



User Manual

V2.6

SafeSolar APP



Scan the QR code to find out more information

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Contents

1	Download and Install App.....	3
2	APP Registration and Login	3
3	Create Power Plants	4
3.1	Create New Power Plants	4
3.2	Add Monitor	5
3.3	Add PLC Transceiver	5
3.4	Add Safety Protector or Optimizer.....	8
3.5	Change PLC Transceiver	10
3.6	Change Monitor.....	11
3.7	Configure Monitor and PLC Transceiver	13
3.8	Modify PLC Transceiver	14
3.9	Modify Strings	16
3.10	Modify Safety Protector and Optimizer	19
3.11	Modify Module.....	20
3.12	Configure Network Mode & IP.....	23
4	Plant Data.....	26
4.1	All Plants	26
4.2	Single Plant	27
4.3	Plant Data	28
4.4	Plant Log.....	29
5	Appendix	29
	Document Revision Log	29

1 Download and Install App

Prerequisites

- It is recommended to use Android 8.0, iOS13.0 and later versions of the system.
- The mobile platform must turn on the Internet, Bluetooth, and location services.
- The APP is divided into Chinese version and International version. The international version is named "Fonrich SafeSolar". Chinese and International accounts cannot be used interchangeably.

Method 1: Download through the official website of Fonrich

Visit the Web, [Download Fonrich SafeSolar APP](#) and install it.

Method 2: Download and install through Google Play Store and APP Store

Android Users: Search "Fonrich SafeSolar" in the [Google Play Store](#).

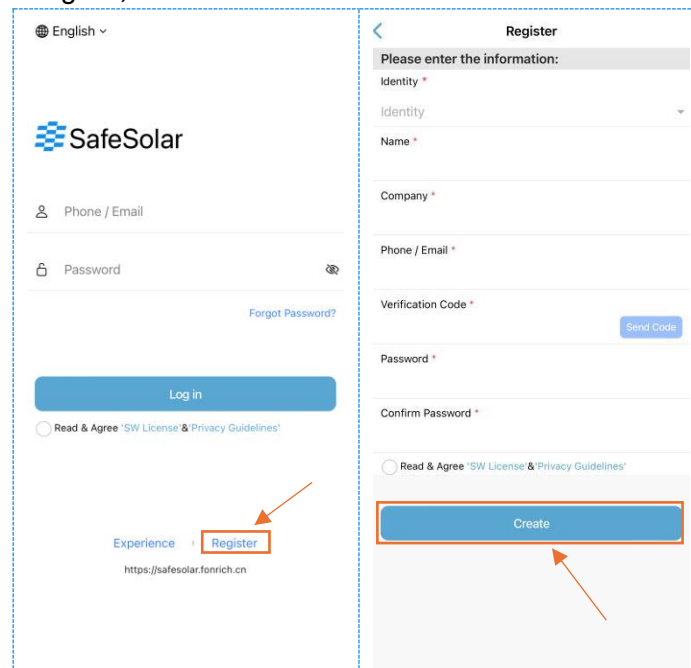
iOS Users: Search "Fonrich SafeSolar" in the [App Store](#).



Fonrich SafeSolar

2 APP Registration and Login

- 1) Enter the "Fonrich SafeSolar" login interface, click " Register ", follow the prompts to fill in the user registration information, click "Create";
- 2) After the creation is completed, return to the login interface, enter the registered account and password, and click "Log in";



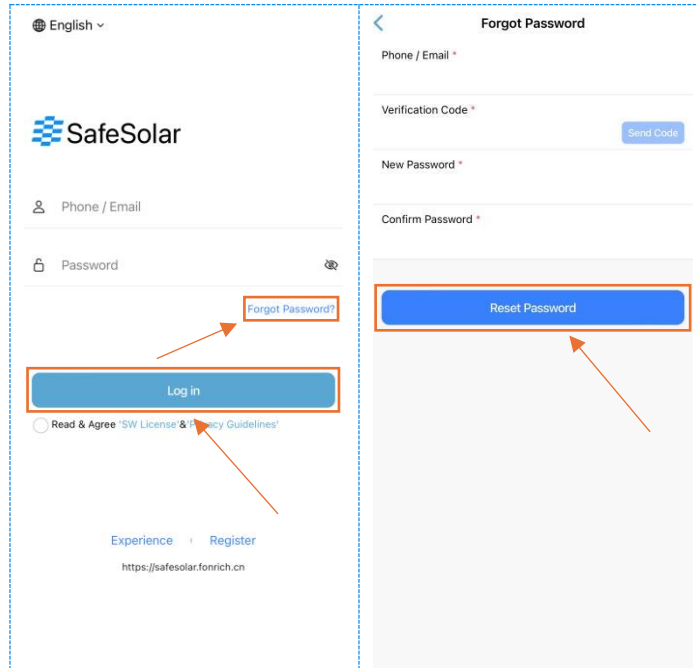
The image displays two screenshots of the SafeSolar app interface. The left screenshot shows the login screen with the 'Register' button highlighted. The right screenshot shows the registration form with the 'Create' button highlighted.

Registration Form Fields:

- Identity *
- Name *
- Company *
- Phone / Email *
- Verification Code * (with Send Code button)
- Password *
- Confirm Password *

Buttons: Log in, Register, Create

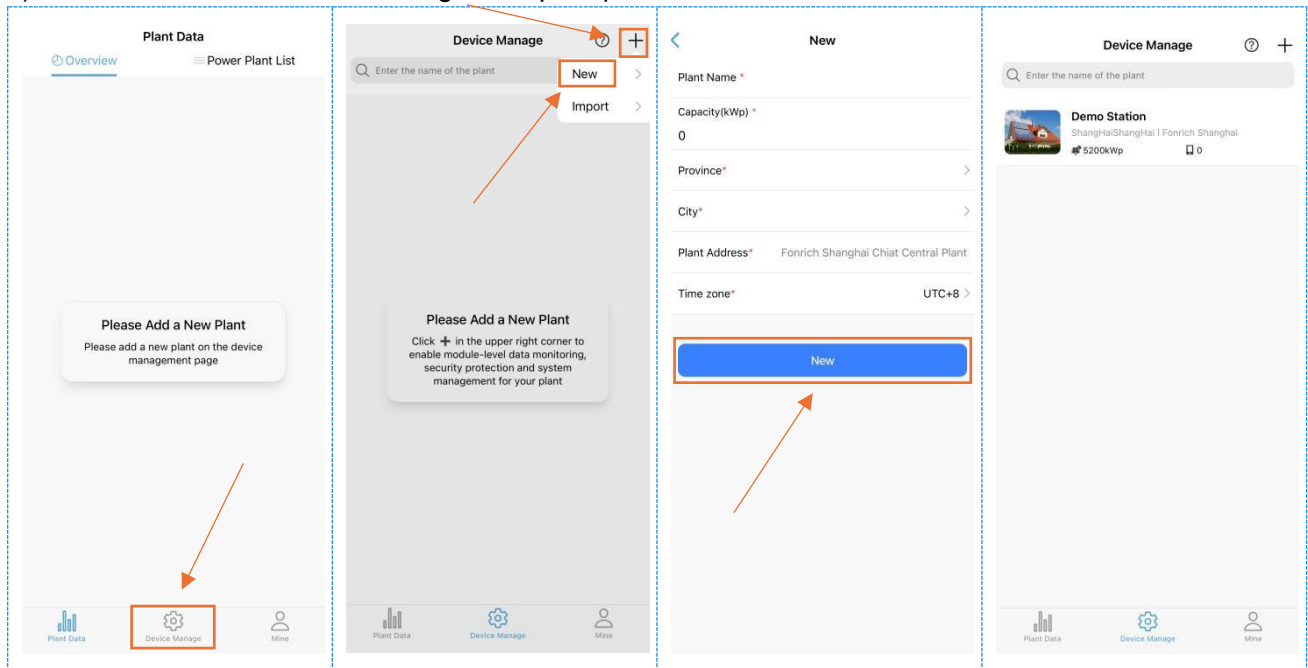
- You can log in directly if you have already registered an account. If you forget your password, click "Forgot Password" in the login interface, fill in the information according to the operation requirements and click "Reset Password".



3 Create Power Plants

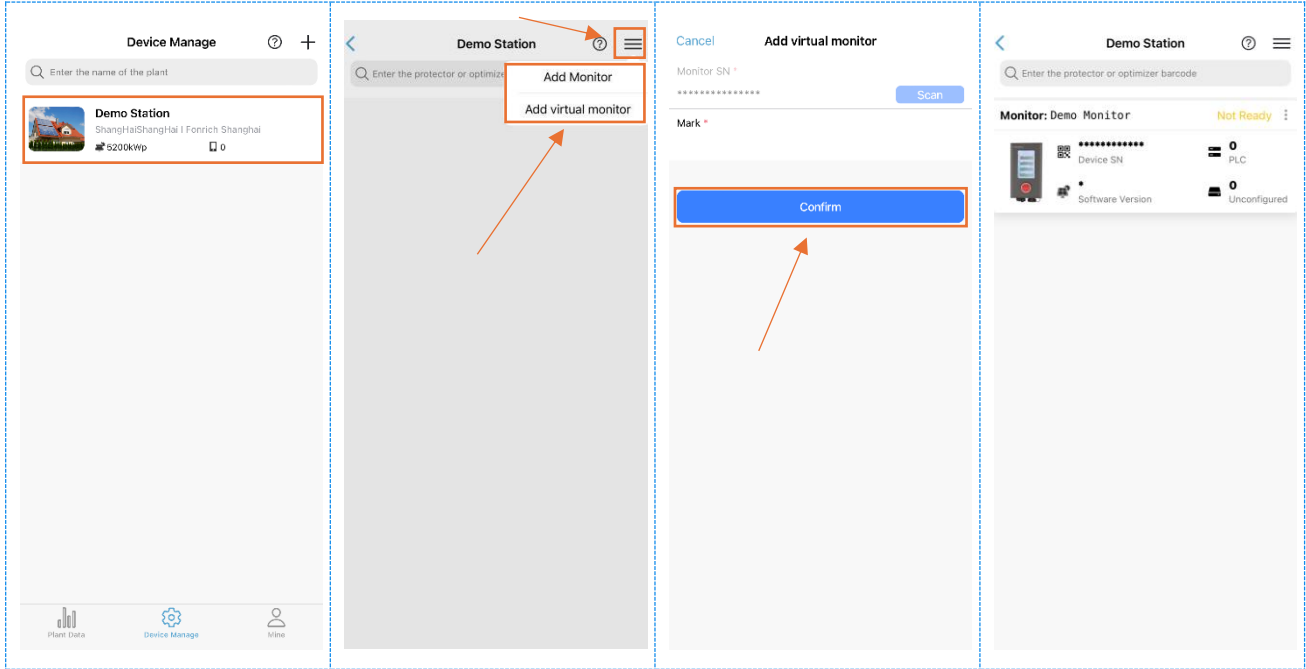
3.1 Create New Power Plants

- "Plant Data" → "Device Manage", Click "+", Choose "New";
- Fill in the information according to the prompts, click "New" to create.



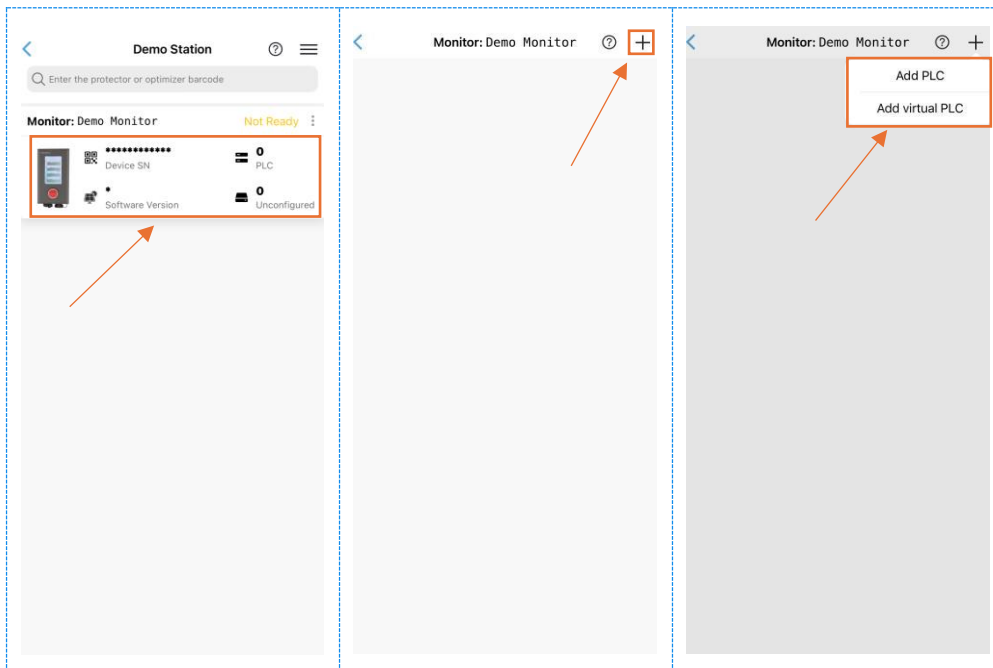
3.2 Add Monitor

- 1) "Device Mange" Page → Choose the power plant being created;
- 2) Click "≡" → Click "Add Monitor"; **if no monitor is installed, then click "Add virtual monitor";**
- 3) Click "Scan" or manually fill in the 12-digit Monitor device serial number (SN); **this step is not required if you add a virtual monitor;**
- 4) Follow the prompts to fill in the correct information, click "Confirm", the monitor is added successfully.

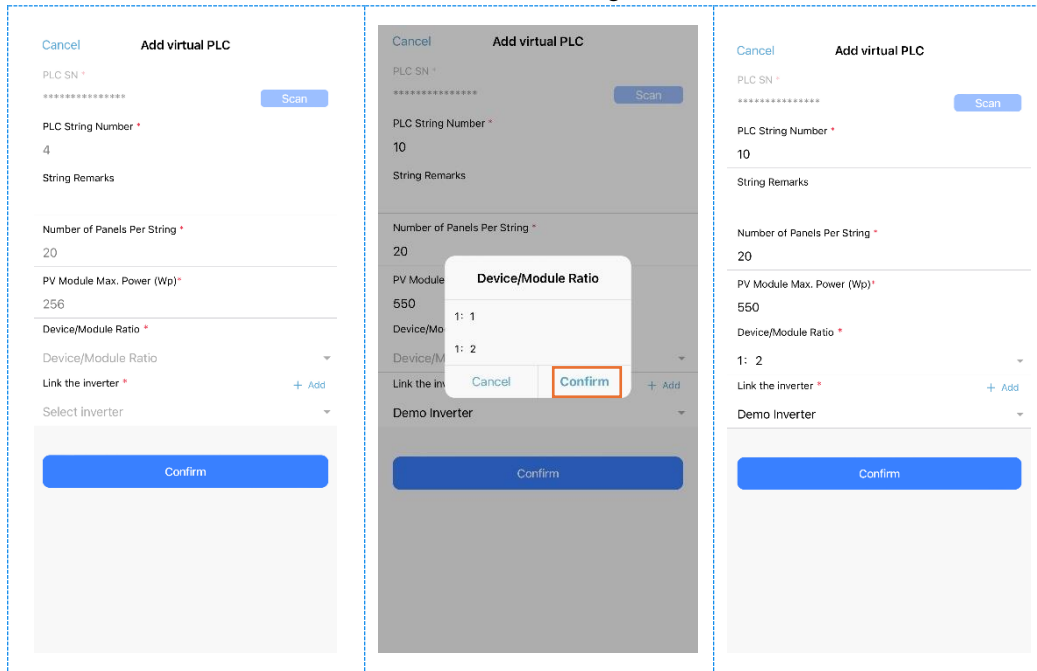


3.3 Add PLC Transceiver

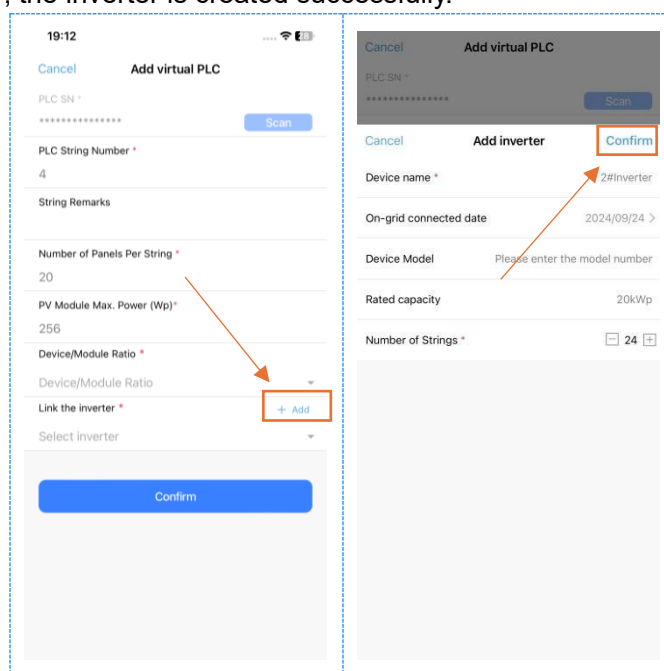
- 1) After entering the "Monitor" page, click on the monitor to which you need to add the PLC transceiver;
- 2) Click "+" → Click "Add PLC" transceiver; **if the PLC Transceiver is not installed, click "Add virtual PLC" transceiver.**



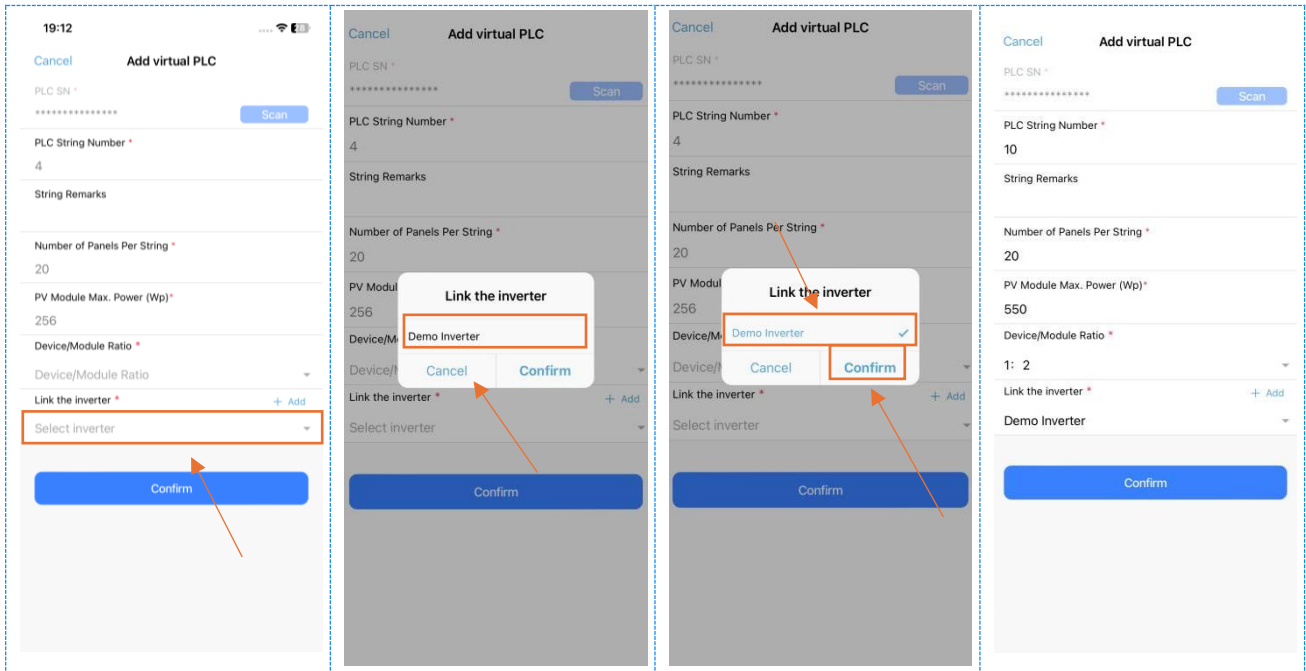
- 3) Click "Scan" or manually fill in the 12-digit PLC Transceiver device serial number (SN), **this step is not required if adding a virtual PLC Transceiver**.
- 4) According to the site conditions, fill in the "PLC String Number", "Number of Panels Per String", "PV Module Max. Power (Wp)", "Device/Module Ratio".
 - "String Remarks": It will generate the suffix which is the numeral sequences start with 1 after PLC transceiver remark.
 - "Device/Module Ratio": Select 1:1 or 1:2 according to the actual model, then click "Confirm".



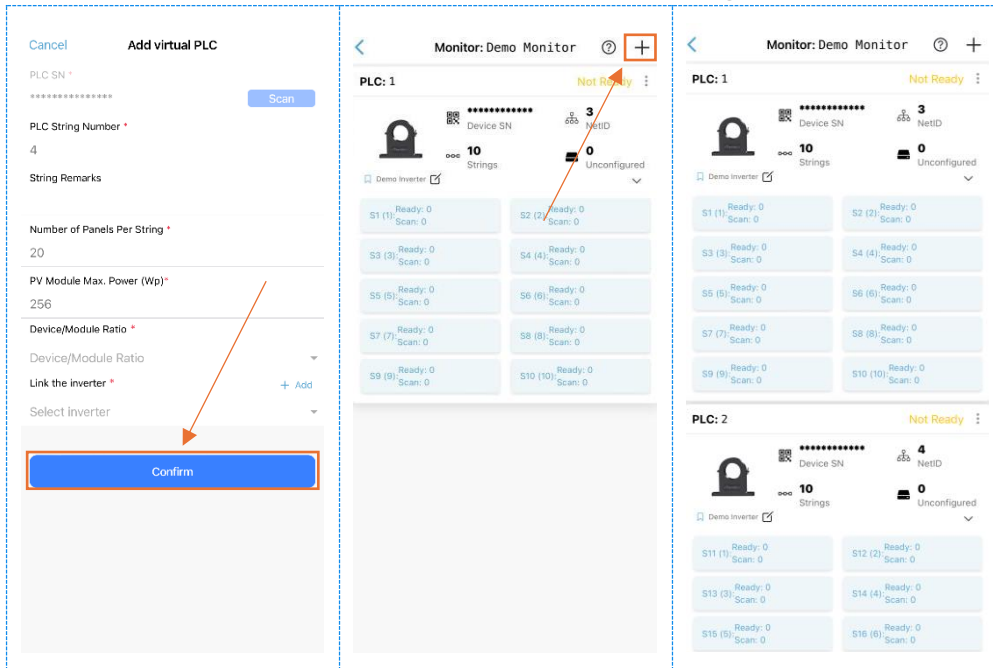
- 5) Click "Add" on the right side of "Link the inverter", Fill in the information about the inverter as required.
- 6) then click "Confirm", the inverter is created successfully.



- 7) Click **"Select inverter"** underneath **"Link the inverter"** if inverters have already been created; then click **"Confirm"**.

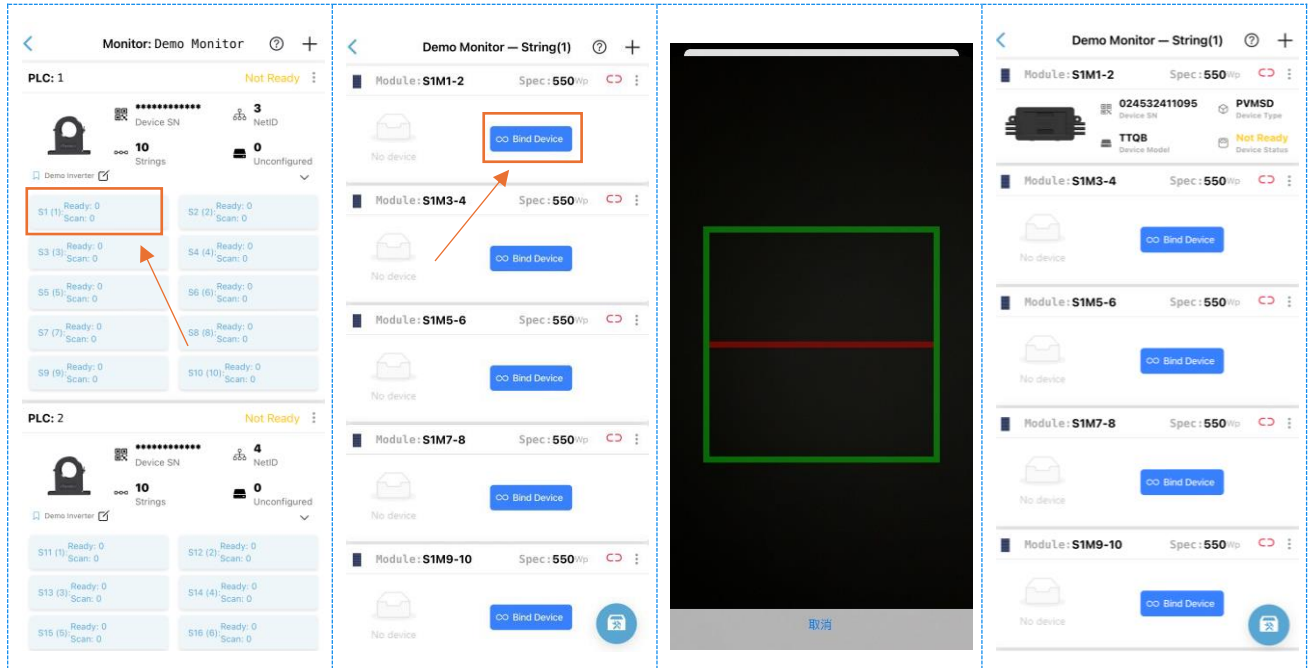


- 8) Click **"Confirm"** at the bottom, the PLC Transceiver is created successfully.
- 9) If there are other PLC Transceivers under this monitor, refer to Chapter 3.3 "Add PLC Transceiver" operation. **Subsequent PLC transceivers under the same inverter automatically the numeral sequences continued to the previous PLC transceiver's string number.**

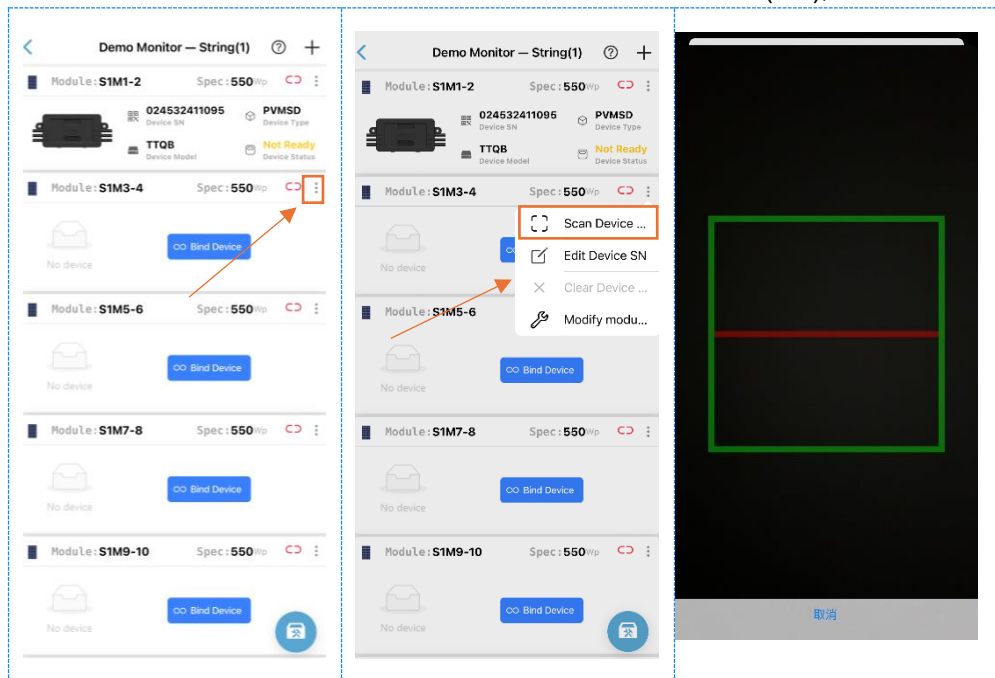


3.4 Add Safety Protector or Optimizer

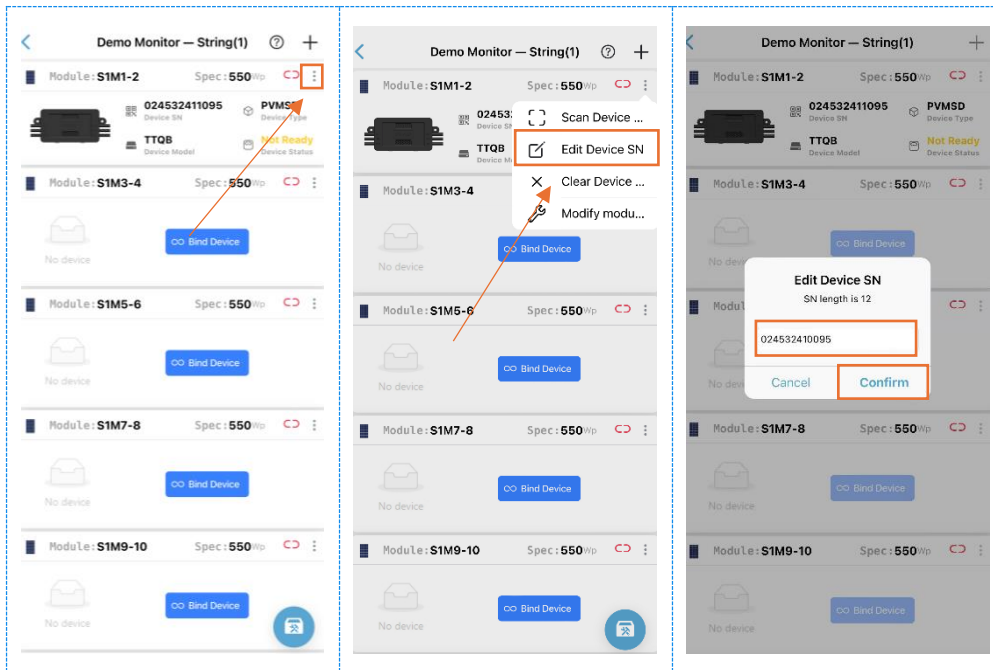
- 1) After entering the "PLC Transceiver" page, click the corresponding string;
- 2.1) Click "Bind Device", and scan the serial number (SN) of the device on the Safety Protector or optimizer;



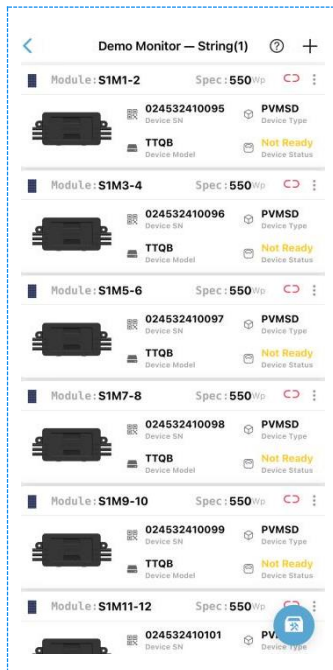
- 2.2) Or Click ":" → Click "Scan Device SN" to scan device serial number (SN);



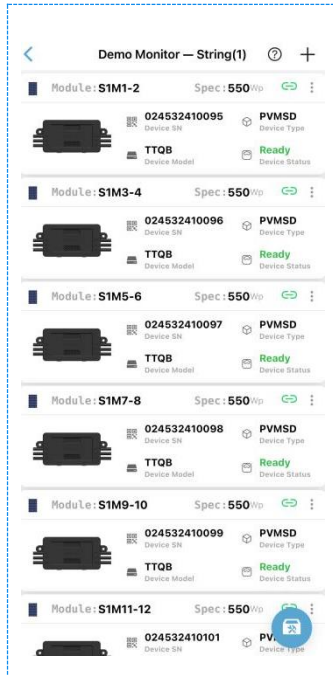
- 3) If you want to change the device serial number (SN), click on the upper right corner of the device to be modified":", click **"Scan Device SN"** or **"Edit Device SN"** to modify device serial number (SN), then click **"Confirm"**.



- 4) According to the above steps, enter all the device serial numbers (SN) of the entire string.



5) Configuring the device according to FR-PVMS-SKA_UM.



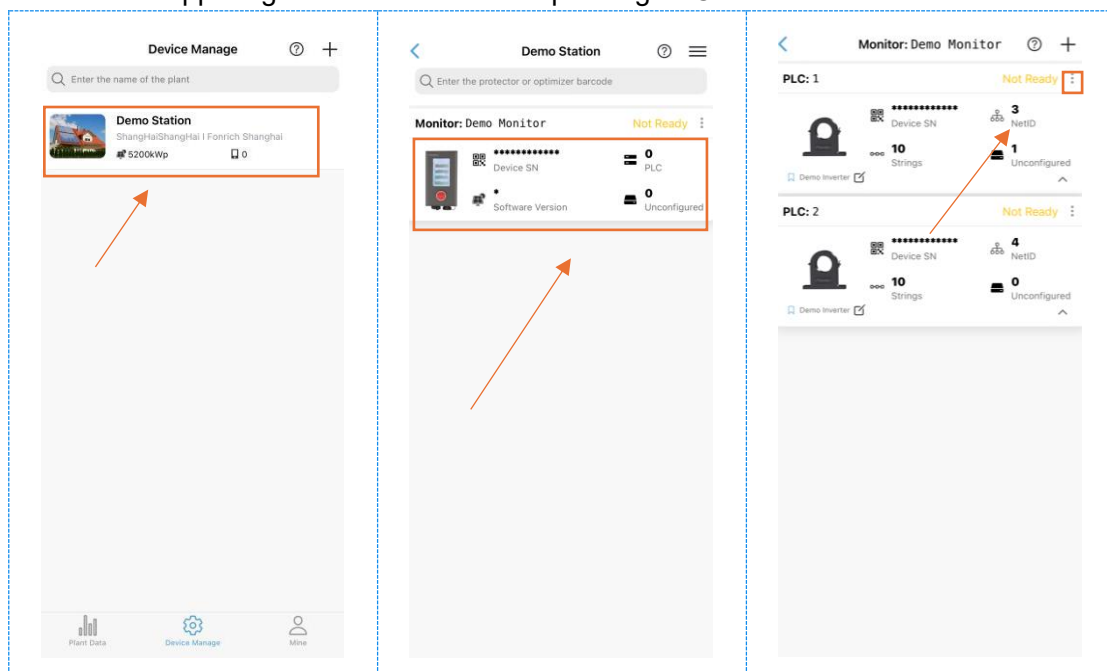
3.5 Change PLC Transceiver

Notice

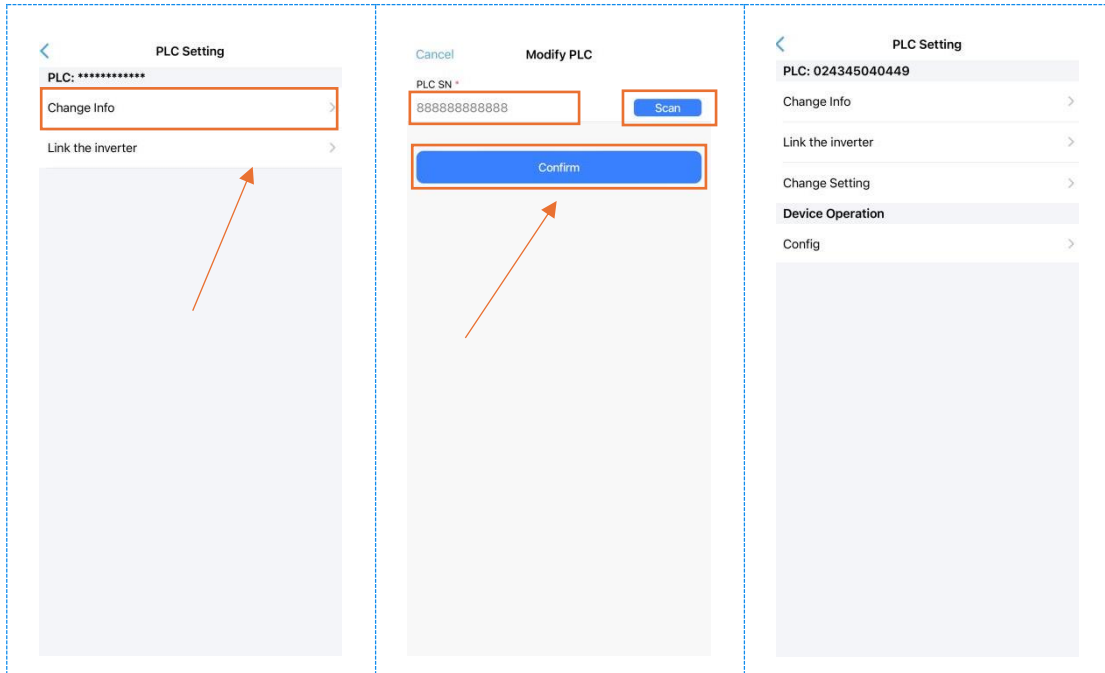
Please make sure that all the hardware of the device is connected correctly.

Please make sure that the Bluetooth and location services of your mobile platform are switched on.

- 1) After entering "**Device Manage**" → Choose Corresponding Plant → Choose Corresponding Monitor;
- 2) Click ":" on the upper right corner of the corresponding PLC transceiver.



- After entering "PLC Setting" page, Click "Change Info", Click "Scan" PLC Transceiver serial number (SN); or manually enter PLC Transceiver serial number (SN) from "888888888888" underneath "PLC SN" and click "Confirm", then follow Chapter 3.7 "Configure Monitor and PLC Transceiver".



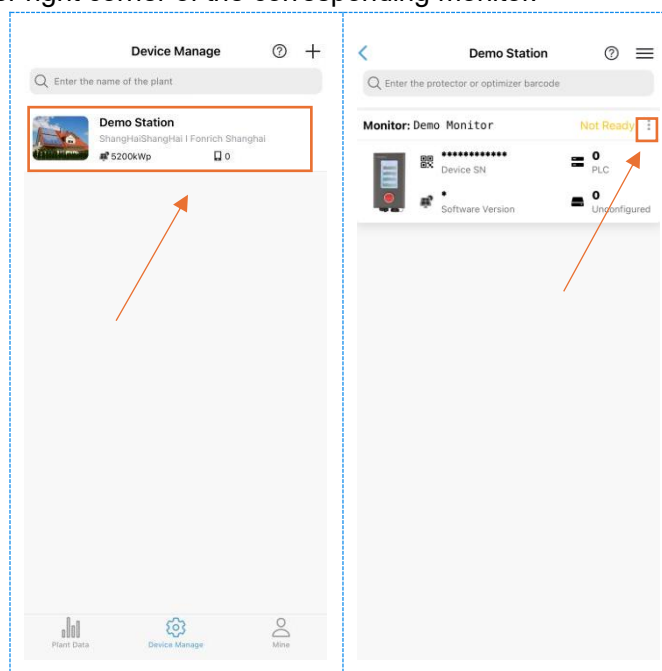
3.6 Change Monitor

Notice

Please make sure that all the hardware of the device is connected correctly.

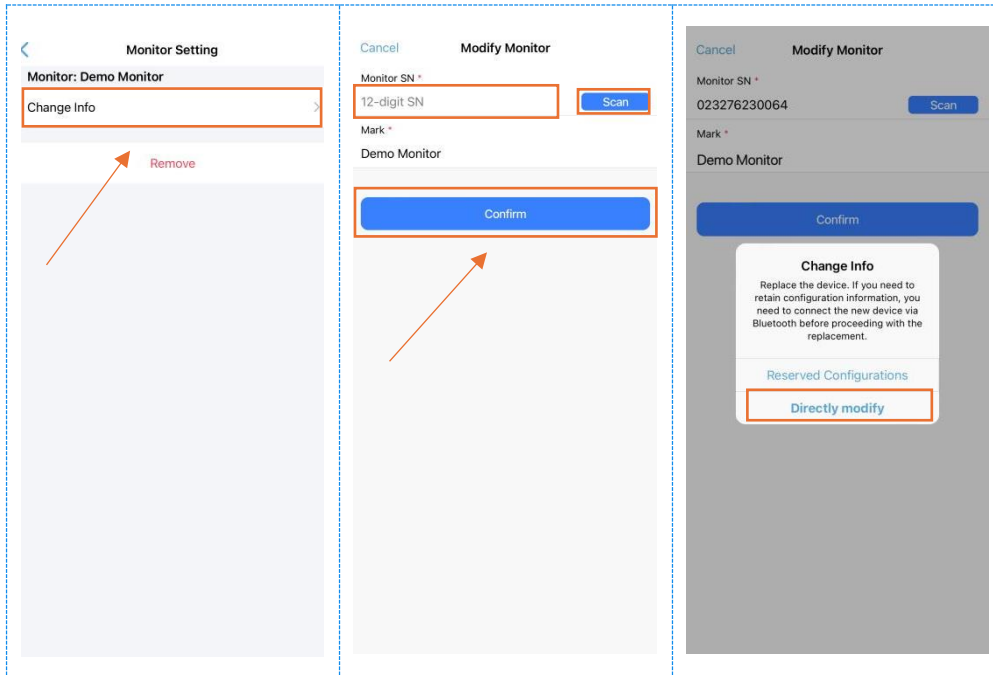
Please make sure that the Bluetooth and location services of your mobile platform are switched on.

- After entering "Device Manage" → Choose corresponding power plant;
- Click ":" on the upper right corner of the corresponding monitor.

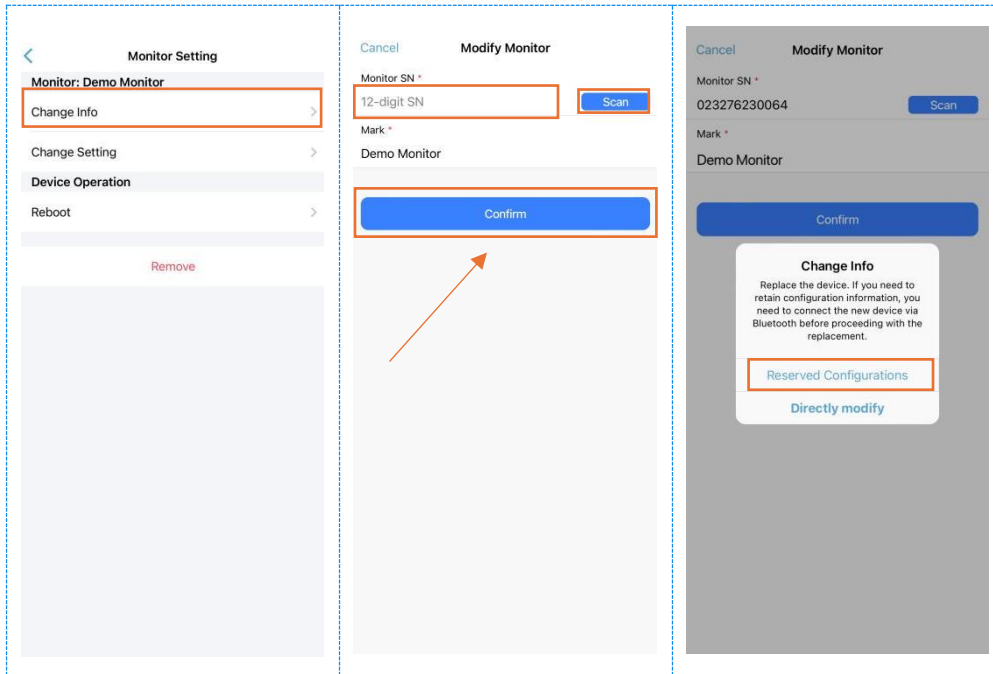


3) Click **"Change Info"** → Click **"Scan"** Monitor serial number (SN); or manually enter Monitor serial number (SN) from **"12-digit SN"** underneath **"Monitor SN"** and click **"Confirm"**.

4.1) When installing the new monitor, Click **"Directly modify"**, then follow Chapter 3.7 "Configure Monitor and PLC Transceiver".



4.2) When replacing the Monitor, Click **"Reserved Configurations"** and wait for the device to be modified successfully.



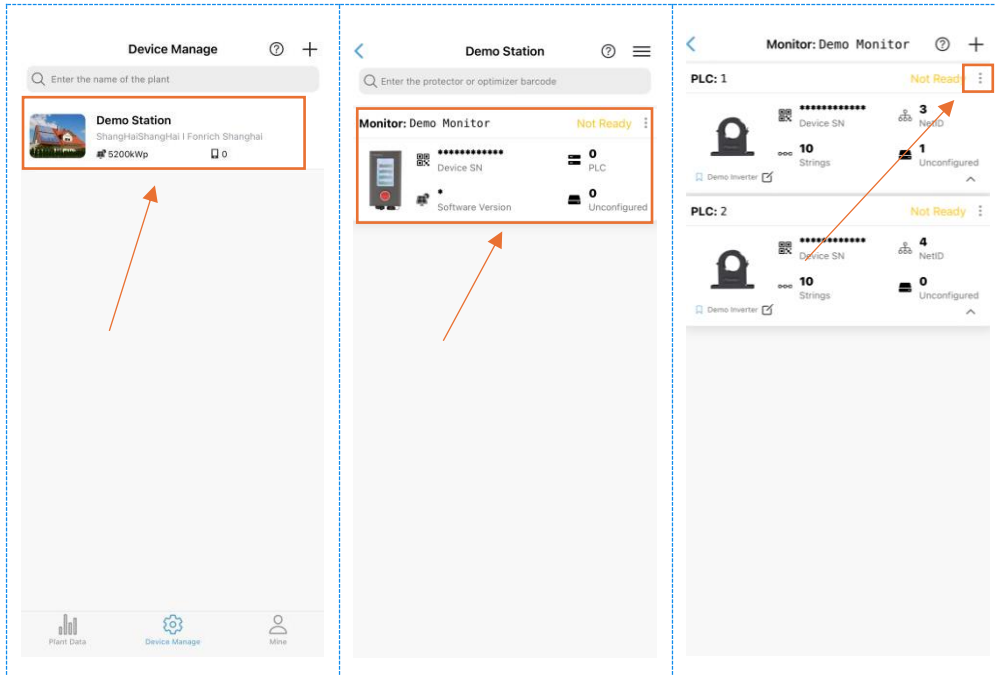
3.7 Configure Monitor and PLC Transceiver

Notice

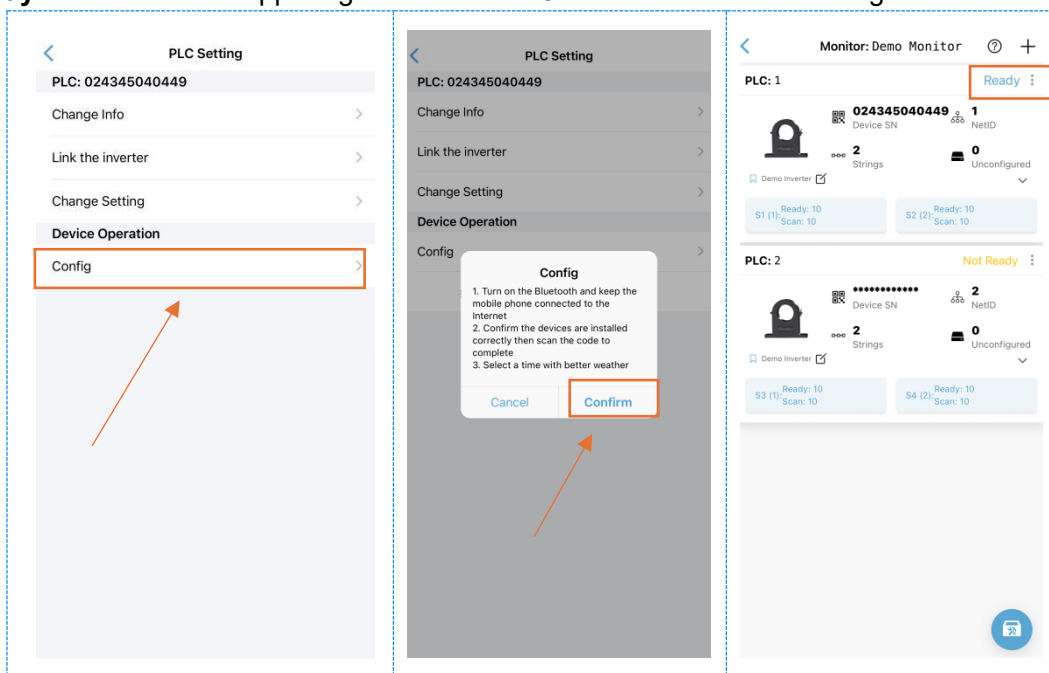
Please make sure that all the hardware of the device is connected correctly.

Please make sure that the Bluetooth and location services of your mobile platform are switched on.

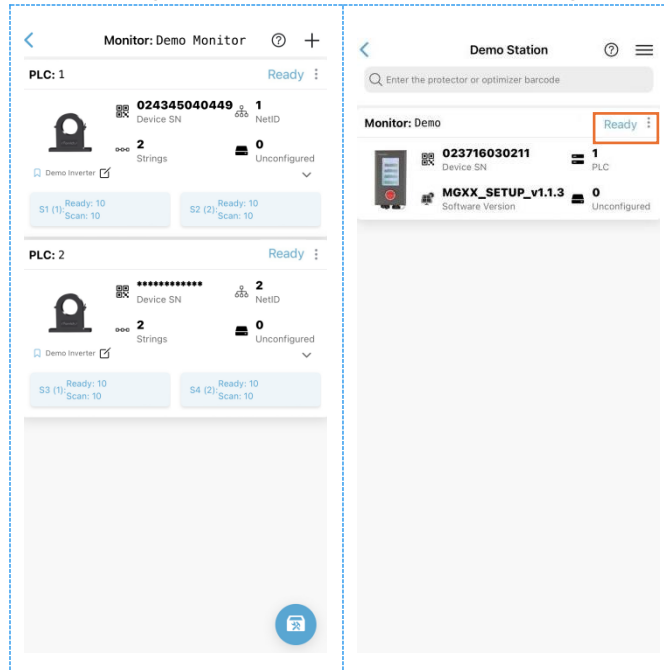
- 1) After entering "**Device Manage**"→Choose Corresponding Power Plant→Choose Corresponding Monitor.
- 2) Click ":" on the upper right corner of the corresponding PLC transceiver.



- 3) Click "**Config**", and click "Confirm", and wait for configuration finish; "**Ready**" showed on the upper right corner of PLC Transceiver means configured successfully.



- 4) Repeat the previous step until all PLC transceivers under this monitor are configured successfully; "Ready" showed on the upper right corner of Monitor means configured successfully.



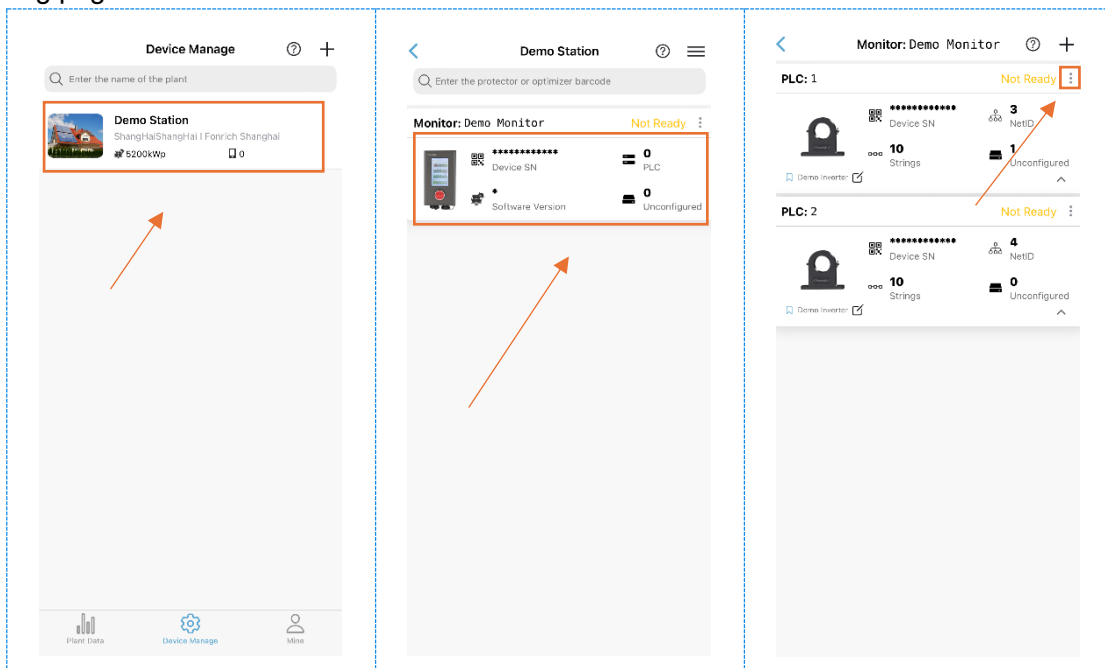
3.8 Modify PLC Transceiver

Notice

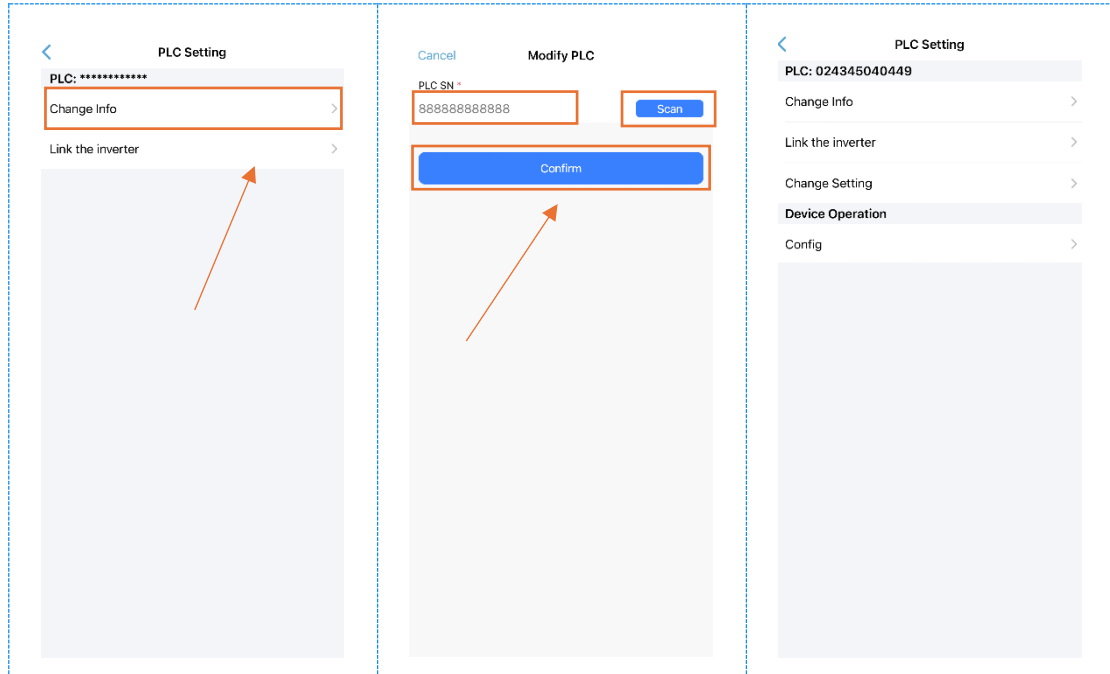
Please make sure that all the hardware of the device is connected correctly.

Please make sure that Bluetooth and location services are turned on your mobile device.

- 1) After Entering "Device Manage" → Corresponding Power Plant → Corresponding monitor;
- 2) Click ":" in the upper right corner of the corresponding PLC transceiver to enter the PLC transceiver setting page.



- 3) On the "PLC Setting" page, click "Change Info" → "Scan" to scan the PLC transceiver serial number (SN); You can also click "888888888888" under "PLC SN" to manually enter the device serial number and click "Confirm".
- 4) If you need to configure the device, repeat the operation in Chapter 3.7 "Configure Monitor and PLC Transceiver".



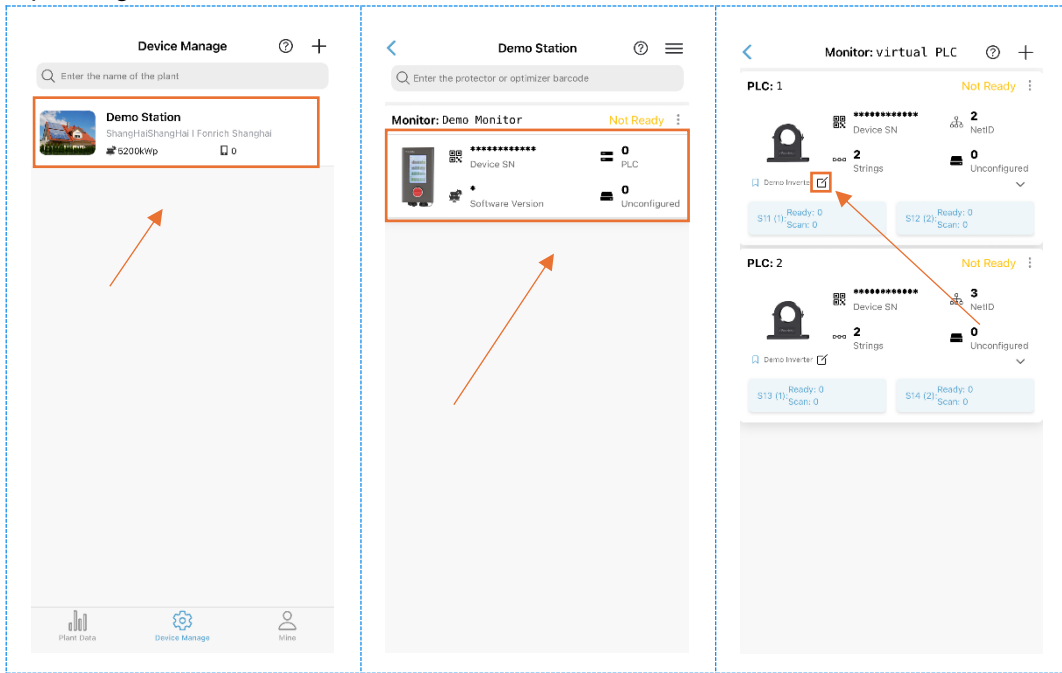
3.9 Modify Strings

Notice

Please make sure that all the hardware of the device is connected correctly.

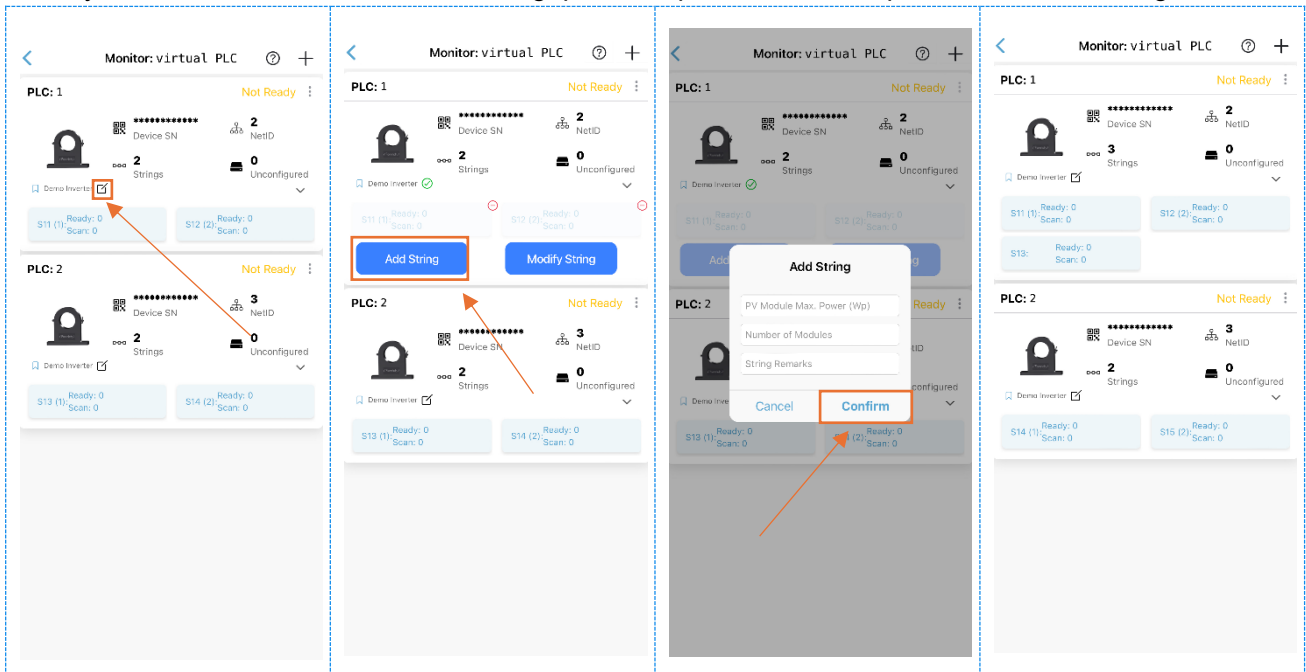
Please make sure that Bluetooth and location services are turned on the mobile platform.

- 1) After entering "Device Manage" page → Corresponding power plant → Corresponding monitor → Corresponding PLC transceiver;



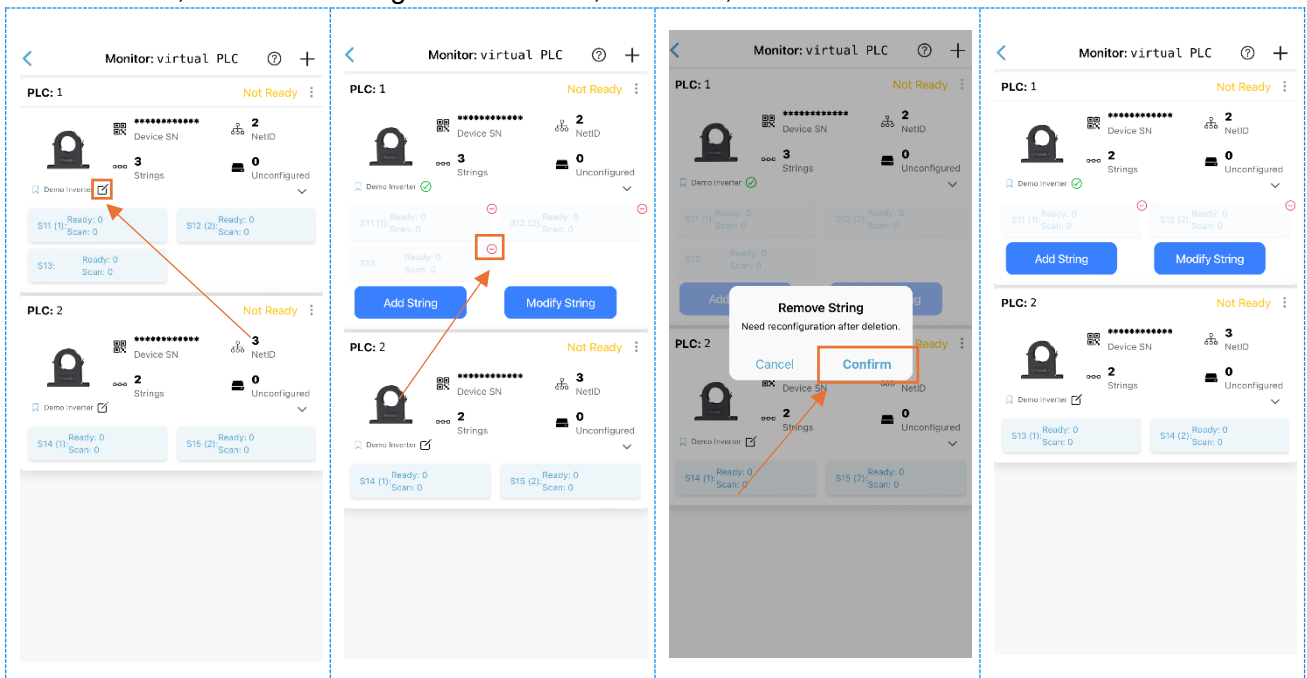
A. Add String

Click "☑" → "Add String", fill in the corresponding content according to the tips, and click "Confirm"; If you want to add more than one string, please repeat the above operation "A. Add String".

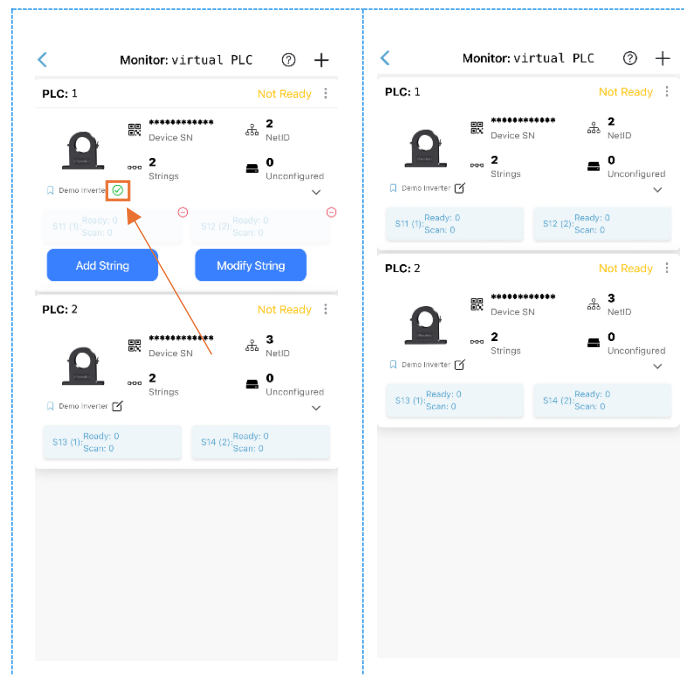


B. Remove String

Click "☑", choose the string to be removed; Click "⊖", then click "Confirm".



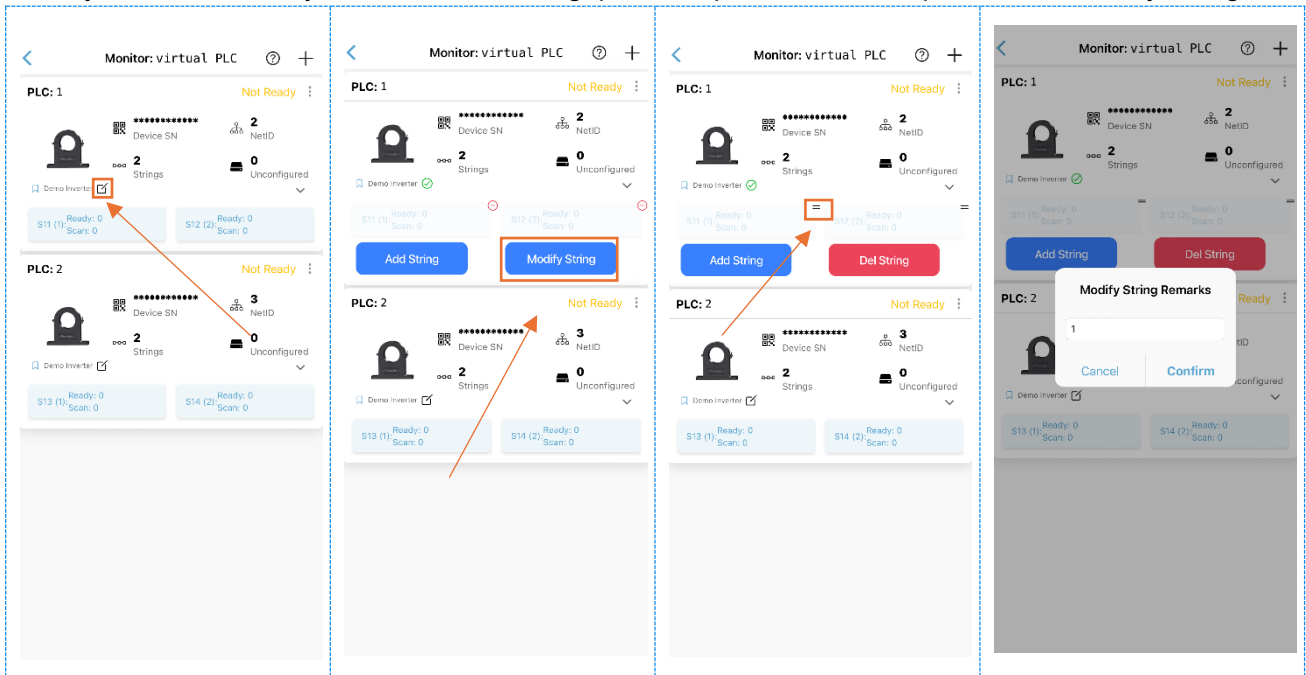
If you want to remove more than one string, please repeat the operation of "B. Remove String" above, and click "✔" to finish the operation after removing the strings.



C. Modify String

Click "☑", and choose "Modify String", click "=", and then click "Confirm" after modifying the String Remarks according to your needs;

If you want to modify more than one string, please repeat the above operation "C. Modify String".



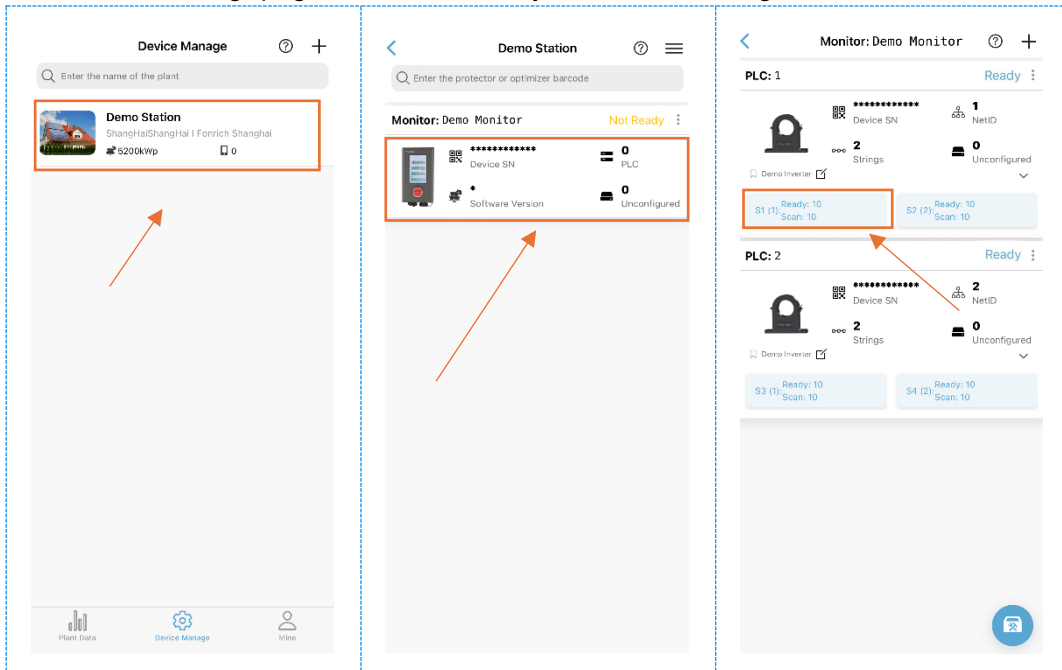
3.10 Modify Safety Protector and Optimizer

Notice

Please make sure that all the hardware of the device is connected correctly.

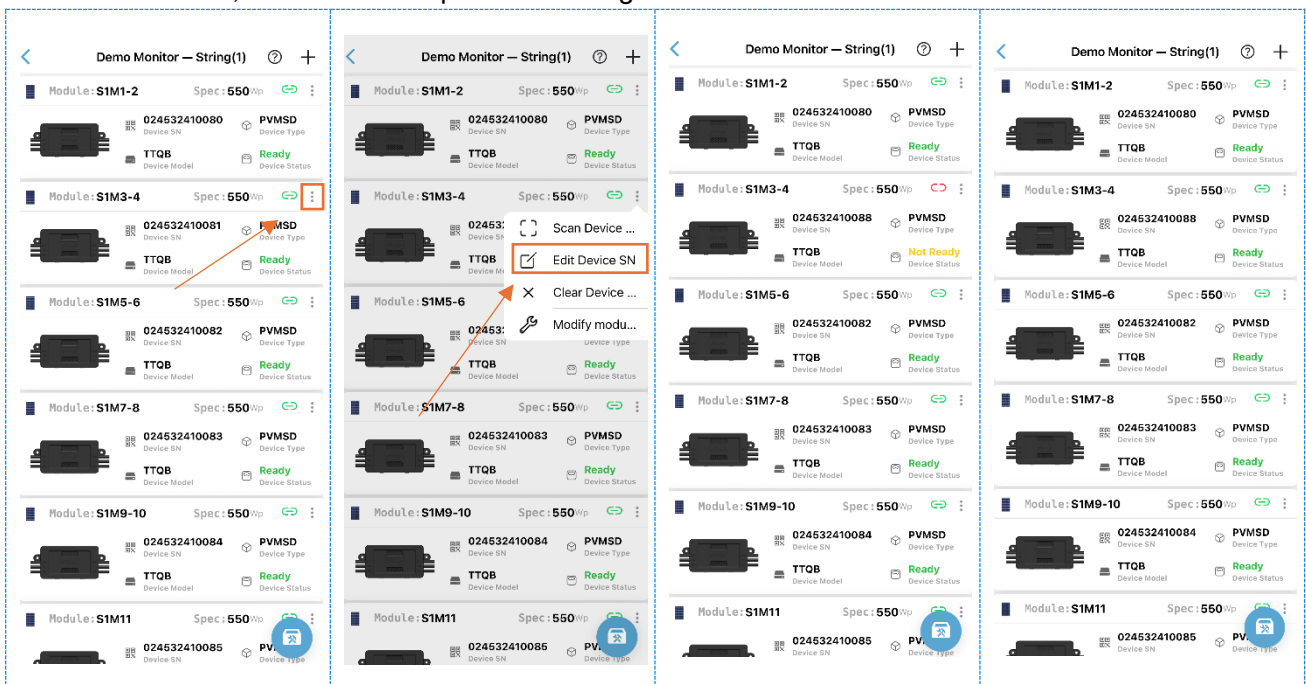
Please make sure that Bluetooth and location services are turned on the mobile platform.

- 1) After entering "Device Manage" page → Corresponding power plant → Corresponding monitor → Corresponding PLC transceiver;
- 2) Enter the certain "String" page needed to modify the device belongs to.



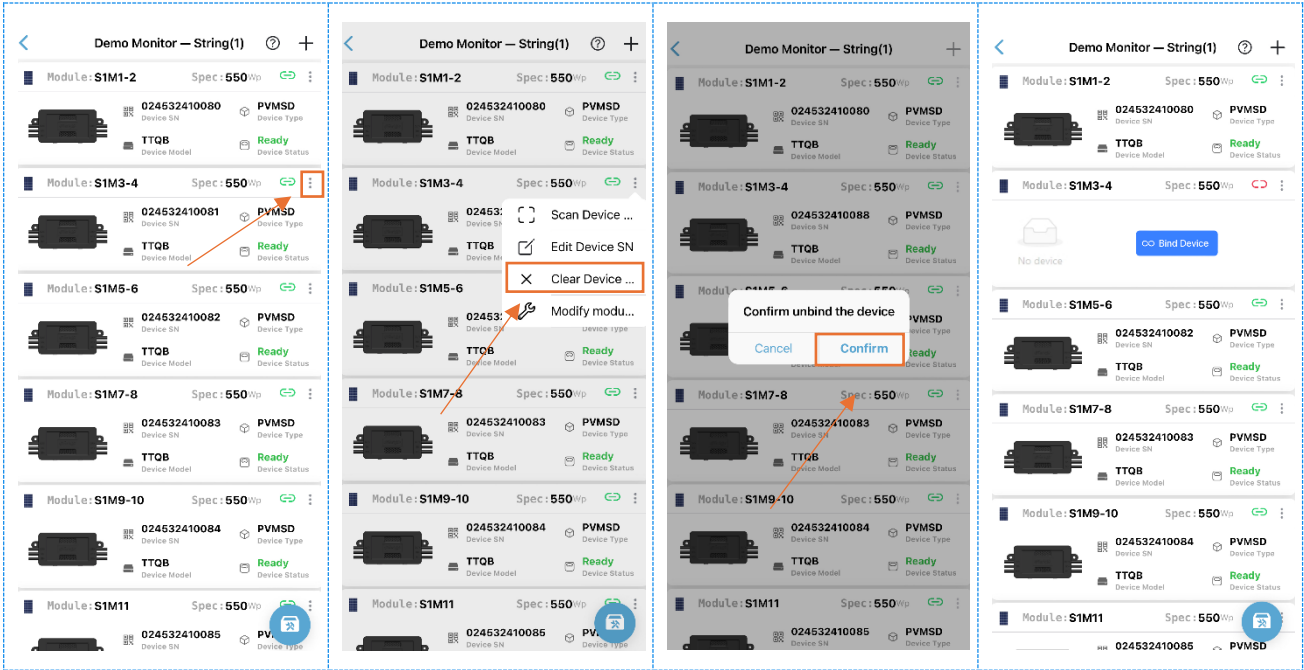
A. Modify Safety Protector or Optimizer.

Click ":" in the upper right corner of the device, select "Edit Device SN", and input the changed device serial number, then follow Chapter 3.7 "Configure Monitor and PLC Transceiver".



B. Clear Safety Protector or Optimizer

Click ":" in the upper right corner of the device, choose "Clear Device", and click "Confirm".



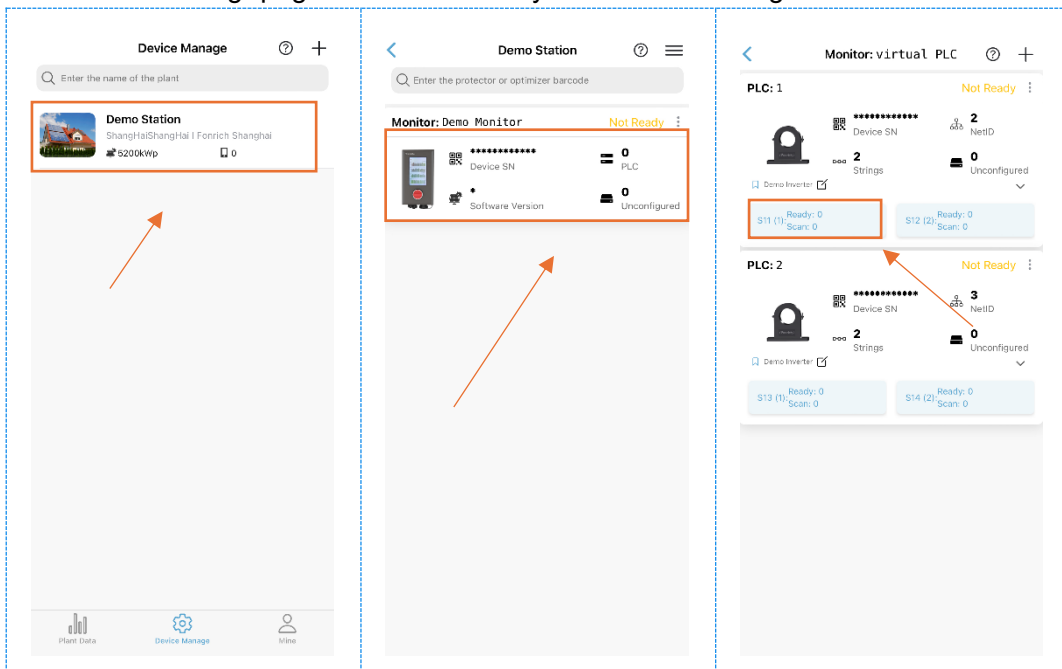
3.11 Modify Module

Notice

Please make sure that all the hardware of the device is connected correctly.

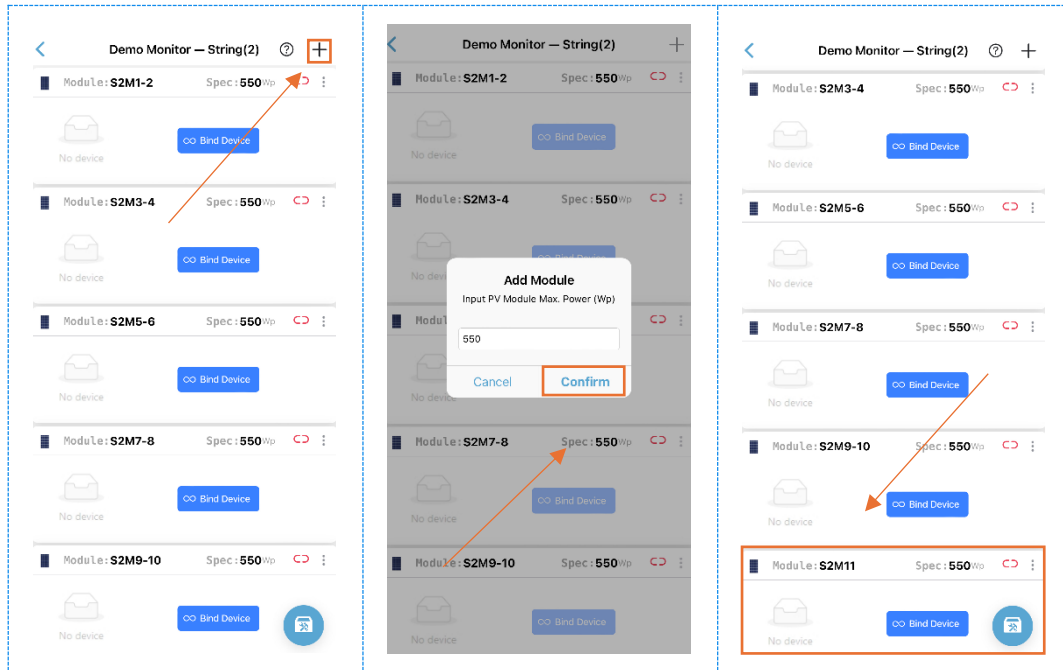
Please make sure that Bluetooth and location services are turned on the mobile platform.

- 1) After entering "Device Manage" page → Corresponding power plant → Corresponding monitor → Corresponding PLC transceiver;
- 2) Enter the certain "String" page needed to modify the module belongs to.



A. Add Module

Click on the upper right corner of the "+", fill in the module specifications according to the actual **Input PV Module Max. Power (Wp)**, Click "**Confirm**".

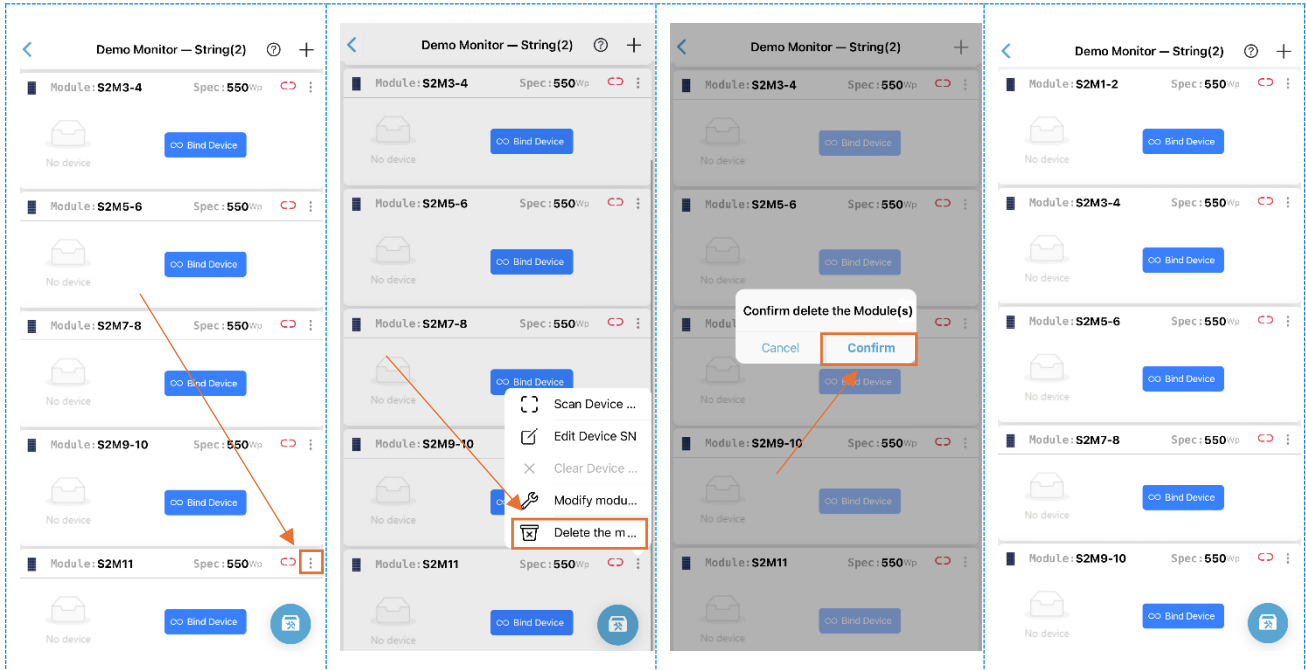


Note: When using a 1:2 device,

1. When the existing module is an odd-numbered module, performing the "**Add Module**" operation once will change it to an even-numbered module to the last one.
2. When the existing module is an even-numbered module, performing the "**Add Module**" operation once will add one odd-numbered module after. The actual installation must have PV2 positive and negative connections directly.
3. When the existing module is an even-numbered module, performing the "**Add Module**" operation twice will add one even-numbered module after.

B. Delete Module

Only the last device can be deleted, select ":" in the upper right corner of the last device, click "**Delete the module(s)**", then click "**Confirm**".



Note: When using a 1:2 device:

1. When there is an odd number of modules, performing the "**Remove Module**" operation will delete one module at a time.
2. When there is an even number of modules, performing the "**Remove Module**" operation will delete two modules at a time.

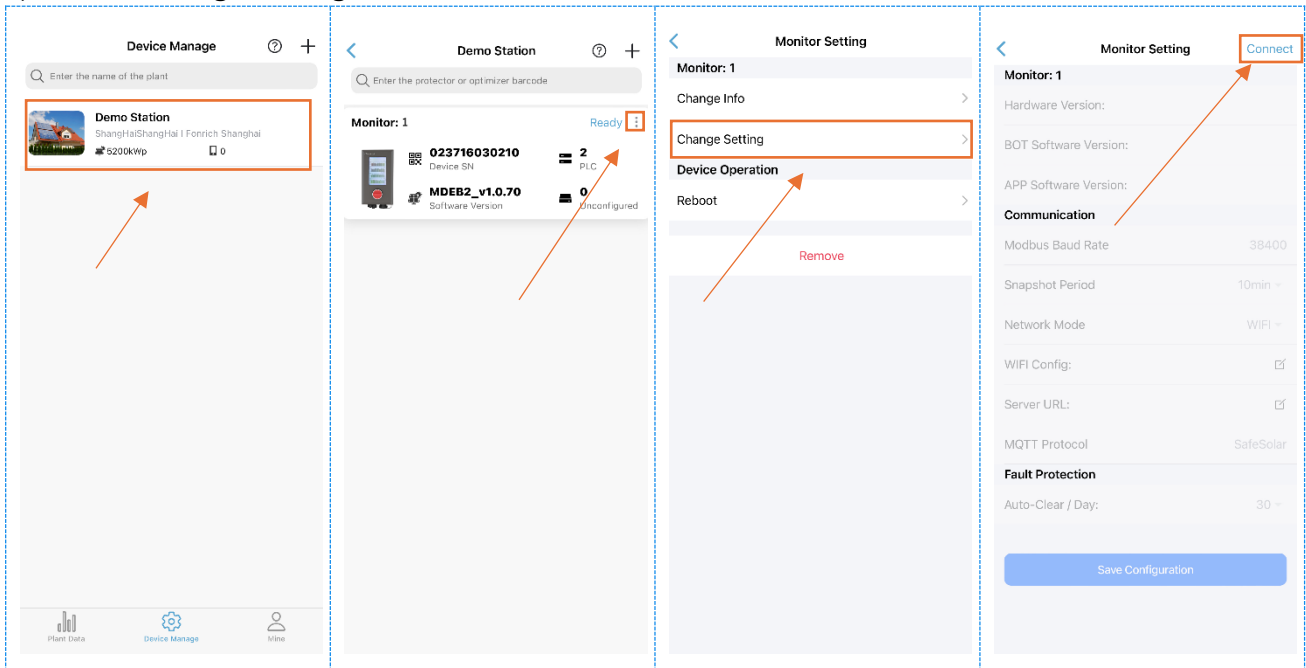
3.12 Configure Network Mode & IP

Notice

Please make sure that all the hardware of the device is connected correctly.

Please make sure that Bluetooth and location services are turned on.

- 1) After entering "Device Manage" page→ Corresponding power plant
- 2) Click ":" in the upper right corner of the corresponding monitor, then enter the "Monitor Settings" page.
- 3) Click "Change Setting" → "Connect"



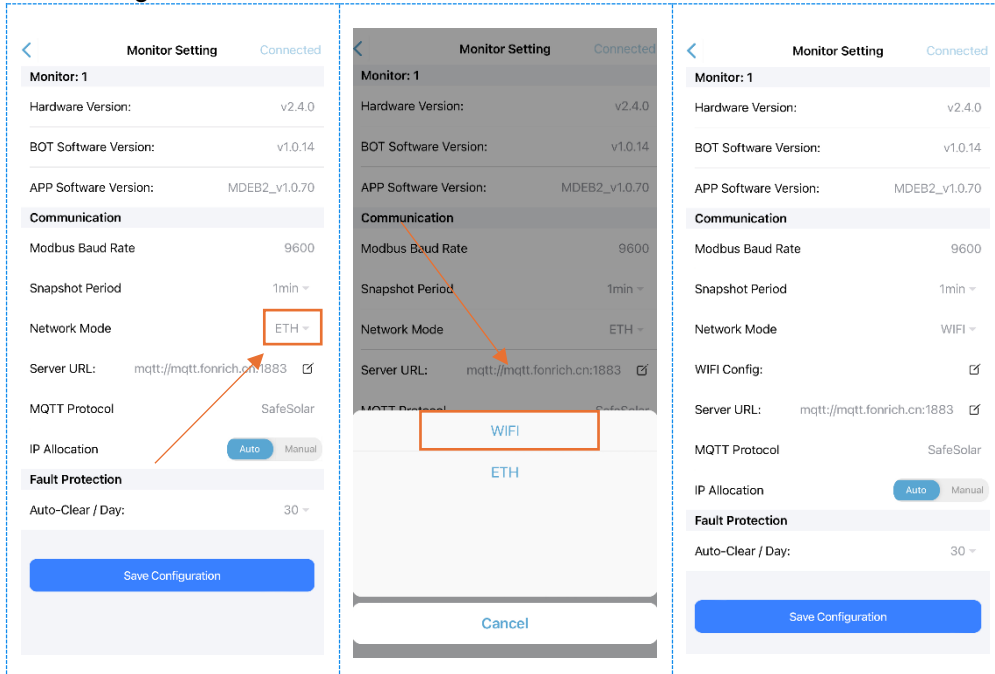
After the Bluetooth connection is completed, the monitor enters an editable parameter state. Follow the steps below to proceed.

4) Configure Network Mode

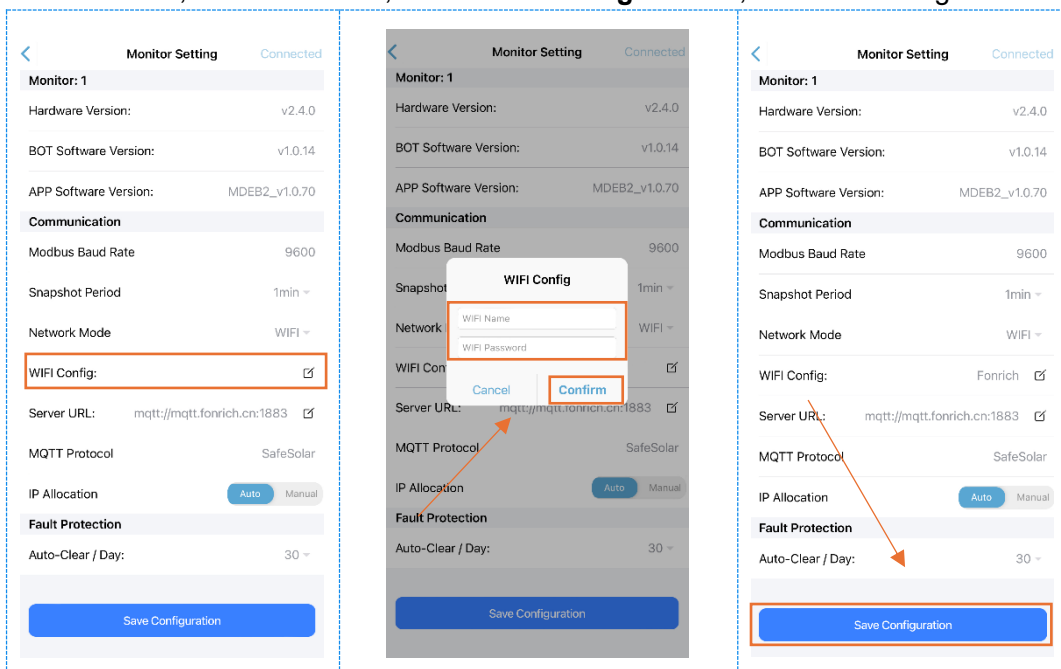
4.1 Choose the network mode you need (Default ETH) on the right side of "Network Mode",
 Note: ETH means Ethernet Connection by actual LAN cable.

If you want to choose **WIFI** Mode, please follow the instructions below.

4.2 Click "▼" on the right side of "**Network Mode**", and choose "**WIFI**"



4.3 Click "☑" on the right side of "**WIFI Config**", fill in the correct **WIFI name and password** according to the on-site situation, click "**Confirm**", click "**Save Configuration**", the WIFI setting will be completed.

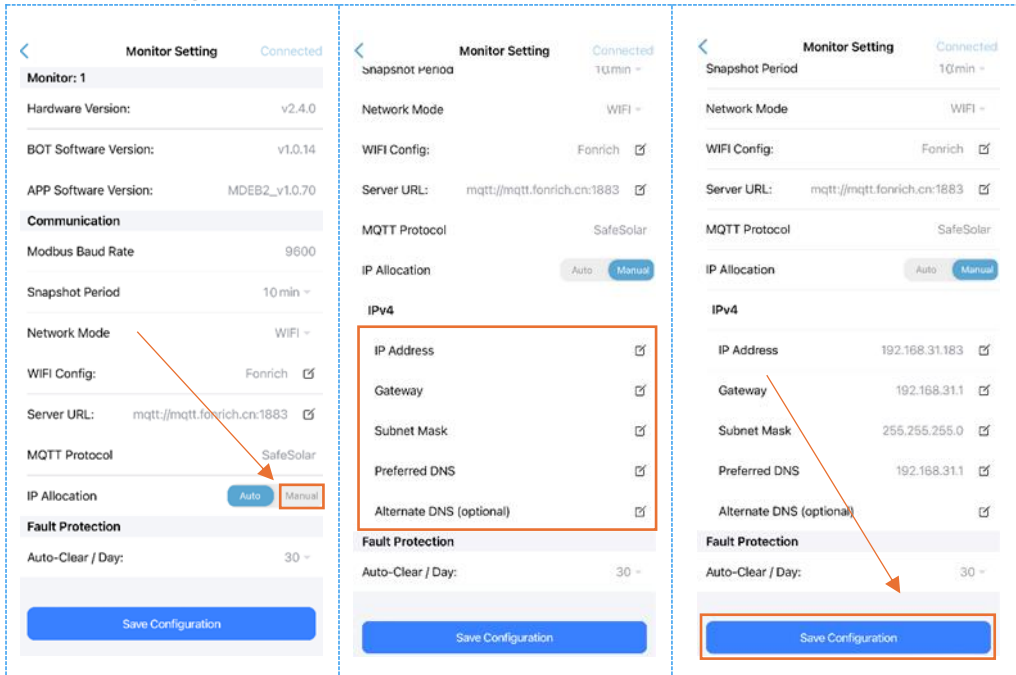


5) IP Configuration

5.1 Default Setting is "Auto" on the right side of the "IP Allocation", it means **DHCP (Dynamic Host Configuration Protocol)**

5.2 If you want to manually Configure IP address, click "Manual" on the right side of the "IP Allocation";

- 1) Click "☑" on the right side of "IP Address, Gateway, Subnet Mask, Preferred DNS, Alternate DNS (optional)" and fill in the corresponding contents according to the on-site situation.
- 2) Click "Save Configuration".



4 Plant Data

4.1 All Plants

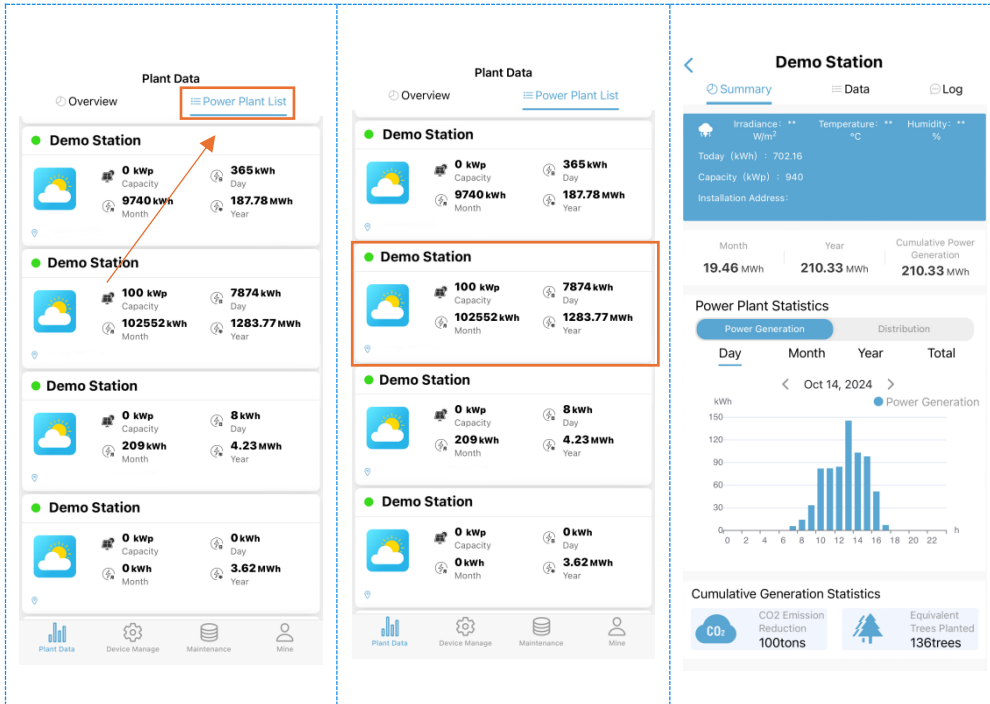
After the successful creation of the power plant and equipment configuration, you can view the **Power Generation Statistics** of all the built power plants in the "**Plant Data**" interface.



- In the basic information of all power plants, you can view the **Number of Plants** associated with the user account; the **Power Generation Statistics** of all plants for the **Today**, this **Month** and this **Year**.
- You can view the power generation of all power plants under the three dimensions of certain "**Day**", "**Month**" and "**Year**" by using "<" and ">" in the power generation statistics chart.
- For **Cumulative Generation Statistics**, you can view the cumulative emission reduction data of all power plants, **CO₂ Emission Reduction** and **Equivalent Trees Planted**.

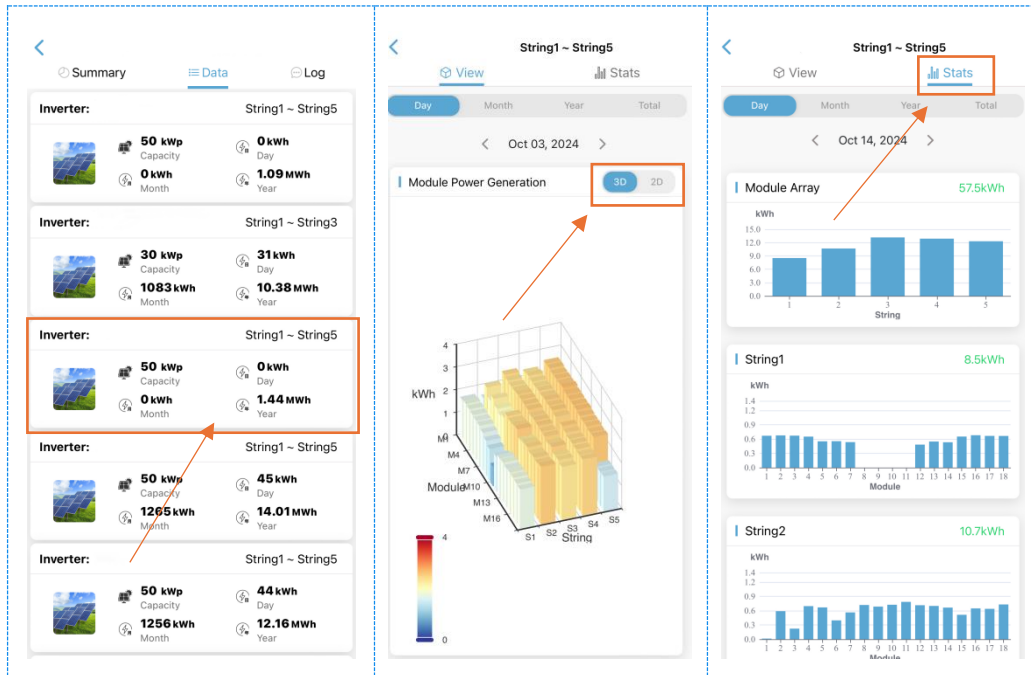
4.2 Single Plant

Click on "**Power Plant List**" to view the power generation data of single power plant.



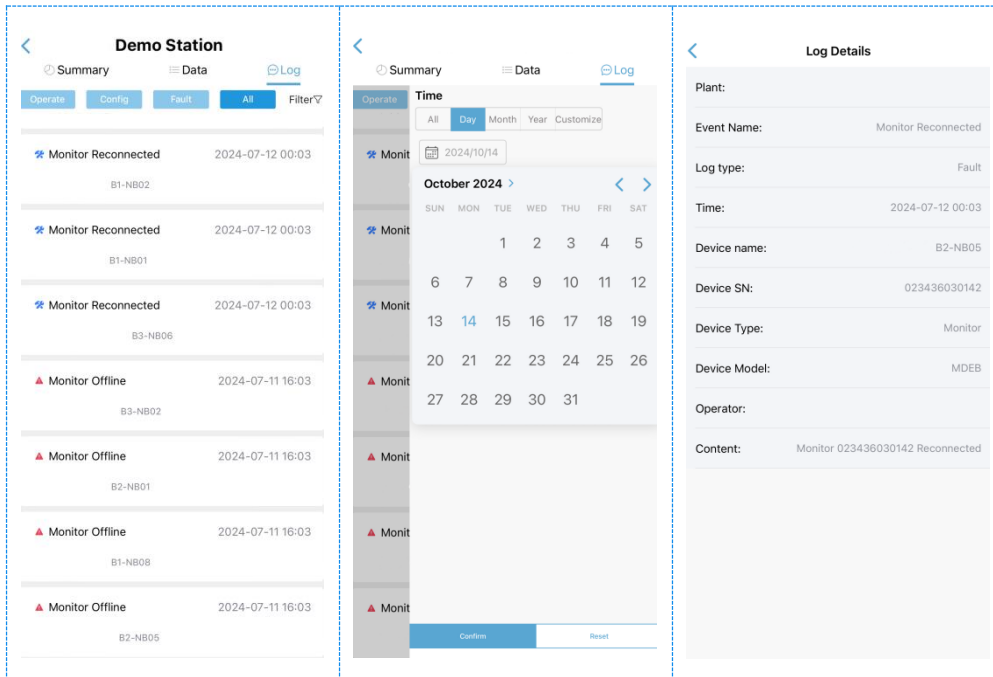
- For overview of the power plant, users can view the basic information of the power plant, including the power plant today's power generation, installed capacity of the power plant, installation address.
- For power generation statistics, users can view this **Month**, this **Year**, and **Cumulative Power Generation** data.
- You can switch to view **Power Generation** and **Distribution** data under the three dimensions of certain "**Day**", "**Month**" and "**Year**" by using "<" and ">" in the **Power Plant Statistics** chart.
- For **Cumulative Generation Statistics**, users can view the cumulative emission reduction data of the selected power plant, **CO₂ Emission Reduction** and **Equivalent Trees Planted**.

4.3 Plant Data



- In "Plant Data" → "Power Plant List" → "Data", users can view the power generation of each inverter array. In the inverter array, you can view the installed capacity, daily power generation, monthly power generation and annual power generation.
- In "Plant Data" → "Power Plant List" → "Data", users can click on the square array card to enter the "View" page of the square array, and view the power generation data of each panel of the array in multiple time dimensions, such as "Day", "Month", "Year", "Total", and also view the charts by switching between 3D and 2D charting modes.
- In "Plant Data" → "Power Plant List" → "Data", Users can click on "Stats" to view the power generation statistics of this array and single strings from multiple time dimensions, such as "Day", "Month", "Year" and "Total".

4.4 Plant Log



- In "Plant Data" → "Power Plant List" → "Log", users can view log records by filtered with **Operate**, **Config**, **Fault** and **All**.
- Users can filter by **All**, **Day**, **Month**, **Year**, and **Customize** to view the power plant logs for the relevant time period.
- Enter the **Log details** page to view logs occurring device-specific information details.

5 Appendix

Document Revision Log

Version	Descriptions	Time
1.1	First Edition	2023.01.14
1.6	App Version 1.5 General Updates	2024.03.18
2.2	App Version 2.0 General Updates	2024.09.18
2.3	Added Replacement of equipment function content	2024.10.11
2.4	Added Modify string function content	2024.10.17
2.5	Added add or clear modules, add or delete device content	2024.10.21
2.6	Added Configure Network Mode & IP content	2024.11.05