Quick Installation Guide

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Thank you for purchasing our products.

FOXESS CO., LTD

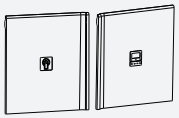
Packing List

Open the package and take out the product, please check the accessories first.
The packing list is shown as below.
WILAN / WiFi / Meter (optional)

All-in-one unit*1

Cover*1

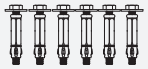
Handles*4



Side panels*2

Bracket*1

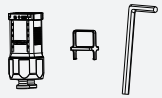
PV connectors (for hybrid only)
2*positive, 2*negative (2.5-6kW)
3*positive, 3*negative (7-10kW)



Expansion screws*6

CT*1

OT terminal*1



AC connector*1
& Removal tool*1 & Hex key*1

Quick installation guide*1

Ethernet cable connector*1

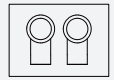
Countersunk head
screws*2 (optional)

PV pin contacts (for hybrid only)
2*positive, 2*negative (2.5-6kW)
3*positive, 3*negative (7-10kW)

COM connector*1

Resistor*1

Cable entry cover*1



CT extension connector*1

Installation Precaution

Make sure the installation site meets the following conditions:

- Not in areas where highly flammable materials are stored, e.g. pressurized gas cylinders, natural gas lines, gunpower products and so on.
- Not in potential explosive areas.
- Not higher than altitude of about 4000m above sea level.
- The slope of the wall should be within +5°.
- The mounting carrier shall meet the following requirements:

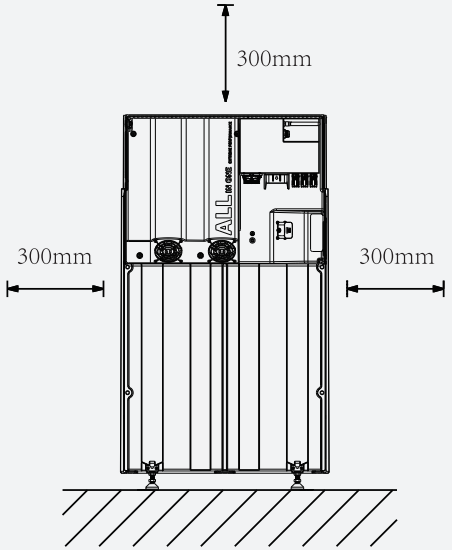
  (1) The installation carrier must not be flammable materials;

  (2) The maximum load bearing capacity of the carrier is greater than or equal to 4 times the weight of the unit.

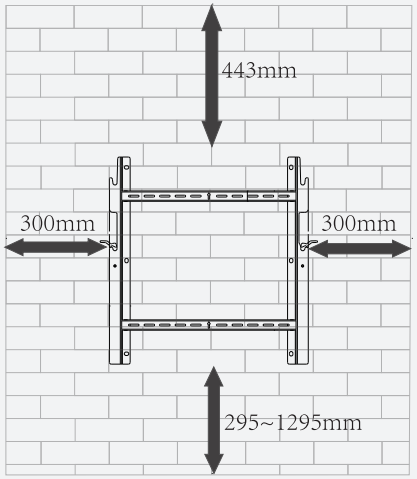
NOTE: Please see the user manual for more details on installation precaution.

Space Requirement

For the unit:



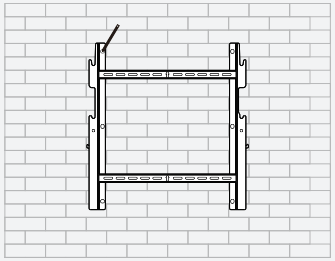
For the bracket:



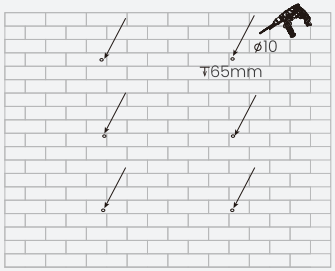
NOTE: If the bearing capacity of the installation surface is poor, it is recommended that the feet contact the ground, that is, the bottom of the bracket is 295~300 mm away from the ground; if the installation surface is a cement wall, please ensure the height of the bottom of the unit from the ground does not exceed 1000 mm to prevent the product from falling and causing damage to the battery or any other danger.

Mounting Steps

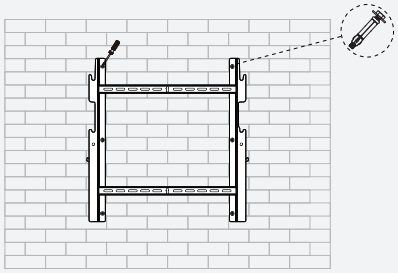
1. Confirm the installation position, place the bracket close to the wall, and mark the position of the installation hole.



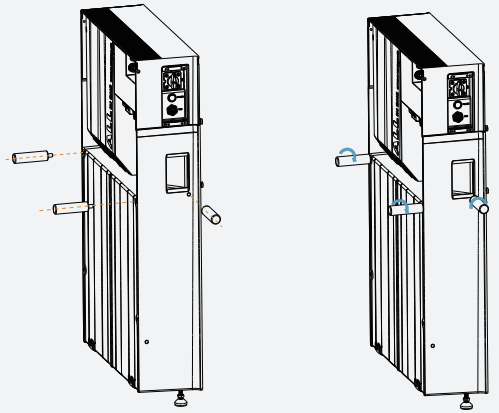
2. Drill six 65mm deep holes at the marked locations with a drill bit of 10mm diameter.



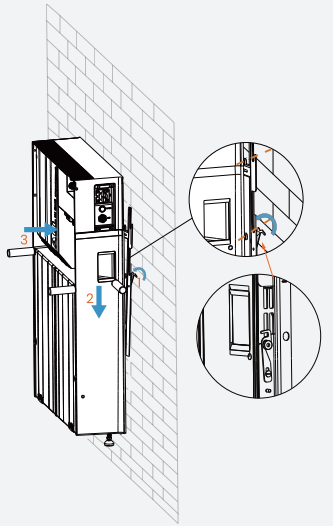
3. Align the bracket with the hole, then knock the expansion screws into the holes and tighten it with a screwdriver.



4. Align the four handle screws to the corresponding holes on the box and rotate to tighten them.



5. Two installers stand on the two sides of the unit, lift the unit by handles and align the screws to the corresponding groove positions of the bracket. Ensure the anti-release hook is fully engaged.

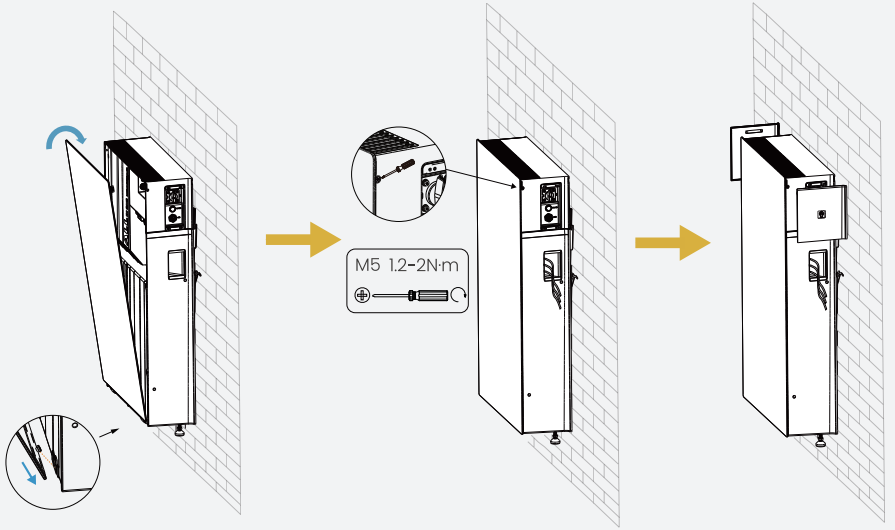


NOTE: The handles and feet can be removed after hanging the unit on the wall.

If the package includes the cover, please implement step 6:

6. After connecting each port of the unit, turn on the switch and start the power supply, and then close the cover. Tighten the screws on both sides of the top to fix the cover and close the side panels.

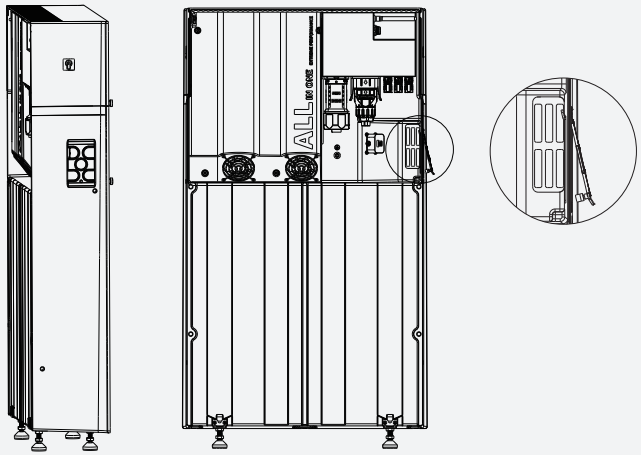
CAUTION:
(1)Before installing the cover, please make sure that all wiring is completed.
(2)Before removing the unit from the wall, please dismantle the cover and the hook and install the feet. See the user manual for detailed dismantling steps.



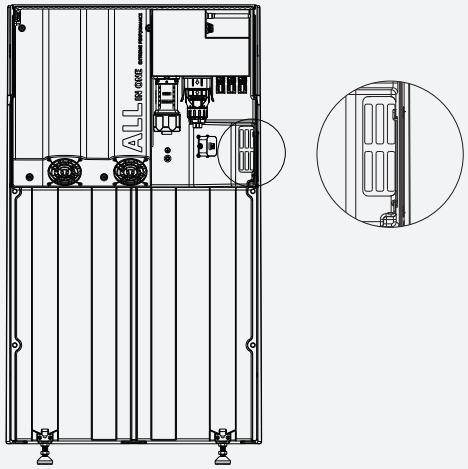
Mounting Steps

Installation of the Cable Entry Cover

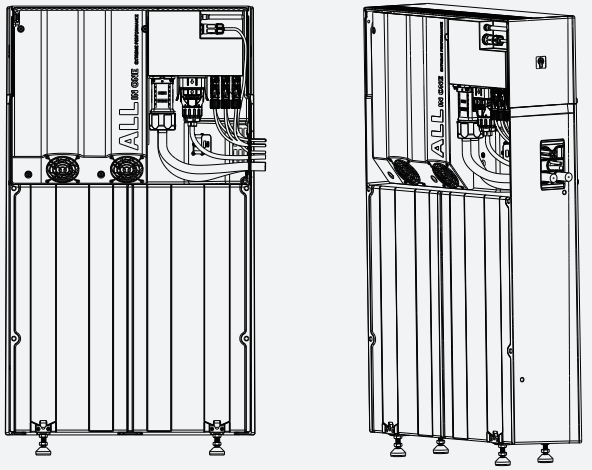
1. Tilt the cable entry cover about 30° and press the top firmly against the upper edge of the cable outlet.



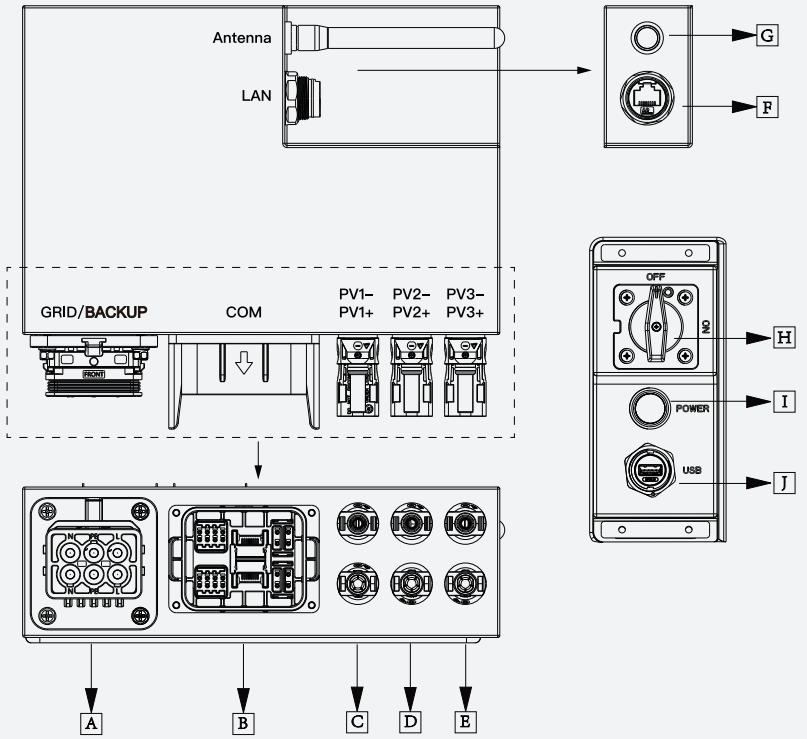
2. There is an L-shaped baffle at the bottom of the cable entry cover that can rotate freely. Manually rotate it 90 degrees so that the cover aligns with the cable outlet. Once released, the cover will automatically rotate to a vertical position due to gravity, or you can manually rotate it to the position shown in the figure below.



3. The installation of the cable entry cover is complete.



Terminals of Inverter

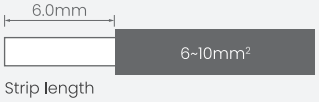


Item	Description
A	Grid & BACKUP port
B	Communication port
C	PV1
D	PV2
E	PV3

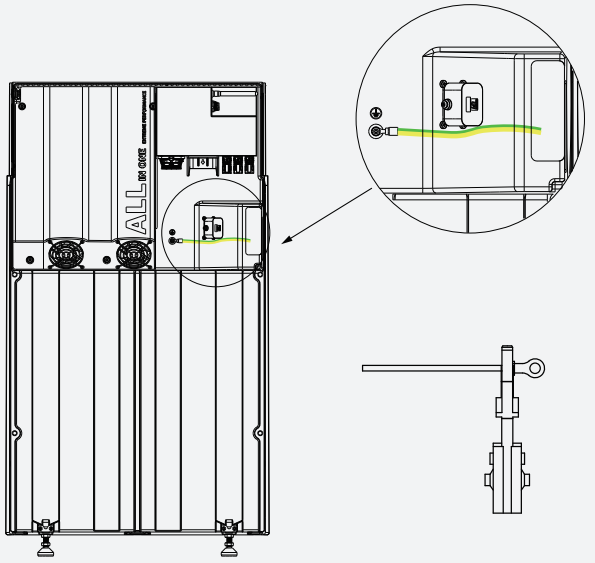
Item	Description
F	LAN
G	Antenna
H	DC switch
I	Power button@Black start
J	USB disk & Dongle

Earth Connection

Trim 6mm of insulation from the wire end.

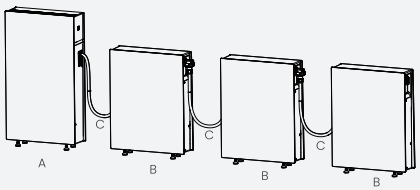
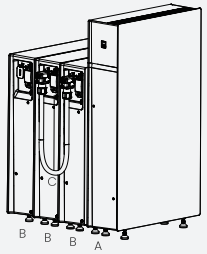


1. Insert striped cable into earth terminal and ensure all conductor strands are captured in the earth terminal.
2. Crimp earth terminal with crimping pliers. Put the earth terminal with striped cable into the corresponding crimping pliers and crimp the contact.
3. Press the ground cable into the ground terminal, screw the ground screw with screwdriver as shown below:



Intallation of Expansion Batteries

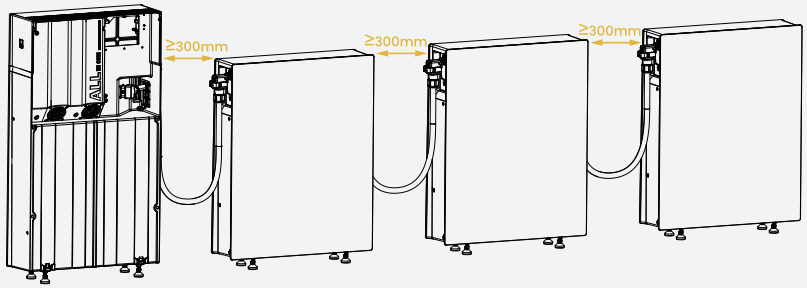
Two installation methods of expansion batteries are presented below.

Wall-Mounted Configuration	Stacked Configuration
	

A: All-in-one unit B: Expansion battery unit C: Expansion harness

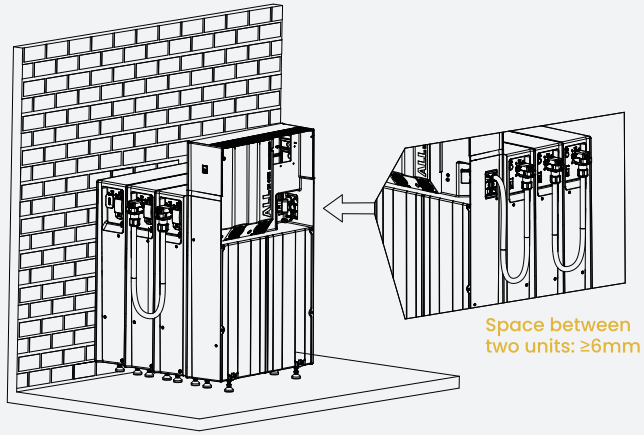
I. Wall-Mounted Configuration

Maintain a minimum clearance of 300 mm between the wall-mounted all-in-one unit and the expansion battery units.

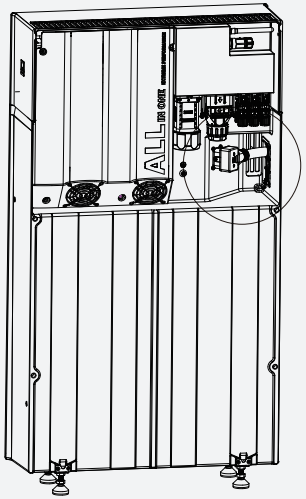


II. Stacked Configuration

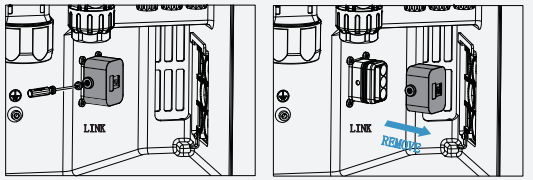
Install the all-in-one unit on the outermost side for easy access and maintenance.



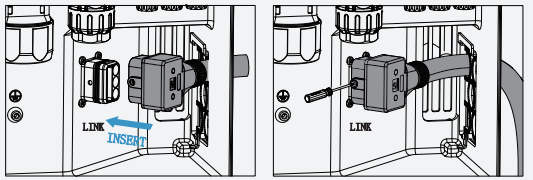
After installation is complete, proceed with the wiring operation.



STEP 1: Remove the LINK plug. 1.2-1.5N·m



STEP 2 : Insert the expansion harness. 1.2-1.5N·m

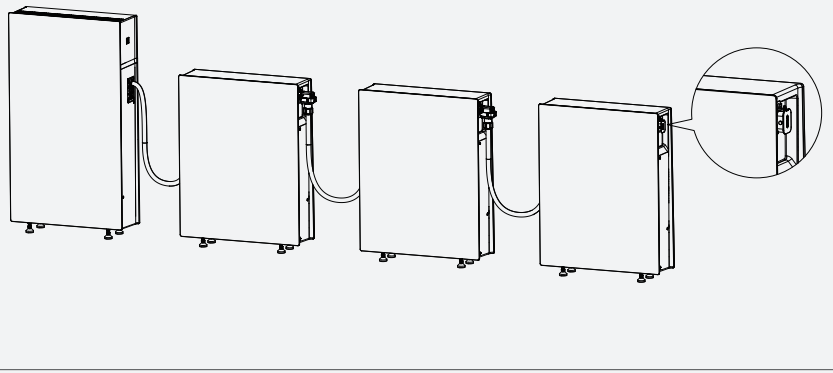


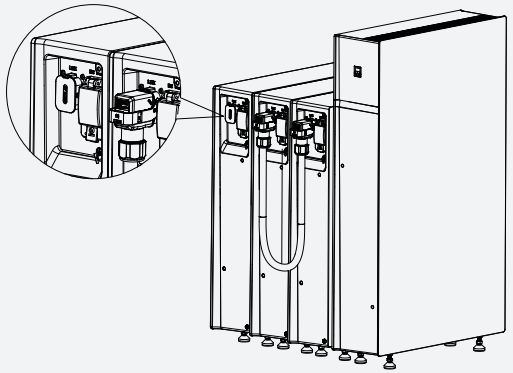
Then connect the parallel ports of the expansion battery units following the same steps.

Finally check the plug on the parallel port of the last expansion battery unit; if it has been removed, reinstall it.

*The all-in-one unit and expansion battery are fitted with the plug at the factory.

Final Check of the Link Plug



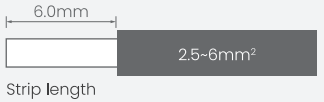


NOTE:

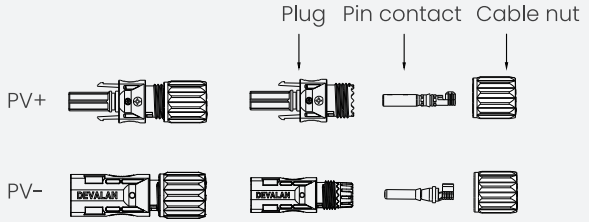
1. The expansion harness includes the grounding wire connecting the all-in-one unit and the expansion battery units.
2. The expansion harness must be the one designated by the company; extending or shortening it on your own is not allowed.

PV Connection

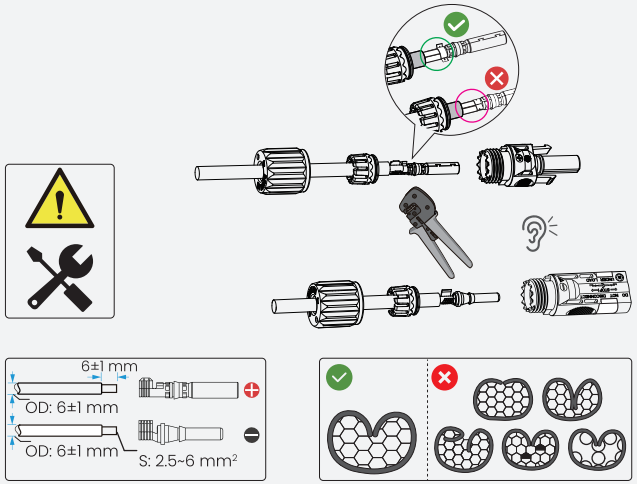
1. Turn off the DC switch.
2. Choose 2.5~6mm² wire to connect the PV module.
3. Trim 6mm of insulation from the wire end.



4. Separate the DC connector (PV) as below.



5. Crimp the pin contact with crimping pliers. Put the pin contact with striped cable into the corresponding crimping pliers and crimp the contact.
6. Insert pin contact through the cable nut to assemble into back of the male or female plug. When you feel or hear a “click” the pin contact assembly is seated correctly.

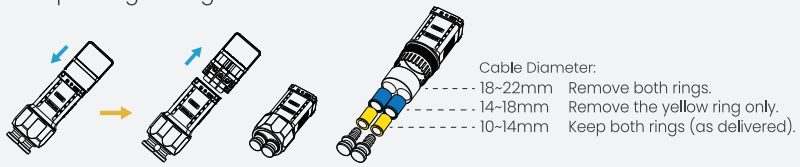


AC Connection

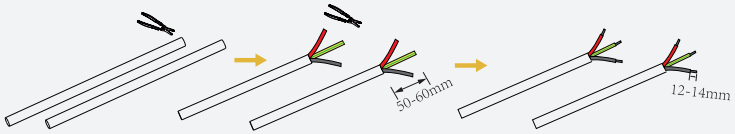
Cable dimensions

Power (kW)	2.5	3	3.7	4	4.6	5.0	6.0	8.0	10.0
Cable (ON-GRID)	6.0 mm²							10.0 mm²	
Cable(BACKUP)	6.0 mm²							10.0 mm²	
Micro-Breaker	16A	20A	32A			40 A	50A	63 A	

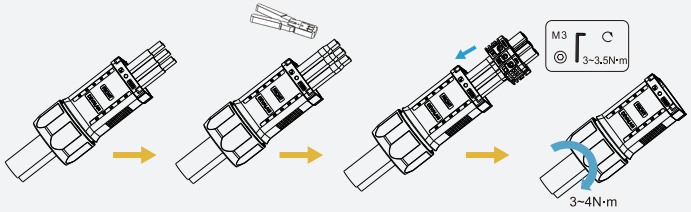
1. Pull out the internal terminal of the AC connector with the removal tool. Remove the plug before passing through the cable.



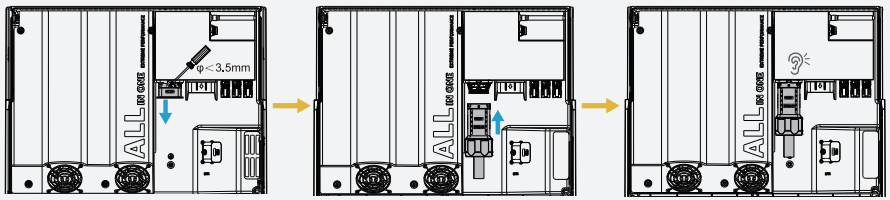
2. Prepare two three-core cables. Strip 50 to 60 mm of the outer sheath from each cable, then strip 12 to 14 mm of insulation from the end of each wire.



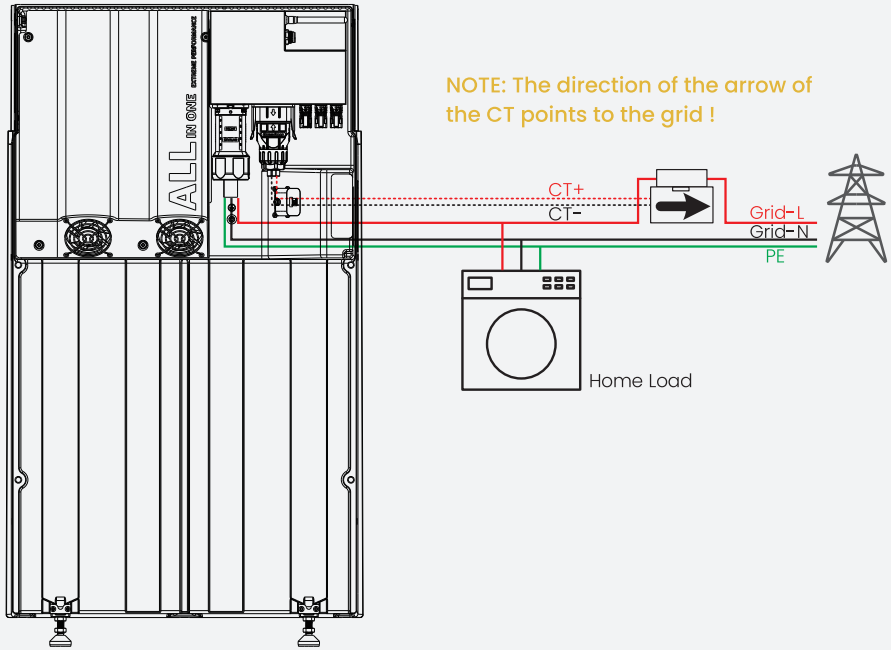
3. Thread the cables into the connectors respectively, then sleeve the sleeves on the cables with the stripped insulation layer, then insert them into the terminal strips, and finally put them into the connectors and tighten the nuts.

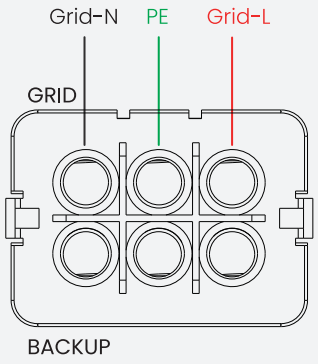


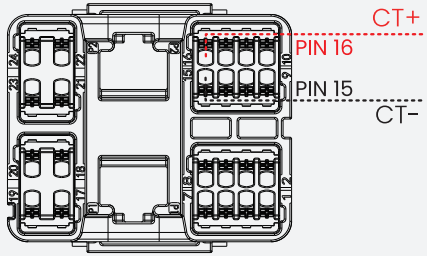
4. Plug the connector into the Grid & BACKUP port on the board end of the all-in-one unit.



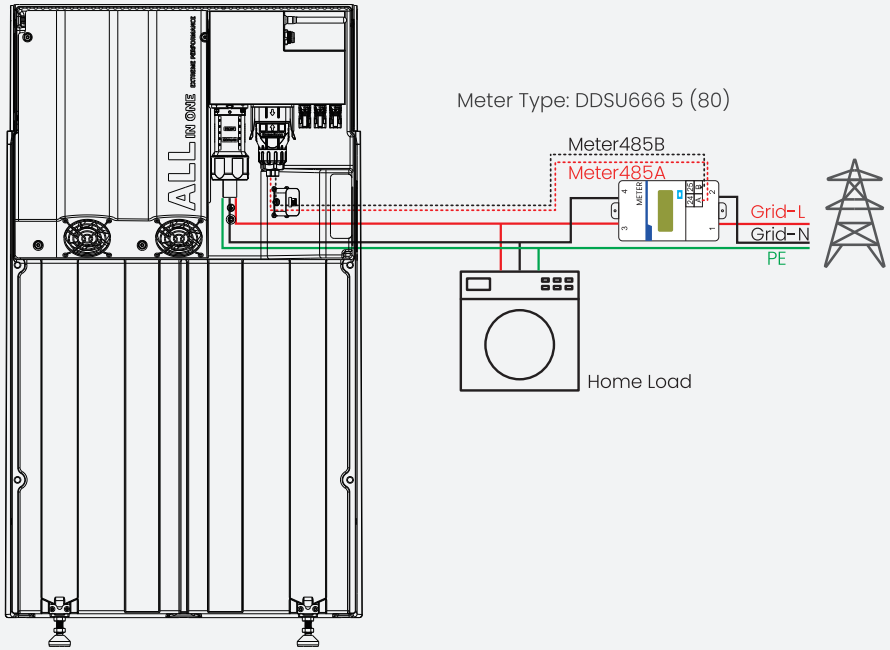
CT/Meter Connection

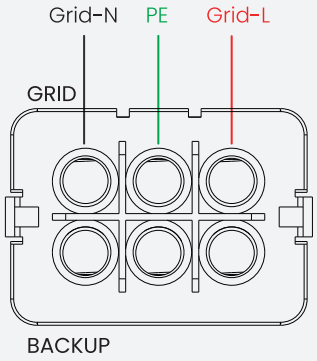


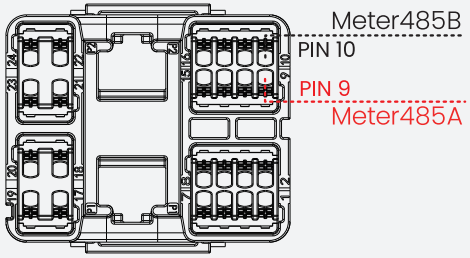




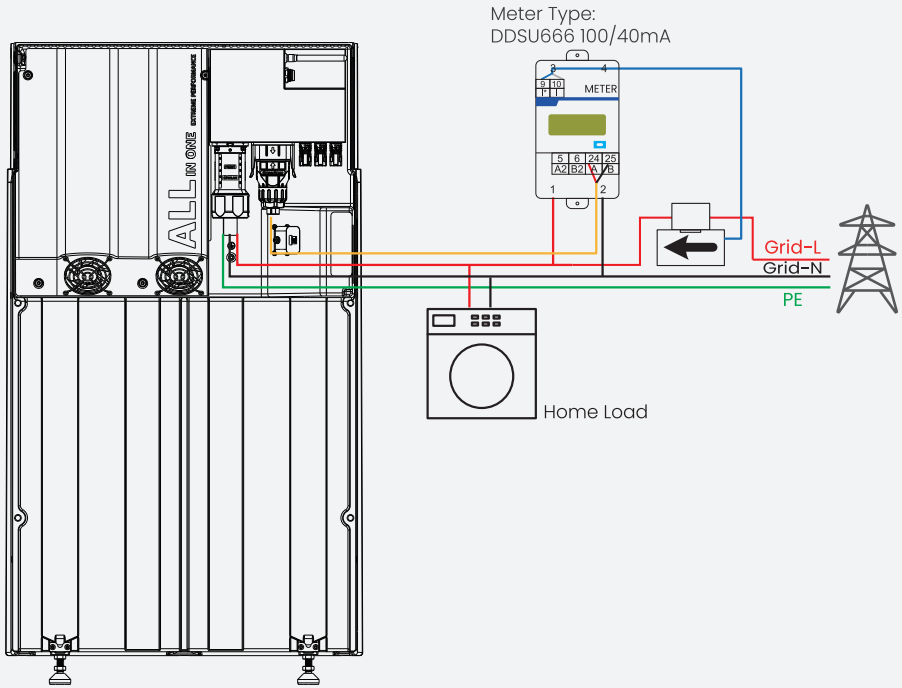
CT/Meter Connection

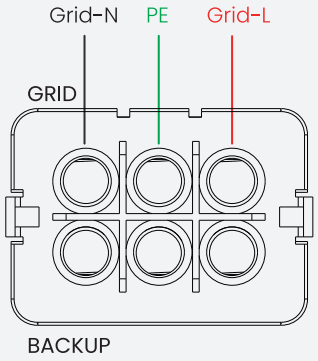


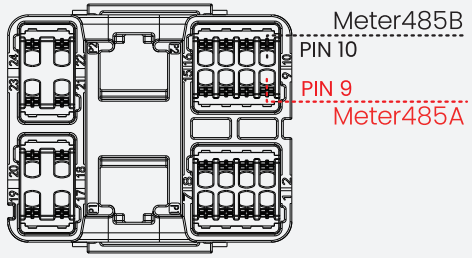




CT/Meter Connection

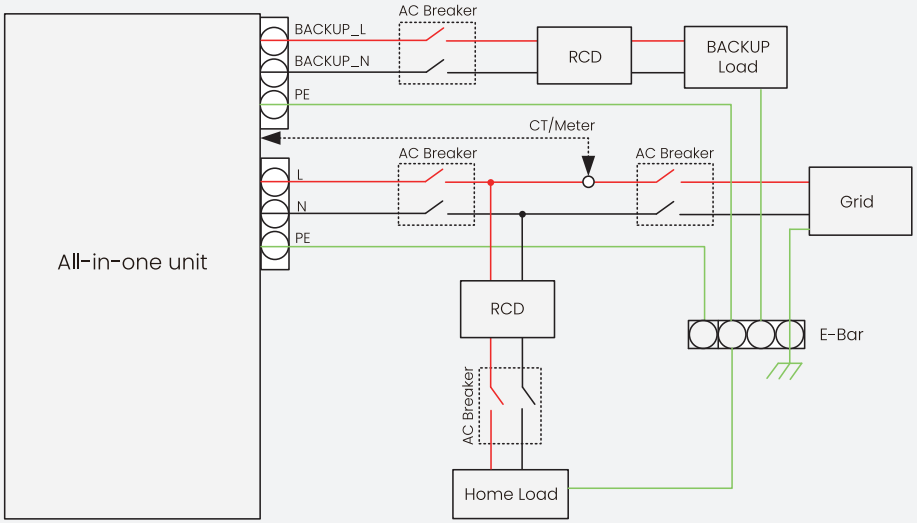




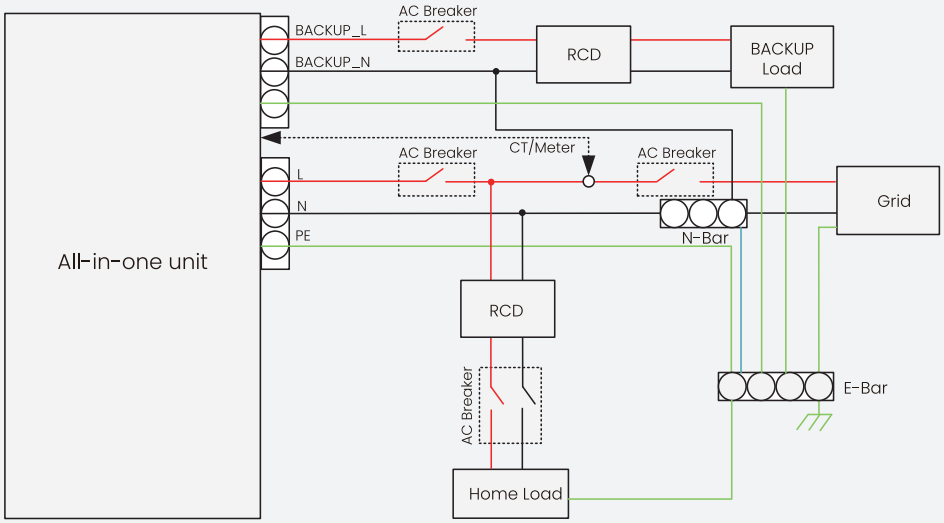


BACKUP Wiring

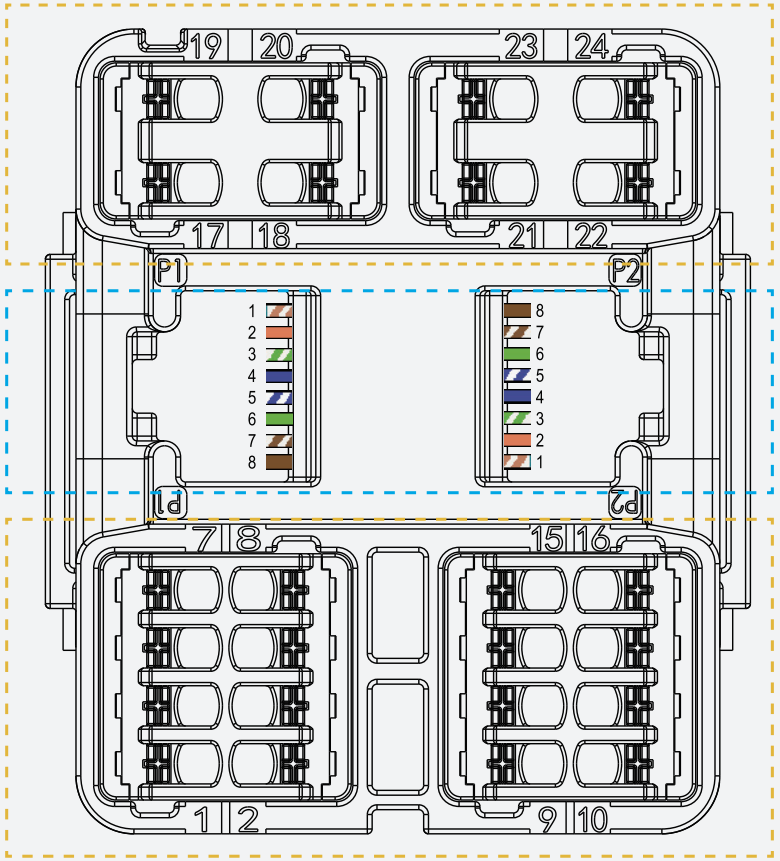
Neutral line of alternative supply must be disconnected after the grid is off. For countries such as China, Germany, the Czech Republic, Italy, etc., please follow local wiring regulations!



Neutral line of alternative supply must not be isolated or switched. For countries such as Australia, New Zealand, South Africa, etc., please follow local wiring regulations!



Pin Assignment



COM port

RJ45 port

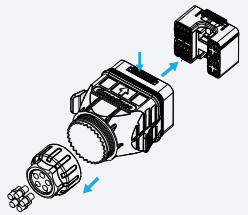
Pin Assignment

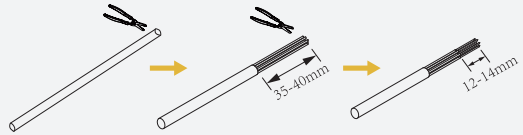
	PIN	PIN Definition		
RJ45 port	1	Paralle_CANH		
	2	Paralle_CANL		
	3	Wifi_485A		
	4	Wifi_485B		
	5	Wifi_485A		
	6	DI		
	7	GND		
	8	12V		
COM port	PIN	PIN Definition	PIN	PIN Definition
	1	DRM1/5	13	CT2+
	2	DRM2/6	14	CT2-
	3	DRM3/7	15	CT1-
	4	DRM4/8	16	CT1+
	5	Ref	17	K1
	6	Com	18	K2
	7	GND	19	K3
	8	Estop	20	K4
	9	Meter_485A	21	Termina_H
	10	Meter_485B	22	Termina_L
	11	485B	23	BMS_CANH
	12	485A	24	BMS_CANL

COM-Connector Wiring

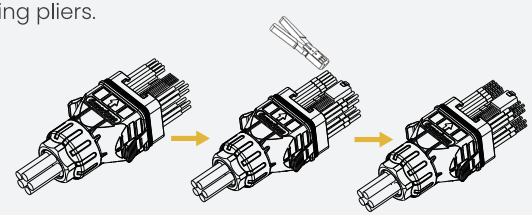
1. Unscrew the screw at the rear end of the COM connector, unplug the waterproof plug, press the position marked by the arrow and pull it out, and remove the terminal block.

2. Prepare five CAT5E network cables. Peel 35 to 40 mm of the outer skin of the network wires, and then peel 12 to 14 mm of the insulation from the front ends of the wires.

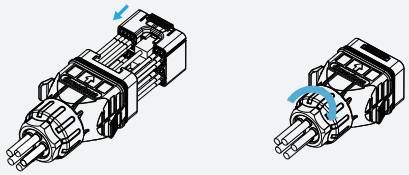




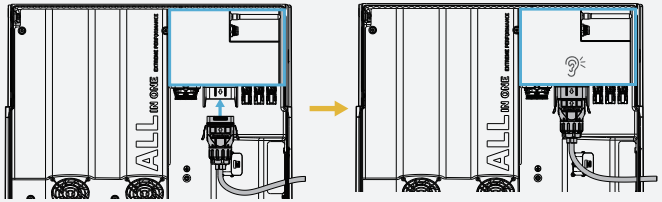
3. Unplug the waterproof plug, thread the cables into the connectors respectively, then sleeve the sleeves on the cables with the insulation stripped off, and crimp the sleeves with sleeve crimping pliers.



4. Insert the crimped connector into the terminal block and tighten the nut. The COM connector assembly is completed.

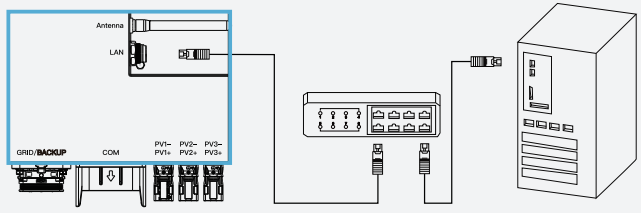


5. Plug the wired connector into the communication port on the board end of the all-in-one unit.

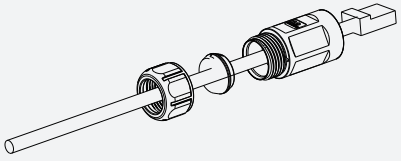


LAN Connection

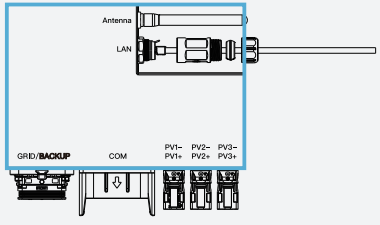
The LAN interface can be adapted to conventional T586A and T586B network cables. The wiring method is as follows.



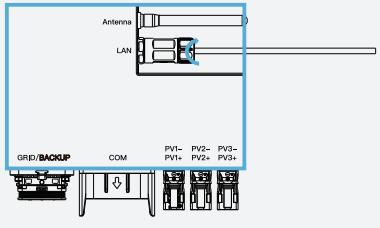
1. Insert the network cable into the wire-locking nut, sealing plug and mainbody in turn.



2. Insert the network cable plug into the matched RJ45 panel mount connector.



3. Tighten the connector mainbody by an open-ended wrench into the RJ45 panel mount connector with a torque 1.2±0.2N·m. Then insert the sealing plug into the main body of RJ45 cable end connector. Finally, tighten the connector's nut by an open-ended wrench with a torque 1.2±0.2N·m.



System Start-up and Shutdown

System Start-up

Please refer to the following steps to start up the all-in-one unit.

- Ensure the unit is securely fixed in place.
- Verify all DC and AC connections are properly completed.
- Confirm the CT/meter is correctly connected.
- Ensure the external BACKUP contactor is connected (if applicable).
- Turn on the DC switch.
- Access the settings menu (default password: 0000), select START/STOP and set to START.

-For parallel systems (All-in-one unit + Expansion battery):

- First, turn on the DC switch on each expansion battery unit;
- Then, follow the steps above for the all-in-one unit.

NOTE:

- When starting the unit for the first time, the country code will be set by default to the local settings. Please check if the country code is correct.
- Set the time on the inverter using the button or by using the APP.

-For parallel systems (All-in-one unit + Expansion battery):

- The all-in-one unit will automatically detect all expansion battery units during startup; this may take a few extra seconds.
- If an expansion battery unit is not detected after startup, check the expansion harness connections and the DC switch on that unit. Then, follow the steps above for the all-in-one unit.

System Shutdown

Please refer to the following steps to switch off the all-in-one unit.

- Access the settings menu, select START/ STOP, and set it to STOP.
- Access the menu settings, enter the Feature page, select BMS Power Ctrl, and choose OFF.
- Turn off the DC switch on the all-in-one unit. For parallel systems, after the all-in-one unit is completely off, turn off the DC switch on each connected expansion battery unit.
- Wait 5 minutes before opening the enclosure cover (if required for maintenance).

System Black Start

In special cases, such as when the grid and solar panels are not in use, the battery can be activated through the "Black Start" function. This means that our energy storage inverter and battery can continue to operate. The startup steps for black start are as follows:

- First turn on the DC switch.
- Press and hold the “POWER” Switch for 7 seconds.

-For parallel systems (All-in-one unit + Expansion battery):

- First, turn on the DC switch on each expansion battery unit;
- Then, follow the steps above for the all-in-one unit.

NOTE:

Ensure all connections are correct prior to Black Start. No wiring modifications during black start.

APP Installation

Scan the QR Code below to install the FoxCloud2.0 APP, view the WiFi distribution network process or download the full manual.

FoxCloud2.0

User Manual

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