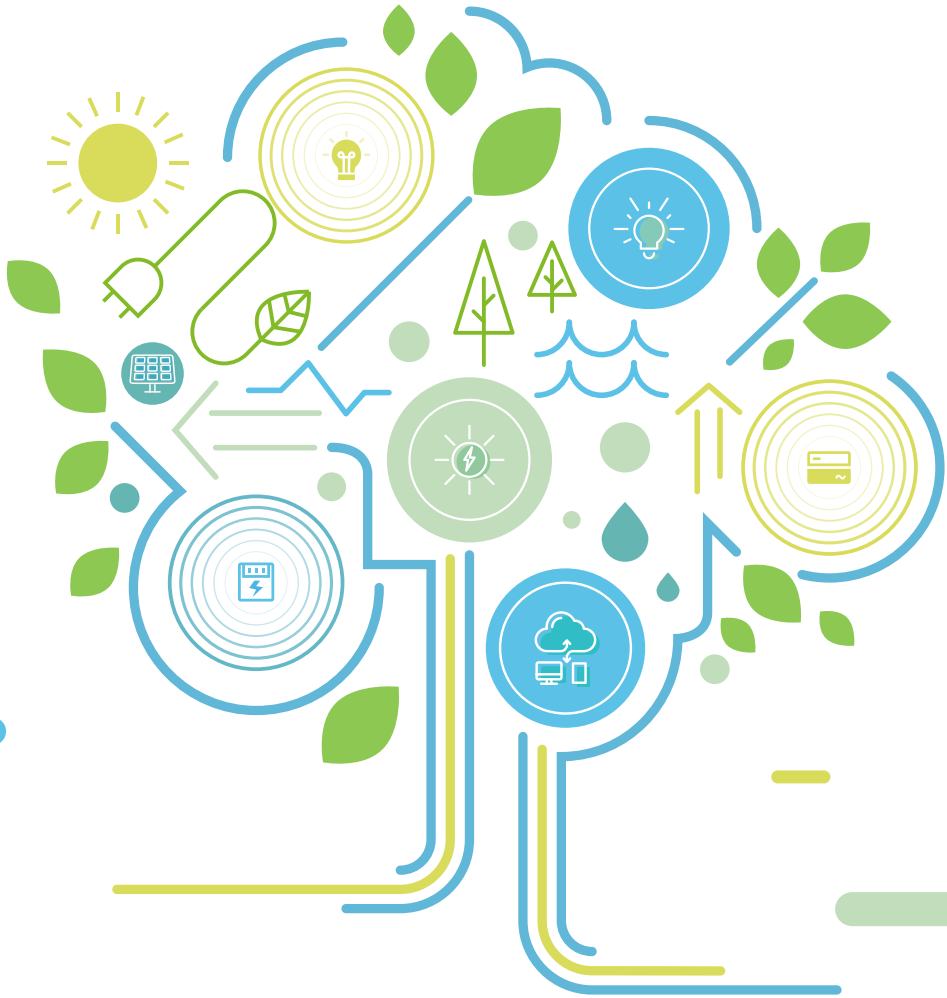
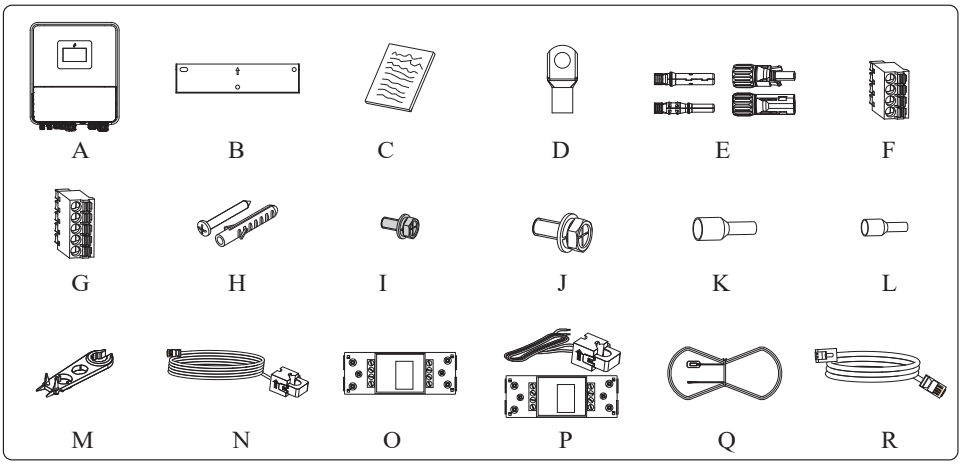
QUICK INSTALLATION GUIDE

SINGLE-PHASE HYBRID INVERTER

3K/3.6K/5K/6K

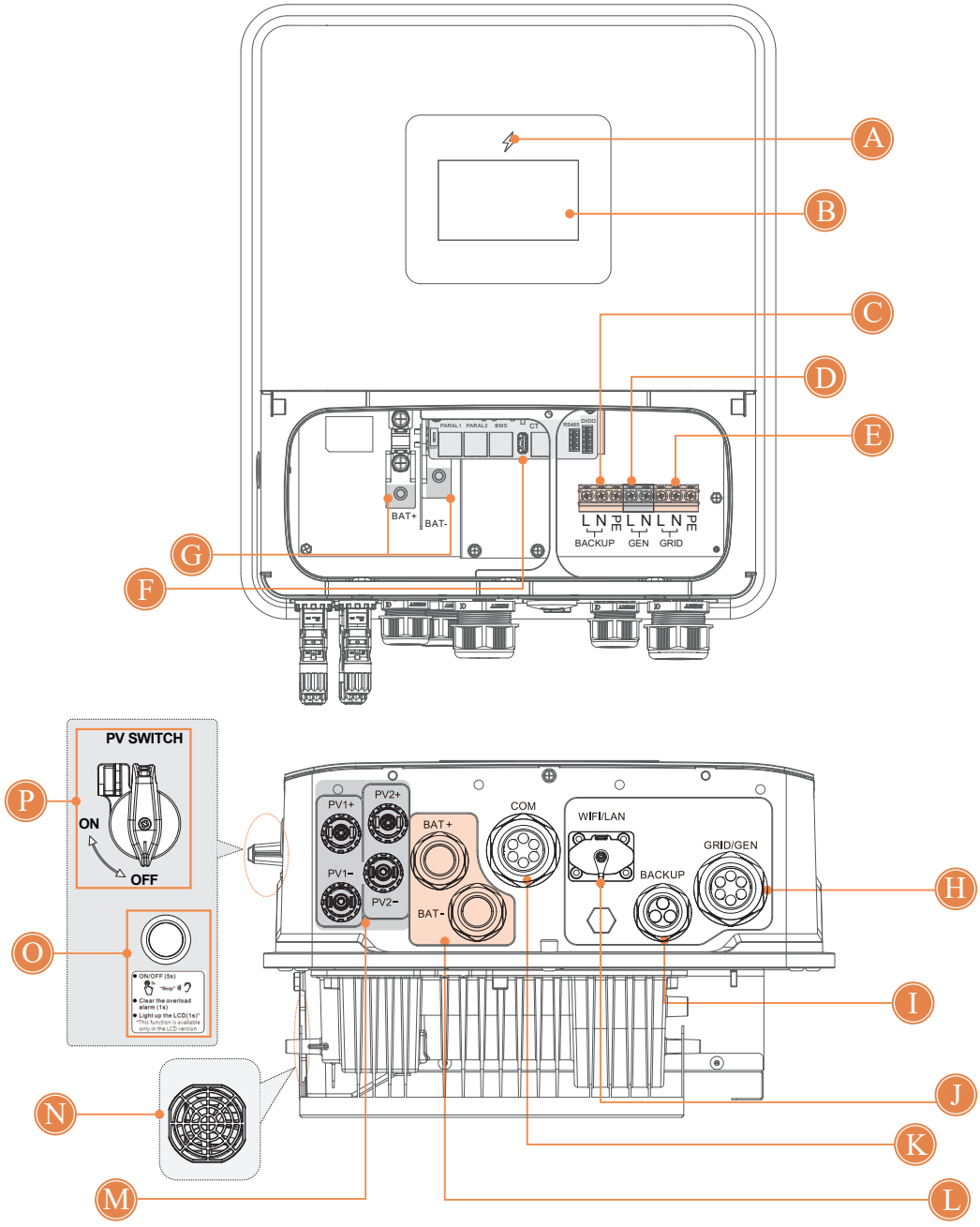


1. Packing List



Number	Quantity	Description
A	1	Inverter
B	1	Mounting bracket
C	1	File package
D	2	Battery terminal
E	2/2	PV connector group (PV+/PV-)
F	1	4-Pin terminal
G	1	5-Pin terminal
H	3	M6 Expansion bolt
I	2	M4 Security screw and external grounding protection screw (Dacromet coating)
J	2	M6 screw for battery terminal
K	6	Grid/Backup wire ferrule
L	2	Gen wire ferrule
M	1	Removal tool for PV connector
N	1	CT
O	1	Meter (Optional)
P	1	CT+Meter (Optional)
Q	1	Lead-acid Battery Temperature sensor (Optional)
R	1	Parallel communication cable (Optional)

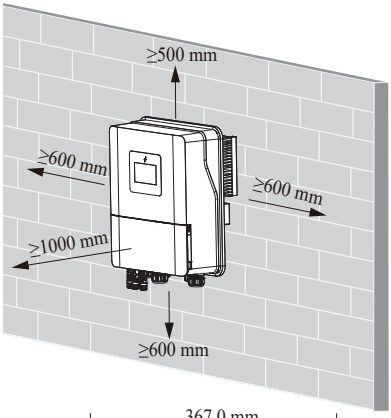
2. Appearance

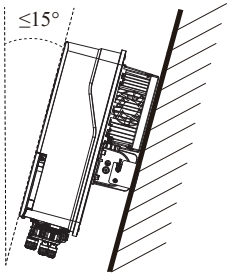


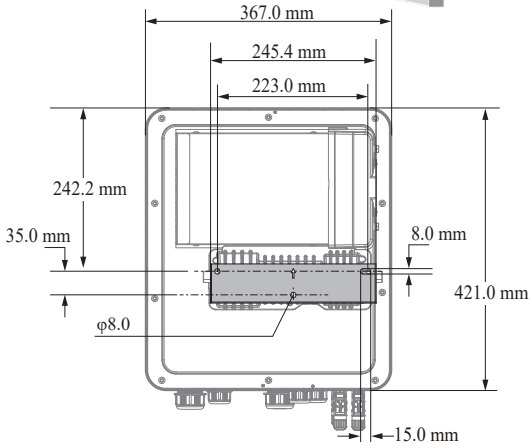
Number	Description
A	LED indicator
B	LCD screen
C	BACKUP connection terminal
D	GEN connection terminal
E	GRID connection terminal
F	Communication interface
G	Battery connection terminal
H	GRID/GEN connection port

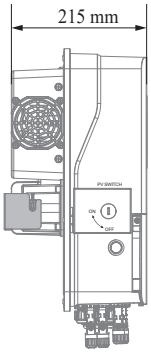
Number	Description
I	BACKUP connection port
J	WIFI/LAN/4G port (Optional)
K	Communication connection port
L	Battery connection port
M	PV connection port
N	External fan
O	ON/OFF button and instruction label
P	PV switch (Optional)

3. Location



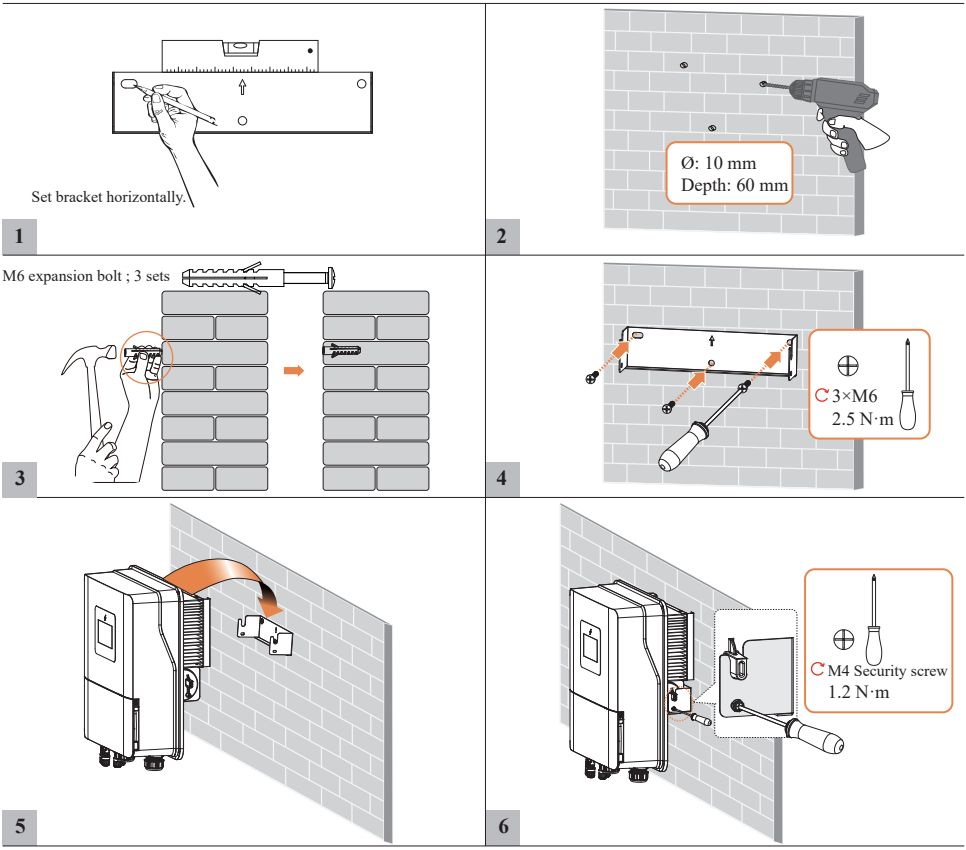






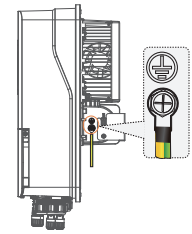
4. Installation

DANGER	The installation walls must be fireproof and non-flammable materials, otherwise there is a fire risk.
	Before drilling holes, check whether there are electric power pipes or other pipes buried in the walls to avoid risks.



5. External Grounding Protection Connection

DANGER	Ensure that inverter and all cables to be installed are completely powered off during whole installation and connection. Otherwise, high voltage may result in fatal injury.

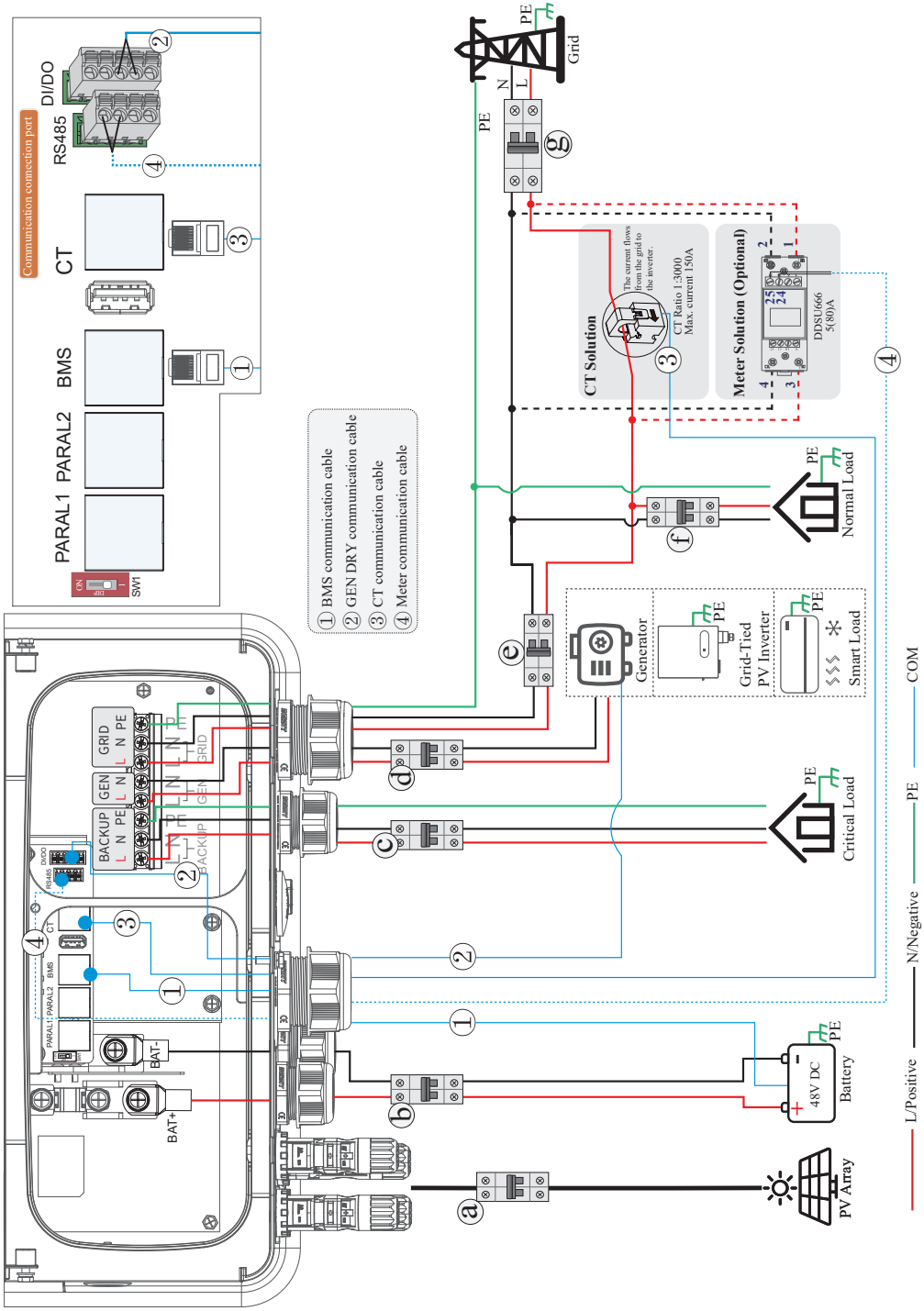


Right-side view

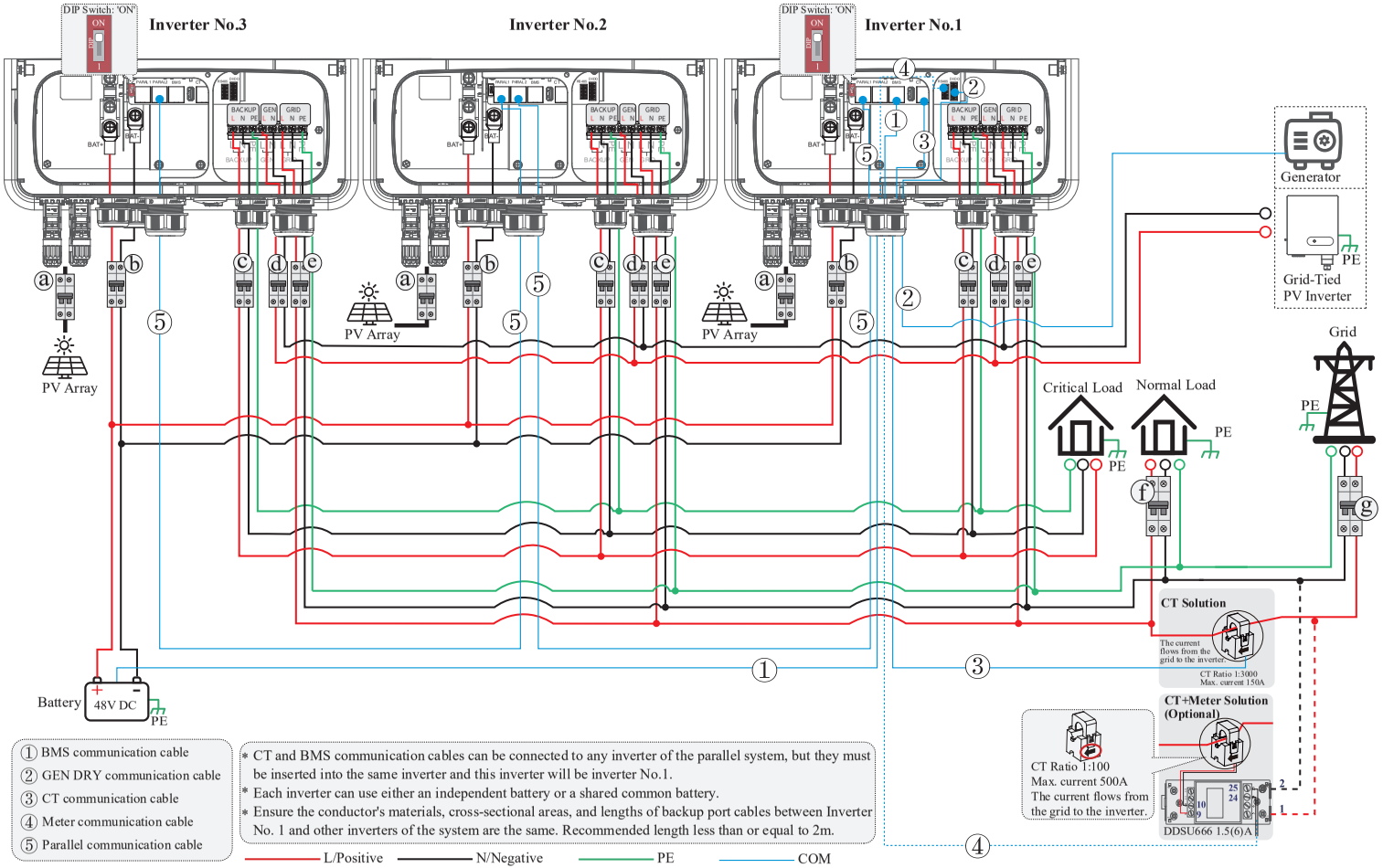
Items	Remark
Screw	M4 X 10 mm; 1.2 N·m
Cross-sectional area (Green-yellow wire)	S(Green-yellow wire) ≥ S(PE wire of AC cable) S is the cross-sectional area.
	≥ 10mm² OT terminal must be sized to cross-sectional area of green-yellow wire. E.g., if the cross-sectional area of green-yellow wire is 10mm², OT8-4 terminal should be chosen.

6. Wiring System

• Stand Alone Application



• Parallel application (N≤3)



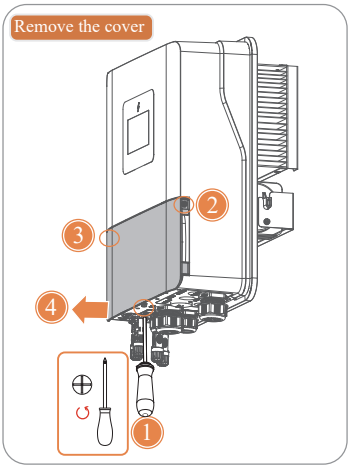
DANGER	Ensure that inverter and all cables to be installed are completely powered off during whole installation and connection. Otherwise, high voltage may result in fatal injury.

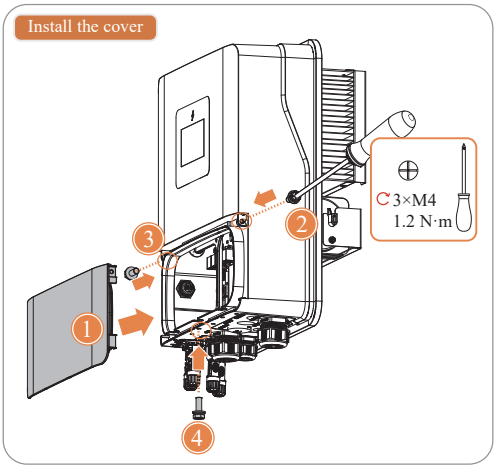
Note:

- BMS communication connection is only for lithium battery.
- It is necessary to turn the matched resistance switch of inverter No. 1 and inverter No. 3 to "ON", and keep inverter No. 2 at "1" in parallel connection mode.
- Go to **Settings > Advanced > Inverter** page to enable Parallel mode and select the **Battery Connection Type** on the LCD of any of the inverters.
- In one parallel system, the smart load is only allowed to be connected to GEN port in a non-parallel way.
- In one parallel system, each inverter can use either an independent battery or a shared common battery. The manual only shows the common battery. In one system connected with independent battery, the inverter connecting with the CT is the main inverter, i.e., Inverter No. 1. The BMS communication cable of each battery needs to be connected to its corresponding inverter. And the batteries connected in the system should be the same in terms of their brands and models.
- The parallel communication cable between two inverters should not exceed 5 meters. It is recommended to use twisted-pair cables to reduce interference.

INV.	PV breaker (a)	Battery breaker (b)	Backup breaker (c)/ Gen breaker (d)	AC breaker (e)	Normal load breaker (f)	Main breaker (g)
3K	30 A / 600 V DC	100 A / 80 V DC	≥50 A (AC type)	≥50 A (AC type)	Depends on household loads	Depends on household loads
3.6K						
5K		150 A / 80 V DC				
6K		175 A / 80 V DC				

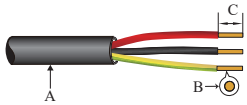
7. Removing/Installing the Cover





8. GRID Connection

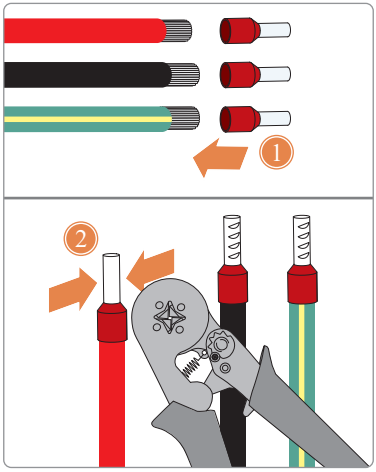
DANGER	Before connecting the GRID terminal, ensure that the AC terminal, the battery terminal and the PV terminal are powered OFF. Otherwise there is a risk of high voltage shock.



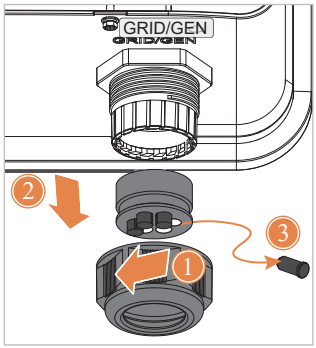
A. Diameter	11.8 mm to 16.8 mm
B. Cross Section	8 mm² to 10 mm²
C. Strip Length	10±0.5 mm

It is recommended to use outdoor dedicated cables with multiple copper cores.

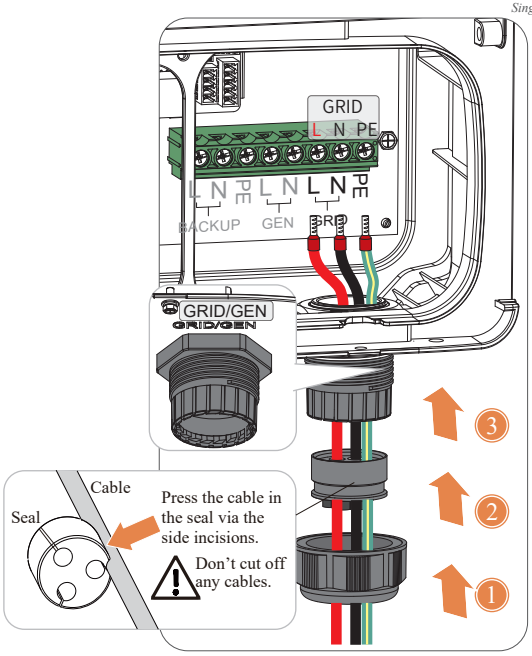
1 Select the cable and strip the insulation.



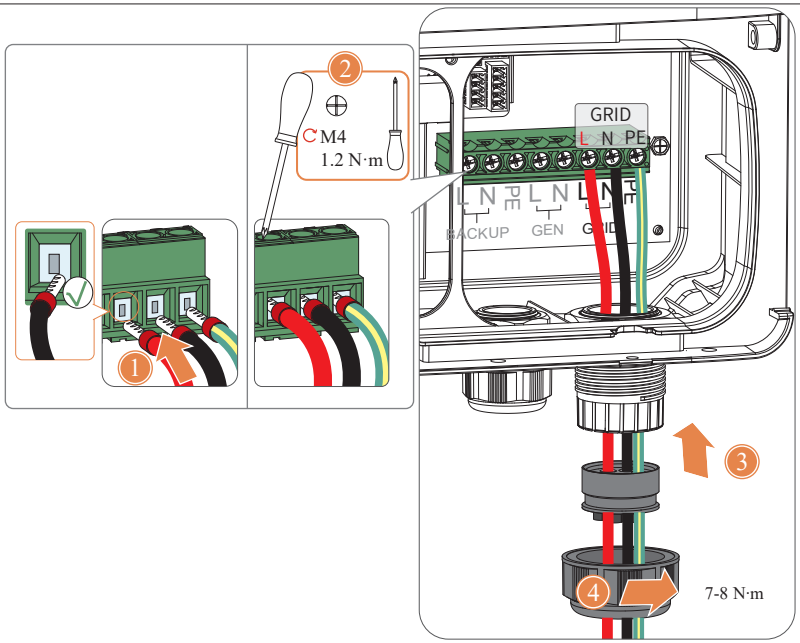
2 Fit a wire ferrule to each wire and use an appropriate tool to crimp it.



3 Loosen the rubber nut, then remove the seal and sealing plugs.



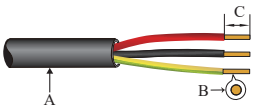
4 Lead the cable through the rubber nut and seal in turn. Then run the cables into wiring box through correct ports.



5 The cable clamper has been opened by default. Attach the cables to the terminal blocks accordingly and then tighten all screws with a torque of 1.2 N·m. Finally install the seal into the threaded sleeve and fasten the rubber nut.

9. BACKUP Connection

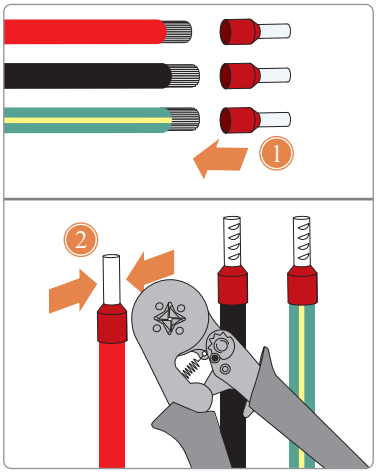
DANGER	Before connecting the BACKUP terminal, ensure that the AC terminal, the battery terminal and the PV terminal are powered OFF. Otherwise there is a risk of high voltage shock.



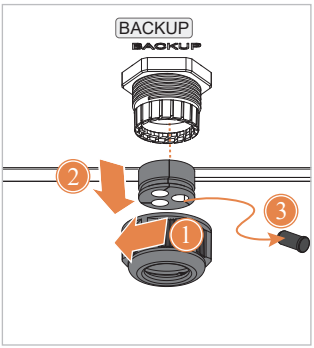
A. Diameter	11.8 mm to 16.8 mm
B. Cross Section	8 mm² to 10 mm²
C. Strip Length	10±0.5 mm

It is recommended to use outdoor dedicated cables with multiple copper cores.

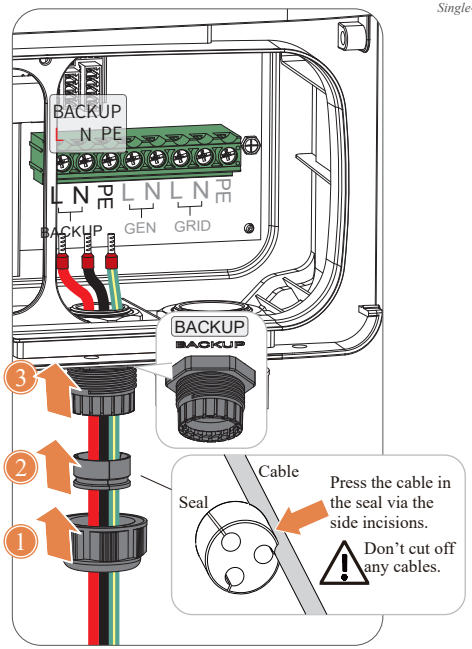
1 Select the cable and strip the insulation.



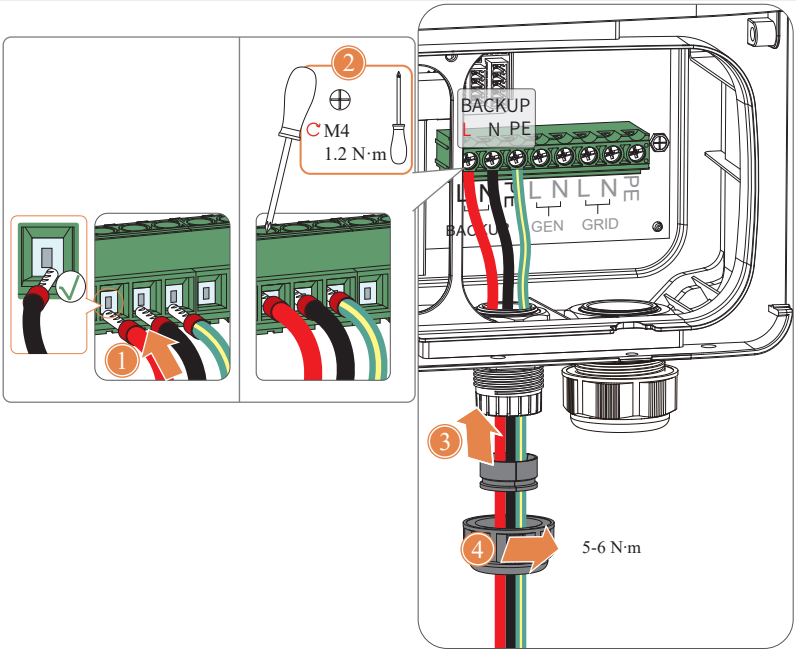
2 Fit a wire ferrule to each wire and use an appropriate tool to crimp it.



3 Loosen the rubber nut, then remove the seal and sealing plugs.



4 Lead the cable through the rubber nut and seal in turn. Then run the cables into wiring box through correct ports.

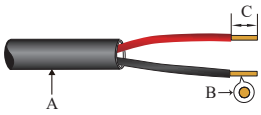


5 The cable clamper has been opened by default. Attach the cables to the terminal blocks accordingly and then tighten all screws with a torque of 1.2 N·m. Finally install the seal into the threaded sleeve and fasten the rubber nut.

10. GEN Connection

The GEN port can work as the input port for the generator/AC Coupling, or as the output port for the Smart Load .

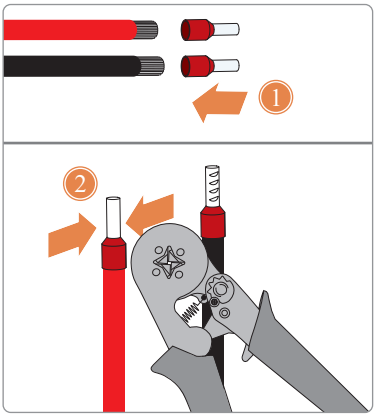
DANGER	Before connecting the GEN terminal, ensure that the AC terminal, the battery terminal and the PV terminal are powered OFF. Otherwise there is a risk of high voltage shock.



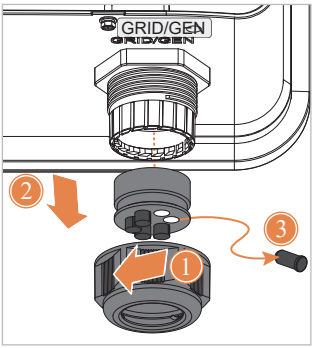
A. Diameter	11.5 mm to 13.5 mm
B. Cross Section	5.3 mm² to 6 mm²
C. Strip Length	10±0.5 mm

It is recommended to use outdoor dedicated cables with multiple copper cores.

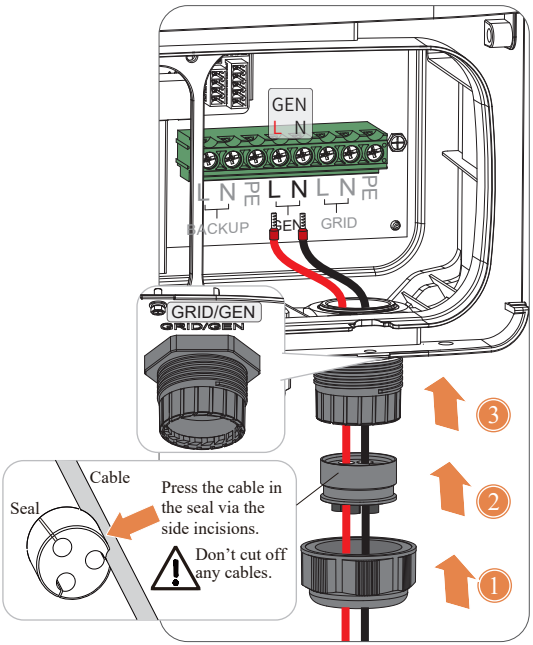
1 Select the cable and strip the insulation.



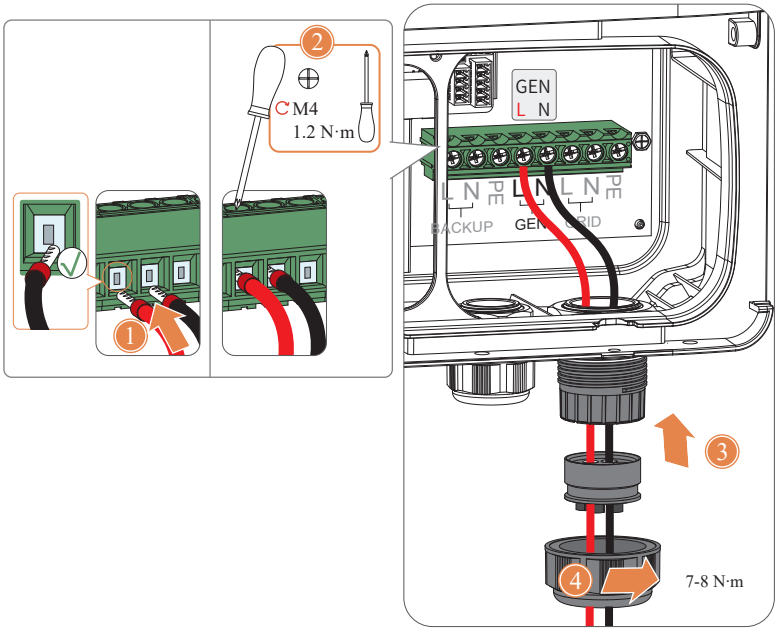
2 Fit a wire ferrule to each wire and use an appropriate tool to crimp it.



3 Loosen the rubber nut, then remove the seal and sealing plugs.



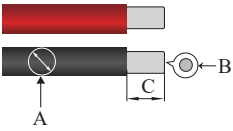
4 Lead the cable through the rubber nut and seal in turn. Then run the cables into wiring box through correct ports.



5 The cable clamper has been opened by default. Attach the cables to the terminal blocks accordingly and tighten all screws with a torque of 1.2 N·m. Finally install the seal into the threaded sleeve and fasten the rubber nut.

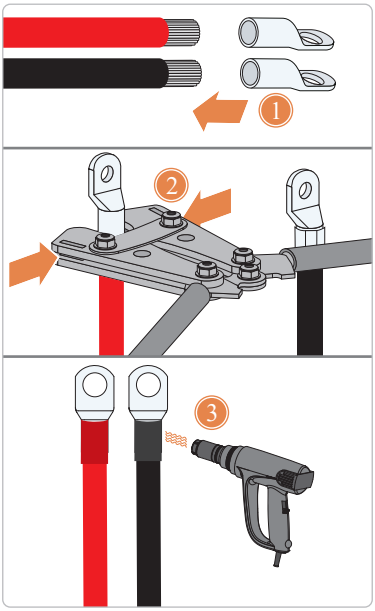
11. Battery Connection

DANGER	Before connecting the battery terminal, ensure that the AC terminal, the battery terminal and the PV terminal are powered OFF. Otherwise there is a risk of high voltage shock.

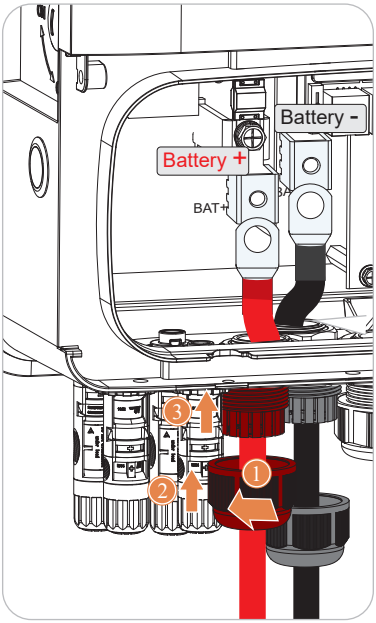


Model	A	B	C
3K/3.6K	9.2 mm to 15.0 mm	16.0 mm² to 53.5 mm²	12 ± 0.5 mm
5K/6K	11.3 mm to 15.0 mm	35.0 mm² to 53.5 mm²	

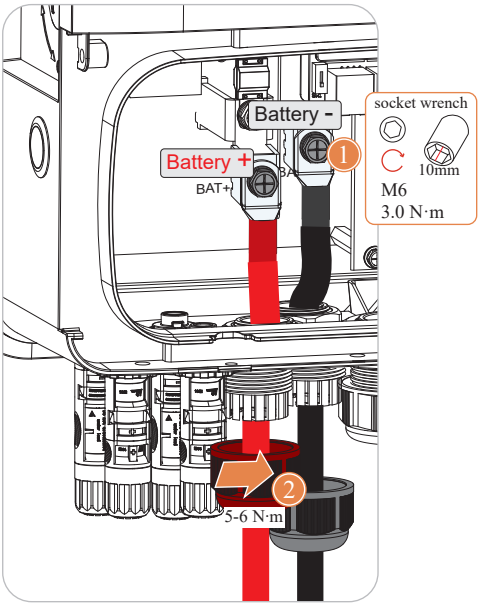
1 Prepare the proper cable we recommended, and length of the cable insulation.



2 Fit a terminal lug to each cable and use an appropriate tool to crimp it. Then use the heat shrinkable tubing to protect the cables.



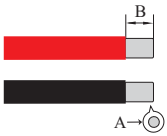
3 Loosen the rubber nuts and run the cables into the wiring box through correct ports.



5 Attach the cables to the terminal blocks accordingly and then tighten all screws with a torque of 3.0 N·m. Finally fasten the rubber nut.

12. PV Connection

DANGER	Photovoltaic arrays exposed to sunlight will generate dangerous voltages!
	Before connecting the PV terminal, ensure that the AC terminal, the battery terminal and the PV terminal are powered OFF. Otherwise there is a risk of high voltage shock.

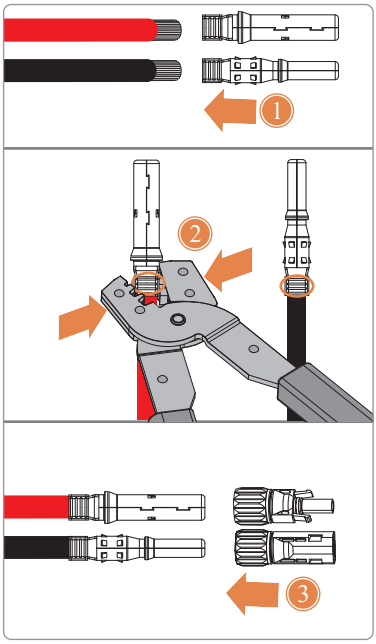


A. Cross Section 4 mm² to 6 mm²

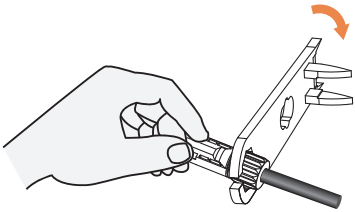
B. Strip Length 4±0.5 mm

Note:
PV cable should be dedicated PV cable (suggest using 4 - 6mm² PV1-F cable).

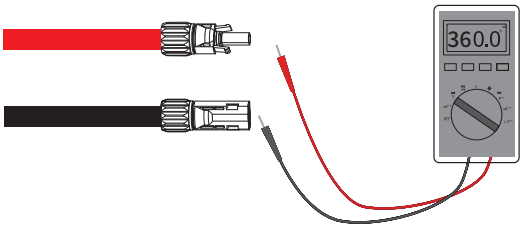
1 Prepare the proper cable we recommended, and strip an appropriate length of the cable insulation.



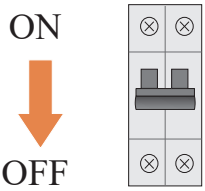
2 Crimp the terminal and insert it into the connector.



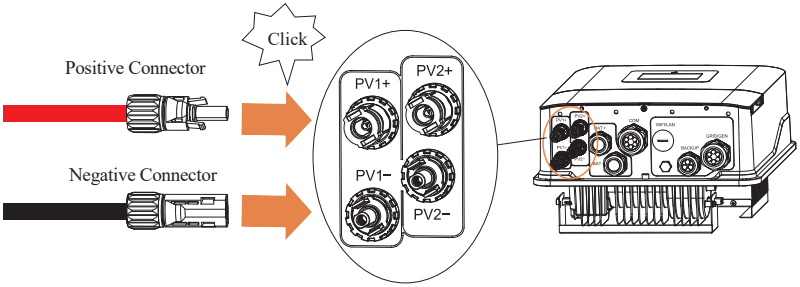
3 Tighten the waterproof nuts on each connector to avoid loosening.



4 Test string voltage and confirm string polarity.



5 Ensure that the PV switch is OFF.

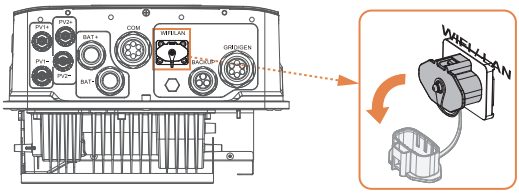


6 Insert the positive and negative connectors into the PV+/PV- ports until a “click” sound is heard.

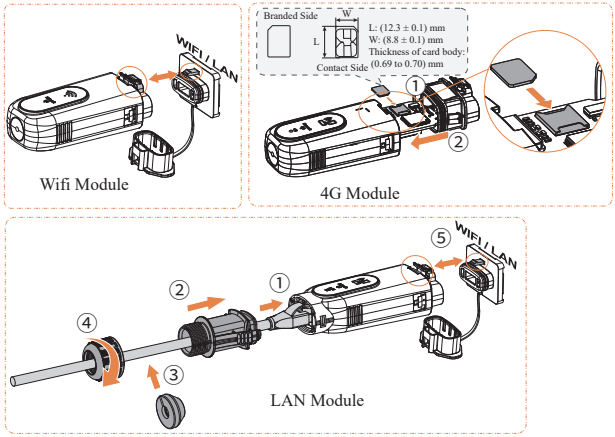
13. WIFI/LAN/4G Module Connection (Optional)

For details, please refer to the corresponding Module Installation Guide in the packing.

The appearance of modules may be slightly different. The figure shown here is only for illustration.

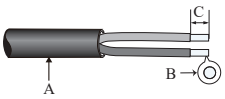


1 Move the cover.



2 Insert WIFI/LAN/4G module into WIFI/LAN port, and ensure that it does not fall off.

14. Communication Cable(s) Connection

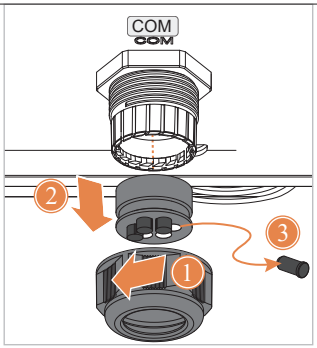


A. Diameter	4.5 mm to 6 mm
B. Cross Section	0.12 mm² to 0.2 mm²
C. Strip Length	7.5 ± 0.5 mm

It is recommended to use multi-core cables.

1 Select the cable and strip the insulation.

DANGER	Before connecting the com cable, ensure that the AC, the battery and the PV are powered OFF. Otherwise there is a risk of high voltage shock.

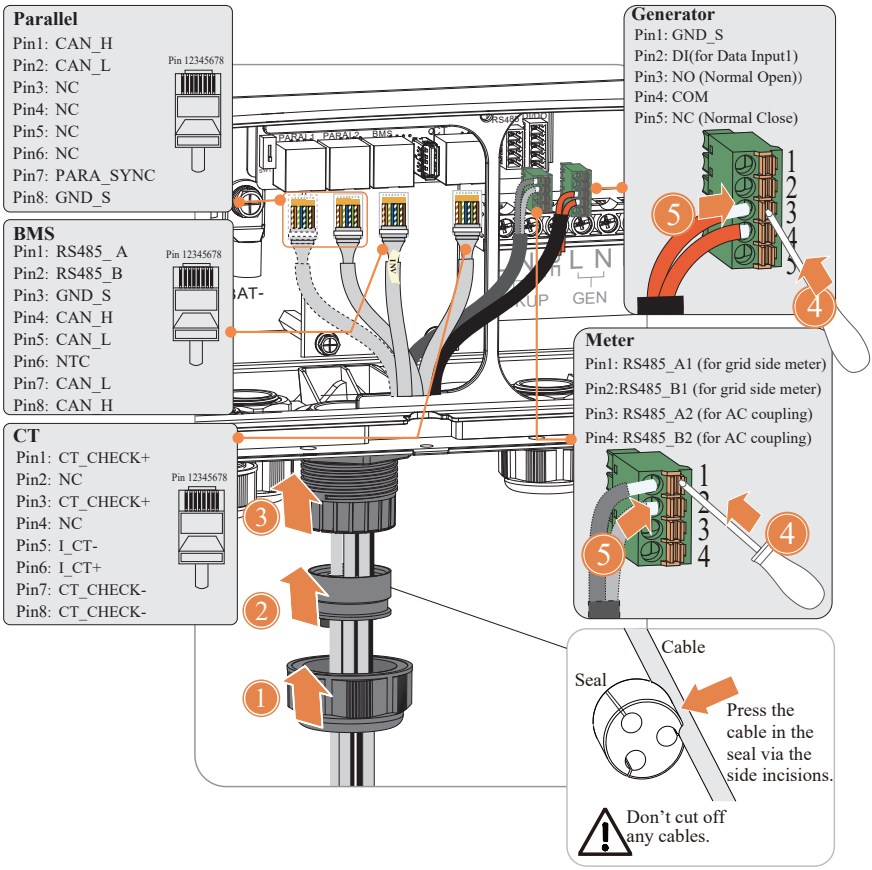


2 Loosen the rubber nut, then remove the seal and sealing plugs.

Inverter.Qty	Distance	CT	CT+Meter
1	≤ 3m	√	√
	3 - 10m	√	
	> 10m		
2 - 3	≤ 3m	√	√
	3 - 10m	√	
	> 10m		

Note:

- CT cable length: 3m or 10m. Do not extend the CT cable.
- Meter (optional): wire length up to 100m.
- For CT+Meter connection, it is necessary to additionally purchase suitable CT and meter from customer service according to the specific requirements.

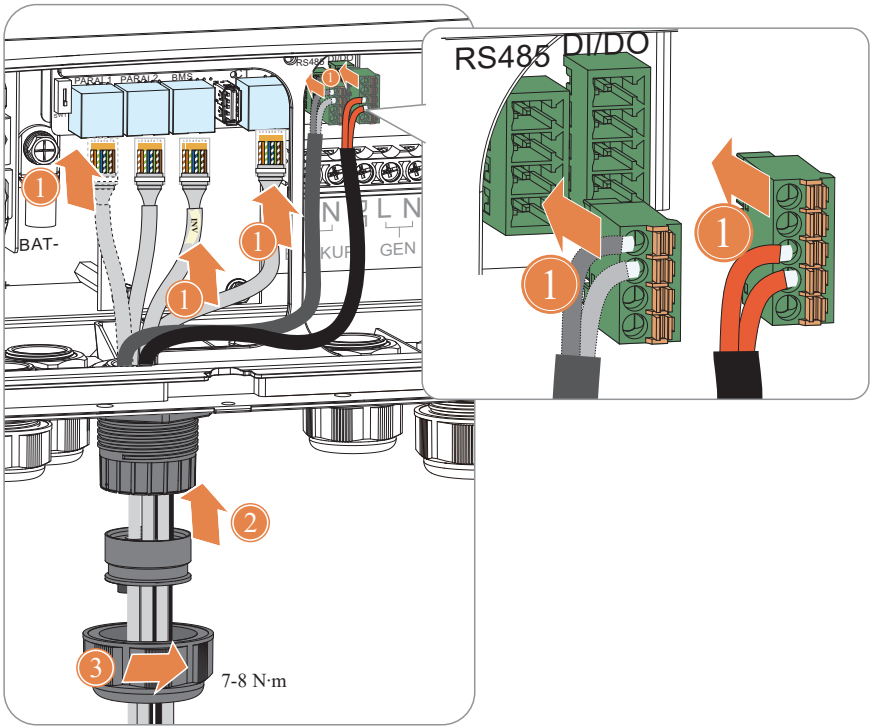


① Lead the cable through the rubber nut and seal in turn.

② Run the parallel, CT/meter, BMS and generator cables into wiring box through correct ports in sequence.

3 ③ Make the terminal according to the above pin definition.

NOTE	Ensure that the inverter is completely powered off before connecting the CT cable.



① Insert the terminal into corresponding port.
② Install the seal into the threaded sleeve.
③ Fasten the rubber nut.

4

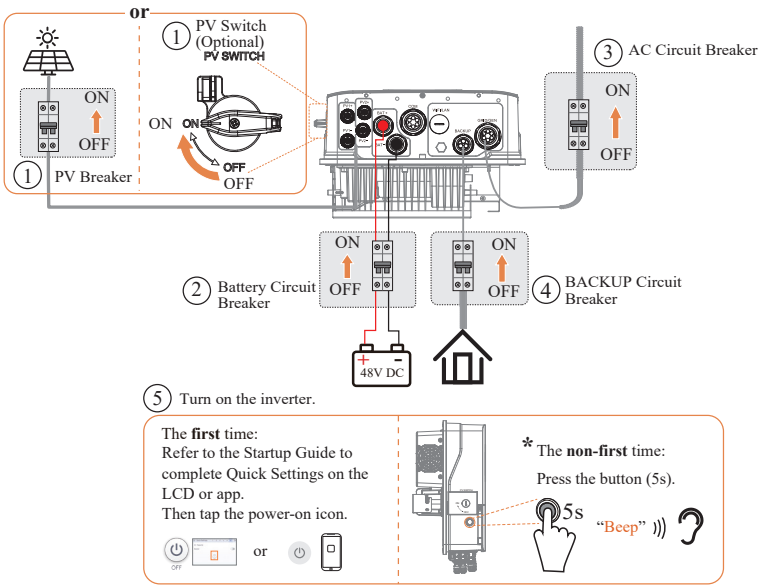
15. Startup/Shutdown Procedure

Inspection

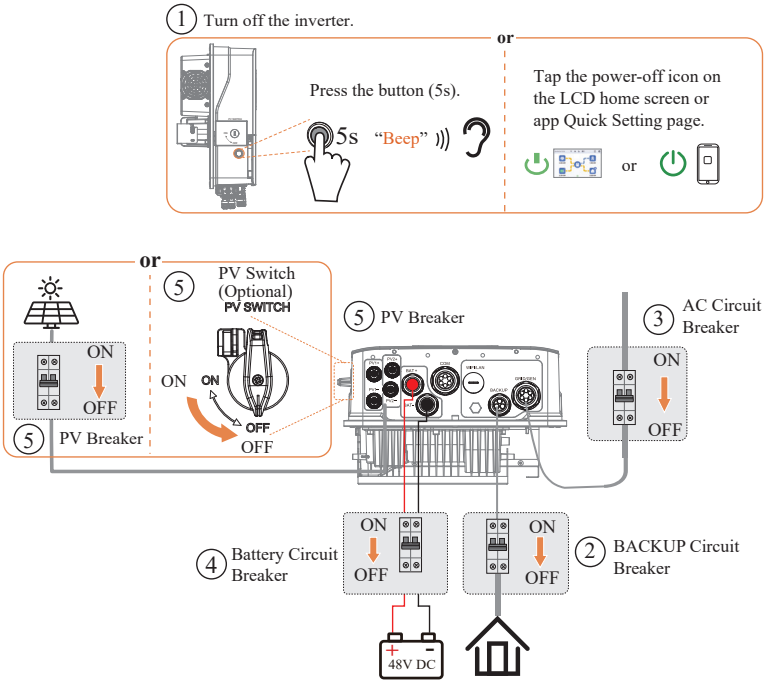
No.	Items
1	The inverter is firmly installed.
2	There is enough heat dissipation space, no external objects or parts left on the inverter.
3	It is convenient for operation and maintenance.
4	The wiring of the system is correct and firm.
5	Check whether the DC and AC connections are correct with a multimeter, and ensure there is no short circuit, break, or wrong connection.
6	Check whether the waterproof nuts of each part are tightened.
7	The vacant ports have been sealed. All gaps at the cable inlet and outlet holes have been plugged with fireproof/waterproof materials, such as fireproof mud.
8	All safety labels and warning labels on the inverter are complete and without occlusion or alteration.
9	Confirm the parameters and configurations conform to relevant requirements. • AC Frequency: 50/60 Hz • PV Voltage: 70 V DC to 500 V DC • Battery Voltage: 40 V DC to 60 V DC • Grid AC Voltage: 176 V AC to 264 V AC

Startup Procedure

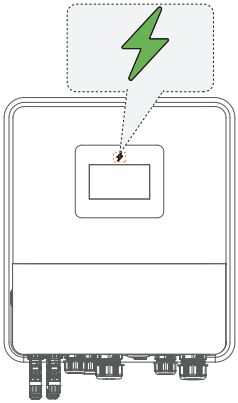
NOTE	The PV switch is optional.



Shutdown Procedure



16. Display



LED Indicator	Status	Description
Green led	On	On-Grid status
	Blink	Standby status
Blue led	On	Off-Grid status
Red led	On	Fault has occurred
→ →	Light alternately (1 color /0.25s)	Upgrade code

NOTE

As the technology is constantly updated and improved, the illustrations in this document are for reference only. Contents including illustrations in this document are subject to change without notice.

614-30298-00

QUICK INSTALLATION GUIDE

Single-phase Hybrid Inverter