70K ~ 80K

Solar Inverter

User Manual
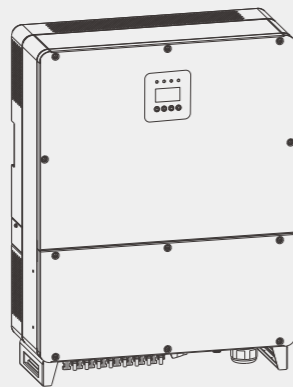
1.Unpack And Check

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

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, at least 1.0m for inverter.
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.

2.1Fix the rack on the metal holder. (standard: M10*35mm, nut and flat pad)

■ Drill hole can be reserved or drilled on site on the metal holder according to the hole size of rack,drill hole size should be Ø12mm, as precise as possible.

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2.2 The installation rack is fixed on the wall. (optional:M10*60mm,expansion bolt).
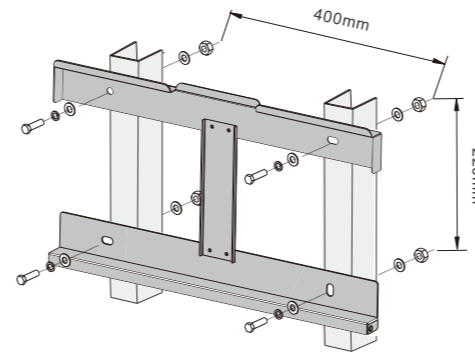
■ Fix the installation rack contained in the package on the wall horizontally, drill hole according to rack, drilling tool adoptsØ14mm impact, depth should be more than 70mm, position should be as accurate as possible.

■ Clear dust inside and outside the hole, insert an expansion pipe vertically into the hole, use hammer to knock until it is in the hole entirely, then unscrew the bolt, then fix and tighten the rack on the wall with the bolt.
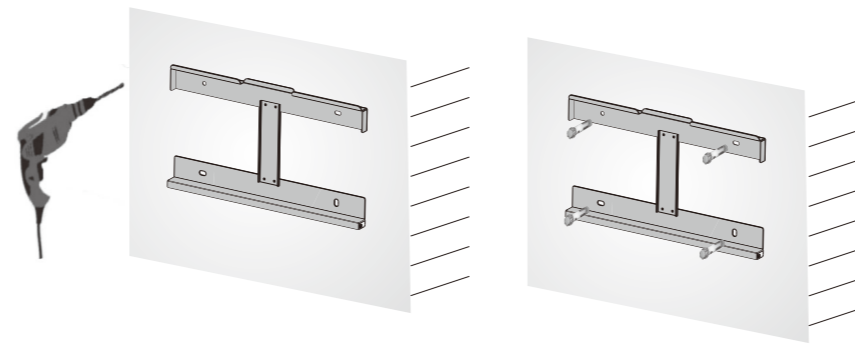
2.3 Hang the inverter gently up and hung on the rack, check and ensure that both sides are fixed in the correct position, then tighten the screws at both ends (attached in accessoriesbag).
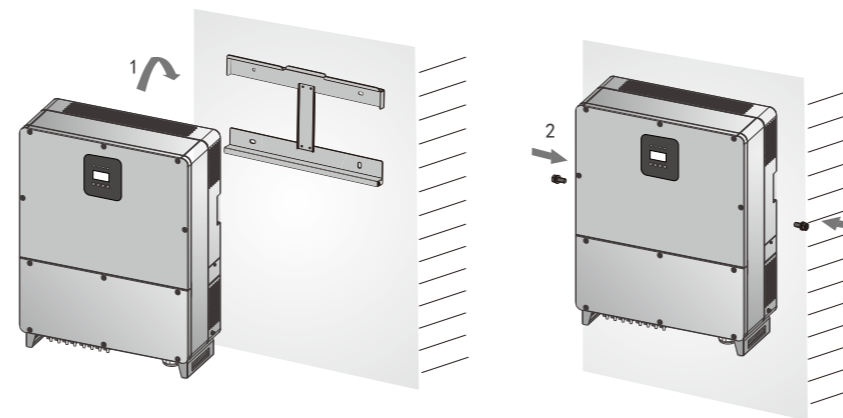
2.4 Hang the inverter on the screws, check right and left sides, make sure the it is hung in the right position, then screw the screws tight.

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	35-50mm²	50mm²
DC terminal	4-6mm²	4mm²
Ground protection terminal	10-16mm²	10mm²
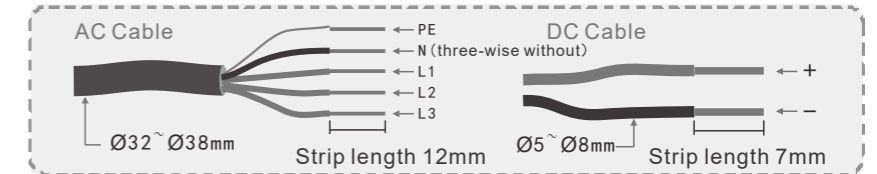
3.2 AC Cable Connection

■ First remove the lower cover of the inverter with an L-type spanner(in the accessory bag).

■ 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 5 cores to inverter output terminals L1,L2,L3,N, and PE separately(three-wise system do not have "N" wise), 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.
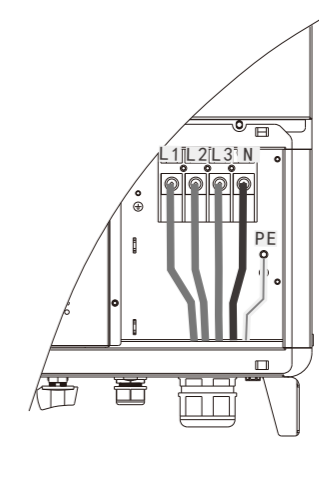
The example below is four-wise system.
Note: while connecting, the switch of AC side must be open, otherwise it will do harm to the human body; it should use professional crimping tool while crimping terminal, make sure the crimping is well, and ensure safety.

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.

locating wings

c.Insert the pressed wire terminal into the backside of the connector, you will hear a sound of "drop" when the plug in right position, the terminal will not be pulled out again.(be careful not to make any mistake for the connection between terminal and connectors)
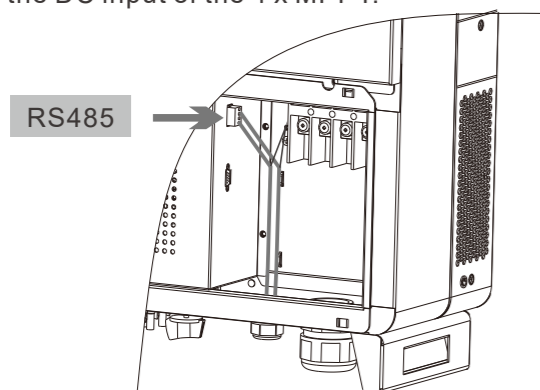
Female Connector

Male Connector
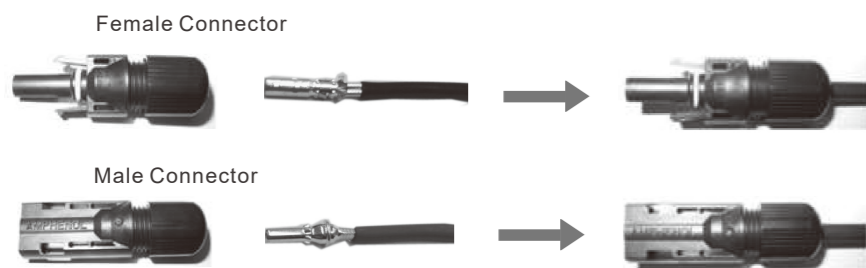
d. Lock nut operation.

3.3.2 Connect the PV wire to the positive PV and negative PV terminals accordingly.

DC Input   Communication Port   AC Output
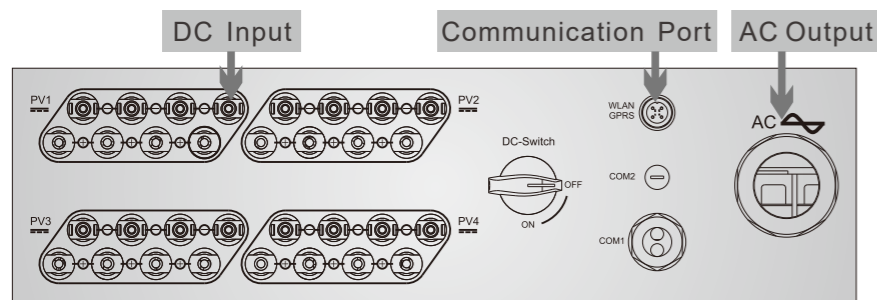
Note: Each MPPT has power limitation, it's recommended to sharing the DC input of the 4 x MPPT.
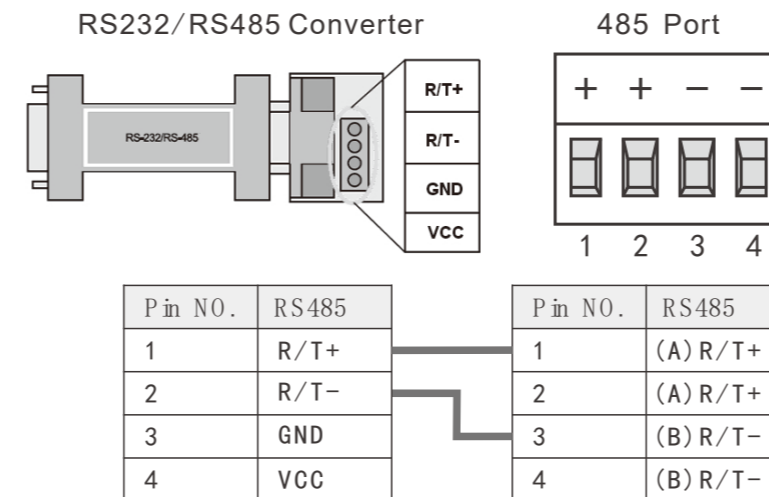
RS485

Note: After connecting the 485 communication line, fix the cable on the tie bridge to avoid loosening and falling off the communication line.
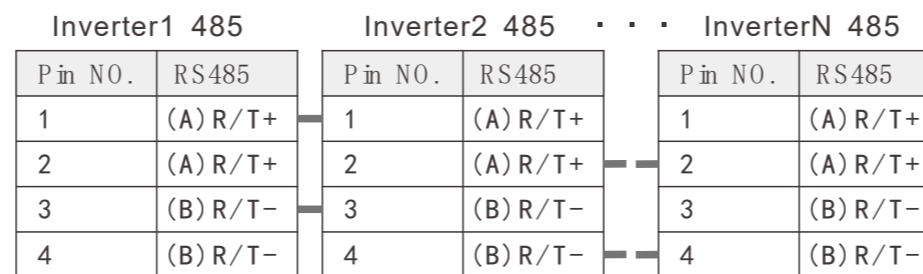
3.4 Communication Connection

The inverter is equipped with standard RS232, RS485,WLAN/GPRS and dry contact (optional) communication ports, and the RS232 communication port is mainly used for the software upgrade, RS485 communication port is for inverter cable monitoring, WLAN/GPRS communication port is for inverter wireless monitoring.

3.4.1Local communication connection of RS485：

RS232／RS485 Converter   485 Port

R/T+
R/T-
GND
VCC

+   +   −   −

1   2   3   4

Pin NO.	RS485
1	R/T+
2	R/T−
3	GND
4	VCC

Pin NO.	RS485
1	(A)R/T+
2	(A)R/T+
3	(B)R/T−
4	(B)R/T−

3.4.2 Share 485 BUS for direct connection in multi inverters

Inverter1 485   Inverter2 485   · · ·   InverterN 485

Pin NO.	RS485
1	(A)R/T+
2	(A)R/T+
3	(B)R/T−
4	(B)R/T−

Pin NO.	RS485
1	(A)R/T+
2	(A)R/T+
3	(B)R/T−
4	(B)R/T−

| Pin NO.	RS485
1	(A)R/T+
2	(A)R/T+
3	(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.

1-VCC
2-GND
3-485A
4-485B

4.Running Setting

WAIT   NORMAL   ALARM   FAULT

ESC   UP   DOWN   ENTER
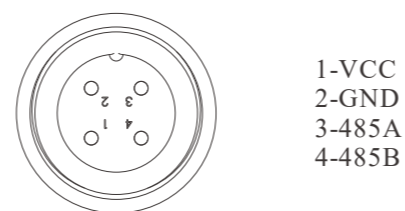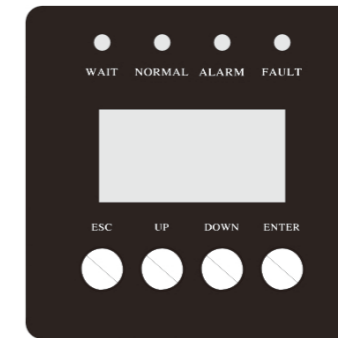
Check all connections again before starting the inverter. To start the inverter, please switch on AC breaker first, then switch on the DC switch (If there) on inverter. If all connections are correct and PV configurations are correct, LCD will be on, "WAIT" LED will be on, inverter will be standby for Grid-tied connecting.

4.1 Working Mode Setting
Default working mode of inverter is independent. If the PV connections are not independent, mode settings required. On LCD, please press "ESC" to enter main menu interface, select "Setting", then press "ENTER" to confirm to enter password interface. Enter "00000 " and press "ENTER" to confirm. Select " INPUT MODE ", press"ENTER" to confirm, move the cursor to choose the correct mode and press "ENTER " to confirm. After the setting, restart the inverter, the setting will be valid. (Note: before the setting, please switch off AC breaker, DC connected, inverter will give alarm, the setting should be carried out during this. "ESC" for quit, "UP", "DOWN" for moving cursor, "ENTER" for confirming).

4.2 Safety Standard Setting
Default working mode of inverter is independent. If the PV connections are not independent, mode settings required. On LCD, please press "ESC" to enter main menu interface, select "Setting", then press "ENTER" to confirm to enter password interface. Enter "00000 " and press "ENTER" to confirm. Select " INPUT MODE ", press"ENTER" to confirm, move the cursor to choose the correct mode and press "ENTER " to confirm. After the setting, restart the inverter, the setting will be valid. (Note: before the setting, please switch off AC breaker, DC connected, inverter will give alarm, the setting should be carried out during this. "ESC" for quit, "UP", "DOWN" for moving cursor, "ENTER" for confirming).

4.3 Grid-tied Dc Voltage Setting
Grid-tied DC voltage can be set on the inverter when in error conditions (inverter factory default is 350Vdc), normally there is no to need. If needed, setting can be finished in the panel through the button, the steps are as follows:
Press "ESC" key to enter the main menu interface, select the first option "settings", press "ENTER " to confirm, enter password "00000" and confirm, enter the setup menu, select the fourth option "operation parameters ", press " ENTER " to confirm, enter the menu and select first option" power voltage" according to the requirements, setting will be valid after restarting.

4.4 Rs485 Address Setting
Rs485 address can be set when the inverter is grid- connected or giving alarm (default address is 1). It's no need to set it if there is single inverter in communication. To set it, please press "ESC" to enter the main menu, select "setting" and press "ENTER" to confirm, enter password"00000" and press "ENTER", select"485 address", press" ENTER" to confirm and enter desired address (max is 32), press "ENTER" to confirm. Setting will be valid after restarting.