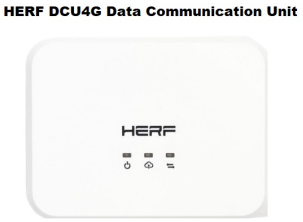


HERF DCU4G Data Communication Unit User Manual

Contents

HERF

HERF DCU4G Data Communication Unit

Specifications

- **Model:** HERF-DCU-4G
- **Power Supply:** 5V DC
- **Communication:** 2.4G wireless and 4G coexistence
- **Ports:** SIM, Ethernet, DRM, RS485, DC 5V Input, AP Button, Reset Button

Product Usage Instructions

1. **Terminals Introduction**
    - The DCU-4G features various ports and indicator lights for different functions. Refer to the user manual for detailed information on each port and its specific function.
2. **Communication Mode**
    - The device supports a 2.4G wireless communication scheme and a 4G coexistence scheme for connecting to the monitoring platform. Choose the appropriate mode based on your network setup.
3. **Power Supply**
    - Ensure the product is powered using a 5V power supply with an external adapter for reliable operation.
4. **Indicator Light Description**
    - The DCU-4G has three LED indicators that provide status information regarding the device's operation, communication with the platform, and communication with microinverters. Refer to the manual for detailed descriptions of each indicator's behavior.
5. **Software Functions**
    - The product software offers features like mobile app download, microinverter data upload, and station building. Follow the instructions provided in the user manual to utilize these functions effectively.

Frequently Asked Questions (FAQ)

Q: How do I connect the DCU-4G to the Internet?

- **A:** You can choose to connect the DCU-4G to the Internet using either WiFi or Ethernet.
- Follow the setup instructions in the user manual or app for detailed guidance.

Q: What is the default upload time interval for microinverter data?

- **A:** The default upload time interval for microinverter data is set to 15 minutes.
- You can adjust this interval based on your preferences in the software settings.

Q: How can I apply for a dealer account with ESTAR?

- **A:** If you are a new dealer, please apply for a dealer account directly from ESTAR.
- End users should request a user account from their distributor for access to monitoring features.

About the Manual

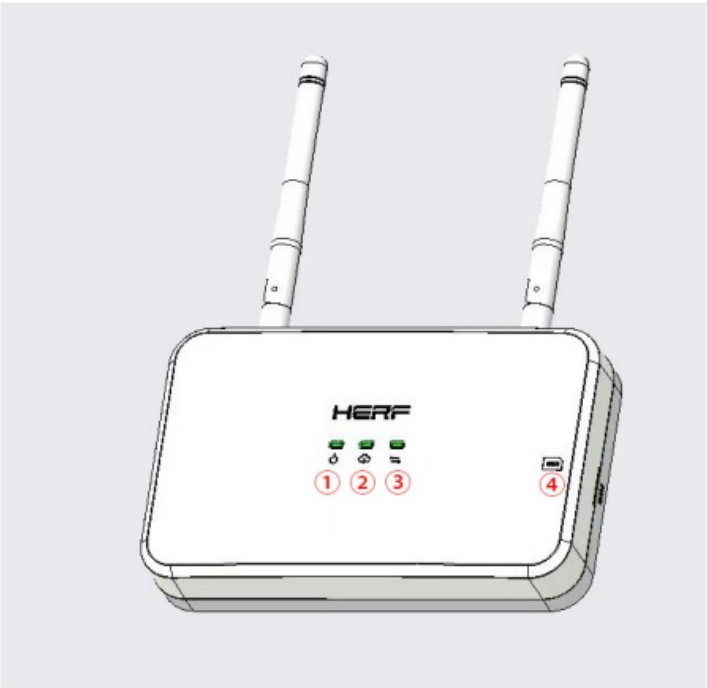
- This manual contains important instructions for the HERF-DCU-4G and must be read in its entirety before installing or commissioning the equipment.
- For safety, only a qualified technician, who has received training or has demonstrated skills can install and maintain this HERF-DCU-4G under the guide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

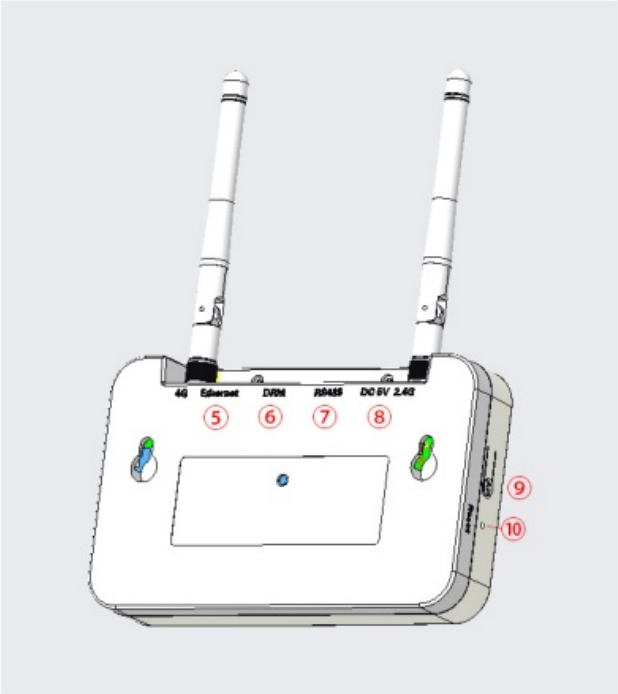
Other Information

- Product information is subject to change without notice. The user manual will be updated frequently, please refer to ESTAR's official website at **https://estarenergy.com** /for the latest version.

Terminals Introduction

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.

For specific functions of each port see Section 1.3 and Section 1.5.

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.

Peripheral interface

- The peripheral interface includes an 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 the DCU-4G distribution network.
- **RS485:** This interface has two functions, one is to prevent reverse flow, and 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** Three LED indicators represent the DCU-4G and platform communication, DCU-4G and microinverter communication, and DCU-4G working status.
- **Reset** Resets the associated network configuration for 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.

Power supply mode

- This product uses a 5V power supply and an external power supply adapter.

Indicator light description

This product has 3 LED indicators, respectively representing the DCU-4G status indication, DCU-4G and platform communication, and 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 slowly1s+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 microinverters not on the communication
Light flash1s+1s	All microinverters are not communicated on
Light flash 0.5s+1.5s	DCU-4G unconfigured microinverter ID

Introduction to product software functions

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 users OR HERF PRO APP(for dealers . You can also search for the HERF OR HERF PRO app in the
    - Apple Store or Google Play for download and installation.

HERF

HERF PRO

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

Microinverter data and information upload

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

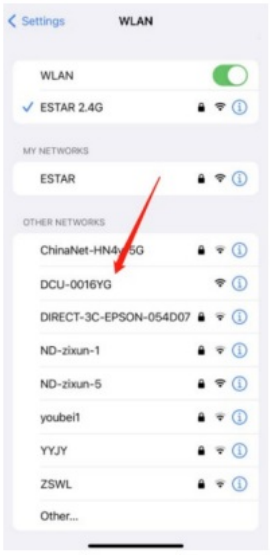
1. Network disconnection storage data for a week
2. Upload time interval is standard with 15 minutes. In addition, the RS485 port only supports Zero-export, Sunspec Modbus protocol functions.

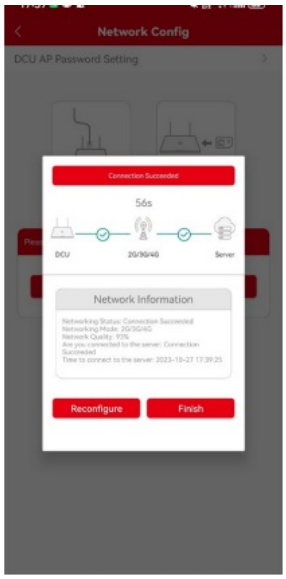
Station building and monitoring

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.

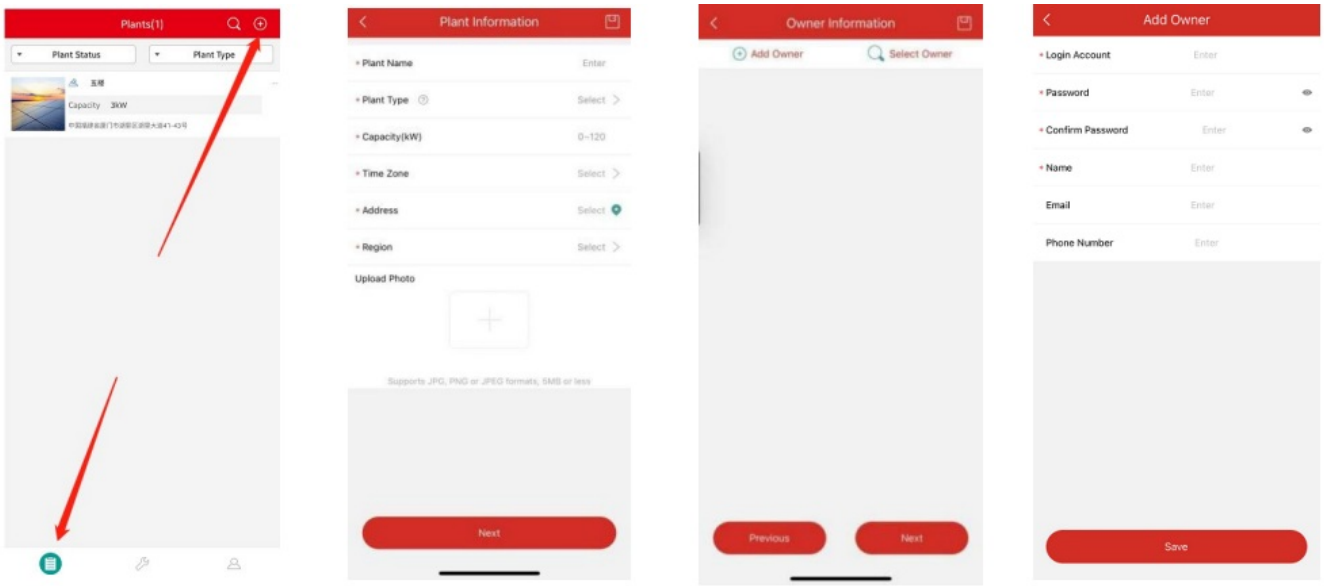
APP:

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 STA, and long press 3S to change to AP mode



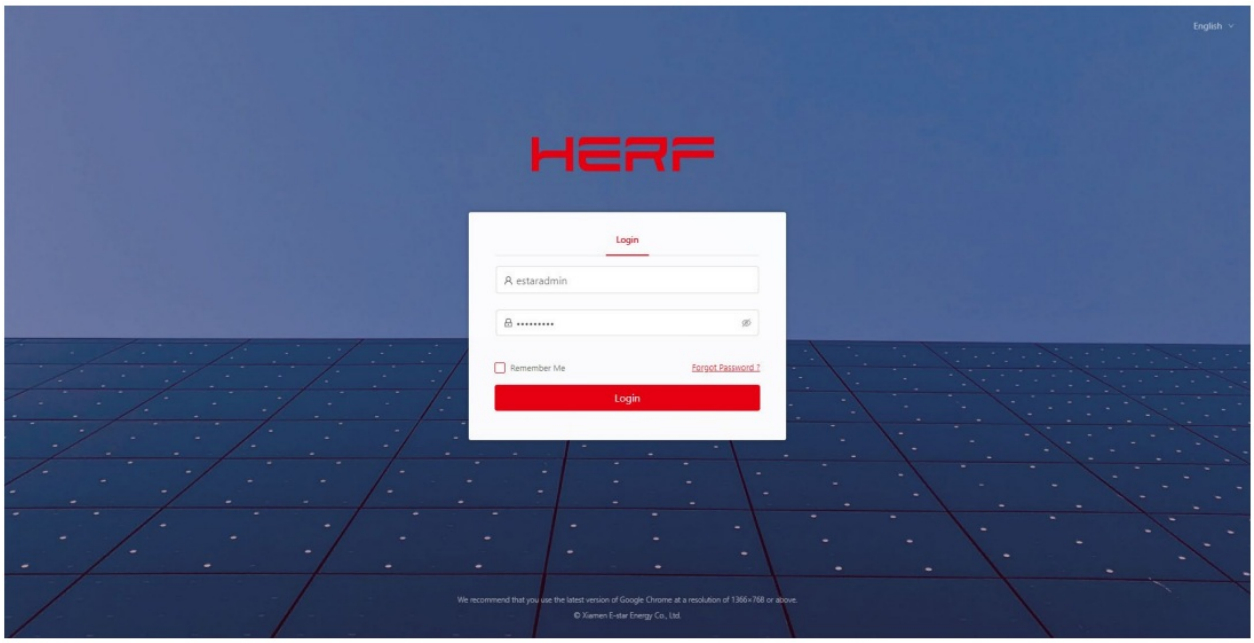


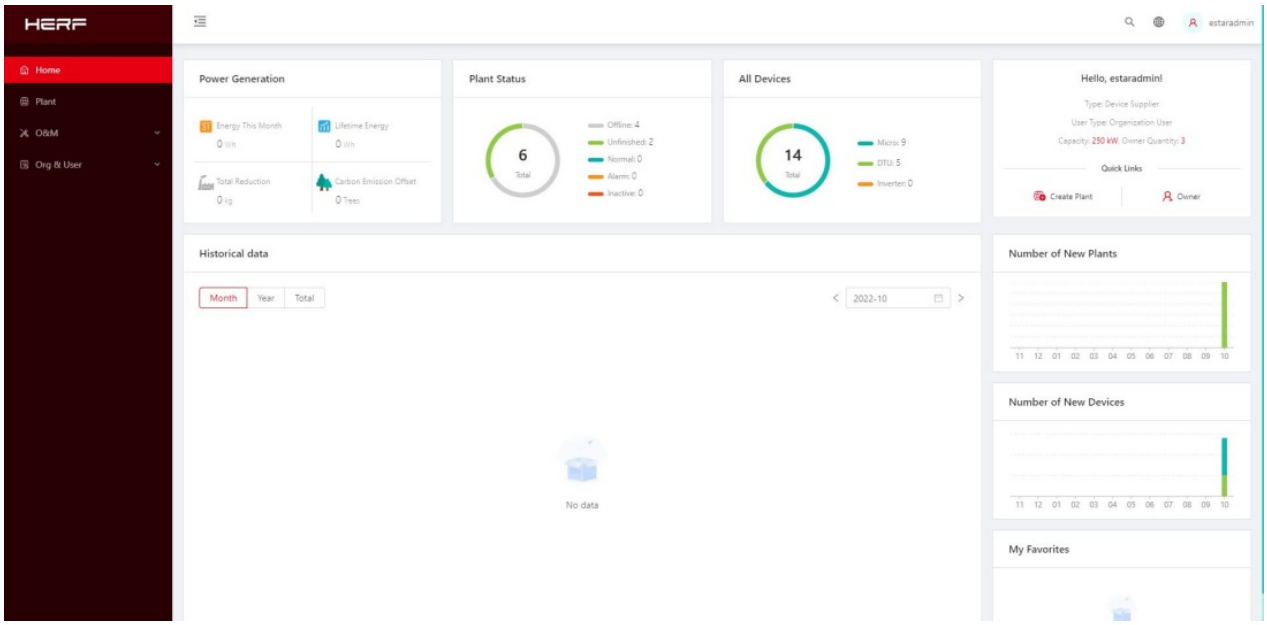
3. Select the “Station” tab on the bottom, and then select “⊕” on the right top side of the page to add the station. Complete the information filling and user account creation according to the prompts.



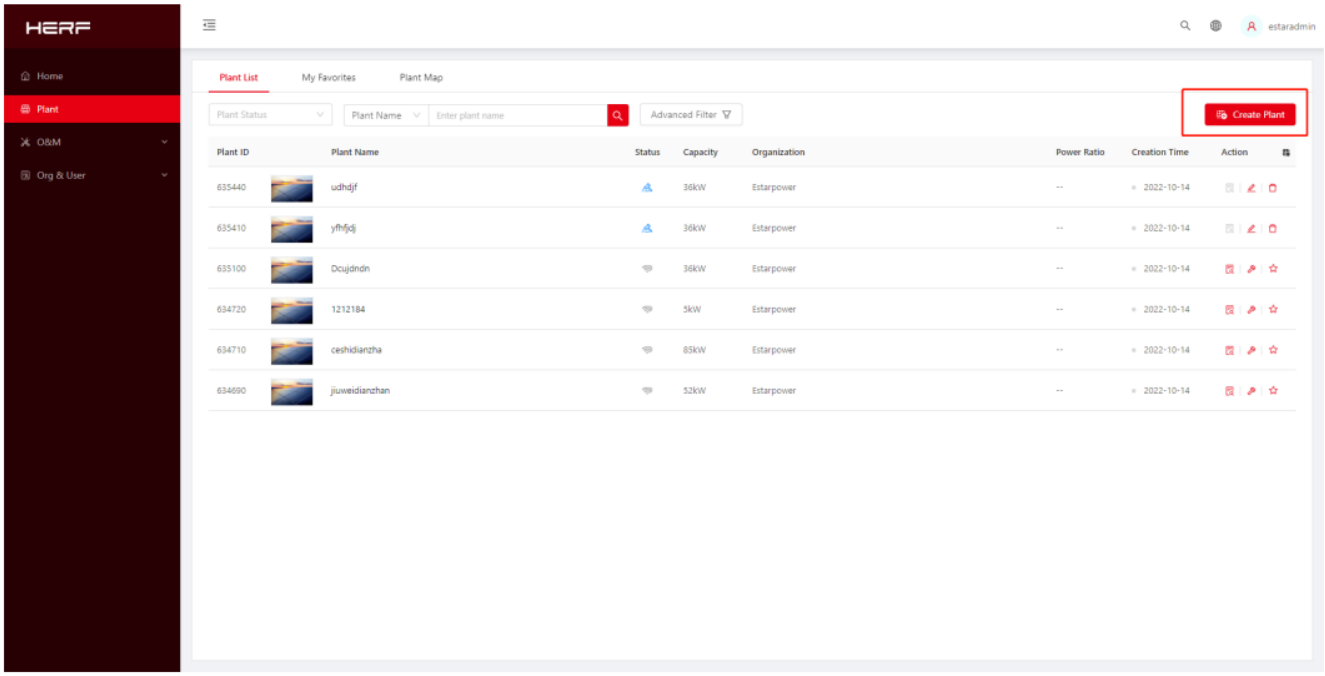
Web:

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

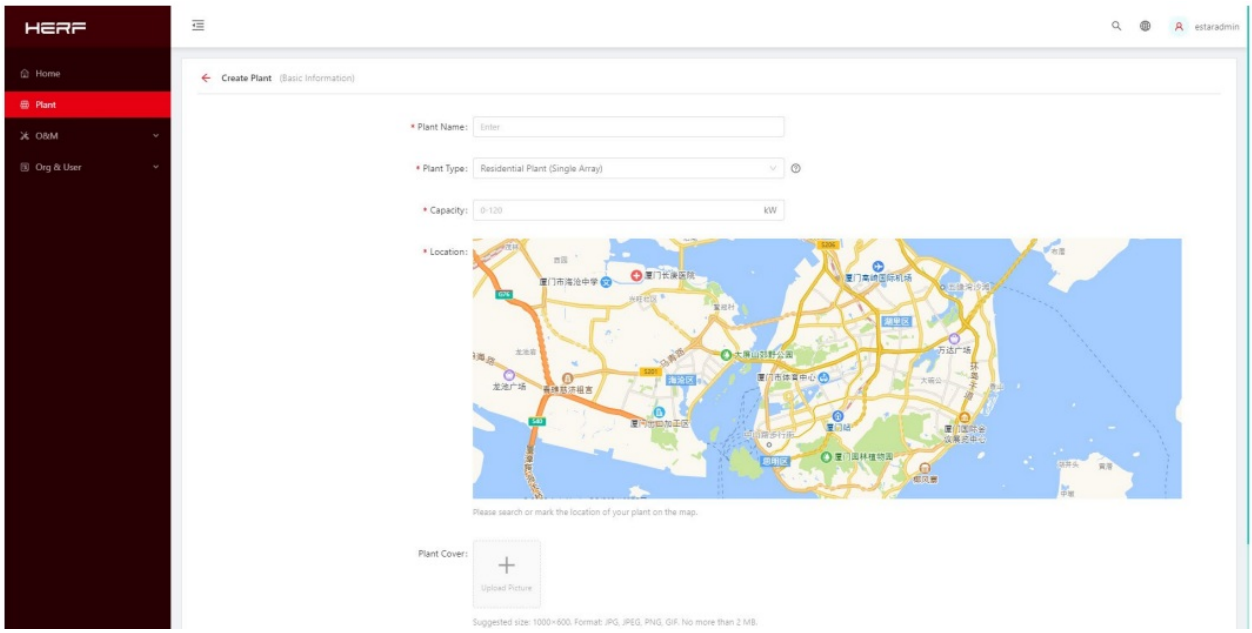




2. Construction of power station



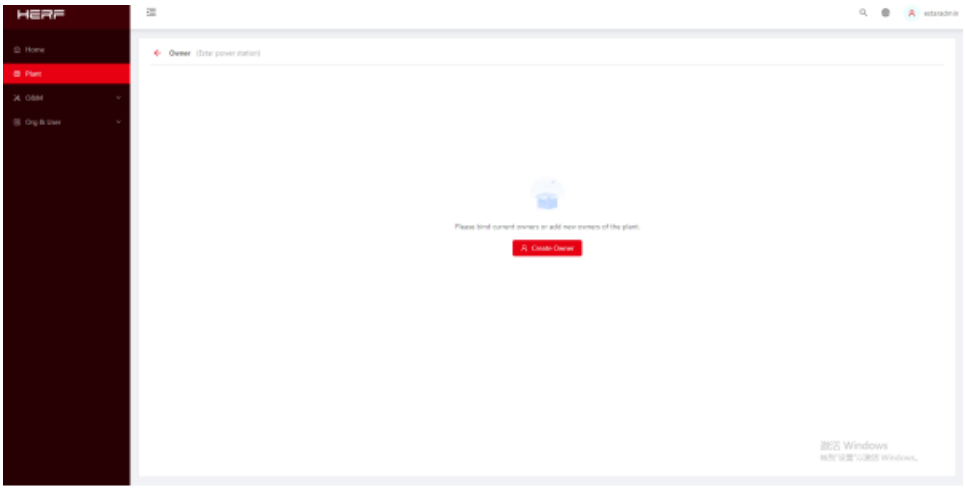
1. Click create Plant

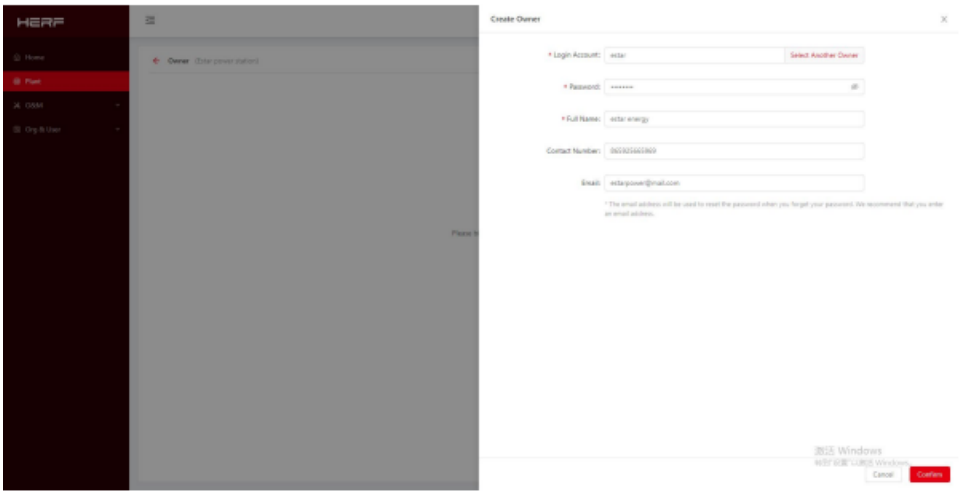


2. Enter the name of the power station

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

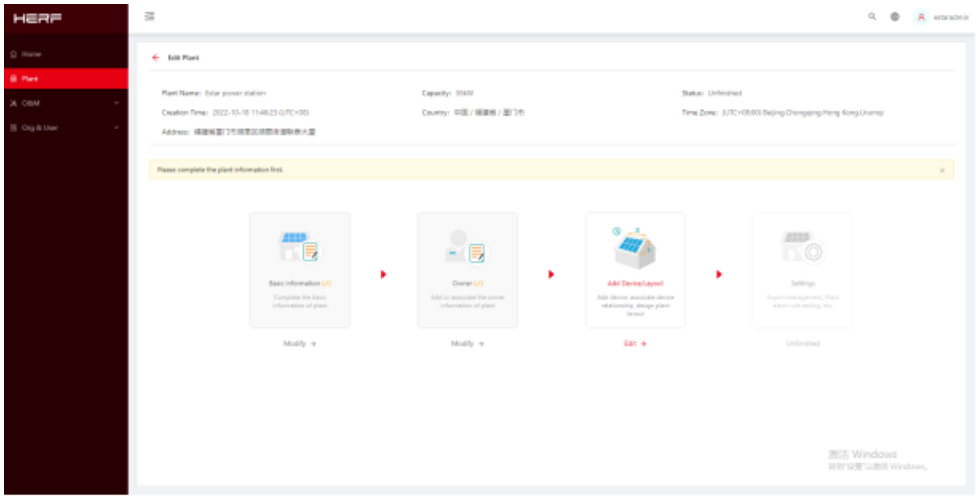
3. **Create an owner account**
    1. When the power station is successfully built in the last step, it will jump to the following interface and click Create Owner;



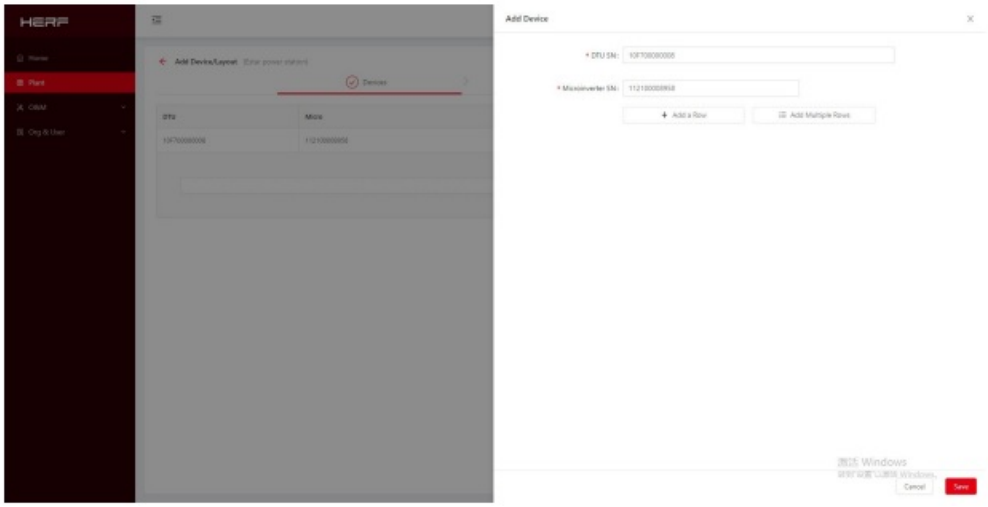


    2. Enter the account, password, and full name that you want to create, and click Confirm to determine.

4. **Add equipment**



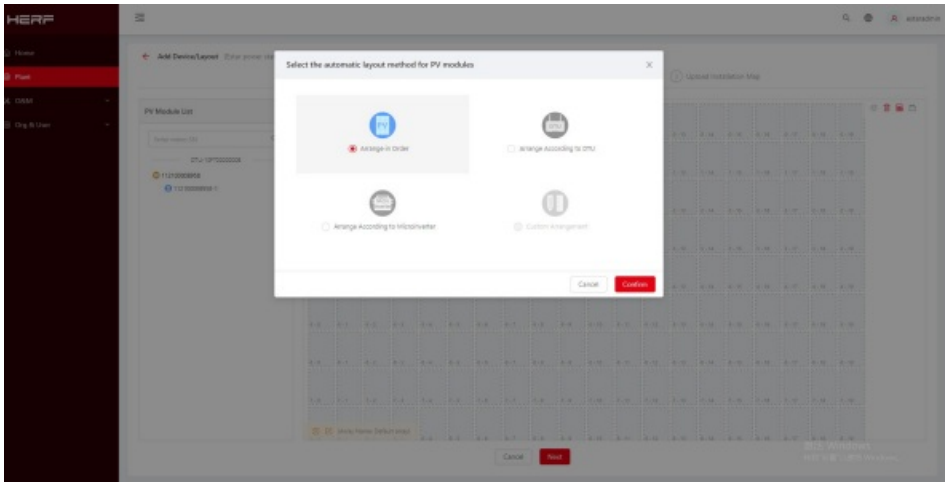
    1. get into Add Device/Layout and click Edit



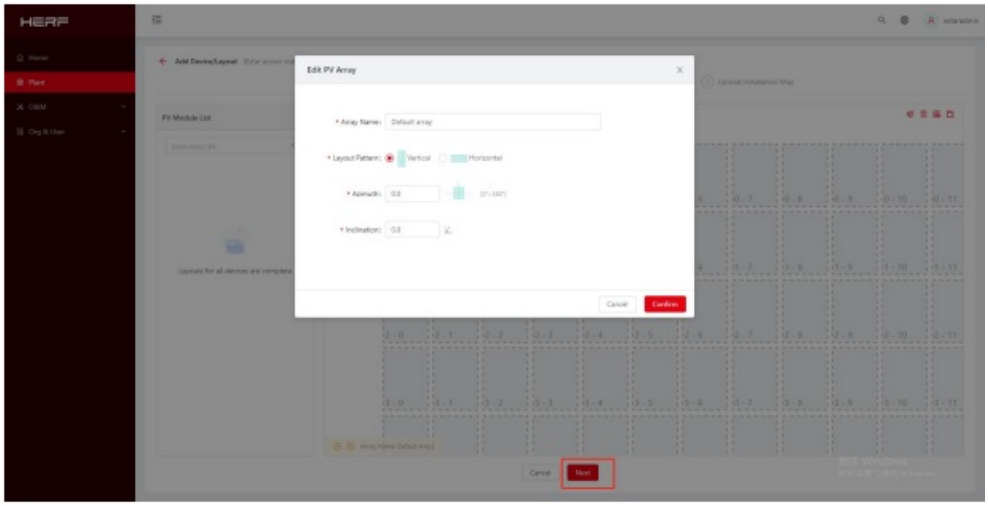
2. Enter the DCU-4G and the SN for the microinverter.

5. **Layout project**

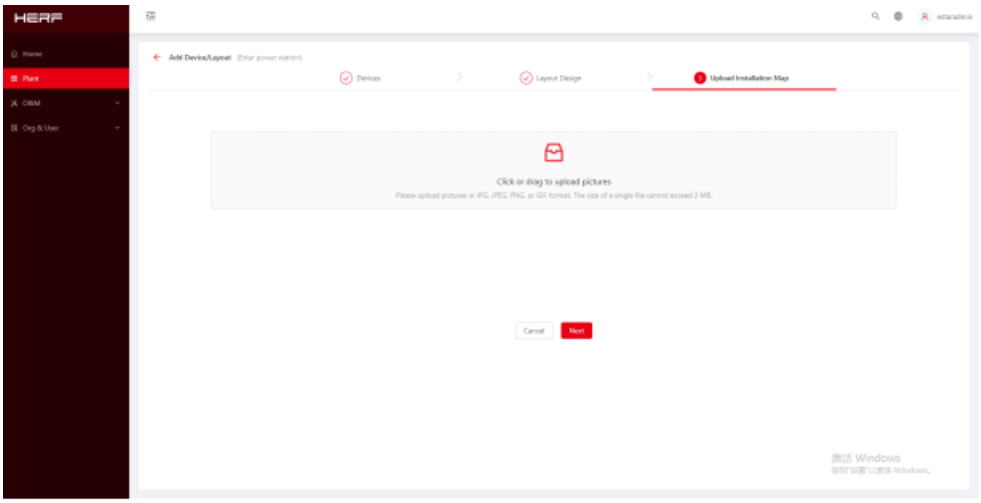
1. Select the way of the component arrangement



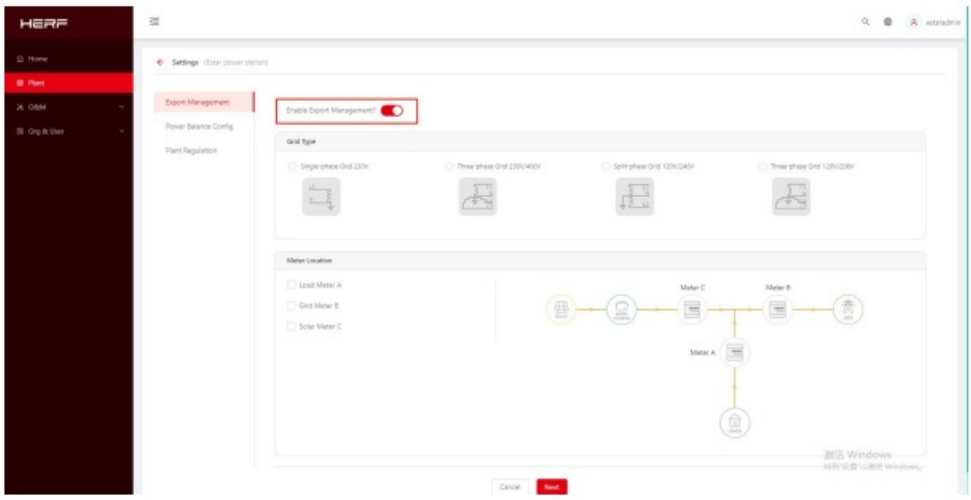
2. Confirm the array name of the component, component layout mode, azimuth, and inclination.



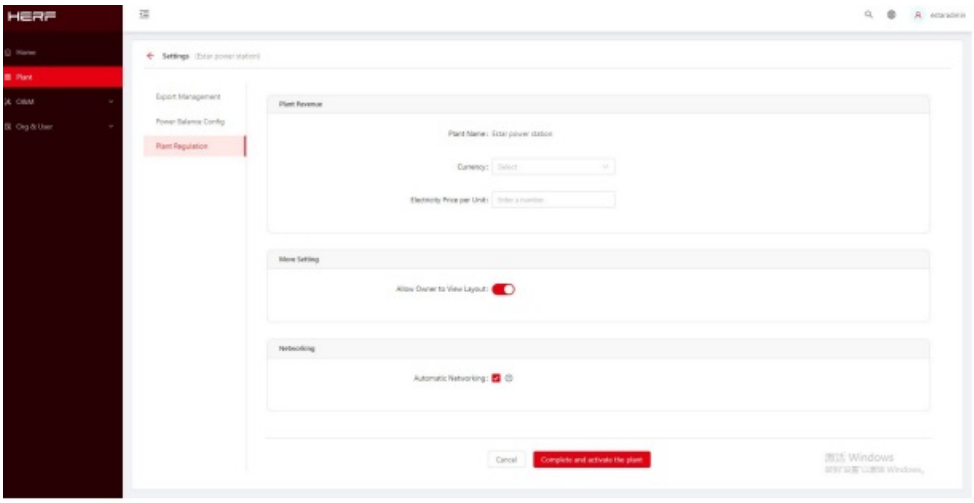
3. Select Upload Installation Map.



6. **setting**
    1. Zero-export setting Select Enable Export Management, select Grid type and select electricity meter position.



    2. Power station setting Monetary unit and electricity price setting, advanced setting, network setting.

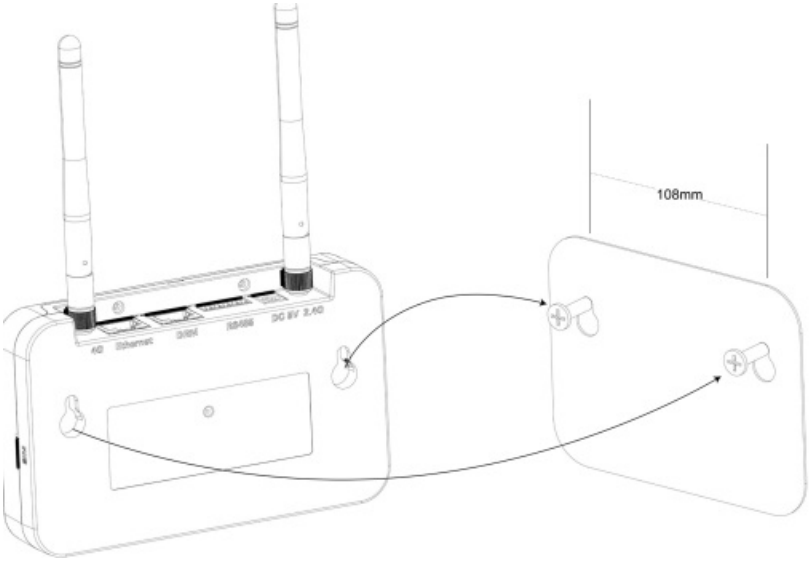


Zero-export function

1. Only support the new five kinds of 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.

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.



Technical parameters

Model	**DCU-4G**
Communication to Microinverter1	
Type	Wireless_2.4G
Maximum distance (open space)	200m
Max. number of connected microinverters	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 (℃)	-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
If the DCU-4G installation location is inside the metal box or under the metal/concrete roof, an extended antenna will be suggested.	

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,
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 a minimum distance of 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, according 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 under 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 the receiver.
- Connect the equipment to 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.

info@estarpower.com

www.estarenergy.com

Documents / Resources

	HERF DCU4G Data Communication Unit [pdf] User Manual DCU4G Data Communication Unit, DCU4G, Data Communication Unit, Communication Unit

References

- E-star Energy
- E-star Energy
- Xiamen E-star Energy
- User Manual