

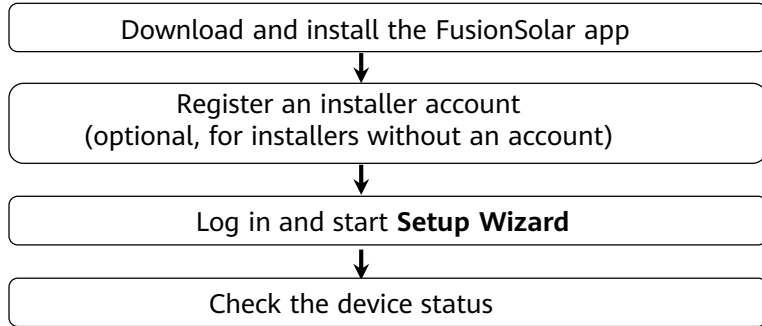
FusionSolar App Quick Guide

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FusionSolar App Quick Settings Operation Procedure



This document applies to the following scenarios:

- Inverter with built-in WLAN for local commissioning
- Inverter with a Smart USB-WLAN Adapter for local commissioning
- In RS485 cascading networking, the master inverter can be: SUN2000-(3KTL-20KTL)-M0, SUN2000-70KTL/75KTL-C1 (optional), SUN2000-50KTL/63KTL-JPM0, SUN2000-50KTL-JPM1, SUN2000-50KTL/60KTL/65KTL/100KTL/110KTL/125KTL-M0, SUN2000-70KTL/100KTL-INM0, SUN2000-100KTL-M1, SUN2000-175KTL-H0, SUN2000-185KTL-INH0, and SUN2000-185KTL-H1, SUN2000-(2KTL-5KTL)-L1.

FAQ

- Physical Layout Design of PV Modules Using Device Commissioning (optional, for scenarios with optimizers)
- Physical layout design of PV modules on the FusionSolar WebUI (optional, for scenarios with optimizers)
- Setting Export Limitation Parameters
- Setting Voltage Rise Suppression Q-U Curve

- The app screen snapshots provided in this document correspond to FusionSolar 2.5.8. The figures are for reference only.
- The initial password for connecting the inverter WLAN is **Changeme**.
- The initial password for connecting the Smart USB-WLAN Adapter is **Changeme**.
- The initial password of the **installer** is **00000a**. If the system prompts you to set a password, set the password and log in first power-on and change it immediately after login. To ensure account security, change the password periodically and keep the new password in mind. Not changing the initial password may cause password disclosure. A password left unchanged for a long period of time may be stolen or cracked. If a password is lost, devices cannot be accessed. In these cases, the user is liable for any loss caused to the PV plant.

1. Downloading and Installing the FusionSolar App

Method 1: Search for **FusionSolar** in Google Play to download and install the app.

Method 2: Scan the QR code to download and install the app.



Google Play
(Android)



FusionSolar
(Android)

The latest Android version is required for local commissioning. The iOS version is not updated and can be used only for viewing PV plant information. You can search for **FusionSolar** in App Store or scan the QR code to download the iOS version.



iOS

2. Register an Installer Account (Optional, for Installers Without an Account)

- **Creating the first installer account will generate a domain named after the company.** The default login address is intl.fusionsolar.huawei.com.

The email address is the user name for logging in to the FusionSolar app.

You have registered successfully!
Your account is: xxxxxxxx@xxx.com
We will send an activation link to your email address. Please activate your account as soon as possible.
If you do not receive an activation link, please contact us at: http://solar.huawei.com
Note: If the activation link is not accessible, please change your browser and try again.

Log in to the registered email and activate the account.

- **To create multiple installer accounts for the same company, log in to the FusionSolar app and tap New User.**

Installer role: power station homepage, power station view, equipment management, report management, smart operation and maintenance, system setting.

3. Log in and Start Setup Wizard

- Local Commissioning Using the Built-in WLAN of the Inverter

English FusionSolar

User name, phone or email
Please enter the password.

Auto Login Forgot Password?

LOGIN

Plant Status
Total number of plants: 17
Normal: 5, Faulty: 0, Disconnected: 12

Setup Wizard New User

Statistics

PV plant 1
DC capacity: 100.000kWp
Daily energy: 186.16kWh

PV plant 2
DC capacity: 3.000kWp
Daily energy: 69.94kWh

Cannot find the QR code?
Scan the QR code of the inverter connected to the Smart Dongle.

Identity authentication
SN: XXXXXXXXXXXX
installer
Enter your password.

The initial password is 00000a.

Identity authentication
SN: XXXXXXXXXXXX
installer
Enter your password.
Security level:
Enter the password again.

Username: installer. Set the password at the first login.

SUN2000-10KTL-M0
Communication status: No communications component
Management system: Connection failed

Quick settings
Device detection: Completed
Connect to mgmt sys

Setting basic parameters
Grid code
Voltage level
Grid frequency
Phone time
Phone time zone: UTC+08:00
Sync phone time:

At the first login, the Quick settings screen is displayed by default.

If Sync phone time is enabled, the time and time zone of the inverter are synchronized with those of the mobile phone.

Next

In a non-cascading scenario, the step of Searching for cascaded inverters is not involved.

Quick settings
Device detection: Completed
Connect to mgmt sys

Setting basic parameters
Check whether the detected devices are consistent with the actual connected devices.

Cascaded inverters
2pcs

Power meter
HUAWEI-DDSU666-H (Single-phase)
Battery
LG-RESU
SDongleA
SDongleA
Optimizer
SUN2000P (4pcs)

Previous Next

Cascaded inverters
Networking mode: RS485
0 Inverter
Searching for cascaded inverters

Cascaded inverters
Networking mode: RS485
1 Inverter
Configuring... 92%
Device magt
SN:xxxxxxxxxxxxxxxxxxxx
address:3
Success

Cascaded inverters
Networking mode: RS485
2 Inverter
Searching for cascaded inverters
Device magt
SN:xxxxxxxxxxxxxxxxxxxx
address:
Success

FINISH

Quick settings
Device detection: Completed
Connect to mgmt sys

Setting basic parameters
Check whether the detected devices are consistent with the actual connected devices.

Cascaded inverters
2pcs

Power meter
HUAWEI-DDSU666-H (Single-phase)
Battery
LG-RESU
SDongleA
SDongleA
Optimizer
SUN2000P (4pcs)

Previous Next

Ensure that the devices in the device list are consistent with the actually connected devices.

Cascading of multiple inverters with the SUN2000-(3KTL-20KTL)-M0 and SUN2000-(2KTL-5KTL)-L1 as the master inverter.

Select the corresponding communication settings based on the Smart Dongle.

WLAN communication

Quick settings

Device detection Completed

Setting basic parameters Connect to mgmt sys

The access to the management system must be authorized by the customer. For details, see the privacy policy.

Monitor the PV plant through the management system.

Ethernet

Select a router that can connect to the Internet and enter the router password.

WLAN list

Password Router WLAN password

Previous Next

FE communication

Quick settings

Device detection Completed

Setting basic parameters Connect to mgmt sys

The access to the management system must be authorized by the customer. For details, see the privacy policy.

Monitor the PV plant through the management system.

Ethernet

If Ethernet is disabled, the network cable is not connected. Reconnect the network cable.

Setting parameters for the inverter to connect to the router

DHCP

Previous Next

4G communication

Quick settings

Device detection Completed

Setting basic parameters Connect to mgmt sys

The access to the management system must be authorized by the customer. For details, see the privacy policy.

Monitor the PV plant through the management system.

Dongle parameter settings

APN mode Automatic

Network mode 4G/3G/2G automatic selection

PIN

Parameter	Description
APN mode	<ul style="list-style-type: none"> Set SIM card parameters. Obtain the parameters from the SIM card carrier. When APN mode is set to Automatic, APN, APN dialup number, and APN user name are not displayed. When APN mode is set to Manual, APN-related parameters are displayed. You can set the parameters.
APN	
APN dialup number	
APN user name	
APN user password	
PIN	<ul style="list-style-type: none"> The PIN code is usually at the back of a SIM card. If the automatic dialing is successful, 4G parameters are not displayed.

Previous Next

Quick settings

Device detection Completed

Setting basic parameters Connect to mgmt sys

Quick settings are completed. Check the following

- Connect to mgmt sys Success
- Sync param Success
- SN:XXXXXXXXXXXX Success
- SN:XXXXXXXXXXXX Success
- Inverter SUN2000-XXX 1 pcs Grid connected

Tips

Connect your phone to the Internet. Turn off WLAN and enable cellular mobile network.

Confirm

Previous Next

Add a plant.

Add plant

Add plant

Basic info

*Company Please select a company name

*Plant Name Please select a plant name

*DC capacity(kWp) DC capacity of the plant

*Time of grid connection 03/01/2020

*Region Please select

*Plant Address Enter or locate a plant address

Time zone (UTC+08:00) Beijing, Chongqing, Hong Kong, Urumqi

Owner Owner name

Contact info Mobile phone number or email address

Residential user's authorization obtained If the content you entered involves third-party personal information, obtain authorization in advance.

Equipment Connection

Device type:Smart Dongle

Device model:SDongle

PREVIOUS FINISHED

Create an owner account.

New User

Company* xxx

Role* Owner

Plant*

Photo

User name* Please enter a user name

Password* Please enter the password.

Phone Please enter contact phone number

Email* Please enter E-mail address

Residential user's authorization obtained If the content you entered involves third-party personal information, obtain authorization in advance.

CANCEL CONFIRM

Plant Status

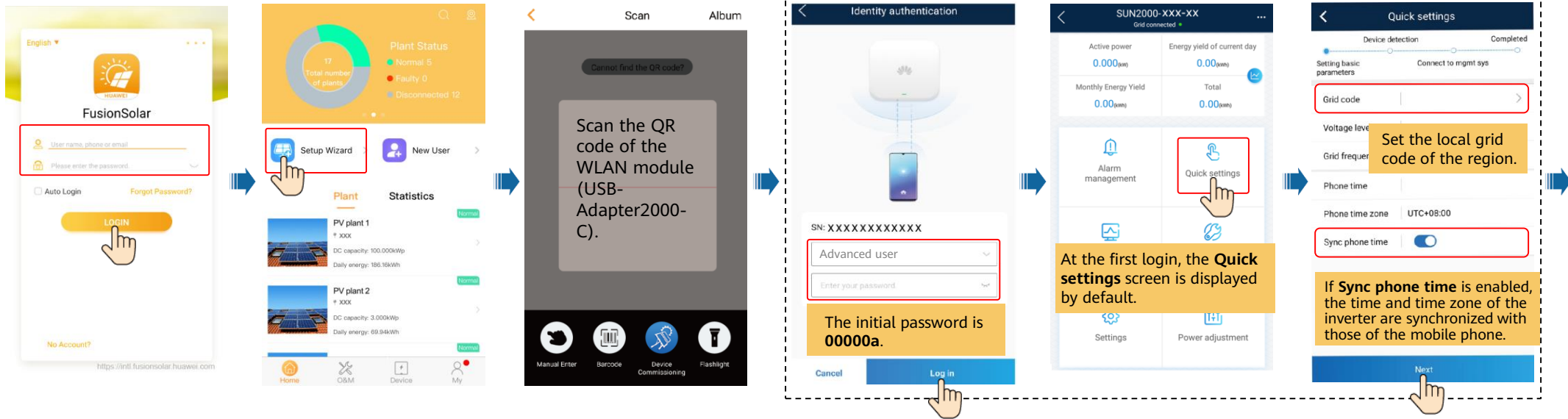
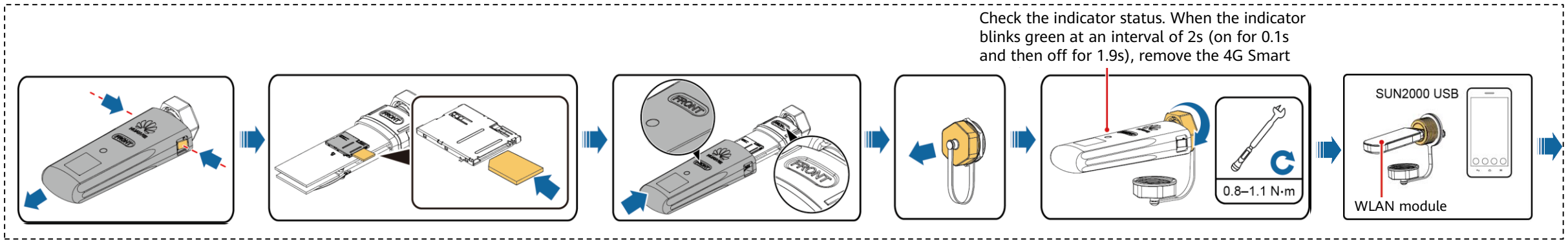
17 Total number of plants

- Normal 5
- Faulty 0
- Disconnected 12

Home O&M Device My

Owner role: power station homepage, equipment management, user account settings and power station information settings

• Local Commissioning Using a Smart USB-WLAN Adapter



In a non-cascading scenario, the step of **searching for cascaded inverters** is not involved.

In RS485 cascading networking, the master inverter can be: SUN2000-70KTL/75KTL-C1 (optional), SUN2000-50KTL/63KTL-JPM0, SUN2000-50KTL-JPM1, SUN2000-50KTL/60KTL/65KTL/100KTL/110KTL/125KTL-M0, SUN2000-70KTL/100KTL-INM0, SUN2000-100KTL-M1, SUN2000-175KTL-H0, SUN2000-185KTL-INH0, and SUN2000-185KTL-H1

Ensure that all the installed devices have been detected successfully.

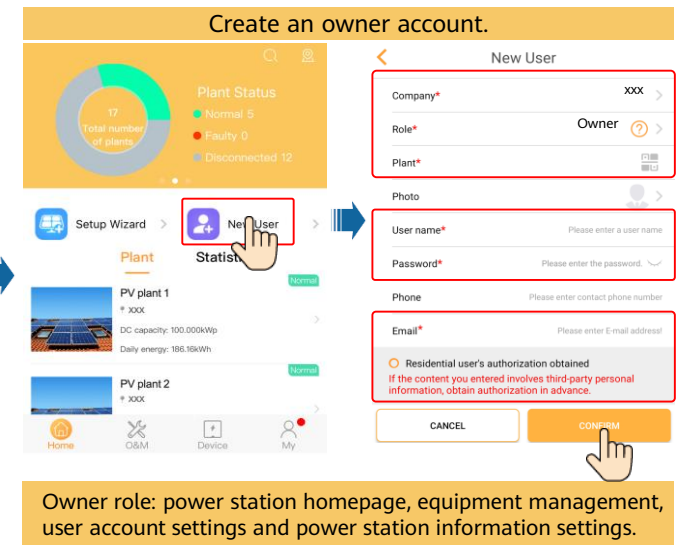
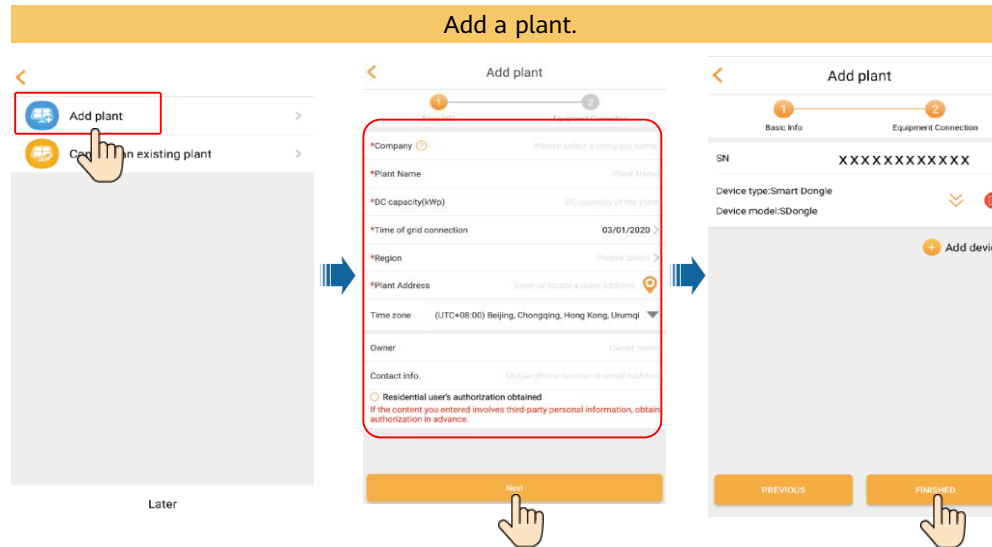
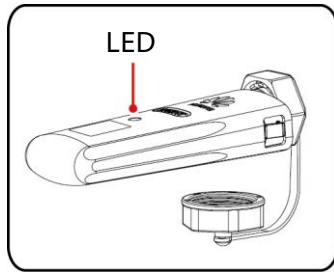
Parameter	Description
APN mode	• Set SIM card parameters. Obtain the parameters from the SIM card carrier.
APN	• When APN mode is set to Automatic, APN, APN dialup number, APN user name, and APN user password are not displayed. When APN mode is set to Manual, APN-related parameters are displayed. You can set the parameters
APN dialup number	
APN user name	
APN user password	
PIN	

- The PIN code is usually at the back of a SIM card.
- If the automatic dialing is successful, 4G parameters are not displayed.

In a cascading scenario, the parameter synchronization result is displayed.

Connect to the management system.

After the green indicator is steady on or blinks quickly (on for 0.2s and off for 0.2s), add a PV plant.



Owner role: power station homepage, equipment management, user account settings and power station information settings.

LED Color	Status	Remarks	Description
N/A	Off	Normal	The Dongle is not secured or is not powered on.
Yellow (blinking green and red simultaneously)	Steady on		The Dongle is secured and powered on.
Green	Blinking in a 2-second cycle (on for 0.1s and then off for 1.9s)	Normal	Dialing (duration < 1 min)
	Blinking at long intervals (on for 1s and then off for 1s)	Abnormal	If the duration is longer than 1 min, the 4G parameter settings are incorrect. Reset the parameters.
	Blinking at long intervals (on for 1s and then off for 1s)	Normal	The dial-up connection is set up successfully (duration < 30s).
	Blinking at long intervals (on for 1s and then off for 1s)	Abnormal	If the duration is longer than 30s, the settings of the management system parameters are incorrect. Reset the parameters.
Red	Steady on	Normal	Successfully connected to the management system.
	Blinking at short intervals (on for 0.2s and then off for 0.2s)	Abnormal	The inverter is communicating with the management system through the Dongle.
	Blinking at short intervals (on for 0.2s and then off for 0.2s)	Abnormal	The Dongle is faulty. Replace Dongle.
Blinking red and green alternatively	Blinking at short intervals (on for 0.2s and then off for 0.2s)	Abnormal	The Dongle has no SIM card or the SIM card is in poor contact. Check whether the SIM card has been installed or is in good contact. If not, install the SIM card or remove and insert the SIM card.
	Blinking at long intervals (on for 1s and then off for 1s)	Abnormal	The Dongle fails to connect to the management system because it has no signals, weak signal, or no traffic. If the Dongle is reliably connected, check the SIM card signal through the APP. If no signal is received or the signal strength is weak, contact the carrier. Check whether the tariff and traffic of the SIM card are normal. If not, recharge the SIM card or buy traffic.
	Blinking at long intervals (red for 1s and green for 1s)	Abnormal	No communication with the inverter
Blinking red and green alternatively	Blinking at long intervals (red for 1s and green for 1s)	Abnormal	<ul style="list-style-type: none"> Remove and insert the Dongle. Check whether inverters match the Dongle. Connect the Dongle to other inverters. Check whether the Dongle or the USB port of the inverter is faulty.
	Blinking at short intervals (red for 0.2s and green for 0.2s)	Normal	The Dongle is being upgraded locally.

4. Checking the Device Status

• Checking the Device Status Remotely.

The screenshots show the FusionSolar web interface. The first screenshot shows the 'Plant Status' overview with a gauge for 'Total number of plants' (17) and a list of plant statuses: Normal (5), Faulty (0), and Offline (1). The second screenshot shows the 'PV plant 1' statistics, including 'Daily energy' (1.96kWh), 'Daily consumption' (1.96kWh), 'Self-consumption' (1.96kWh), and 'Lifetime energy' (1.06MWh). The third screenshot shows the 'Device' list for 'PV plant 1', listing three devices. The fourth screenshot shows the details for a 'Smart Energy Center' device, including its name, type, capacity, current power, daily energy, conversion efficiency, lifetime energy, and software version. A red box highlights the 'Optimizer search' button in the 'Smart Energy Center' details.

Perform this operation when there are multiple inverters in a PV plant. For a single inverter, this screen is not displayed.

Check the search progress of the optimizer.

- Ensure that all the Smart PV Optimizers have been detected successfully. Then you can perform the physical layout of PV modules on the FusionSolar WebUI.
- If the Smart PV Optimizers cannot be searched due to poor illumination, search for the Smart PV Optimizers again when the illumination is good.

• Checking the Device Status Using Device Commissioning

Scenario 1: mobile phone not connected to the Internet

The screenshots show the FusionSolar mobile app. The first screenshot shows the login screen with fields for 'User name, phone or email' and 'Please enter the password'. A red box highlights the 'Device commissioning' option in the bottom navigation bar. The second screenshot shows the 'Device commissioning' screen with a note: 'Note: If the mobile phone connected to the Internet, tap the screen does not display Device commissioning.' The 'Device commissioning' option is highlighted with a red box and a '2' in a blue circle.

Scenario 2: mobile phone connected to the Internet

The screenshots show the FusionSolar mobile app. The first screenshot shows the login screen with fields for 'User name, phone or email' and 'Please enter the password'. A red box highlights the 'Device commissioning' option in the bottom navigation bar. The second screenshot shows the 'Device commissioning' screen with a note: 'Note: If the mobile phone connected to the Internet, tap the screen does not display Device commissioning.' The 'Device commissioning' option is highlighted with a red box and a '2' in a blue circle.

Checking the Device Status Using Device Commissioning

The screenshots show the FusionSolar mobile app. The first screenshot shows the 'Identity authentication' screen with a red box around the 'Advanced User' dropdown and the 'Log in as Advanced User.' text. The second screenshot shows the 'Device monitoring' screen with a red box around the 'Device Monitoring' option in the bottom navigation bar. The third screenshot shows the 'Device monitoring' screen with a red box around the 'Device Monitoring' option in the bottom navigation bar.

FAQ 1. Physical Layout Design of PV Modules Using Device Commissioning (Optional, for Scenarios with Optimizers)

Step 1. Check that the SN labels of the Smart PV Optimizers have been attached to the Huawei physical layout template.

Installation positions of PV modules and optimizers

Huawei Physical Layout Template

Template shooting

String number: 1-3, 1-4, 1-5, 2-4, 2-5, 1-2, 1-7, 1-6, 2-3, 2-7, 1-1, 1-8, 2-1, 2-2, 2-8

String 1, String 2

How do I take a photo of a template?

1. Keep your phone parallel to the template and take a photo in landscape mode.
2. Ensure that the four positioning points in the corners are in the frame.
3. Ensure that the QR code is attached within the frame.

Step 2. Check that the Smart PV Optimizers are successfully searched. **Step 3.1 Set optimizer physical layout (method 1: identify image).**

1. Open the FusionSolar app, log in to intl.fusionsolar.huawei.com using the installer account, choose **My > Device commissioning**, and connect to the WLAN hotspot of the solar inverter.
2. Select **installer** and enter the login password.
3. Tap **Log In**. The SUN2000 screen is displayed.
4. Choose **Device monitoring** and check that the Smart PV Optimizers have connected to the solar inverter.

1. On the SUN2000 screen, choose **Maintenance**.
2. Tap **Physical layout design of PV modules**.
3. Tap the blank area. The selection buttons are displayed.

Tap the blank area. The Identify image button is displayed.

5. Choose **Photo** or **Choose from album** to upload a physical layout template.
6. Upload template for identification. you can continue to upload multiple physical layout templates.
7. Tap + to continue to upload templates. After all photos are recognized, tap Next to generate the layout.
8. Tap **Submit**. (If the template is unidentified, Bind optimizers by referring to step 4.)

Step 3.2 Set optimizer physical layout (method 2: module adding).

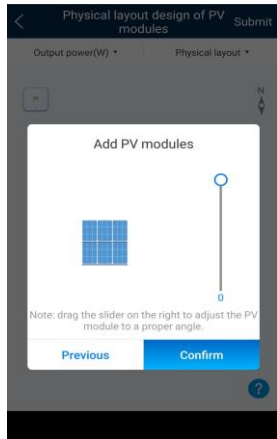
1. On the **Physical layout design of PV modules** screen, tap **Add PV module**.
2. Select the number of rows and columns for added PV modules.
3. Tap + or - to change the number of rows and columns.

4. Tap **Identify image**.
5. Choose **Photo** or **Choose from album** to upload a physical layout template.
6. Upload template for identification. you can continue to upload multiple physical layout templates.
7. Tap + to continue to upload templates. After all photos are recognized, tap Next to generate the layout.
8. Tap **Submit**. (If the template is unidentified, Bind optimizers by referring to step 4.)
1. On the **Physical layout design of PV modules** screen, tap **Add PV module**.
2. Select the number of rows and columns for added PV modules.
3. Tap + or - to change the number of rows and columns.

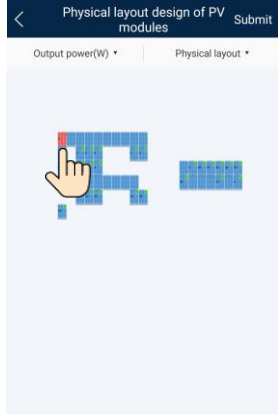
FAQ 1. Physical Layout Design of PV Modules Using Device Commissioning (Optional, for Scenarios with Optimizers)

Step 4. Bind/Unbind Smart PV Optimizers

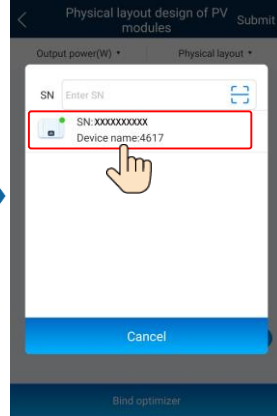
4. Adjust the PV module angle, and tap **Confirm**. Bind optimizers by referring to step 4.



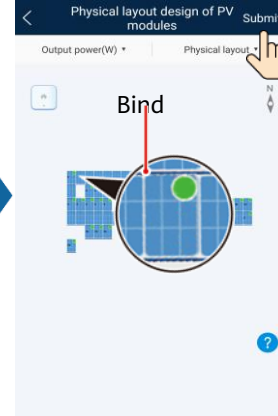
1. Select the PV modules to be bound to the optimizer.



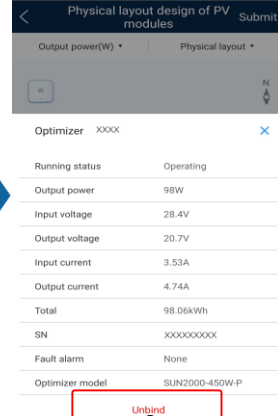
2. Select the corresponding optimizer.



3. Repeat steps 1 and 2 to bind all Smart PV Optimizers. Tap **Submit**.

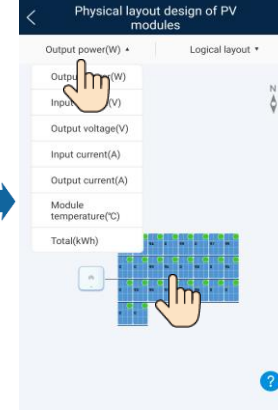
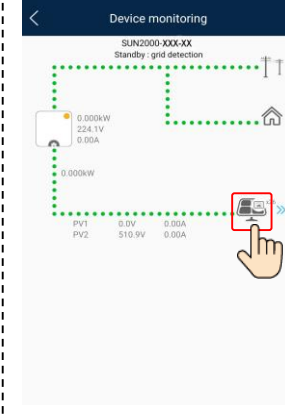


4. Unbind: Select a PV module and tap **Unbind**.



Step 5. Check the Smart PV Optimizer status.

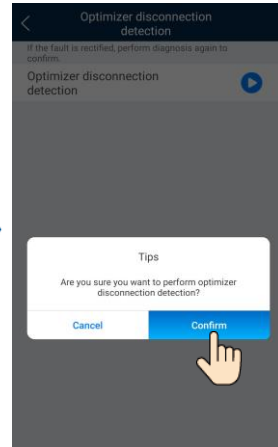
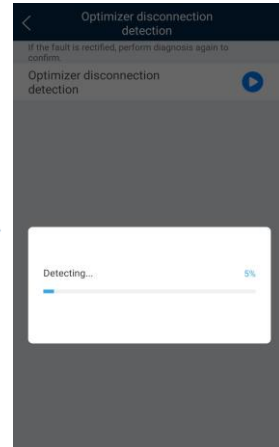
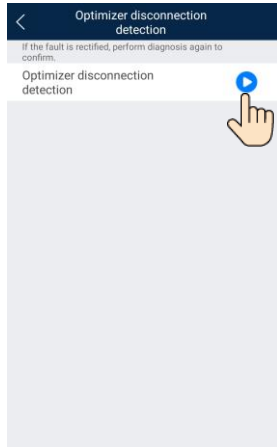
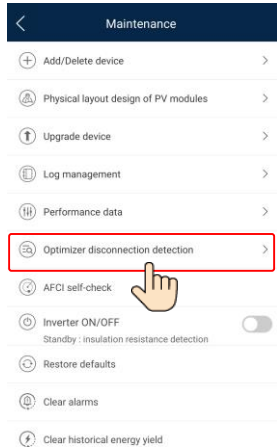
On the SUN2000 screen, choose **Device monitoring** and tap the optimizer. On the **Physical layout design of PV modules** screen, select the corresponding PV string and check the Smart PV Optimizer status.



Device monitoring	
Output power(W)	Logical layout
Optimizer 4578	
Running status	Operating
Output power	17W
Input voltage	50.9V
Output voltage	37.2V
Input current	0.39A
Output current	0.47A
Total	2.74kWh
SN	XXXXXXXX
Module temperature	30.4°C
Fault alarm	None
Optimizer model	SUN2000-450W-P

Step 6. Detect optimizer disconnection.

On the **Maintenance** screen, choose **Optimizer disconnection detection**, tap the detection button to detect the optimizer disconnection, and rectify the fault based on the detection result.



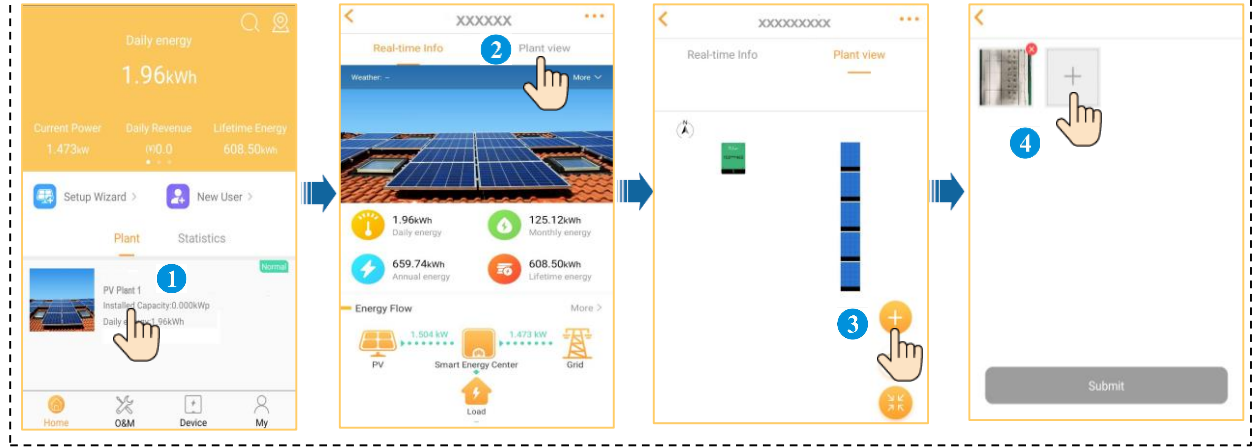
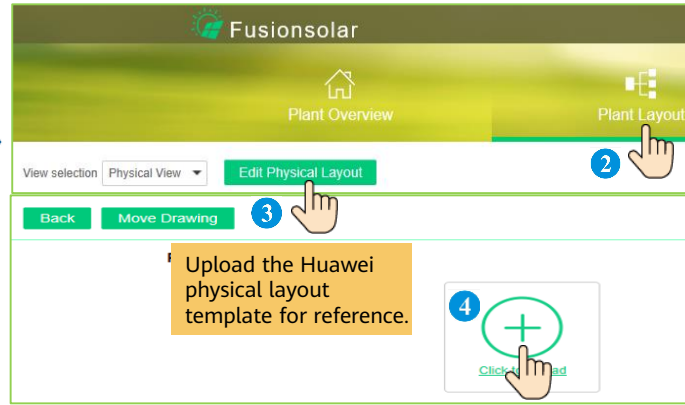
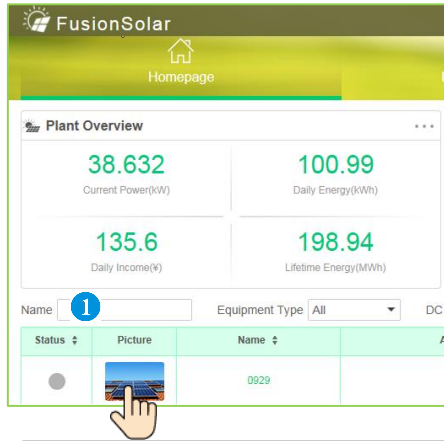
FAQ 2. Physical Layout Design of PV Modules on the FusionSolar WebUI (Optional, for Scenarios with Optimizers)

Log in to the WebUI of the FusionSolar management system. FusionSolar: <https://intl.fusionsolar.huawei.com>.

1. On the **Homepage**, click a PV plant to enter the **Single Power Plant** page.

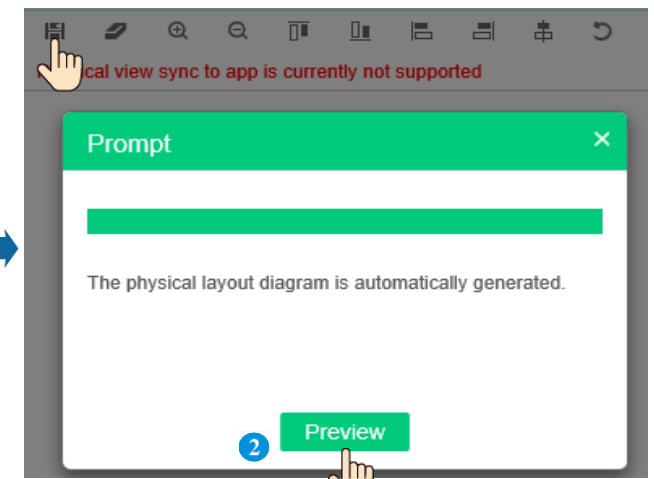
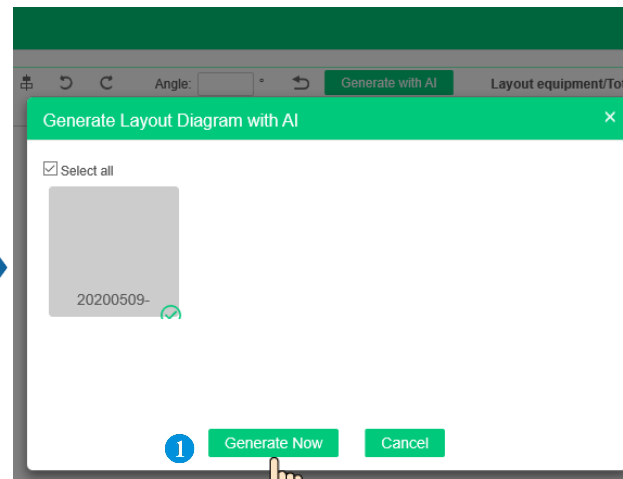
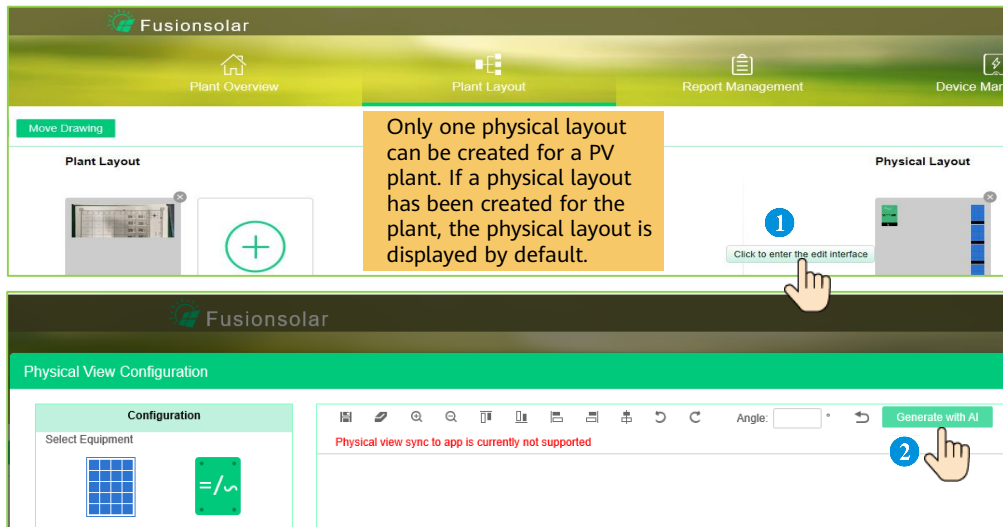
2.1 Upload the physical layout (method 1: through the WebUI). Go to the **Plant Layout** page and upload the Huawei physical layout template.

2.2 Upload the physical layout (method 2: through the app). Select a PV plant, enter the **Plant view** screen, and tap + to upload the physical layout template.




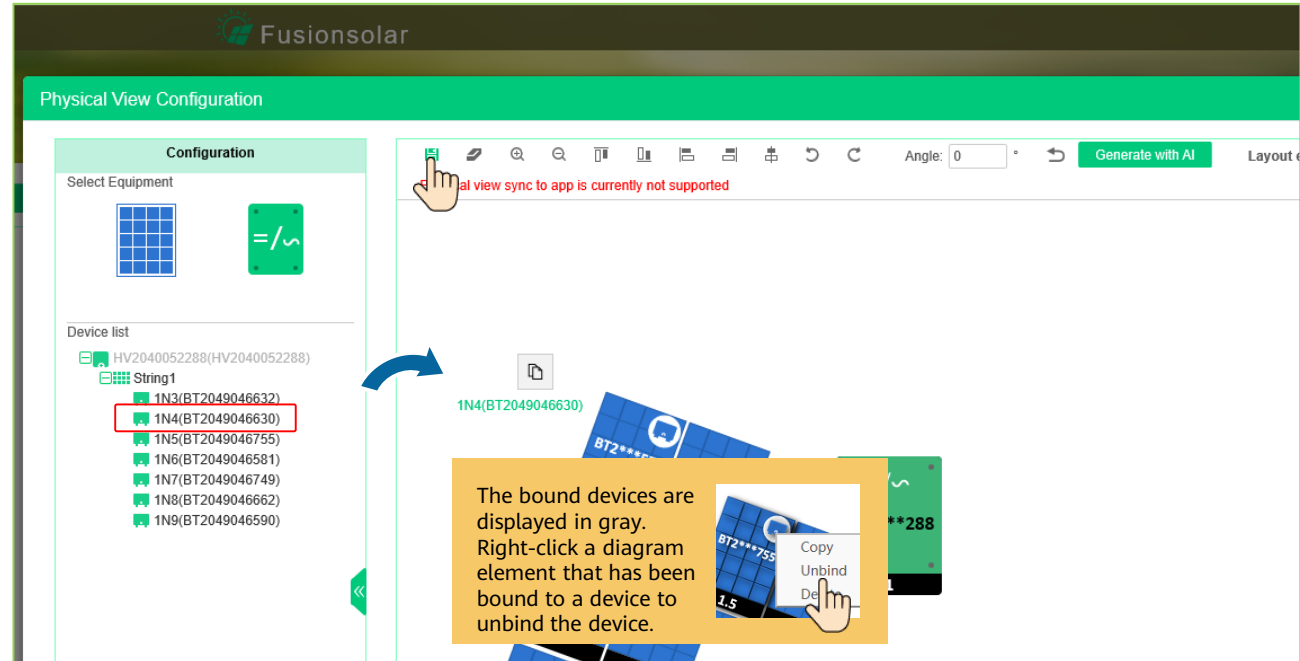
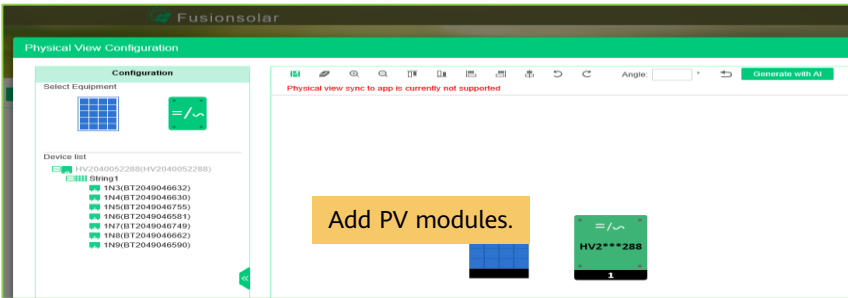
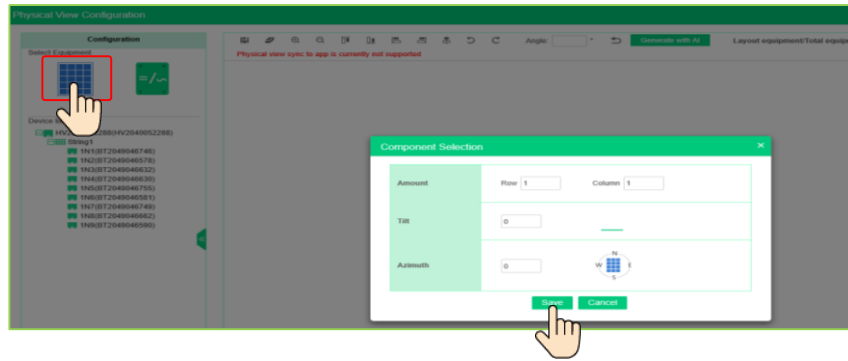
3. Create a physical layout and click **Generate with AI**.

4. Click **Generate Now**. The physical layout is automatically generated. Click .



FAQ 2. Physical Layout Design of PV Modules on the FusionSolar WebUI (Optional, for Scenarios with Optimizers)

5. Manual setting: Drag the PV modules to be created to the physical layout area, select a device in the device list area, and drag the device to the corresponding icon position to bind the device to the icon. You can right-click the device to unbind it. After the settings are complete, click  on the toolbar to save the settings .



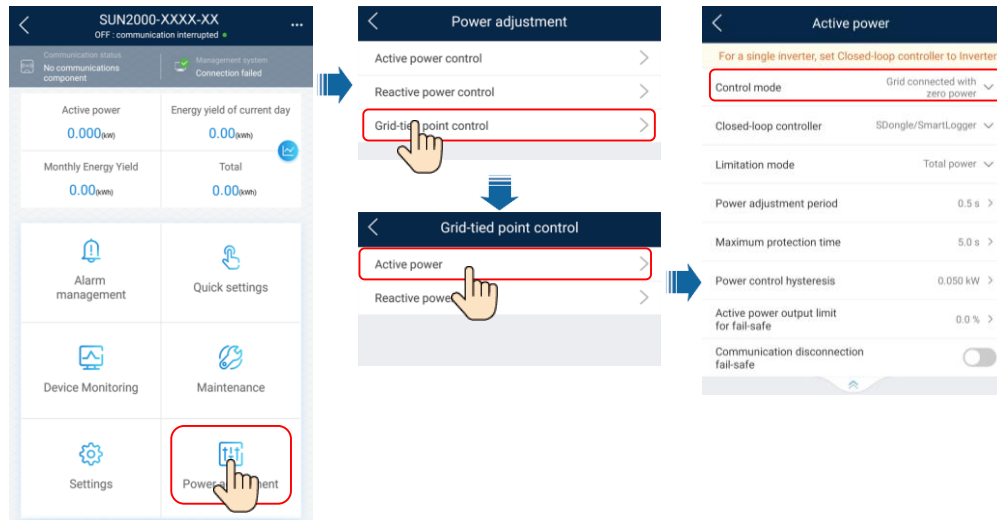
FAQ 3. Setting Export Limitation Parameters

On the SUN2000 screen, Choose **Power adjustment > Grid-tied point control > Active power** to set export limitation parameters.

For a single inverter, set **Closed-loop controller** to **Inverter** or **SDongle/SmartLogger**.

- When **Closed-loop controller** is set to **Inverter**, the duration of export limitation is less than 2s.
- When **Closed-loop controller** is set to **SDongle/SmartLogger**, the duration of export limitation is less than 5s.

For multiple inverters, **Closed-loop controller** can only be set to **SDongle/SmartLogger**. The duration of export limitation is less than 5s.

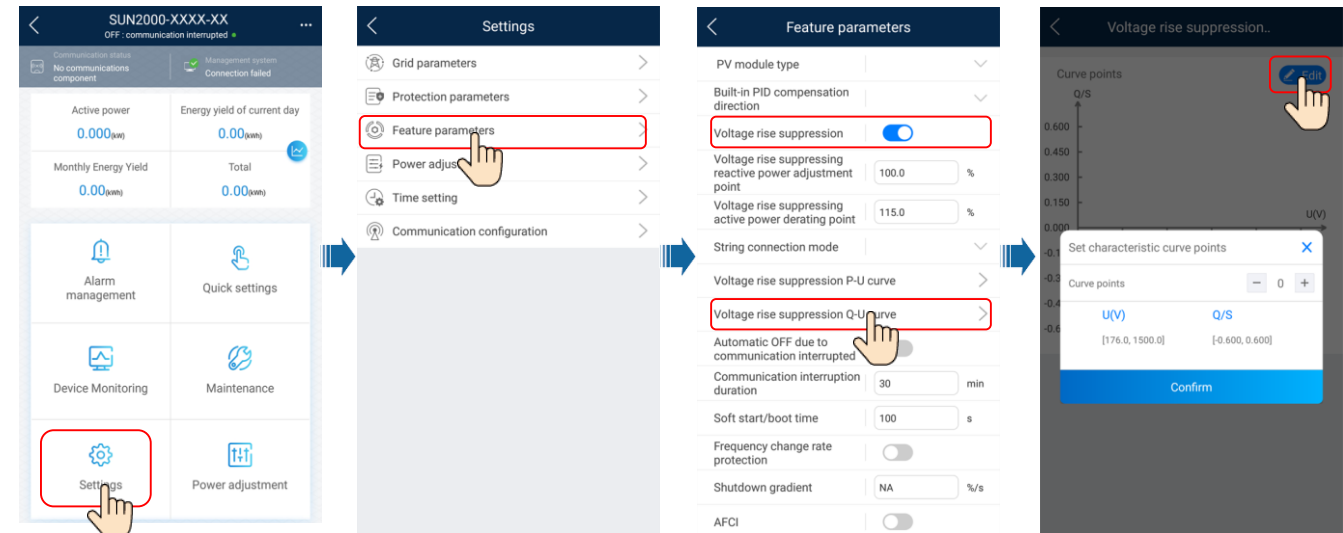


NOTE

After tapping **Grid-tied point control**, you need to enter the login password again. The initial password is **00000a**.

FAQ 4. Setting Voltage Rise Suppression Q-U Curve

On the SUN2000 screen, Choose **Settings > Feature parameters** to set voltage rise suppression Q-U curve.



For details about the parameters, see the [FusionSolar App and SUN2000 App User Manual](#). You can scan the QR code to obtain it.

