

Product Installation Checklist

No.	Check and confirm before powering on	Reference	Checked <input checked="" type="checkbox"/>
1	Confirm that the fixing screws of the battery module and inverter are installed correctly.	Pages 5-7	<input type="checkbox"/>
2	Confirm that all module casing grounding screws of the energy storage system are reliably interconnected, and the entire system is connected from the inverter heat sink to the external grounding point.	Pages 8, 13	<input type="checkbox"/>
3	Confirm that the power harness terminals of the battery module are properly plugged and reliable, and tighten the COM and HEAT harness terminals;	Page 9	<input type="checkbox"/>
4	Confirm that the wire sequence (positive and negative) of the inverter PV port is correct, and that the terminal crimping and plugging are standardized and reliable.	Page 11	<input type="checkbox"/>
5	Confirm that the wire sequence (L1 L2 L3 N PE) on both sides of the inverter's GRID, EPS, and meter ports is correct, and that the terminal crimping and plugging are standardized and reliable.	Pages 12-13	<input type="checkbox"/>
6	Confirm that the inverter GRID and EPS port circuits are independent, with phase lines not interconnected and neutral lines not interconnected.	Page 1	<input type="checkbox"/>
7	Confirm that the GRID and EPS ports of the inverter are first connected to the residual current action protector before supplying power to the load;	Page 1	<input type="checkbox"/>
8	Confirm that the CAN connection between the inverter BMS/CAN port and the battery control unit is standardized and reliable;	Page 14	<input type="checkbox"/>
9	Confirm that the connection between the inverter MET/485 port and the meter communication interfaces 21 (485A) and 22 (485B) is standardized and reliable;	Page 14	<input type="checkbox"/>
10	Confirm that the "PV SWITCH" switch of the inverter and all switches connected to the product are in the "OFF" state;	Pages 15-16	<input type="checkbox"/>
No.	Check and confirm after powering on		Checked <input checked="" type="checkbox"/>
1	After running on the power for 3 minutes, check the electricity meter to confirm whether the three-phase current matches the load situation, in order to prevent abnormal current caused by incorrect wiring sequence.		<input type="checkbox"/>

QUICK INSTALLATION GUIDE

All-in-One ESS

AE5/6/8/10K-H-T & AESCB10/15/20/25/30Series



Read User
Manual First



Wear Appropriate
Personal Protection
Equipments

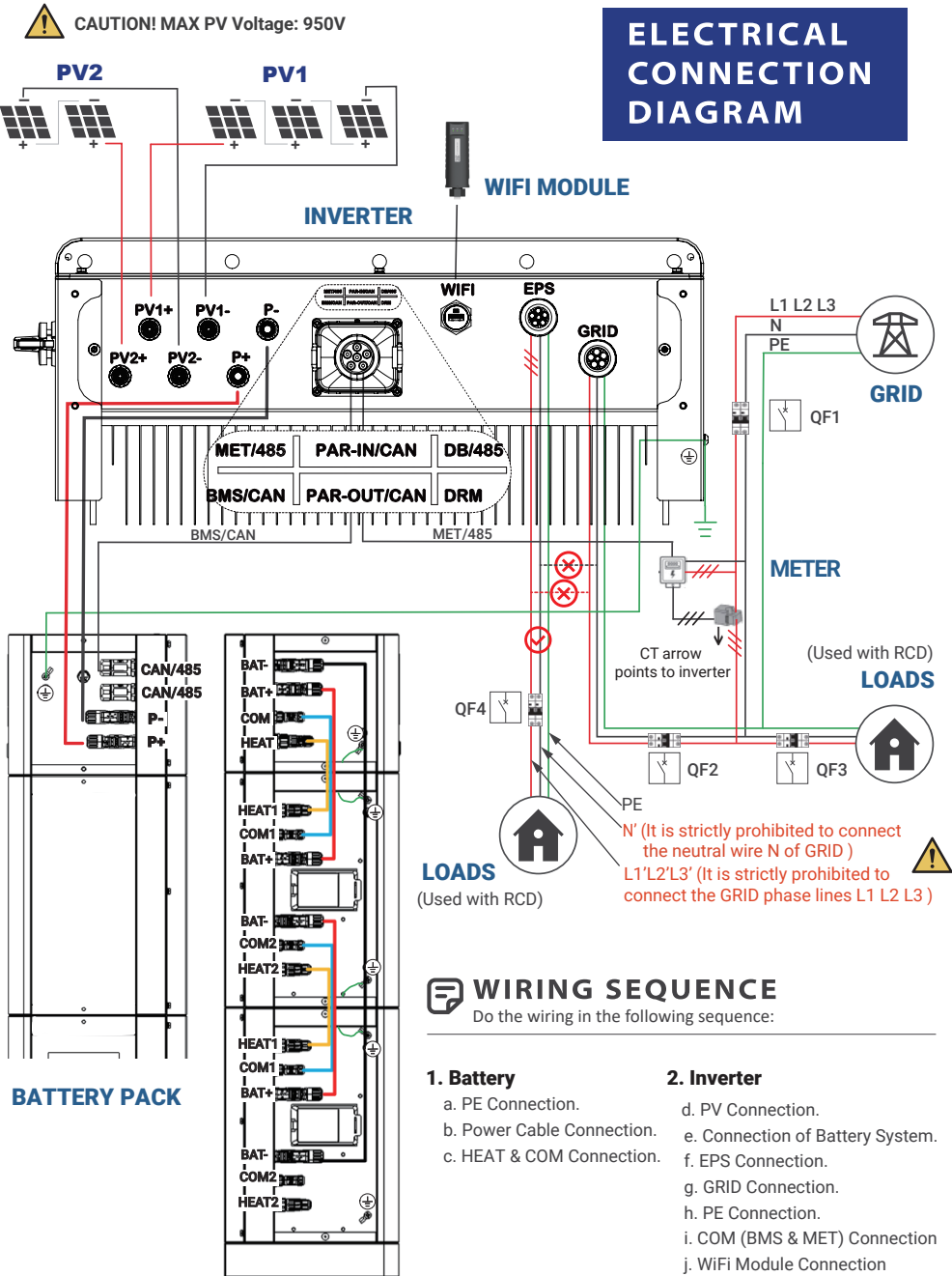


CAUTION

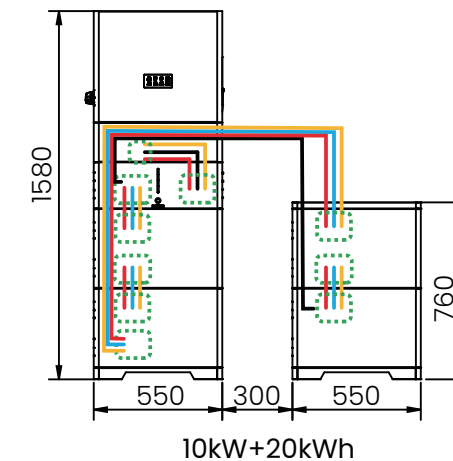
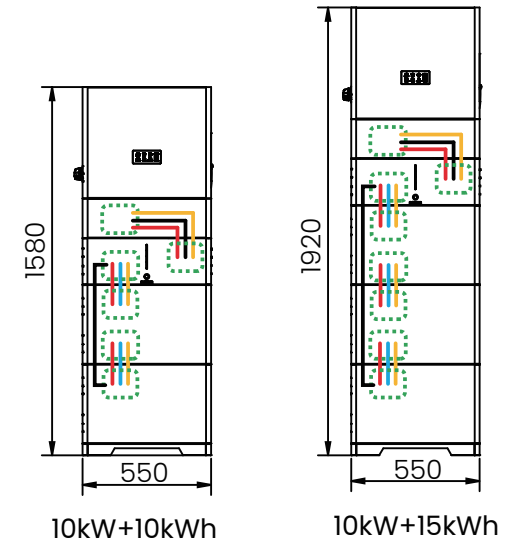


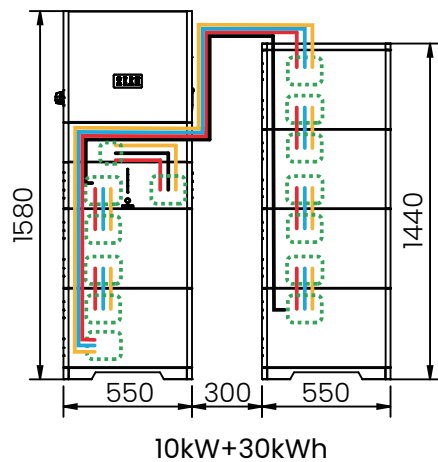
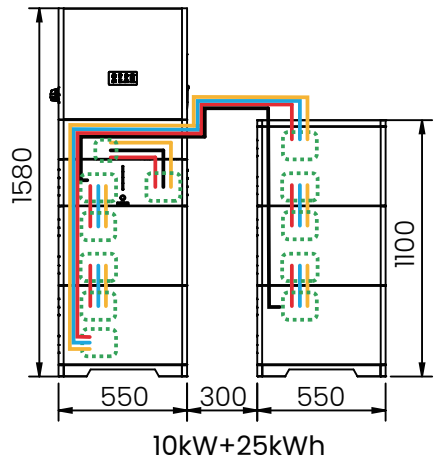
WARNING!
Electric shock

V1.3(20250725)



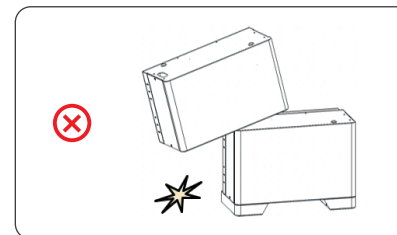
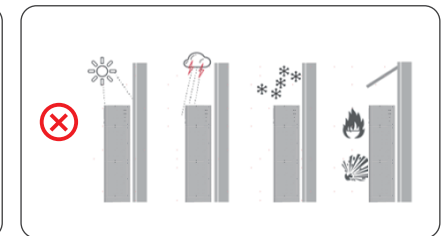
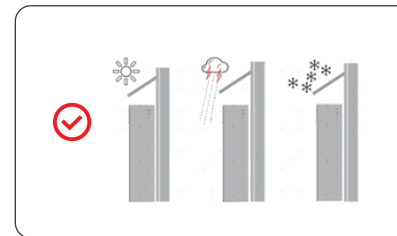
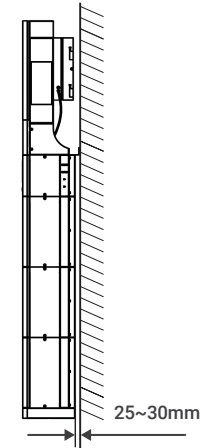
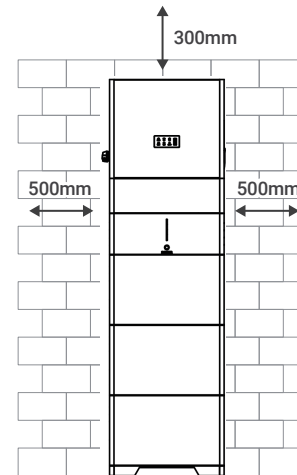
Instructions for the wiring of battery packs with different capacity combinations





Requirements for installation site

Sufficient space must be reserved near the battery pack and inverter to facilitate installation, maintenance and heat dissipation.



! DANGER

When installing the battery pack, if the battery pack is dropped or subjected to strong impact, the device will be damaged, and it is strictly prohibited to continue to use it, otherwise there will be safety risks (potential leakage of battery cells, click injury, etc.).

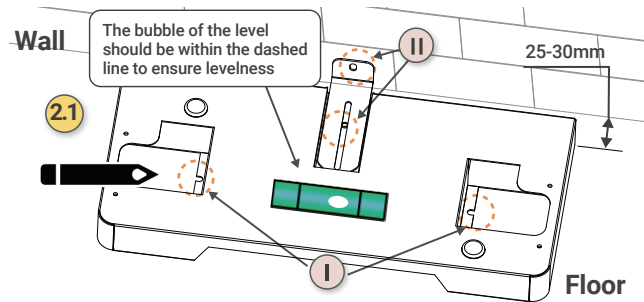
1. Packing List

Please confirm the materials according to the packing list inside the packaging box.

2. Battery Pack Installation

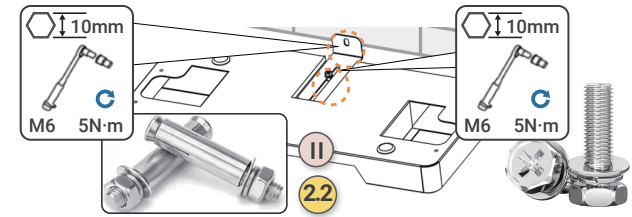
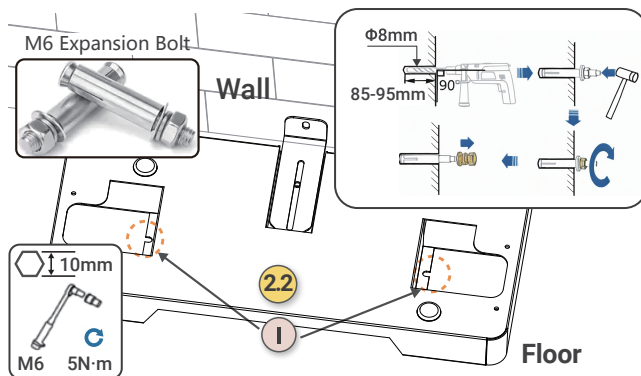
2.1: Place the base in parallel to the wall on a flat surface, 25-30mm away from the wall, keep the base level and mark the position of hole.

The base supports two fixing methods: ground-fixed (option I) and wall-fixed (option II). User can choose one according to the actual situation.



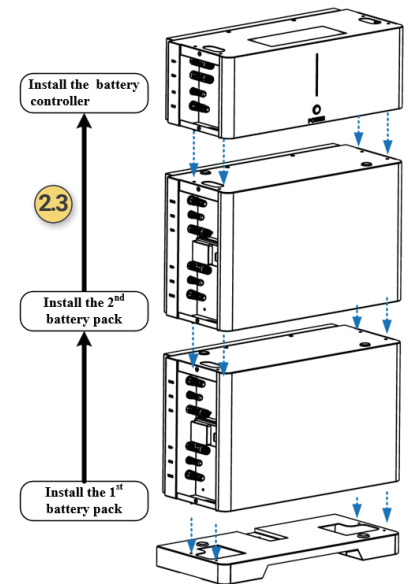
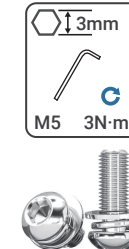
2.2: Drill holes with an impact drill ($\Phi 8\text{mm}$, Depth: 85-95mm).

For the ground-fixed method, it is fixed with two M6 expansion screws (option I), For the wall-fixed method, it is fixed with one M6 expansion screw and one M6 ordinary screw (option II).

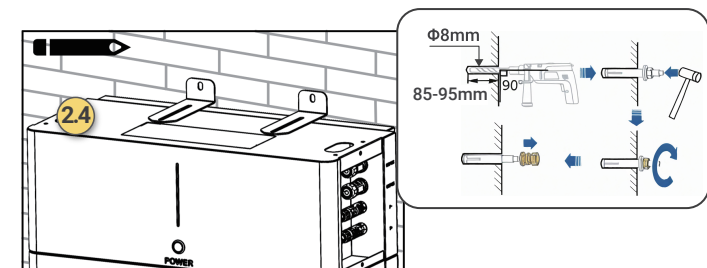


2.3: Place the battery packs and the battery controller and mount M5 screws at both sides (3N.m).

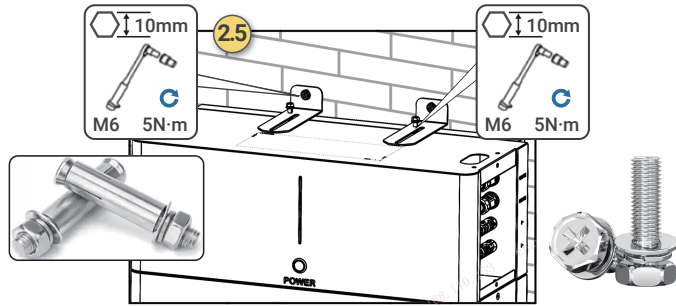
When using electric tools to install screws, ensure vertical alignment, slow speed, and small torque to avoid stainless steel screws locking.



2.4: Put the wall-fixing bracket at the top of battery controller, mark the position of hole, dismantle the wall-fixing bracket and drill holes with an impact drill ($\Phi 8\text{mm}$, Depth: 85-95mm). Collect the scraps by cover plate during the drilling process.

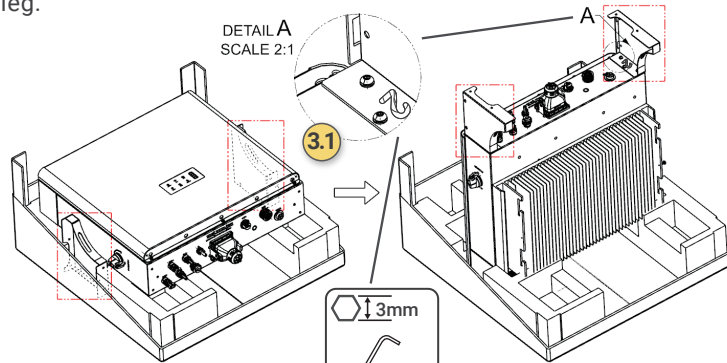


2.5: Install the wall-fixing bracket using M6 expansion bolt and general screw to fix the equipment.

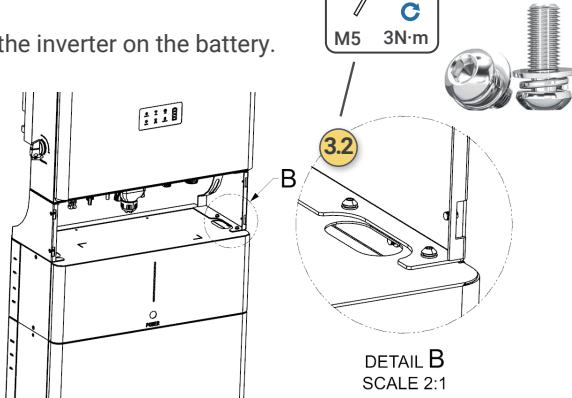


3. Inverter Installation

3.1: Place the inverter upside down inside the packaging box and install the support leg.



3.2: Fix the inverter on the battery.



4. Wiring/Connection Steps

4.1 Battery wiring sequence:

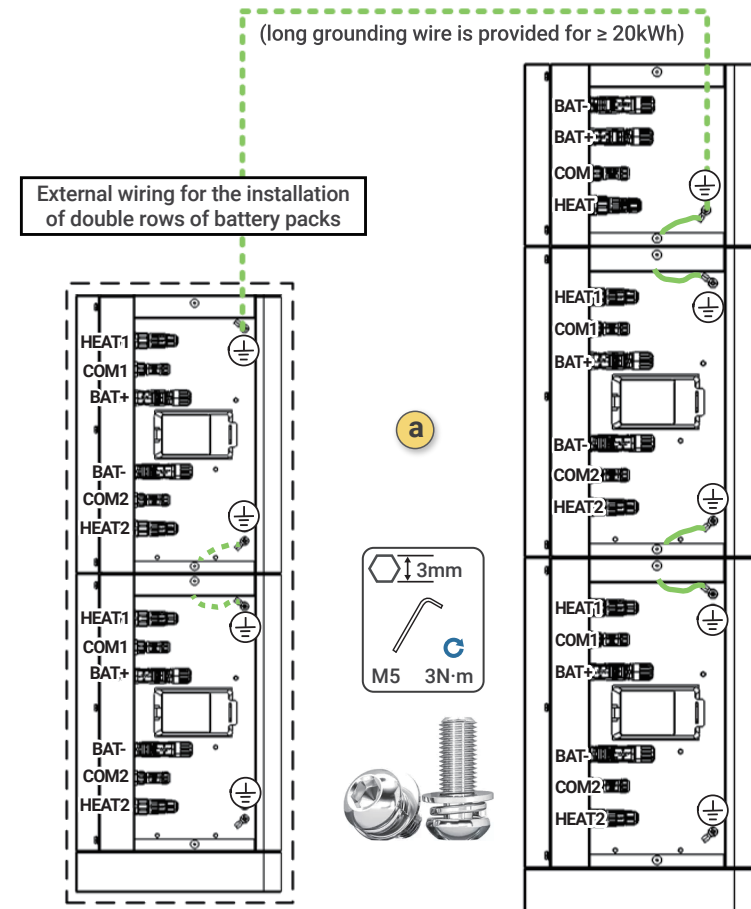
- a. PE Connection.
- b. Power Cable Connection.
- c. HEAT & COM Connection.

Prepare the wires before wiring.

It is forbidden to close the circuit breaker manually for battery pack before wiring is complete!

a) PE connection

a1: Fix the earthing wire at designated position.



b) Power cable connectiona

b1: Plug-in 3-in-1 connection wire between PACKS (No. I in the diagram) at BAT+ and BAT-.

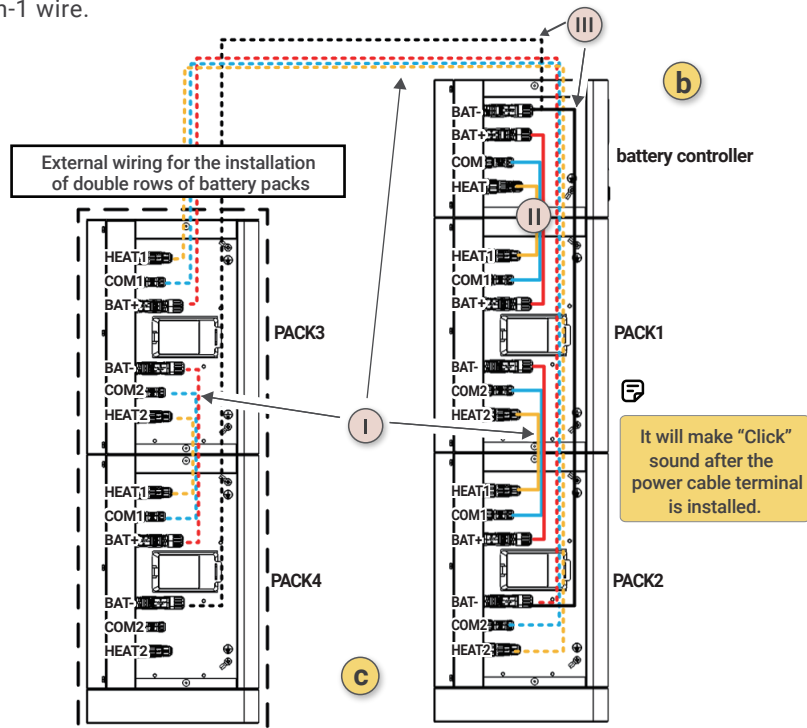
b2: Plug-in positive 3-in-1 connection wire between PACK and battery controller (No. II in the diagram) at BAT+.

b3: Plug-in the negative connection wire (No. III in the diagram) at BAT-.

Note:

The dashed line in the diagram shows the wiring scheme when multiple rows of battery packs are connected in series.

Some products do not include HEAT wire (yellow in the diagram) and are equipped with 2-in-1 wire.

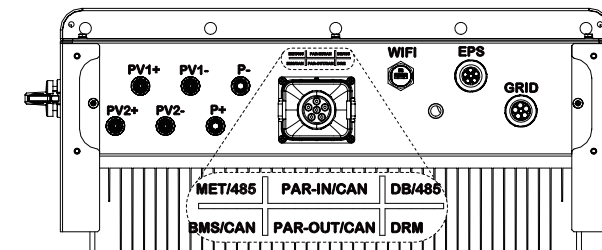
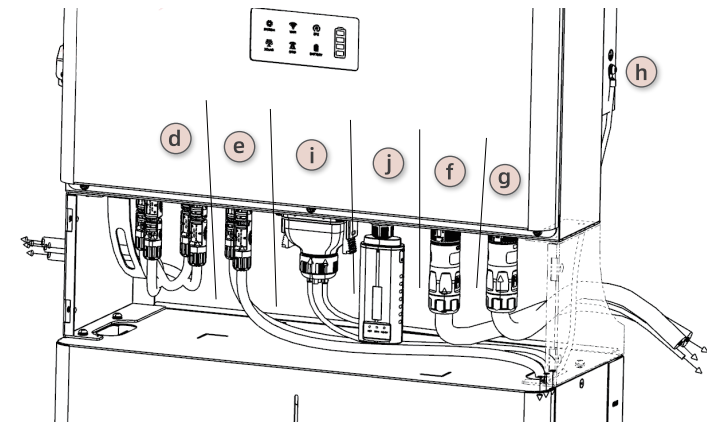


c) HEAT & COM connection

c1: The rest two wires of 3-in-1 connection wire is HEAT (yellow in the diagram) and COM wire (blue in the diagram). Plug-in them in the position shown in the diagram.

4.2: Inverter wiring sequence:

- d. PV Connection.
- e. Battery System Connection.
- f. EPS Connection.
- g. GRID Connection.
- h. PE Connection.
- i. COM (BMS & MET) connection.
- j. WiFi Module Connection.



d) PV connection.

Refer to user manual for wire preparation

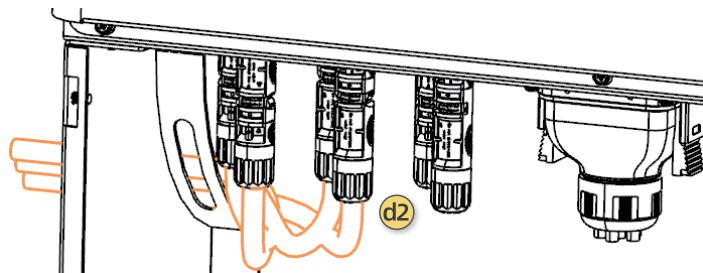
(Three Phase Hybrid Inverter) Page 28

CAUTION! Check PV voltage (180-950V) and avoid reverse connection. Cut off PV DC switch before installation.

d1: Make PV connection harness.

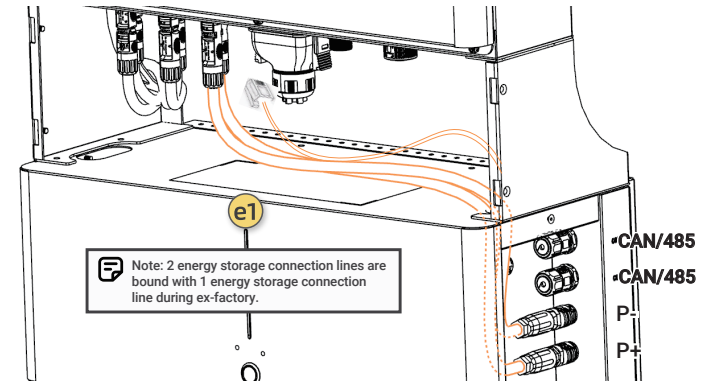


d2: Plug-in the PV connection harness into PV interface on the inverter (PV1+/PV1-/PV2+/PV2-).



e) Battery system connection.

e1: Plug-in the energy storage connection harness into the corresponding energy storage interface (P+/P-) on the inverter and battery controller.



f) EPS connection.

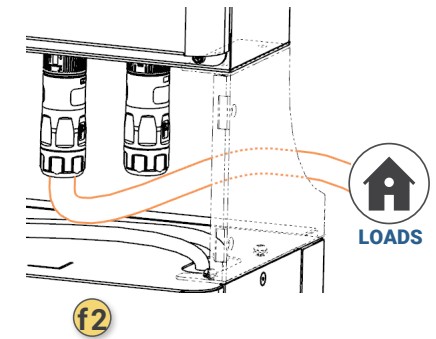
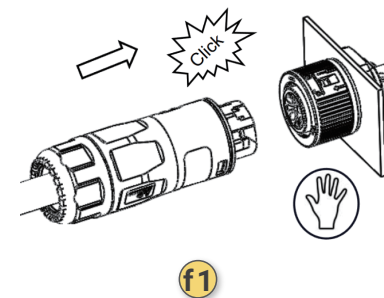
Refer to user manual for wire preparation

(Three Phase Hybrid Inverter) Page 26

CAUTION! It is strictly prohibited to connect the neutral wires of EPS and GRID, otherwise it may cause leakage current to exceed the limit.

CAUTION! It is strictly prohibited to connect the phase lines of EPS and GRID, otherwise it may cause equipment damage.

f1: Make EPS connection harness.

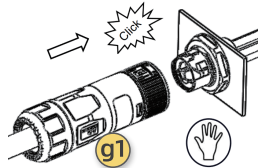


f2: Plug-in the EPS connection harness into the corresponding EPS interface on the inverter.

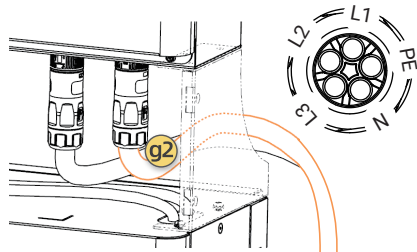
g) GRID connection.

Refer to user manual for wire preparation. (Three Phase Hybrid Inverter) Page 26

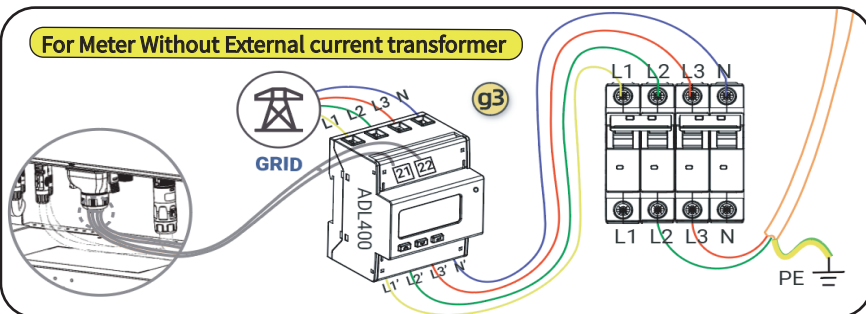
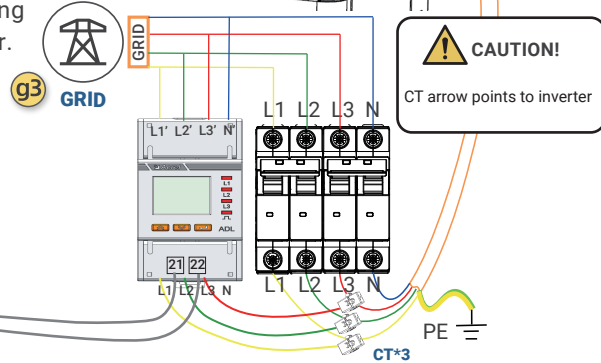
g1: Make GRID connection harness.



g2: Plug-in the GRID connection harness into the corresponding GRID interface on the inverter.



g3: Install meter and circuit breaker on GRID.



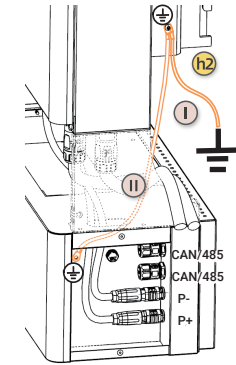
h) PE connection.

Refer to user manual for wire preparation. (Three Phase Hybrid Inverter) Page 26

h1: Make the system PE wire for external connection (No. I harness in the diagram) using the terminal block accompanied with the packaging box.

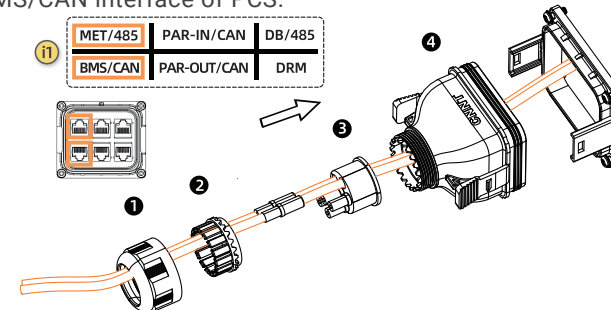


h2: Fix the PE harness of the inverter (No. II harness in the diagram) and system PE wire for external connection on the upper earthing mark of PCS. Connect the accompanied PE harness with Battery controller earthing point. The system PE wire for external connection is earthed separately.

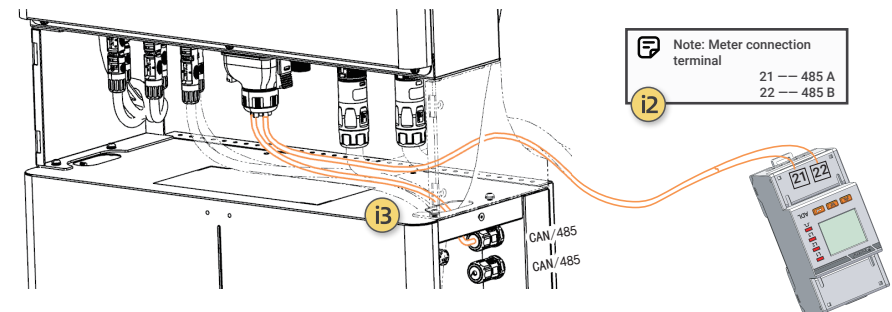


i) COM (BMS & MET) connection

i1: Run the Meter communication harness through the waterproof shell to install it on MET/485 interface of PCS. Run the Battery communication harness through the waterproof shell to install it on BMS/CAN interface of PCS.

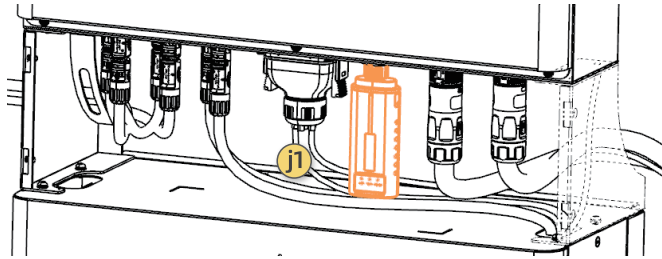


i2: Plug-in the meter communication harness to 21/22 communication interface of meter.
i3: Plug-in the energy storage communication harness to CAN/485 communication interface of battery controller.



j) WiFi module connection

j1: Install WiFi module to WiFi interface of PCS.

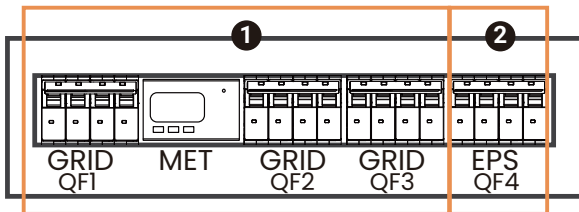


5. Device powering on & APP setting

5.1 Device powering on

! The last page is accompanied by a checklist. After checking for accuracy, turn on the power according to the recommended sequence.

Step 1: Switch ON the GRID AC air circuit breakers (1) in the distribution box;

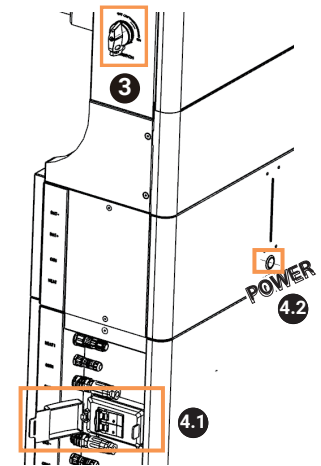


(Distribution box: Diagram QF1-4 corresponds to the electrical connection diagram on page 1)

Step 2: Switch ON the EPS AC air circuit breaker (2) in the distribution box.

Step 3: Switch ON the PV switch (3) of the inverter;

Step 4: Switch ON the air switches (4.1) of all battery packs, then press and hold 'POWER' button (4.2) on the battery controller > 3s .



Note: After DC power is applied, the system LED has a waiting period of approximately 90 seconds.

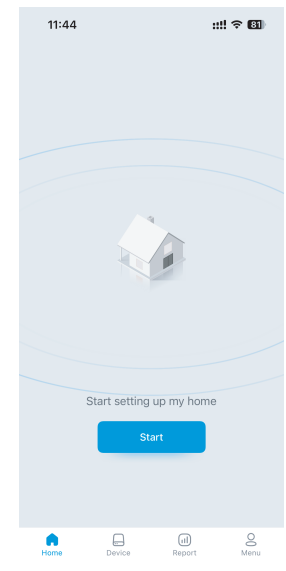
5.2 APP setting

5.2.1 Home Setting

Step 1: Download 'SOLARMAN Smart' EMS APP from Google Play/Apple App Store.

Step 2: Sign up and login your account in "SOLARMAN Smart" EMS APP.

Step 3: Click "Start" to create your home on SOLARMAN Smart.

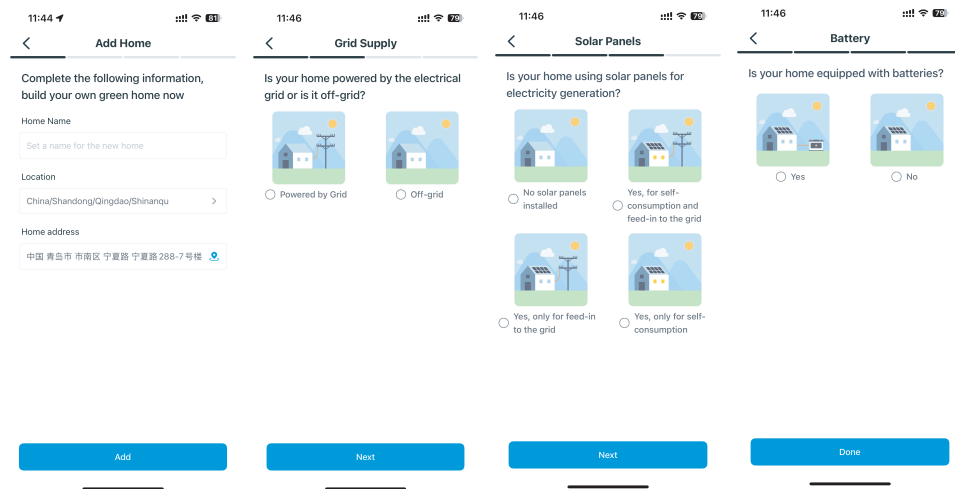


Step 4: Enter Home Details.

Please enter the address to search for the location of the power station, and click "Add" after confirmation.

Follow the prompts to improve the power supply, photovoltaic and battery conditions of the power station, etc., the more complete the power station information is filled, the more conducive to your power station management.

After completing the power station information, you can click the "Done" button, and the page will appear in a successful window.

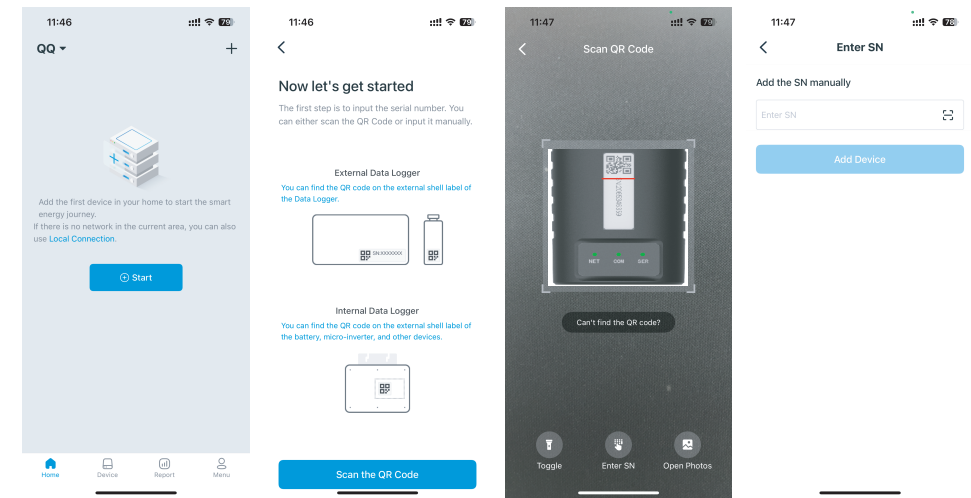


5.2.2 WIFI Module Setting

Step 1:

Click the "Start" button to enter the Add page and add equipment to the power station

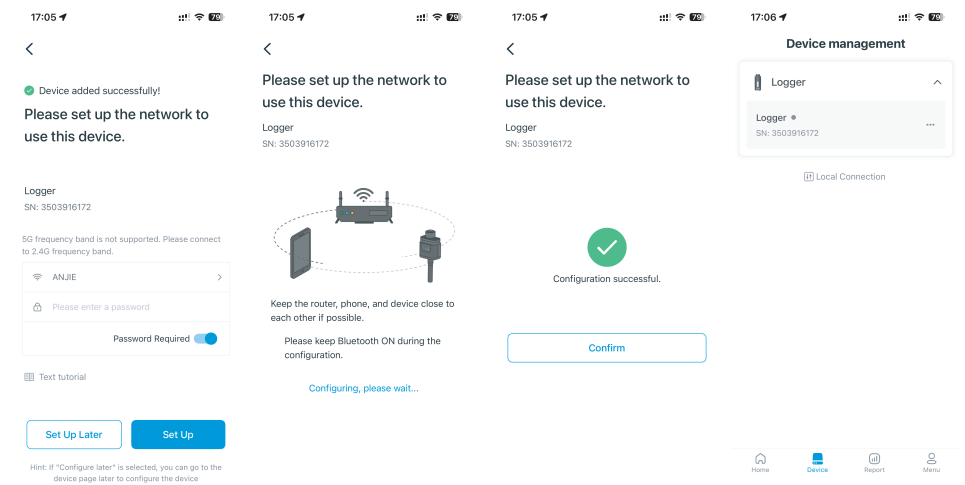
You can manually enter the serial number of the WIFI module, or you can click "Scan" to use your mobile phone to scan the WIFI module Barcodes are added. The serial number of the WIFI module is generally located on the box of the WIFI module, if the box has been lost, you are also The code can be found in the WIFI module itself.



Step 2:

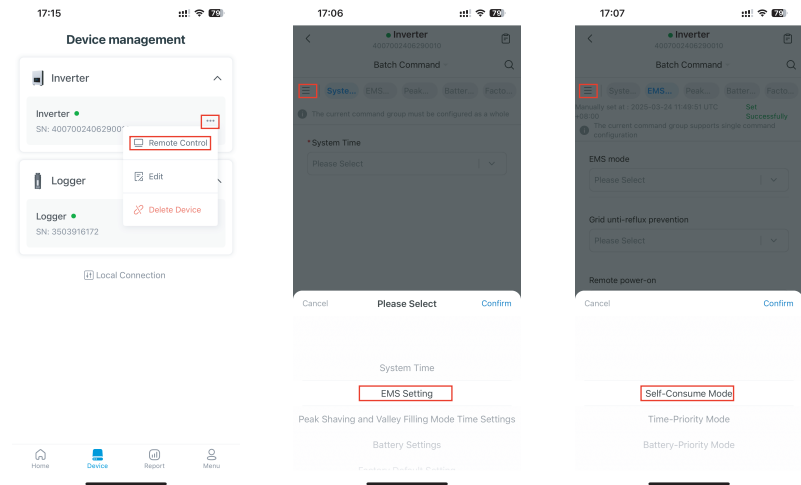
Make sure your phone is connected to your home Wi-Fi network, and tap Enter the connection password for that network. After entering and confirming that the information is correct, click the "Set Up" button.

Please be patient and wait for the configuration to complete automatically. If the configuration is successful, click "Confirm", and the logger will remain in the "Offline" state. Generally, within 5 minutes, the equipment can communicate normally and start collecting data from the photovoltaic system. The "●" on the right side of the collector The color changes from gray to green, so please be patient.



5.2.3 Mode Setting

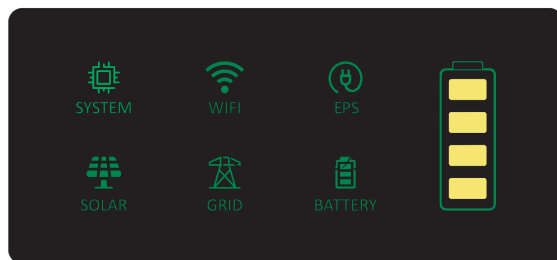
Default setting for equipment tooling mode: Self-Consumed.
 Customers can also modify the tooling mode to Time-Priority Mode and Battery-Priority Mode and Power Dispatch Mode according to actual needs.
 To modify the working mode, please go to the "Device" page, select "... " on the right side of the "Inverter". Click "Remote Control" and then enter the "Batch Command" page of the device.
 Select the EMS Settings command name and Set Working Mode.



(a)

Click on the home page to display the configured APP interface (a)

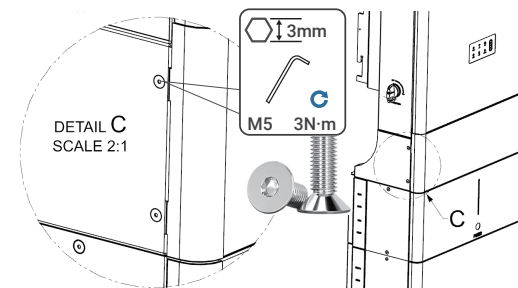
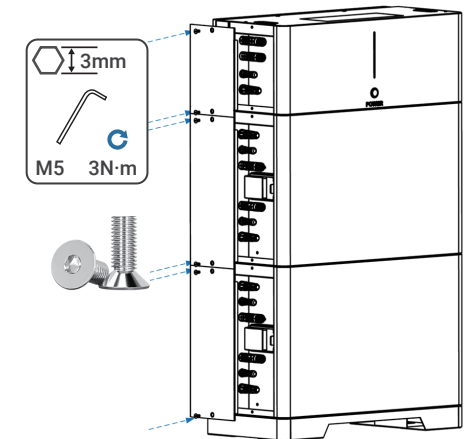
Inverter LED light interface after successful configuration (b)
 SYSTEM and WIFI are shown in green
 The status of the other lights shows the corresponding color according to the configuration



(b)

6. Shell Installation

6.1: Mount the battery side covers at both sides of the battery pack after finishing wiring and debugging.

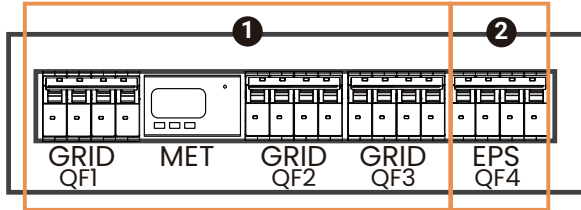


6.2: Mount the front trim cover on the inverter support leg after finishing wiring and debugging.

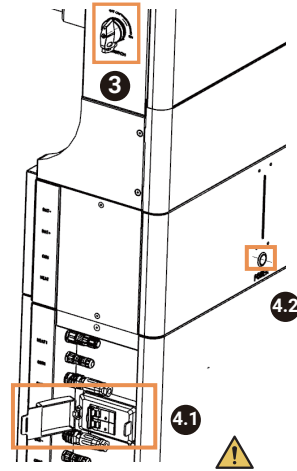
7. Power-off maintenance and common troubleshooting

7.1 Power-off maintenance

Power off and repair equipment in the recommended order.



(Distribution box: Diagram QF1-4 corresponds to the electrical connection diagram on page 1)



Step 1: Disconnect the EPS AC circuit breaker (2) inside the distribution box.

Step 2: Disconnect the GRID AC circuit breaker QF2 (1) inside the distribution box.

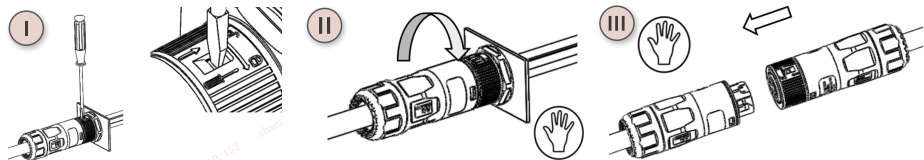
Step 3: Disconnect the PV switch (3) of the inverter.

Step 4: Press and hold the power button (4.2) for more than 3 seconds, and after the indicator light turns off, disconnect all battery modules from the circuit breaker (4.1).

Step 5: The indicator light turns off, disconnect all battery modules from the circuit breaker (4.1).

Note: Failure to disconnect (4.1) will result in complete battery drain and permanent battery damage!!!

Step 6: Use a screw driver to turn the unlocking buckle of the GRID port and EPS port, remove the two power harnesses, and plug them together.



Step 7: Close the GRID AC circuit breaker QF2 (1) inside the distribution box.

Step 8: Close the EPS AC circuit breaker (2) inside the distribution box.

7.2 Common troubleshooting

No.	Indicator light status	problem	Solution
1		Smart meter communication failure	<ol style="list-style-type: none"> 1. Check if the meter interface 21 (485A)/22 (485B) is connected incorrectly; 2. Confirm the communication address and baud rate of the electricity meter according to the single page instruction manual; 3. Check if the inverter interface MET/485 is misconnected or loose.
2		Grid phase loss	<ol style="list-style-type: none"> 1. Use a multimeter to measure the voltage of the power grid and confirm if there is a phase loss fault.
3		Wrong phase sequence	<ol style="list-style-type: none"> 1. Adjust the position of any two phases at the top of the smart meter.
4		Not connected to the grid	<ol style="list-style-type: none"> 1. Use a multimeter to measure the voltage of the GRID port circuit breaker.

No.	Indicator light status	problem	Solution
5		EPS port voltage abnormality	1. Use a multimeter to measure whether the EPS port circuit breaker has voltage. If electricity is confirmed, check if the EPS and GRID port connectors are connected incorrectly. 1. Use a multimeter to measure whether there is voltage on the PV and whether the positive and negative connections are reversed; 2. Use a multimeter to measure whether there is voltage at the output ports P+ and P- of the PACK; 3. Check if the power wire from the inverter to the PACK is poorly crimped, if so, replace the power wire.
6		The battery and PV are not connected	1. Re plug and unplug the CAN/485 communication cable from the inverter to the PACK; 2. Replace the CAN/485 communication cable between the inverter and the PACK.
7		Communication failure with inverter	1. Re plug and unplug the COM communication cable between PACKS and restart the device; 2. Replace the COM communication cable between PACKS and restart the device.
8		Communication failure between PACKS	1. Re plug and unplug the COM communication cable between PACKS and restart the device; 2. Replace the COM communication cable between PACKS and restart the device.

No.	Indicator light status	problem	Solution
9		Under voltage of battery cell or module	1. Connect the PACK and inverter to power on normally, set the inverter to backup mode, press and hold the battery module switch (>10s), the purple light will remain on, then release the button and use the inverter to charge the battery module to SOC 100%, and restart.
10		Excessive voltage difference between battery cells	1. Connect the PACK and inverter to power on normally, set the inverter to backup mode, press and hold the battery module switch (>10s), the purple light will remain on, then release the button and use the inverter to charge the battery module to SOC 100%, and restart.
11		PACK not powered on	1. Re plug and unplug the power harness between PACKS; 2. Check if the power harness is poorly crimped; if so, replace the power harness.