HYXiPOWER

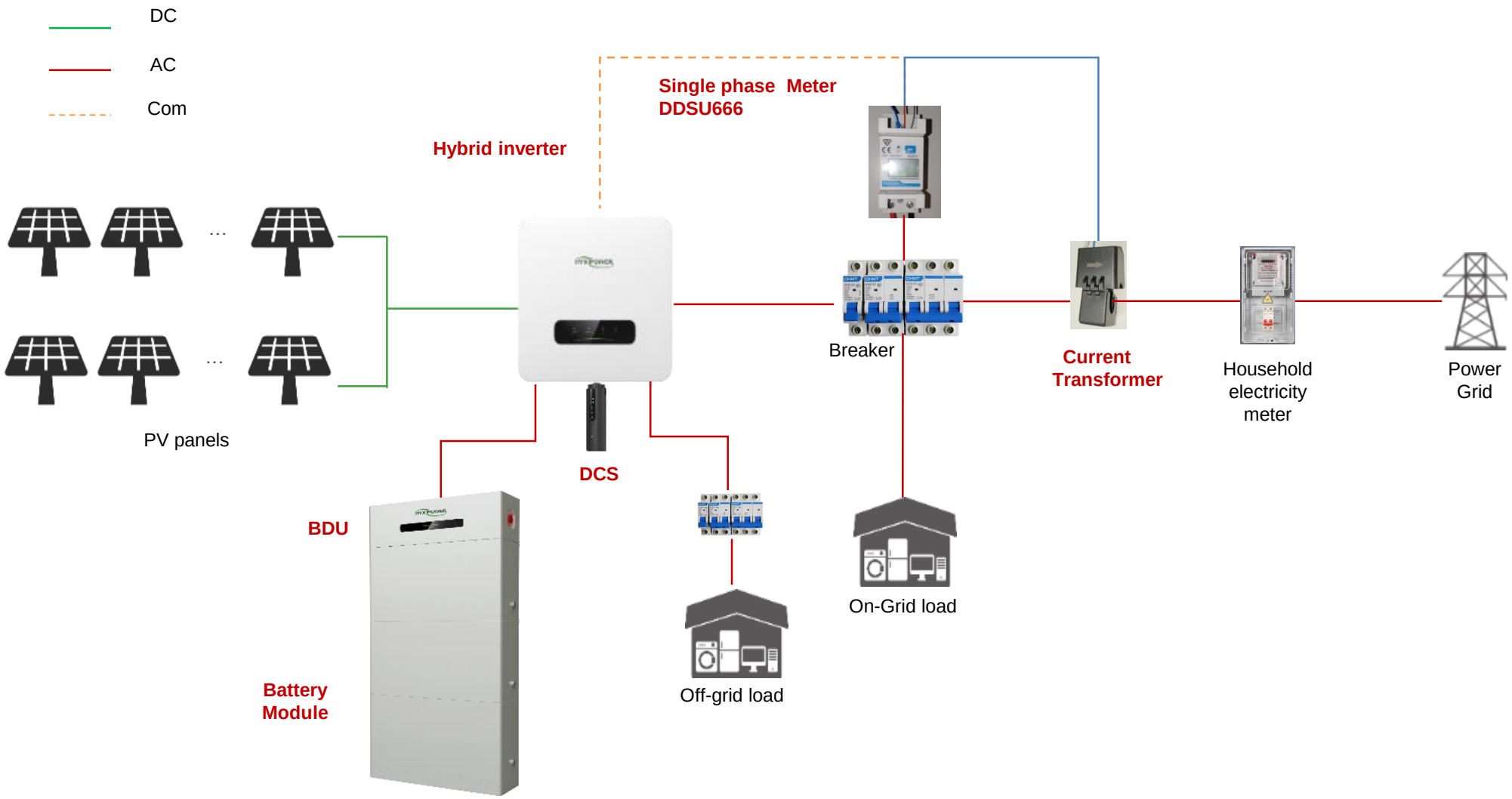
Single-phase Hybrid Inverter Installation Guide

Zhejiang Hyxi Technology Co., Ltd.

Quality Innovation Efficiency Win-win

Contents

Preparation 1- Program Overview 交流线



Before installation, the on-site environment should be surveyed.

Refer to the picture above to plan the equipment installation location and wiring scheme in advance.

Preparation 2- Material and Tools Preparation

Conduct a survey of the site environment before installation and make plans in advance

1. Plan the location of equipment in advance: the mounting location of the inverter and the placement of the battery (outdoor cement pouring needs to be considered to raise the ground);
2. Understand the on-site PV access situation, whether there are photovoltaic panels, and whether the current and voltage of the photovoltaic panels meet the specifications of the inverter. If it exceeds the specifications, the customer needs to be informed in advance to reduce the number of photovoltaic panels to avoid equipment damage;
3. Understand whether the emergency load is connected to the site, and the emergency load cannot exceed the equipment specifications;
4. Check the location of the inverter and home air conditioner;
5. According to the pre-installation conditions of the on-site environment, measure the required length of each cable, and purchase the cables required for installation in advance, as shown in the table on the right;

Important! ! The following cable products are not provided and need to be purchased separately.

	Name	Description	Specification
1	PV cable	Cables used from photovoltaic panels to inverters comply with outdoor multi-core copper cable 1000V and 18A standards;	4~10mm²
2	Communication cable	485 communication cable	RVVP double-core shielded wire, 0.5mm²
3	AC output cable	AC side wiring of the inverter , use three-core outdoor copper core cables	4~10mm²
4	Spare output cable	For wiring on the backup side of the inverter, use three-core outdoor copper core cables	4~10mm²
5	Ethernet cable	For inverter and battery communication, can use a standard network cable; (equipment comes with a 2- meter long network cable)	Standard network cable
6	Ground wire	For equipment grounding use	4~10mm²
7	Battery power line	The power cable used between the battery and the inverter must comply with 600V and 35A standards. (When placing orders for subsequent products, you can choose to have a battery power line)	6mm²

Tool preparation


Wire strippers


Crimping Tool


Electric drill


Heat gun


Screwdriver


Marker


Utility knife

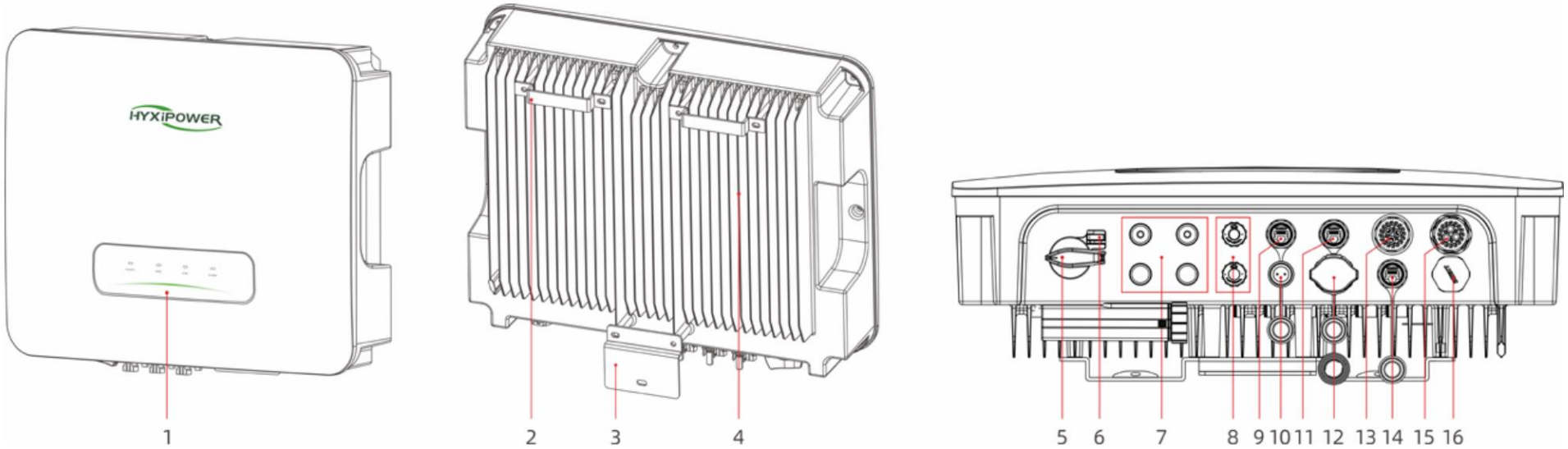

Multimeter

Preparation 2 - Material （零件图）

The product already has an equipment list			
No.	**Name**	**Picture**	Description
1	Single phase Hybrid Inverter		Includes an inverter and a batch of inverter related accessories
2	Battery		Contains battery energy management unit (BDU) and battery module
3	Single phase meter		Measure circuit voltage, current, power, etc.
4	Current Transformer		Induced current size, used with electric meter
5	DCS communication stick		After registering the device to the cloud server, it can be managed uniformly through the cloud platform.
6	Ethernet cable		Comes with a 1- meter long network cable. If the length is not long enough, you need to purchase it yourself.

Contents

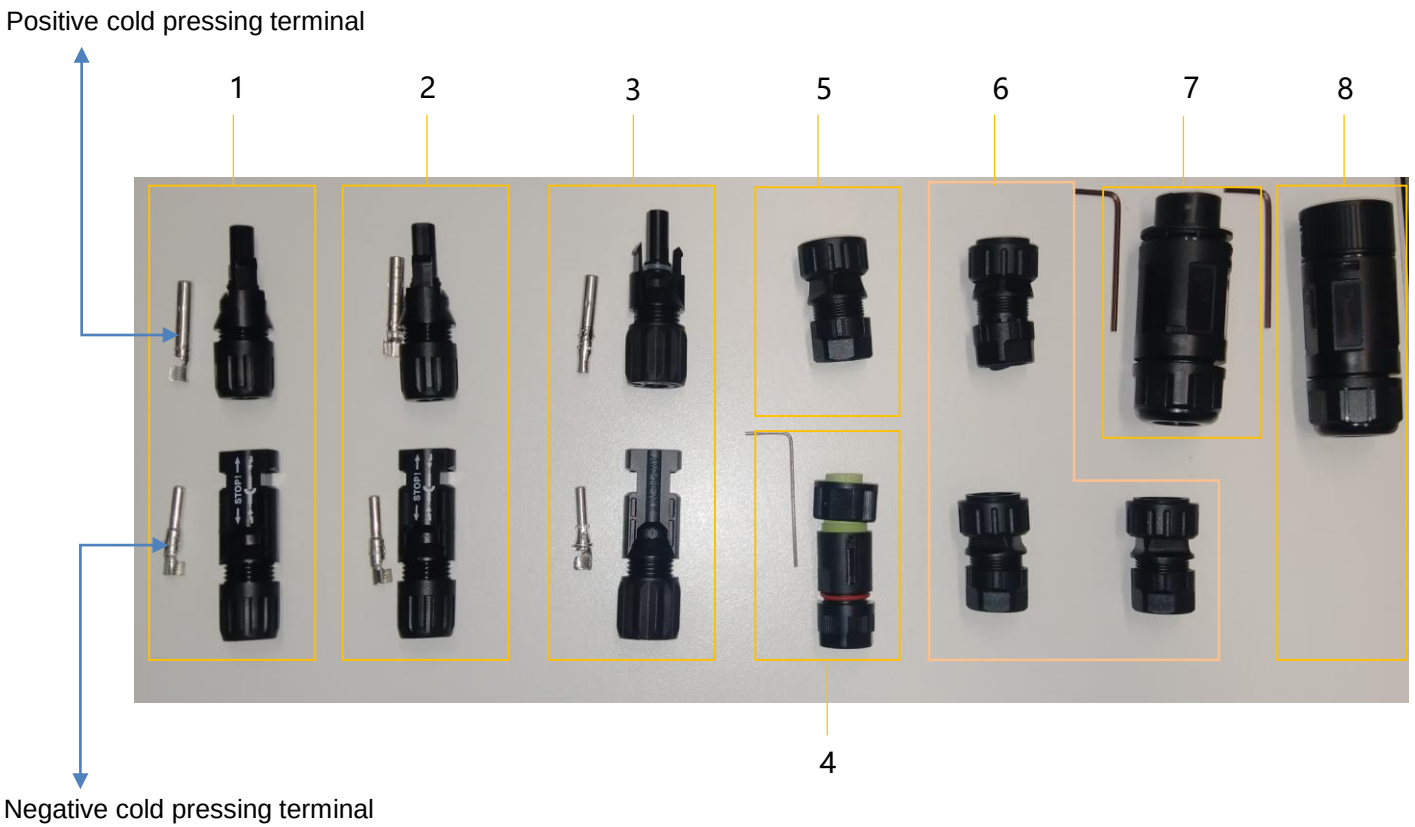
Product Introduction 1- Introduction to Hybrid Inverter



	Name	Description
1	LED Indicator Panel	Indicates the current operating status of inverter
2	Mounting Pegboard	Fixed inverter top
3	Mounting Bracket	Fixed inverter bottom
4	Fin Heat Sink	Heat dissipation and ventilation
5	DC switch	On/Off DC input
6	DC switch lock	DC lock hole Reserved(Australia)
7	DC Input Terminal (PV+/PV-)	Inverter-PV
8	BAT Power Terminal(BAT+/BAT-)	INV-BAT Power

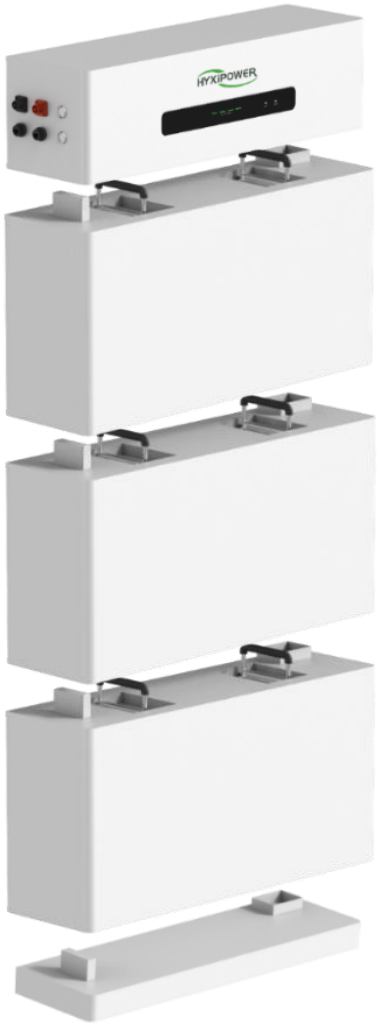
	Name	Description
9	BAT Communication	BAT(RS485) Communication
10	METER Port	Smart Meter
11	DRM port	DRM function Reserved(Australia)
12	DCS	Monitoring Port
13	Back-up Port	Back-up(Off-grid) Output
14	Reserved Communication	Reserved Communication
15	AC Output Terminal	AC output to GRID/UTILITY
16	Pressure Relief Valve	Pressure Relief Valve(not for customer)

Product Introduction 2- Inverter Accessories Introduction



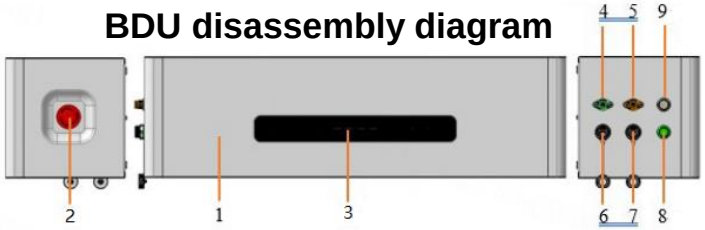
No.	Description
1	Photovoltaic interface connector 1
2	Photovoltaic interface connector 2
3	Battery interface connector
4	Meter connector
5	Battery and inverter communication connector
6	DRM and COM communication connector
7	Emergency load connector
8	AC connector

Product Introduction 3- Battery Introduction



Disassembly diagram of battery module

BDU disassembly diagram



Overall battery diagram

No.	Description
1	Battery Energy Management Unit (BDU)
2	BDU Emergency Stop Switch
3	BDU Display Panel
4	High Voltage Negative Socket
5	High Voltage Positive Socket
6	Debug Port
7	Inverter Communication Port
8	High Voltage Power Button
9	12V Low Voltage Power Button

Note: When starting the battery, first press the 12V low-voltage power button briefly , and then press and hold the high-voltage power button for about 5 seconds. When you hear the relay "click", it means the battery has been started.

Product Introduction 4-DCS Introduction

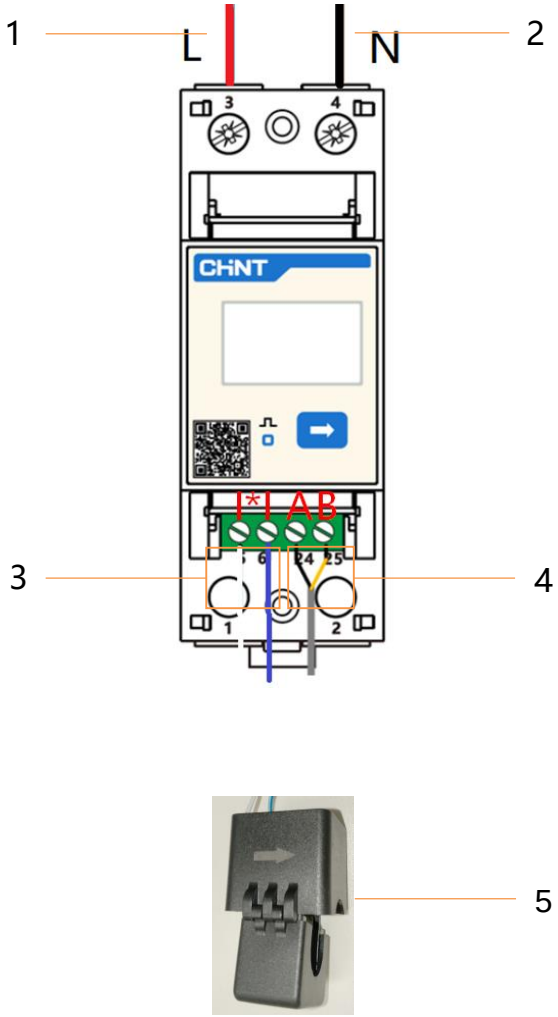
RESET button:

1. Press 2 times to restart
2. Press 3 times to enable local configuration (AP mode);
3. Press 4 times to restore factory settings(If forget the password)

(Within 1 second between pressing)

Indicator	Status	Description
Power	On	Power ON
	OFF	Power OFF
NET.	Solid Green	Connected to server
	Flashing	Connecting to server
	OFF	Disconnected from server
COM.	Solid Green	Normal communication with inverter
	Flashing	Communicating with inverter
	OFF	Communication with inverter failed

Product Introduction 5 - Meter Introduction

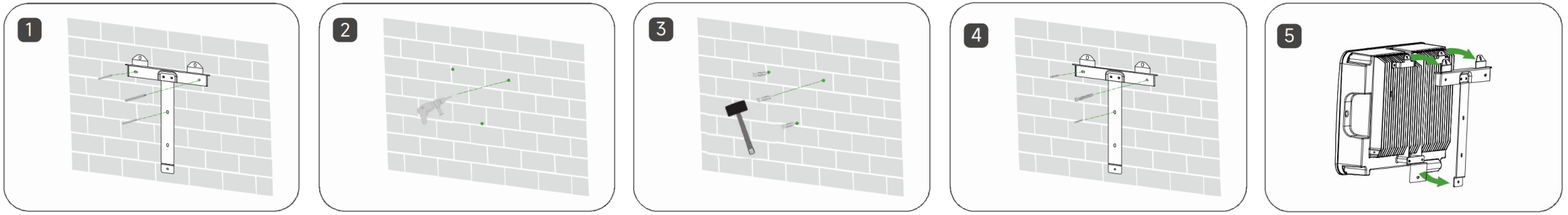


No.	Cable Name	Description
1	Live wire	Connect the live wire between the grid and the inverter
2	Neutral wire	Connect the neutral wire between the grid and the inverter
3	Current transformer communication wire	Connect current transformer
4	Inverter 485 communication wire	Communication wire between inverter and meter
5	Current Transformer	It is used to obtain the current of the alternating current on the grid side, which facilitates the inverter to control the power output Note: the arrow must point to the grid during installation

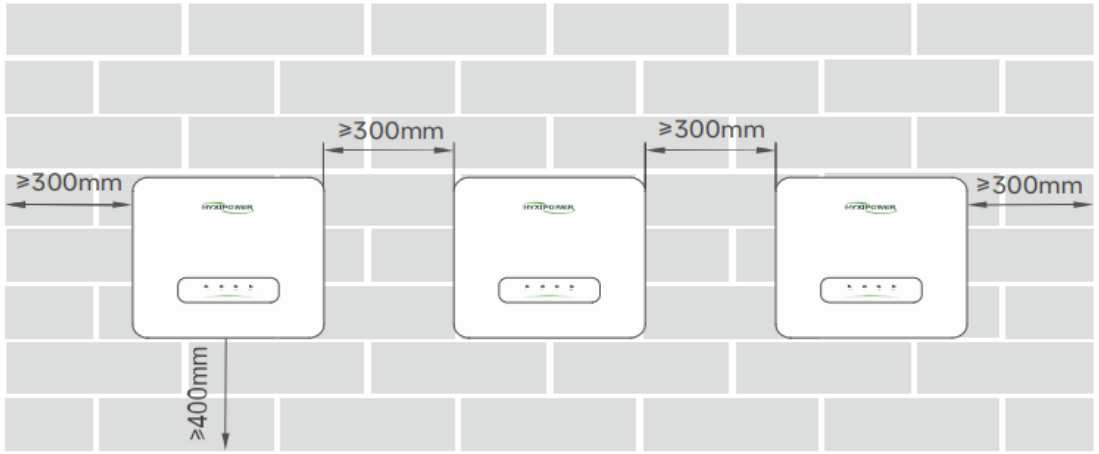
Contents

Physical Installation 1 - Inverter Installation

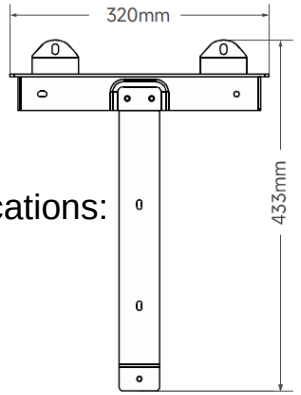
The mounting bracket and inverter can be fixed as follows:



When installing multiple inverters, a distance of more than 300mm should be maintained between the two inverters.



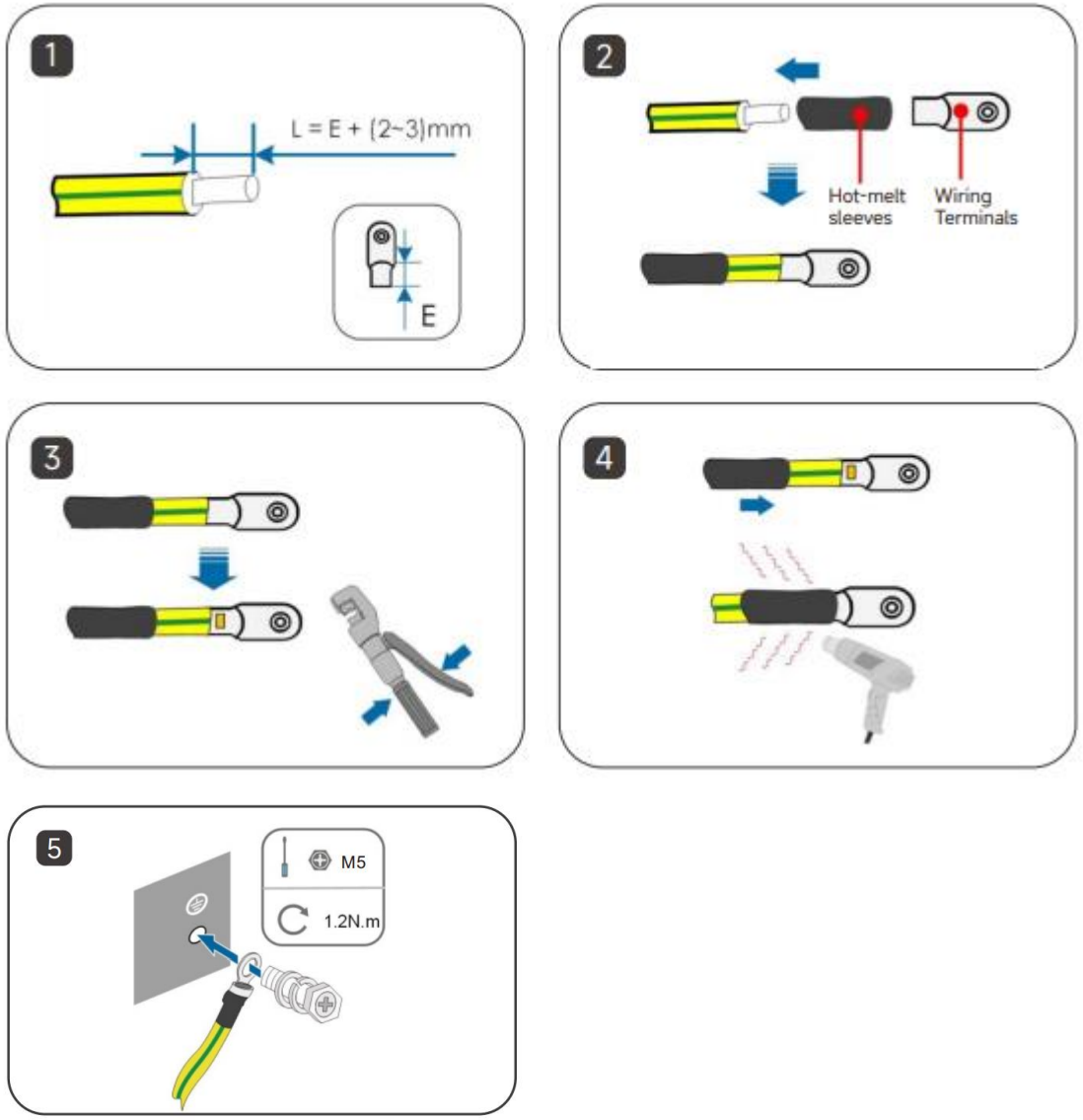
Bracket specifications:



Note: Before installing the equipment, please ensure that the photovoltaic panels have been installed and the cables have been laid in place

Installation video reference(1m33s-2m55s): https://webfile.hyxipower.com/soft/20240102/Installation-Video_Hybrid-inverter-Battery_Ver1.0-2023121.mp4

Physical installation 2 - Inverter Grounding Installation



Step 1 : Strip off a certain length of insulation

L=E+(2-3)mm .

Step 2 : Pass the cable through the hot melt sleeve and insert it into the terminal block.

Step 3 : Use crimping pliers to tightly connect the terminal blocks and cables .

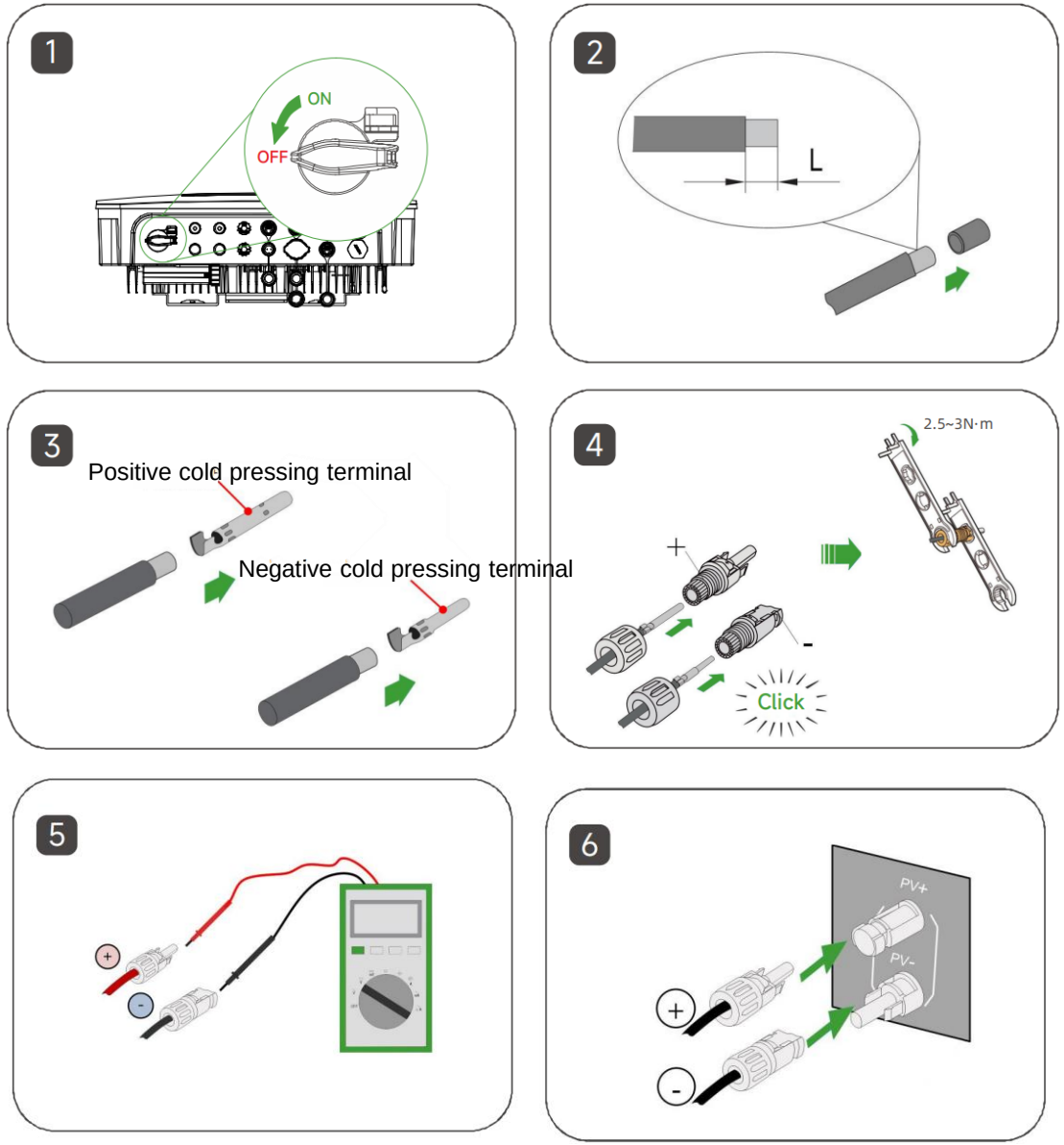
Step 4 : Adjust the hot melt sleeve to cover the end of the terminal block and the power cord, and use a hot air gun to blow the hot melt sleeve to cover the end of the power cord and terminal block.

Step 5 : Use a screwdriver to fix the ground wire to the inverter ground position.

Installation video (2m59s-3m31s):

https://webfile.hyxipower.com/soft/20240102/Installation-Video_Hybrid-inverter-Battery_Ver1.0-2023121.mp 4

Physical Installation 3 - PV Side Connection



Step 1: Keep the switch on the inverter turned off.

Step 2: Strip all DC cables insulation by approximately 7 mm.

Step 3: Use crimping pliers to bundle the cold-pressed terminals to the cables. **Note that the positive and negative terminals are different and need to be distinguished.**

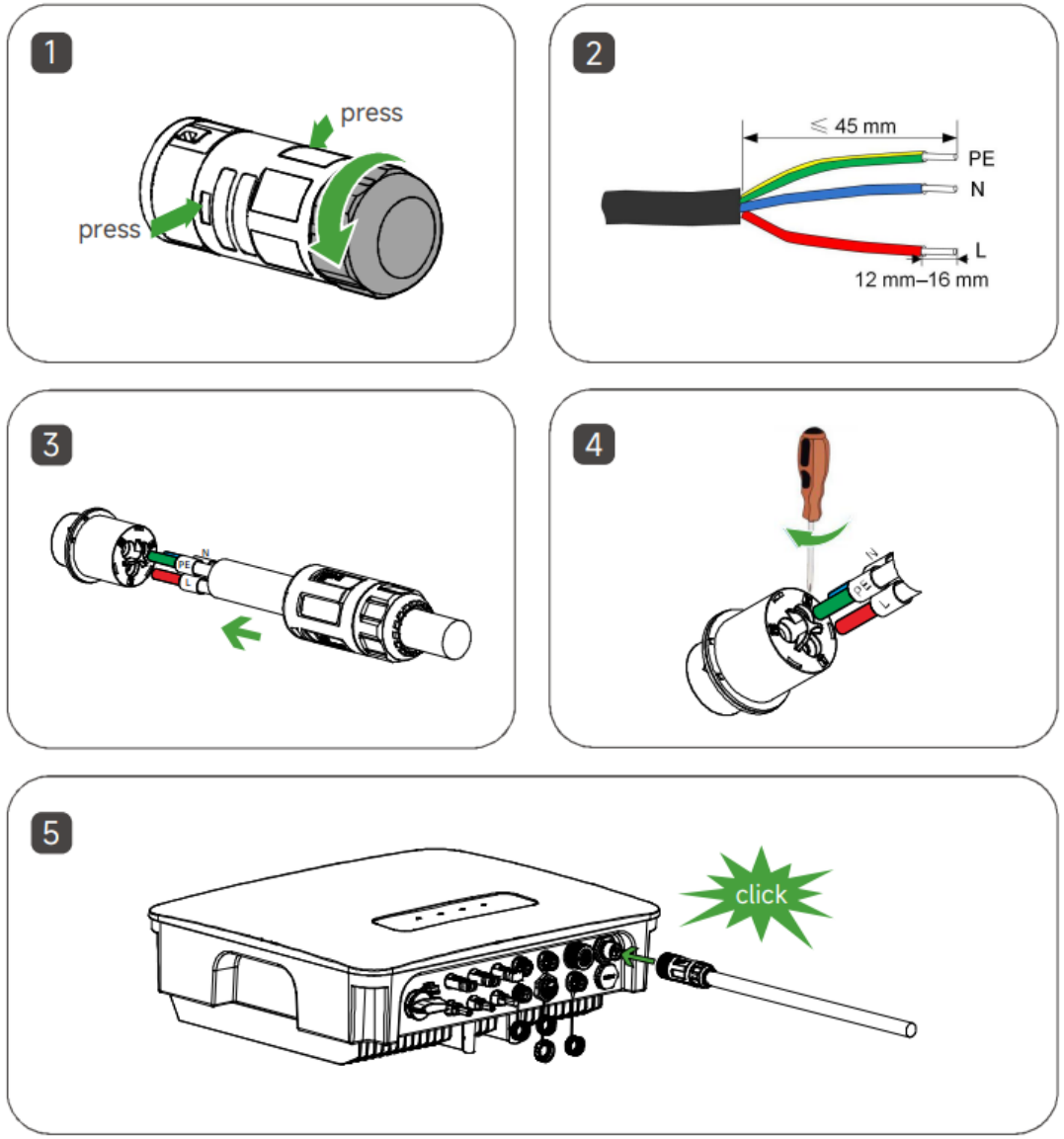
Step 4: Insert the cable through the cable sealing sleeve, insert it into the insulating sleeve and fasten it, and pull the cable gently to make sure it is tightly connected. Use 2.5 ~ 3N-m force to tighten the sealing sleeve and insulation sleeve.

Step 5: Use a multimeter to check whether the polarity of the photovoltaic string connecting cable is correct.

Step 6: Connect the PV connector to the corresponding terminal on the inverter until you hear a "click" sound.

Installation video(3m33s-4m38s):
https://webfile.hyxipower.com/soft/20240102/Installation-Video_Hybrid-inverter-Battery_Ver1.0-2023121.mp4

Physical Installation 4 - AC Side(ON-Grid and Back Up)



Step 1: Disassembling connector.

Step 2: Strip off a certain length of the protective layer and insulation as shown in the diagram.

Step 3: Adjust the 3 hexagonal screws loosely, do not unscrew the screws completely. Insert the 3 cores(of step 2) into the corresponding screw holes.

Step 4: Lock all 3 cores(of step 2) with 3 hexagonal screws.

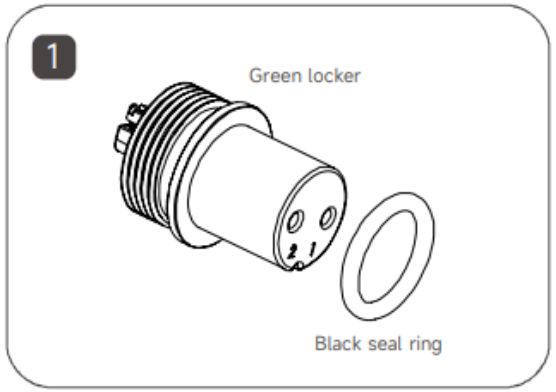
Step 5: Assembling connector. Connect the AC connector to the appropriate terminal until a click is heard.

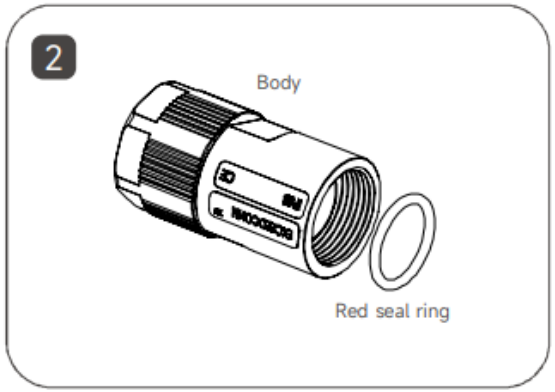
Note: ON-Grid side is a female connector and Back-Up side is a male connector.

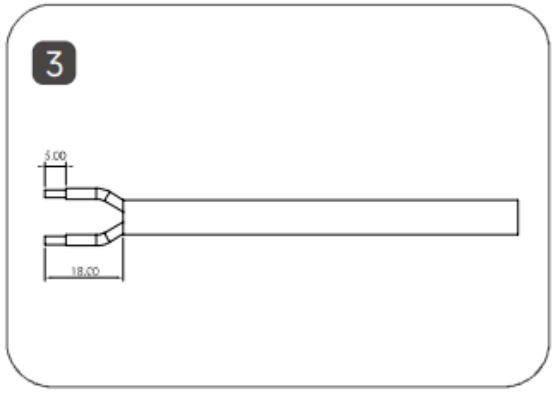
Installation Video(4m40s-5m50s):

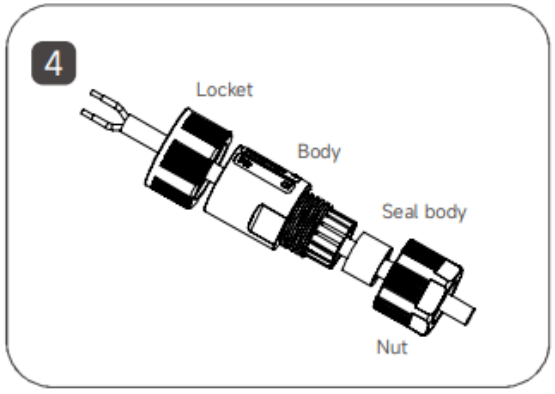
https://webfile.hyxipower.com/soft/20240102/Installation-Video_Hybrid-inverter-Battery_Ver1.0-2023121.mp4

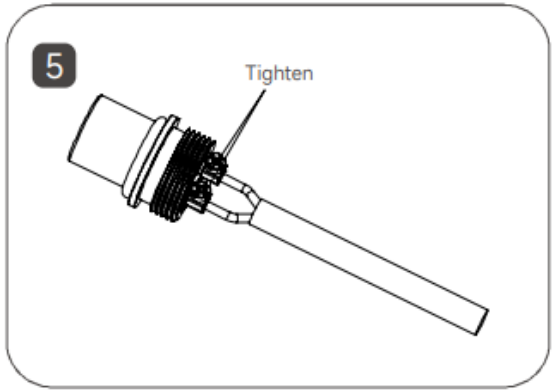
Physical installation 5 - Meter Connection

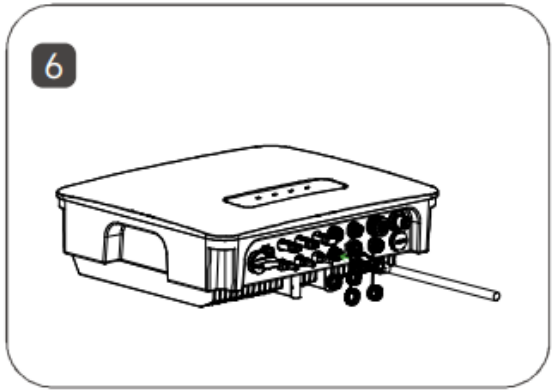












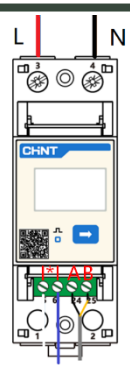


Figure 7

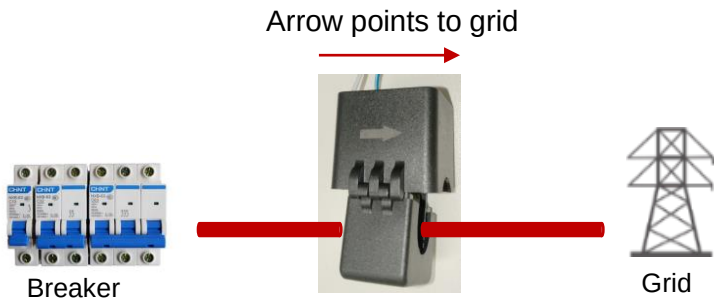


Figure 8

Step 1: Place black seal ring on the green Locker.

Step 2: Put red seal ring into the bottle of body inside.

Step 3: Wire striping.

Step 4: Pass all parts through the wire in the following order.

Step 5: Crimp the 2pin copper core on the green locker and tighten it. **1 on the connector corresponds to A on the electric meter , and 2 corresponds to B on the electric meter (Figure 7).**

Step 6: Screw all parts together and connect the water-proof 2pin connecter to inverter meter port.

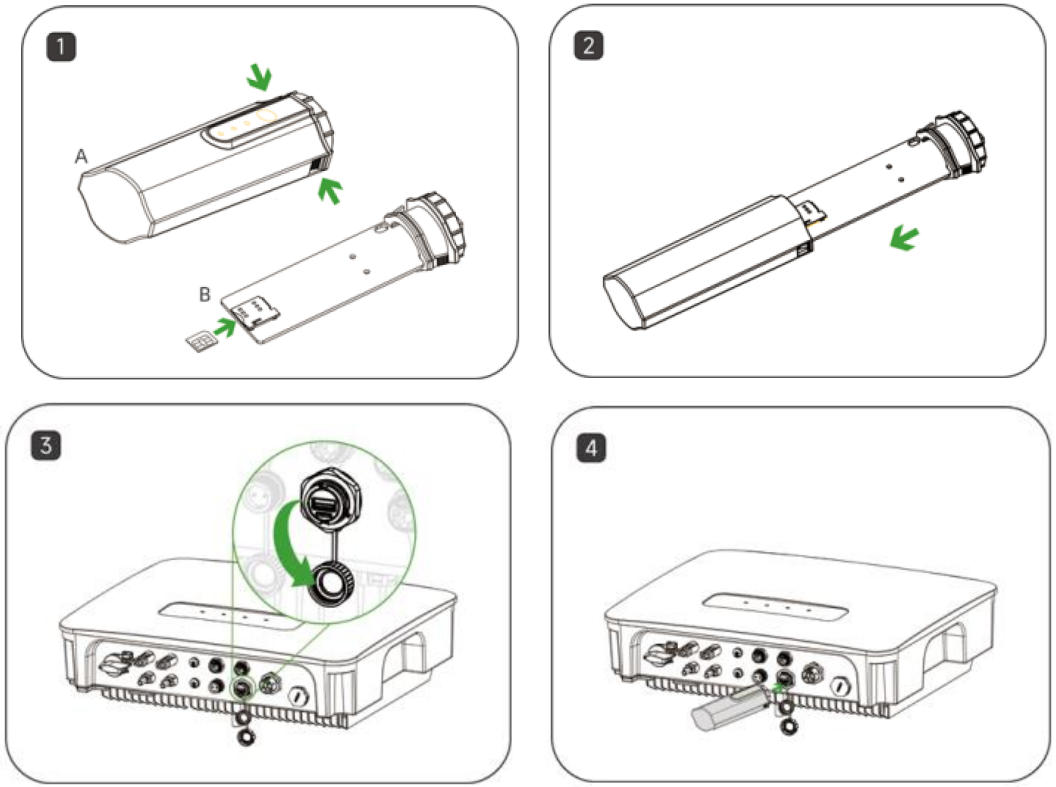
Step 7: Connect the meter in parallel to the power grid, connect 3 to the live wire and 4 to the neutral wire.

Step 8: Pass the magnetic ring of the current transformer through the live wire of the grid. Note that the arrow points to grid (Figure 8).

Installation Video:(6m00s-7m02s):

https://webfile.hyxipower.com/soft/20240102/Installation-video_Hybrid-inverter-Battery_Ver1.0-2023121.mp4

Physical installation 6 - DCS communication stick installation



1. DCS communication stick installation (4G version)
Step 1: Remove the DCS protective cover and insert the SIM card;
Step 2: Install DCS waterproof cover;
Step 3: Remove the waterproof cover at the inverter communication interface;
Step 4: Insert the DCS into the corresponding communication terminal at the bottom of the inverter and tighten to ensure firmness.

2. DCS communication stick installation (Wi-Fi version does not require disassembly and installation of the sim card)

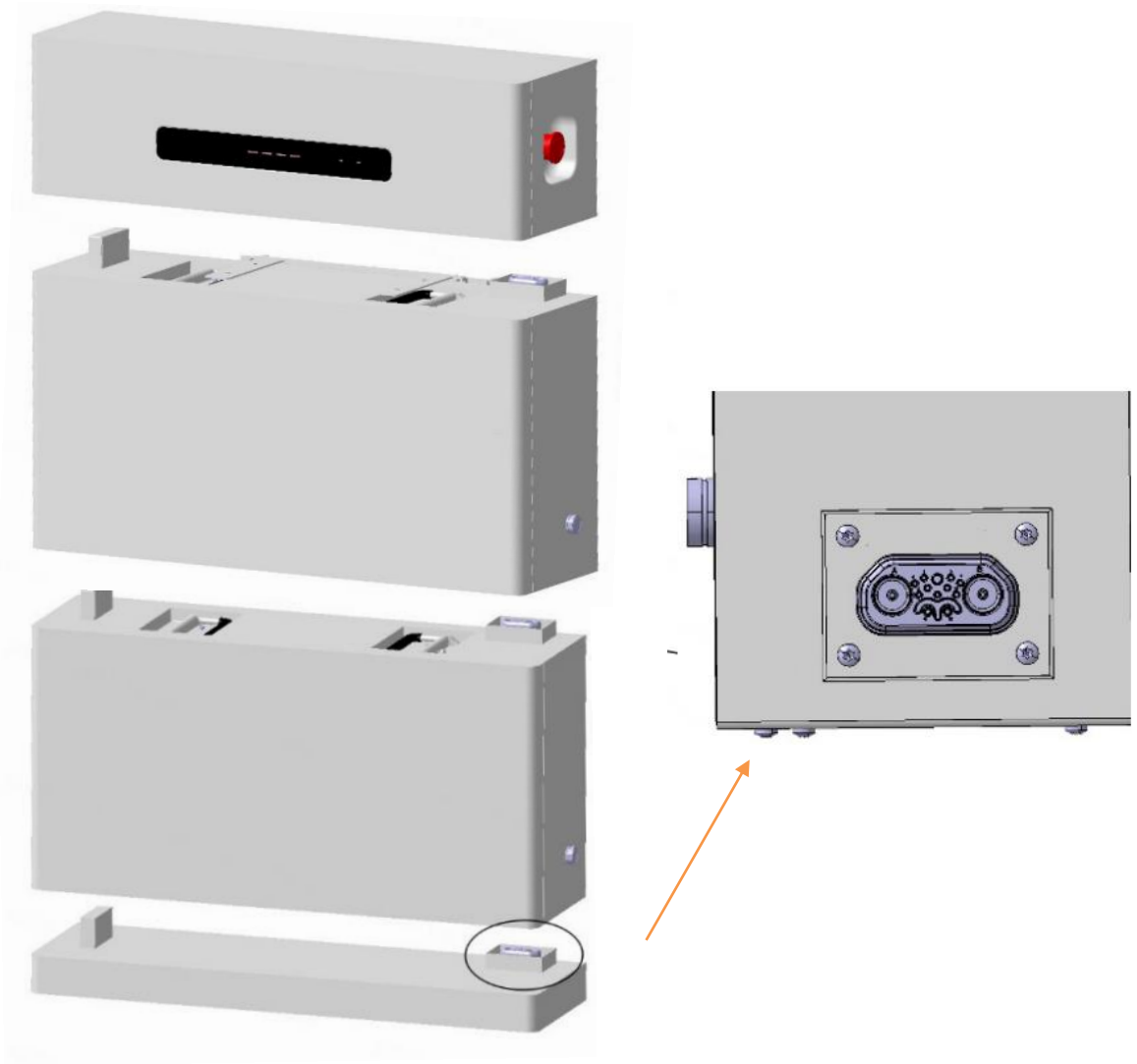
Step 1: Remove the waterproof cover at the inverter communication interface.

Step 2: Insert the DCS into the corresponding communication terminal at the bottom of the inverter and tighten it to ensure it is secure.

Note: For the Wi-Fi version, if the on-site Wi-Fi signal is poor (below -60dBm), you need to consider adding a Wi-Fi repeater to strengthen the network signal, otherwise there will be a risk that device data cannot be uploaded to the platform.

Installation video (7m07s-8m02s):
https://webfile.hyxipower.com/soft/20240102/Installation-video_Hybrid-inverter-Battery_Ver1.0-2023121.mp4

Physical installation 7 - Battery Installation



Step 1: Place the battery base on a flat surface.

Step 2: Carefully place the battery module on the battery base, making sure that the interface connection is accurate (the process needs to be done carefully and slowly). If there are multiple battery modules, just stack them one by one.

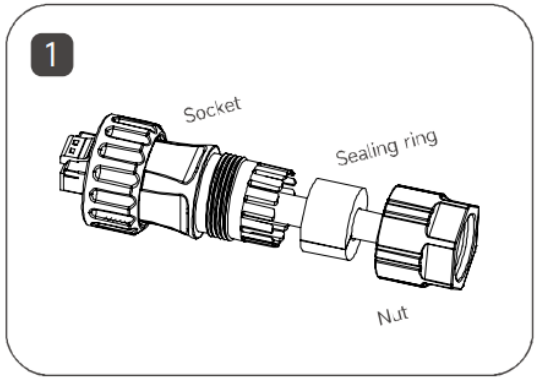
Step 3: Shake gently repeatedly to ensure the installation is firm.

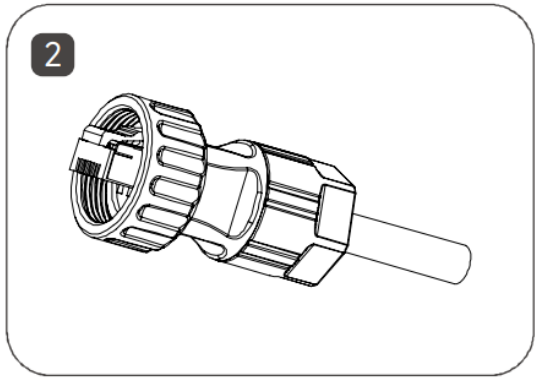
Step 4: Carefully assemble the battery management unit from above, making sure the interface connections are accurate (the process needs to be done carefully and slowly).

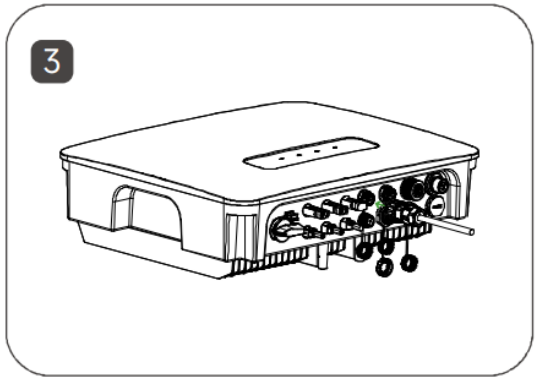
Step 5: Shake gently repeatedly to ensure that the installation is firm.

Note: When there are 3-4 battery modules stacked in the entire battery system, the stability of the equipment needs to be considered, and installation brackets need to be considered if necessary.

Physical Installation 8 - Battery Connection







Step 1: Put the three accessories (socket, sealing ring, nut) of the two sets of waterproof terminals on the standard network cable.

Step 2: Assemble the connector.

Step 3: Plug both ends of the network cable into the corresponding network ports of the inverter and battery BDU respectively , and tighten the nuts.

Step 4: Use crimping pliers to tightly connect the battery power cable and connector. Pay attention to distinguish the positive and negative poles. Orange is positive and black is negative.

Step 5: Plug the battery power cable terminal into the battery BDU until you hear a "click" sound.

Step 6: Refer to the PV side connector production method to make the connector at the other end of the battery power line. After completion, insert it into the battery power input terminal of the inverter until you hear a "click" sound.

Installation Video: (8m08s-9m59s)
https://webfile.hyxipower.com/soft/20240102/Installation-video_Hybrid-inverter-Battery_Ver1.0-2023121.mp4

Physical Installation 9- Inverter System Startup

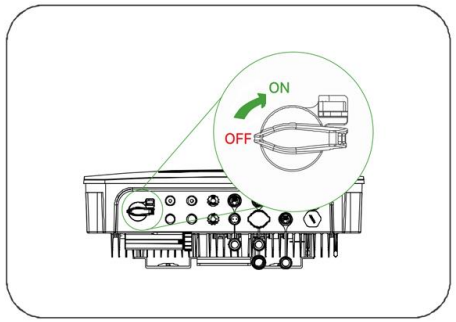


Figure 1

Step 1: Open the circuit breaker on the AC side.

Step 2: Open the circuit breaker on the photovoltaic side.

Step 3: Turn on the DC switch on the inverter.

Step 4: Confirm the indicator light status of the inverter. The indicator light status in Figure 2 is normal.

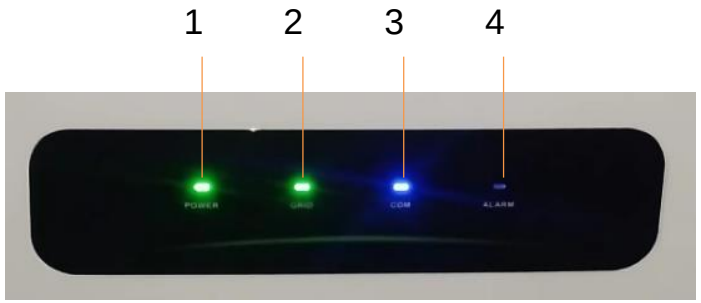


figure 2

No.	Indicator	Status	Description
1	POWER	ON	Inverter Powered ON
		OFF	Inverter Powered OFF
2	GRID	ON	Grid Normal
		Blink 1	Grid Abnormal
		Blink 2	Grid Disconnected
3	COM.	ON	COM. Normal
		Blink 1	Meter COM. Fault
		Blink 2	COM. Fault With BMS
		OFF	Fault Both Meter&BMS
4	ALARM	OFF	Normal
		Blink 1	Inverter Internal Alarm
		Blink 2	Other Alarms

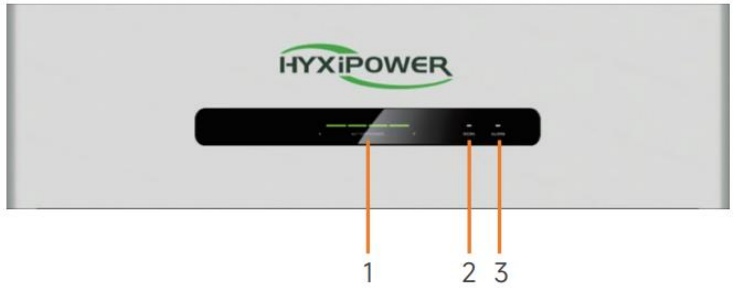
Blink 1 time, interval 1.5 seconds; Blink 2 times, interval 0.2 second.

Physical Installation 10 - Battery System Startup

Step 1: **Short press the 12V button.**

Step 2: **Press and hold the power button for 5 seconds** and hear the "**click**" sound from the relay.

Step 3: Confirm the status of the battery indicator light. The power display is normal and the WORK light is always on.



No.	name
1	SOC Green
2	WORK Green
3	ALARM Red

System Status	WORK	ALARM	SOC			
	●	●	●	●	●	●
Shutdown	OFF	OFF	OFF			
Idle state	On 0.5s, Off 1.5s	OFF	Display based on actual power			
Normal operation	ON	On 0.5s, Off 0.5s	Display based on actual power			
First Level Alarm	ON	On 0.5s, Off 1.5s	Display based on actual power			
Second Level Alarm	OFF	OFF	Display based on actual power			
Third Level Alarm	OFF	ON	Display based on actual power			

Contents

APP configuration 1- configuration process

1. Download HYXipower APP .

2. Register the account of the person in charge of the organization.

Register the DCS communication stick to the cloud server through local debugging.

All Hyxipower equipment is managed using the cloud platform. After the equipment is registered to the cloud server, it can be managed uniformly through the cloud platform.

Create a power station for users

You can manage the equipment through the power station and check the equipment status, system power generation and usage, etc.

APP Configuration 1 - Download&Registration

The entire process requires 2 email accounts: Organization and Owner.

Step 1: Download the APP and **register .**

Method 1

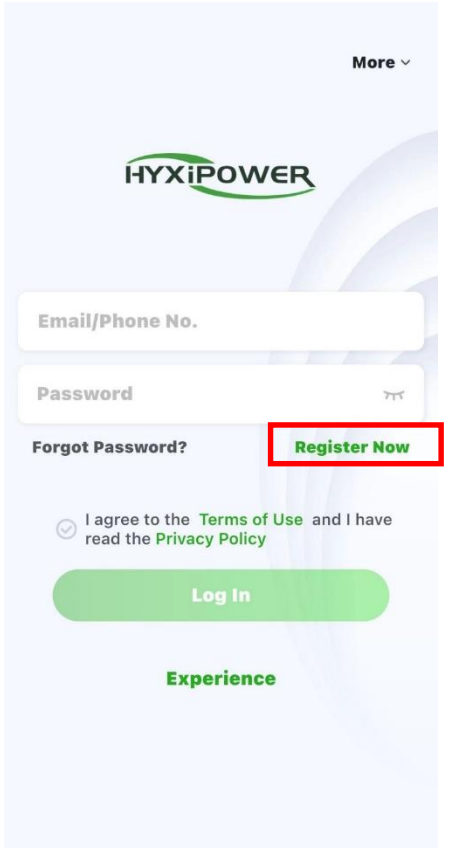
Search “Hyxipower " in the App Store

· APP store (IOS)

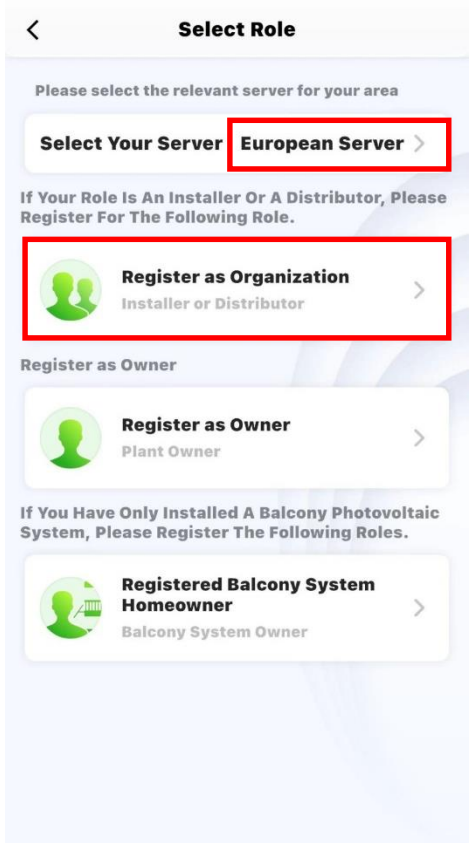
· Google play

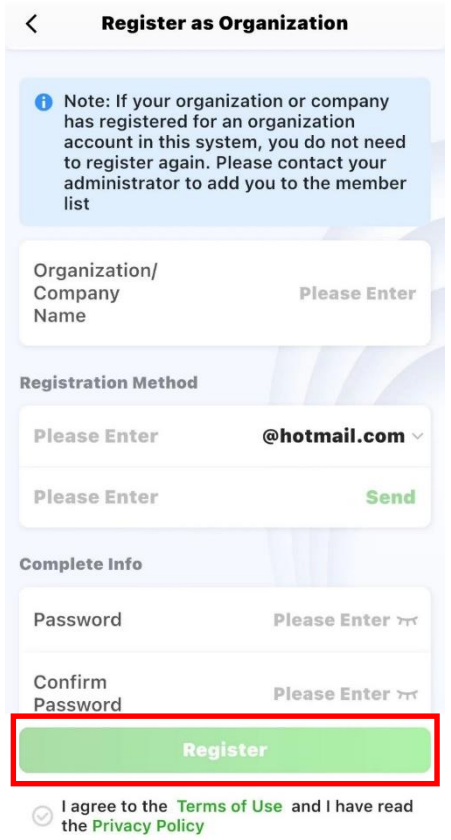
Method 2

Scan the QR code download the APP



Step 2 : According to the country or region, select **server**, select **organization** , fill in the relevant information and **register.**

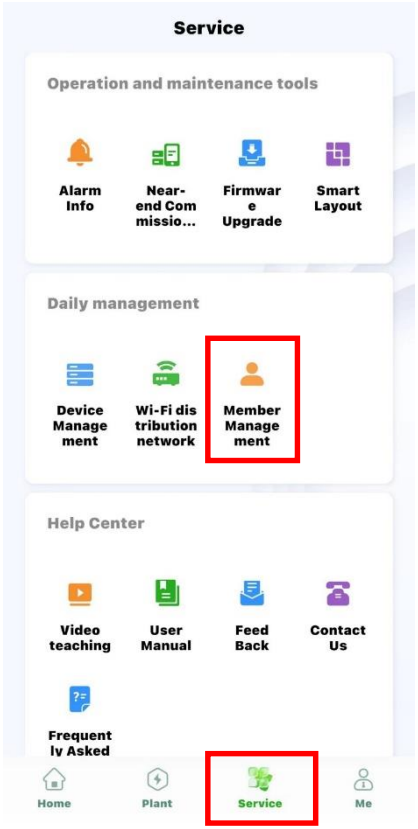


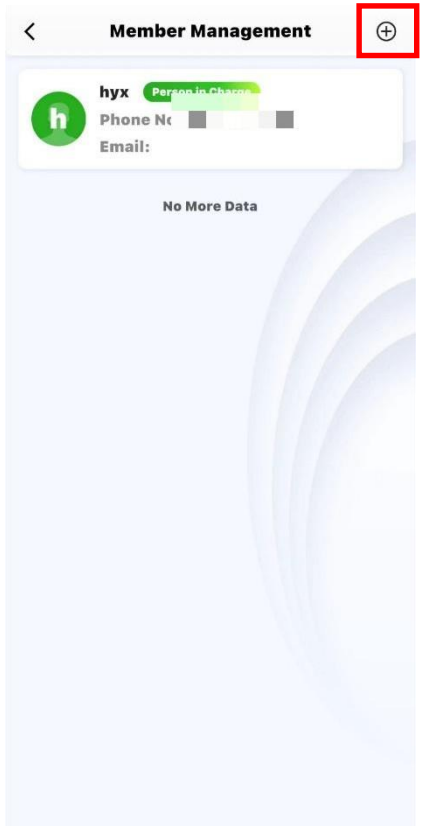


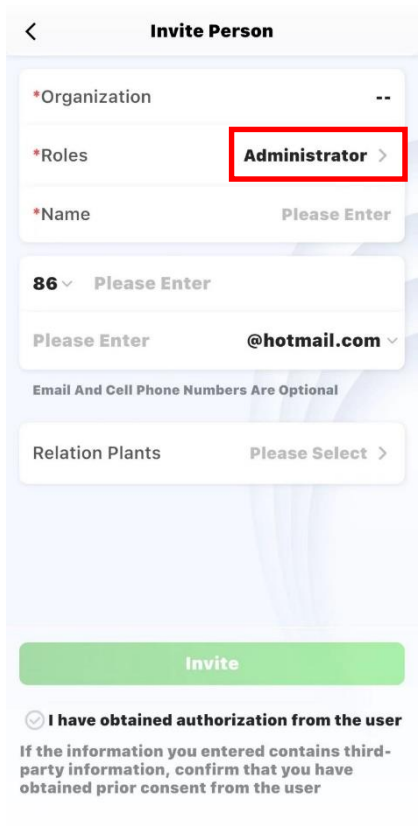
Installer Registration video: https://webfile.hyxipower.com/soft/20231129/HYXiPOWER-APP_Installer-registration_Ver1.0-20231103.mp4

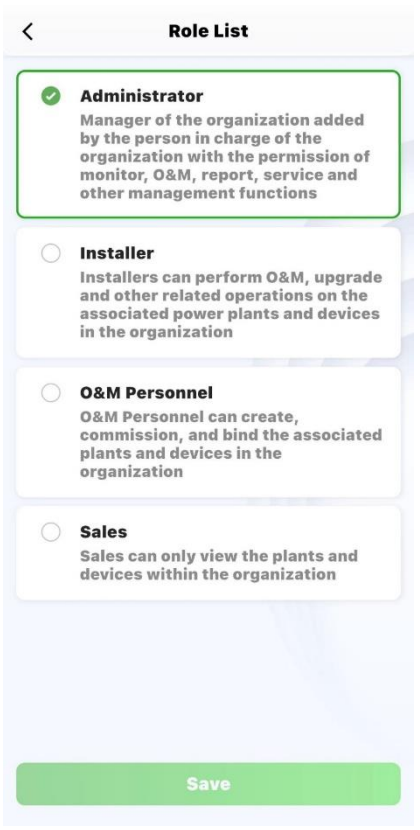
APP Configuration 1 – Download&Registration - Admin registration

Step 3 : **Log in to your account** , select **Service - Member Management** , and then select " **+** " Invite members . It is recommended to choose **the administrator** role.









APP configuration 2- Near-end Commissioning

1. Download HYXipower APP .

2. Register the account of the person in charge of the organization.

3. Register an owner account .

Register the DCS communication stick to the cloud server through local debugging.

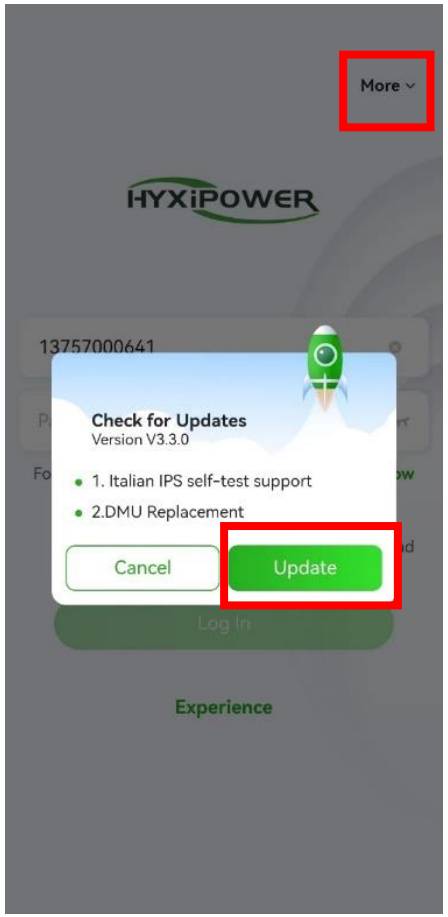
All Hyxipower equipment is managed using the cloud platform. After the equipment is registered to the cloud server, it can be managed uniformly through the cloud platform.

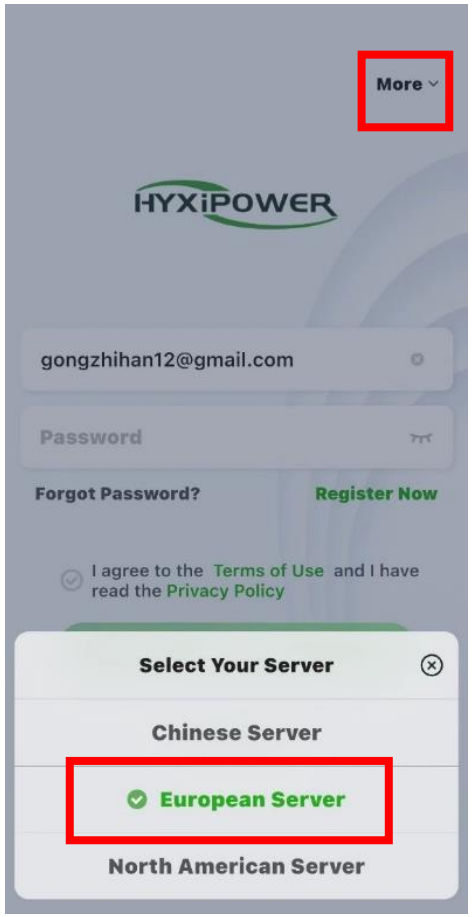
Create a power station for users

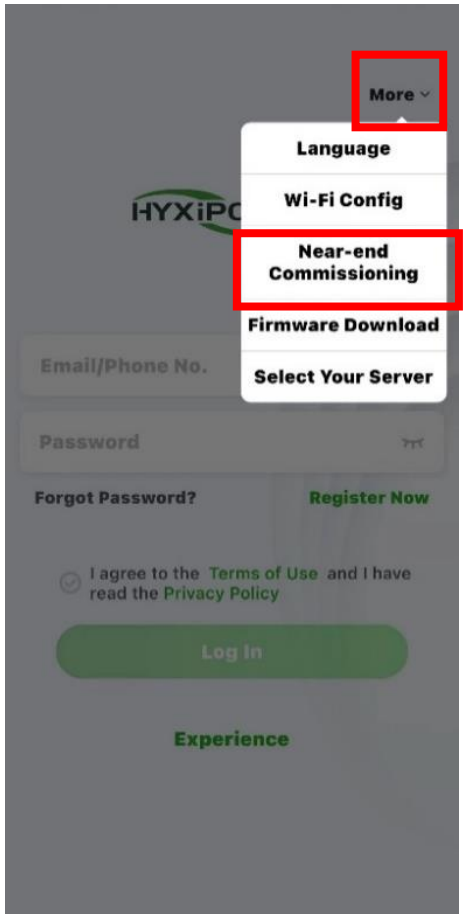
You can manage the equipment through the Plant and check the equipment status, system power generation and usage, etc.

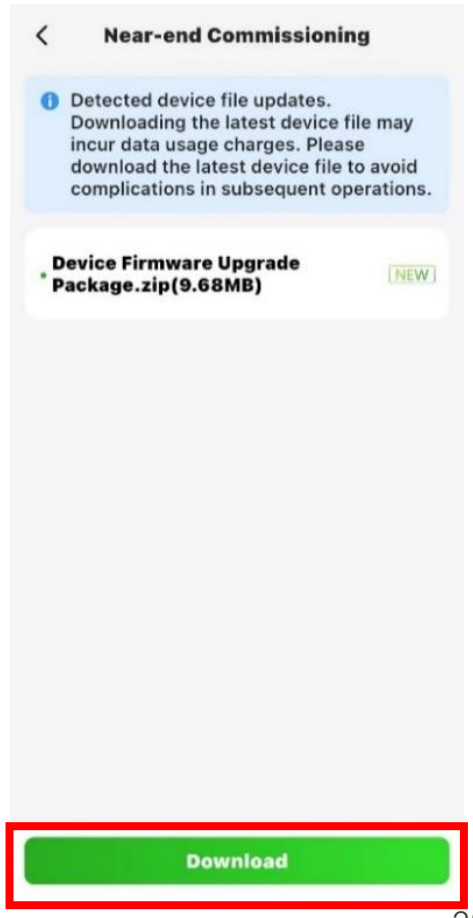
APP configuration 2- Near-end Commissioning

Step 1: Open the APP. Please update APP before debugging if there is one. Select More and choose your local server. Then choose Near-end Commissioning. It will take few seconds download the latest firmware. The file will be stored in the phone as a backup. If the phone has the latest firmware package, this step will be skipped.



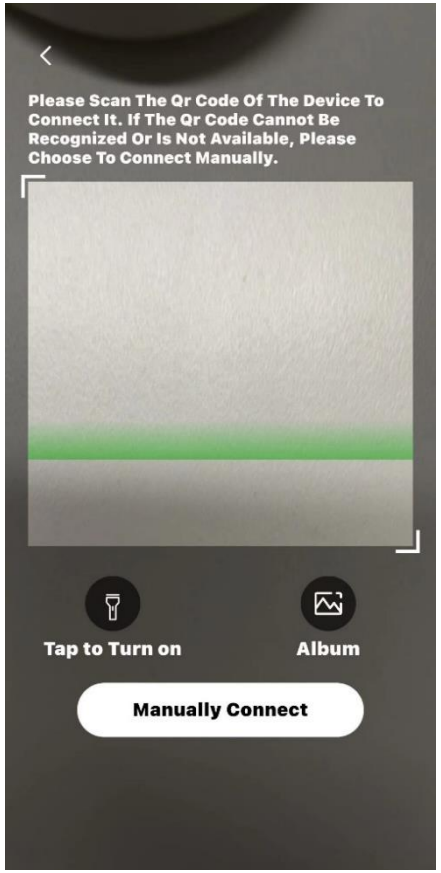


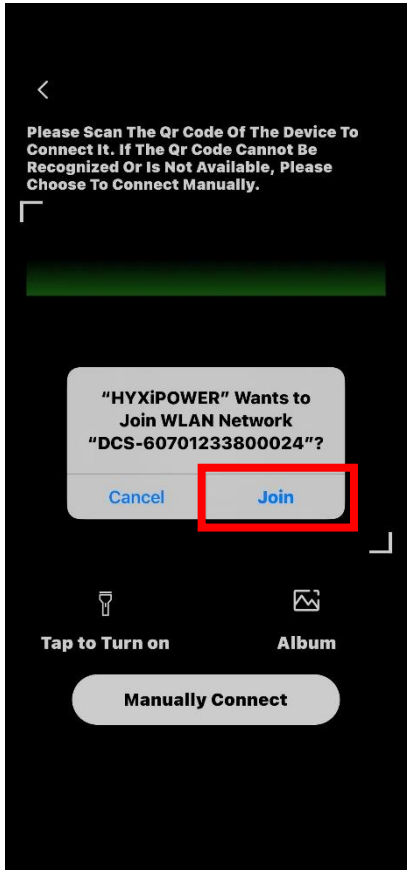




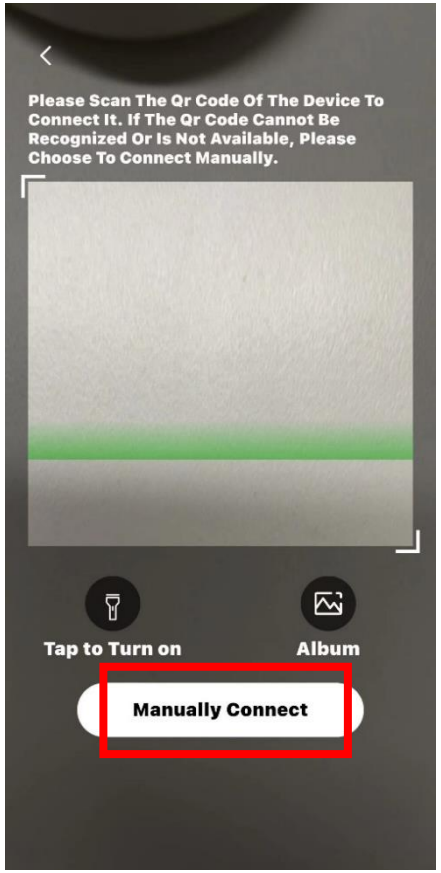
APP configuration 2 - Near-end Commissioning

Step 2 : **Scan** DCS QR code ,
Join wireless network DCS-XXXXXXXXXXXX .





If the scanned barcode cannot be recognized,
You can also choose **to connect manually** .



APP configuration 2 - Near-end Commissioning

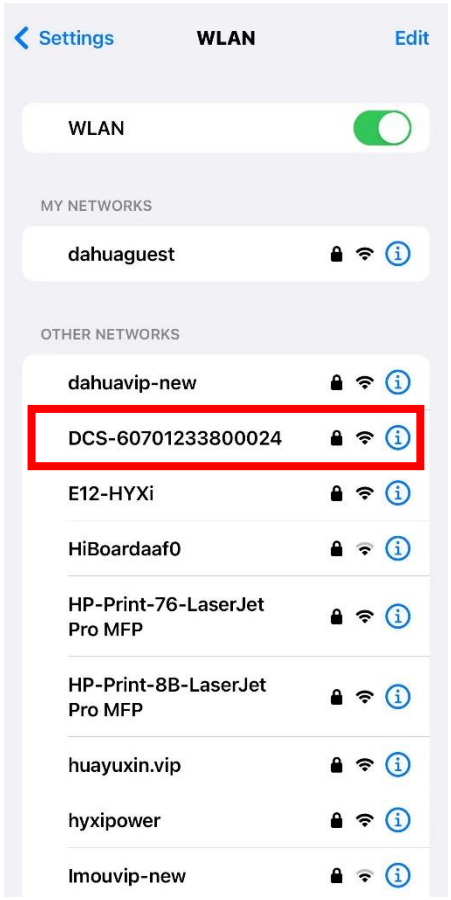
IOS

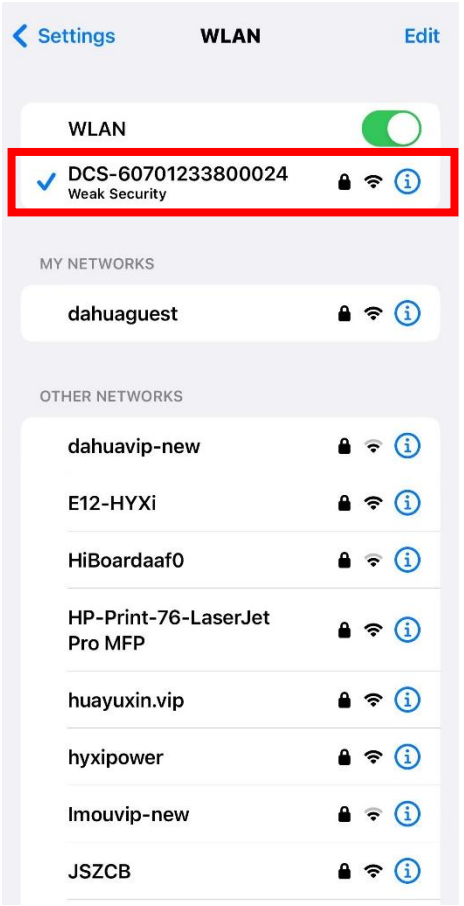
Find the WIFI in settings of phone starting with DCS and connect: DCS-XXXXXXXXXXXX,
Password is **hyxi0607** or **12345678**, after connected, **return** to the “Hyxipower" APP and select **Next**.

Keep the APP running in the background and enter the WiFi settings page **manually**.

Enter the WiFi password.

Then return to the APP.



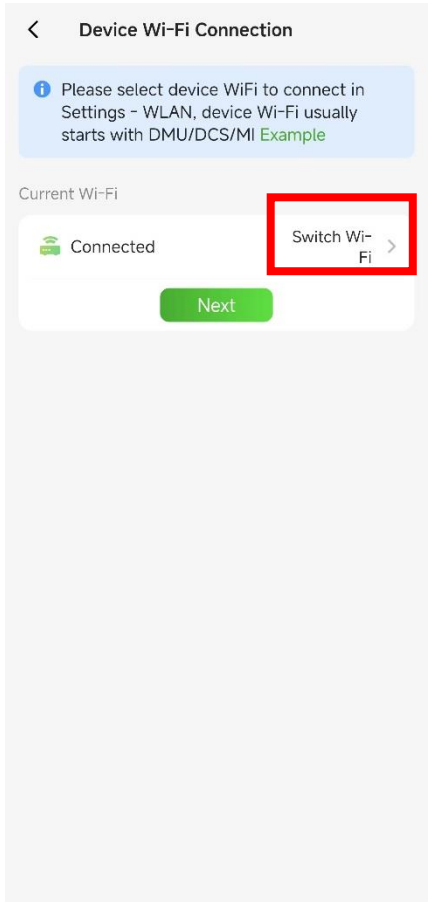


APP configuration 2 - Near-end Commissioning

Android system :

Find the WIFI in settings of phone starting with DCS and connect: DCS-XXXXXXXXXXX;
Password is **hyxi0607** or **12345678**, after connected, **return** to the “Hyxipower" APP and select **Next**.

APP

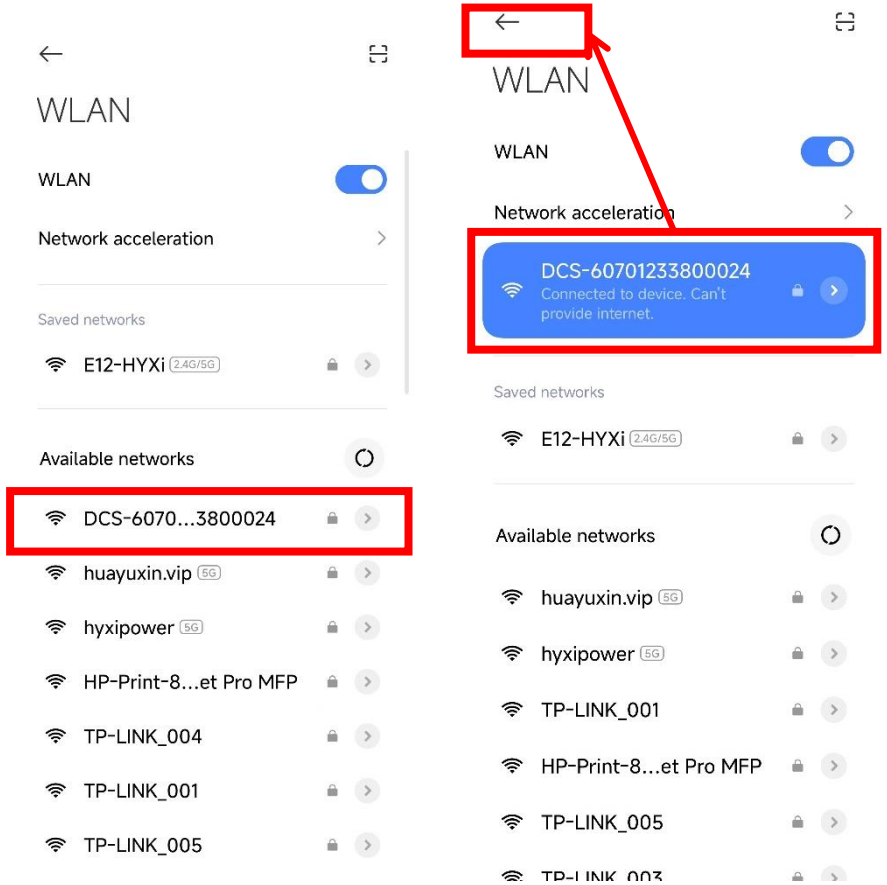


Keep the APP running in the background and enter the WiFi settings page **manually**.

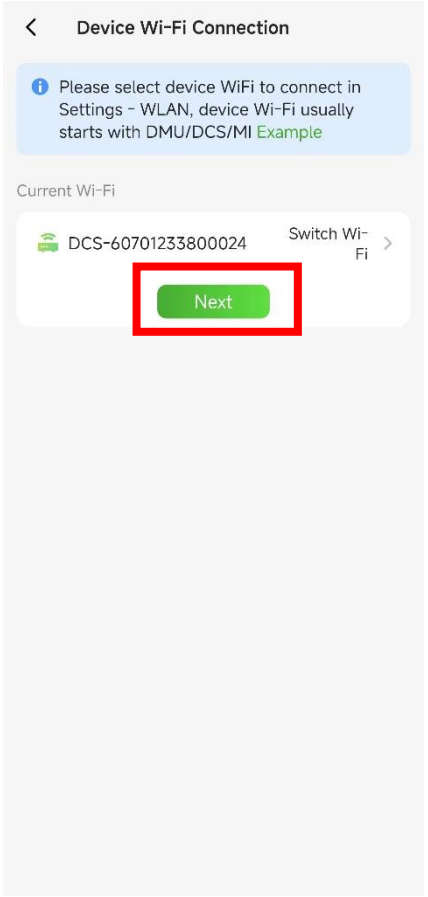
Enter the WiFi password.

Then return to the APP.

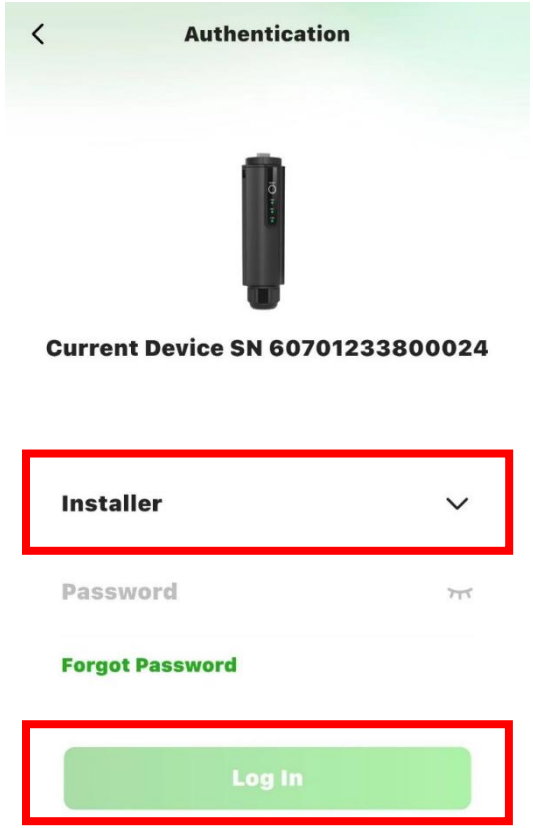
WIFI setting interface



APP



APP Configuration 2 - Near-end Commissioning

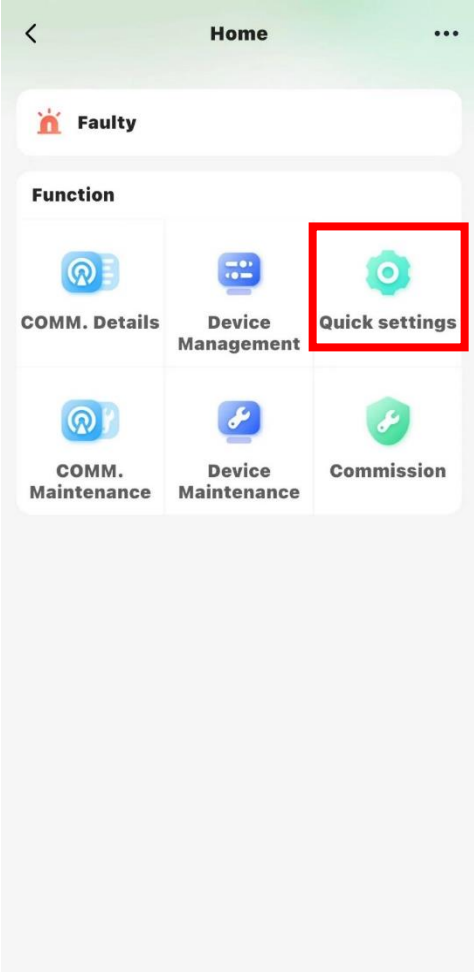


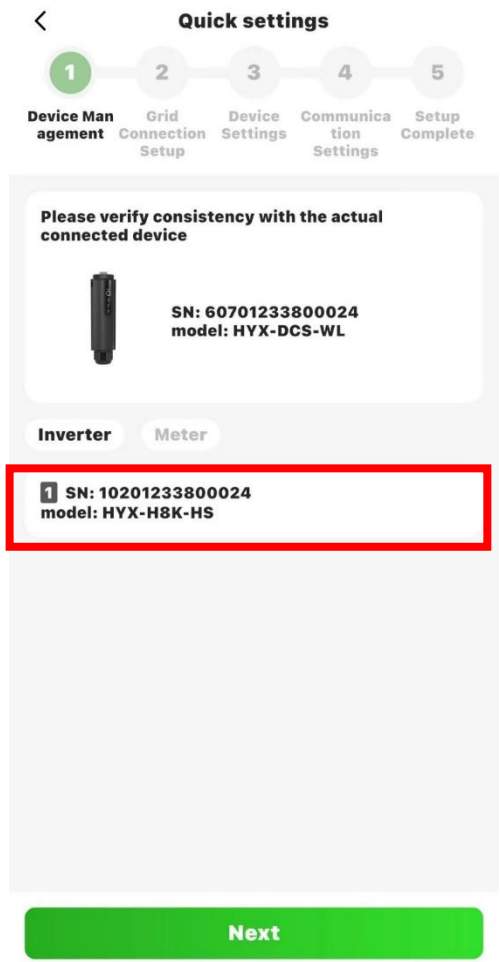
Step 3 : Device login, initial password: hyxi0607. (If the password is incorrect, please try 12345678) Log in and change the password, then save. (Record the new password. If you forget the password, you can quickly press the DCS RESET button 4 times to restore the factory settings)

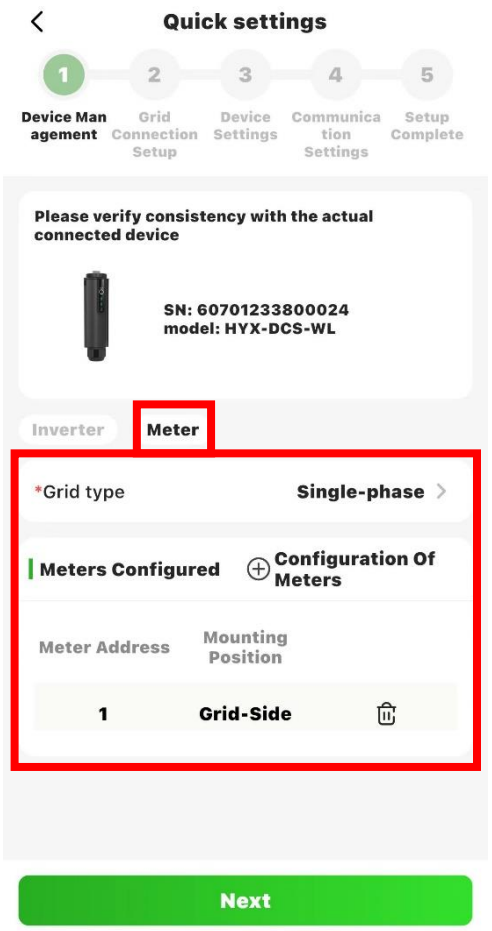
APP Configuration 2 - Near-end Commissioning

Step 4 : Quick Settings - **Device Management** , confirm **the SN of** DCS and Inverter

Set up **the meter configuration if there is one.**



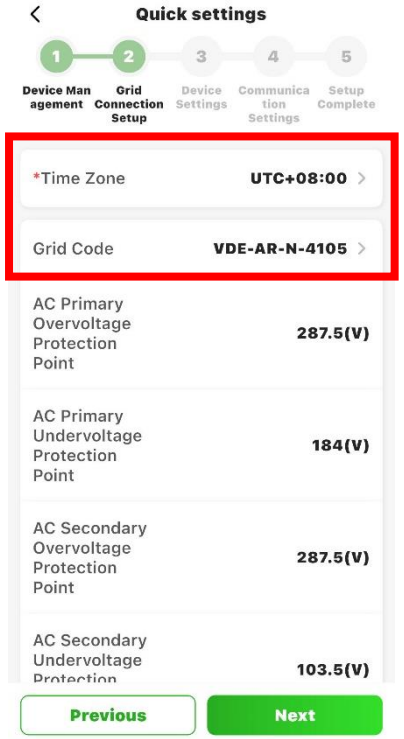




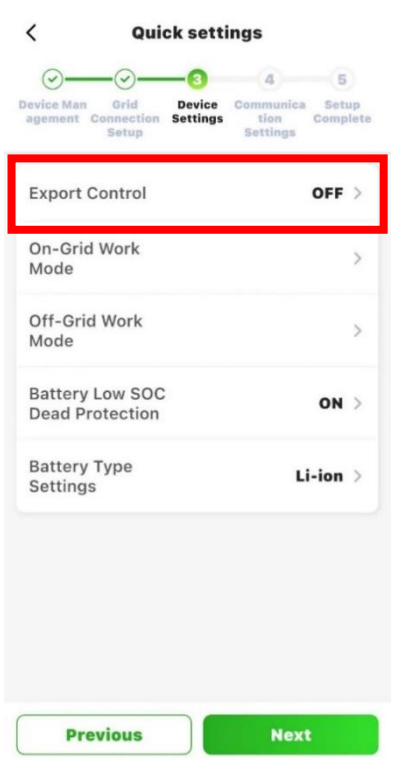
APP Configuration 2 - Near-end Commissioning

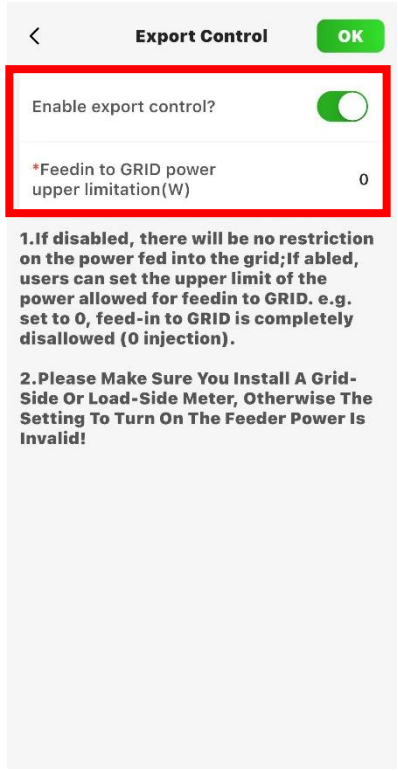
Step 5 : Grid connection settings,

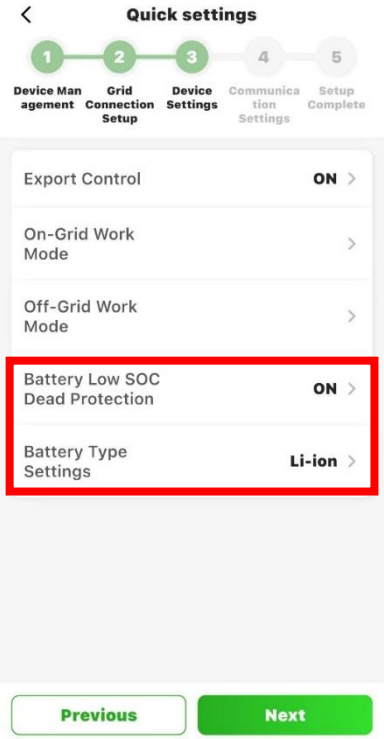
select your **time zone** and **Grid Code**.



Step 6 : Device settings - feeder power limit setting - **If there is a need to inject into the grid, set the corresponding power value**.
Turned on the **Battery low SOC Dead protection(Default 10%).**
The battery type needs to be set to **lithium battery.**

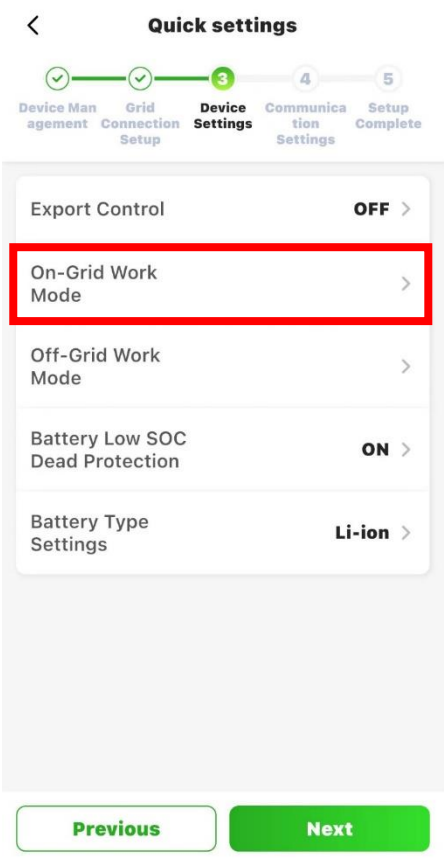


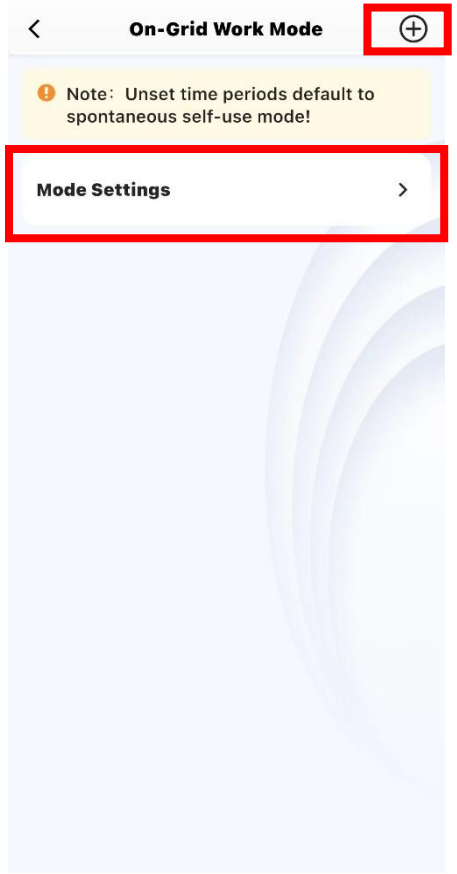


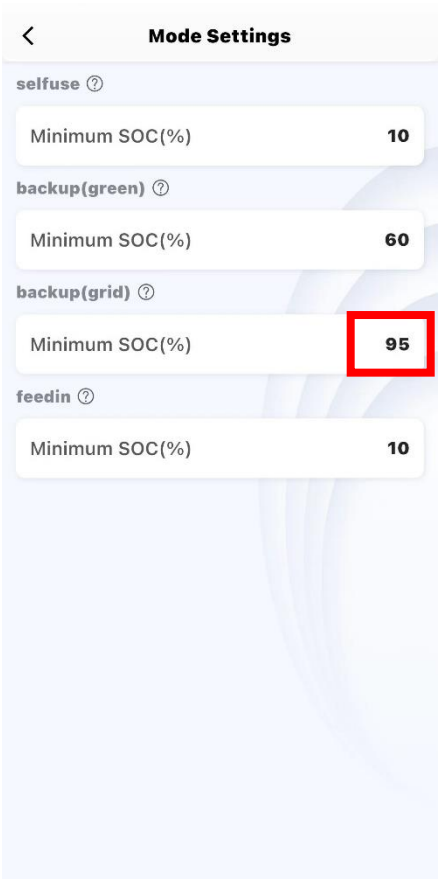


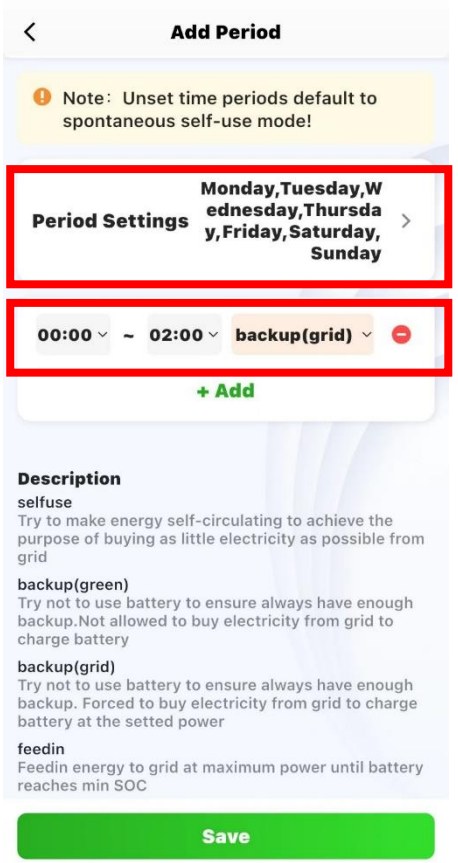
APP Configuration 2 - Near-end Commissioning

Step 7: If you have already installed photovoltaic panels, Skip this step. Device settings – On-Grid Work Mode. The default is for self-use. For those Plants without photovoltaic panels, need to setup the grid backup time and minimum SOC. It is recommended to set the grid backup mode for 2 hours per day and set the minimum SOC of power grid backup to 95%.







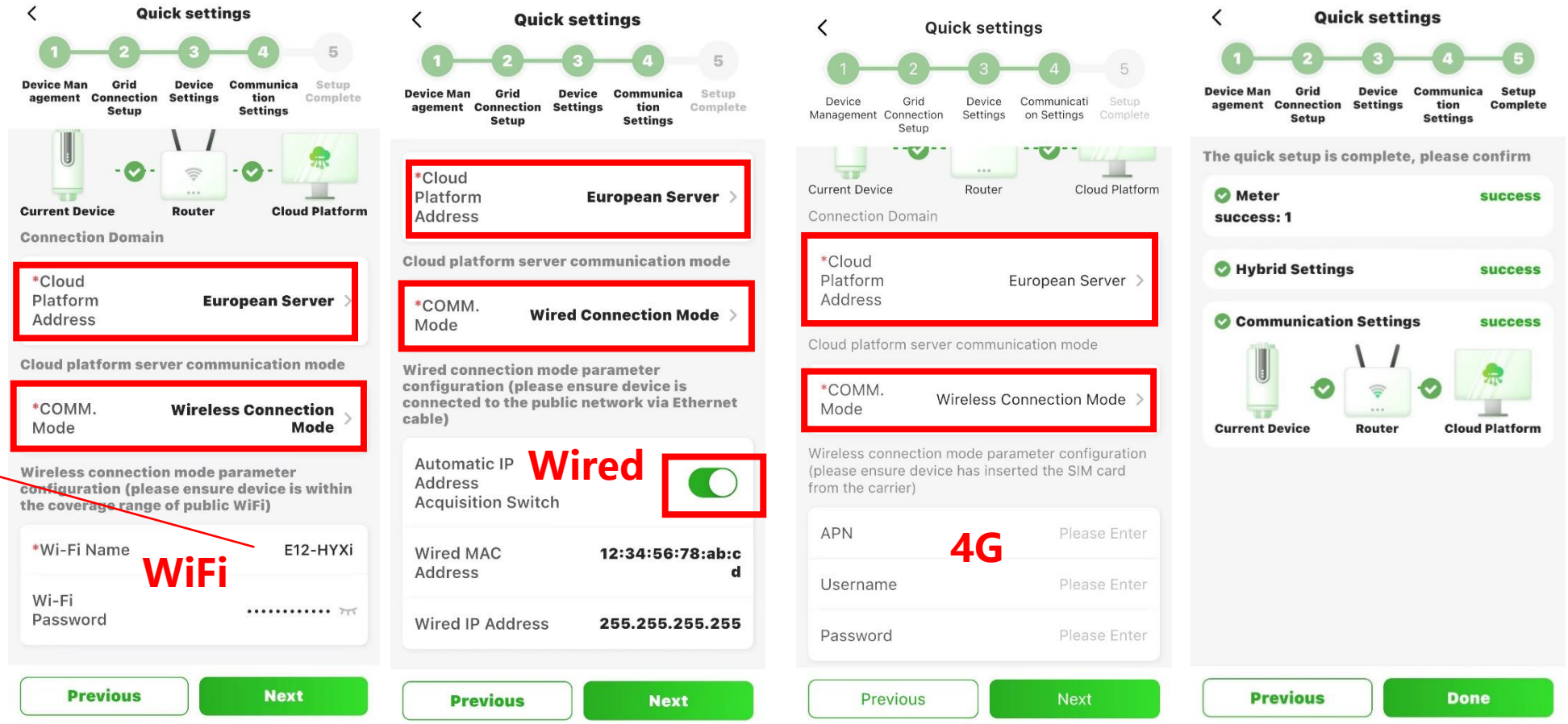


APP Configuration 2 - Near-end Commissioning

Step 8 : Communication settings, Choose your local **server**, fill in the **Wi-Fi name and password** for wireless mode. Confirm the automatic IP acquisition switch is **ON** for **wired connection mode**. No need to fill in the **APN, username and password** for the **4G version wireless mode**. The next step is to wait for the device to connect to the Internet.

Android users can automatically obtain the Wi-Fi Name and Password

IOS users need to manually input Wi-Fi Name and Password.



APP Configuration 2 - DCS status confirmation

Step 9 : After Near-end Commissioning completed, you need to check the status of the DCS indicator. If it is as shown in the figure below, the network connection is successful. If the indicator light displays abnormally, please refer to " Preparation 6-DCS Communication Stick Introduction " to check the cause of the abnormality.

APP Configuration 3 - Create a Plant

Registration

1. Download HYXipower APP .

2. Register the account of the person in charge of the organization.

Near-end Commissioning

Register the DCS communication stick to the cloud server through local debugging.

All Hyxipower equipment is managed using the cloud platform. After the equipment is registered to the cloud server, it can be managed uniformly through the cloud platform.

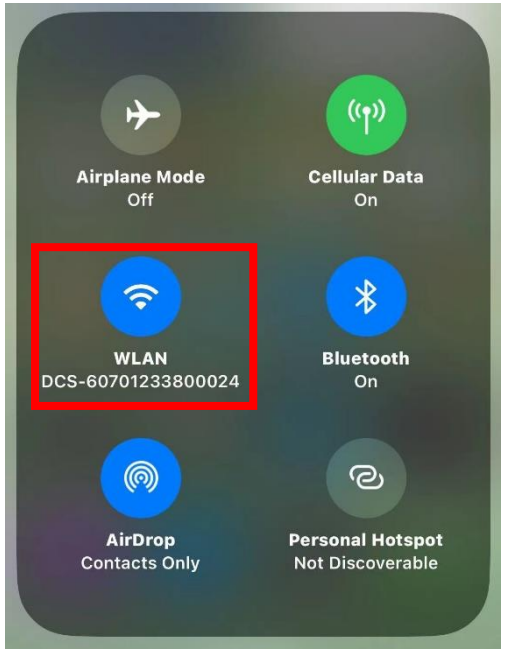
Create a Plant

Create a power station for users

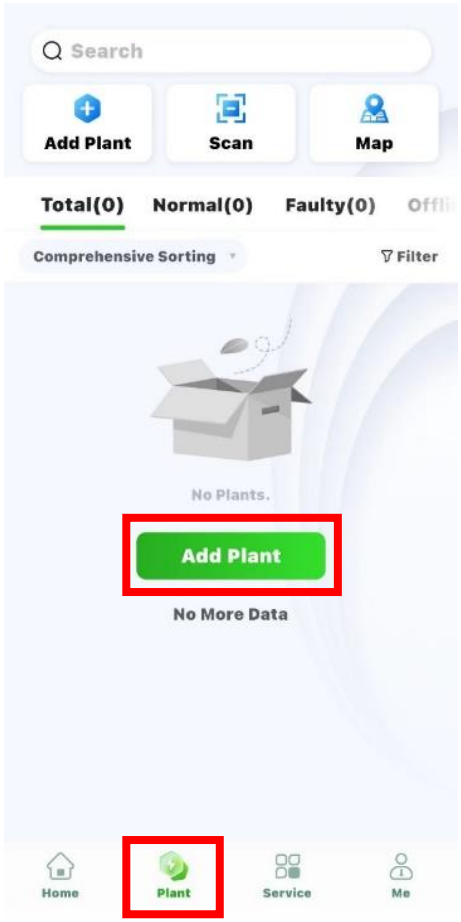
You can manage the equipment through the Plant and check the equipment status, system power generation and usage, etc.

APP Configuration 3 - Create a Plant

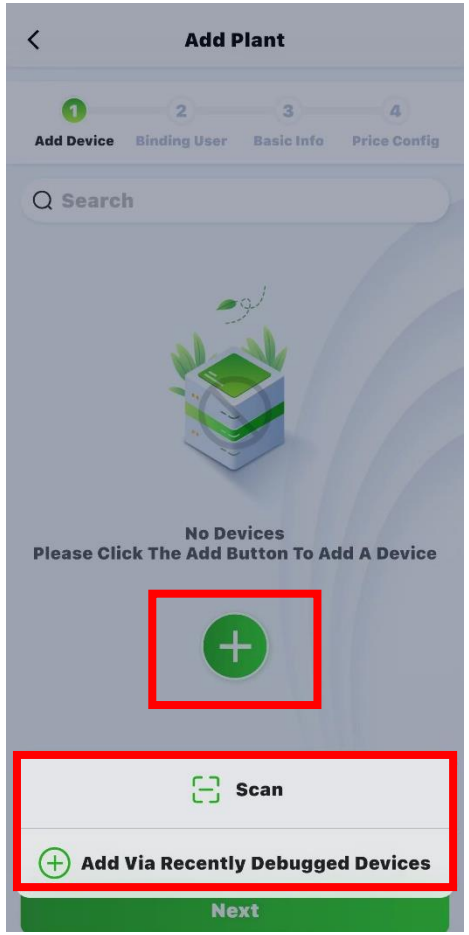
Step 1: Disconnect the phone from the DCS's WiFi. Make sure your phone has Internet access.



Step 2: Log in to your **organization account**, click the **Add Plant** button.



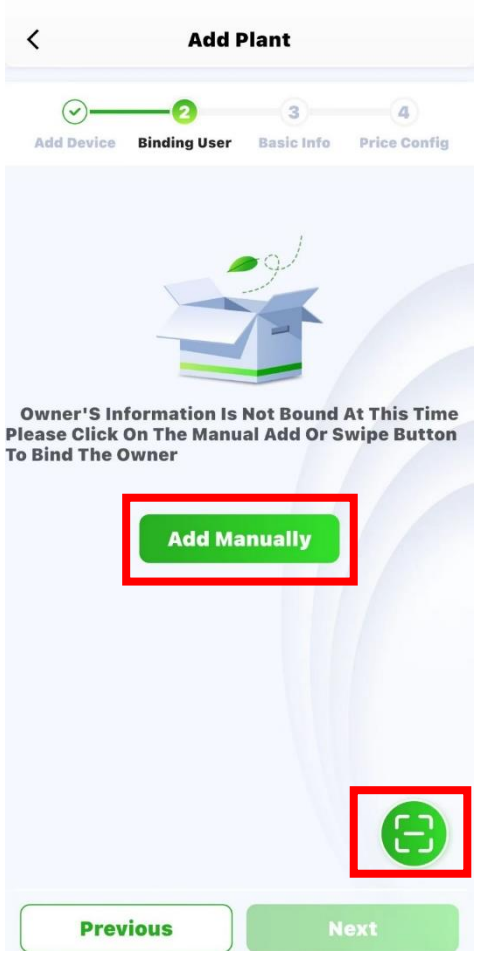
Step 3: Scan the QR code of the DCS or add it through the Recently debugged device.

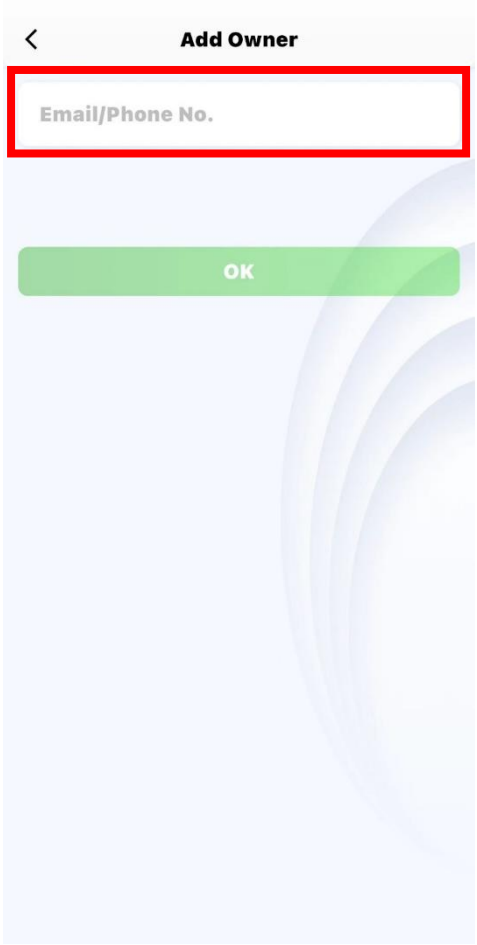


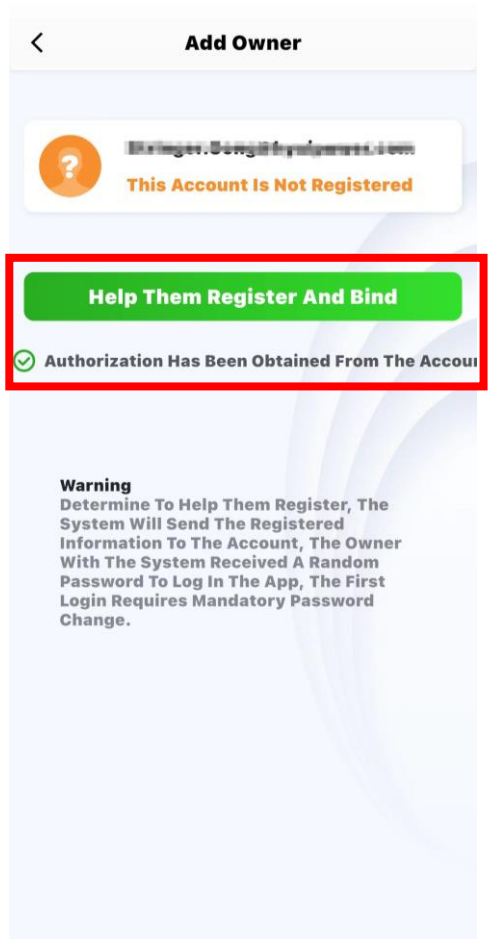
Create Plant video: https://webfile.hyxipower.com/soft/20231129/HYXiPOWER-APP_Create-plants_Ver1.0-20231103.mp4

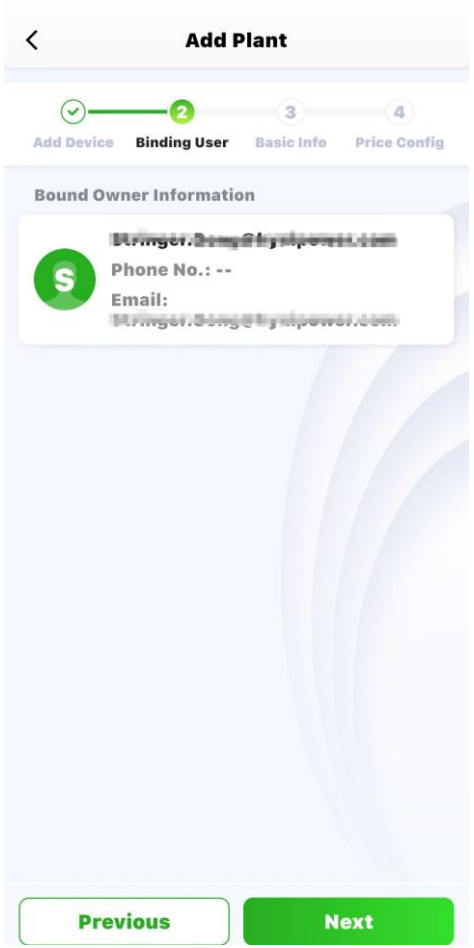
APP Configuration 3 - Create a Plant

Step 4: Add owner, Add Manually or scan the owner's QR code. Manually add - enter the email address or mobile phone number of the Plant owner. If the owner is not registered, click to help him register and bind. The system will generate a random password and send a text message or email to the registered account.



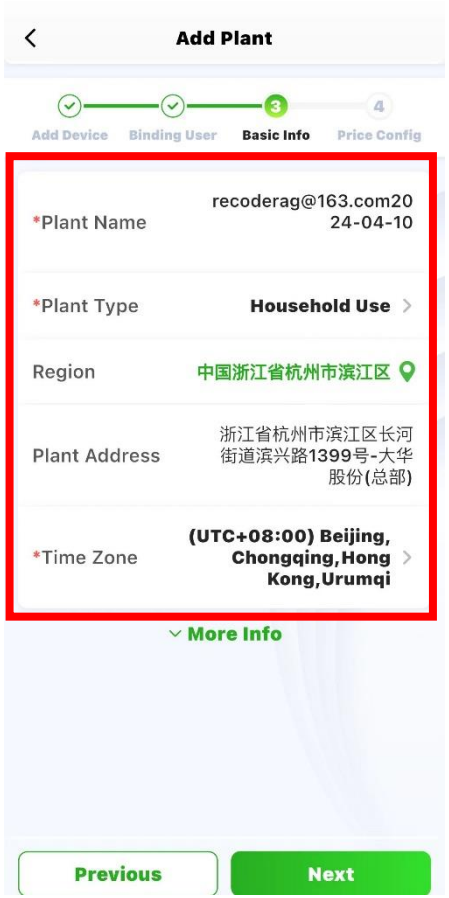


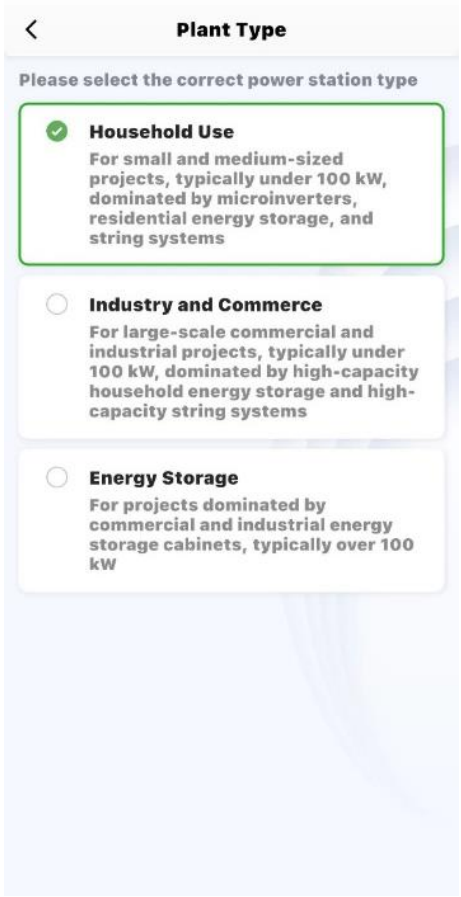




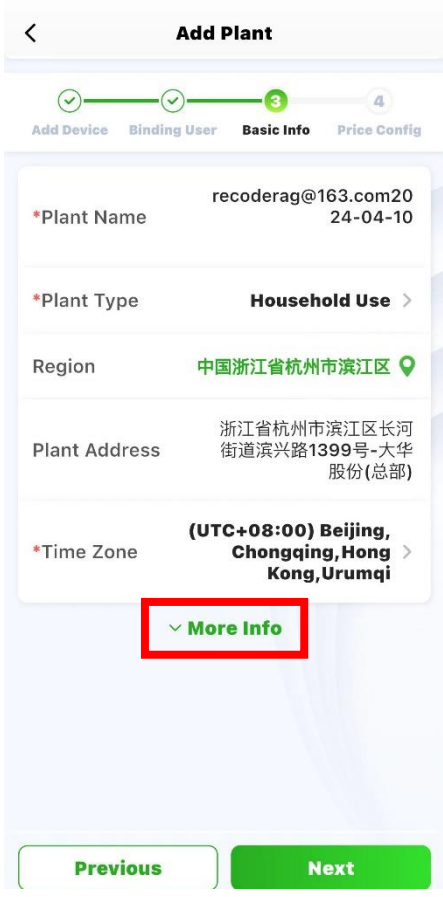
APP Configuration 3 - Create a Plant

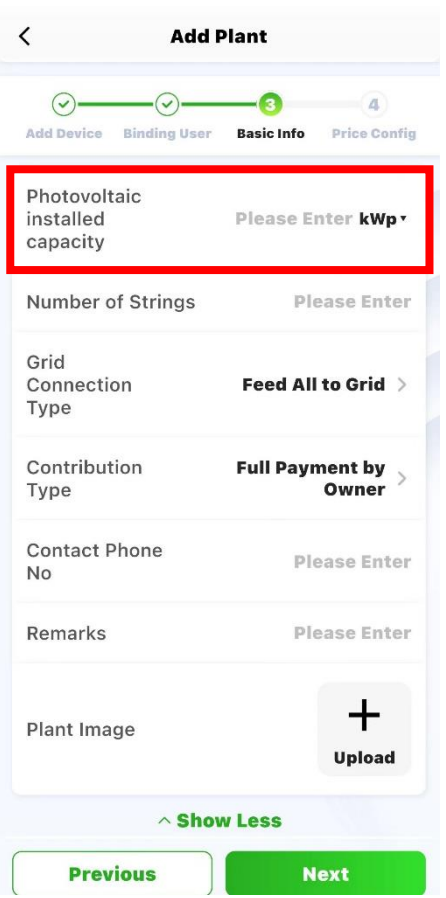
Step 5: Fill the Info, Plant Name, Plant Type, Region, Time Zone.





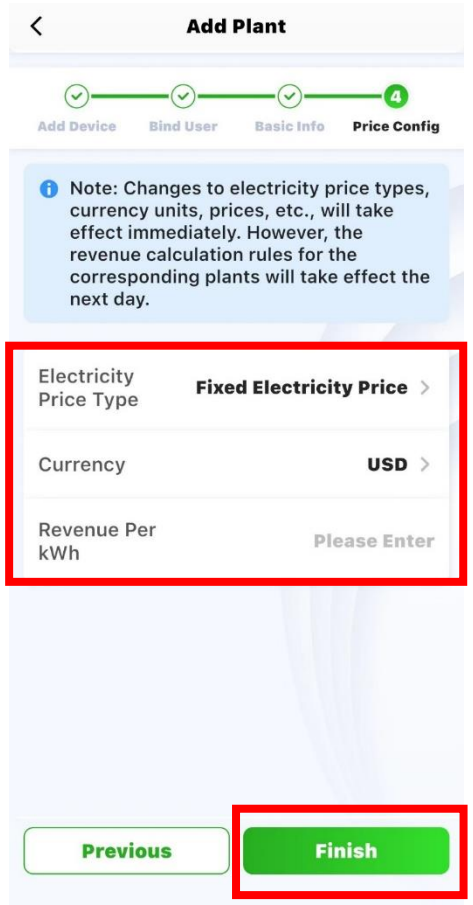
Step 6: More Info, Next.

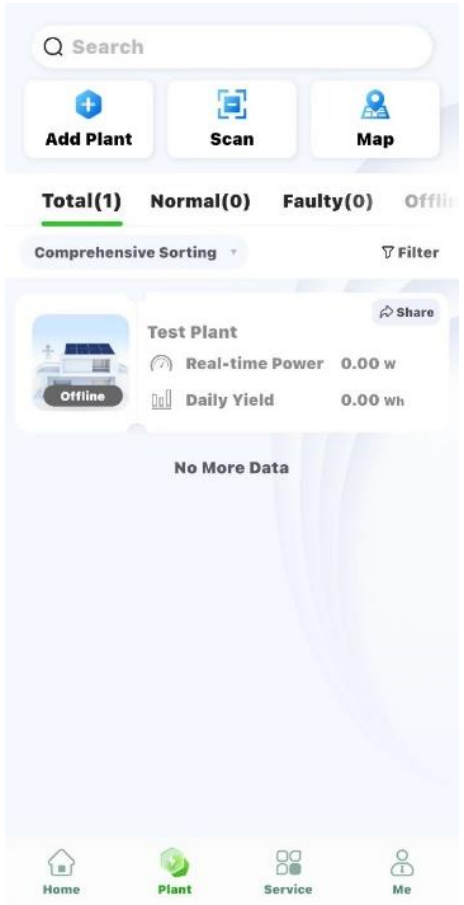




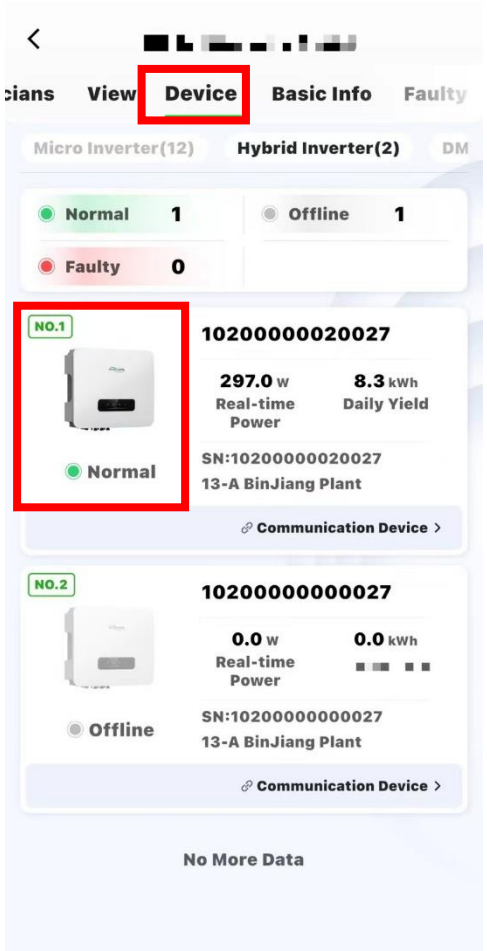
APP Configuration 3 - Create a Plant

Step 6: Fill in Electricity Price Type, Currency and Revenue per KWh, select Finish, and the Plant is successfully created.





Installation Acceptance



Step 1: Select **Plant** - **User's Plant** - **Device**, and ensure that the online state of device is correct.

Step 2: After installation is completed, continuously monitor for more than half an hour, select **Statistics** - **Energy Analysis** , view the realtime power statistics curve, and ensure that the Plant has started generating electricity normally.

After confirming that all the above are normal, it indicates that the device installation and configuration is successful!

HYXiPOWER

THANKS

Zhejiang Hyxi Technology Co., Ltd.

Quality | Innovation | Efficiency | Win-win