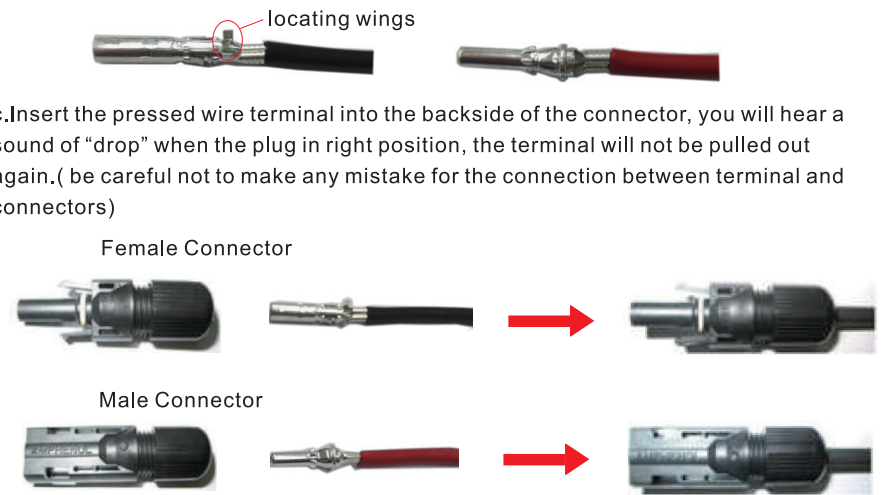


**Note:** while connecting, the switch of AC side must be open, otherwise it will do harm to the human body; it should use professional crimping tool while crimping terminal, make sure the crimping is well, and ensure safety.

3.3 PV Input Connection

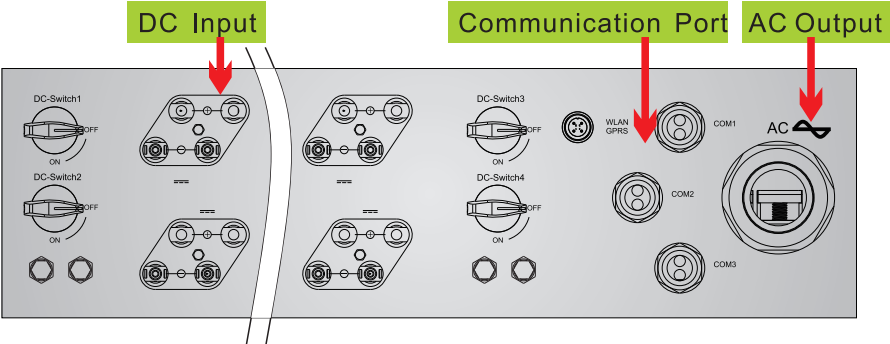
3.3.1 Installation instructions of PV terminal connection & disconnection (Terminal has polarity, pay attention to the "+" "-" logo on the body).

- Attention: you can do the connection and disconnection operation when connectors are unloaded.
- Input pv cable standard: inner diameter 12AWG (4mm²), external diameter Ø6mm(Recommend)
- a.Using a cable clamp to stripp off the wire skin 7±0.5mm, be careful not to damage the copper core.
- b.Using a special wire crimper tool which have amphenol certification, put the stripping cable into the wire crimper jaw, correspond to the correct locator hole position,please make sure no any damage to the locating wings.



d. Lock nut operation.

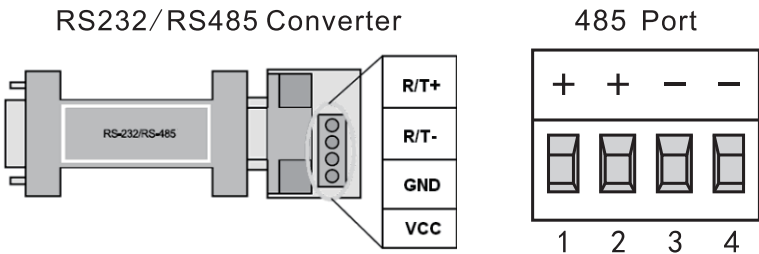
3.3.2 Connect the PV wire to the positive PV and negative PV terminals accordingly. (For 120K, the number of MPPT trackers is 10, and for 150K, the number of MPPT trackers is 12).



3.4 Communication Connection

The inverter is equipped with standard RS485,Bluetooth,WLAN/GPRS , dry contact (optional) and PLC(optional) communication ports, and the RS485 communication port is for inverter cable monitoring, WLAN/GPRS communication port is for inverter wireless monitoring,Bluetooth is used for mobile APP monitoring.

3.4.1Local communication connection of RS485 :

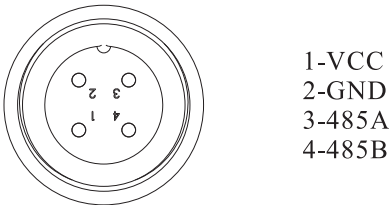


3.4.2 Share 485 BUS for direct connection in multi inverters

Inverter1 485		Inverter2 485		InverterN 485	
Pin NO.	RS485	Pin NO.	RS485	Pin NO.	RS485
1	(A) R/T+	1	(A) R/T+	1	(A) R/T+
2	(A) R/T+	2	(A) R/T+	2	(A) R/T+
3	(B) R/T-	3	(B) R/T-	3	(B) R/T-
4	(B) R/T-	4	(B) R/T-	4	(B) R/T-

**Note:** When the network communication is for more than two (including) inverters, for last inverter, the 2P dial switch next to RS485 terminal can be switched to "ON", equivalent to add a 120Ω communication terminal resistance between the R/T+ and R/T-.

3.4.3 Inverter WLAN/GPRS port.



4.Running Setting

4.1 Check before starting

1. The installation location of the inverter is easy to operate and maintain.
2. The inverter is securely installed.
3. Sufficient space is reserved around the inverter , and no external objects and parts are left inside the machine.
4. Make sure that the cable is properly connected.
5. The cable sections are reasonable and well protected without damage,the AC output cable is well sealed.

4.2 Start-up process

1. Access the photovoltaic array, inverter and AC grid correctly as the installation process mentioned above.
2. Before starting the machine, use a multimeter to inspect whether the AC/DC side voltage meets the starting conditions of the machine.
3. First, close the DC input disconnecting switch.
4. Then close the grid side circuit breaker.
5. When the machine meets the requirements for normal operation, the inverter will be automatically started and connected to the grid for power generation.
6. Observe the strte of LED light. when the inverter is in normal operation,the grid-connected light will be green and long on.

LED light status description

LED lamp	Color	LED state	Meaning
	Green	Always on	Normal grid-connected operation
		Flicker in cycle	There is power of DC or AC, but there is no grid-connected operation.
		Off	AC and DC are both disconnected with power.
	Blue	Flicker for once	Communication for once
		Off	No signal
	Blue	Always on	Bluetooth communication is connected.
		Flicker	Bluetooth communication is not connected.
	Yellow	Always on	Low insulation resistance
		Off	Normal insulation resistance
	Red	Slow flicker	Low-level alarm
		Fast flicker	Middle-level alarm
		Always on	High-level alarm
		Off	No abnormal state

4.3 Bluetooth App

The bluetooth function relies on the photovoltaic App to send information to the Internet via bluetooth for data monitoring of inverters. Users can connect to bluetooth to query the data information of inverters and set up the collection equipment.

App download



Android & iOS

Bluetooth connection

After the installation is completed, open the App,click the Bluetooth connection,and then scan the inverter serial number and start pairing.The page will automatically search for paired Bluetooth and finally connect to inverter . users can view and set the information by clicking the icons of “Data”, “Setting” and “Record” on main page.