

# Smart Photovoltaic App

## User Manual

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# 1、 Download and Install the App

Please use your browser to scan the QR code below to download and install the Smart Photovoltaic App.



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## Note

- 1、 Mobile operating system requirements: Android 9.0, iOS 13.0, or higher versions.
  - 2、 The phone must support an internet connection.
  - 3、 The phone must support WLAN functionality.
  - 4、 The router should support the 2.4GHz wireless frequency band and provide WLAN signal coverage to the device's location.
  - 5、 It is recommended to use WPA, WPA2, or WPA/WPA2 encryption methods on the router. Enterprise encryption methods (such as public hotspots requiring authentication) are not supported.
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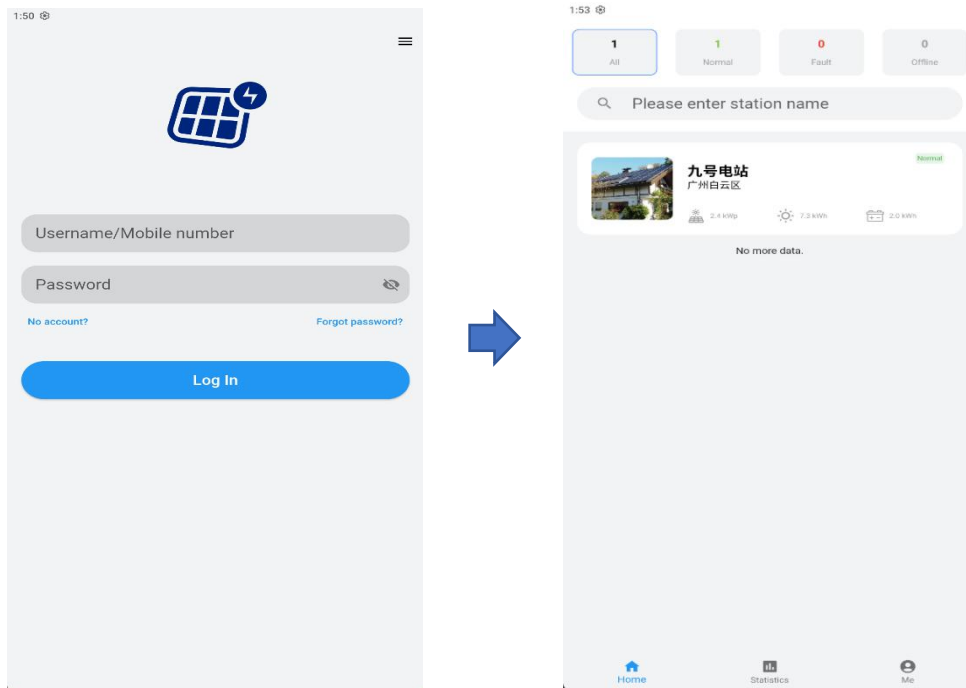
## 2、 Login and Logout

### 2.1 Login App

Once the app is installed on your phone, you can access it by logging in.

#### Operation Steps

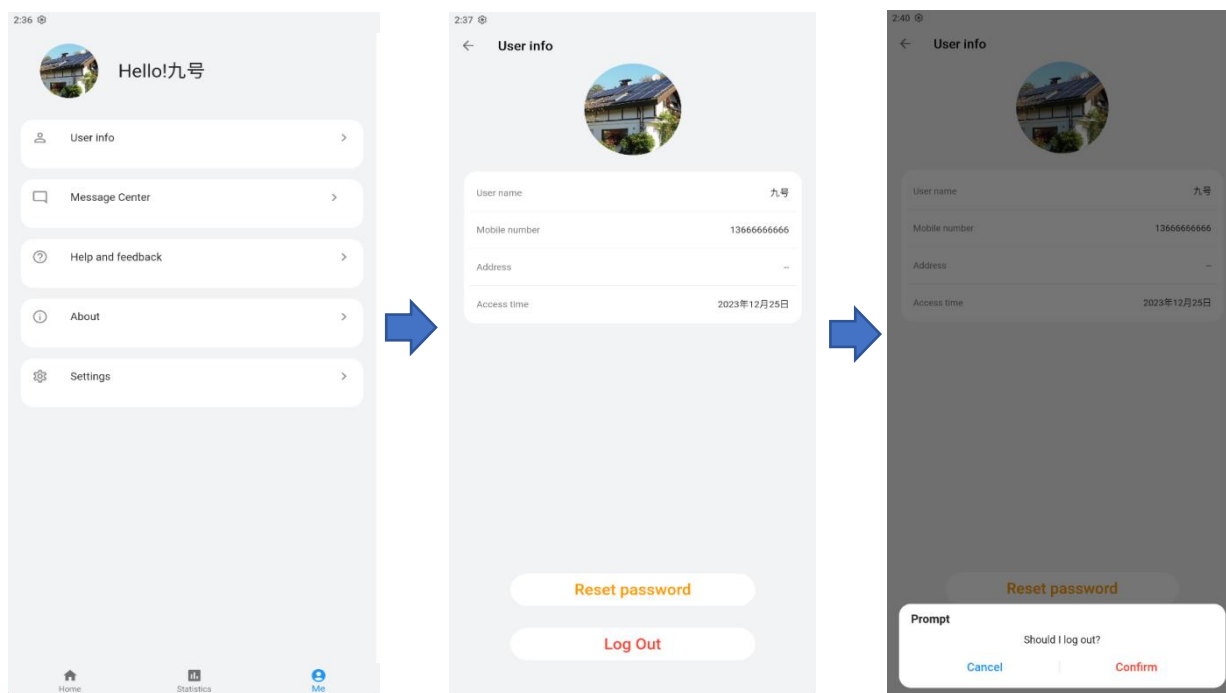
- 1、 On the mobile client home screen, tap the app icon to enter the login page.
- 2、 On the app login page, enter your username and password, then tap “Log in” .



## 2.2 Logout App

### Operation Steps

- 1、On the home page, tap the “Me” tab at the bottom of the navigation bar.
- 2、On the “Me” page, tap “User Info” -> “Log out” -> “Confirm”.



### 3、 I’m an Installer

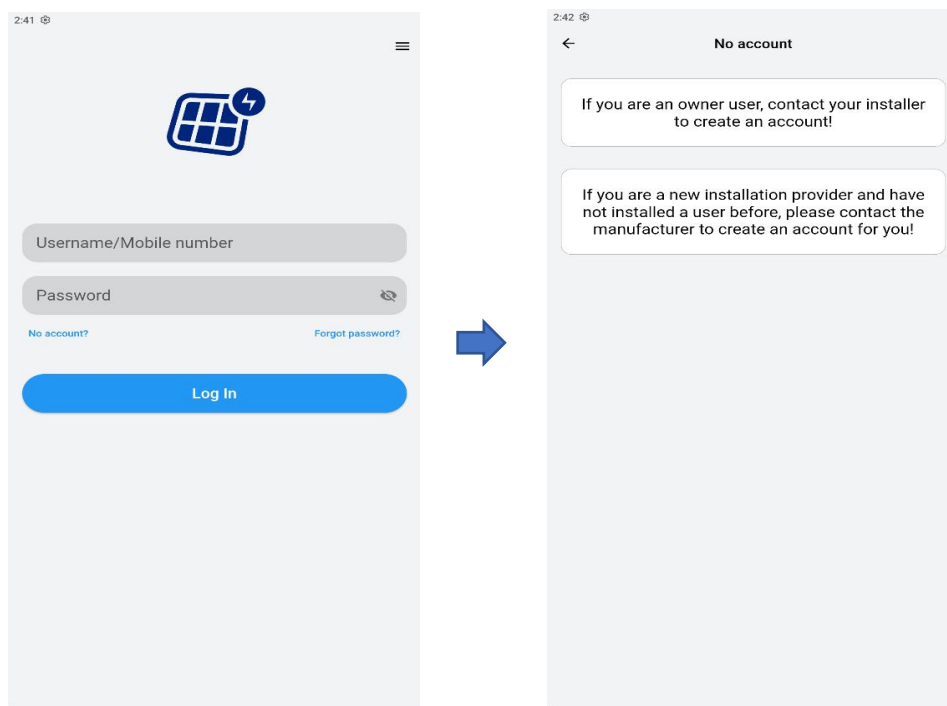
During the installation and debugging of the power station equipment, the installer needs to use an account to log into the app for site setup operations.

#### 3.1 Administrator Account Registration

The administrator account for the installation service provider can perform daily operations and maintenance management for all the power stations of the provider and create operator accounts for the provider.

##### Operation Steps

- 1、 On the login page of the Smart PV App, tap on “No account?” at the bottom.
- 2、 On the “No account?” page, follow the on-screen instructions to contact the relevant personnel to create an administrator account.

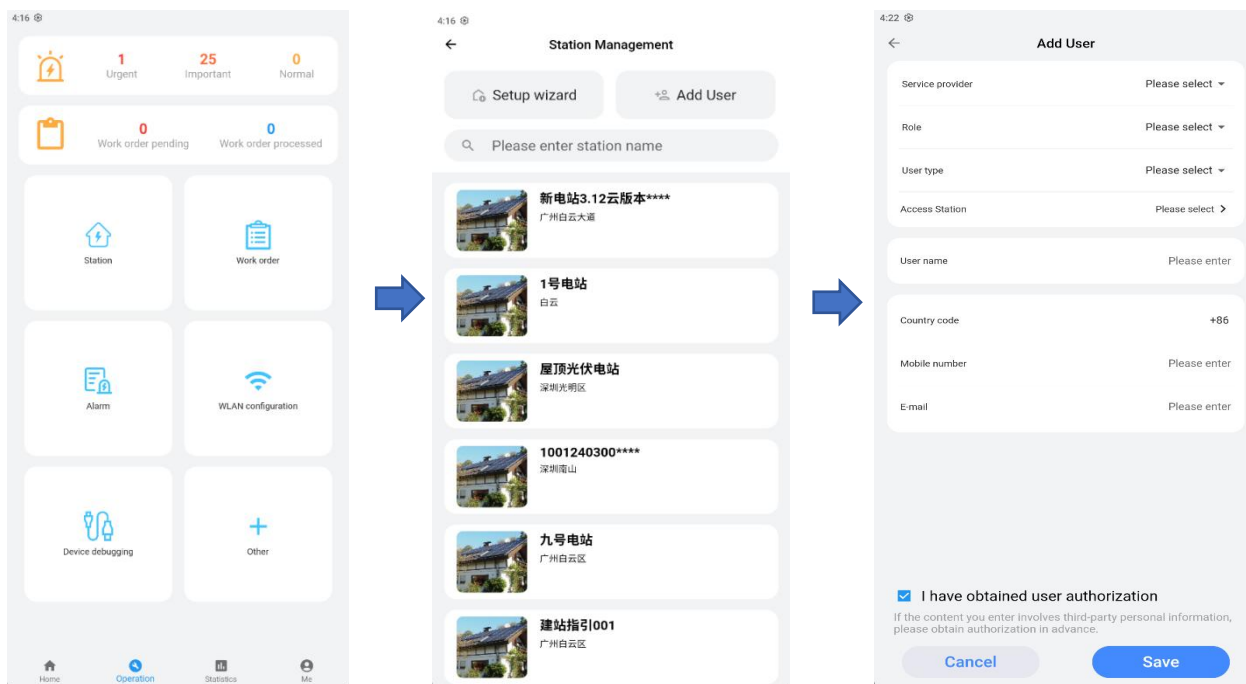


#### 3.2 Operator Account Registration

The operator accounts for the installation service provider need to be created by the administrator account of the respective installation service provider. Operator accounts can only perform operations and maintenance management for the power stations they have created. Additionally, operator accounts can create accounts for end users, but they do not have the permissions to create accounts of the same level as the installation service provider's administrator accounts.

### Operation Steps

- 1、After logging into the app with the installation service provider account, go to the “Operation” page from the bottom of the homepage’s hierarchical navigation menu.
- 2、Click “Station -> Add User” to enter the new user creation page, and then follow the on-screen instructions to complete the account registration.



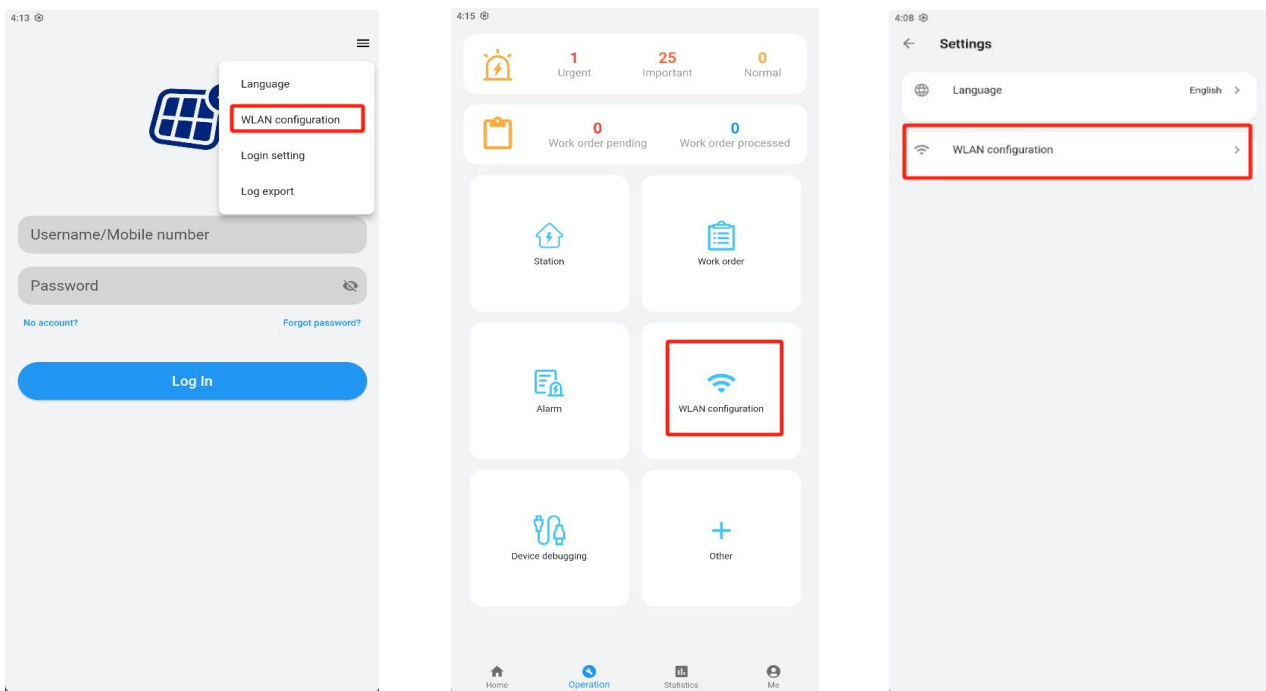
### 3.3 Device Debugging (Important)

Field installation personnel can use the app to adjust and configure devices, such as setting the network configuration for the DTU. This function can be operated regardless of whether the app is currently logged in.

#### Network Configuration Entry

### Operation Steps

- 1、After installing the app, tap the menu icon at the top right corner of the login screen, then select “WLAN Configuration” to enter the “Connection Device” interface. Alternatively, after logging into the app, service provider users can go to “Operation -> WLAN Configuration” to access the Device Connection interface, while owner users can go to “Me -> Settings -> WLAN Configuration” to access the same interface.

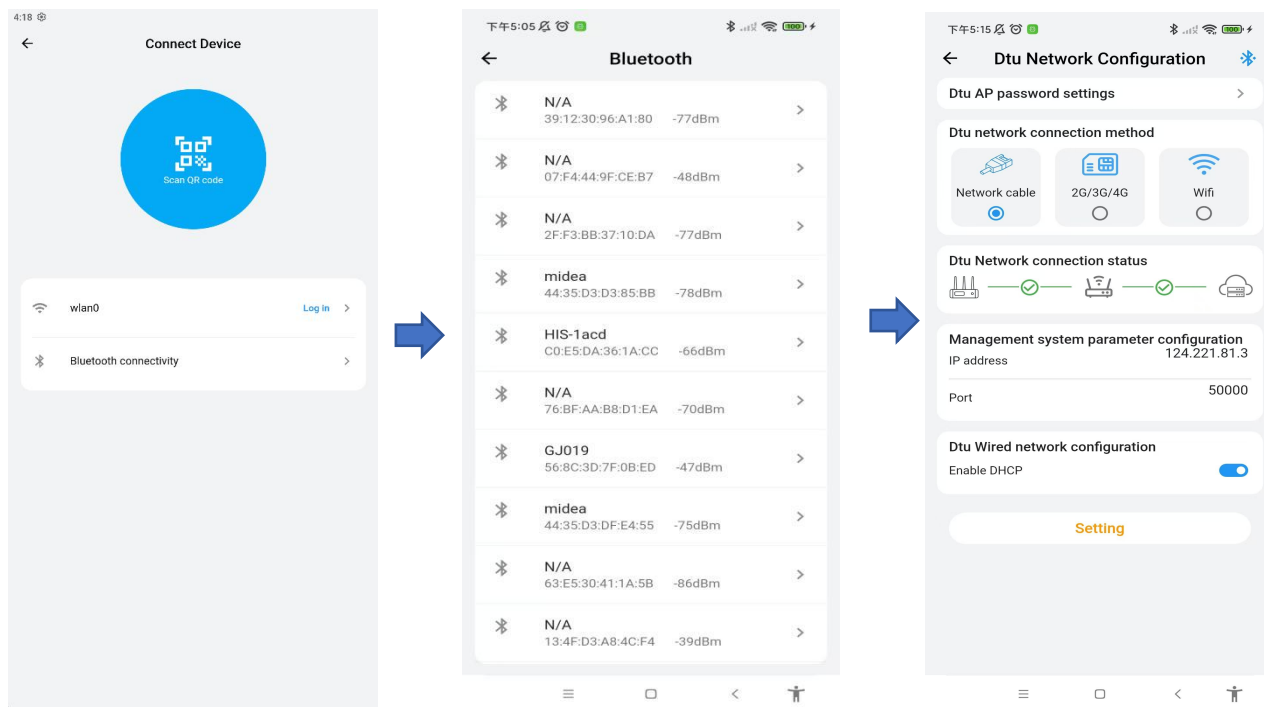


The app and DTU device support multiple connection methods, including Bluetooth and Wi-Fi. When using Bluetooth to communicate with the DTU, ensure that Bluetooth is enabled on your phone and that the app has Bluetooth permissions. Similarly, for Wi-Fi communication, Wi-Fi must be turned on and the app must have Wi-Fi permissions. Otherwise, communication with the DTU device will not be established.

### Connect to the DTU via Bluetooth

#### Operation Steps

- 1、After enabling Bluetooth on your phone, go to the “Connection Device” screen in the app and tap “Bluetooth Connectivity” to access the Bluetooth list. Select the Bluetooth of the corresponding device to establish a connection with the DTU. Once connected, you can enter the device network configuration interface.

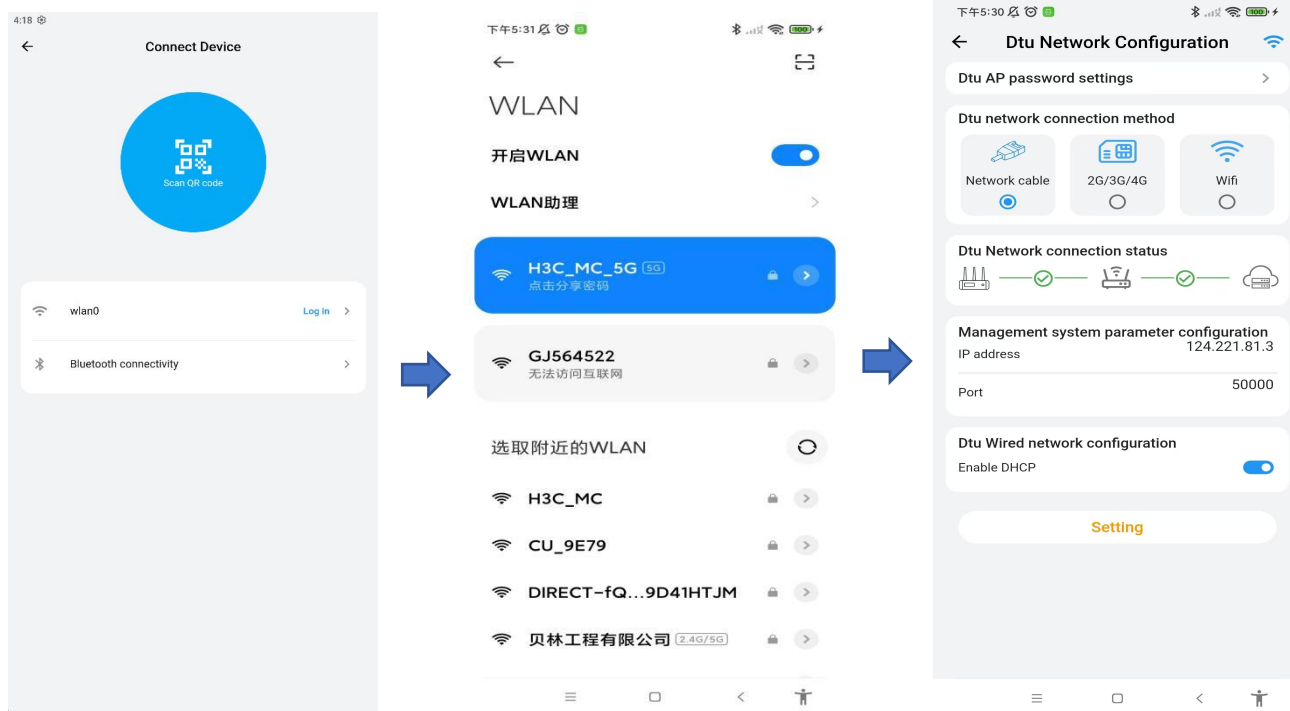


## Connect to the DTU via AP Wi-Fi

### Operation Steps

1、After enabling Wi-Fi on your phone, go to the “Connection Device” screen in the app and tap “WiFi Connectivity” to access the Wi-Fi selection interface. Choose the appropriate Wi-Fi network and tap “Login” to connect to the DTU device. Once connected, you can enter the device network configuration interface.

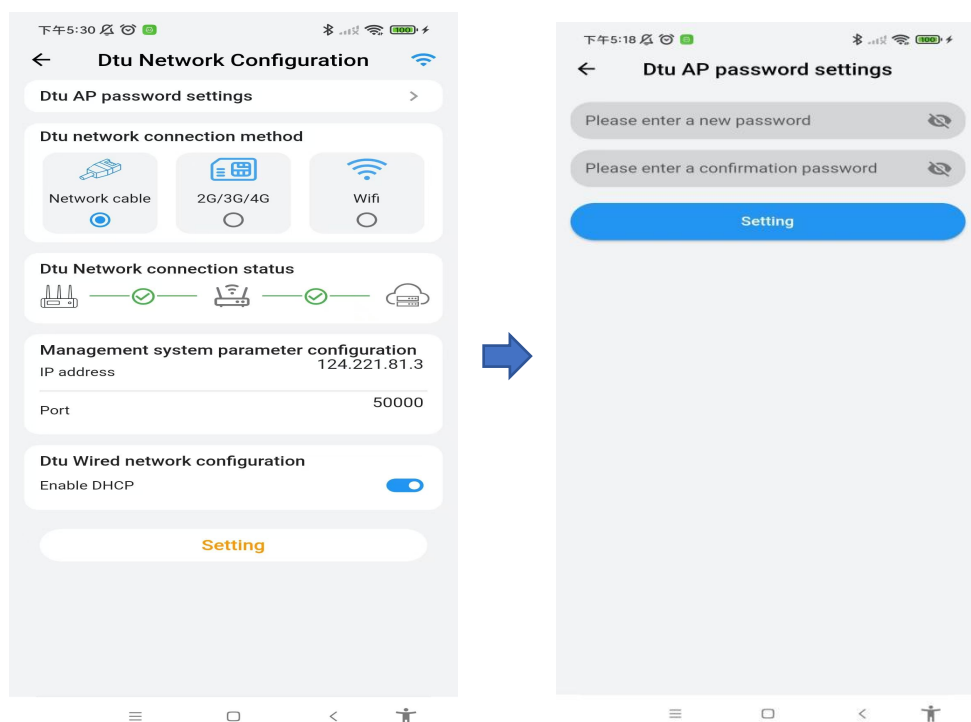
2、Tap “Scan QR Code” to open the camera and scan the barcode on the DTU device. The system will use the information to connect to the corresponding Wi-Fi network and establish a connection with the DTU device.



## Change the Dtu AP password

### Operation Steps

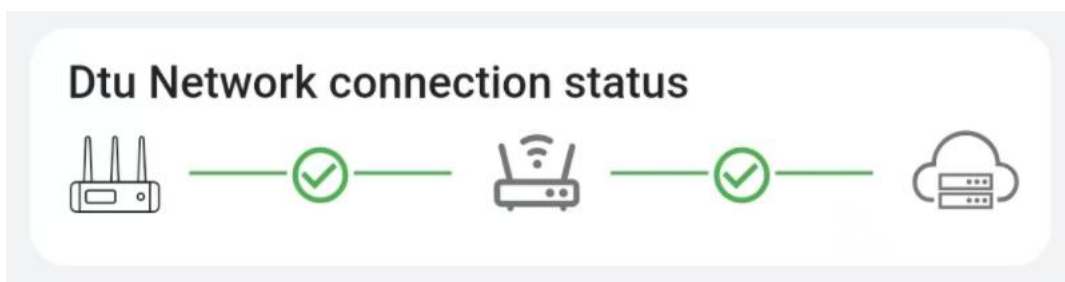
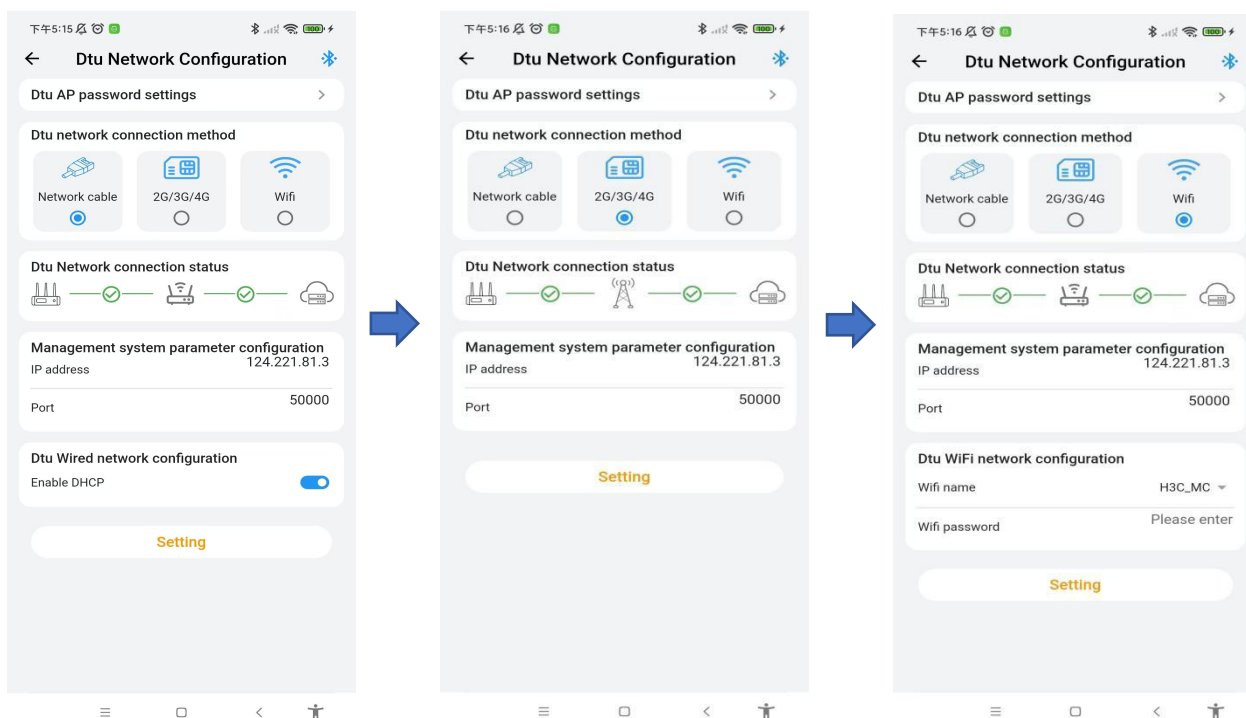
- 1、After entering the device network configuration interface, tap “DTU AP Password Settings” to change the AP connection password of the device.



Modify the server address and the connection method between the DTU device and the server.

### Operation Steps

- 1、 Tap “DTU Network Connection Method” to change the connection method between the device and the server.
- 2、 Select “Network cable” to configure whether to “Enable DHCP” for automatic IP address assignment or manually set the “IP Address”, “Subnet Mask”, and other information under “DTU Wired Network Configuration” .
- 3、 Select “Wifi” to configure the device’s Wi-Fi connection details, including the Wi-Fi network name and password, under “DTU WiFi Network Configuration” .
- 4、 Select “2G/3G/4G” .
- 5、 “Management System Parameters Configuration” allows you to modify the server address. After completing the configuration edits, click “Setting” to send the configuration commands to the DTU device.
- 6、 After sending the configuration information to the DTU, “DTU Network Connection Status” will display the network connection status between the DTU device, the router (base station), and the server. The first section shows the connection status between the DTU device and the router or base station, indicating whether the device is connected to Wi-Fi or has internet access. The second section shows the connection status between the router or base station and the server.



### 3.4 Creating a Station

Service provider users can use the Smart PV App to create a photovoltaic station through a guided setup process. This includes entering the basic information of the station as prompted by the interface, connecting the relevant devices, and designing the physical layout of the station based on the photovoltaic panel layout design.

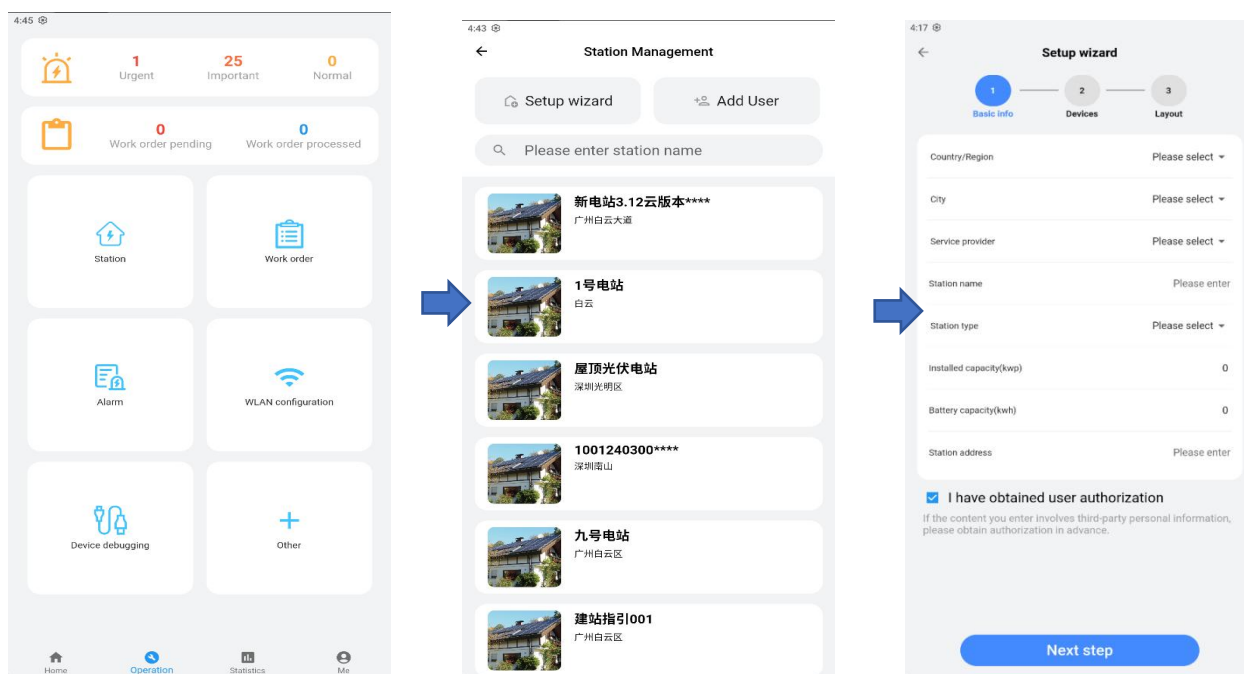
#### Operation Steps

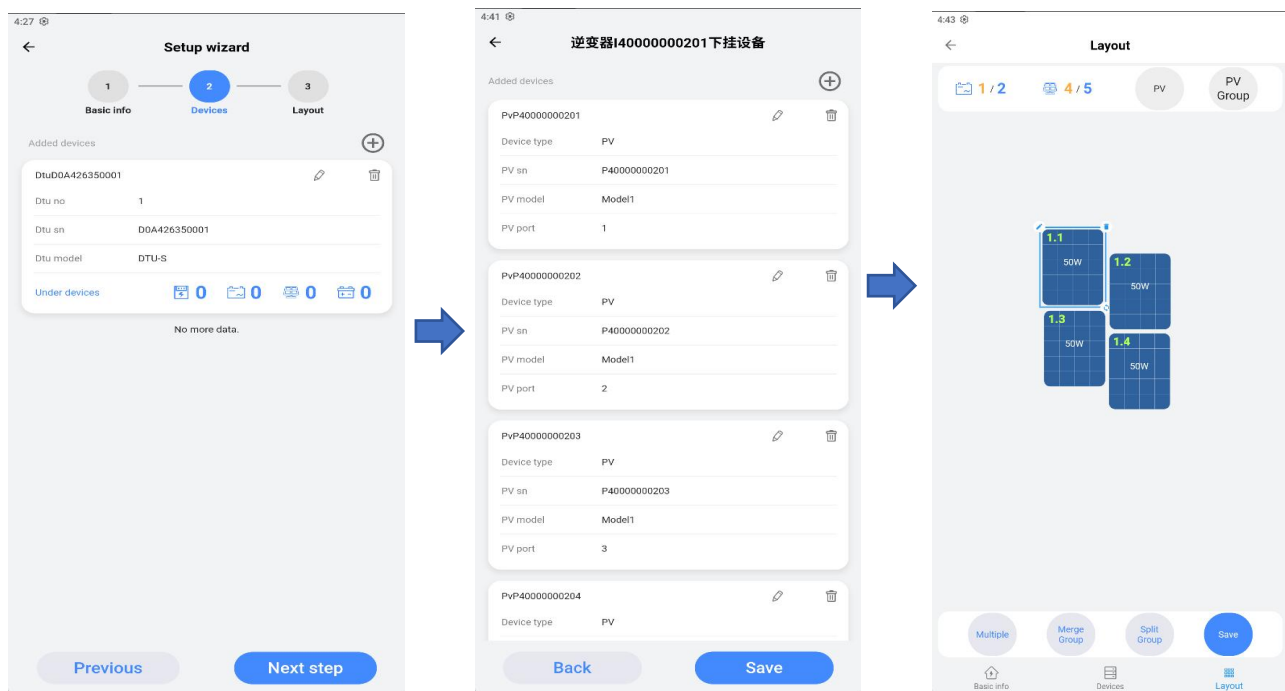
- 1、After logging into the app with an installation service provider account, go to the "Operation" page from the bottom of the homepage navigation bar.
- 2、Tap on "Station -> Setup Wizard" to enter the station creation page. You will first see the station basic information maintenance interface.
- 3、After entering the basic information of the station, click "Next" to proceed to the station device information maintenance interface.
- 4、Tap the "circular plus icon" to use the camera to scan the barcode on the DTU

device and add it. Tap the "edit icon" to modify device information, the "delete icon" to remove the current device and its subordinate devices, and the "subordinate devices" option to access the interface for adding DTU subordinate devices.

5、 Tap the "circular plus icon" to use the camera to scan the barcodes of inverters, storage units, meters, etc., to add the corresponding types of devices. Tap the "edit icon" to modify device information, and the "delete icon" to remove the current device. Tap "Back" to cancel the current modifications and return to the previous screen, and tap "Save" to save the modified device information and return to the previous screen.

6、 Once the station devices are maintained, click "Next" to navigate to the station view design interface. In this interface, you can maintain the physical locations of the photovoltaic panels based on the station's layout design. After designing, click "Save" to save the actual physical location information of the photovoltaic panels.



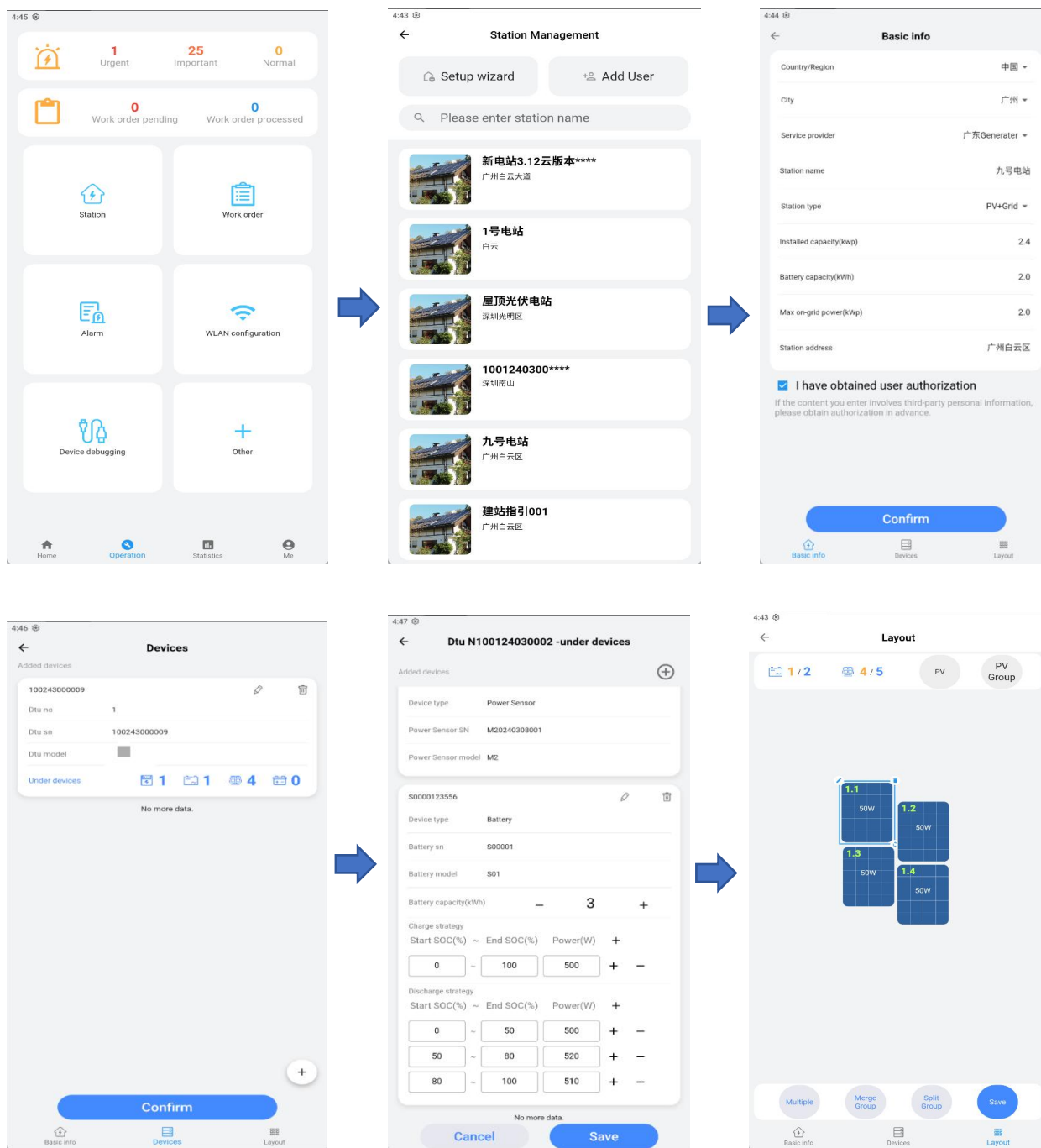


### 3.5 Update Station

When there are changes to the basic information or equipment of an existing station, this function allows for station modifications. The owner must contact the service provider to make adjustments to the station, as the owner cannot perform these operations themselves.

#### Operation Steps

- 1、After logging into the app with the installation service provider account, go to the "Operation" page at the bottom of the homepage navigation bar.
- 2、Tap on "Station" to enter the interface, then select the station you need to modify to access the station modification interface.
- 3、Tap "Basic Info" at the bottom navigation bar to modify the station's basic information.
- 4、Tap "Devices" to change the station's device information, including adding, deleting, or replacing devices.
- 5、Tap "Layout" to design the physical layout of the photovoltaic panels at the station.



### 3.6 Operations Management

Service provider users can use this feature to view the operational status, location distribution, and alarm information of all the stations managed by their account. It enables quick tracking and handling of station faults.

#### Operation Steps

- 1、After logging into the app with the installation service provider account, go to the "Operation" page at the bottom of the homepage navigation bar.
- 2、Tap "Operation-> Station" to enter the station management interface, where you

can create stations, create users, and maintain station information, among other functions. See "Creating a Station" for details.

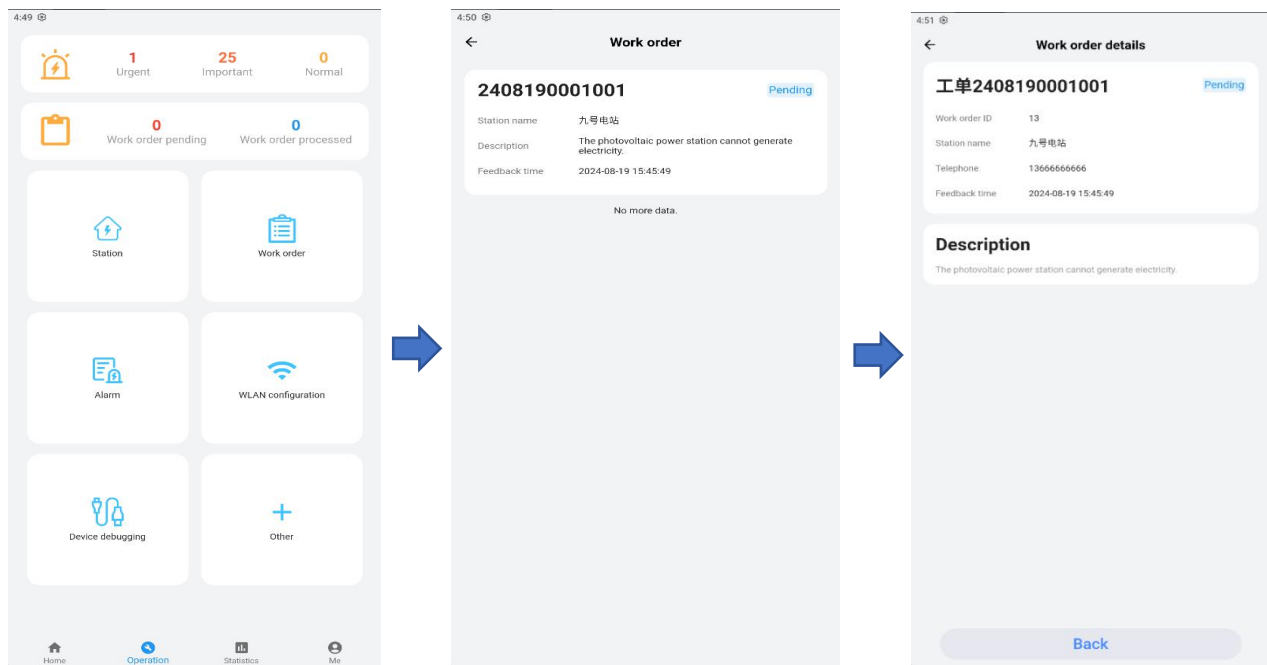
3、 Tap "Operation -> Work Order" to view and handle work orders submitted by owners, ensuring the stable operation of their stations.

4、 Tap "Operation -> Alarm" to get real-time updates on current alarms, allowing you to stay informed about the latest alarm status. You can follow the solutions suggested in the alarm details to guide fault resolution.

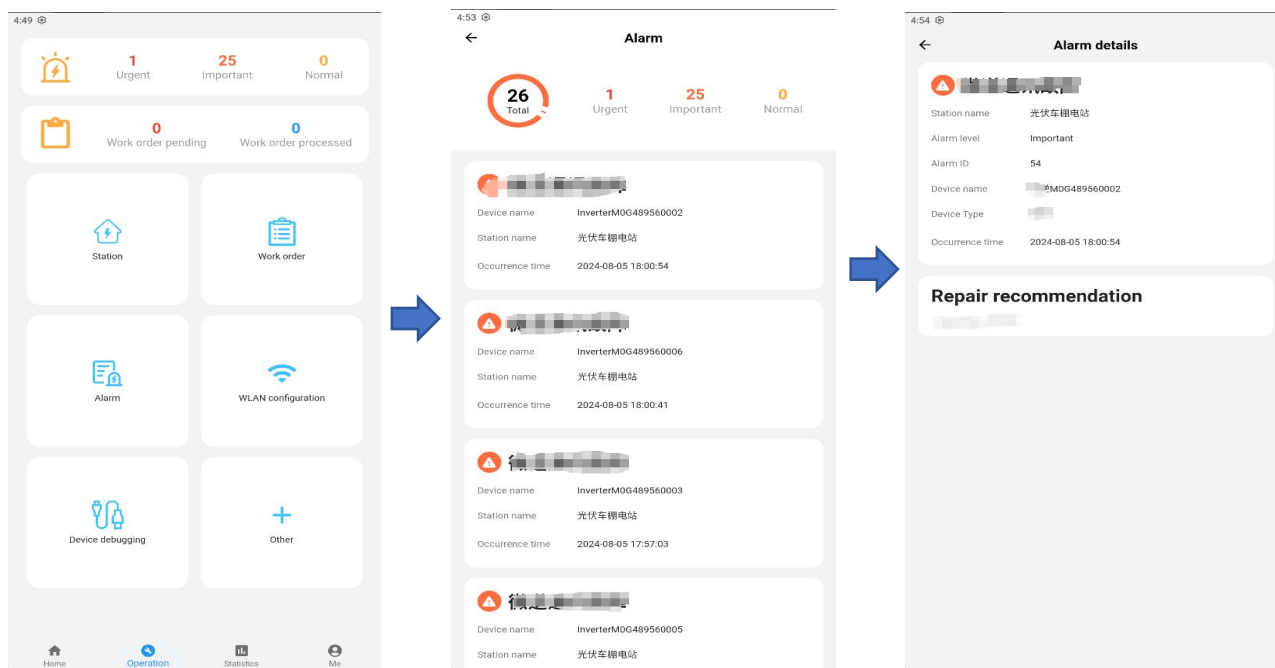
5、 Tap "Operation -> WLAN Configuration" to configure the network settings for DTU devices. See "Device Debugging" for details.

6、 Tap "Operation-> Device Debugging" to send commands to devices and read real-time data from them. See "Device Debugging" for details.

### Work Order



## Alarm

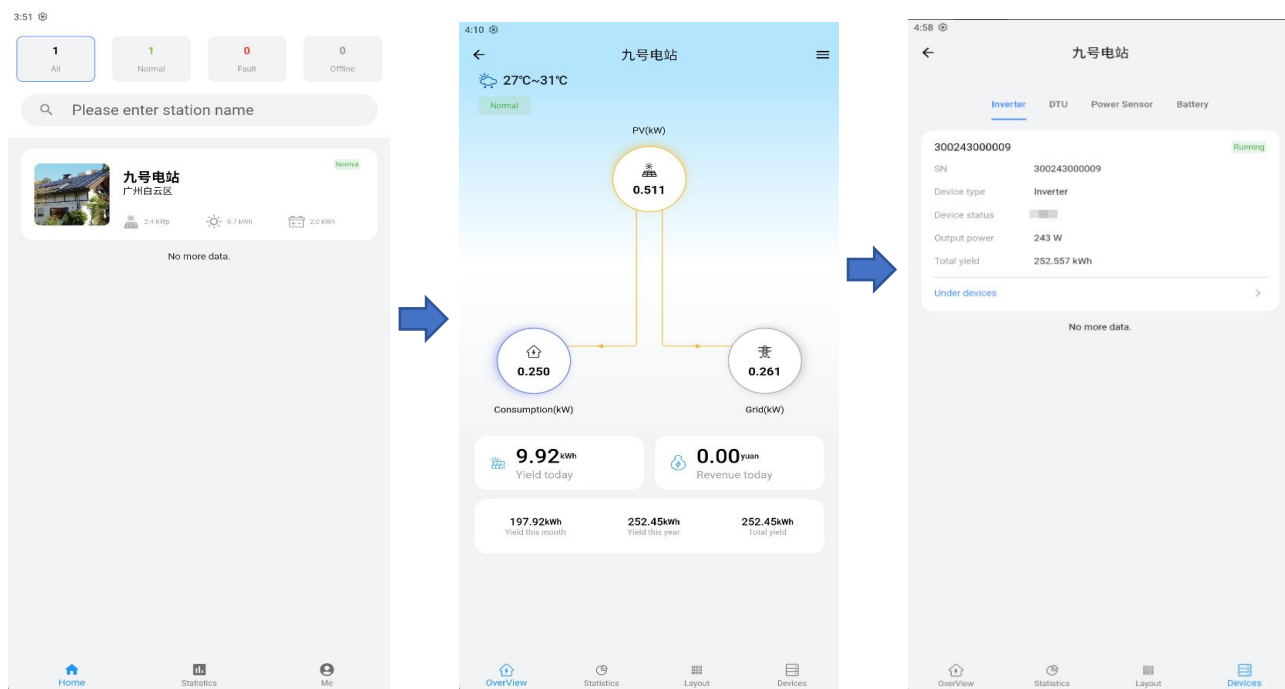


### 3.7 Station Monitoring

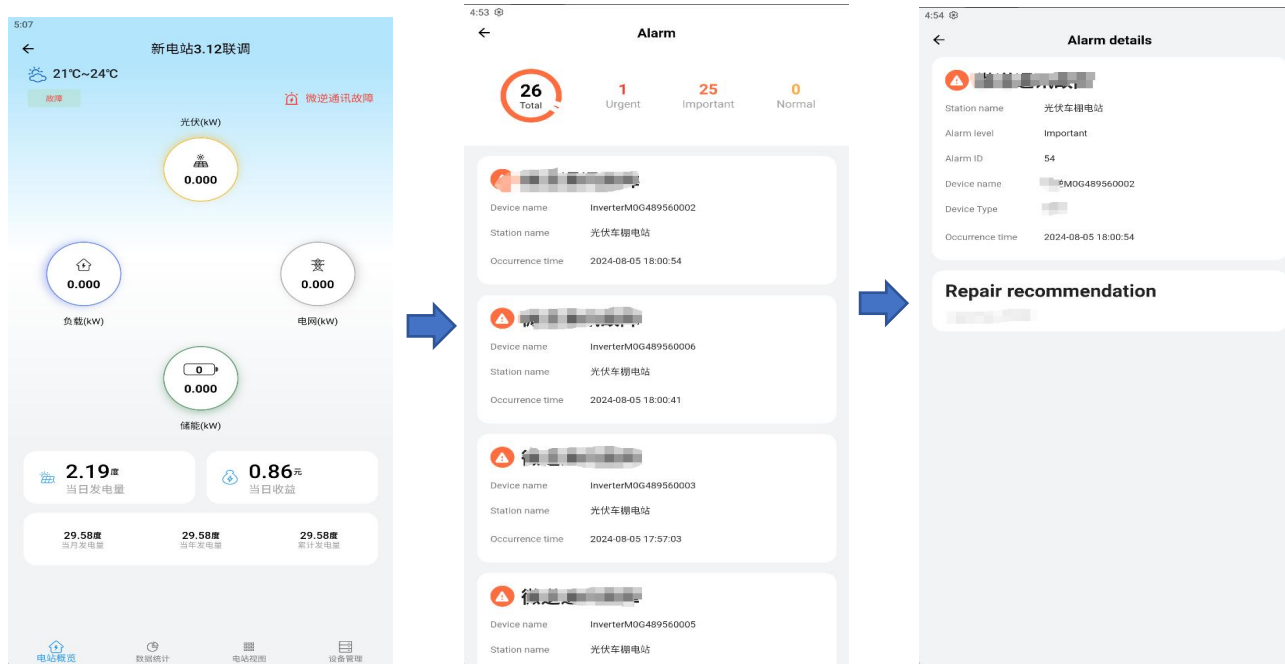
The app provides an overview of the station, allowing real-time monitoring of its operational status, alarms, energy production and consumption, revenue, and energy flow diagrams. This helps maintenance personnel stay informed about the station's current dynamics and improves operational efficiency.

#### Operation Steps

- 1、After logging into the app, you can view the real-time status and basic information of the station on the “Home” tab.
- 2、On the “Home” tab, tap the station you want to view to access the station overview. This overview includes the station’s operational status, energy production and consumption, revenue, energy flow diagram, and weather information for the station’s city. You can pull down to refresh the data on the screen in real-time.
- 3、Tap “Devices” to check the operational status of the station’s equipment, real-time information, and historical cumulative data.
- 4、After logging into the app, tap “Operation -> Alarms” to view the current real-time alarm information for all stations managed by the account, or on the “Overview” screen, you can tap the current alarm at the top of the energy flow diagram to enter the alarm interface.



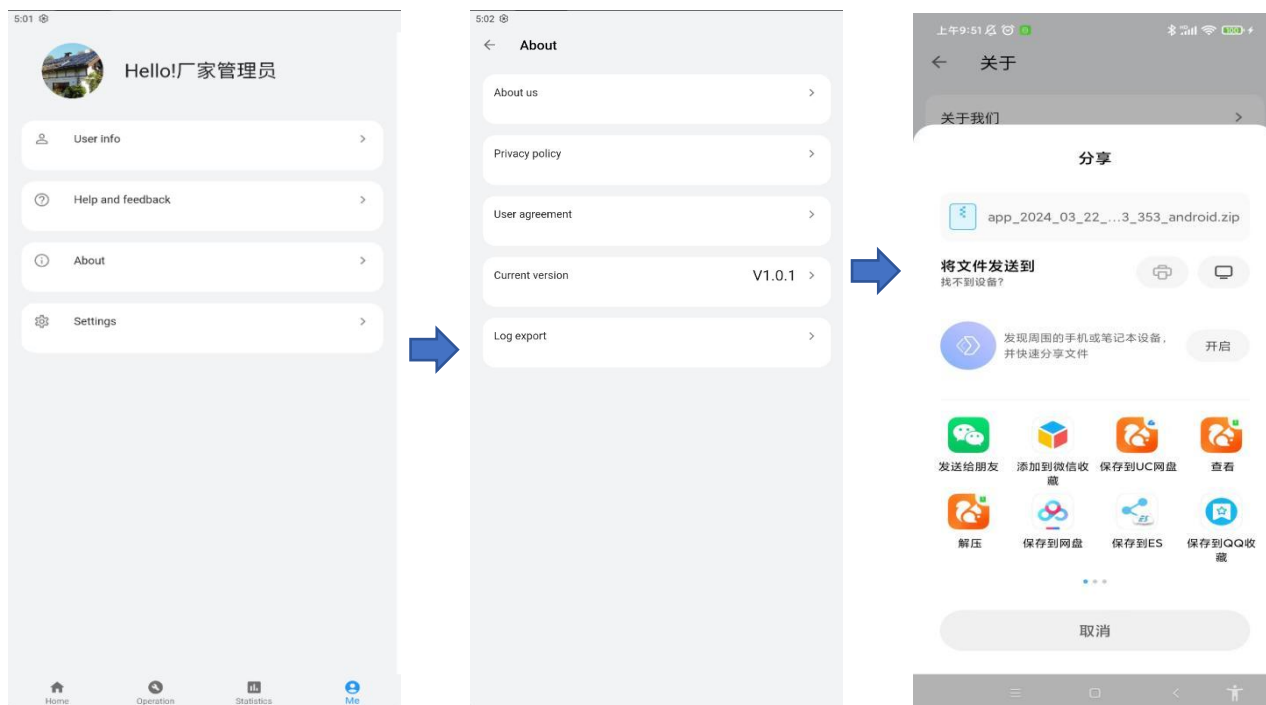
### Alarm



### 3.8 Log Management

The app provides a feature for recording system operation logs, enabling technicians to better understand the app's operational status, quickly identify issues, and troubleshoot problems. This enhances the app's stability and security.

- 1、After logging into the app, tap “Me -> About” on the main interface.
- 2、Tap “Log export” to send the logs to the technical engineer via WeChat, Bluetooth, email, or other methods.



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## 4、 I'm an Owner

### 4.1 Account Registration

If you do not yet have an account for the Smart PV App, please contact your installation service provider to create one for you. Once the account is successfully created, the system will send a notification to the phone number provided during registration. You can then use the received account information or phone number and password to access the Smart PV Management System. Through the Smart PV App, you can perform real-time remote monitoring of all your solar power stations.

### 4.2 Password Reset and Change

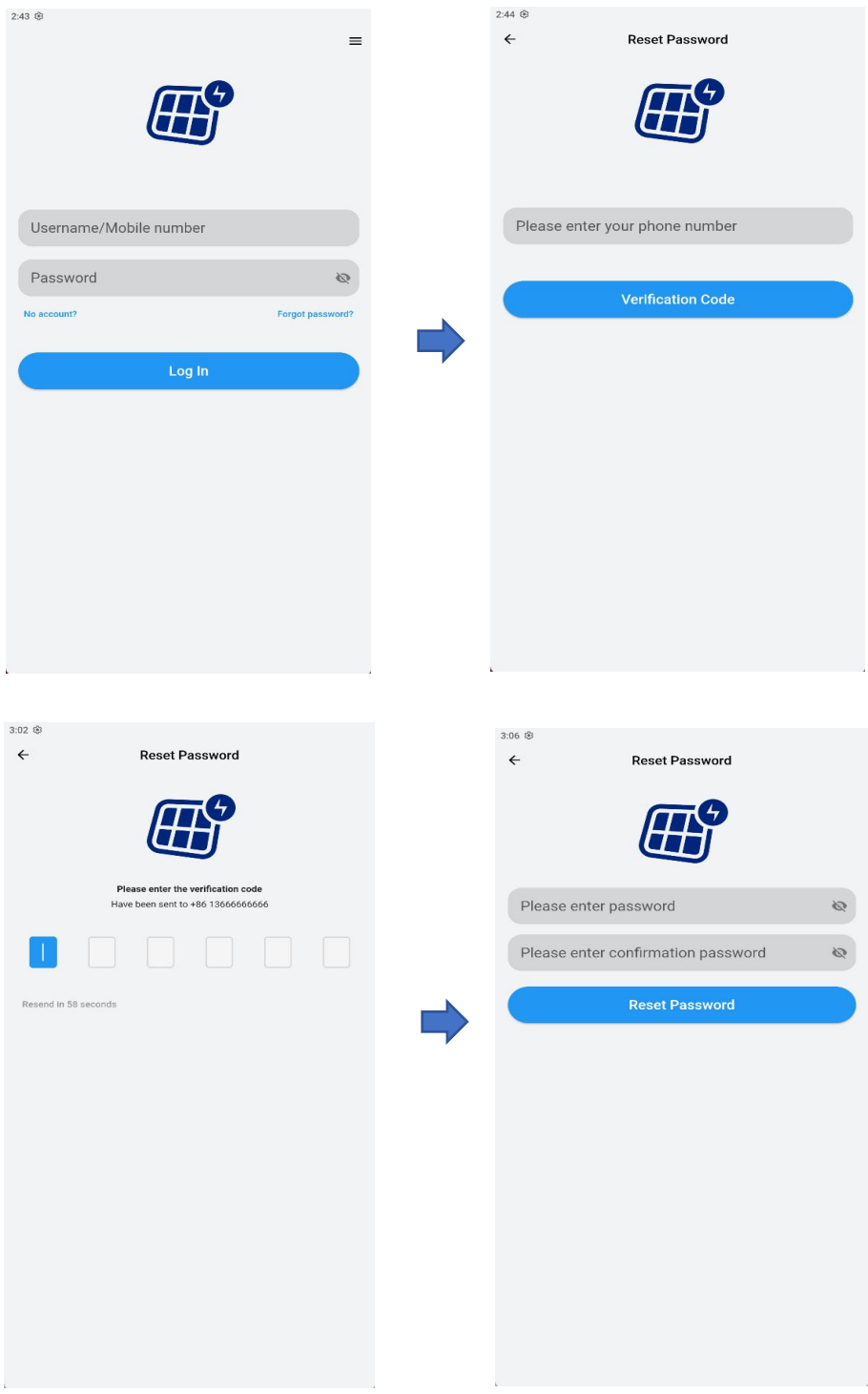
The app provides features for resetting and changing passwords. If you forget your login password, you can reset it through the password reset function. If you suspect that your password has been compromised or for other reasons, you can change your password once logged into the app.

#### Password Reset

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##### Operation Steps

- 1、 On the login screen, click "Forgot Password" to access the password reset page.
  - 2、 Enter the phone number associated with your account to receive a verification code, which will confirm that the request is from the account owner.
  - 3、 Enter the received verification code on the page. After successful verification, you will be directed to the password reset page.
  - 4、 Enter a new login password and click "Reset Password" to complete the password reset process.
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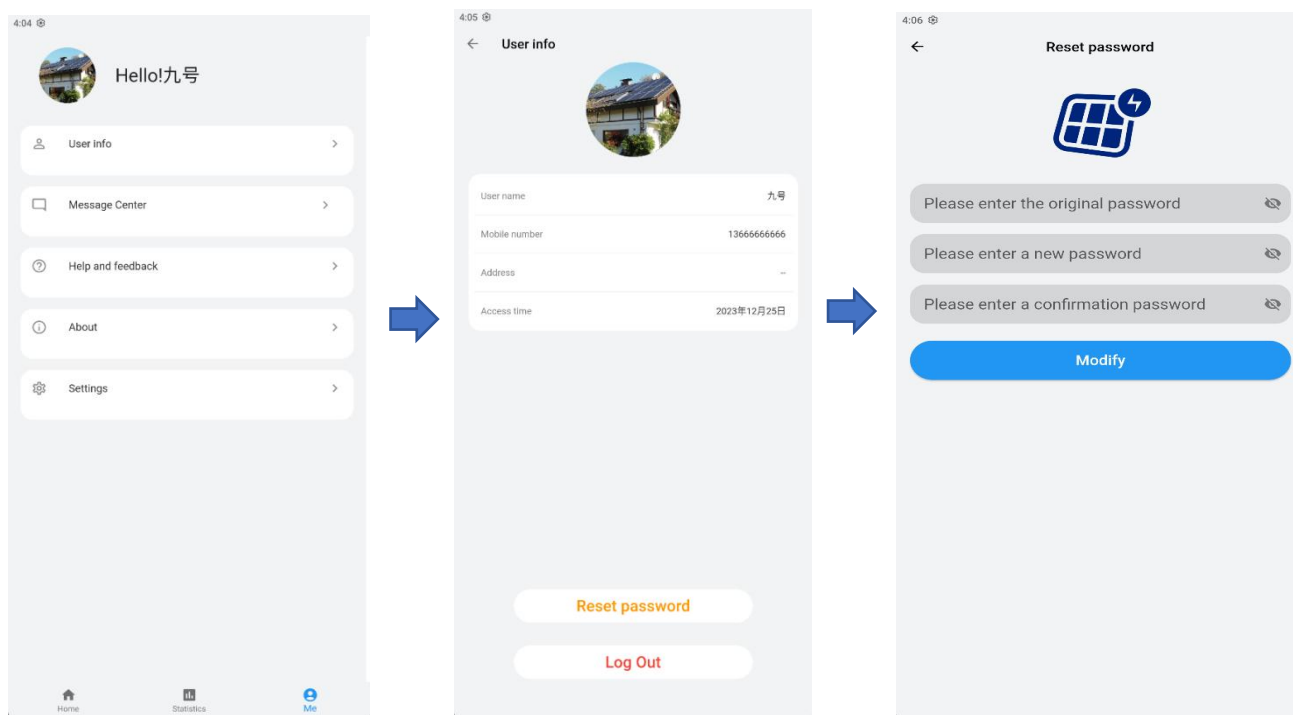


## Password Change

### Operation Steps

- 1、 After logging in, go to the main screen and tap on "Me -> User Info" to access the user information page.
- 2、 Tap "Reset Password" to enter the password change page.

3、 Follow the on-screen instructions to complete the password change process.

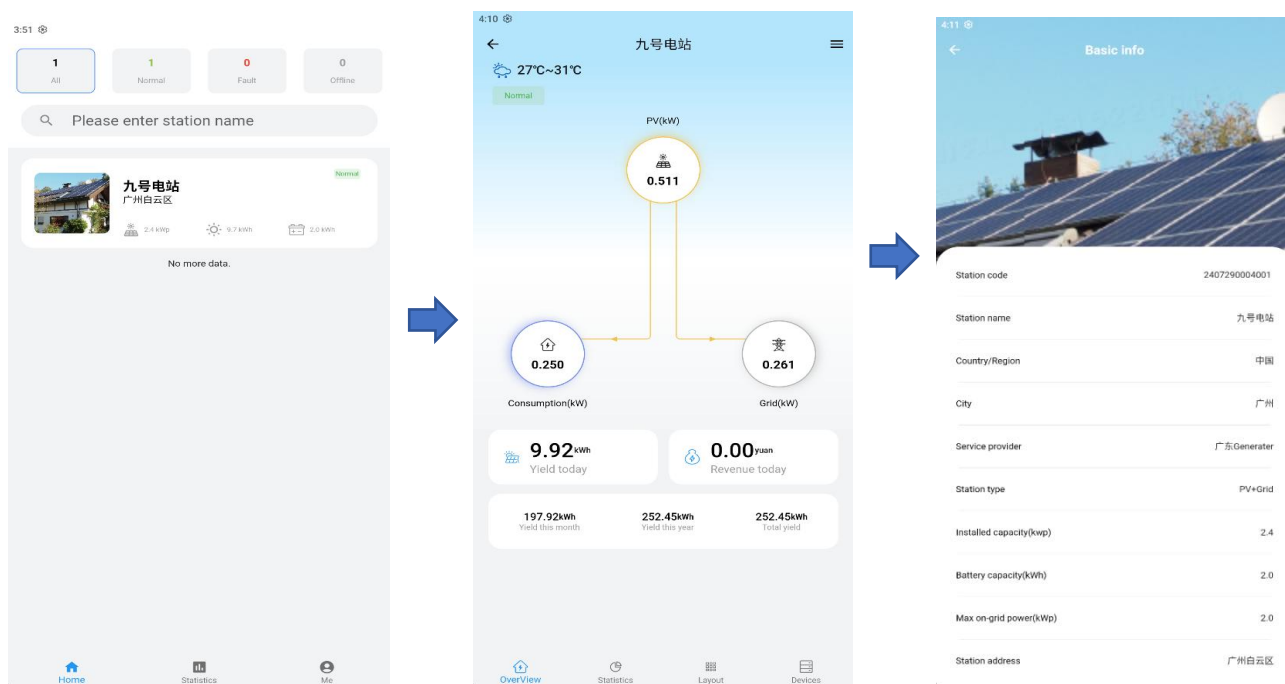


### 4.3 Real-time System Monitoring

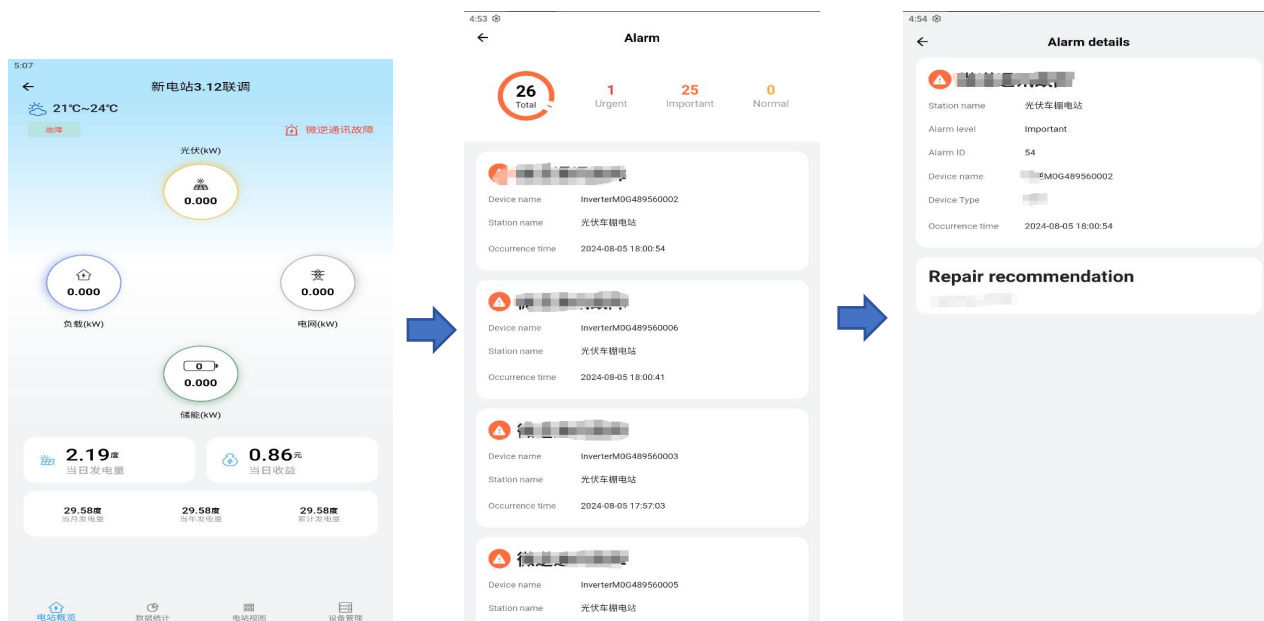
The app provides an overview of the solar power station, allowing owners to view real-time information on the station's operational status, energy production and consumption, storage device performance, earnings, and energy flow diagrams.

#### Operation Steps

- 1、 After logging into the app, go to the "Home" tab to view the real-time status and basic information of the power stations. You can filter stations by status by clicking on the station status filter at the top of the "Home" tab.
- 2、 In the "Home" tab, select the power station you want to view to access the station overview. The overview includes the station's operational status, energy production and consumption, earnings, energy flow diagram, and weather information for the station's city. You can pull down the screen to refresh the data in real-time.
- 3、 In the "Overview", click on the energy storage section in the energy flow diagram to view the performance information of the storage devices.
- 4、 In the "Overview", if an alarm occurs, it will be displayed on the upper right side of the energy flow diagram. Click on the alarm to access the alarm details page for more information.



## Alarm Notification



## 4.4 Statistical Analysis

The app provides multi-dimensional data statistics and uses chart visualization to clearly present the energy production, consumption, and earnings of the photovoltaic system.

The app currently supports viewing the energy production data for individual power stations as well as all stations under management across various time dimensions, including "daily," "monthly," "yearly," and

"lifetime."

## User-Level Statistics

### Operation Steps

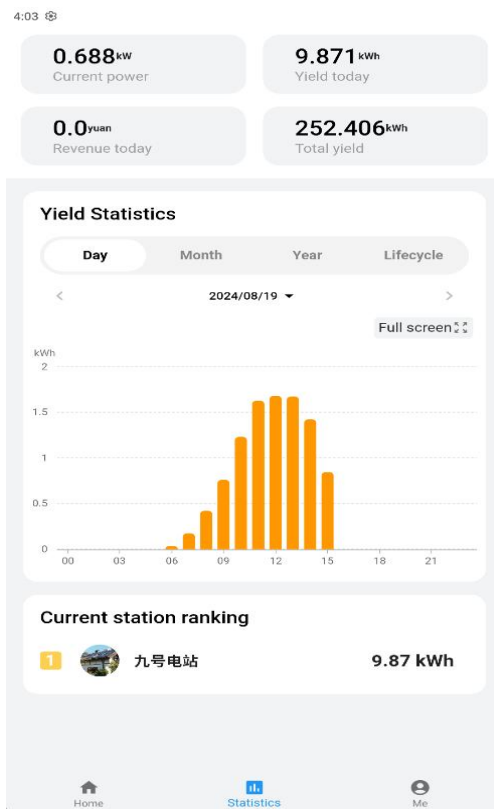
1、After logging into the app, tap on “Statistics” in the bottom navigation bar to access the data statistics interface.

2、In the User-Level Statistics interface, data is primarily displayed in the following sub-modules:

“Output Data Display” : Shows output data for all power stations under the user’s account, including current power, daily energy production, daily earnings, and total energy production.

“Yield Statistics” : Provides statistical data on total energy production for all power stations under the user’s account across different time dimensions such as “daily,” “monthly,” “yearly,” and “lifetime,” and displays this data in a bar chart format.

“Current station ranking” : Ranks and displays the energy production of each power station under the user’s account for the current day, from highest to lowest production.



## Station-Level Statistics

### Operation Steps

1、 After logging in to the app, tap “Home” on the bottom navigation bar and select the designated power station to enter its interface.

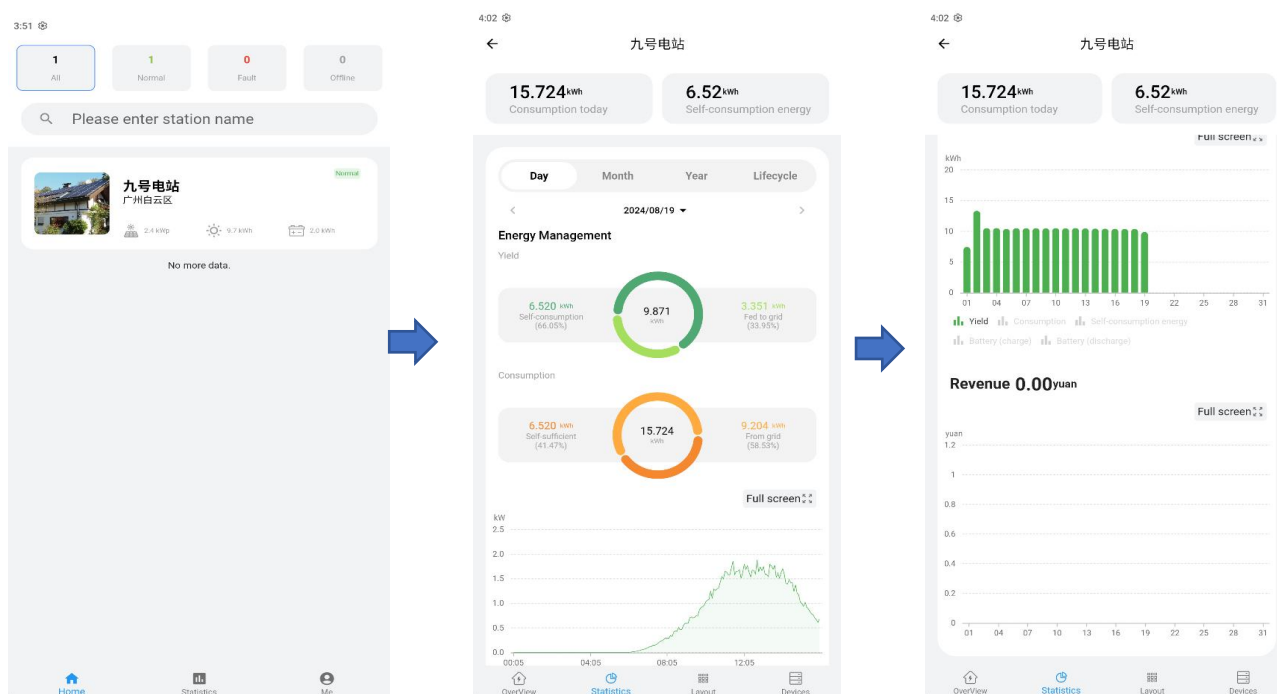
2、 Tap “Statistics” on the bottom navigation bar to access the station data statistics interface.

3、 The station-level data statistics include several sub-modules such as “Daily Station Statistics,” “Energy Statistics,” and “Revenue Statistics.”

“Daily Station Statistics” primarily tracks the station’s electricity consumption and self-consumption of generated power for the day.

“Energy Statistics” mainly tracks the station’s production and sales efficiency over different time periods such as daily, monthly, yearly, and lifetime, and displays this data in chart form.

“Revenue Statistics” tracks the station’s earnings over various time periods.



## 4.5 Station Layout


The app provides users with the functionality to view both the logical and physical layouts of power station components, and allows them to check the current real-time operating status of these components.

### Operation Steps

1、 After logging into the app, tap on the power station you want to view on the homepage.

2、 Tap “Power Station View” on the bottom navigation bar to access the station’s logical view.

3、 Use the dropdown menu to select the type of statistical data displayed for the current photovoltaic panels. Tap the “📏” icon to group the photovoltaic panels,

and tap the “” icon to switch to “Physical View Mode.”



## 4.6 Device Management

Users can view real-time information, historical information, and basic information about the equipment.

### Operation Steps

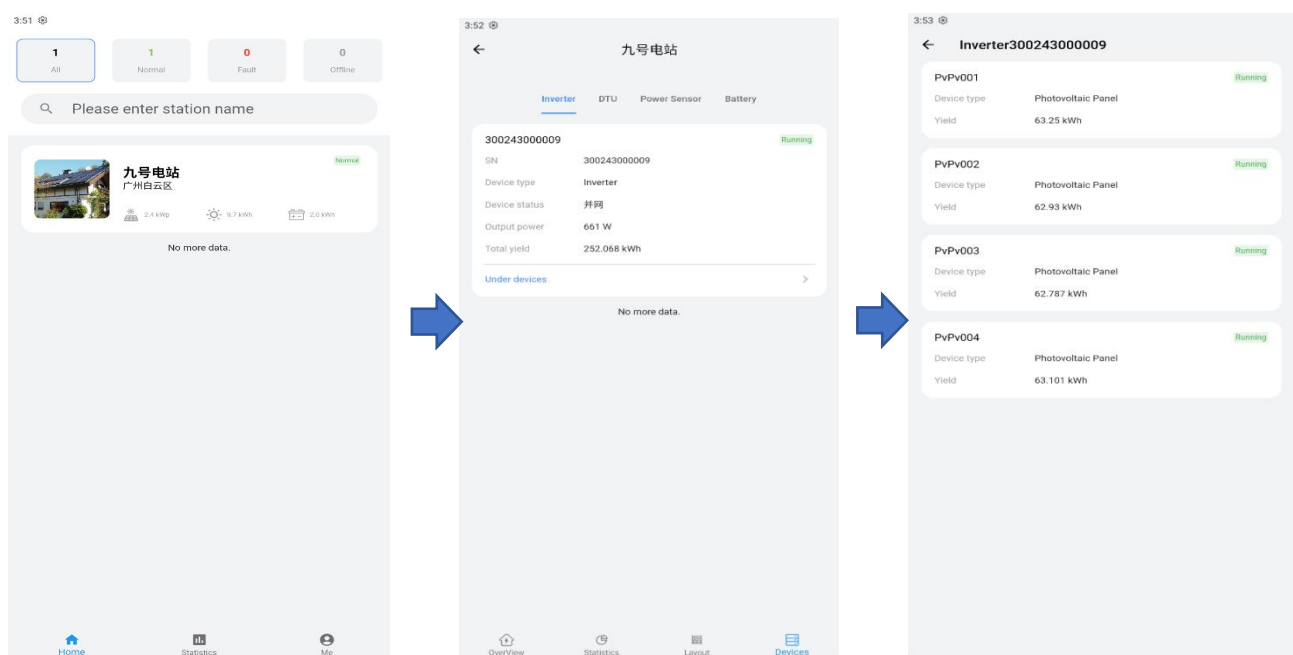
- 1、After logging into the app, the owner user can tap “Home” on the bottom navigation bar, select the desired power station to enter the station details interface.

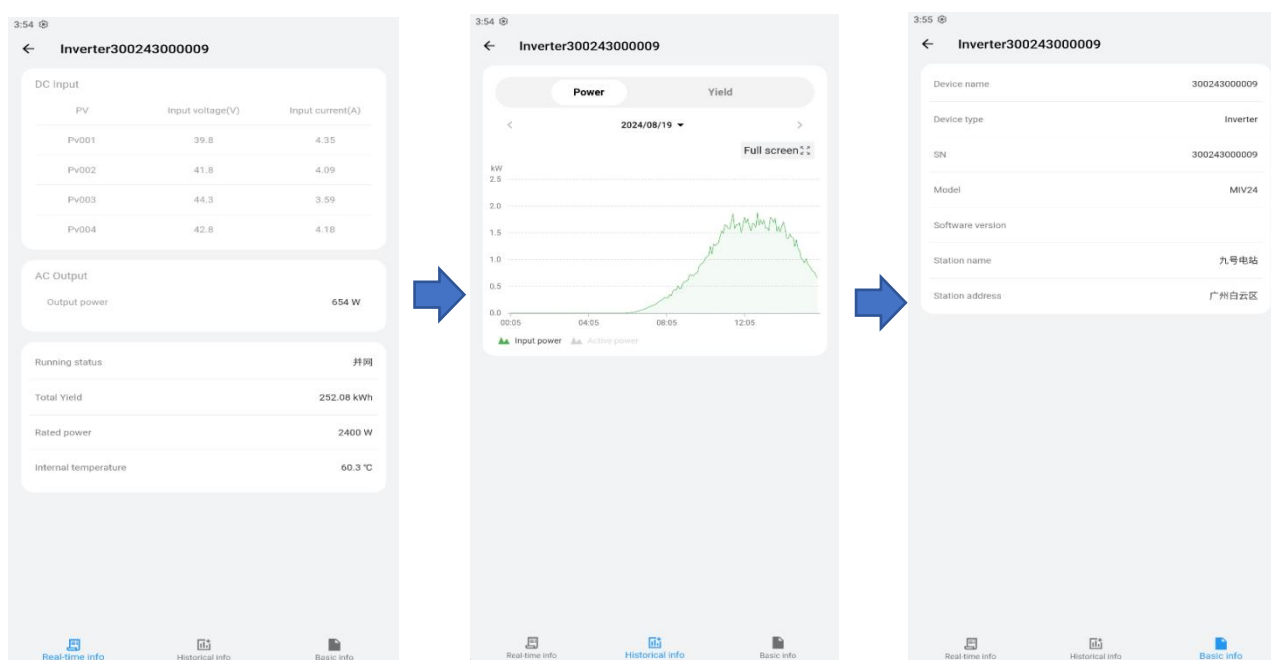
2、Tap “Devices” on the bottom navigation bar to access the device list. Click on the inverter’s “Under Devices” to view the current photovoltaic panels connected to that inverter.

3、Select the device you want to view to access the device details interface. Tap “Real-time Info” on the bottom navigation bar to check the device’s current operating status, power generation, current power, and other key operational parameters.

4、Tap “Historical Info” on the bottom navigation bar to view the power or generation curves for a specific date. For storage devices, you can also view the SOC (State of Charge) variation curve.

5、 Tap “Basic Info” on the bottom navigation bar to view basic details such as device type, model, and serial number (SN).



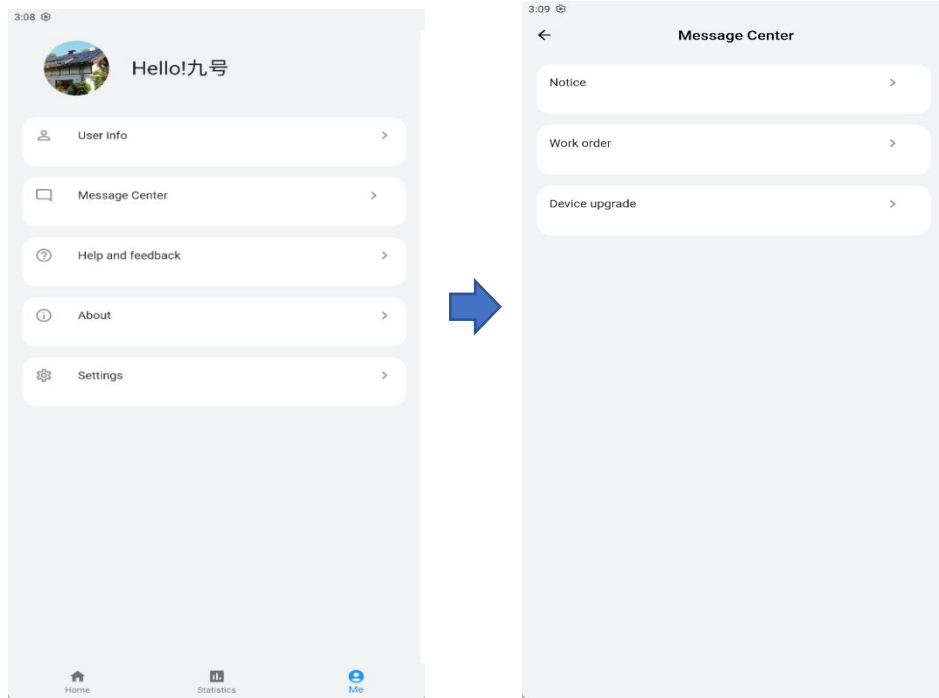


#### 4.7 Message Center

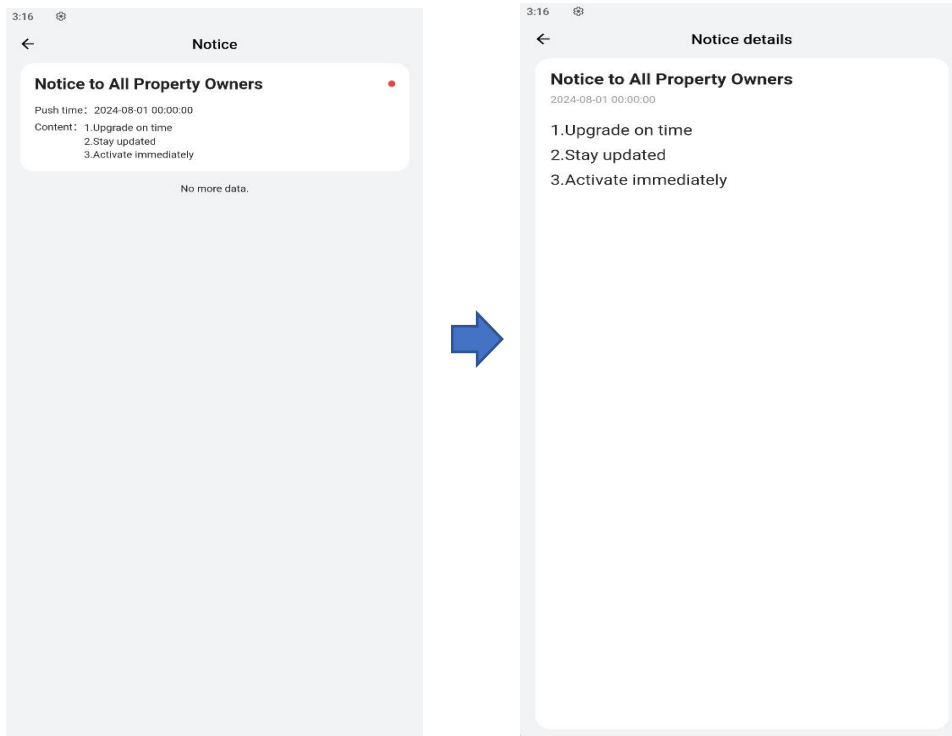
The app offers a message management feature where owner users can access the message center to view system announcements, feedback on work orders, device upgrade notifications, and other relevant messages.

#### Operation Steps

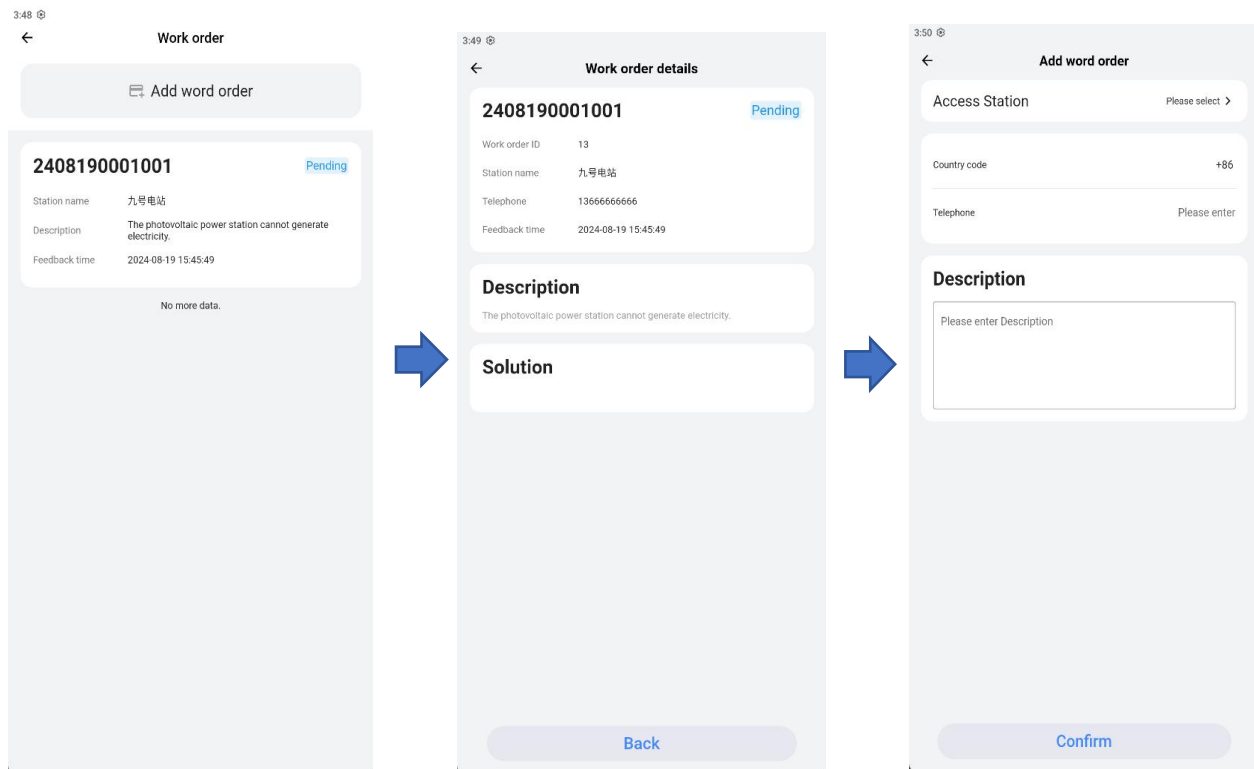
- 1、 After logging into the app with the owner user account, tap “Me → Message Center” at the bottom of the home page’s navigation bar to enter the message management page.
- 2、 Tap “Notice” to view system-issued announcements.
- 3、 Tap “Work Order” to see the status of repair work orders submitted by the user. You can also tap “Add Work Order” to submit a new work order.
- 4、 Tap “Device Upgrade” to check if any devices across the user’s power stations have available software updates. If updates are available, you can choose whether to proceed with the upgrade.



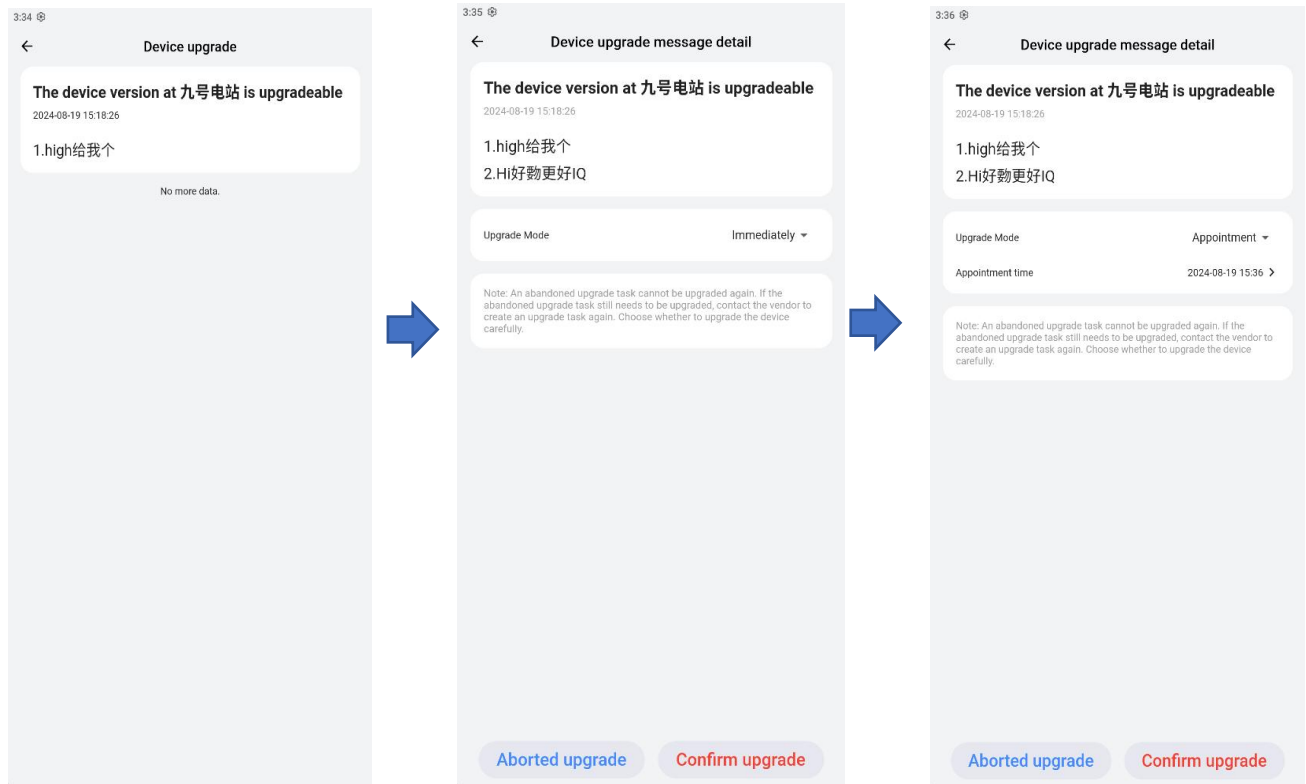
## Notice



## Work Order



## Device Upgrade



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## 5、 frequently asked question

### 5.1 How to reset your password if you' ve forgotten it?

If you've forgotten your password, you can click "Forgot Password" on the app login screen to start the password reset process. For detailed instructions and guidance, refer to "Password Reset and Modification."

### 5.2 How to change your password?

If a user discovers that their app login password may be compromised or needs to be changed for any other reason, they can change the password by going to "Me -> User Info -> Reset Password." For detailed instructions and guidance, refer to "Password Reset and Change"

### 5.3 How to switch languages?

The app offers multiple languages. If you are not logged in, you can directly switch languages by clicking the "Languages" option in the sidebar at the top right corner of the login screen. If you are logged in, you can switch languages by going to "Me -> Settings -> Languages."

### 5.4 When you see the message "The current network is not available, please check!" while logging into the app, what should you do?

When you see the message "The current network is not available, please check!", it is usually due to a problem with your current network. If you are using Wi-Fi, try switching to mobile data or connecting to a different Wi-Fi network. If you are using mobile data, you can try turning off Airplane Mode and reconnecting to the network. If the issue persists after switching, check if your phone's service has been suspended.