

# Installation/User Manual

HERF-DCU

## **About the Manual**

This manual contains important instructions for the HERF-DCU 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 under the guide of this document.

## **Other Information**

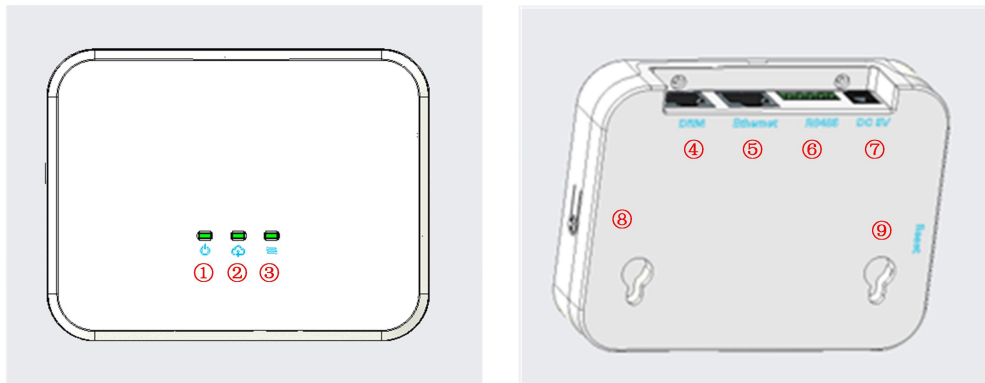
Product information is subject to change without notice. User manual will be updated frequently, please refer to ESTAR official website at <https://estarpower.com> /for the latest version.

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# 1. Terminals Introduction

## 1.1 About DCU



- ①: LED1, DCU working condition light;
- ②: LED2, DCU communicating with the platform indicator light;
- ③: LED3, DCU communicating with the microinverter indicator light;
- ④: DRM Port;
- ⑤: Ethernet Port;
- ⑥: RS485 Port;
- ⑦: DC 5V Input Port;
- ⑧: AP Button;
- ⑨: 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 communication; Adopt the network cable and Wi-Fi 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 and AP button.

The functions of each interface are briefly described as follows:

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 and platform communication, DCU and microinverter communication, and DCU working status.

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

AP: Power on is STA, long press 5S to change to AP mode.




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 status indication, DCU and platform communication, DCU and microinverter communication, as described in the table below.

<b>Start / firmware upgrade</b>	
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
<b>DCU Status indicator light  (green)</b>	
Often bright	Electrify
Light flash 0.5s+0.5s	DCU Work failure
Often destroyed	Unelectrified
<b>DCU and platform communication  (green)</b>	
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
<b>DCU and microinverter communication  (green)</b>	
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 1.5s	DCU unconfigured microinverter ID

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## 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 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-inverse.

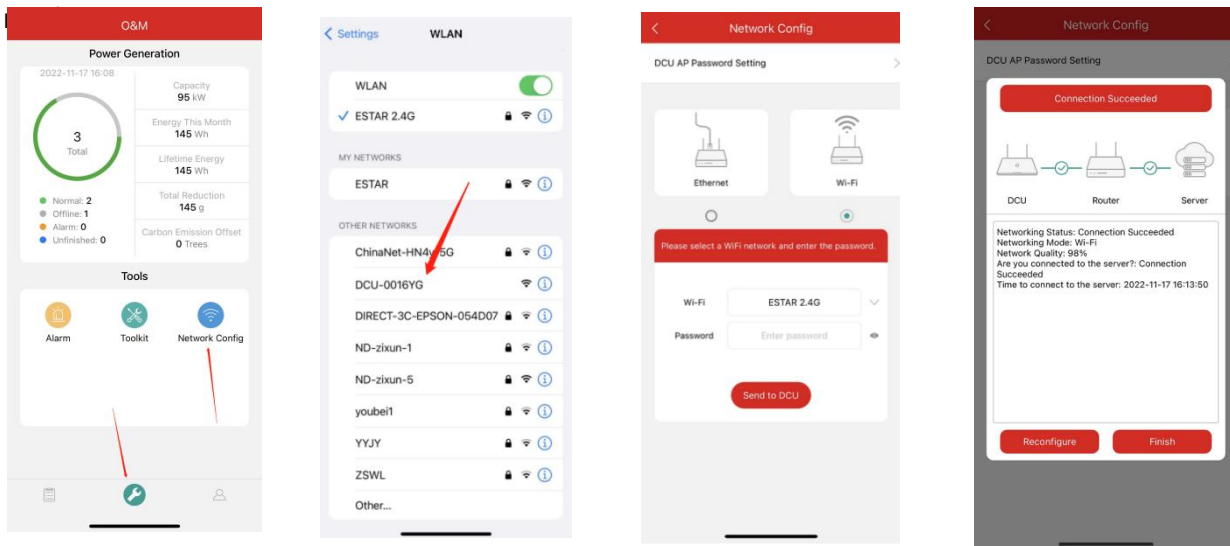
- 1、 Network disconnection storage data for a week;
- 2、 Upload time interval is standard with 15 minutes. In addition, the RS485 port only supports anti-counterflow, Sunspec Modbus protocol functions.

## 2.3 Station building and monitoring

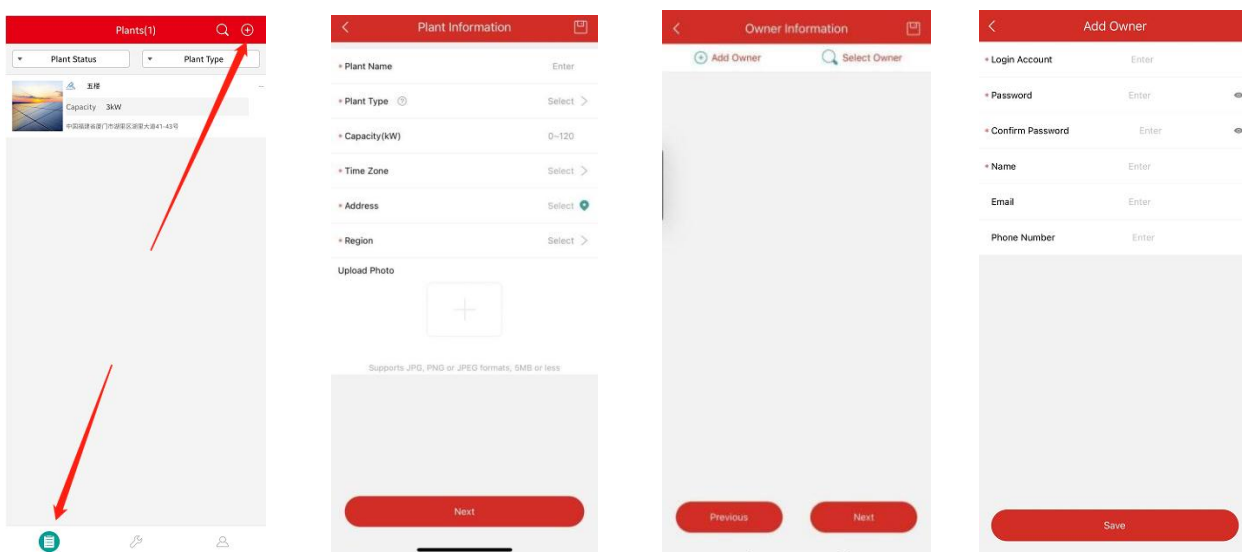
If you are a new dealer with ESTAR, please apply for an dealer account from ESTAR in advance.(If you are a end user, please apply for an user account from your distributor.

APP:

- 1) Open the HERF PRO App and log in with your dealer account and password.
- 2) Set up the DCU connection on your mobile phone,Power on is STA, long press 5S to change to AP



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

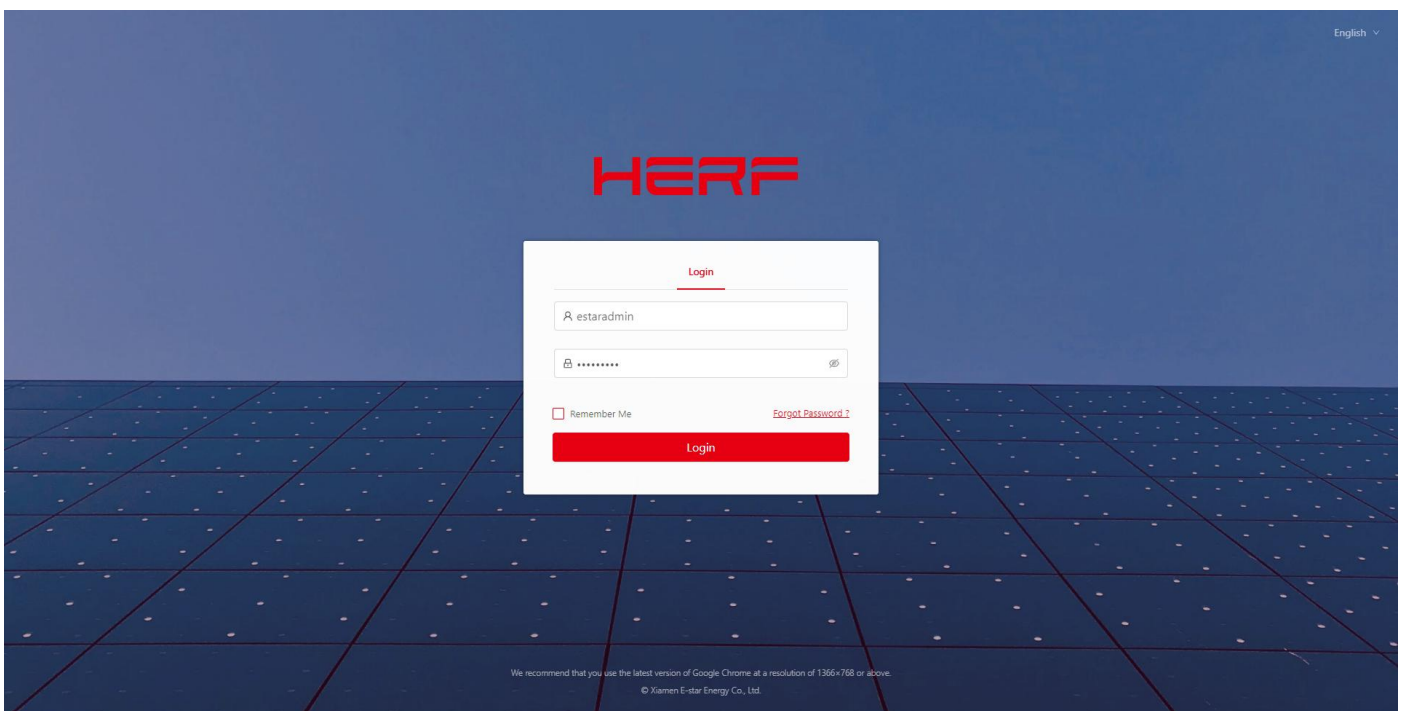
Browser: Recommend Google Browser;

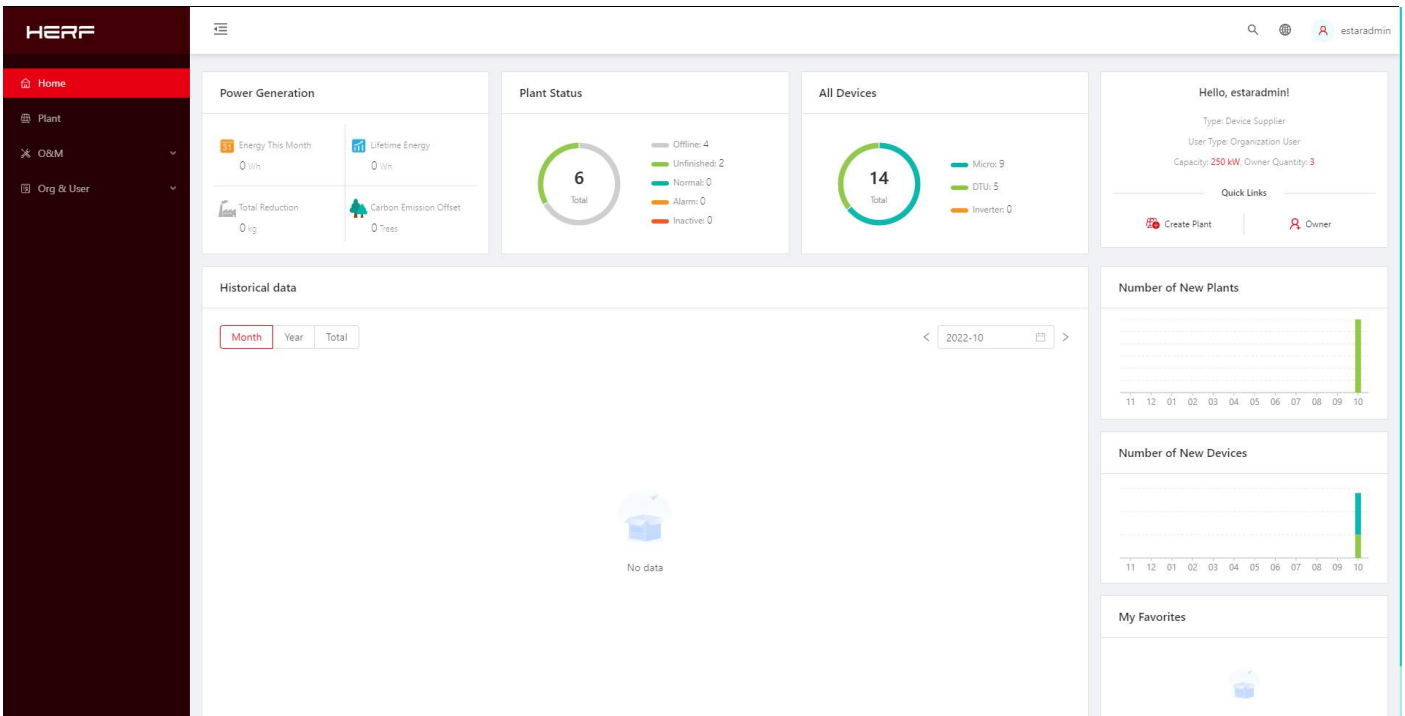
Screen resolution: Recommended 1920 \* 1080, support 1366 \* 768.

3) Login address

<https://monitor.estarpower.com>

4) Login interface



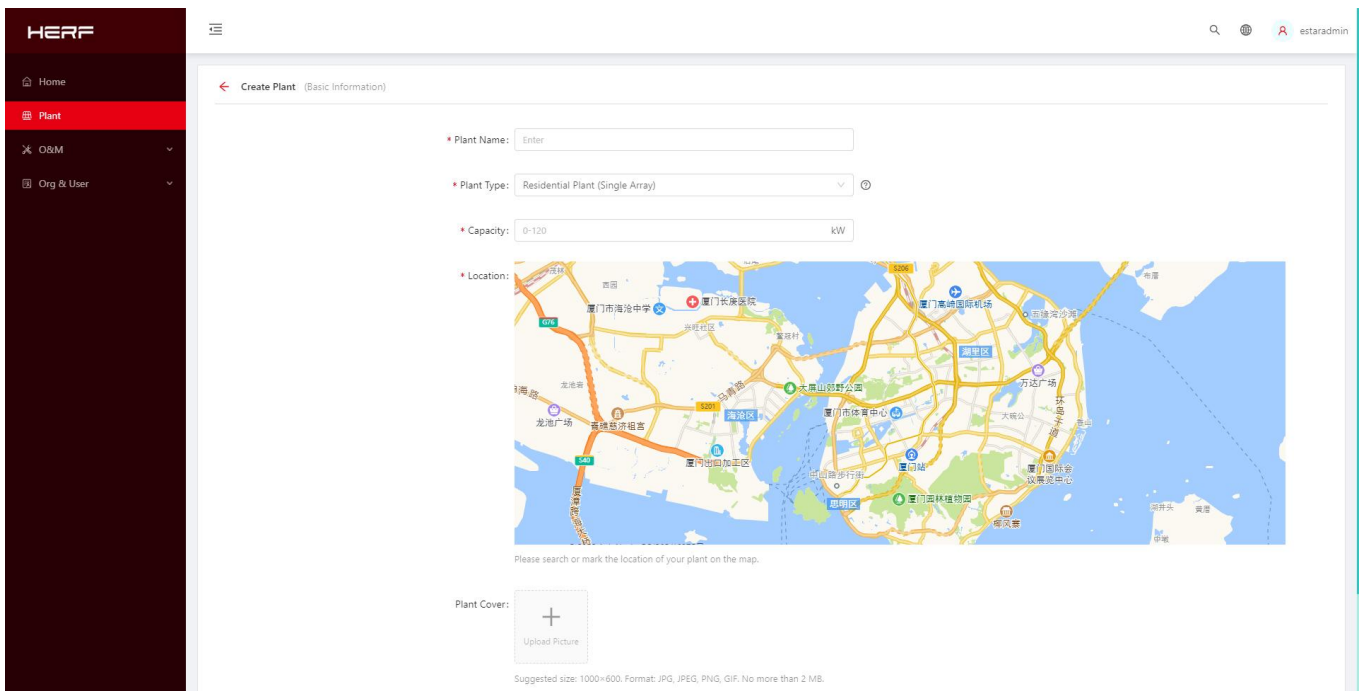


## 2、 Construction of power station

The Plant List table displays the following data:

Plant ID	Plant Name	Status	Capacity	Organization	Power Ratio	Creation Time	Action
635440	udhdjif	🔌	36kW	Estarpower	--	2022-10-14	🔍 🗑️ 📄
635410	yfhfdj	🔌	36kW	Estarpower	--	2022-10-14	🔍 🗑️ 📄
635100	Doujdndn	🔌	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



The screenshot shows the 'Create Plant' form in the HERF system. The form is titled 'Create Plant (Basic Information)'. It contains the following fields:

- Plant Name:** A text input field with the placeholder text 'Enter'.
- Plant Type:** A dropdown menu currently set to 'Residential Plant (Single Array)'.
- Capacity:** A text input field with the placeholder text '0-120' and a unit 'kW'.
- Location:** A map of a city area with a red pin indicating a location. Below the map, it says 'Please search or mark the location of your plant on the map.'
- Plant Cover:** A button with a plus sign and the text 'Upload Picture'. Below it, it says 'Suggested size: 1000\*600. 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;

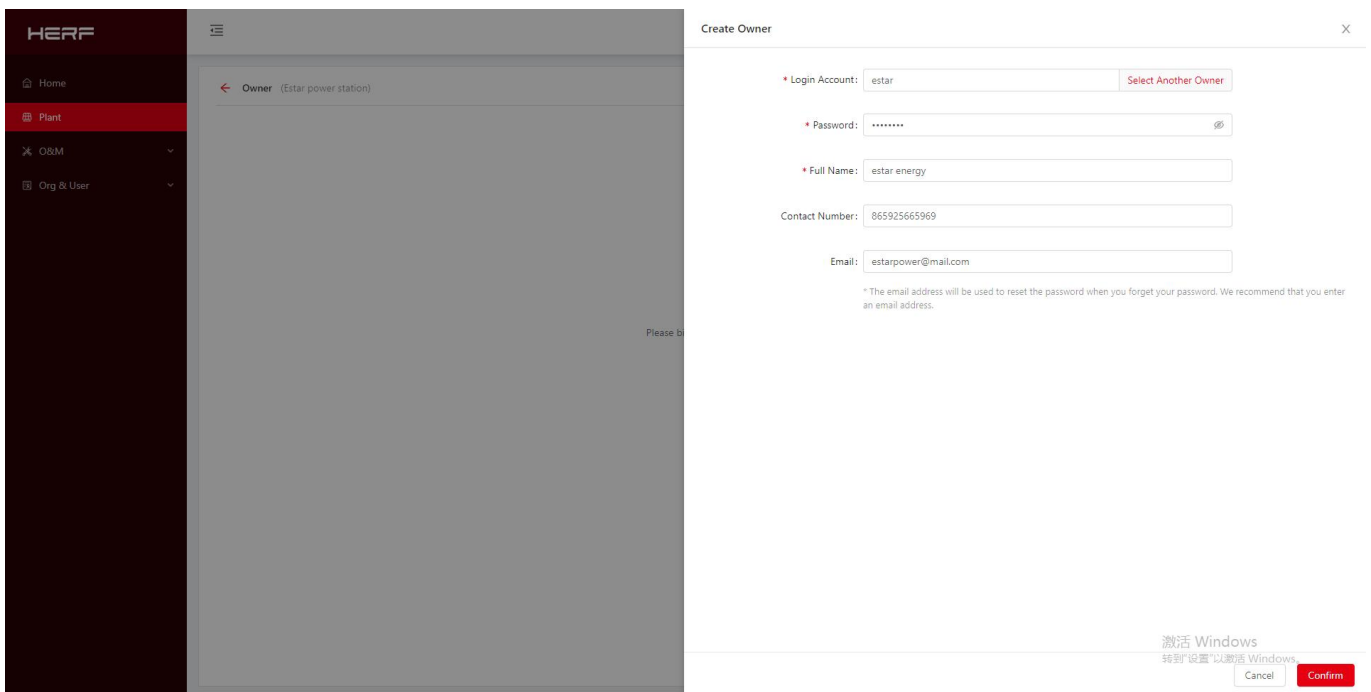
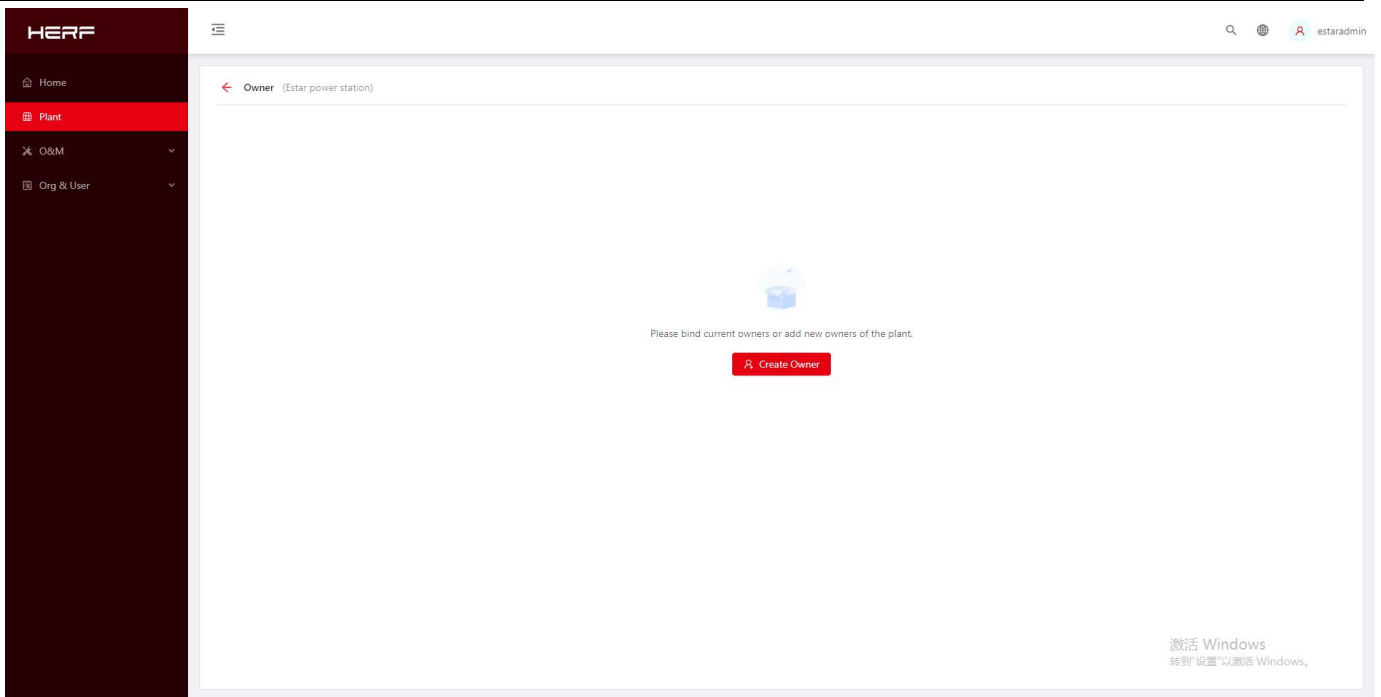
4) Select an installer or a distributor;

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

HERF

Home

Plant

O&M

Org & User

Edit Plant

Plant Name: Estar power station Capacity: 36kW Status: Unfinished

Creation Time: 2022-10-18 11:46:23 (UTC+08) Country: 中国 / 福建省 / 厦门市 Time Zone: (UTC+08:00) Beijing,Chongqing,Hong Kong,Urumqi

Address: 福建省厦门市湖里区湖里街道联泰大厦

Please complete the plant information first.

Basic Information (✓) Complete the basic information of plant Modify →

Owner (✓) Add or associate the owner information of plant Modify →

Add Device/Layout Add device, associate device relationship, design plant layout Edit →

Settings Export management, Plant alarm rule setting, etc. Unfinished

激活 Windows  
转到设置以激活 Windows。

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

HERF

Home

Plant

O&M

Org & User

Add Device

Add Device/Layout (Estar power station)

Devices

DTU	Micro
10F700000008	112100008956

+ Add a Row

+ Add Multiple Rows

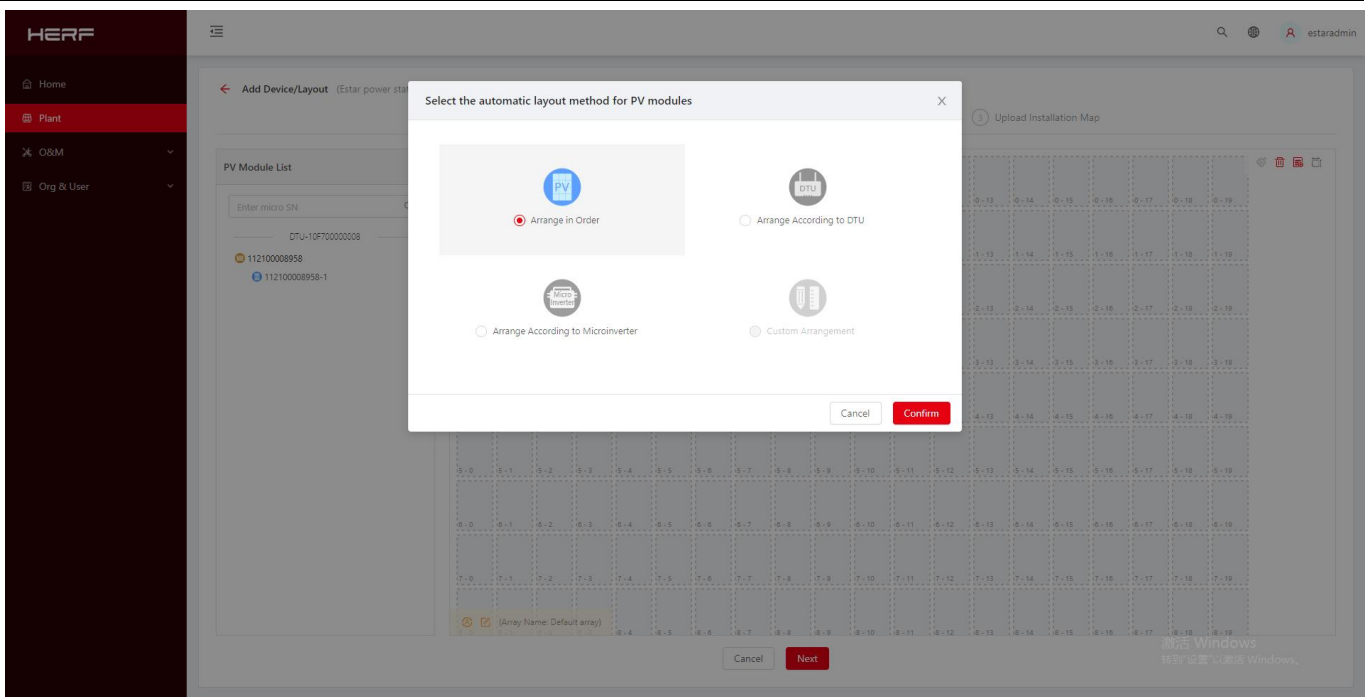
激活 Windows  
转到设置以激活 Windows。

Cancel Save

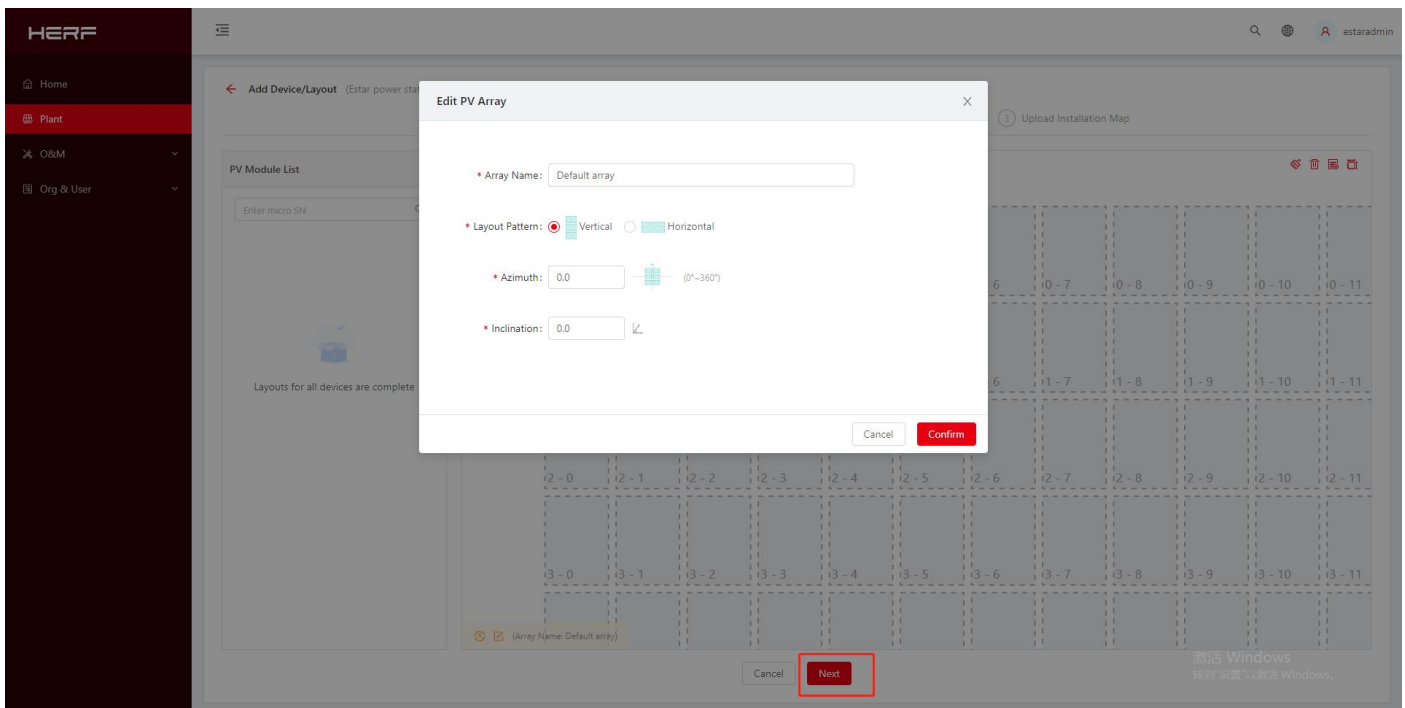
2) Enter the DCU and the SN for the microinverter.

5、Layout project

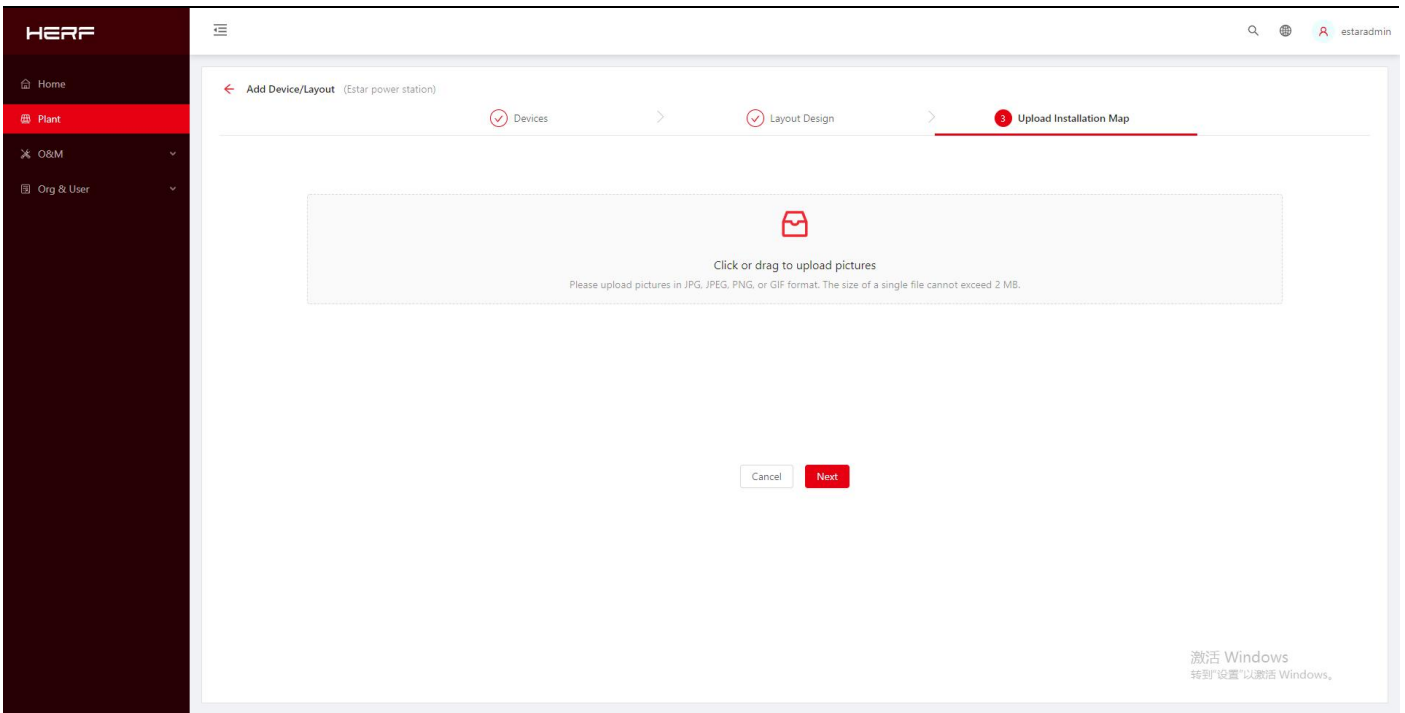
1) Select the way of the component arrangement;



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



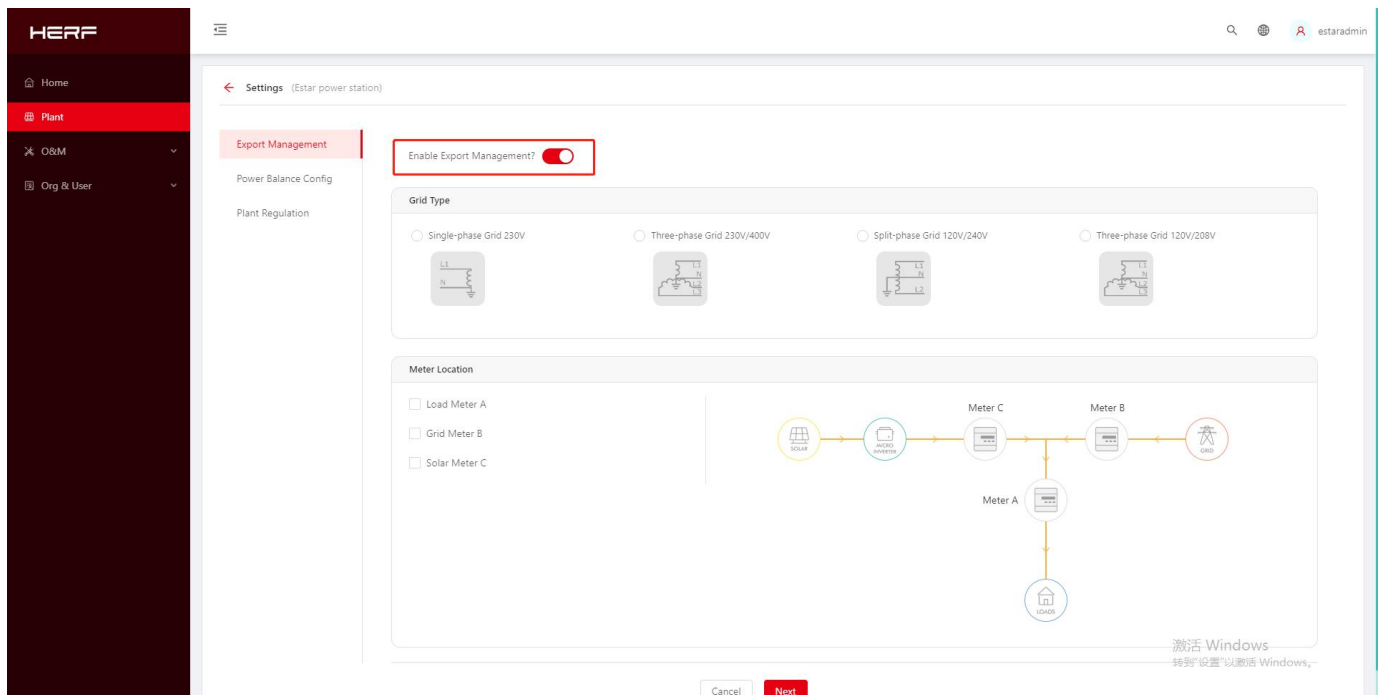
3) Select Upload installation Map.



## 6、 setting

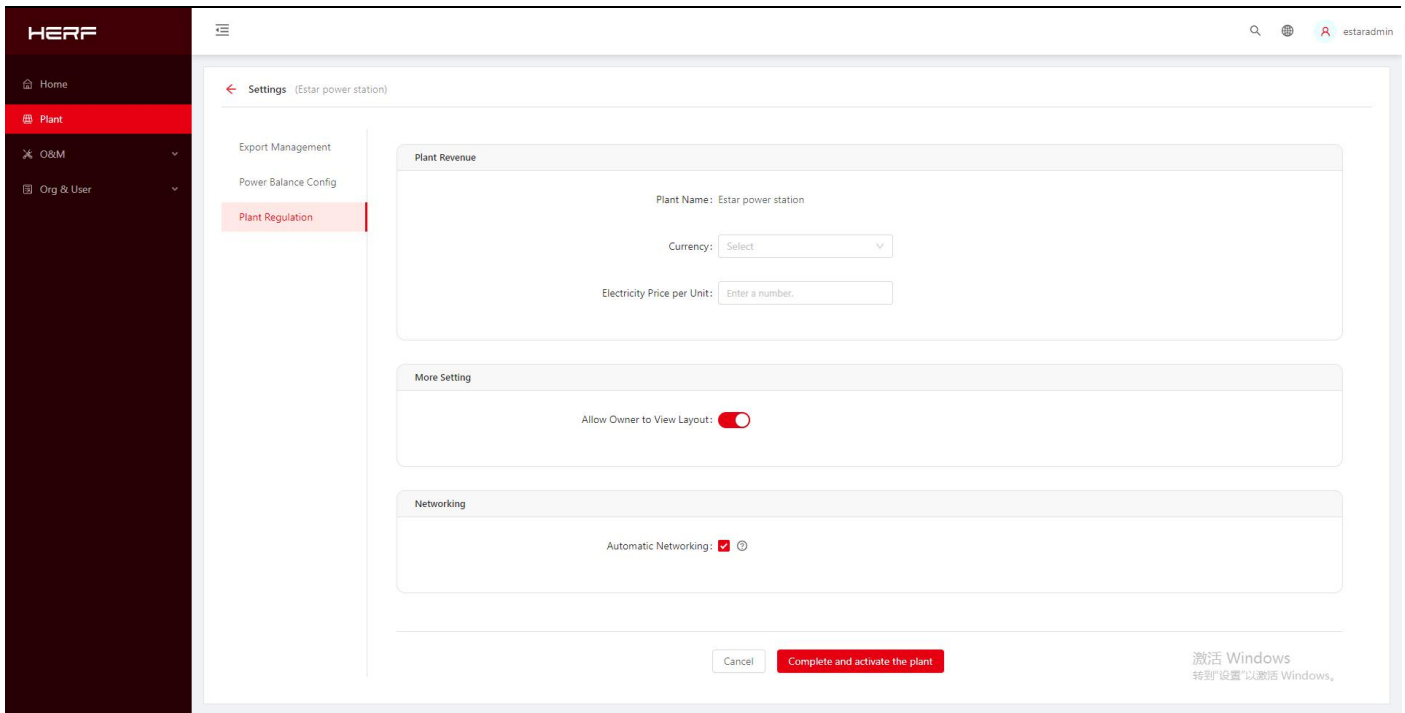
### 1) Anti-countercurrent setting

Select Enable Export Management, if open the Anti-counter current, select power grid mode, select electricity meter position.



### 2) Power station setting

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



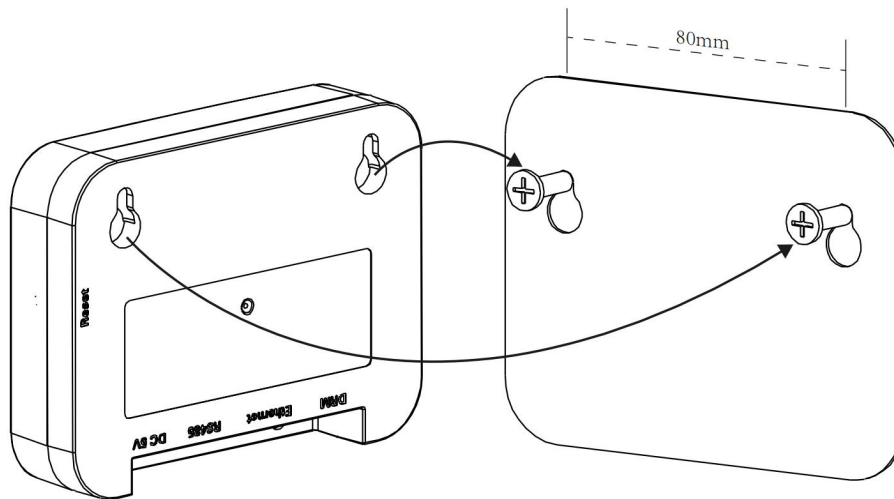
## 2.4 Anti-current function

- 1、 Only support the new three kinds Chint electricity meters: DDSU 100A, DTSU666 100A, DTSU666 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 power grid.



### 3. Installation

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



## 4. Technical parameters

Model	DCU
<b>Communication to Microinverter<sup>1</sup></b>	
Type	Wireless_2.4G
Maximum distance (open space)	200m
Max. number of connected microinverter	25
<b>Communication to Cloud</b>	
Signal	Wi-Fi(802.11b/g/n) <sup>2</sup> /Ethernet
Sample rate	Per 15 minutes
<b>Communication to Meter</b>	
Signal	RS485
Maximum distance (RS485 cable)	500m
<b>Interaction</b>	
LED	LED Indicator * 3
APP	Local APP
<b>Power Supply (Adapter)</b>	
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)
<b>Mechanical Data</b>	

Ambient temperature (°C)	-20°C to 50°C
Dimensions(W×H×D mm)	114×87×28.5
Weight	0.20 kg
Installation options	Wall mounting / Desktop mounting
<b>Features</b>	
Compliance	CE
*If the DCU installation location is inside the metal box or under the metal/concrete roof, extended antenna will be suggested.	