



# Dyness WIFI-Stick

## *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 Daqin Digital Energy Technology 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
2.0	2023.10.08	Product Modification

## Safety Precautions

### Warning

1. Please do not put the WIFI Stick 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 WIFI Stick 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 WIFI Sticks 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 Stick, also known as the serial Wi-Fi Stick, 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 Stick 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 Sticks 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 Stick 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 Ess APP anytime and anywhere, which is very convenient.

## 1.2 Product Properties

The WIFI-Stick 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

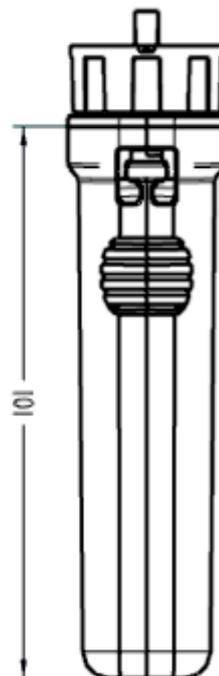
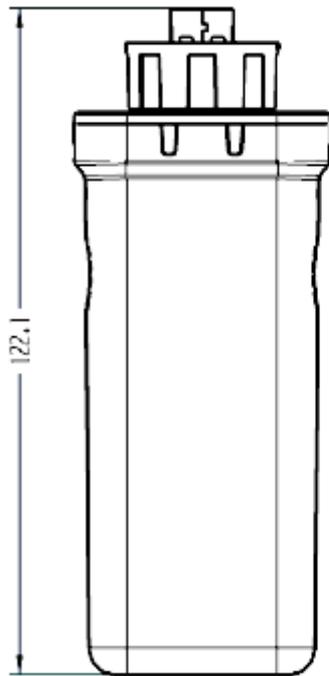
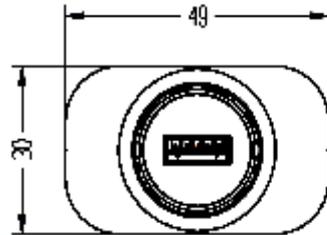
## 1.3 Product identity definition

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

## 2 Product Specification

### 2.1 Size

Table2-1 WIFI-Stick performance parameter



## 2.2 Performance Parameter

**Table2-2 WIFI-Stick performance parameter**

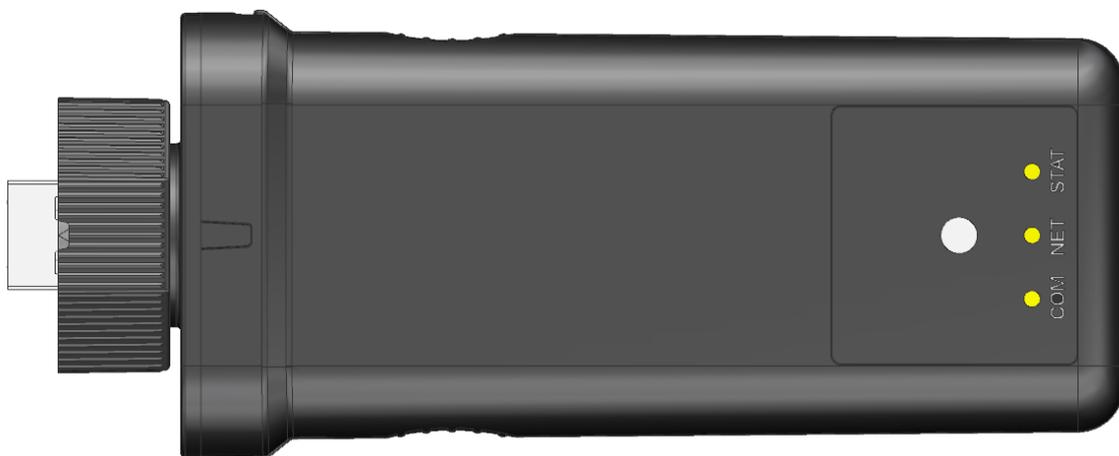
Nominal Voltage	5V
Connection Type	Wi-Fi/Bluetooth
Protocol	802.11 B/G/N20
Channel	1-14@2.4GHz (CH1-11 for US/CA, CH1-13 for EU/CN)
Output Power	+20dBm

## 2.3 Interface Definition

WIFI-Stick 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-Stick Front Panel of battery Stick



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 steady on and blinking alternately, and the collection rod is connected to the device successfully

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

3.STAT light is flashing (collection rod works normally)

ID	Meaning of LED	Status Description
<b>COM</b>	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.
<b>NET</b>	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.
<b>STAT</b>	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**

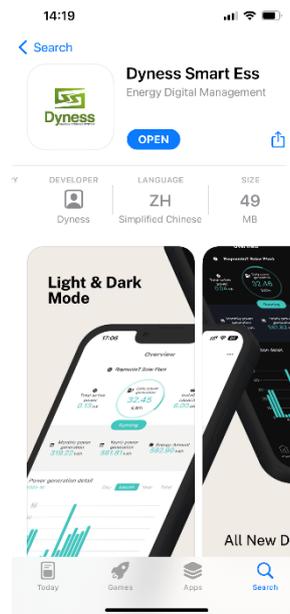
Name
Dyness battery (with WiFi function)
WiFi Stick
mobile phone (Dyness Smart Ess app has been downloaded)
WiFi ( 2.4GHz )

## 3.2 Equipment connection

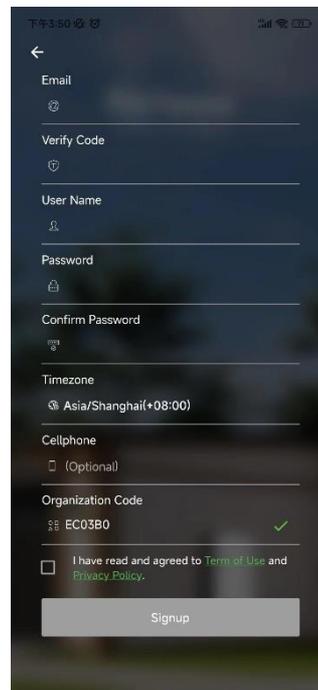
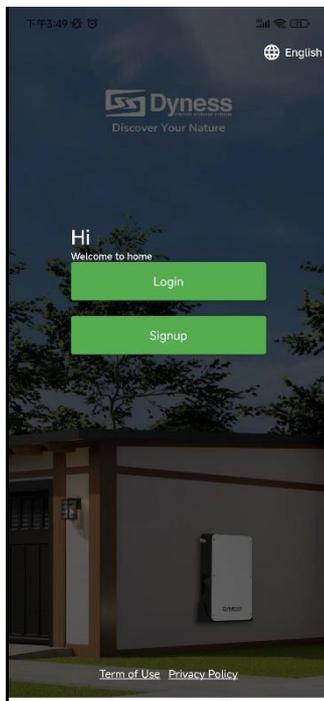
### 3.2.1 connection preparation

Download the DyNESS Smart Ess App from the App Store(ios) or Scan QR code(Android).

DyNESS Smart ESS



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



Follow the prompts to complete the registration process

1. Fill in your email

Please follow the prompts to enter your email account correctly and send and fill in the verification code;

2. Improve account information

If this account is the first time to register the APP client, you need to improve the account information; Please enter your name and password, and confirm;

3. Improve user information

Please follow the prompts to select the user time zone; Telephone number optional; The organization code is **EC03B0**. Please check the box in the Agreement column to indicate that you have agreed to the Service Agreement and the Privacy Agreement;

4. Registration is successful

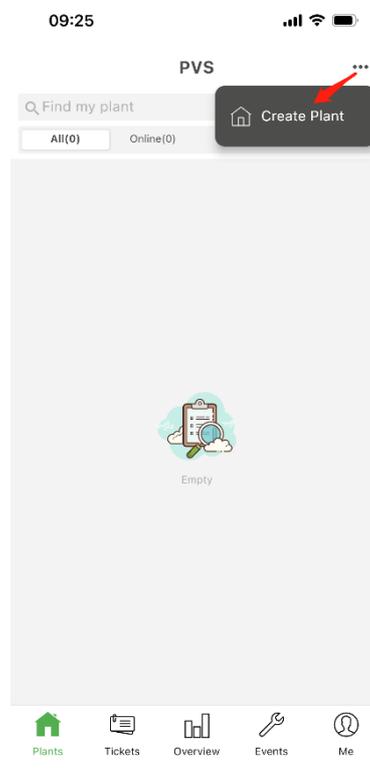
Click "Complete and log in to the client" button, jump back to the login interface, enter the account password to log in.

### 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.



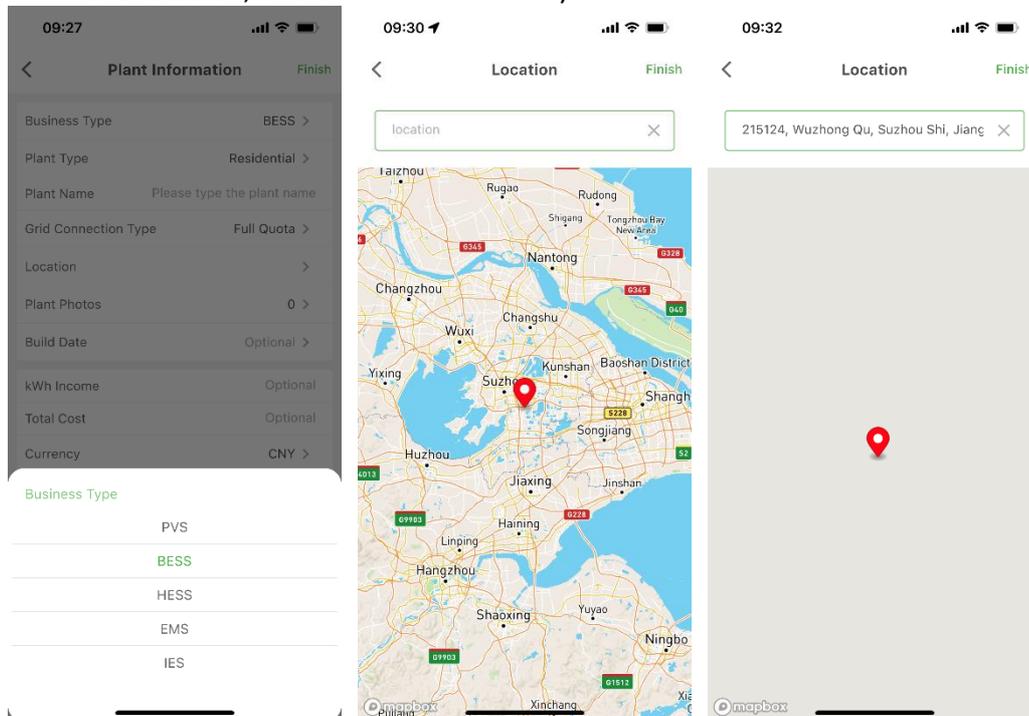
## 2. Supplement new power station information

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 Business Type is usually "BESS", 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. (Tip: Zooming in on the map will show the current location of the WiFi Stick, click the red mark on the map to confirm the location, and then click "Finish".)



### b. system information

Please improve the system information of the power station according to the actual situation of the user's new power station: power station type, grid-connected type, installed capacity, etc.

Tip: The APP user terminal will display the layout of the power station according to the grid-connected type, and analyze the power station data according to the installed capacity. Please fill in the information after confirmation.

### c. other information

Improve the remaining information according to the actual situation of the user. The more complete the input information, the better the management of the power station; The remaining information contains optional information or you can leave it blank.

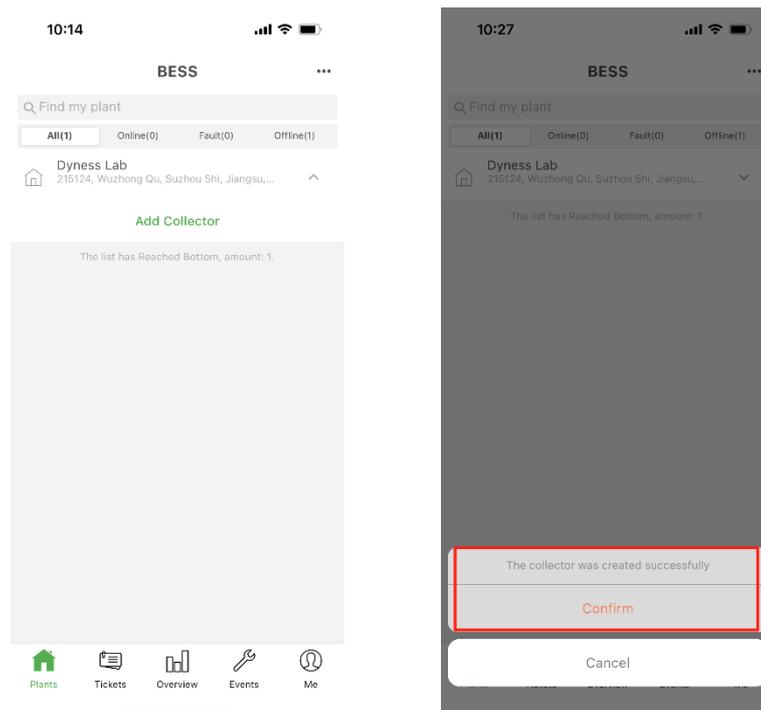
### 3. Creation completed

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



### 4. Add Device

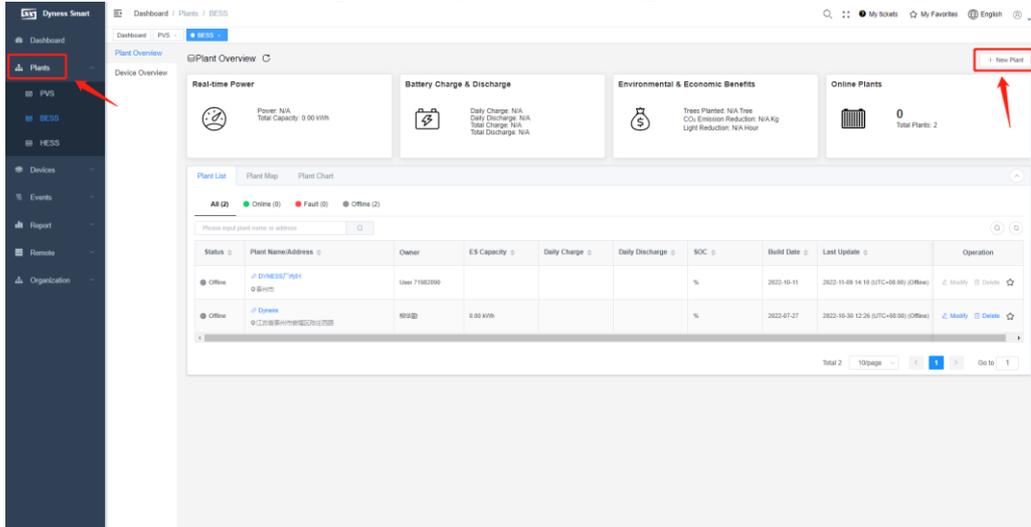
Click the "Add collector" button below the power station, scan the QR code of the device to add, or enter the serial number to add, after the correct input of the serial number, the collector will be displayed as successfully added. **Tip: Click "Confirm" to jump directly to the distribution network interface, see 3.2.3 below.**



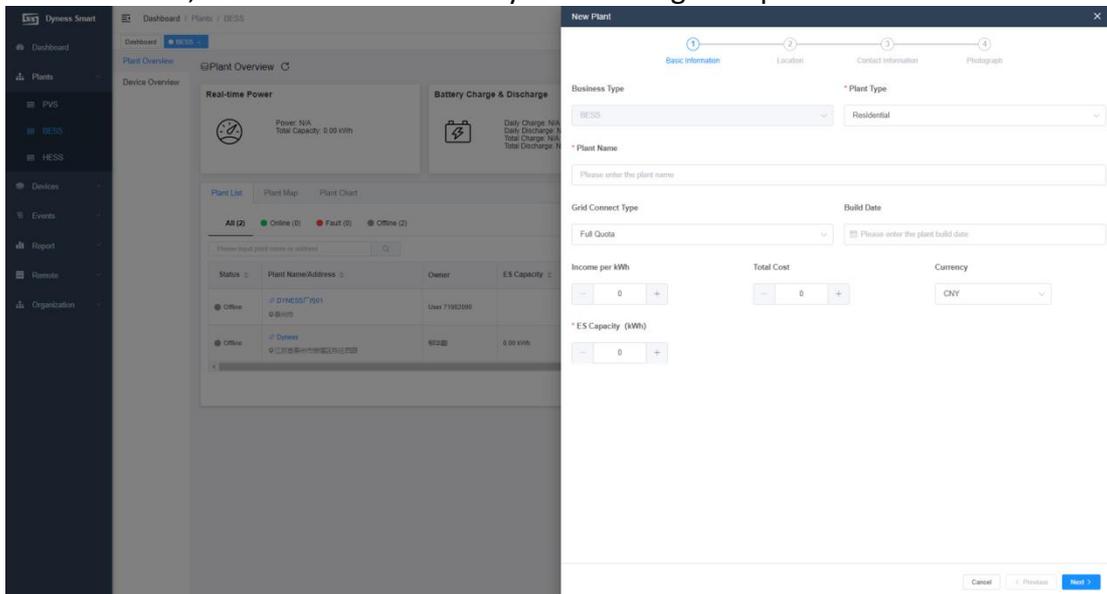
**WEB:**
**1. Create Plants**

Login URL: <https://server.dyNESS-tech.com/>, Login account, and click 'Plants' - 'New Plant' to create 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

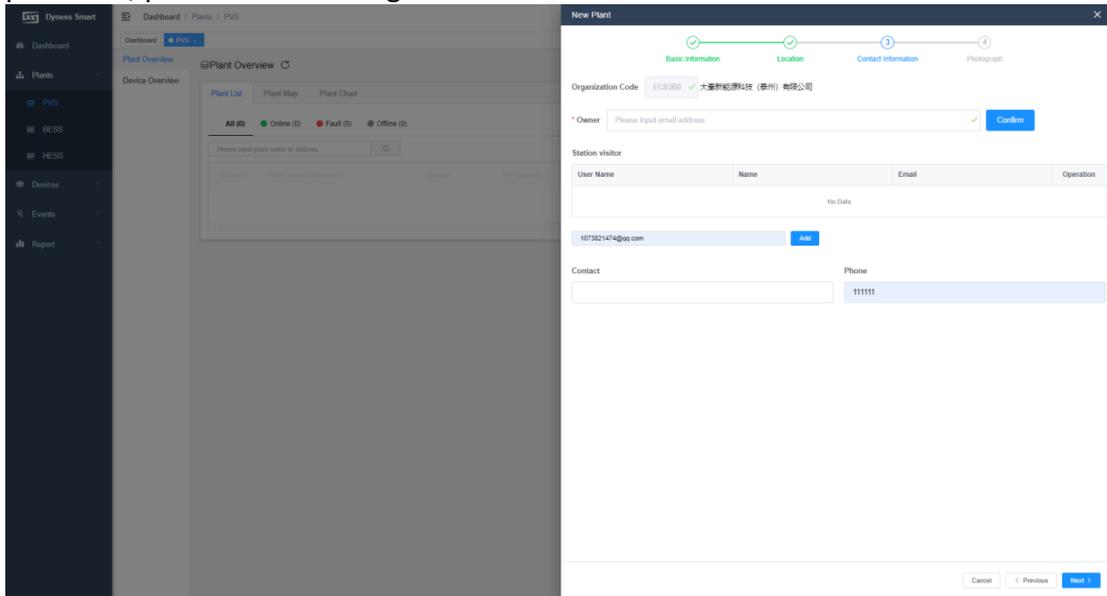
Please improve the remaining information according to the actual situation of the user. The more complete the information you input, the better you can manage the power station; The currency unit in the income information will affect the income calculation of the system. Please confirm.

### 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

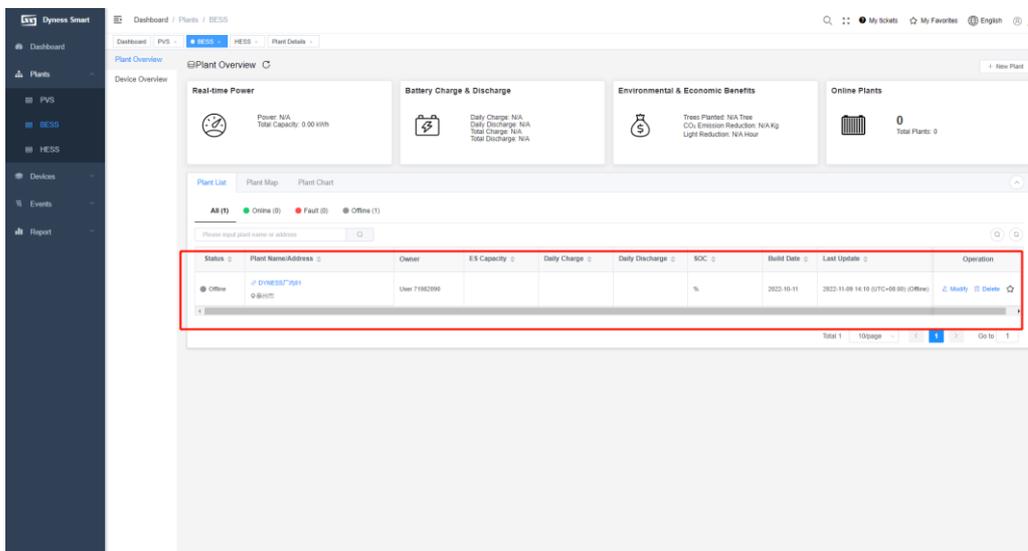
Enter the guest mailbox to add a guest. In order to better handle after-sales problems, please fill in the organization code: EC03B0

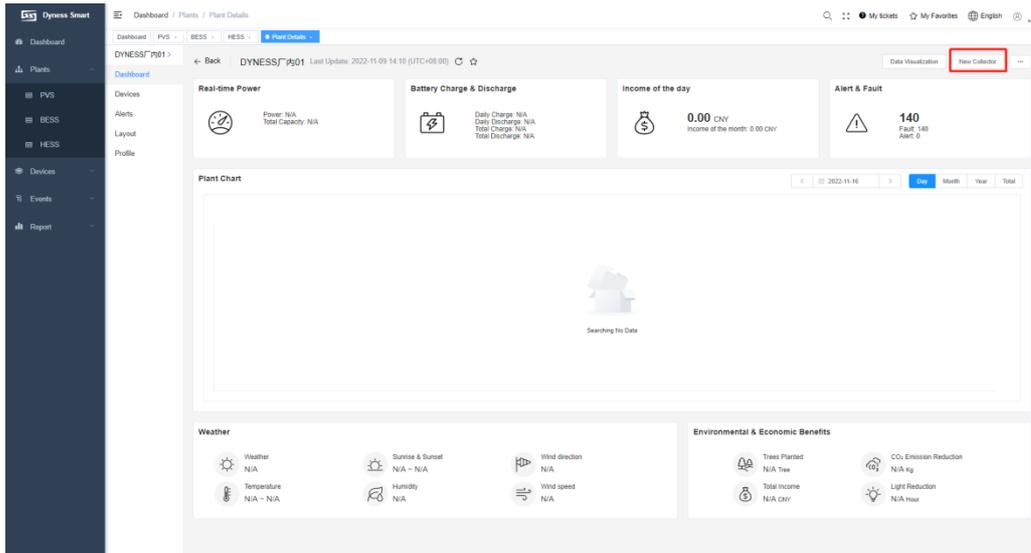


All information is completed, click Submit, and the power station is created successfully.

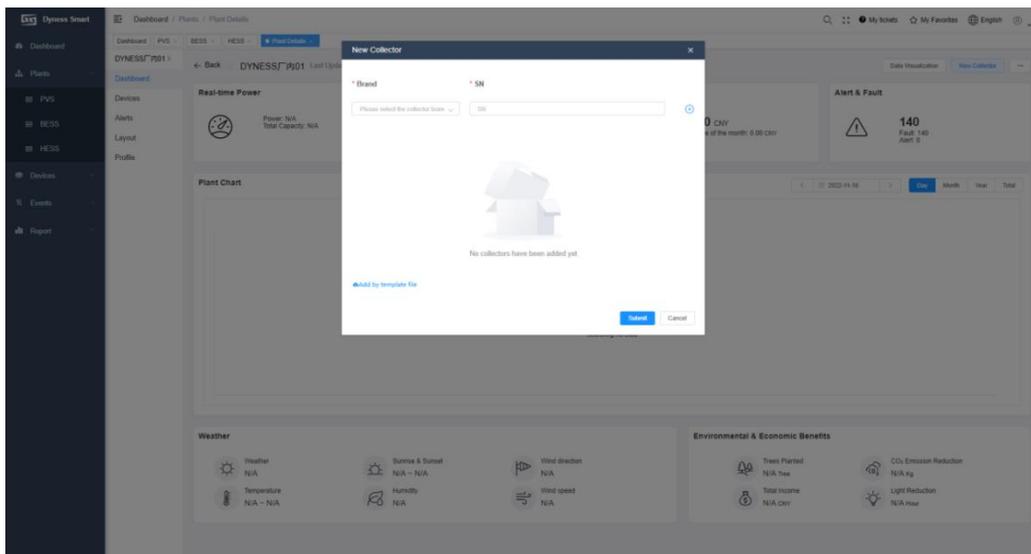
### 3. Add Device

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



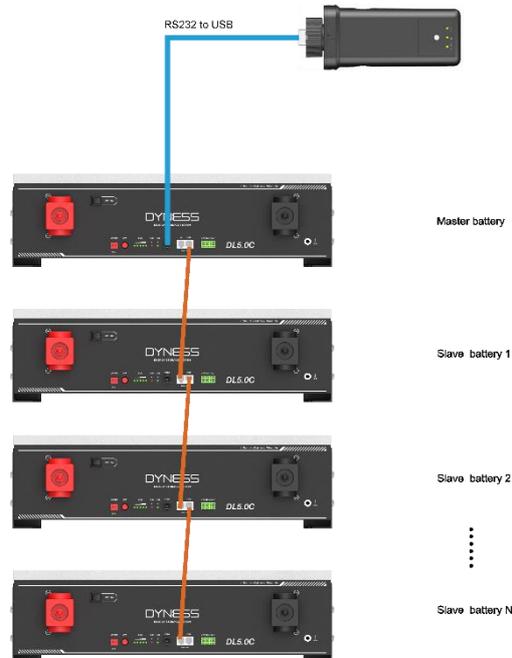


Select the equipment model in the pop-up dialog box and correctly fill in the equipment serial number you want to add. After confirmation, submit it.

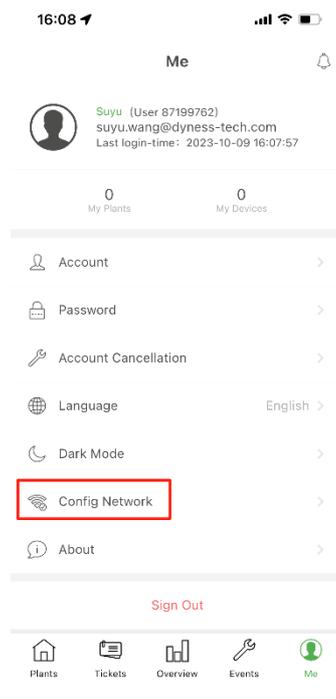


### 3.2.3 WiFi Stick distribution network

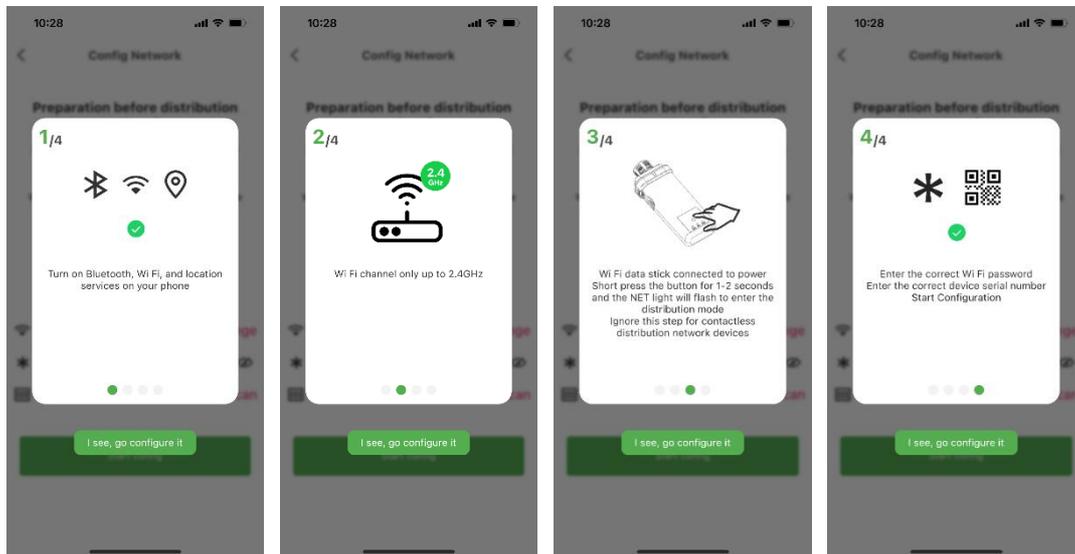
1. Insert the Stick into the battery COM port as shown in the figure, Press and hold the white reset button for 1-2 seconds, then release it, and the net light flashes in the distribution network mode.



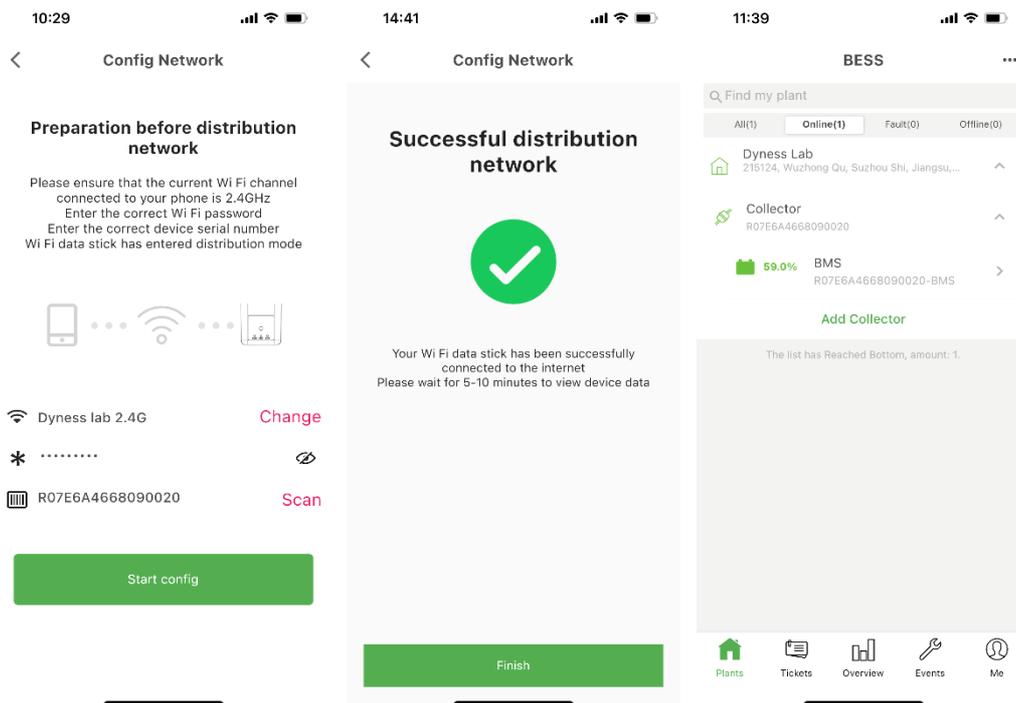
2. Open the APP and switch to the "Me" page after login, Click "Config Network", select the wireless network, enter the password, and scan the SN number of the collector to be distributed.



3. As shown in the figure, the distribution network connection step will also jump out of the APP when the WiFi Stick is networked.



4. 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 Stick is shown in the figure below.



## 5 Troubleshooting

**Table4-1 WIFI-Stick troubleshooting**

Trouble	Indicate	Troubleshooting
COM OFF SATA Slow flash	Abnormal communication of WIFI Stick	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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