

Installation/User Manual

HERF-DCU-4G

About the Manual

This manual contains important instructions for the HERF-DCU-4G and must be read in its entirety before installing or commissioning the equipment. For safety, only qualified technician, who has received training or has demonstrated skills can install and maintain this HERF-DCU-4G under the guide of this document.

Other Information

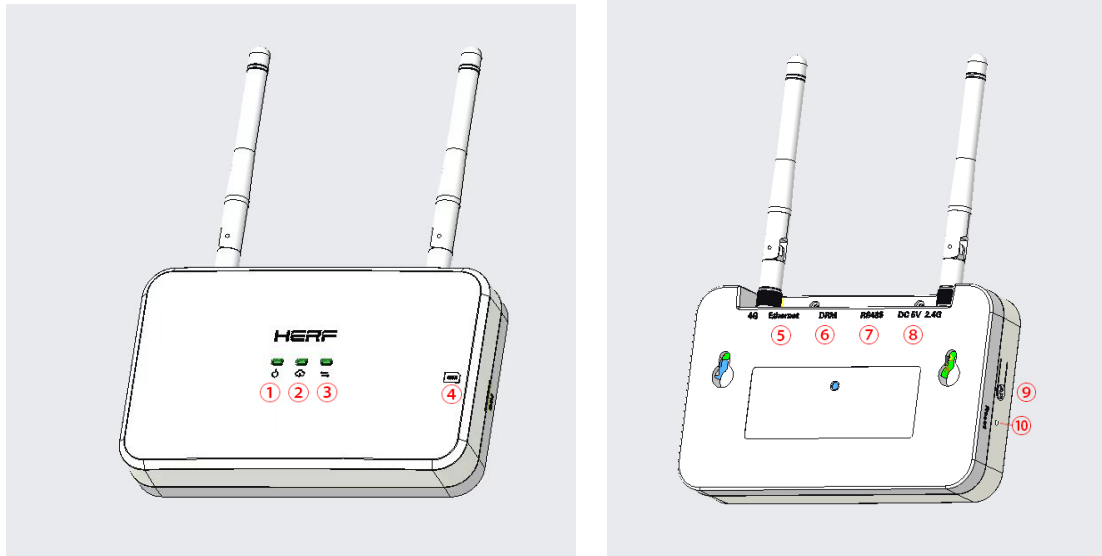
Product information is subject to change without notice. User manual will be updated frequently, please refer to ESTAR official website at <https://estarenergy.com> /for the latest version.

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1. Terminals Introduction

1.1 About DCU-4G



- ①: LED1, DCU-4G working condition light;
- ②: LED2, DCU-4G communicating with the platform indicator light;
- ③: LED3, DCU-4G communicating with the microinverter indicator light;
- ④: SIM Port;
- ⑤: Ethernet Port;
- ⑥: DRM Port;
- ⑦: RS485 Port;
- ⑧: DC 5V Input Port;
- ⑨: AP Button;
- ⑩: Reset Button.

Specific functions of each port see Section 1.3 and Section 1.5.

1.2 Communication mode

Adopt the 2.4G wireless scheme with the HERF-DCU-4G communication; Adopt the network cable and 4G coexistence scheme for the communication with the monitoring platform.

1.3 Peripheral interface

The peripheral interface includes RS485 interface, DRM, LED indicator light, Reset button, SIM and AP button. The functions of each interface are briefly described as follows:

Ethernet: Use network cables for DCU-4G distribution network.

RS485: This interface has two functions, one is to prevent reverse flow, the other is to meet the needs of remote scheduling in Europe (Integrated Sunspec Modbus protocol).

DRM: Meet the DRM power dispatch requirements in Australia.

LED: There are three LED indicators that represent the DCU-4G and platform communication, DCU-4G and microinverter communication, and DCU-4G working status.

Reset: Resets the associated network configuration for the communication with the platform.

AP: Long press 3S to change to AP mode.

SIM: Insert a SIM card to use 4G capabilities.




RTC: After the power outage, power up within 7 days, keep the time.

1.4 Power supply mode

This product uses 5V power supply, external power supply adapter.

1.5 Indicator light description

This product has 3 LED indicators, respectively representing the DCU-4G status indication, DCU-4G and platform communication, DCU-4G and microinverter communication, as described in the table below.

Start / firmware upgrade	
The three-lights flash every 0.5 seconds	Machine start
The three-lights flash every 1 second	Firmware update
Three lights flashing at the same time, 0.2 seconds on, 0.8 seconds out	Reset success
DCU-4G Status indicator light  (green)	
Often bright	Electrify
Light flash 0.5s+0.5s	DCU-4G Work failure
Often off	Unelectrified
DCU-4G and platform communication  (green)	
Often bright	The connection platform is normal
Light flash 0.5s+0.5s	Wait for / try to connect to the network
Light flash slowly 1s+1s	Not connected to the monitoring platform
Light flash 0.5s + 1.5s	AP mode
DCU-4G and microinverter communication  (green)	
Often bright	Communication is normal
Light flash 0.5s+0.5s	There are microinverter not on the communication
Light flash 1s+1s	All microinverter are not communicated on
Light flash 0.5s+1.5s	DCU-4G unconfigured microinverter ID

2. Introduction to product software functions

2.1 APP download and installation

1) Scan the following QR code by using the mobile QR code function to download and install the HERF APP(for end user) OR HERF PRO APP(for dealer) . You can also search for the HERF OR HERF PRO app in the Apple store or the Google play for download and installation.



HERF



HERF PRO

2) Choose the way DCU-4G connect to the Internet: WIFI OR Ethernet.

2.2 Microinverter data and information upload

At the data level, the data is uploaded in units of Micro-inverter.

1、 Network disconnection storage data for a week;

2、 Upload time interval is standard with 15 minutes. In addition, the RS485 port only supports Zero-export,

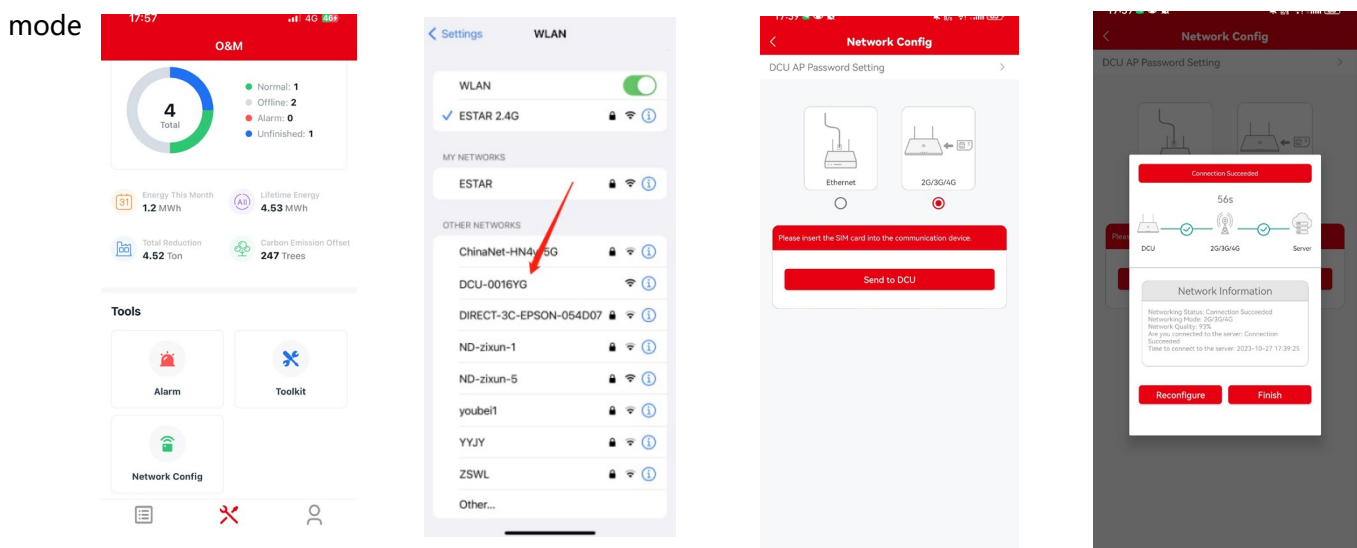
Sunspec Modbus protocol functions.

2.3 Station building and monitoring

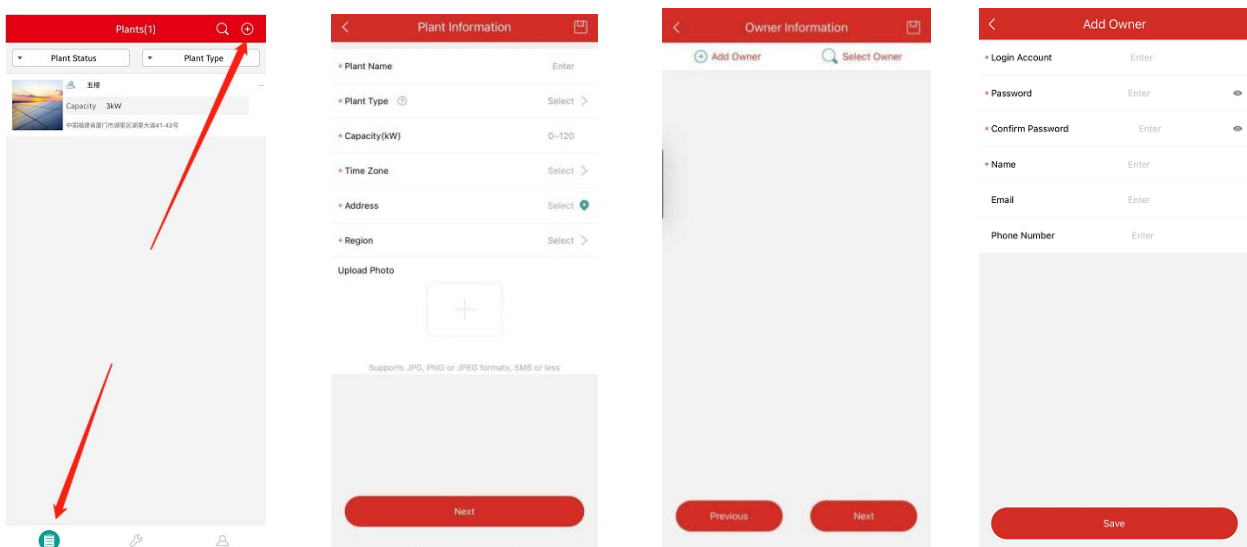
If you are a new dealer with ESTAR, please apply for a dealer account from ESTAR in advance. (If you are an end user, please apply for a user account from your distributor.

APP:

- 1) Open the HERF PRO App and log in with your dealer account and password.
- 2) Set up the DCU-4G connection on your mobile phone, Power on is STA, long press 3S to change to AP mode



- 3) Select the “Station” tab on the bottom, and then select “⊕” on the right top side of the page to add station. Complete the information filling and user account creation according to the prompts.



Web:

1、Login

1) Apply for account number

2) System requirements

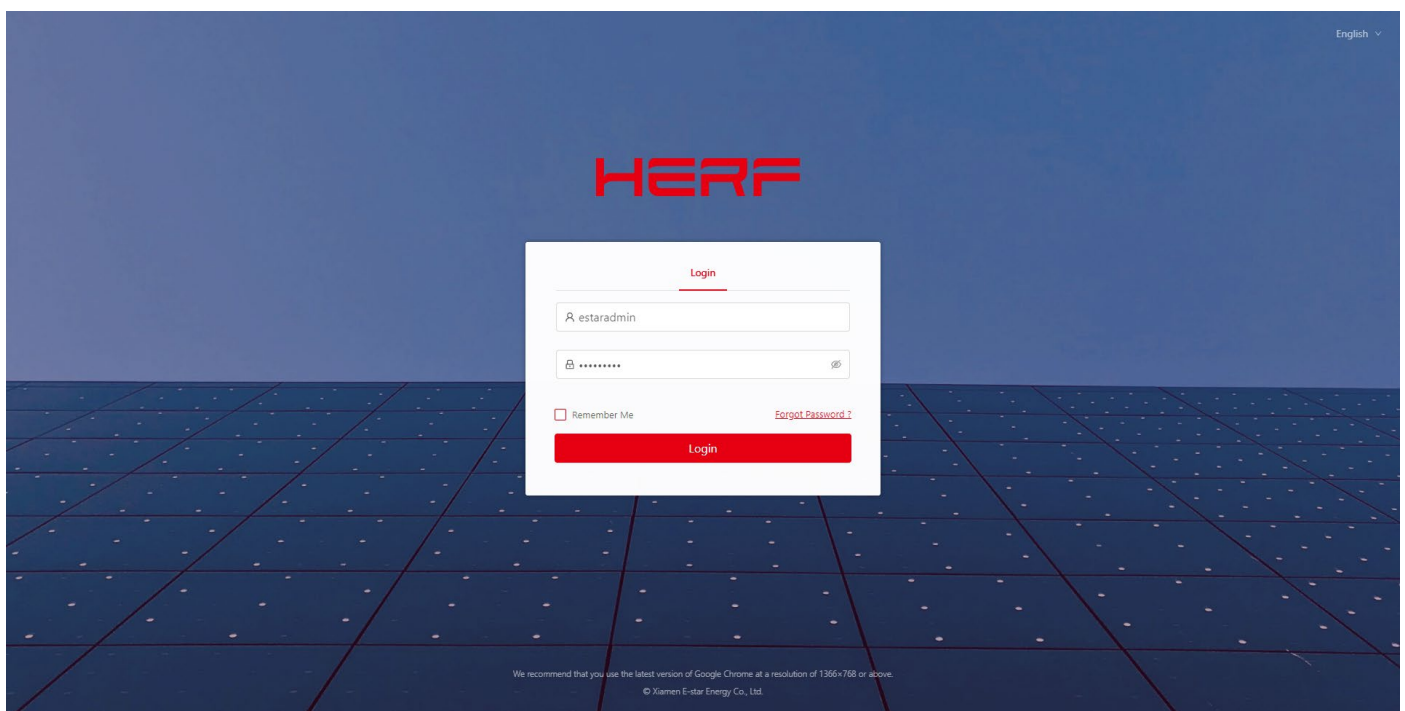
Browser: Recommend Google Browser;

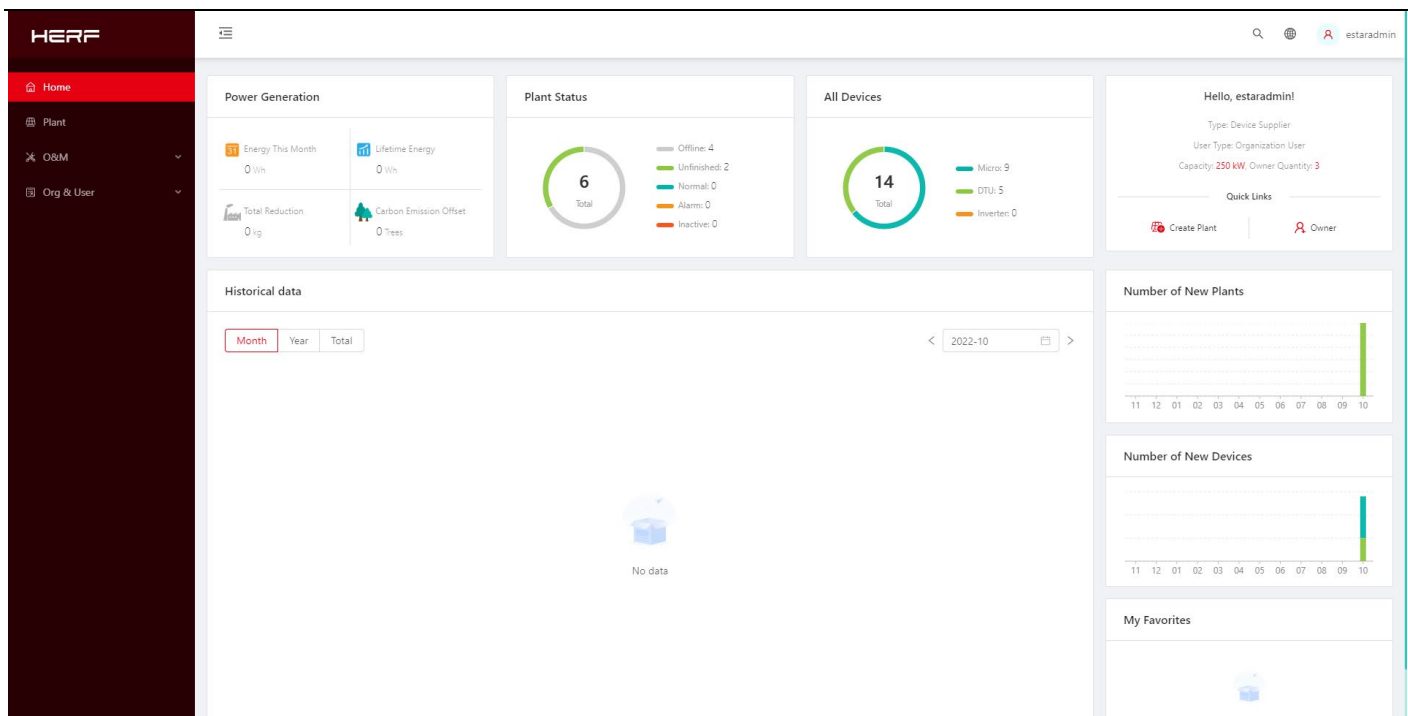
Screen resolution: Recommended 1920 * 1080, support 1366 * 768.

3) Login address

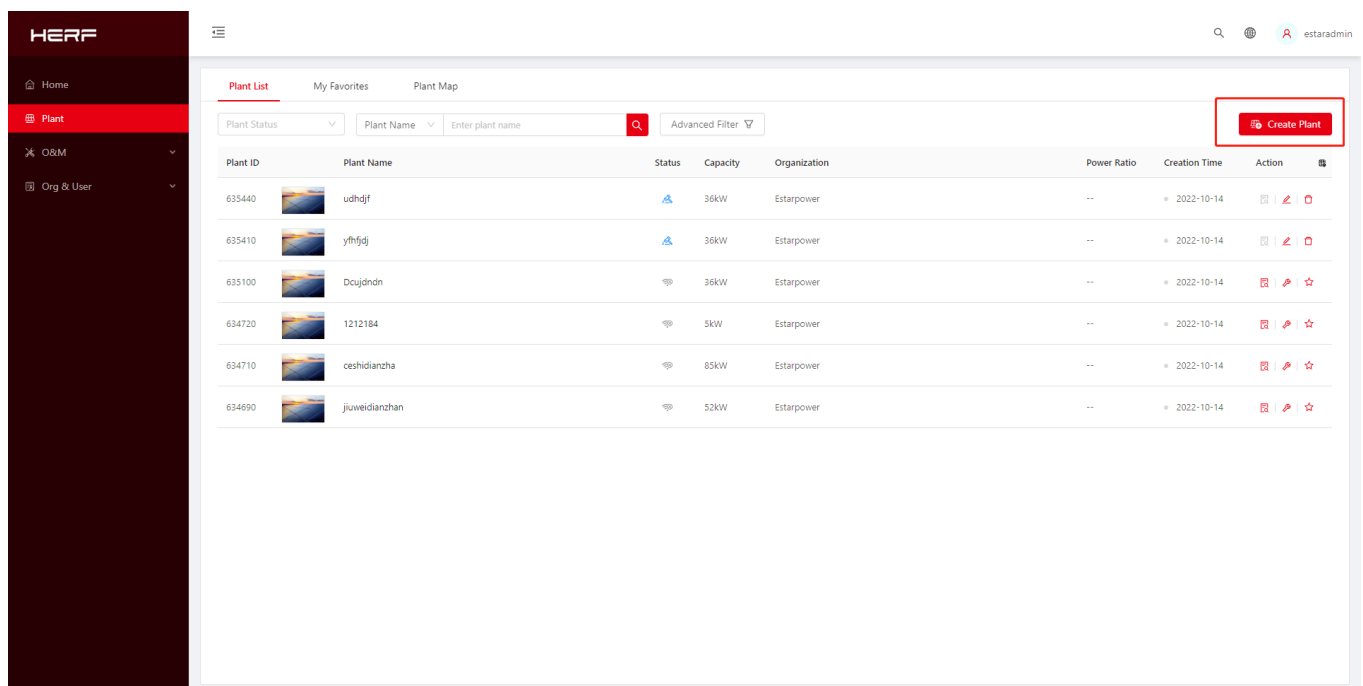
<https://monitor.estarpower.com>

4) Login interface





2、Construction of power station



The Plant List table displays the details of the power station's construction, including plant ID, name, status, capacity, organization, power ratio, creation time, and action options. A 'Create Plant' button is visible in the top right corner.

Plant ID	Plant Name	Status	Capacity	Organization	Power Ratio	Creation Time	Action
635440	udhdjff	...	36kW	Estarpower	..	2022-10-14	...
635410	yfhfdj	...	36kW	Estarpower	..	2022-10-14	...
635100	Dcujdndn	...	36kW	Estarpower	..	2022-10-14	...
634720	1212184	...	5kW	Estarpower	..	2022-10-14	...
634710	ceshidianzha	...	85kW	Estarpower	..	2022-10-14	...
634690	juweidianshan	...	52kW	Estarpower	..	2022-10-14	...

1) Click create Plant

HERF

Home

Plant

O&M

Org & User

Create Plant (Basic Information)

* Plant Name:

* Plant Type: Residential Plant (Single Array)

* Capacity: 0-120 kW

* Location:

Please search or mark the location of your plant on the map.

Plant Cover:

Upload Picture

Suggested size: 1000x600. Format: JPG, JPEG, PNG, GIF. No more than 2 MB.

2) Enter the name of the power station

3) Select power station types: household, industrial and commercial, large ground power stations;

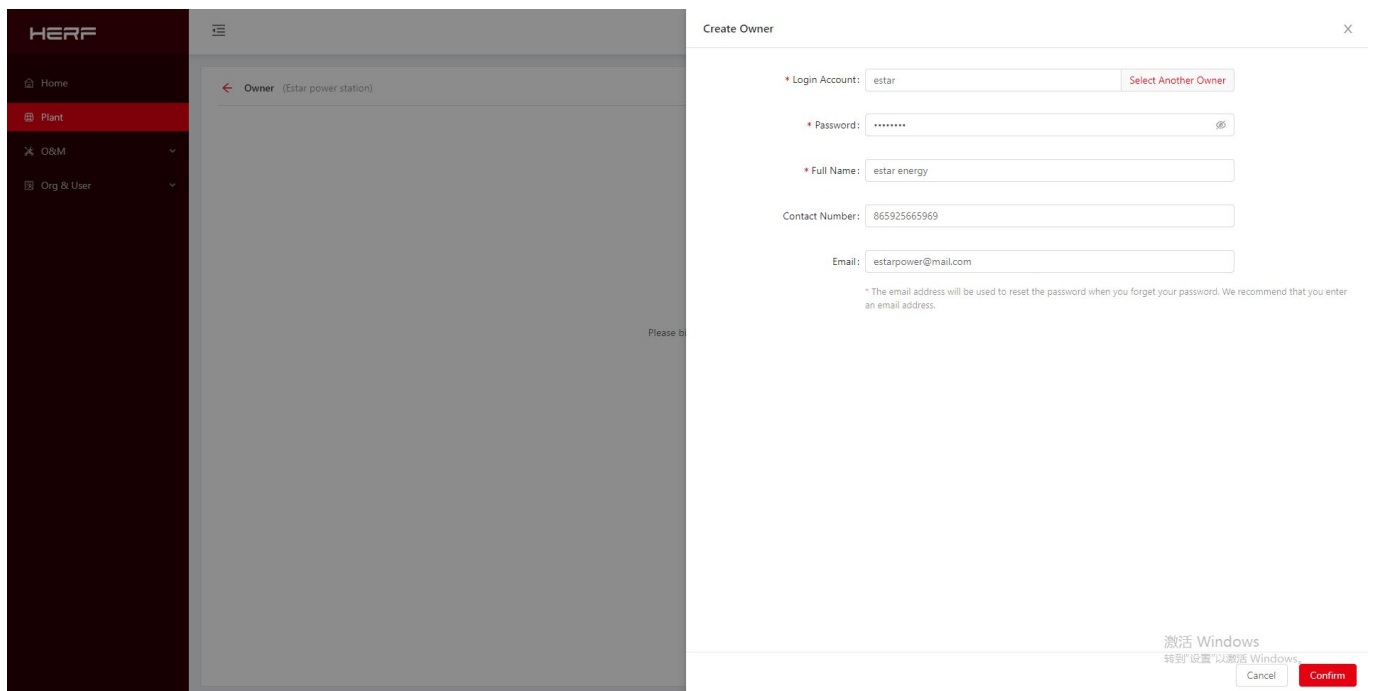
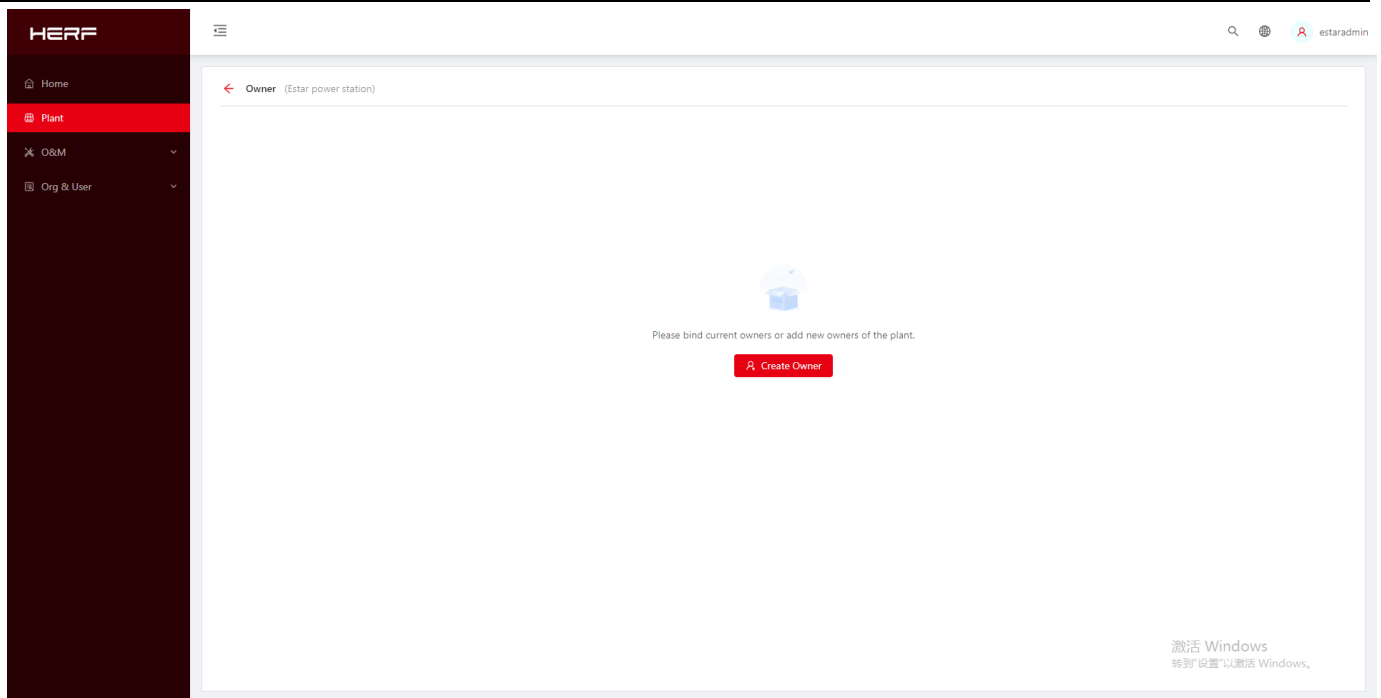
4) Select an installer or a distributor;

5) Input system capacity;

6) Select the address of the power station.

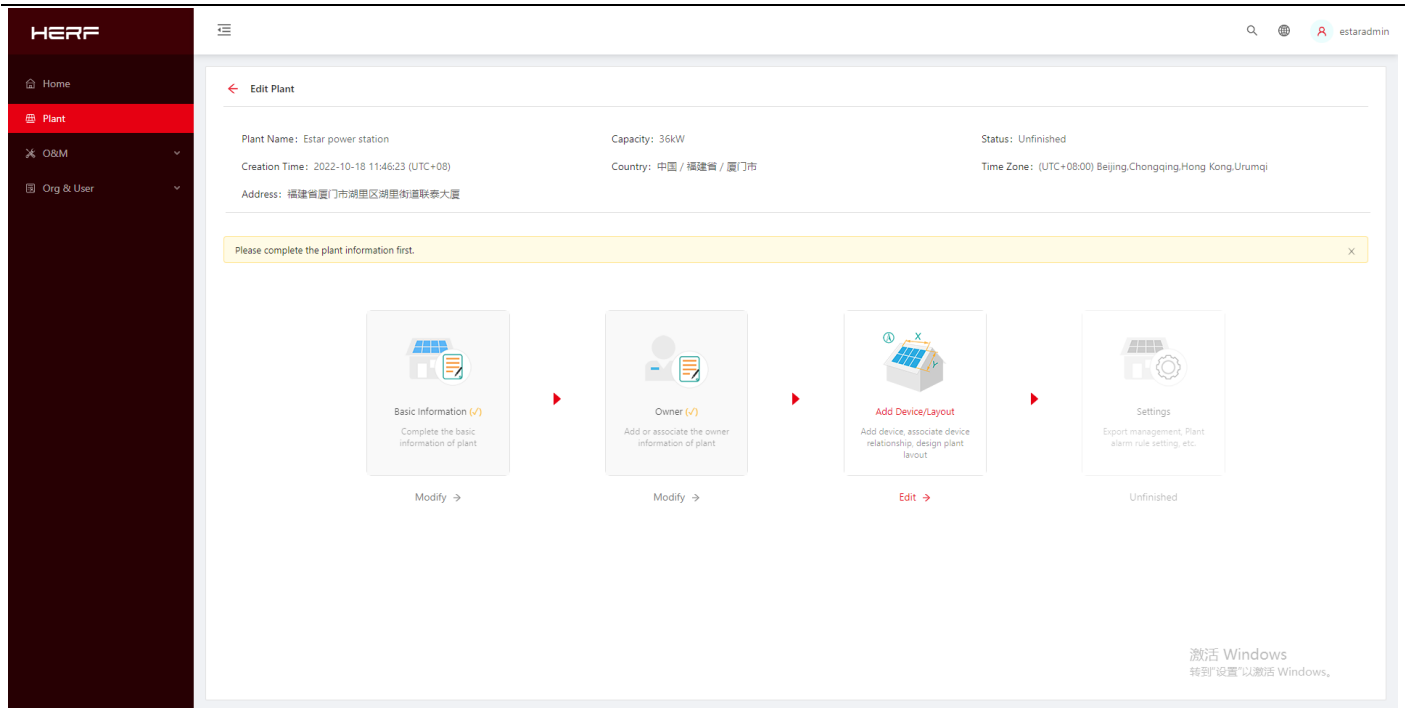
3、Create an owner account

1) When the power station is successfully built in the last step, it will jump to the following interface and click Create Owner;

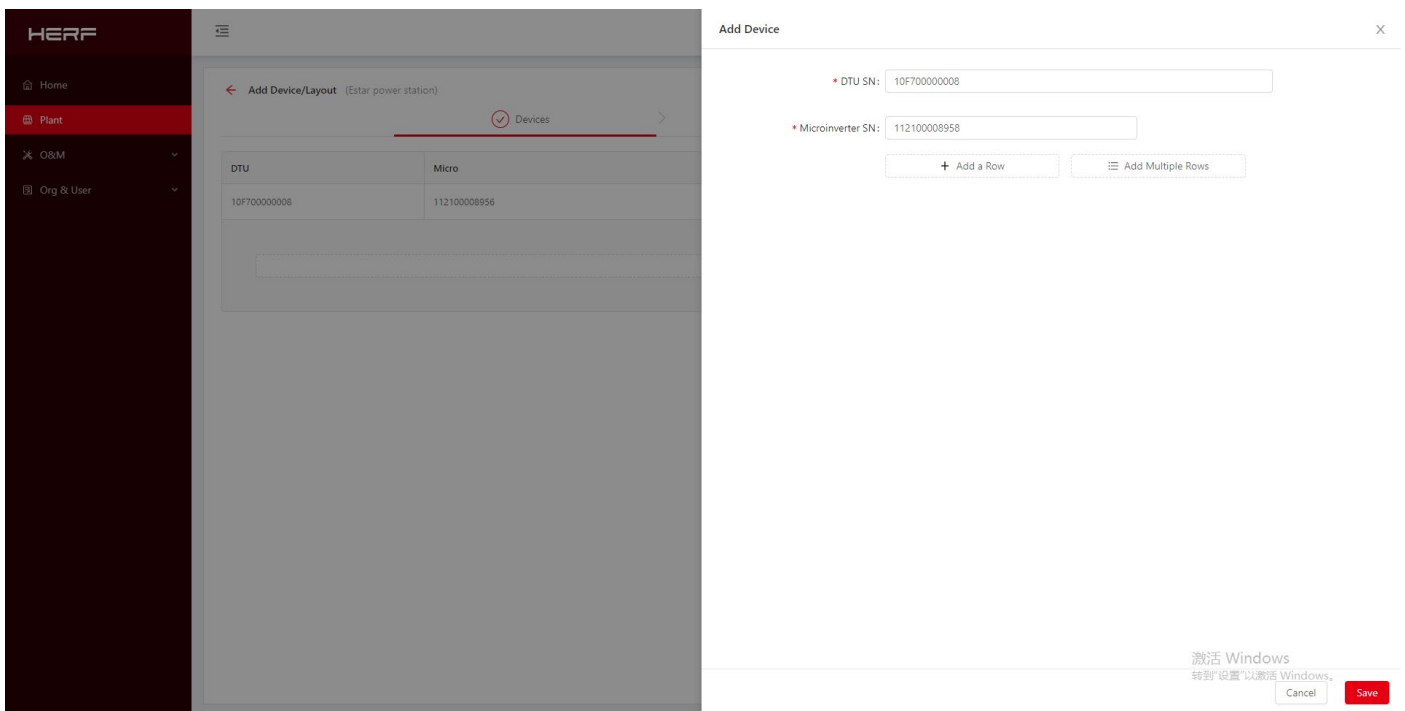


2) Enter the account, password, and full name that you want to create, and click Confirm to determine.

3、 Add equipment



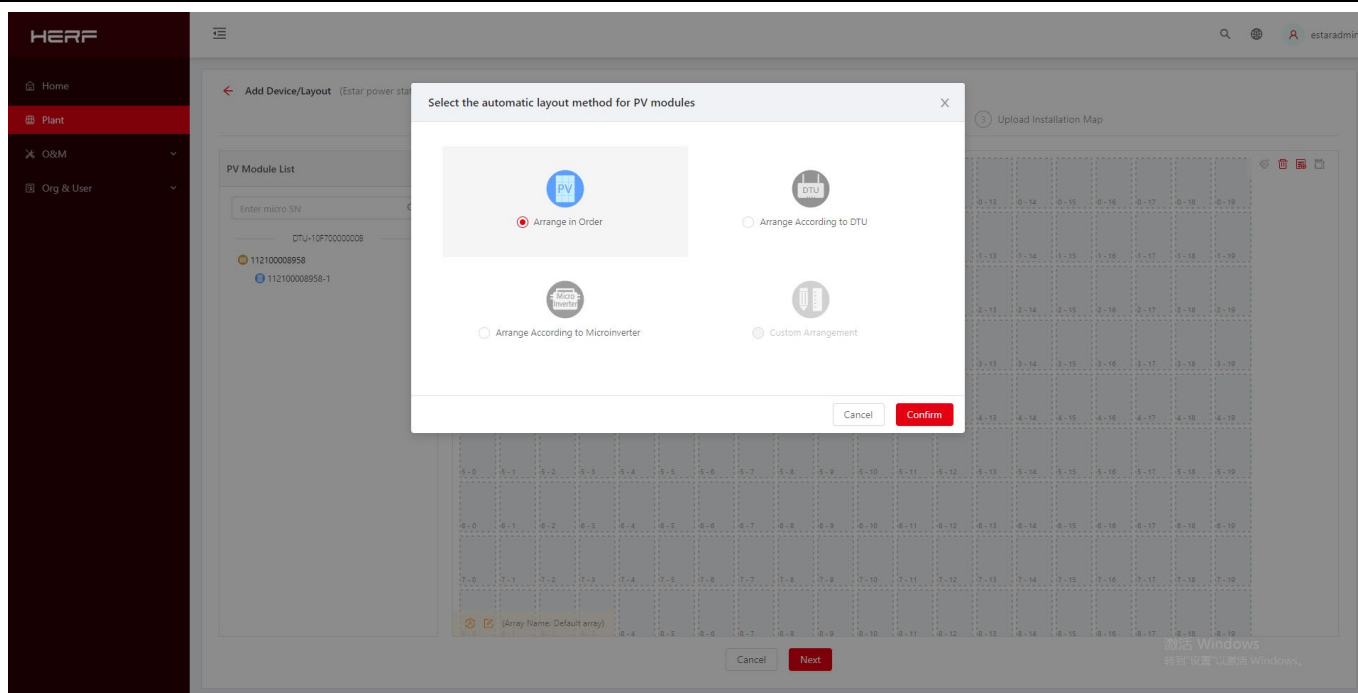
1) get into Add Device/Layout, click Edit;



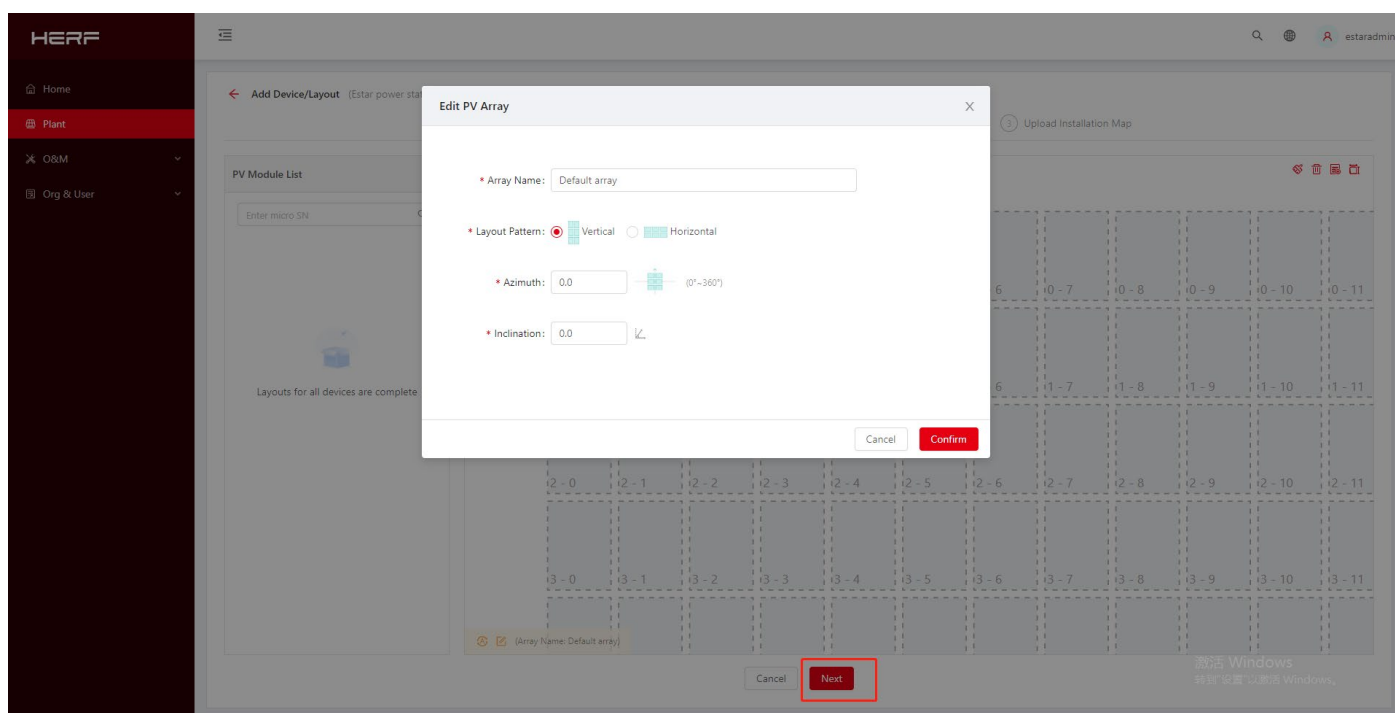
2) Enter the DCU-4G and the SN for the microinverter.

5、Layout project

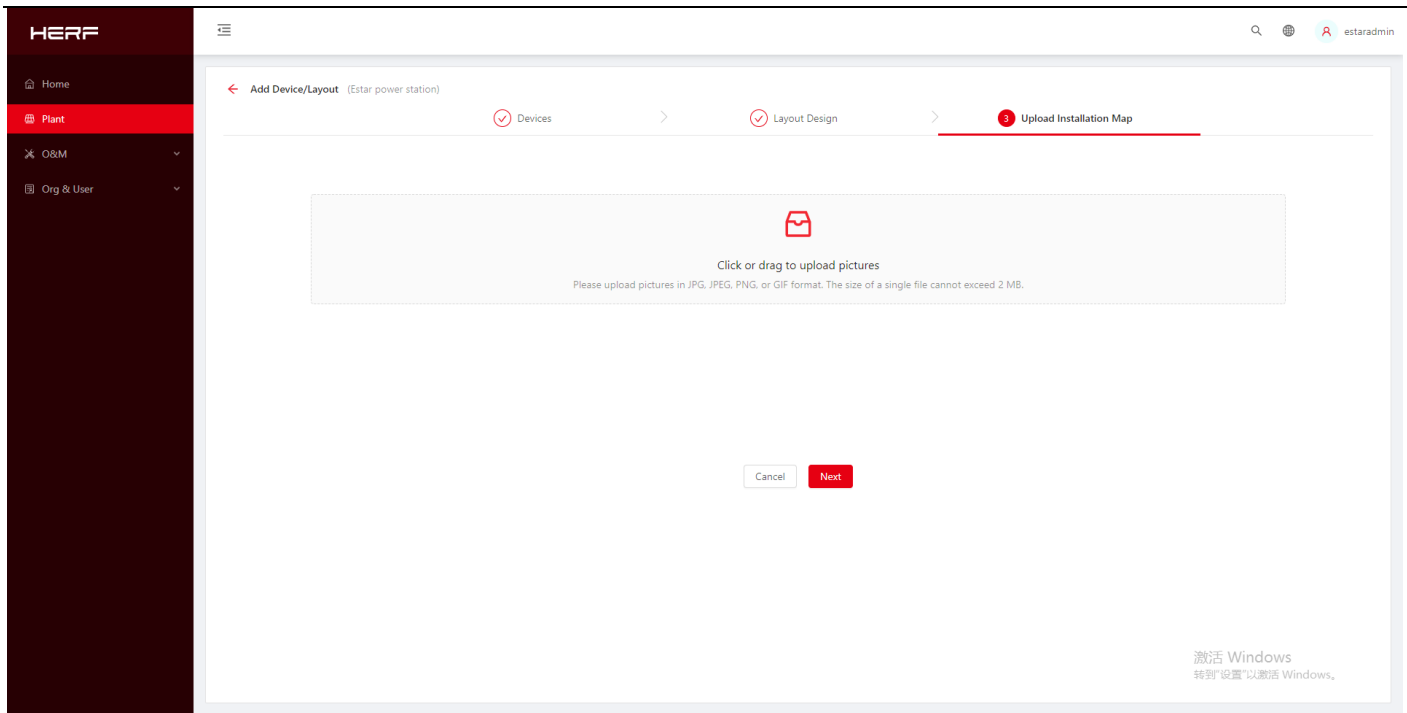
1) Select the way of the component arrangement;



2) Confirm the array name of the component, component layout mode, azimuth, and inclination.



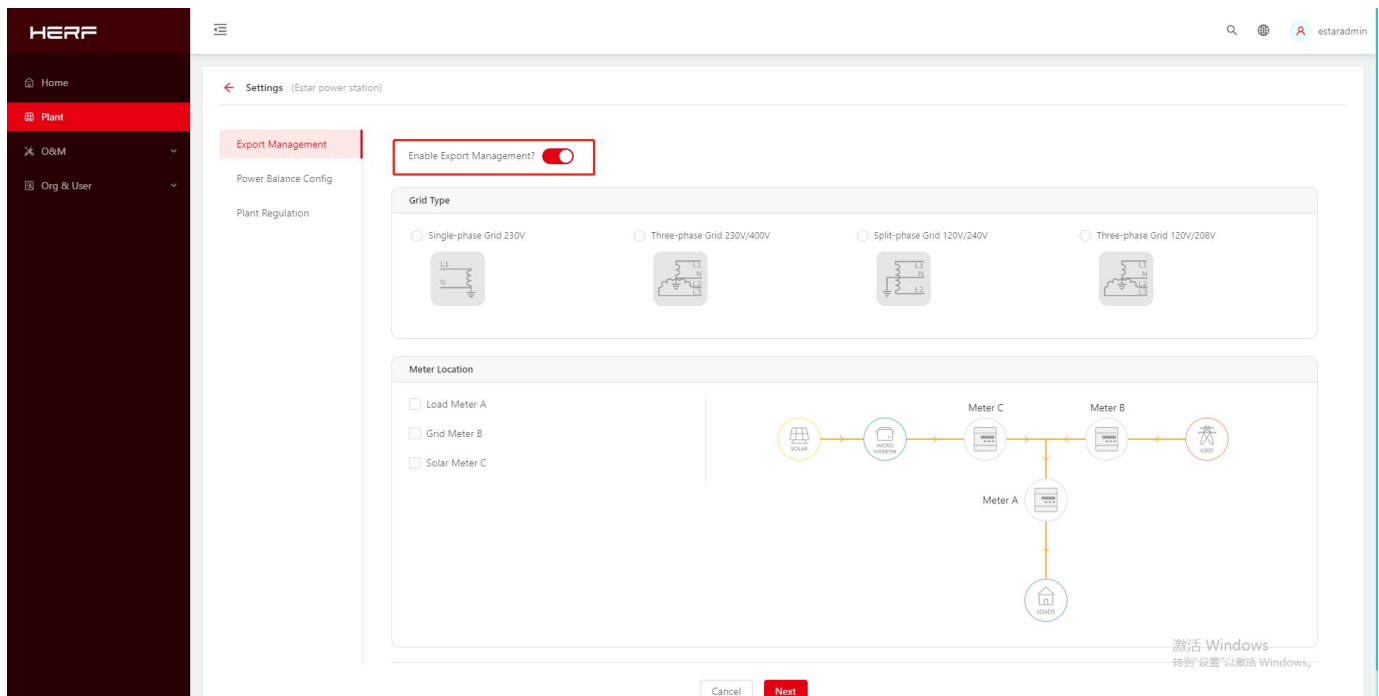
3) Select Upload installation Map.



6、setting

1) Zero-export setting

Select Enable Export Management, select Grid type, select electricity meter position.



2) Power station setting

Monetary unit and electricity price setting, advanced setting, network setting.

HERF

Home

Plant

O&M

Org & User

Settings (Estar power station)

Export Management

Power Balance Config

Plant Regulation

Plant Revenue

Plant Name: Estar power station

Currency: Select

Electricity Price per Unit: Enter a number.

More Setting

Allow Owner to View Layout: ☒

Networking

Automatic Networking: ☒

Cancel Complete and activate the plant

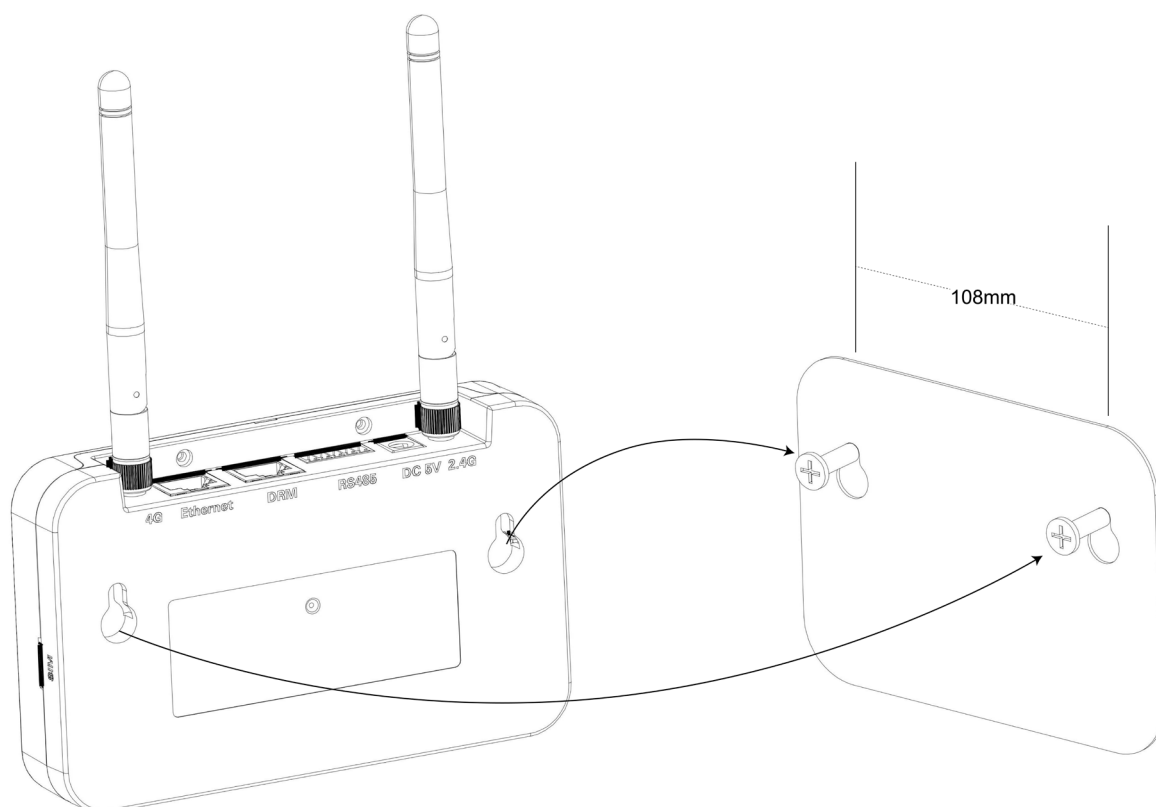
激活 Windows
转到“设置”以激活 Windows。

2.4 Zero-export function

- 1、 Only support the new five kinds Chint electricity meters: DDSU 100A, DTSU 666-2 100A, DTSU666-2 250A,DTSU 666-3 100A, DTSU666-3 250A, only support the grid side, address default 001;
- 2、 Only support the general control mode, can not be carried electrical separation;
- 3、 It can support the three-phase 230 / 400v,single-phase 220v ,split-phase 120/240v power grid.

3. Installation

When installing a DCU-4G with a wall-mounted bracket, select a cool, dry indoor position, fit the wall installed by the DCU-4G, using two gypsum board screws or wall anchors, align and slide the DCU-4G to the mounting screw.



4. Technical parameters

Model	DCU-4G
Communication to Microinverter¹	
Type	Wireless_2.4G
Maximum distance (open space)	200m
Max. number of connected microinverter	25
Communication to Cloud	
Signal	4G/Ethernet
Sample rate	Per 15 minutes
Communication to Meter	
Signal	RS485
Maximum distance (RS485 cable)	500m
Interaction	
LED	LED Indicator * 3
APP	Local APP
Power Supply (Adapter)	
Type	External adapter
Adapter input voltage/frequency	100 to 240 V AC / 50 or 60Hz
Adapter output voltage/current	5V / 2A
Power consumption	2.5W (typical), 5W (maximum)

Mechanical Data	
Ambient temperature (°C)	-20°C to 50°C
Dimensions(W×H×D mm)	142×87×28.5
Weight	0.20 kg
Installation options	Wall mounting / Desktop mounting
Features	
Compliance	CE,FCC
<p>*If the DCU-4G installation location is inside the metal box or under the metal/concrete roof, extended antenna will be suggested.</p>	

FCC Statement

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment .This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

Note : This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates,uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.