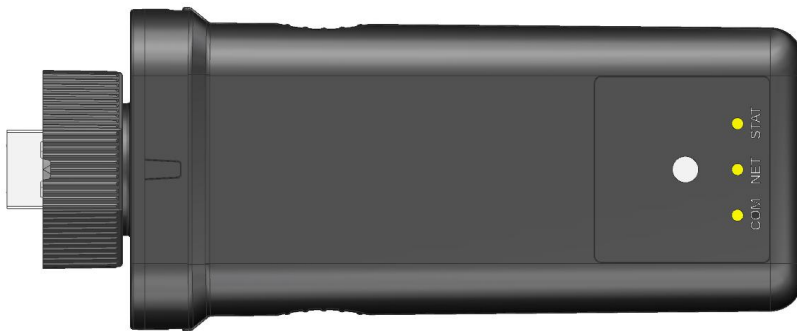




Dyness WIFI-Module

User Manual



Statement of Law

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This product complies with the design requirements of environmental protection and personal safety. The storage, use and disposal of the products shall be carried out in accordance with the product manual, relevant contract or relevant laws and regulations.

Customer can check the related information on the website of Jiangsu Daqin New Energy Technology (taizhou) Co., Ltd when the product or technology is updated. Web URL: <http://www.dyness-tech.com>

Please note that the product can be modified without prior notice.

Revision History

Revision NO.	Revision Date	Revision Reason
1.0	2022.11.16	First Published

Safety Precautions

Warning



Please do not put the system into water or fire, in case of explosion or any other situation that might endanger your life.

2. Please connect wires properly while installation.
3. Please do not stab, hit, trample or strike the system in any other way.
4. Please use dry powder extinguisher to put out the flame when encountering a fire hazard, liquid extinguisher could result in the risk of secondary disaster.
5. For your safety, please do not arbitrarily dismantle any component in any circumstances unless a specialist or an authorized one from our company, device breakdown due to improper operation will not be covered under warranty.



Caution

1. We have strict inspection to ensure the quality when products are shipped out, however, please contact us if case bulging or another abnormal phenomenon.
2. For your safety, device shall be ground connected properly before normal use.
3. To assure the proper use please make sure parameters among the relevant device are compatible.
4. **Please do not mixed-use batteries from different manufacturers, different types and models, as well as old and new together.**
5. Ambient and storage method could impact the life span and product reliability, please consider the operation environment abundantly to make sure device works in proper condition.

Preface

Manual description

The Wi-Fi module, also known as the serial wi-fi module, belongs to the Transmission layer of the Internet of Things, and its function is to convert the serial port or TTL level into an embedded module that complies with wi-fi wireless network communication standards. It is equipped with IEEE802.11B.G.N protocol stack and TCP/IP protocol stack. Traditional hardware devices embedded with Wi-Fi modules can directly use Wi-Fi to connect to the Internet, which is an important part of the implementation of wireless smart home, M2M and other Internet of Things applications, and is an important component of intelligent hardware.

This platform is the third generation photovoltaic monitoring operation and maintenance platform, through which you can manage the power station more conveniently. This operation guide will guide you to log in your account, create a power station, add equipment, and authorize users, so that you can get started as soon as possible.

This document describes in detail the basic structure, parameters, installation, and operation of the device.

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1 Introduction

1.1 Brief Introduction

Dyness wifi module System is a very convenient product. The addition of WiFi System makes the battery more intelligent. The users can monitor the battery data through Dyness Smart Pro APP anytime and anywhere, which is very convenient.

1.2 Product Properties

The WIFI-module System's features as below:

- Built-in low power KM4 MCU, can also be used as application processor
- Frequency 100 MHZ, Operating voltage: 4.5V-5.5V
- Wi-Fi / Bluetooth connectivity
- 802.11B/G/N20, channel 1-14@2.4GHz (CH1-11forUS/CA, CH1-13for EU/CN)
- support Bluetooth 4.2 Low Energy
- +20dBm output power in 802.11b mode
- SmartConfig (for Android and IOS devices)
- External IPEX FPC antenna
- CE, FCC certification
-

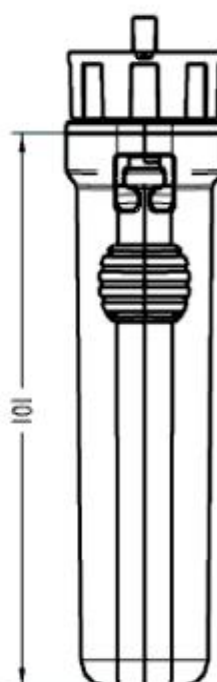
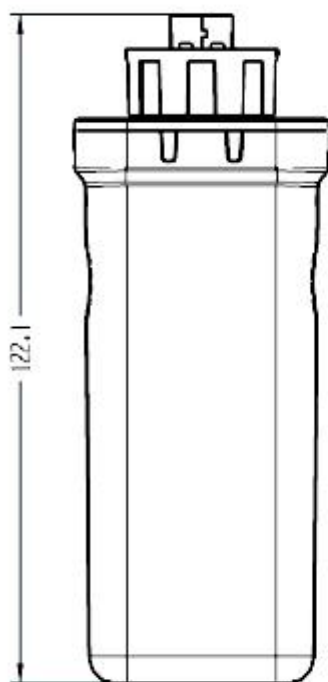
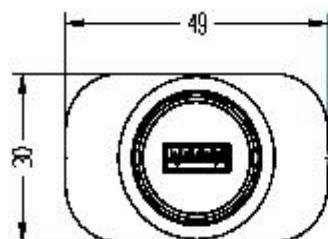
1.3 Product identity definition

	Be careful with your actions and be aware of the dangers
	Read the user manual before using
	The WIFI Systems cannot be put into the garbage can and must be professionally recycled
	After theWIFI-M01 System life is terminated, the WIFI-M01 System can continue to be used after it recycled by the professional recycling organization and do not discard it at will
	This WIFI Systems product meets European directive requirements
	This WIFI Systems product meets USA directive requirements

2 Product Specification

2.1 Size

Table2-1 WIFI-Module performance parameter



2.2 Performance Parameter

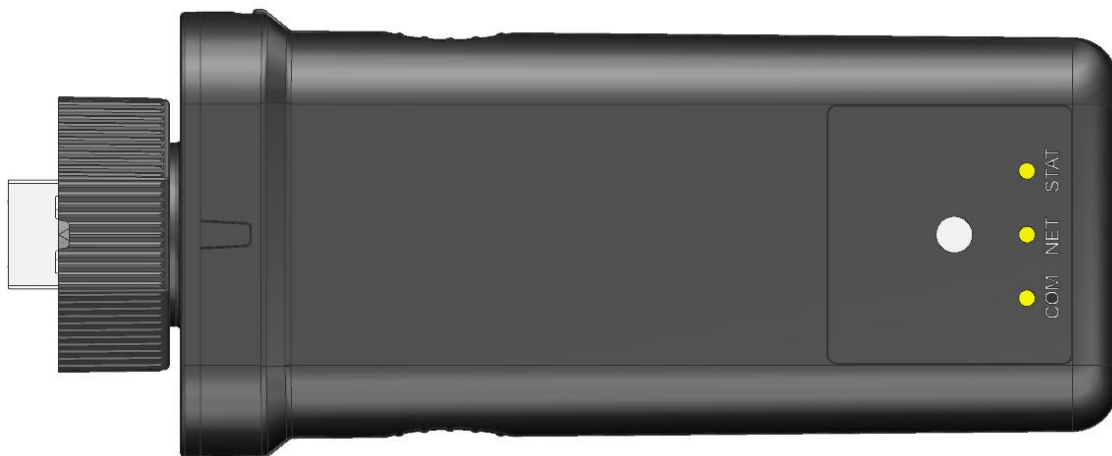
Table2-2 WIFI-Module performance parameter

Nominal Voltage	5V
Connection Type	Wi-Fi/Bluetooth
Protocol	802.11 B/G/N20
Channel	1-14@2.4GHz (CH1-11 for US/CA, CH1-13 for EU/CN)
Output Power	+20dBm

2.3 Interface Definition

WIFI-Module product panel interface configuration and function.
This section details the interface functions of the front panel of the device.

2.3.1 Figure2-3.1 WIFI-Module Front Panel of battery module



After connecting the acquisition rod to the equipment, check the status of COM light, NET light and STAT light and whether there is data on the platform.

When the router is connected to the network normally, the normal operation status of the collection rod after power on:

1.COM light is always on, and the acquisition rod is connected to the device successfully

2.NET light is always on after the collection rod is powered on (the server connection is successful)

3.STAT light flashes (acquisition rod works normally)

ID	Meaning of LED	Status Description
COM	Communication status between collector and equipment	1. The light is always on: the collection rod and the equipment are connected. 2. The lamp is off: the connection between the collecting rod and the equipment fails. 3. The lamp is on for 1s/off for 1s (slow flashing): the acquisition rod is communicating with the equipment.
NET	Communication between collector and router state	1. The lamp is off: the router connection failed. 2. Lights on for 1s/lights off for 1s (slow flashing): the router is connected successfully. 3. The light is always on: the server connection is successful. 4. The lamp is on for 100ms/off for 100ms (flash): in the fast distribution network.
STAT	Working state of collector	1. The lamp is off: the collection rod works abnormally. 2. The light is on for 1s/off for 1s (slow flashing): the collecting rod works normally. 3. The lamp is on for 100ms/off for 100ms (flash): the collection rod returns to the factory value State.

2.3.2 Communication port Pin Definition



Foot position	Definition
PIN1	5V
PIN2	RXD
PIN3	TXD
PIN4	GND

3 Installation and Configuration

3.1 Ready for installation

3.1.1 Environmental requirements

- Working temperature: $-20^{\circ}\text{C}\sim+85^{\circ}\text{C}$
- Storage temperature: $-10^{\circ}\text{C}\sim+40^{\circ}\text{C}$
- Relative humidity: 5%~85% RH
- Elevation: no more than 4000m
- Operating environment: Indoor installation, sites avoid the sun and no wind, no conductive dust and corrosive gas.
- And the following conditions are met: Installation location should be away from the sea to avoid brine and high humidity environment; The ground is flat and level; There is no flammable explosive near to the installation places; The optimal ambient temperature is $15\sim30^{\circ}\text{C}$.
- Keep away from dust and messy zones.

3.1.2 Equipment preparation

Equipment that may be used are shown in table 3-1:

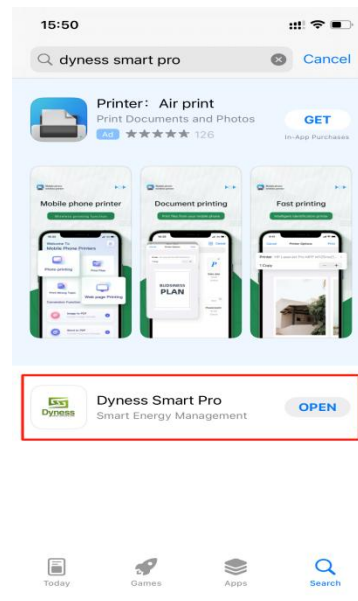
Table 3-1

Name
Dyness battery (with WiFi function)
WiFi module
mobile phone (the Dyness smart pro app has been downloaded)
WiFi (2.4GHz)

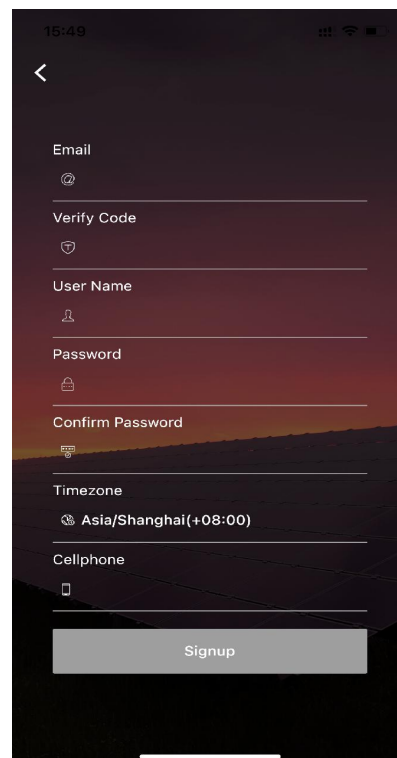
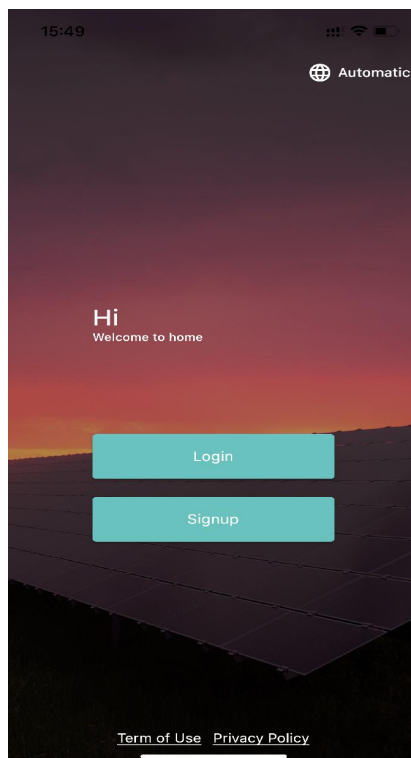
3.2 Equipment connection

3.2.1 connection preparation

Download the Dyness Smart Pro App from the App Store(ios) or Scan QR code(Android).



Register after the APP is installed,click"Sign Up",enter the registration page.



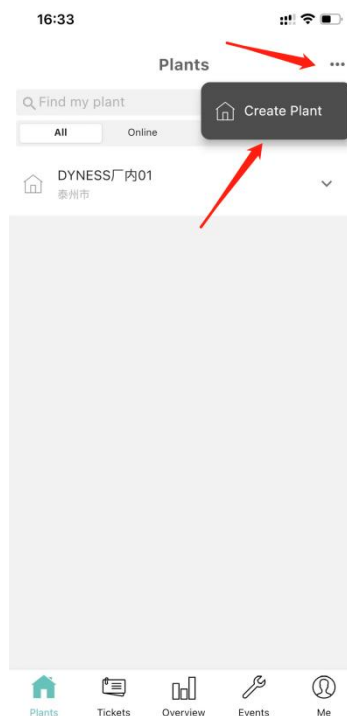
After registration, use your account and password to Log In.

3.2.2 steps of connection

APP:

1.Create Plants

Please login account and click 'Plants', and click the '...' at the top right to select 'Create Plants' to enter the power station creation page.



2.Supplement new power station information

Please complete the power station information according to the prompts. The more complete the information is, the better it will be for you to manage the power station.

a.Improve basic information

Please follow the prompts to improve the basic information of the power station: the name, location and time zone of the power station. When completing the basic information on the power station creation page, if you do not create it near the power station, you can click the "Location" column to find the power station location, and the system will automatically match the rest of the information for you.

When creating a power station, the APP client will automatically locate your current location. If you create a power station nearby, you do not need to change the relevant information.

b.system information

Please improve the system information of the power station according to the actual situation of the power station to be created by the user: power station type, grid connection type, installed capacity, azimuth angle, inclination angle, and production date.

TIP: The APP user terminal will display the layout of the power station according to the grid connection type, and analyze the data of the power station according to the installed capacity, so please fill in after confirmation. System information of new power station.

c. other information

Please improve the remaining information according to the actual situation of the user. The more complete the information you input, the better you can manage the power station; The currency unit in the income information will affect the income calculation of the system. Please confirm.

In order to better handle after-sales problems, please fill in the organization code: EC03B0;

16:48



Plant Information

[Finish](#)

Plant Type Residential >

Plant Name Dyness

Grid Connection Type? Full Quota >

Location? 北京市东城区 >

TimeZone

Plant Photos 0 >

Build Date? >

kWh Income

Total Cost

Currency CNY >

PV Capacity (kWp)

Organization Code EC03B0 ✓

Plant Owner? User 71982090 >

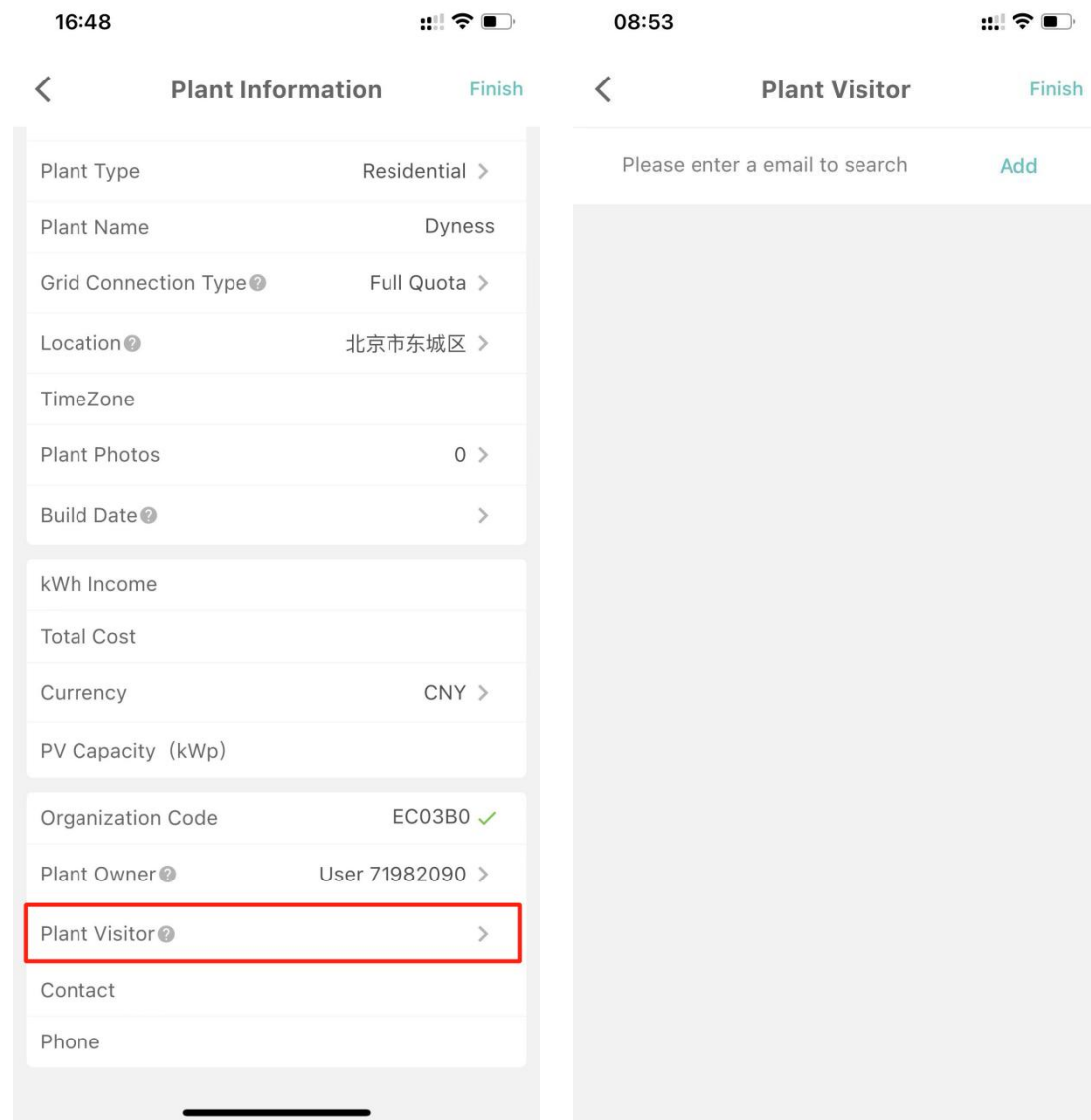
Plant Visitor? >

Contact

Phone

3. User authorization

Please click the "Plant Visitor" column to enter the email number of the user to be authorized and add it as shown in the figure below to authorize the user.



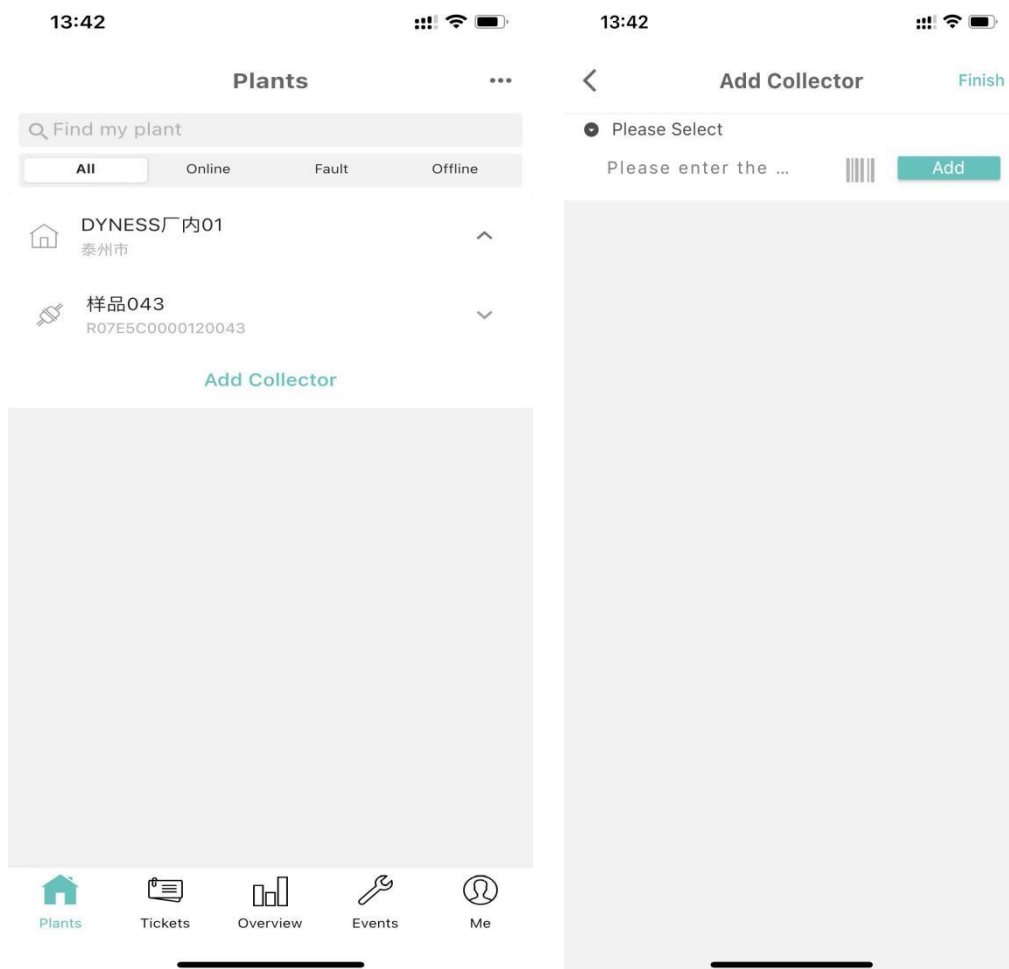
The figure shows two mobile app screens side-by-side. The left screen is titled 'Plant Information' and has a 'Finish' button in the top right. It contains several input fields: 'Plant Type' (Residential), 'Plant Name' (Dyness), 'Grid Connection Type' (Full Quota), 'Location' (北京市东城区), 'TimeZone', 'Plant Photos' (0), 'Build Date', 'kWh Income', 'Total Cost', 'Currency' (CNY), 'PV Capacity (kWp)', 'Organization Code' (EC03B0), 'Plant Owner' (User 71982090), 'Plant Visitor' (highlighted with a red box), 'Contact', and 'Phone'. The right screen is titled 'Plant Visitor' and has a 'Finish' button in the top right. It shows a search input field with the placeholder text 'Please enter a email to search' and an 'Add' button.

4. Creation completed

After all the above steps are completed, click "Finish" in the upper right corner to complete the creation of the power station.

5. Add Device

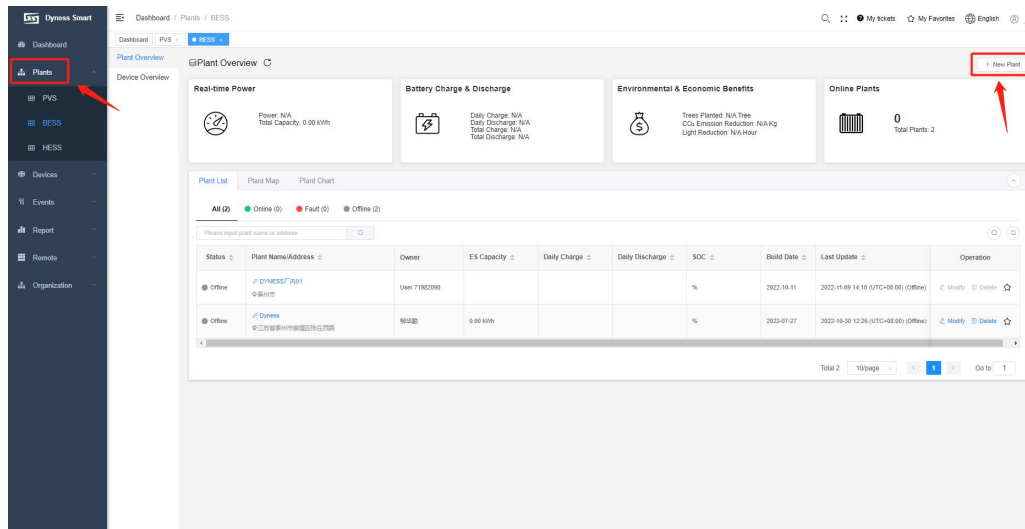
Click the "Add" button below the power station and select the collector model. You can continue to select the barcode or QR code on the direct scanning equipment to add, or enter the serial number to add. After inputting the serial number correctly, the equipment can be loaded; Click the "Finish" button in the upper right corner as shown in the figure below to complete the addition.



WEB:

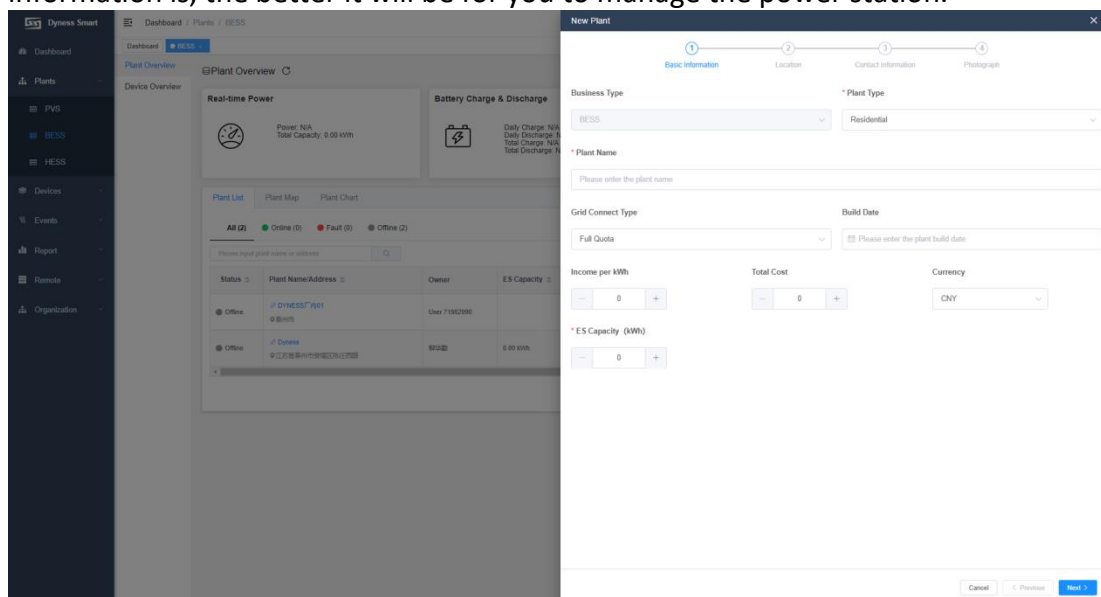
1.Create Plants

Login URL:<https://server.dyness-tech.com/>,Login account,and click 'Plants' - 'New Plant' to creat new plant.
(Select the creation page of the plant according to the actual business needs)



2.Improve the information of new plant

Please complete the information of the power station according to the prompts. The ones with asterisks are required, and the more complete the other information is, the better it will be for you to manage the power station.



a.Basic information

Please improve the power station system information according to the actual situation of the power station that the user wants to create: power station type, power station name, grid connection type, installed capacity, and station construction date.

TIP:The web client will display the power station layout according to the grid connection type, and analyze the power station data according to the installed capacity, so please fill in after confirmation.

b.Other information

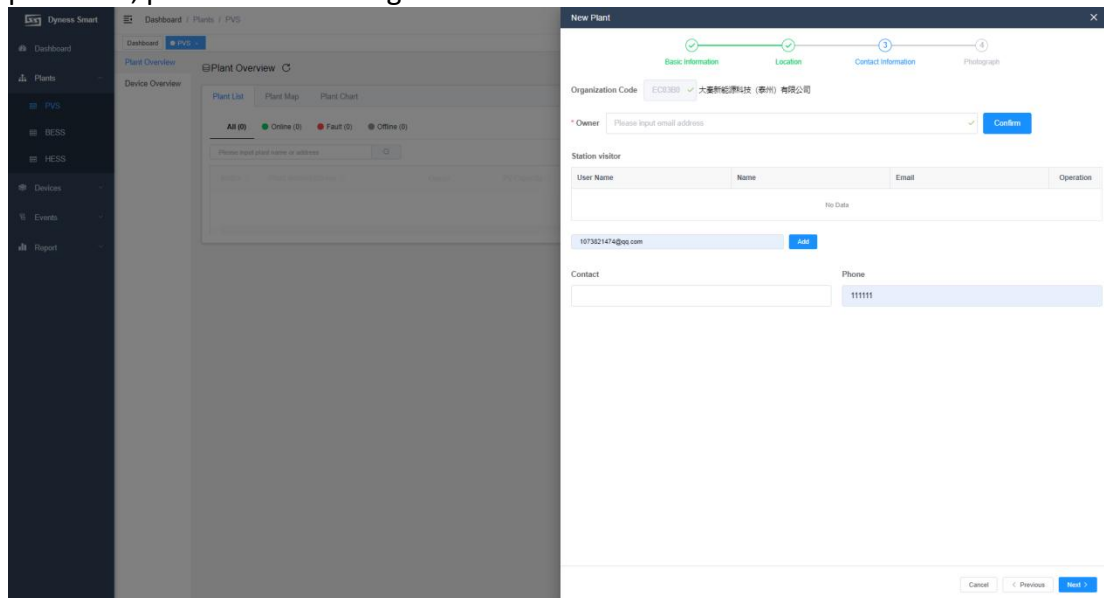
Please improve the remaining information according to the actual situation of the user. The more complete the information you input, the better you can manage the power station; The currency unit in the income information will affect the income calculation of the system. Please confirm.

c.Position setting

After completing the power station information, directly click Next in the lower right corner. To set the location, you can enter the location to search directly.

d.Add Visitors

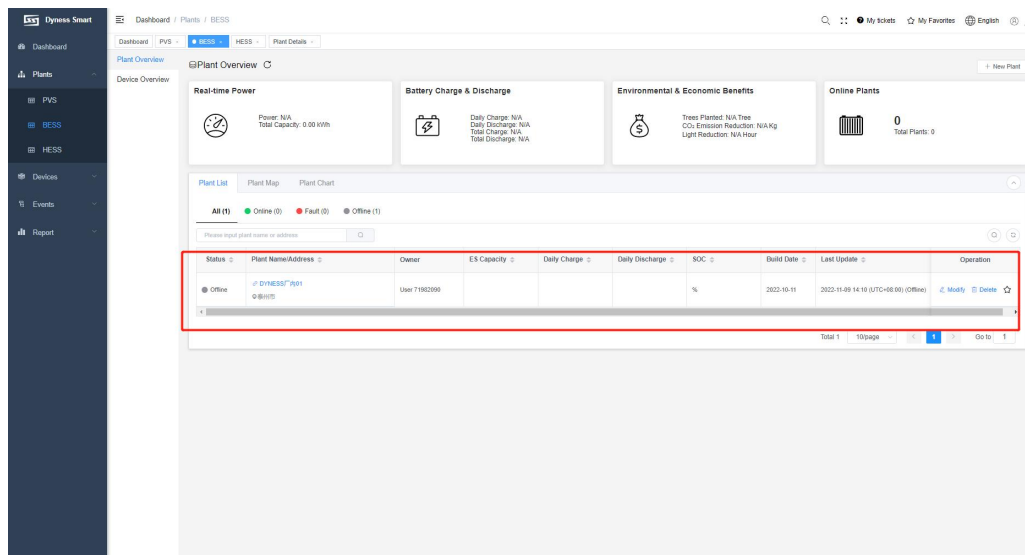
Enter the guest mailbox to add a guest. In order to better handle after-sales problems, please fill in the organization code: EC03B0



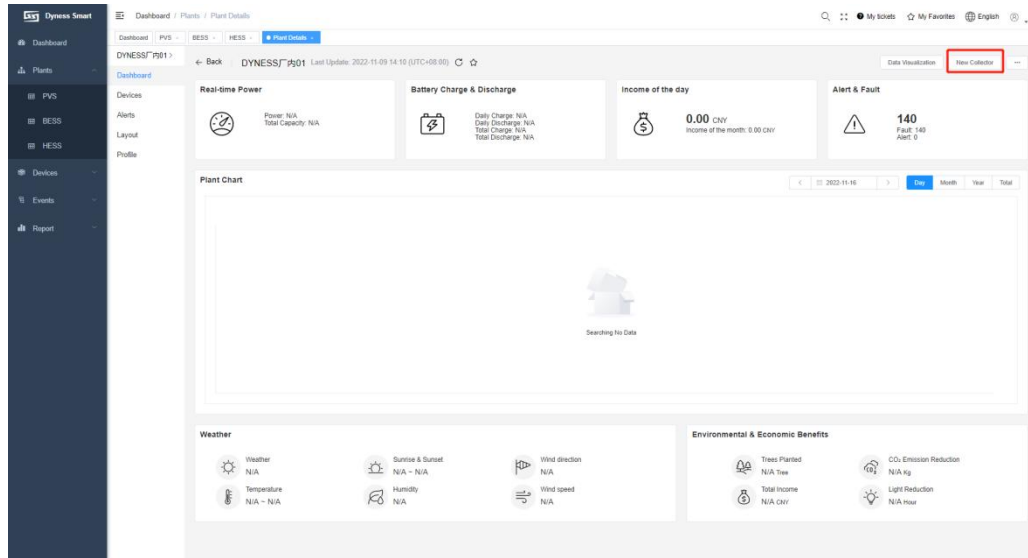
All information is completed, click Submit, and the power station is created successfully.

3.Add Device

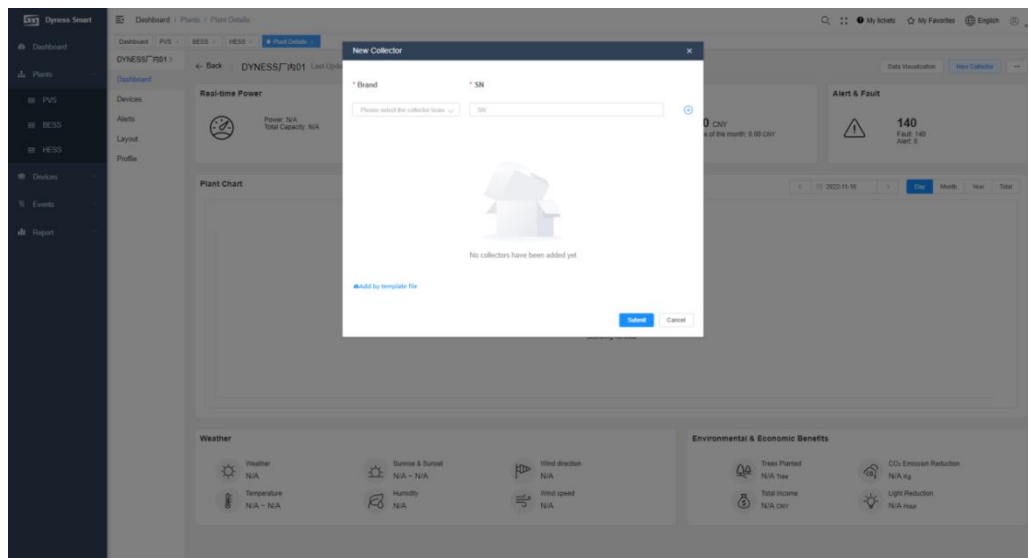
As shown in the figure below, please click "New Collector" on the detail page of the power station.



Status	Plant Name/Address	Owner	ES Capacity	Daily Charge	Daily Discharge	SOC	Build Date	Last Update	Operation
Offline	DYNESST7001 Q@HHS	User 71982099				%	2022-05-11	2022-11-09 14:19 (UTC+08:00) (Offline)	Modify Delete



Select the equipment model in the pop-up dialog box and correctly fill in the equipment serial number you want to add. After confirmation, submit it.

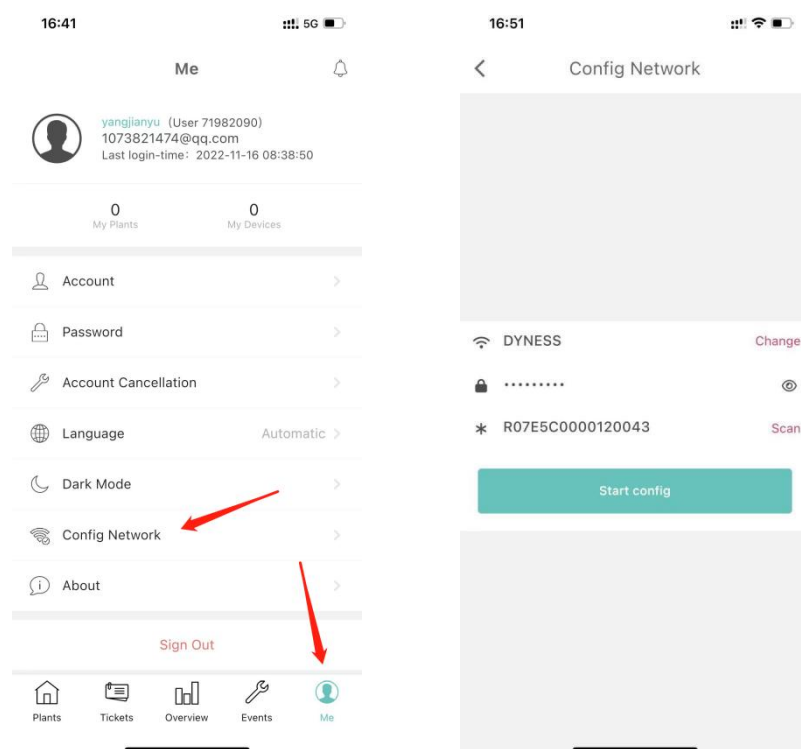


3.2.3 steps of connection

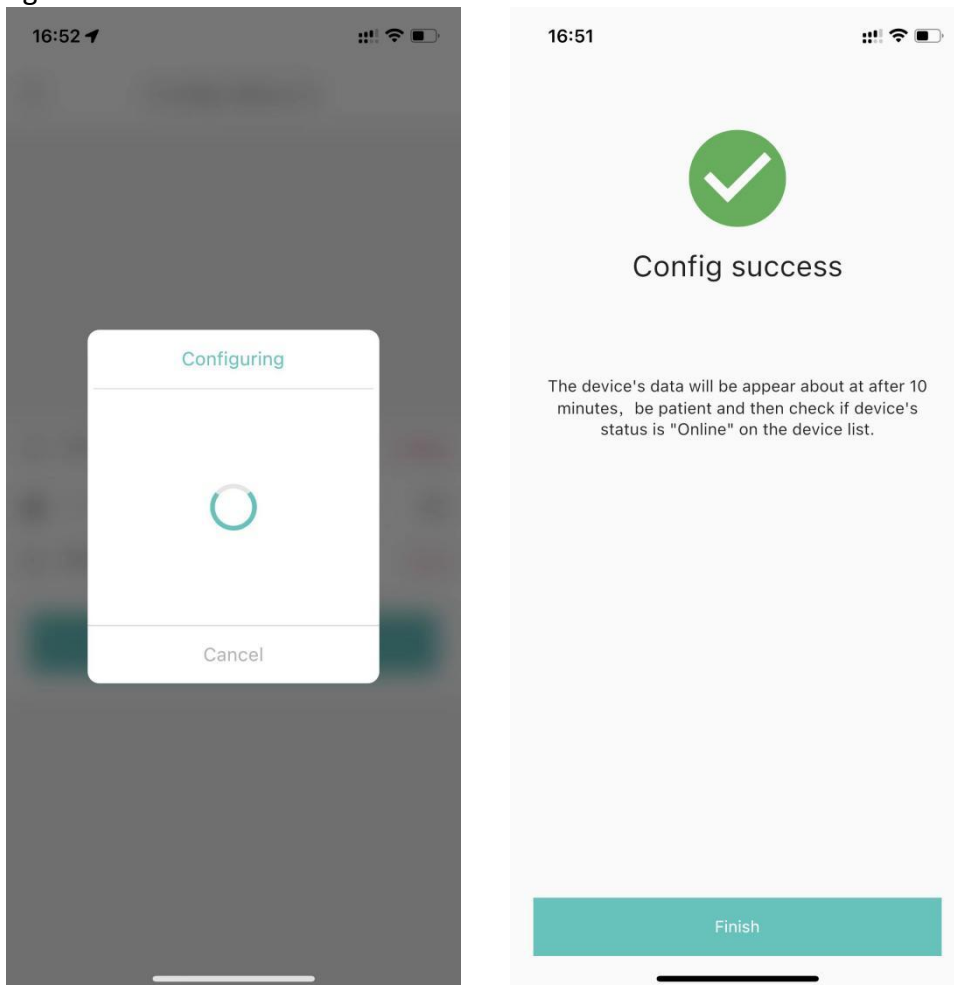
1.Insert the module into the battery USB port as shown in the figure,Press and hold the white reset button for 2-3 seconds, then release it, and the net light flashes in the distribution network mode.



2.Open the APP and switch to the "Me" page after login,Click "Config Network", select the wireless network, enter the password, and scan the SN number of the collector to be distributed.



3. Click the "Start Config" button to configure the network, and wait for the configuration to succeed.



4 Serial Number

The SN code of the WIFI module is shown in the figure below.



5 Troubleshooting

Table4-1 WIFI-Module troubleshooting

Trouble	Indicate	Troubleshooting
COM OFF SATA Slow flash	Abnormal communication of WIFI module	Check whether the connection between the collection rod and the equipment is abnormal, and re plug the collection rod.
COM ON NET OFF SATA Slow flash	Abnormal communication between acquisition rod and route	1.Check whether the wireless network is configured 2.Router signal problem. It is recommended to improve the routing signal strength
COM ON NET Slow flash SATA Slow flash	The connection between the collection rod and the route is normal, but the connection with the remote server is abnormal	1.Check whether the router can access the Internet 2.Check the router settings to see if connections are restricted 3.Contact after-sales to solve the problem
COM OFF NET OFF SATA OFF	Abnormal power supply	1.Check the connection status and plug it again. 2.Contact after-sales to solve the problem

If you have any technical help or question, please contact Dyness in time.



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