

# AiSWEICLOUD APP User Manual

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# 1. Relevant Description of the Manual

The Manual describes the precautions, installation methods and operating instructions, etc. for the AiSWEI smartphone monitoring system (AiSWEICloud) in detail. The technical parameters described in this document are applicable to the current version of the product. We reserve the right to change the contents of the Manual as a result of new features and improvements. The description may be subject to change without separate notice. Please contact AiSWEI to confirm the latest version.

## 1.1 Scope of Application

The Manual is applicable to AiSWEI smartphone monitoring system (AiSWEICloud), which refers to a photovoltaic system with AiSWEI inverter and AiSWEI monitor device. The Manual assumes that the AiSWEICloud APP has been installed on the user's smartphone.

## 1.2 Users

The Manual is intended for authorized and experienced installers and end users for whom the experienced installers have installed the AiSWEICloud APP. Please read the Manual carefully before setting up your AiSWEICloud APP PV power plant.

## 1.3 Abbreviations

Abbreviations	Interpretation
Generation	output
Income	earnings
Vpv	Dc input voltage
Ipv	Dc input electricity
Pac	Ac output
E-today	Daily output
E-month	Monthly output
E-total	Total output

Table 1-1 Abbreviations

## 2. AiSWEICloud APP

AiSWEICloud APP is a smartphone terminal application provided by AiSWEI to the users. The monitor device of AiSWEI transmits work data to the cloud platform AiSWEICloud via the Internet so that the users can remotely monitor their PV power plants and inverters through mobile terminals.

You can browse and download the AiSWEICloud APP by your mobile phone at the following website:

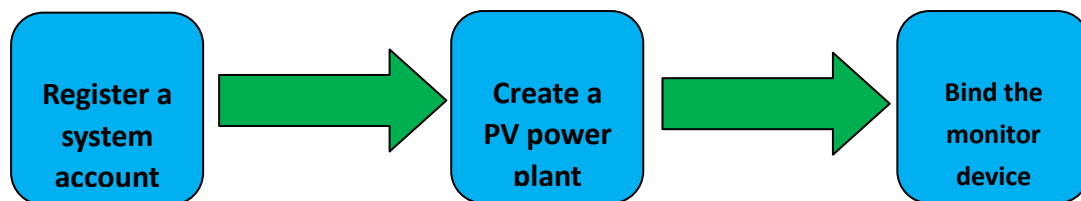
For Android phones:

For iPhones:



1. In order to monitor your PV power plant and inverter with the AiSWEICloud APP, you need to configure the monitor device and make it work properly.
  2. Before registering an account, you need to have an email address or mobile phone number that can be available normally.
- 

The process for using AiSWEI PV monitoring system is as follows:



Please ensure that you have AiSWEI inverter and monitor device before using AiSWEI PV monitoring system.

## 2.1 Account Registration

The users who use the AiSWEICloud APP for the first time need to register an account on the APP or on the AiSWEICloud website (www.AiSWEICloud.com). After the user registers and creates a power plant, the power plant can be established and the power plant operation information can be monitored.

Step 1: **Download and install** the AiSWEICloud APP and open the APP as shown in Figure 2-1-1.

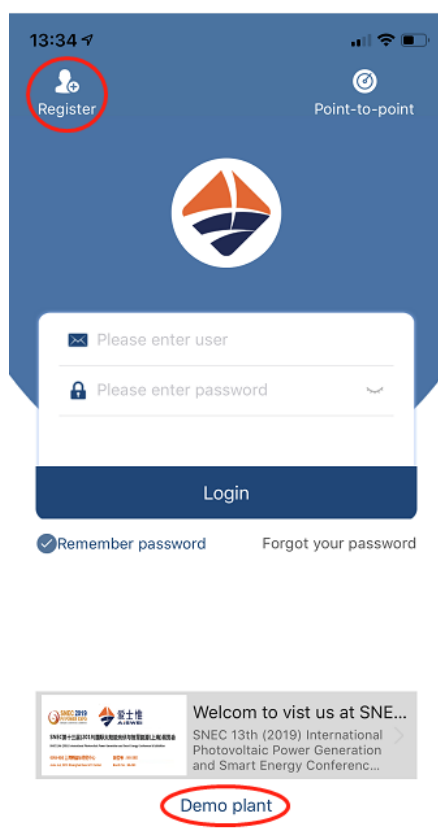


Figure 2-1-1 Homepage Page

Step 2: Click the “Register” button in red in Figure 2-1-1 to enter the registration page, as shown in Figure 2-1-2.

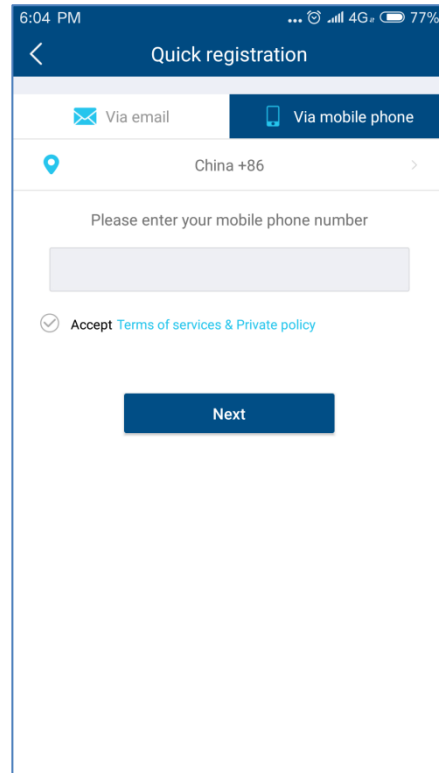
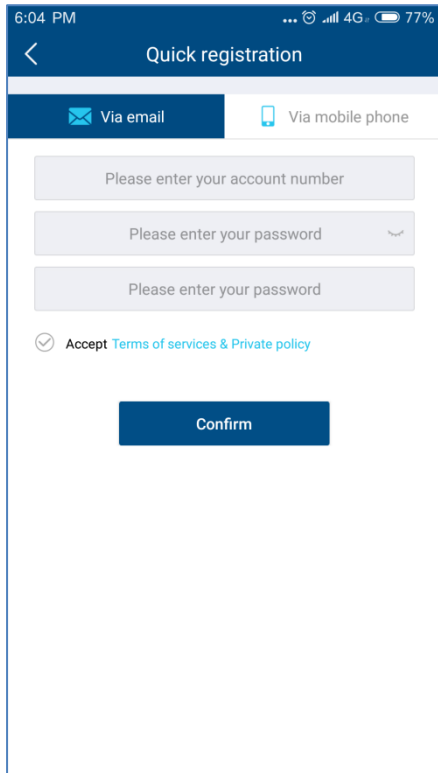


Figure 2-1-2 Registration Page (Tab Switching Email/Mobile Phone)

Step 3 (1): Register by email (as shown in Figure 2-1-2): Enter the available email and login password (the password length should be greater than 6 digits but less than 32 digits, and it may be English letters A (a)-Z (z) and numbers 0 to 9).

Step 3 (2): Register by mobile phone (as shown in Figure 2-1-2): Enter the available mobile phone and login password (the password length should be greater than 6 digits but less than 32 digits, and it may be English letters A (a)-Z (z) and numbers 0 to 9).

Step 4 (1): Register by email: Upon completion of registration, AiSWEICloud will send an activation email to you so that you can activate your AiSWEICloud account based on the information in the email. If you don't receive an activation email, please look for it in the spam box.

Step 4 (2): Register by mobile phone: After filling in the mobile phone number, AiSWEICloud will send a verification SMS to you and you can use your AiSWEICloud account after inputting the correct verification code.



1. If you don't receive the email from AiSWEICloud, maybe it is caused for the following reasons:

1. This email is defined as a spam. Please check if the email is in the spam box. If the email sent by AiSWEICloud is defined as a spam, please add the AiSWEICloud email address to your whitelist so as to prevent subsequent emails from being defined as spams. AiSWEICloud sends emails by Alibaba Cloud proxy server. If you cannot receive the email, please contact customer service personnel.

2. Maybe the email address you have opened is not the one you filled in when you registered. Please confirm if it has been sent to your other emails. If you filled in an unknown email address when you registered, please re-register.

---

II. If you don't receive the SMS from AiSWEICloud, it may be caused for the following reasons:

1. The mobile phone number you are using is not the one you filled in when you registered. Please confirm if it has been sent to your other mobile phone number. If you filled in an unknown mobile phone number when you registered, please re-register.

---

## 2.2 Create a PV Power Plant

Step 1: Open the AISWEICLOUD APP and log in with your registered account.

Step 2: After successful login, you will see the PV power plant list page, as shown in Figure 2-2-1 (Hint: If you have not created or been shared with the power plant before, the power plant list will be empty).

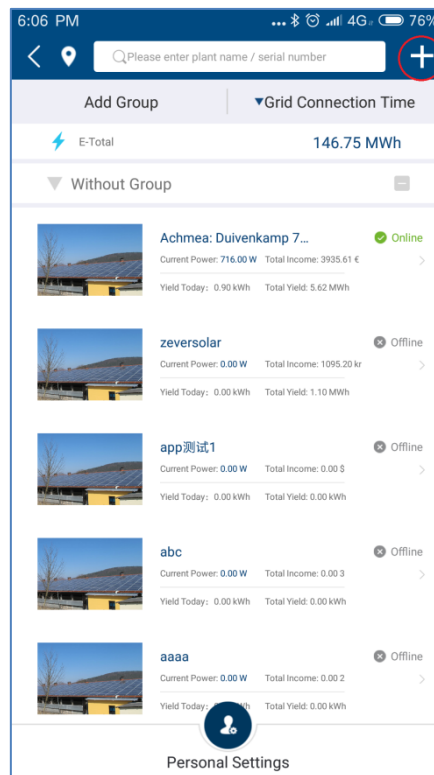


Figure 2-2-1 Power Plant List Page

Step 3: Click the “+” button in red in the upper right corner of Figure 2-2-1 to enter the PV power plant creation page, as shown in Figure 2-2-2.

1. The registration code and serial number can be found on the external label of the device. You can manually input it or click the icon of 1 to call the mobile phone camera to scan the QR code and fill it out automatically.
2. Filling in the installed capacity can help us to evaluate the performance of the PV power plant in a real-time manner.
3. Select the correct time zone. Please select +8 Beijing time zone for China.

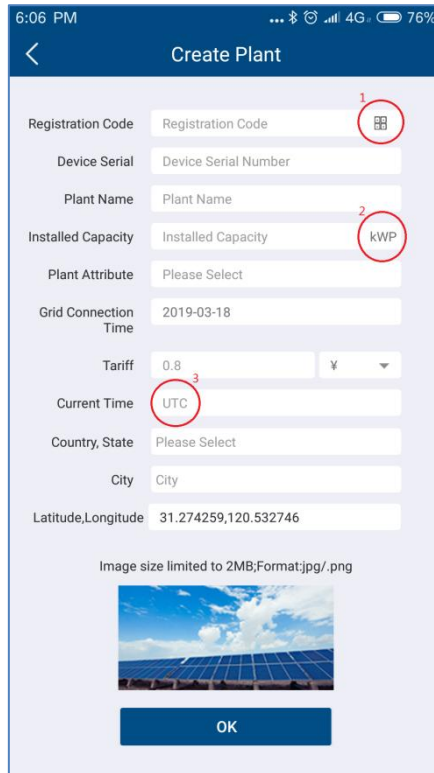


Figure 2-2-2 Create Plant Page



1. When creating a PV power plant, it is important to choose the right time zone. The cloud platform will calculate the correct time and send it to the monitor device according to the selected time zone to keep the monitor device time correct.
2. Please select the correct time zone for the location of the PV power plant, as shown by the red mark 3 in Figure 2-6.



When creating a PV power plant, you need to enter the serial number and registration code of the monitor device, or to scan the QR code containing such two pieces of information. The information can be found on the label on the outside of the inverter/monitor device.



The status icon of the power plant is displayed on the power plant list page, as explained below:



: All devices are online and no errors have occurred.



: One or more devices (inverters and monitor devices) are offline.



: One or more devices have failed. The status of the failure will be released when the inverter generation is  $>100W$ .



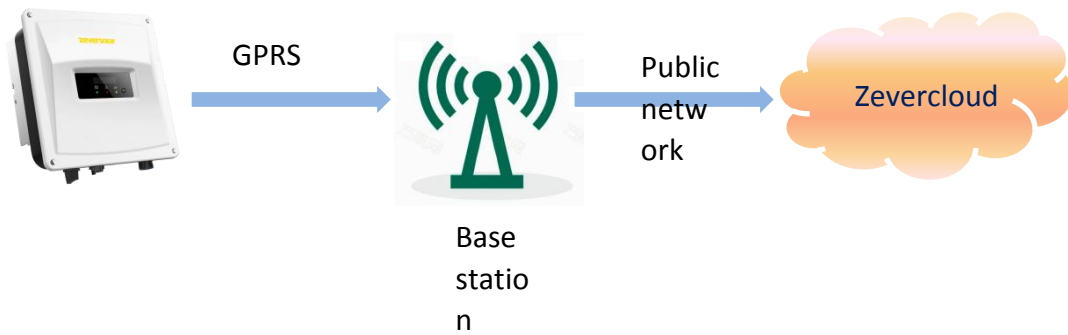
: All devices are offline.



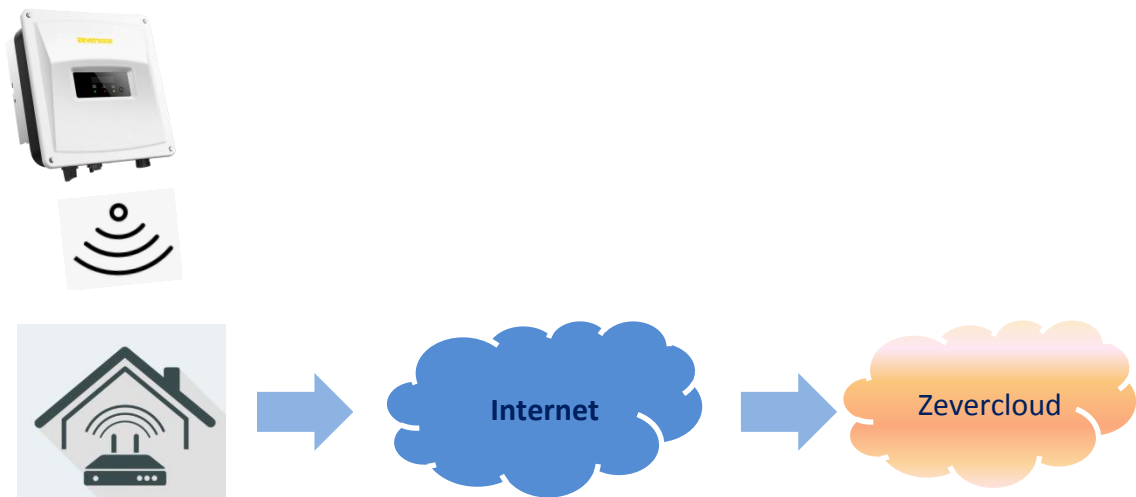
### 2.3 Monitor device Network Configuration

After creating the PV power plant, we can connect the monitor device to the cloud platform. The monitor device needs to upload data to the cloud through the network. For GPRS monitor devices, you can directly access the Internet without network configuration. For non-GPRS devices, you need to configure the network.

GPRS network schematic diagram:



Schematic diagram of WIFI network:



In order to facilitate the user to configure the WIFI network, we have added an interface which is interacted with the mobile APP in the new version of WIFI monitor device. WIFI monitoring configuration is as follows:

Step 1: Open the WIFI management page of the mobile phone system and find the WIFI hotspot named ZEVERTSOLAR-XXXX. As shown in Figure 2-3-1.

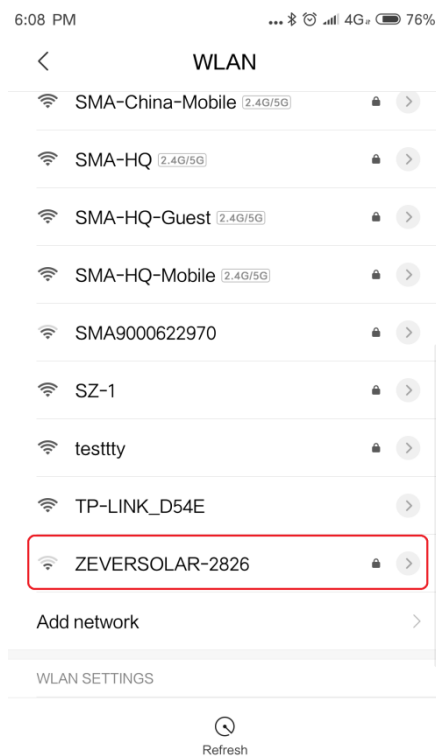


Figure 2-3-1

Note: The name of the hotspots of our WIFI products begins with ZEVERTSOLAR- (in capital letters). Please see the ‘Registry Key’ at the product label for the password .

Step 2: After connecting the mobile phone to WIFI hotspot of the monitor device, open the APP to enter the homepage and click “Point-to-Point” on the top right corner. As shown in Figure 2-3-2.

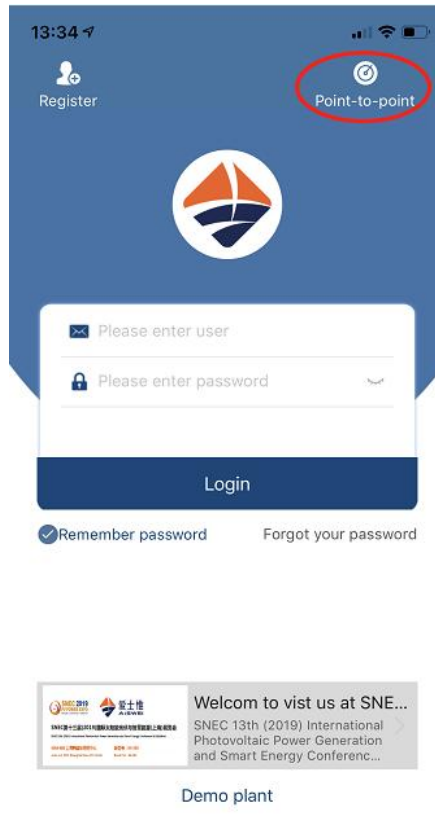


Figure 2-3-2

You will enter “Point-to-Point”, and the APP will automatically search for monitor devices in the network, and list the devices in the form of serial number + IP. It takes about 2 minutes to search. As shown in Figure 2-3-3 and Figure 2-3-4.

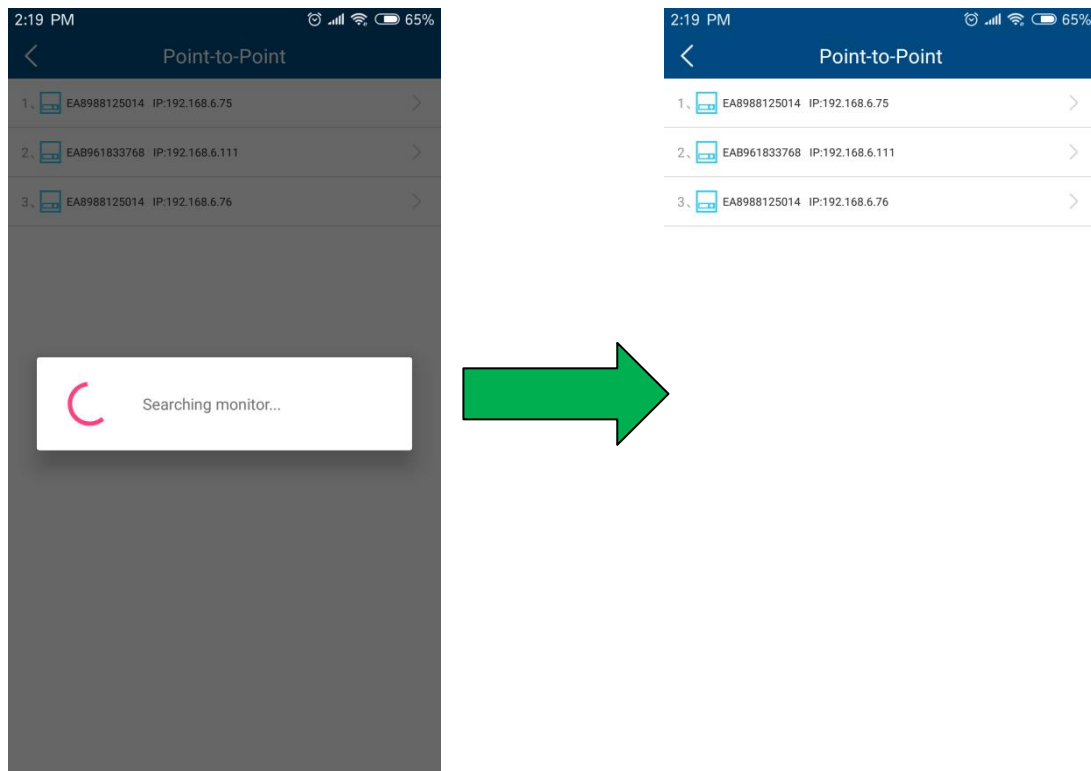


Figure 2-3-3

Figure 2-3-4

Step 3: Select the Monitor Device Details→to enter the Communication Configuration (as shown in Figure 2-3-5. If both WIFI and Ethernet are connected, two devices with the same serial number will appear, but the IP is different. Configure the connection of WIFI of the monitor device to the user’s router (the router needs to be able to access the Internet) on the router page. The user can manually enter the name of the home router (SSID) in the network name or click the down arrow in the red circle to select the name of the WIFI signal detected by the monitor device, then enter the router password and click “Confirm Settings” to complete. As shown in Figure 2-3-6.

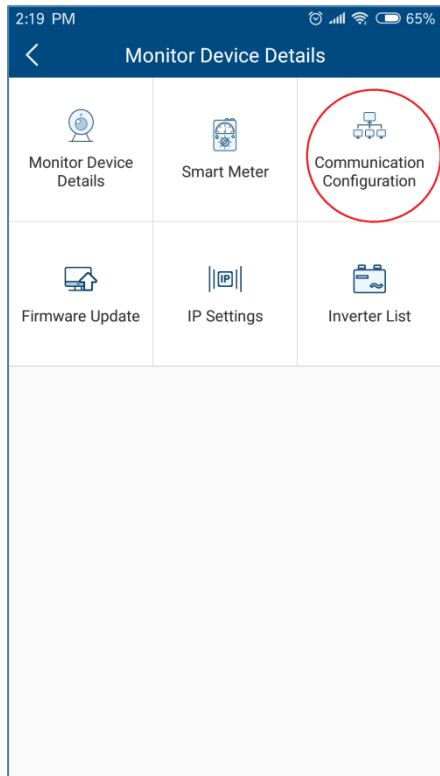


Figure 2-3-5

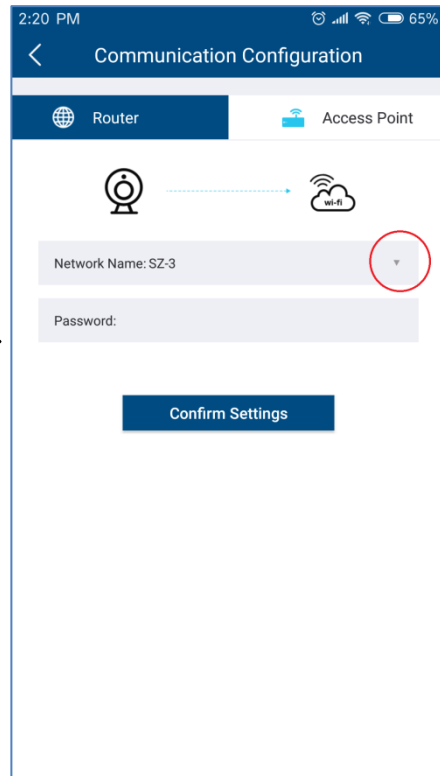
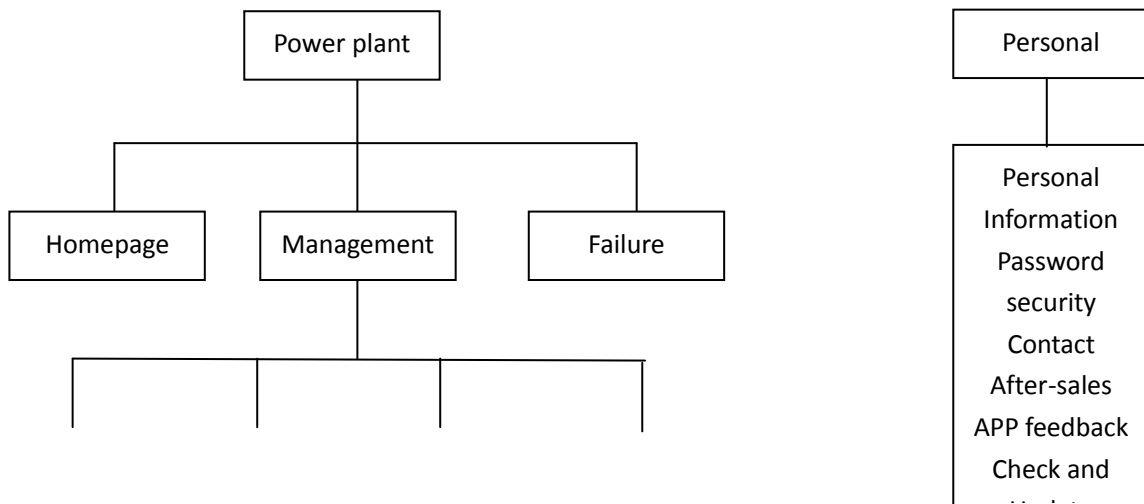


Figure 2-3-6

After the above configuration is successful, the monitor device will be automatically connected to the router to access the cloud server and collect the uploaded data.

## 2.4 Browse PV Power Plant

The menu structure of the PV power plant is shown in Figure 2-10:



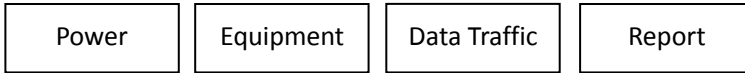


Figure 2-10 PV Power Plant Monitoring Page Menu Structure

### 2.4.1 Homepage

This menu provides the summary information such as current generation power, daily power generation, daily income, total power generation, total income, etc., as well as real-time generation power of current day, daily power generation of current month, monthly power generation of current year and annual statistical power generation, as shown in Figure 2-4-1-1.

The instrument panel in the figure shows the ratio of current inverter power to installed capacity. This ratio can reflect the energy efficiency of PV generation systems.

There are statistical curves and histograms of the power plant at the bottom. As shown in Figure 2-4-1-2.

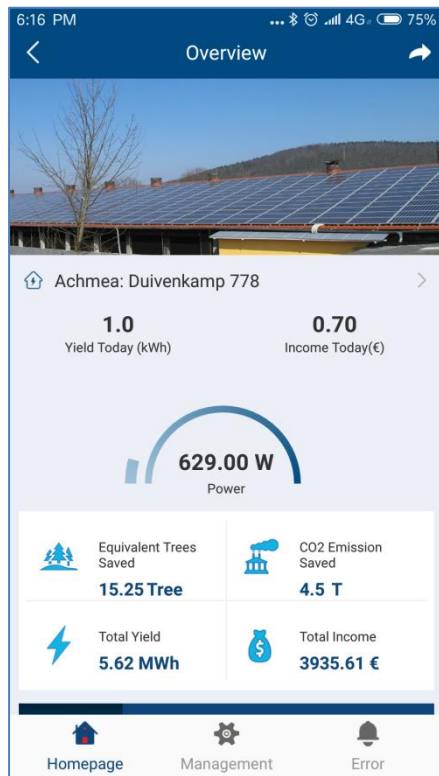


Figure 2-4-1-1 Overview Page

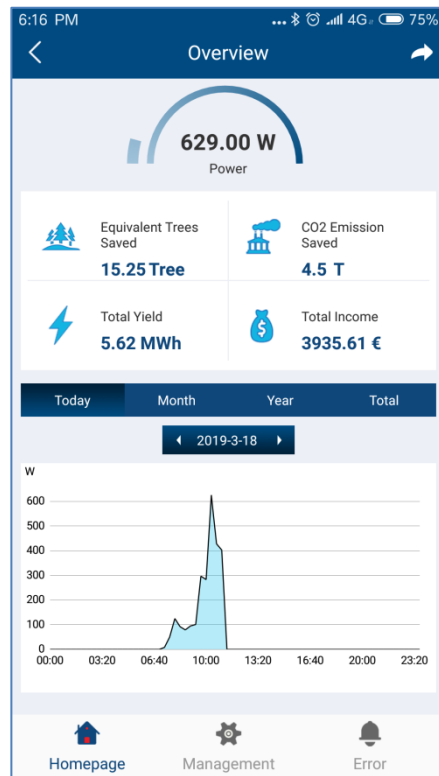


Figure 2-4-1-2 Overview Chart



The energy efficiency displayed on the instrument panel can reflect the performance of the PV system. Thus, please fill in correct installed capacity of the power plant (please refer to menu: “Management” -> “Plant”).

Click on the power plant name to view the device overview and plant information, as shown in Figures 2-4-1-3 and 2-4-1-4.

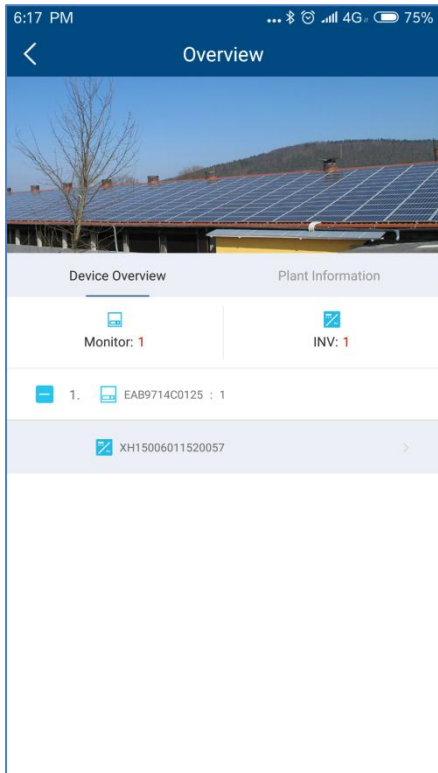


Figure 2-4-1-3 Device Overview Page

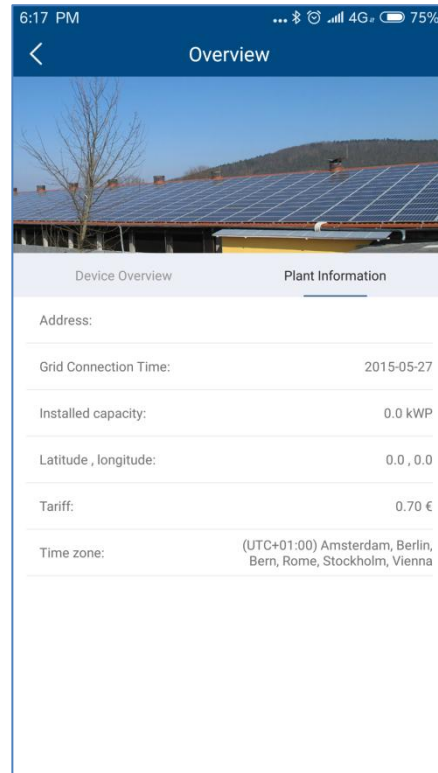


Figure 2-4-1-4 Plant Information Page

The device overview page can allow you to go directly to a single inverter to view detailed data curves. As shown in Figure 2-4-1-5.



Figure 2-4-1-5 Inverter Curve

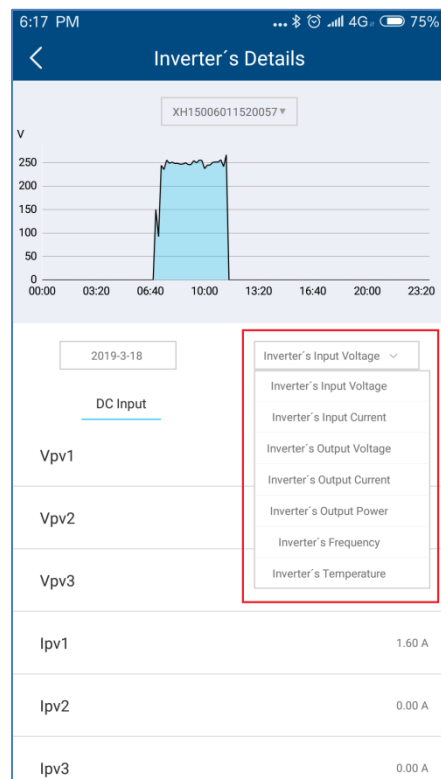


Figure 2-4-1-6 Curve Switching

The curve part shows the input voltage by default. You can select other parameter curves from the drop-down box on the right side of the middle, as shown in Figure 2-4-1-6. The lower

part of the curve shows the real-time DC/AC data of the inverter on the current day.

## **2.4.2 Management**

Such information as power plant, device, data traffic, WiFi settings, reports, etc. is available in this menu.

### **2.4.2.1 Power Plant Management**

You can view the status of the power plant and manage it on this page.

1. The current status of the power plant is displayed.
  - a) Green indicates that the devices in the power plant are all online and normal.
  - b) Yellow indicates that some devices in the power plant are not online and the power plant management personnel are required to check the network and cables.
  - c) Red indicates that there is an inverter failure in the power plant and it needs to be checked by the power plant management personnel.
2. Set up a shared account so that you can entrust the supplier or others to operate and manage the power plant.
3. Edit and modify the plant information.
4. Delete the personal power plant.

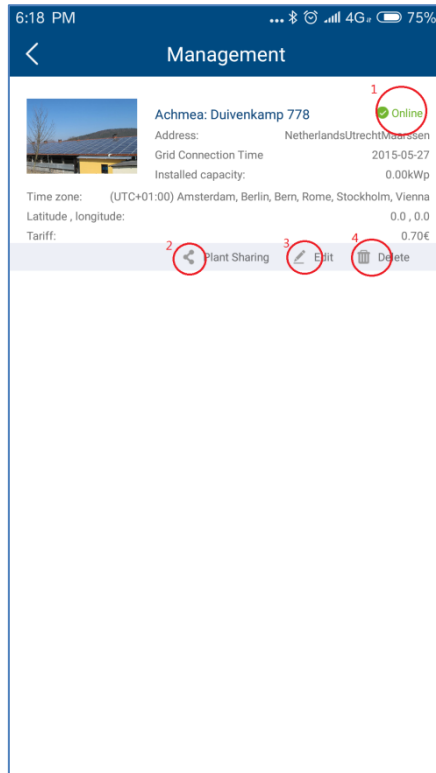


Figure 2-4-2-1 Plant Management

### 2.4.2.2 Device

1. Add a monitor device. You need to enter the monitor device serial number and registration code, or scan the QR code of the monitor device. As shown in Figure 2-4-2-2-2.
2. Change the monitor device name. It supports up to 32 characters (Chinese, English or numbers, and special characters are not guaranteed to be valid).
3. Delete the monitor device. You need to enter the registration code of the monitor device. Note: After the monitor device is deleted, all inverters under the monitor device will also be deleted. So, please be careful.
4. Change the inverter name. It supports up to 32 characters (Chinese, English or numbers, and special characters are not guaranteed to be valid).
5. Delete the inverter. Note: The inverter information will be updated and re-uploaded after the monitor device is restarted. However, the operation of deleting the inverter may also cause the inverter data to be lost. So, please operate with caution.



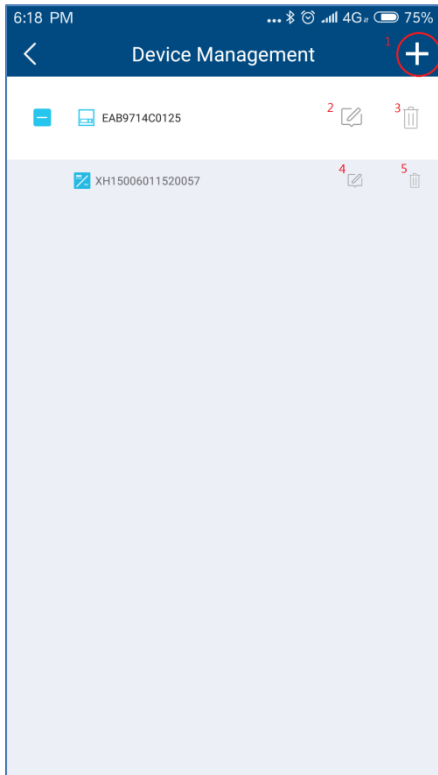


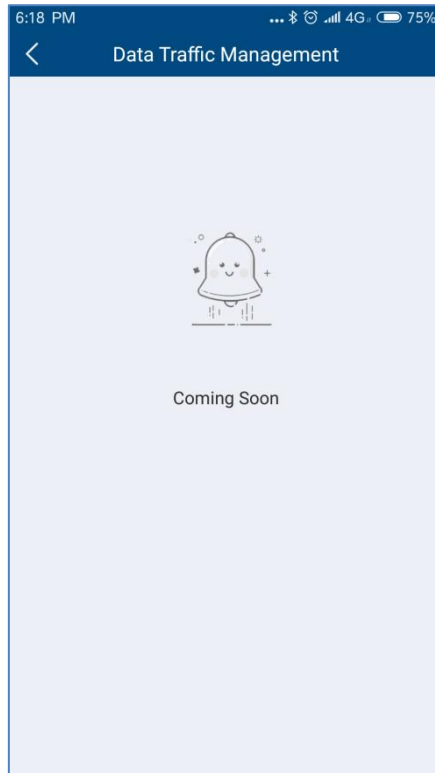
Figure 2-4-2-2-1 Device Management Page



Figure 2-4-2-2-2 Add Monitor Device

### 2.4.2.3 Data Traffic

We will provide separate personal data traffic inquiry and recharge services for domestic GPRS users. Coming soon.



### **2.4.2.5 Reports**

We provide you with an operation and maintenance report of the power plant within one week on this page. Please see Appendix II for detailed error code.

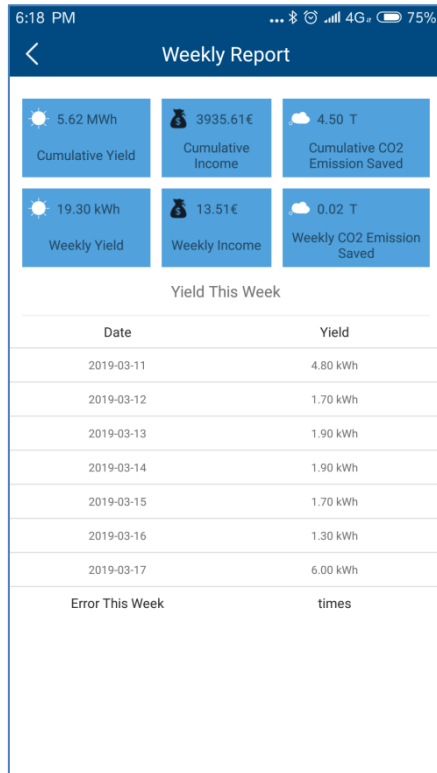
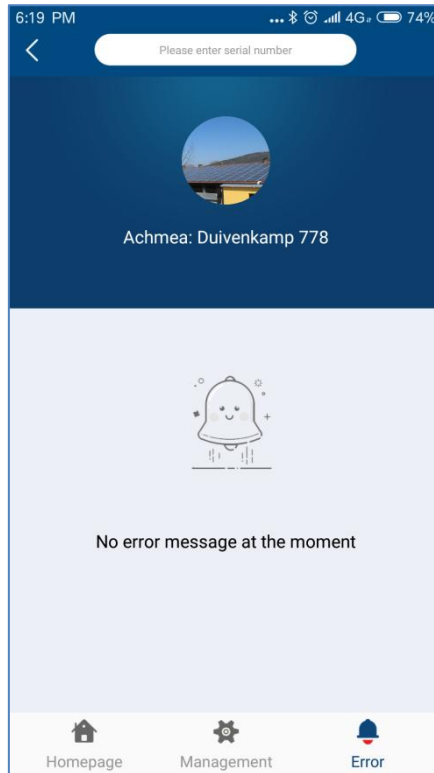


Figure 2-4-2-5 Weekly Report

### 2.4.3 Error

A list of failures of the inverter that occur during the day is provided on this page. We will provide solution guidance for failure information.



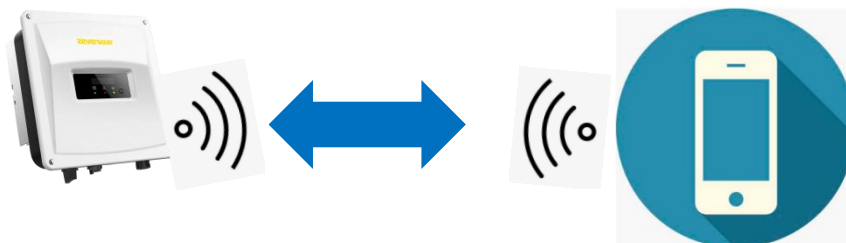
Failure 2-4-3-1 Failure

## 2.5 Point-to-Point

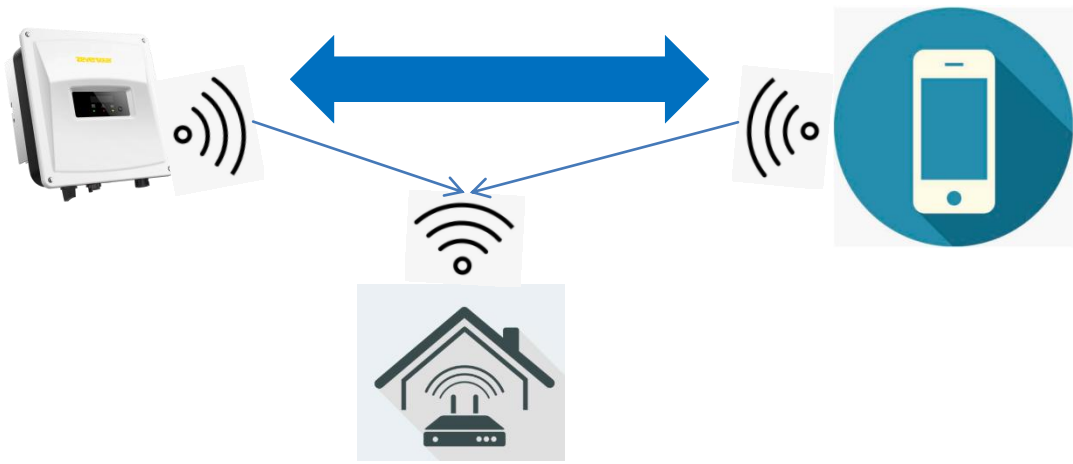
The point-to-point mode is the main service provided by us to set the inverter parameters. For the setting of some inverter parameters, please operate under the guidance of our professionals.

Schematic diagram for use of point-to-point mode network:

Monitor device hotspot mode: The user intelligent terminal is directly connected the inverter WIFI hotspot through WIFI.



Router mode: Both the user intelligent terminal and the inverter WIFI are connected to the home WIFI hotspot, and the intelligent terminal and the inverter communicate with each other in the local area network.



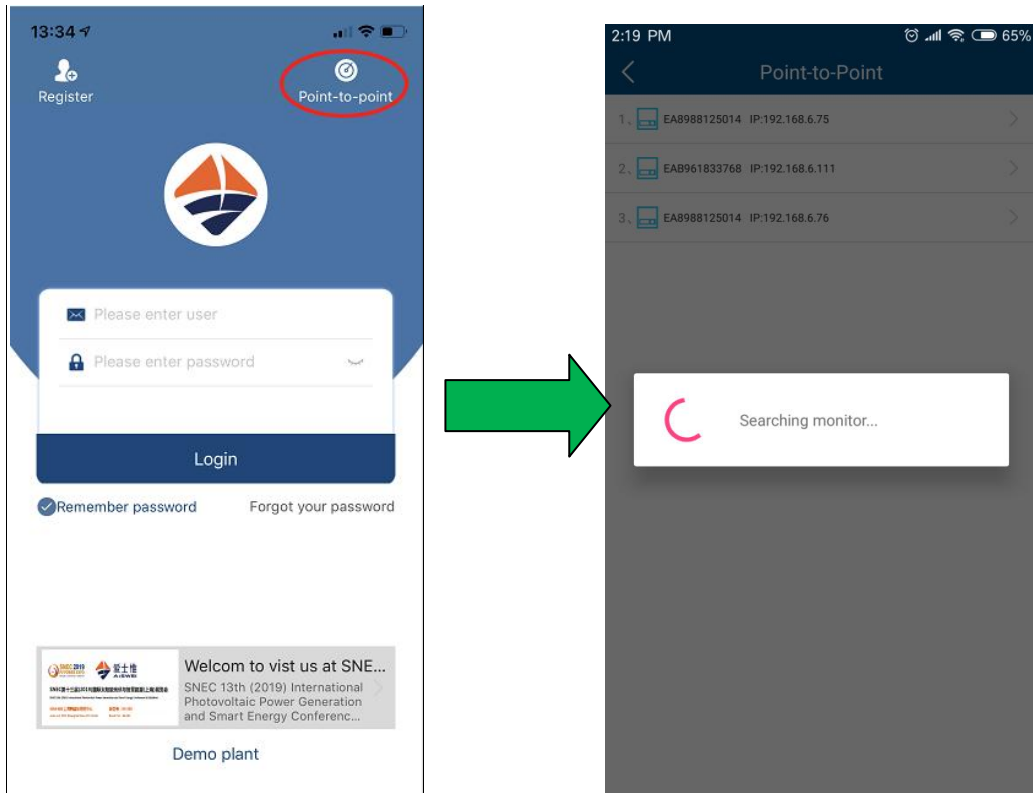


Figure 2-5-1 Homepage Figure 2-5-2 Search Device

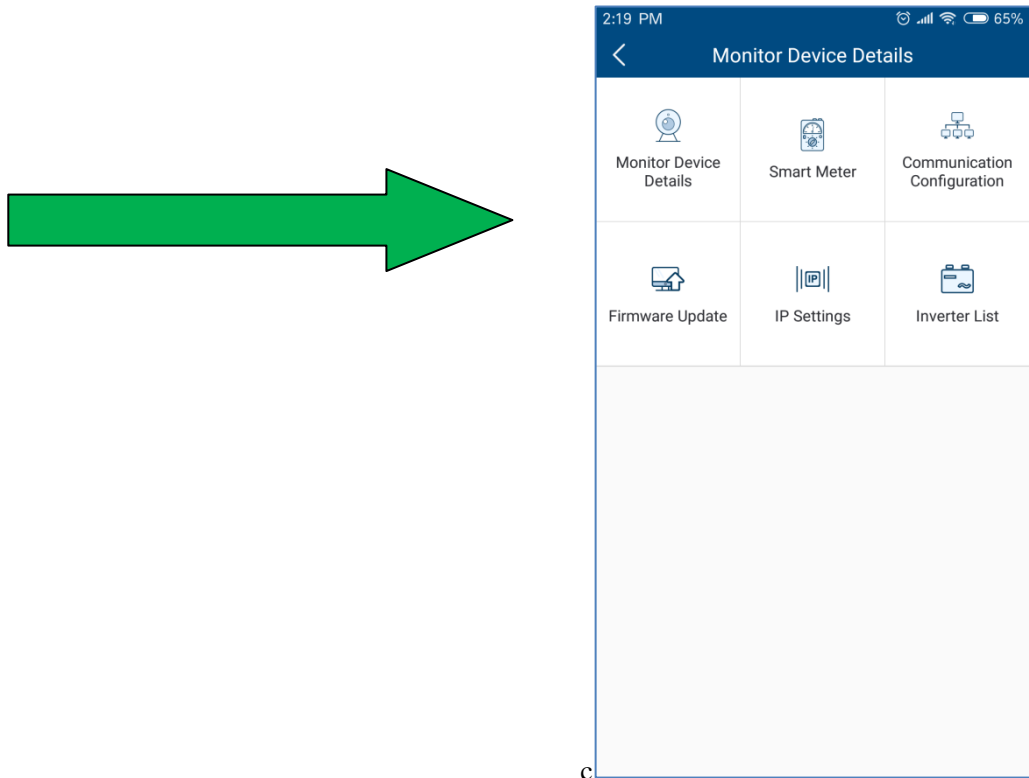


Figure 2-5-3 Point-to-Point Menu Page



Before opening the monitor device control interface, please first ensure that your terminal mobile device has been manually connected to the WiFi of the monitor device.

## 2.5.1 Monitor Device Details

You can view the basic information about the monitor device on this page.

1. Check the status of the connection to the cloud platform: Normal connection to the cloud platform is displayed in blue and marked with “√”; and abnormal connection to the cloud platform is displayed in red and marked with “×”. The network abnormality code is shown in the brackets. The code description is shown in Attachment 2.
2. Click this button to synchronize the time of your phone to the monitor device. If the monitor device can access the cloud platform through the external network, the monitor device will follow the cloud platform synchronization time.

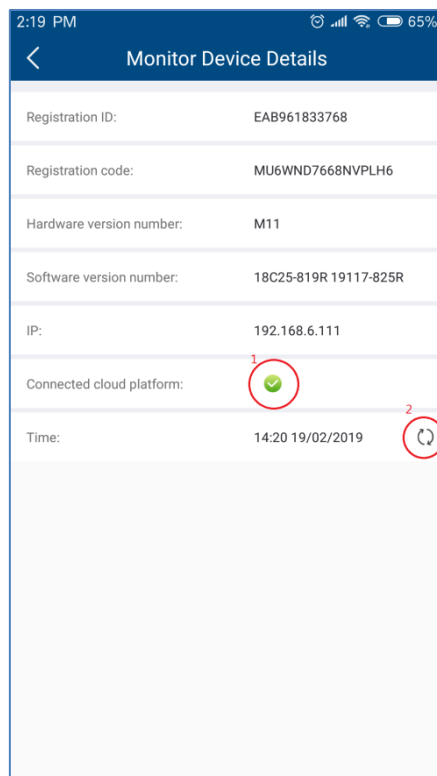


Figure 2-5-4 Monitor Device Details Page

## 2.5.2 Smart Meter

Our monitor device can access to the smart meter protocol for power control output or user power analysis.

1. The monitor device is currently compatible with the following smart meter models of Eastron Electronic Instruments Co., Ltd. (<http://www.eastrongroup.com/>):

Ex9EMS 3P 4M 100A 2T
Ex9EMS 3P 4M 100A MB 2T
Ex9EMS 3P 4M 100A MO 2T
Ex9EMS 3P 4M CT 2T
Ex9EMS 3P 4M CT MB 2T
Ex9EMS 3P 4M CT MO 2T

2. The real-time power of the meter may be positive and negative.
  - a) + power representation
  - b) - power representation
3. Total electricity purchased
4. Total electricity sold

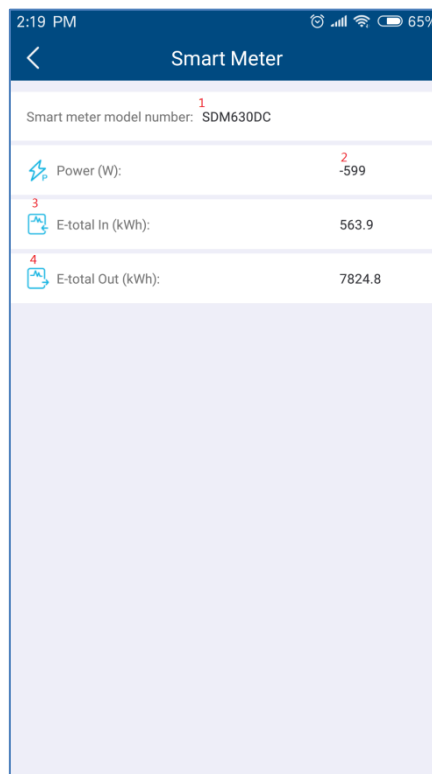


Figure 2-5-5 Smart Meter Page

## 2.5.3 Communication Configuration

Router page: Configure the monitor device to be connected to the router through WIFI.

WIFI hotspot page: Modify the WIFI name of the monitor device, wherein up to 32



characters can be supported.

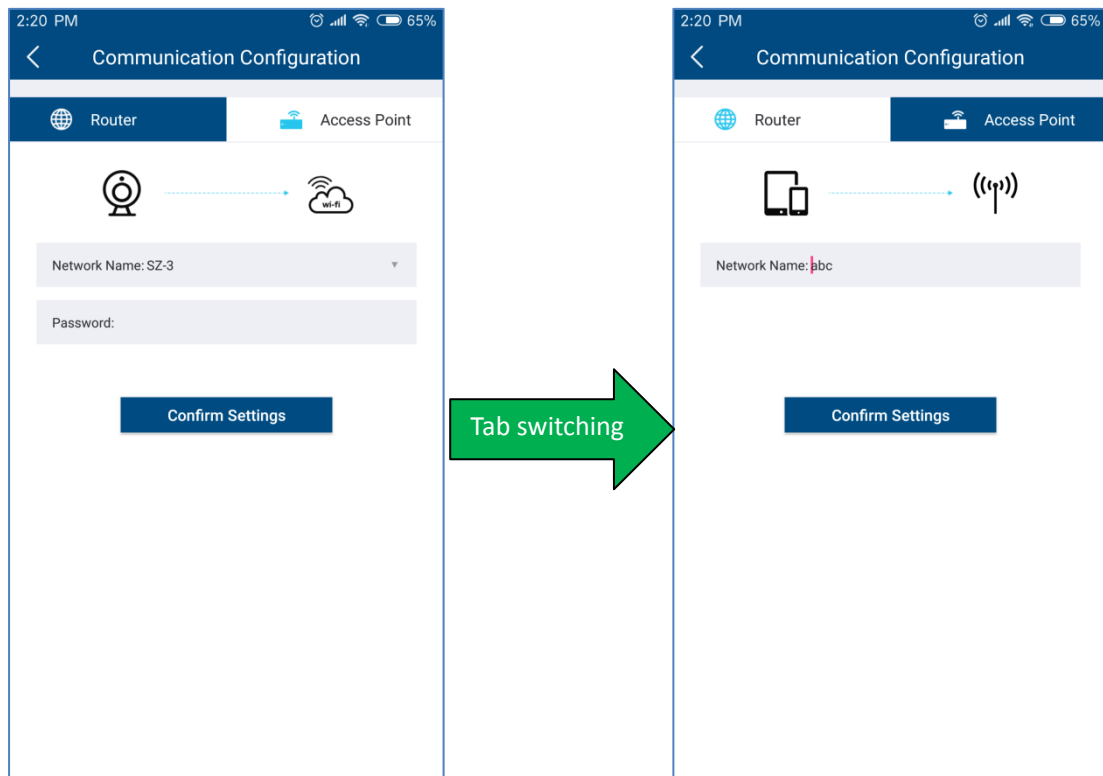


Figure 2-5-6 Communication Page-Router Configuration Page-Modify Hotspot

Figure 2-5-7 Communication

## 2.5.4 Firmware Upgrade

Our devices are generally upgraded remotely by the service personnel under the authorization of the user. In the absence of a network, you may first download the device firmware via the mobile APP to your mobile phone through the mobile phone network (currently only the Android version is available), and then send it to the monitor device for upgrade.

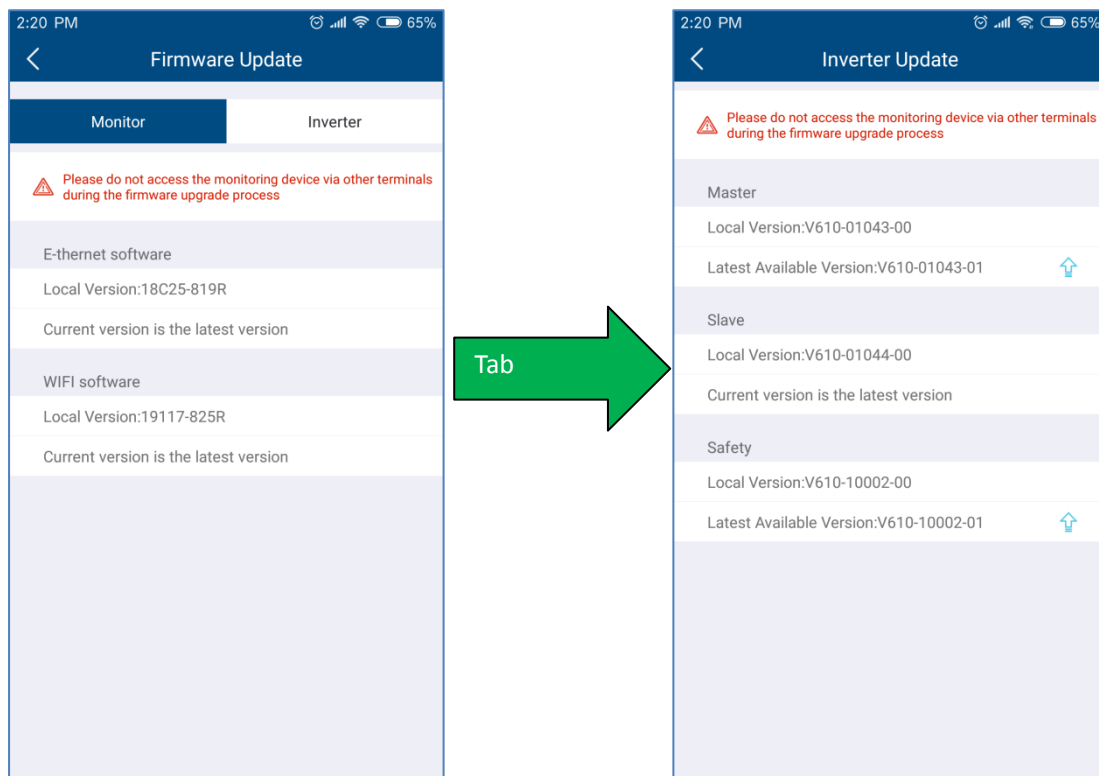


Figure 2-5-8 Firmware Upgrade-Monitor Device Figure 2-5-9 Firmware Upgrade-Inverter

## 2.5.5 IP Settings

LAN page: Ethernet interface network, with the IP automatically obtained by default. You can also cancel the automatic mode and manually assign a static IP.

Wireless LAN page: WIFI interface network, with the IP automatically obtained by default. You can also cancel the automatic mode and manually assign a static IP.

Generally, the home network is dynamically assigned with an IP, and no static settings are required.

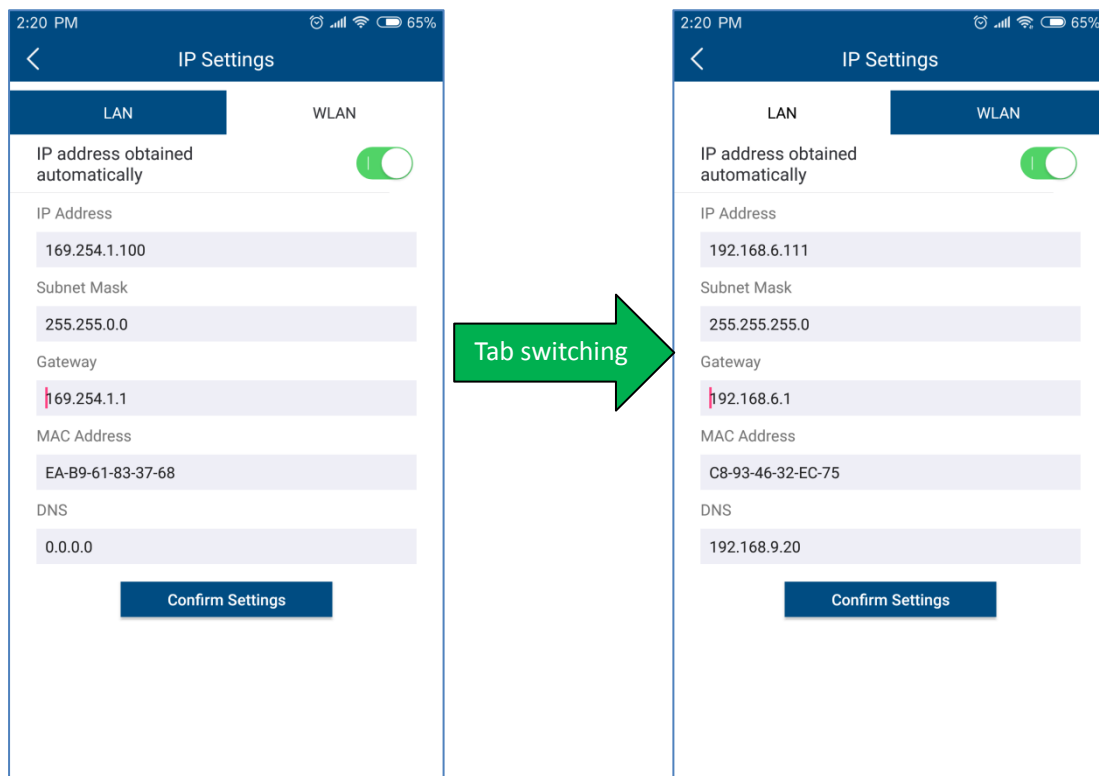


Figure 2-5-10 Network Parameters-Ethernet Network

Figure 2-5-11 Network Parameters-Wireless Network

## 2.5.6 Inverter List

1. The upper right button allows you to jump to the inverter parameter settings.
2. Inverter error code explanation is detailed in Attachment 1.
3. For the setting of some inverter parameters, please operate under the guidance of our professionals.

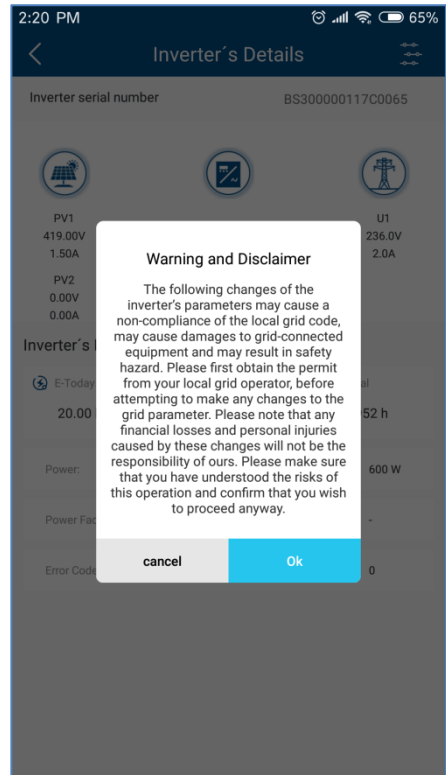
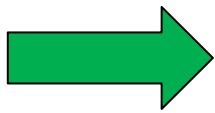
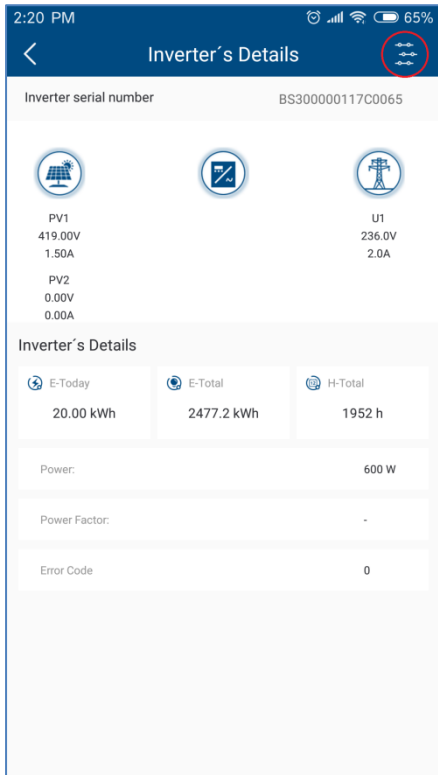


Figure 2-5-12 Inverter Information Figure 2-5-13 Disclaimer

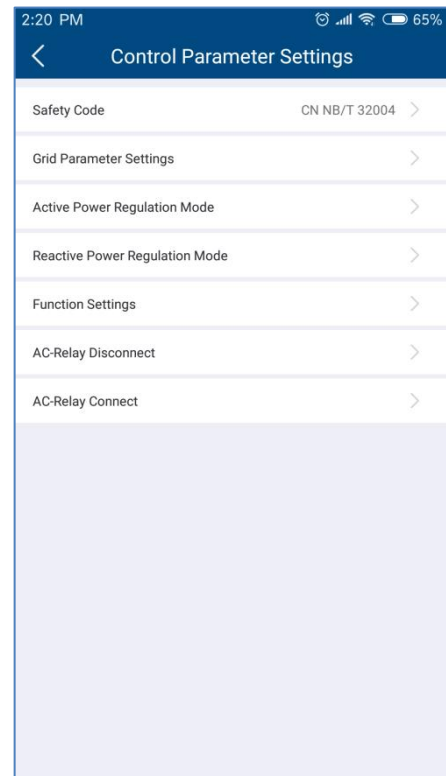


Figure 2-5-14 Parameter Setting

Menu Options



Inverter parameter configuration involves very professional inverter and grid knowledge. If the configuration is wrong, it may damage the inverter or cause abnormality of the power grid. So, please operate under the guidance of professionals.

## 2.6 Personal Settings

In order to better enjoy our services, please fill in the information as complete as you can.

### 2.6.1 Basic Settings

You can refine and modify your detailed basic information on this page, as shown in Figure 2-6-2.

Figure 2-6-2 Basic Settings Page

### 2.6.2 Safety Settings

Mobile verification is required for certain operations on the APP for the power plant. So, if you register an account only by email, we recommend you to bind your mobile phone number.

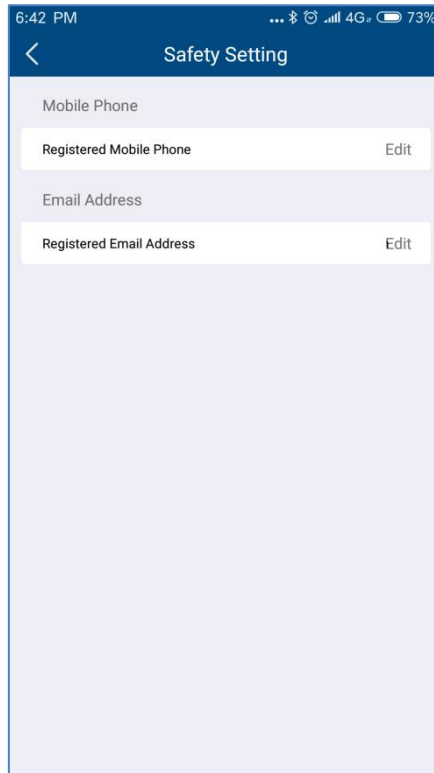



Figure 2-6-3 Safety Settings

### 2.6.3 Contact After-sales

There is after-sales contact information of three countries on this page. If you have any technical problem related to our products, you can call our relevant service department by clicking the “” button on the right.

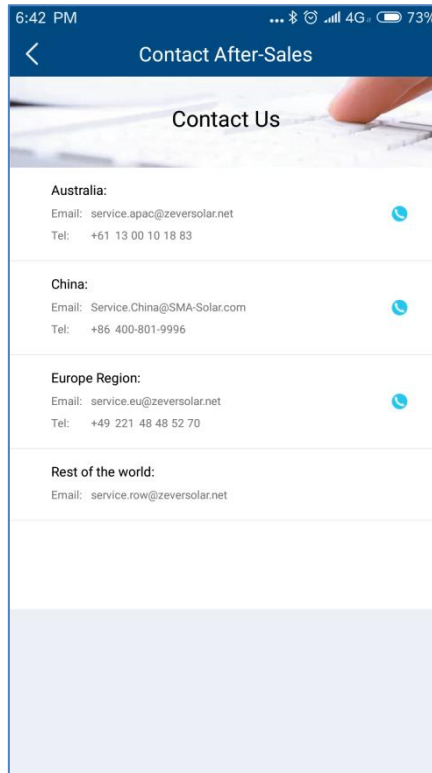



Figure 2-6-4 Contact After-sales Page

## 2.6.4 APP feedback

This page allows you to give user feedback to our APP. You can edit the information you need to feed back in the text box above, click the “” button on the right to upload or take the pictures needed for feedback, and click on the “Submit” button, and then we will receive your feedback.

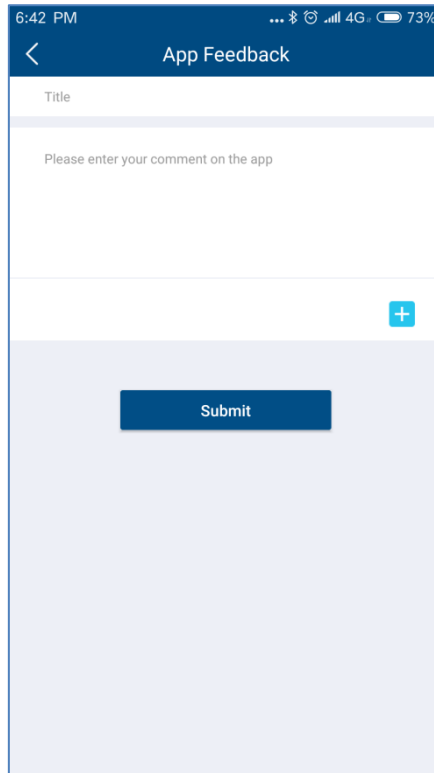


Figure 2-6-5 APP Feedback Page

### 3 Contact us

If you have any technical problem related to our products, please contact AiSWEI Service Department. We need you to provide the following information so that we can provide you with necessary support:

- Monitor device model (ZeverCom/AiCom/ComBox/ZeverManager/AiManager)
- Monitor device serial number
- Error information description
- APP client version number

You can contact our regional service department during business hours:

Australia

Tel: +61 13 00 10 18 83

Email: [service.apac@zeversolar.com](mailto:service.apac@zeversolar.com)

China

Tel: +86 512 69 37 09 98-8866

Email: [service.china@zeversolar.com](mailto:service.china@zeversolar.com)

European region

Tel: +49 221 48 48 52 70



Email: service.eu@zeversolar.net

Other Regions

Email: service.row@zeversolar.com

Attachment I:

Error code	Error description
101	Primary and secondary MCU communication error
102	EEPROM read and write error
103	Relay detection error
104	DC component is too high.
105	Automatic test result error
106	BUS voltage is too high.
107	Reference voltage error
108	Hall element error
109	Leakage protection device error
110	Hardware error
111	The primary and secondary MCU versions are inconsistent.
112	Reserved
132	Reserved
133	Frequency is out of the range
134	Mains voltage is out of the range.
135	Power grid is lost.
136	Leakage protection device error
137	PV input overvoltage
138	Insulation resistance error
139	Fan error
140	Inverter over-temperature
141	Mains voltage detection consistency error between the primary and secondary MCUs
142	Frequency detection consistency error between the primary and secondary MCUs
143	Residual current detection consistency error between the primary and secondary MCUs
144	DC component detection consistency error between the primary and secondary MCUs
145	Frequency and mains voltage detection consistency error between the primary and secondary MCUs
146	BUS voltage is too high.
147	Consistency error
148	10min mains voltage over-voltage protection
149	PV1 SPD module is damaged.

150	PV2 SPD module is damaged
151	Fuse damage
152	N line is not connected.
153	ISO detection: ISO voltage is >300mV before constant current source is enabled.
154	ISO detection: ISO voltage is >1.37v+20%, and ISO voltage is <1.37-20% when constant current source is enabled.
155	When the relays N and P are switched, the ISO voltage is changed, namely <40mV.
156	GFCI protection: 30mA level
157	GFCI protection: 60mA level
158	GFCI protection: 150mA level
159	PV1 string current is abnormal.
160	PV2 string current is abnormal.
161	New Australian regulations: DRMS communication function is abnormal (S9 is open).
162	New Australian regulations: DRMS communication is disconnected (S0 is closed).

## Attachment II

Cloud communication status code:

Failure code	Description
0	Log in to the server successfully
-1	Ready to be connected to the server
-2	Router SSID does not exist.
-3	Router password error
-4	Unknown error of router connection
-5	DNS resolution error
-6	Not connected to the network
-7	TCP connection failed
-8	Timeout when getting device information
-9	Error 400 when getting the device information
-10	Return of an unknown error when getting the device information
-10	Timeout when getting Alibaba cloud login address
-11	Error 404 when getting Alibaba cloud login address
-12	MQTT subscription timeout

-13	MQTT subscription error 404
-14	Timeout when getting time from the server
-15	Error 404 when getting time from the server