

FusionSolar App Quick Guide

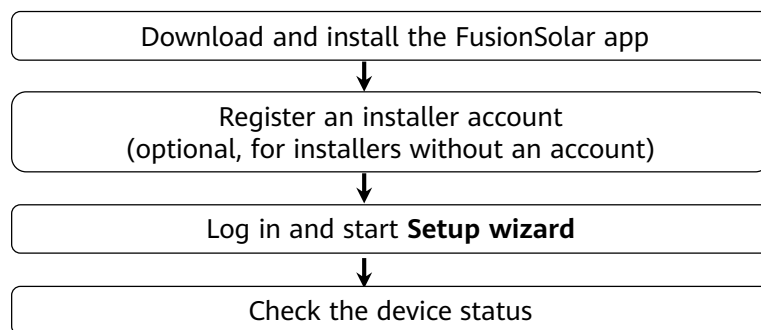
Issue: 02

Date: 2022-01-25

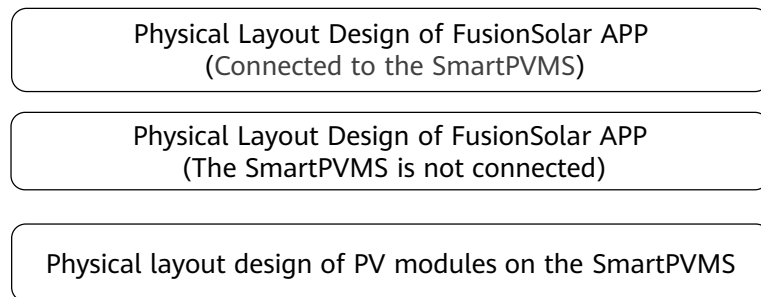


Copyright © Huawei Technologies Co., Ltd. 2022. All rights reserved.

FusionSolar App Quick Settings Operation Procedure



FAQ



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.
- Inverter with a SmartLogger for local commissioning

- The figures are for reference only.
- The initial password for connecting the inverter WLAN is **Changeme**.
- The initial password for connecting to the Smart USB-WLAN adapter is **Changeme**.
- The initial password for the **installer** account is **00000a**. If the system prompts you to change password, set a new password and then log in to the system.
- Some device do not support the initial password. You need to set the initial password upon the first connection. Set the password before log in to the system.
- 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.

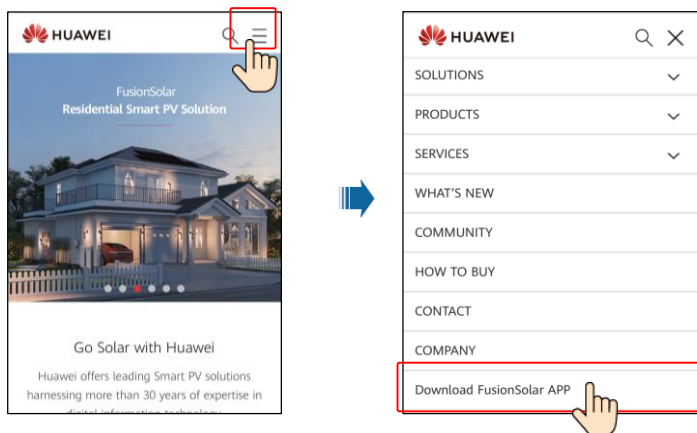
1. Downloading and Installing the FusionSolar App

Method 1: Download and install the app from the app store.

- Huawei phone users: Search for *FusionSolar* in Huawei AppGallery.
- iPhone users: Search for *FusionSolar* in the App Store.
- Other mobile phone users: Select method 2 or 3.



Method 2: Visit <https://solar.huawei.com> using a browser on your mobile phone to download and install the app.

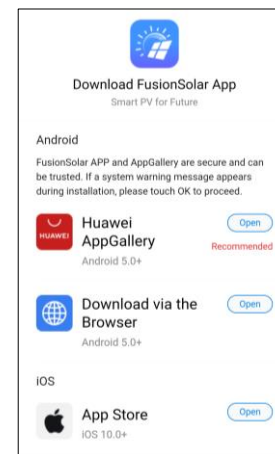


Method 3: Scan the QR code to download and install the app.



Users who select method 2 or 3 can select the download method based on the mobile phone type.

- Huawei mobile phone users: Download from Huawei AppGallery.
- Non-Huawei phone users: Download on a browser.
- iPhone users: Download from the App Store.



Note:

When you select **Download via the Browser**, if a security warning message is displayed indicating that the app is from an external source, tap **ALLOW**.

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

Register the first installer account and create a company account.

English

FusionSolar

Username or email

Password

Forgot password?

Log in

No account?

Role

I'm an owner

I'm an installer

Installer registration

Note: If your company has registered an account in the system, you do not need to register again. Ask your administrator to add you to the user list.

Company name

Enter an email address.

Username

Enter the verification code.

Password

Confirm password

Send Code

Register

I agree to the Terms of Use and I have read the Privacy Policy.

Both the email address and username can be used to log in to FusionSolar app.

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

English

FusionSolar

Username or email

Password

Forgot password?

Log in

No account?

Plant

Setup wizard

New user

No Optimizer

Full Optimizer

New user

*Company

*Role

*Plant

*Username

*Password

Photo

Phone

*Email

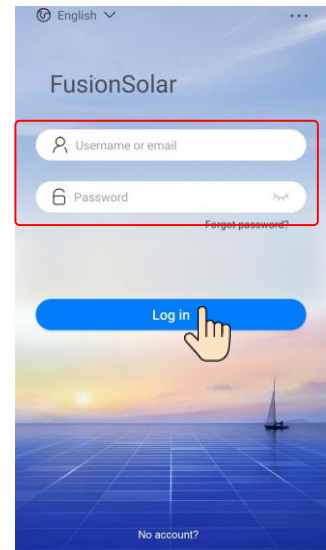
Owner's authorization obtained

Cancel

OK

3. Log in and Start Setup Wizard

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



English

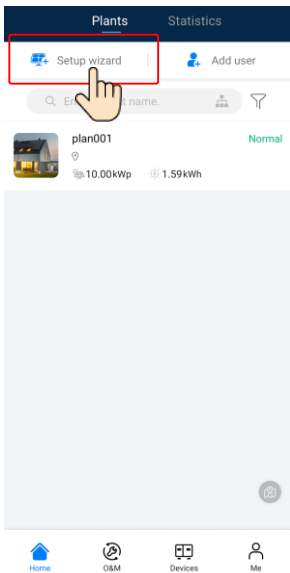
FusionSolar

Username or email

Password

Log in

No account?



Plants Statistics

Setup wizard

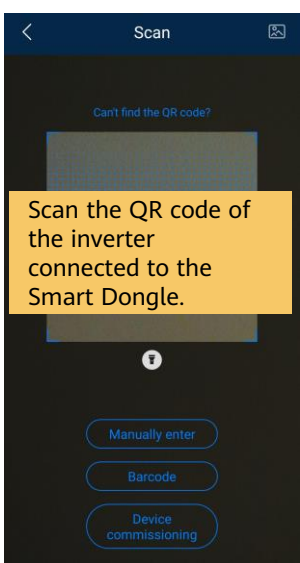
Add user

plan001

10.00kWp 1.59kWh

Normal

Home GSM Devices Me



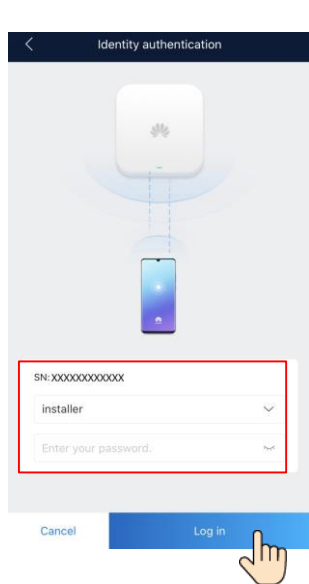
Scan

Can't find the QR code?

Manually enter

Barcode

Device commissioning



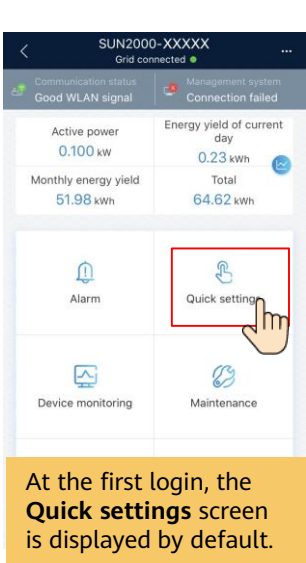
Identity authentication

SN:XXXXXXXXXXXX

installer

Enter your password

Cancel Log in



SUN2000-XXXXX

Grid connected

Communication status: Good WLAN signal

Management system: Connection failed

Active power: 0.100 kW

Energy yield of current day: 0.23 kWh

Monthly energy yield: 51.98 kWh

Total: 64.62 kWh

Alarm

Quick settings

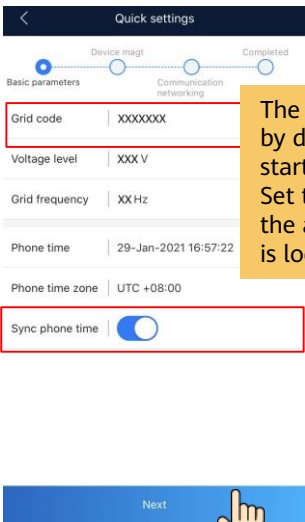
Device monitoring

Maintenance

Scan the QR code of the inverter connected to the Smart Dongle.

Log in to the app as an installer. The initial password of the installer is 00000a. If the system prompts you to set a password, set the password and login first power-on and change it immediately after login.

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



Quick settings

Device magt

Completed

Basic parameters

Grid code: XXXXXXX

Voltage level: XXX V

Grid frequency: XX Hz

Phone time: 29-Jan-2021 16:57:22

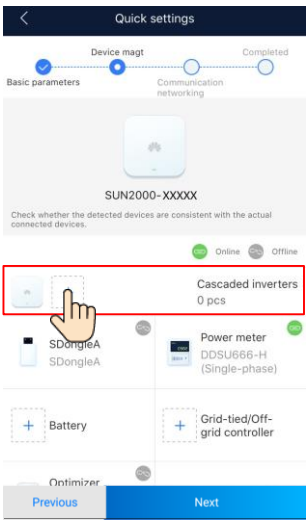
Phone time zone: UTC+08:00

Sync phone time

Next

The grid code is set to N/A by default (automatic startup is not supported). Set the grid code based on the area where the PV plant is located.

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



Quick settings

Device magt

Completed

Basic parameters

SUN2000-XXXXX

Cascaded inverters: 0 pcs

SDongleA

Power meter: DDSU666-H (Single-phase)

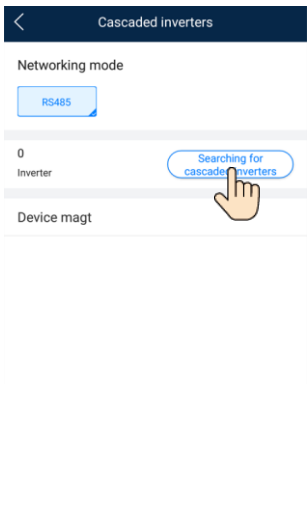
Battery

Grid-tied/Off-grid controller

Optimizer

Previous Next

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



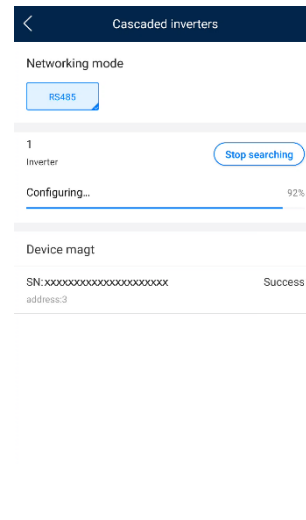
Cascaded inverters

Networking mode: RS485

0 Inverter

Searching for cascaded inverters

Device magt



Cascaded inverters

Networking mode: RS485

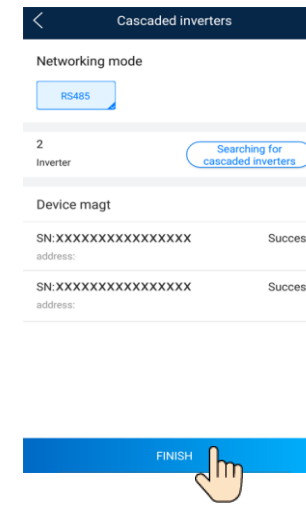
1 Inverter

Stop searching

Configuring... 92%

Device magt

SN:XXXXXXXXXXXXXXXXXXXX address:3 Success



Cascaded inverters

Networking mode: RS485

2 Inverter

Searching for cascaded inverters

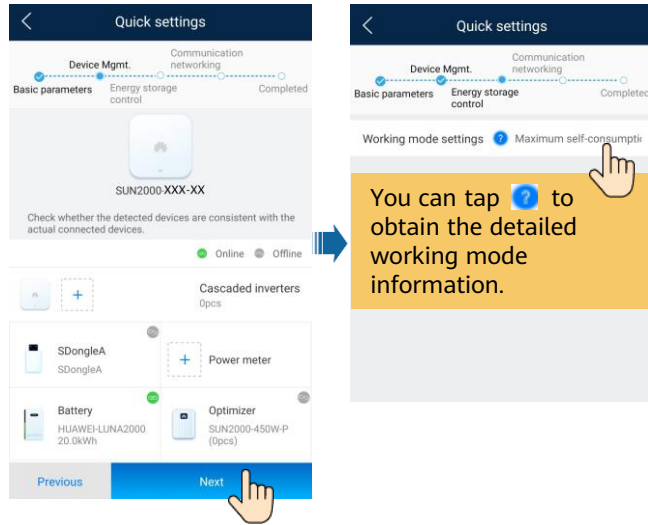
Device magt

SN:XXXXXXXXXXXXXXXXXXXX address: Success

SN:XXXXXXXXXXXXXXXXXXXX address: Success

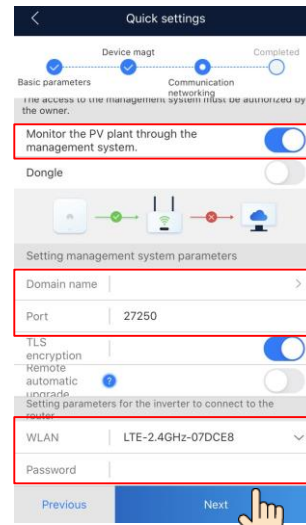
FINISH

In a non-Battery scenario, the step of **Energy storage control** is not involved.



You can tap ? to obtain the detailed working mode information.

Set network parameters and domain name.

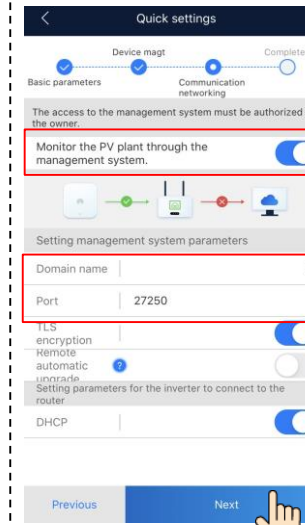


WLAN communication

Enabled **Monitor the PV plant through the management system.**

Set the **Domain name** to **intl.fusionsolar.huawei.com** and **Port number** to **27250**.

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



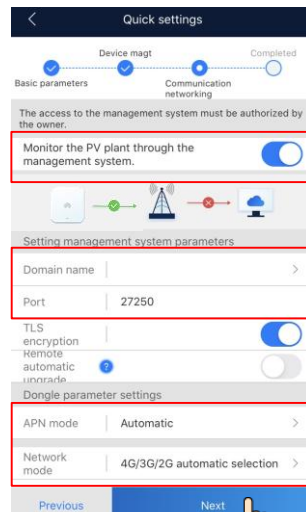
FE communication

Enabled **Monitor the PV plant through the management system.**

Set the **Domain name** to **intl.fusionsolar.huawei.com** and **Port number** to **27250**.

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

Set network parameters and domain name.

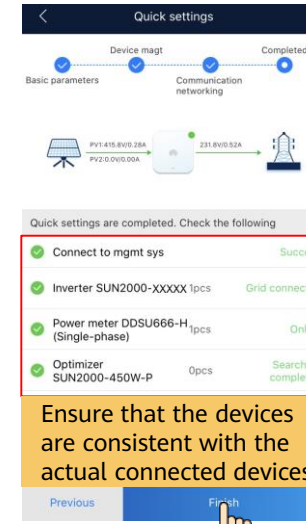
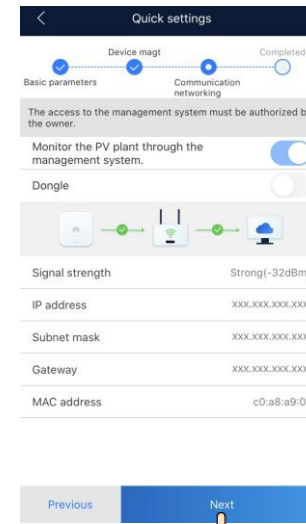


4G communication

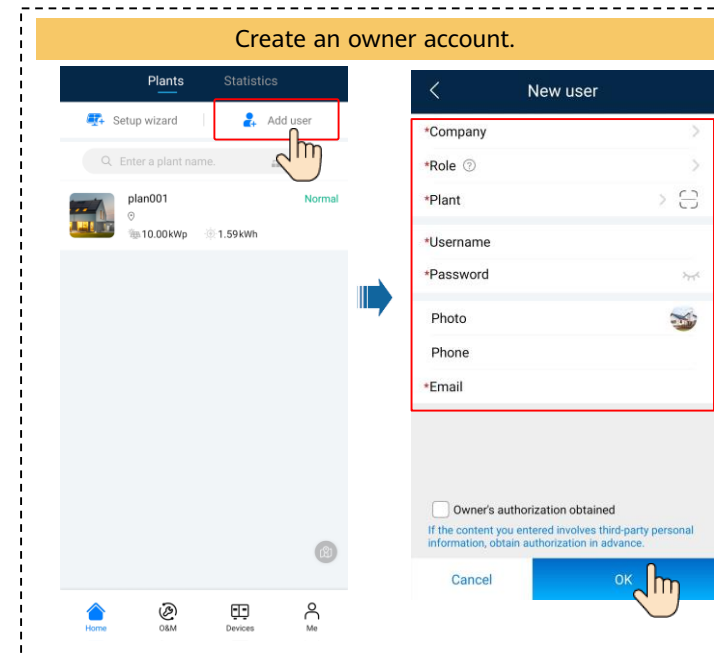
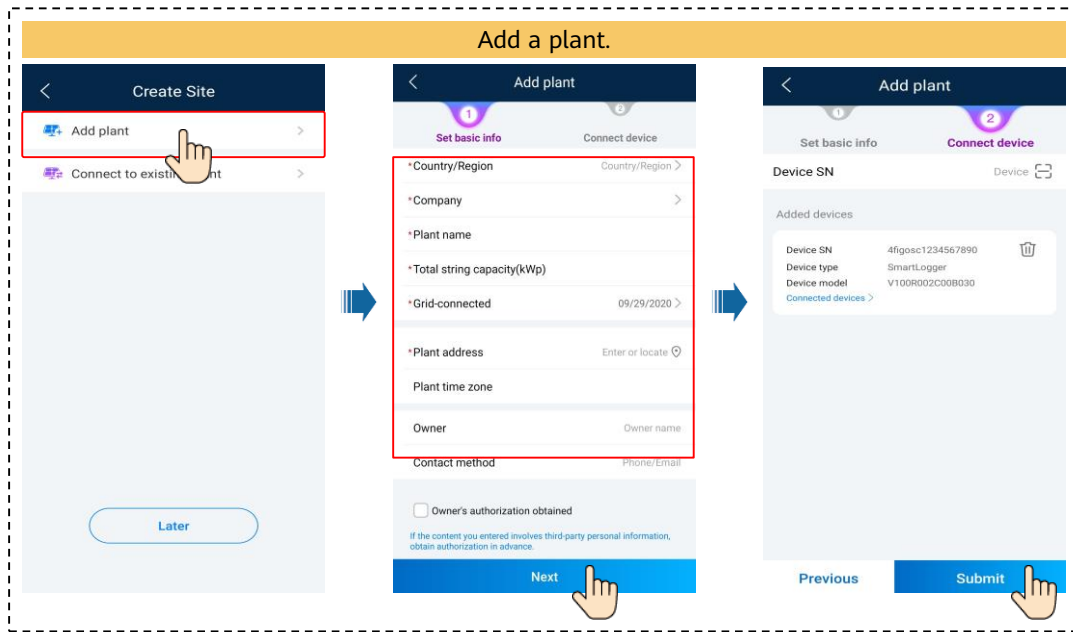
Enabled **Monitor the PV plant through the management system.**

Set the **Domain name** to **intl.fusionsolar.huawei.com** and **Port number** to **27250**.

By default, **APN mode** is set to **Automatic**. When this mode cannot be used to access the Internet, set the parameter to **Manual**. In this case, set the parameters related to the SIM card based on the information obtained from the carrier.



Ensure that the devices are consistent with the actual connected devices.

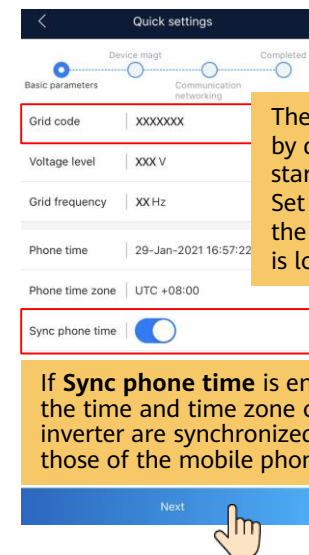
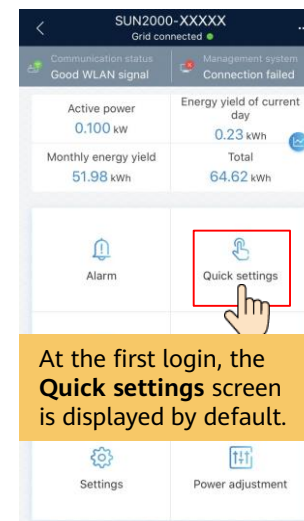
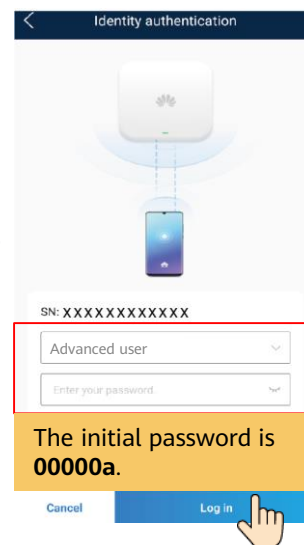
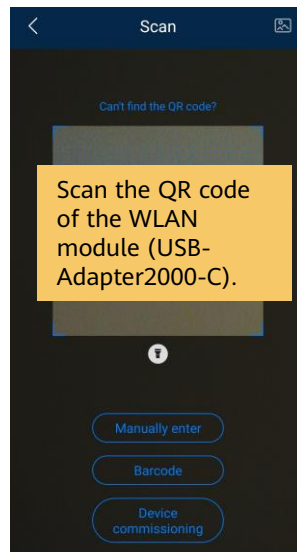
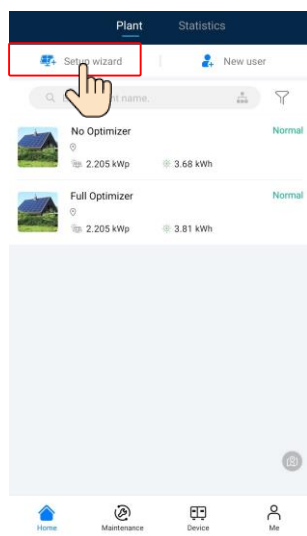
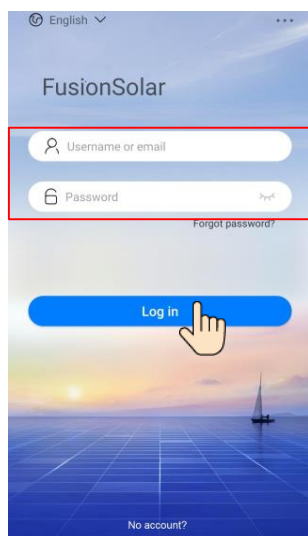
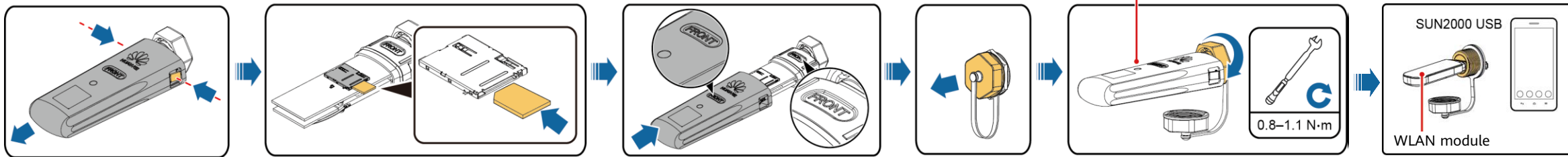


• Local Commissioning Using a Smart USB-WLAN Adapter

Note:

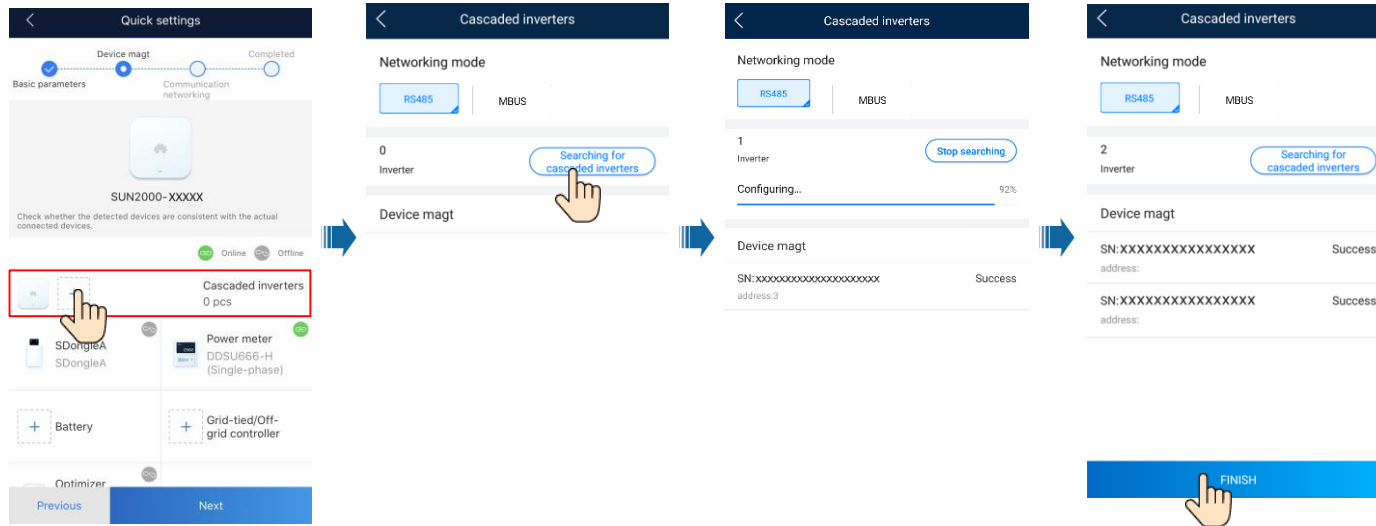
Before commissioning a commercial inverter, connect the 4G Smart Dongle to identify parameters. If the indicator status is normal, remove the Smart Dongle, and then connect the USB-WLAN adapter to start commissioning.

Check the indicator status. When the indicator blinks green at an interval of 2s (on for 0.1s and then off for 1.9s), remove the 4G Smart Dongle.

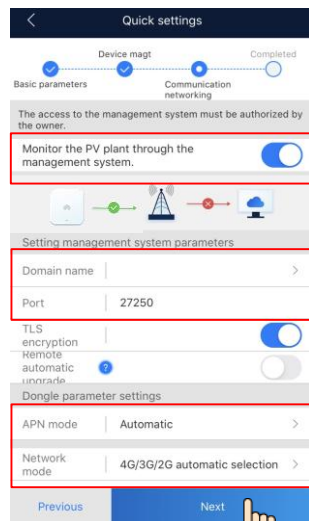


The grid code is set to N/A by default (automatic startup is not supported). Set the grid code based on the area where the PV plant is located.

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



Set network parameters and domain name.

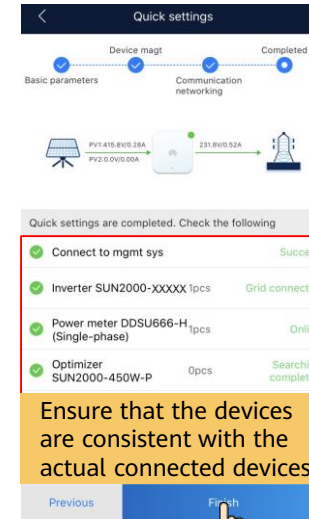
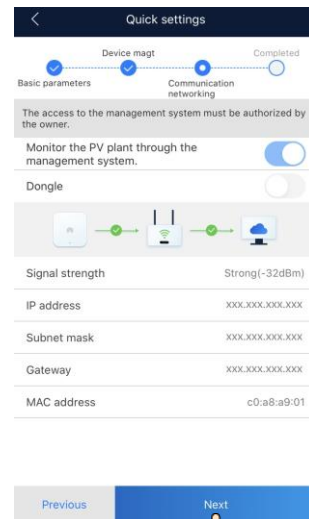


4G communication

Enabled **Monitor the PV plant through the management system**.

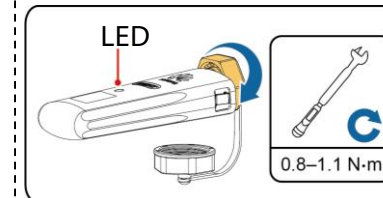
Set the **Domain name** to **intl.fusionsolar.huawei.com** and **Port** number to **27250**.

By default, **APN mode** is set to **Automatic**. When this mode cannot be used to access the Internet, set the parameter to **Manual**. In this case, set the parameters related to the SIM card based on the information obtained from the carrier.

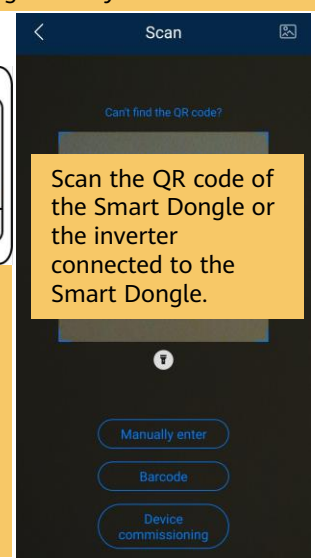


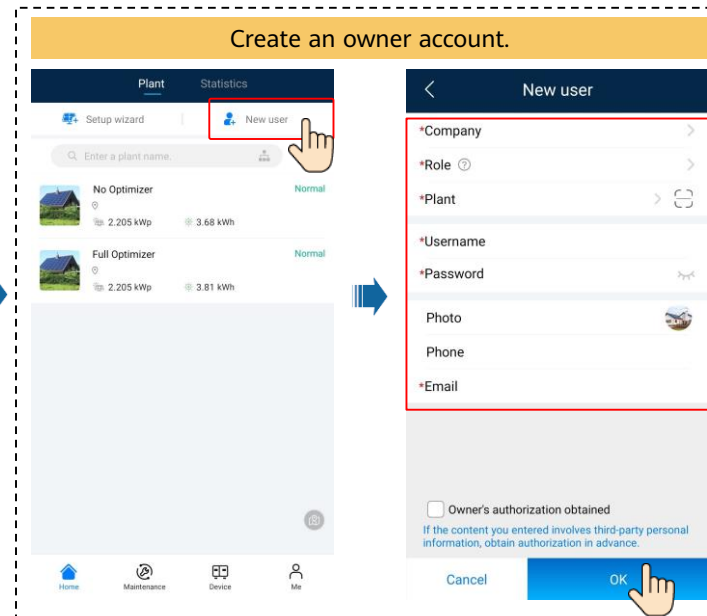
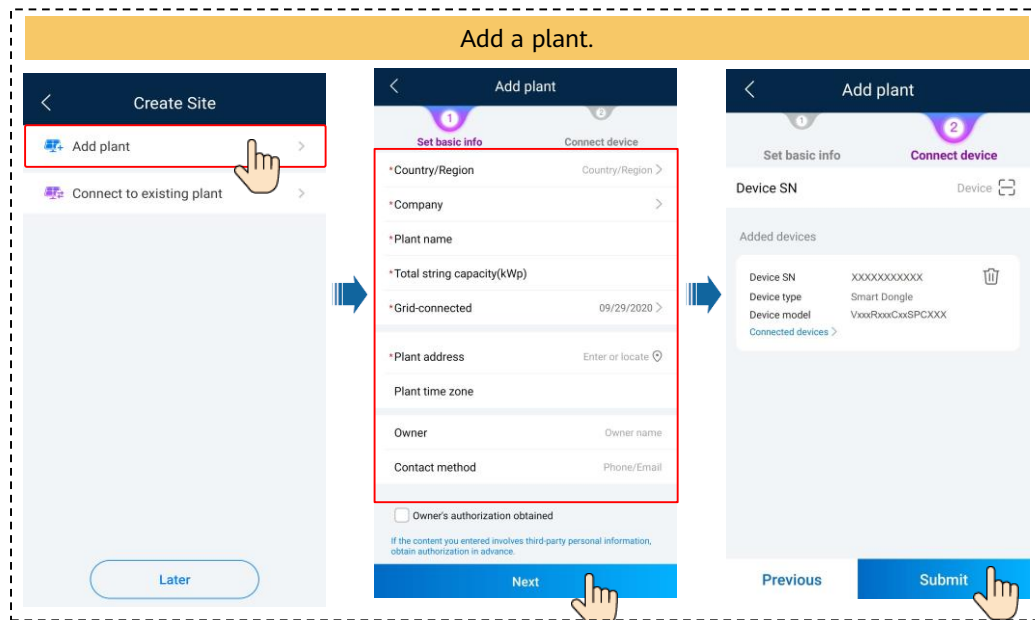
Ensure that the devices are consistent with the actual connected devices.

Connect to the management system.



After the commissioning is complete, remove the USB-WLAN module, install the 4G module. Check the indicator status. After the indicator is steady green or blinks at short intervals (on for 0.2s and then off for 0.2s) add a PV plant.



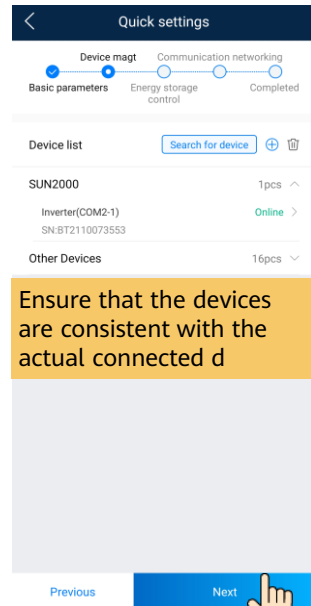
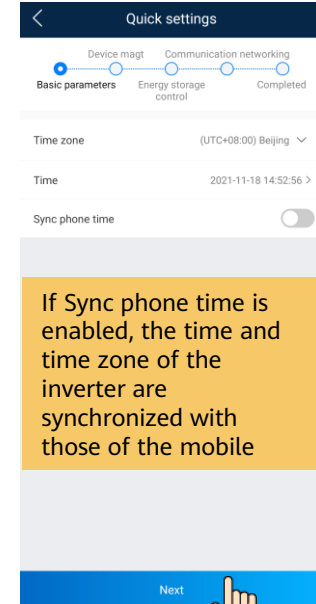
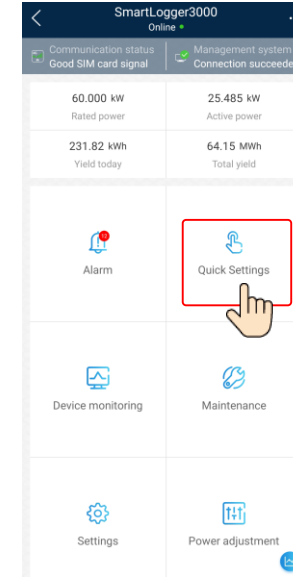
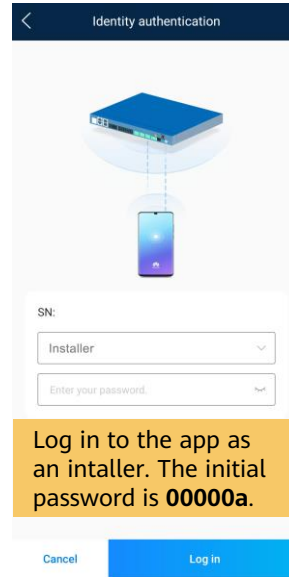
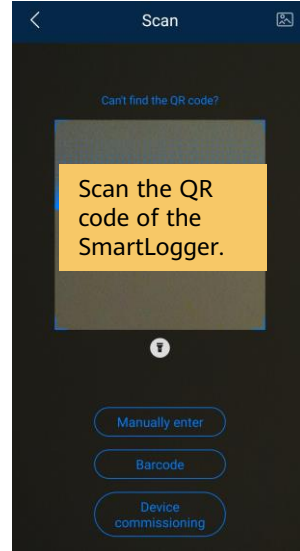
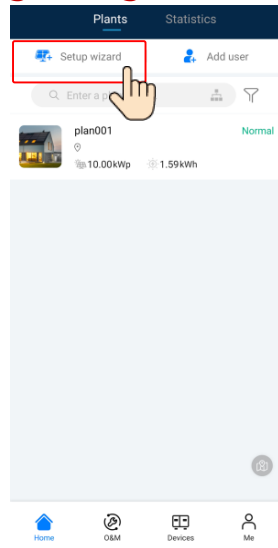
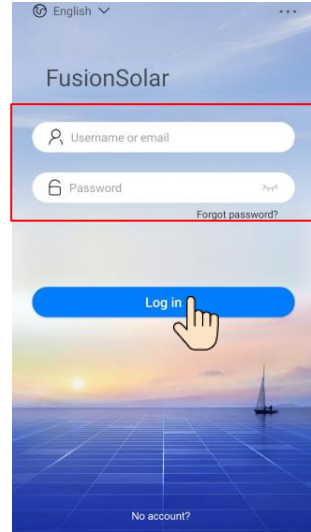


Indicators on the Smart Dongle

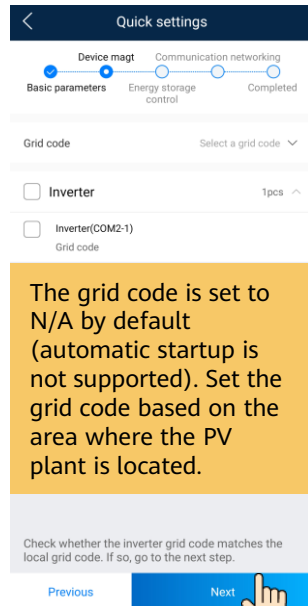
LED		Remarks	Description
Color	Status		
N/A	Off	Normal	The Dongle is not secured or is not powered on.
Yellow (blinking green and red simultaneously)	Steady on		The Dongle is secured and powered on.
Green	Blinking in a 2-second cycle (on for 0.1s and then off for 1.9s)	Normal	Dialing (duration < 1 min)
		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).
		Abnormal	If the duration is longer than 30s, the settings of the management system parameters are incorrect. Reset the parameters.
	Steady on	Normal	Successfully connected to the management system.
	Blinking at short intervals (on for 0.2s and then off for 0.2s)		The inverter is communicating with the management system through the Dongle.
Red	Steady on	Abnormal	The Dongle is faulty. Replace Dongle.
	Blinking at short intervals (on for 0.2s and then off for 0.2s)		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)		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 red and green alternatively	Blinking at long intervals (red for 1s and green for 1s)		No communication with the inverter - 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.

3. Log in and Start Setup Wizard

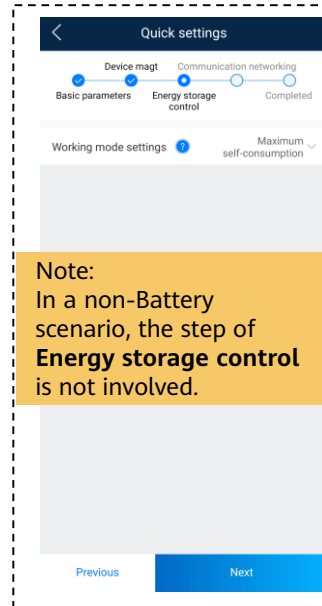
• Local Commissioning Using the SmartLogger of the Inverter



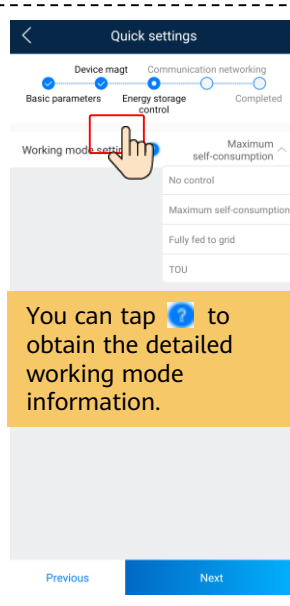
Ensure that the devices are consistent with the actual connected d



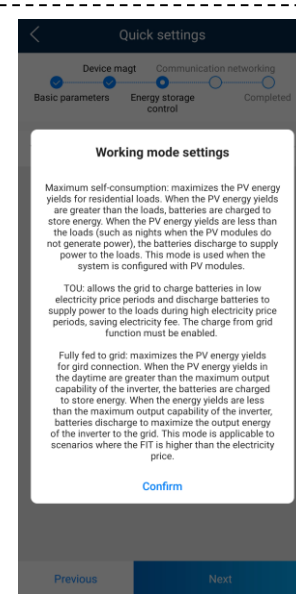
The grid code is set to N/A by default (automatic startup is not supported). Set the grid code based on the area where the PV plant is located.



Note: In a non-Battery scenario, the step of Energy storage control is not involved.



You can tap ? to obtain the detailed working mode information.



Quick settings

Device mgmt. Communication networking

Basic parameters Energy storage control Completed

Network settings

Monitor the PV plant through the management system. ☒

Management system parameters

Domain name intl.fusionsolar.huawei.com >

Port 27250

Enabled **Monitor the PV plant through the management system.** Set the **Domain name** to **intl.fusionsolar.huawei.com** and **Port** number to **27250**.

Quick settings

Device mgmt. Communication networking

Basic parameters Energy storage control Completed

Network settings

Monitor the PV plant through the management system. ☒

When the SmartLogger connects to the SmartPVMS over the wireless network, set **Mobile network parameters** and **Network mode**.

Mobile network parameters

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

APN mode Automatic

If there is no available network, tap **Skip** and connect to the management system later.

Previous Next

Wired network parameters

Automatically obtain IP address ☒

*IP address XX.XX.XX.XX

*Subnet mask 255.255.255.0

*Gateway XX.XX.XX.XX

Primary DNS server XX.XX.XX.XX

Secondary DNS server 0.0.0.0

Previous Next

Quick settings

Device mgmt. Communication networking

Basic parameters Energy storage control Completed

Network settings

Monitor the PV plant through the management system. ☒

Signal strength Strong(5dBm)

Previous Next

Quick settings

Device mgmt. Communication networking

Basic parameters Energy storage control Completed

Successfully connected to the management system

Device list

SUN2000 1pcs

Inverter(COM2-1) Online

SN:BT2110073553

Other Devices 16pcs

Previous Finish

Add a plant.

Create Site

Add plant >

Connect to existing plant >

Add plant

1 Set basic info

*Country/Region Country/Region >

*Company >

*Plant name

*Total string capacity(kWp)

*Grid-connected 09/29/2020 >

*Plant address Enter or locate

Plant time zone

Owner Owner name

Contact method Phone/Email

Owner's authorization obtained

If the content you entered involves third-party personal information, obtain authorization in advance.

Next

2 Connect device

Device SN Select Device

SN

Device type SmartLogger

Device model Smart Logger

Connected devices >

Previous Submit

Create an owner account.

Plant Statistics

Setup wizard New user

Enter a plant name

No Optimizer 2.205 kWp 3.68 kWh Normal

Full Optimizer 2.205 kWp 3.81 kWh Normal

New user

*Company >

*Role >

*Plant >

*Username

*Password

Photo

Phone

*Email

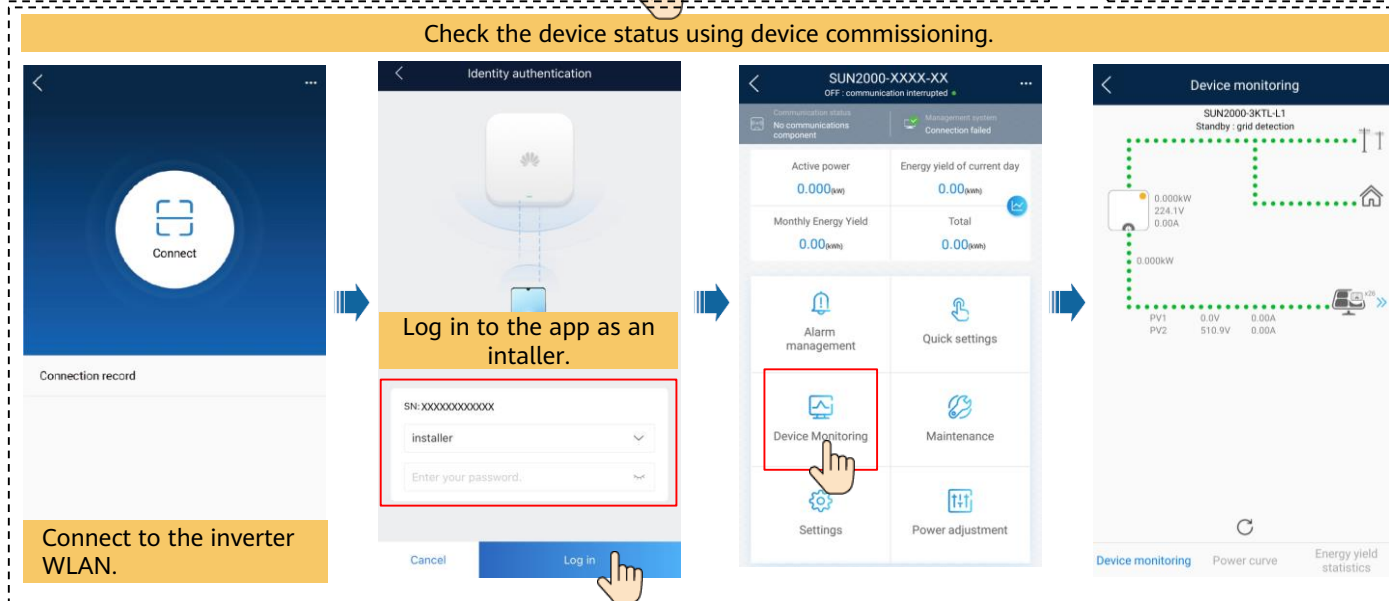
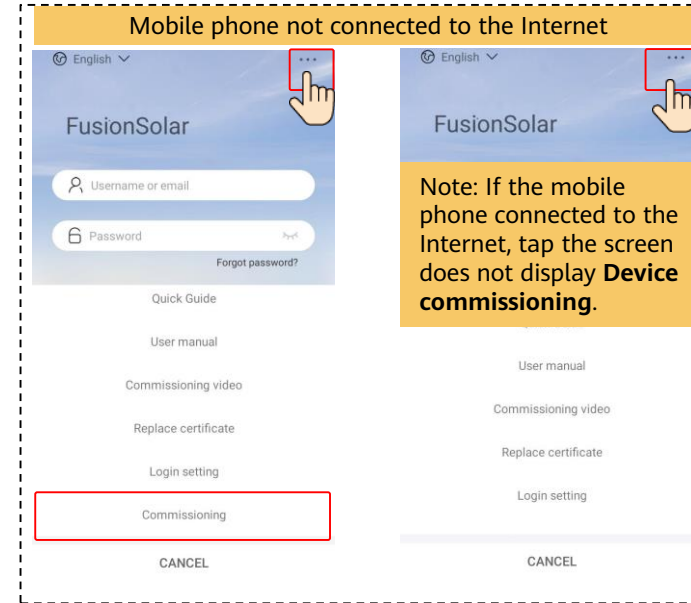
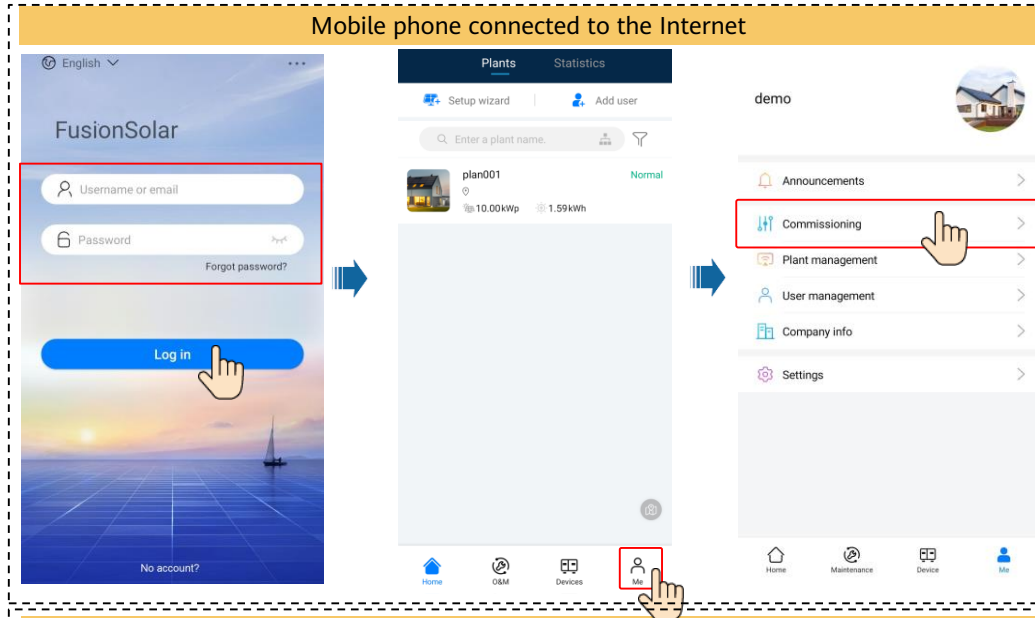
Owner's authorization obtained

If the content you entered involves third-party personal information, obtain authorization in advance.

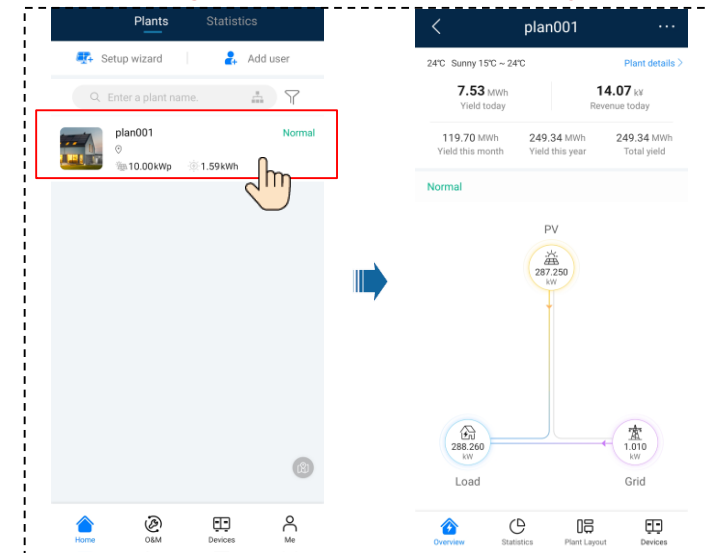
Cancel OK

4. Checking the Device Status

• Checking the Device Status Using Device Commissioning

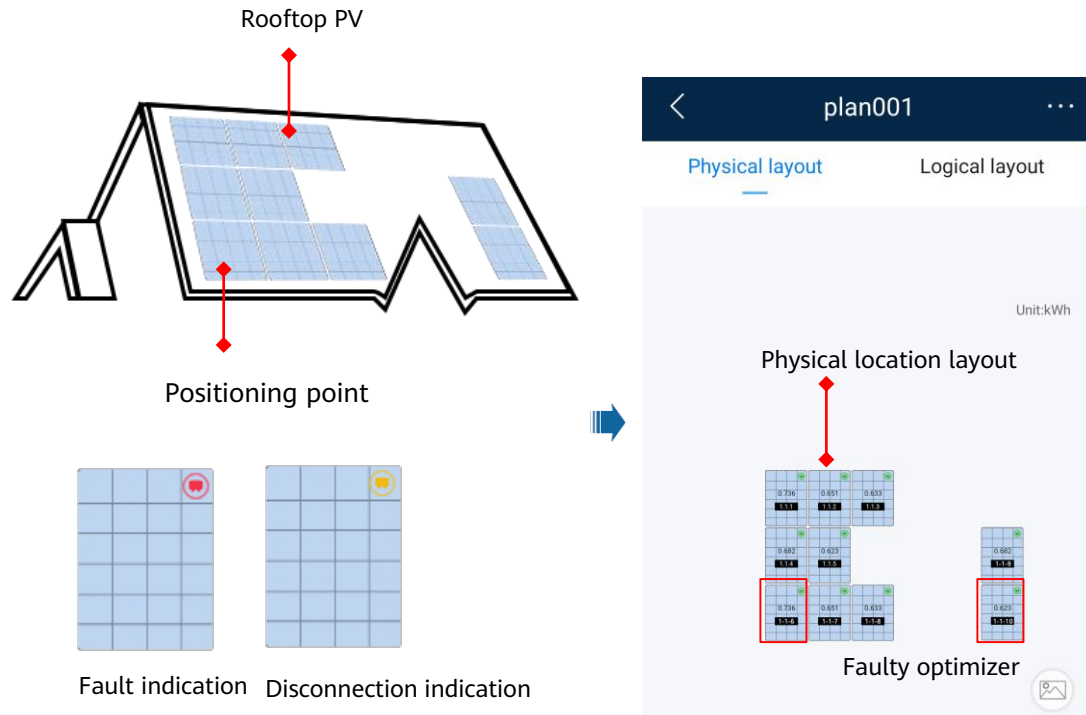


• Checking the Device Status Remotely.

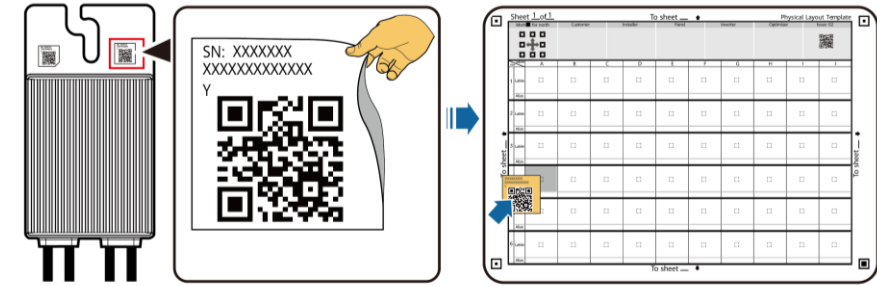


FAQ. Physical Layout Design (With Optimizers)

1. The physical layout must be configured for optimizers. When an optimizer is faulty, it can be quickly located and replaced based on the physical layout.
2. The optimizer disconnection detection is available only after the physical layout is complete. Perform optimizer disconnection detection and view the result on the **Optimizer layout** screen.

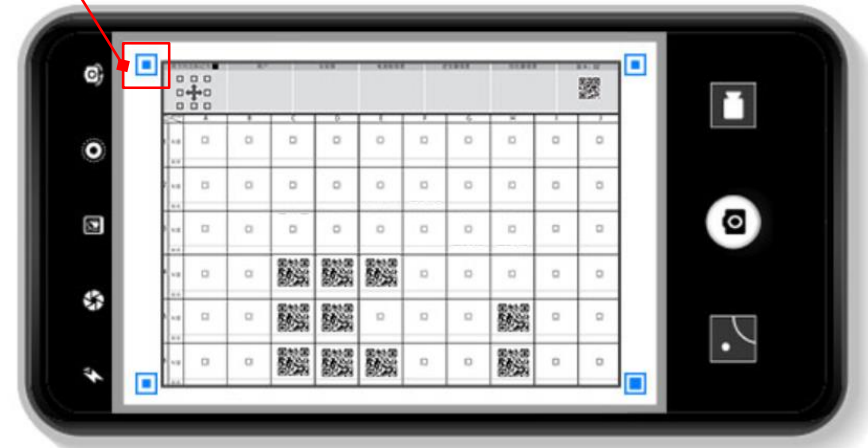


Step 1 After determining the installation position of an optimizer, remove the SN label from the optimizer and attach it to the physical layout template.



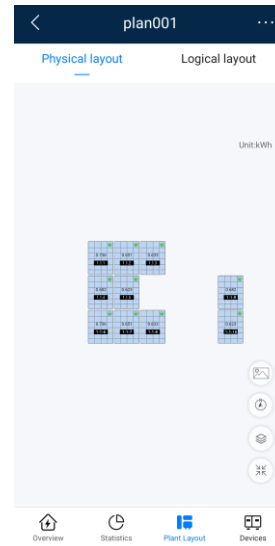
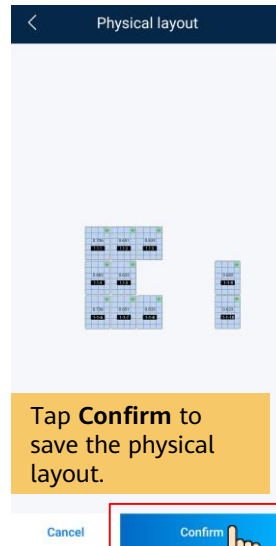
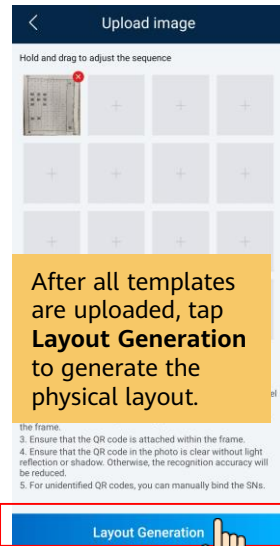
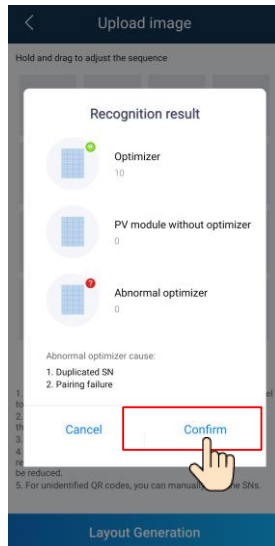
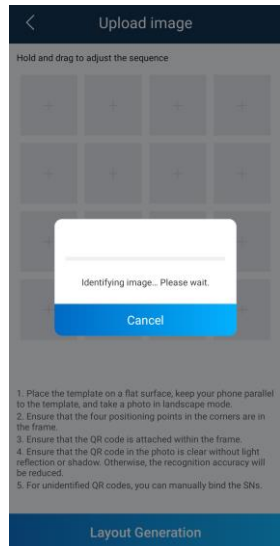
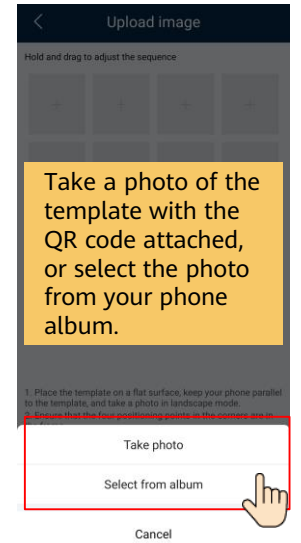
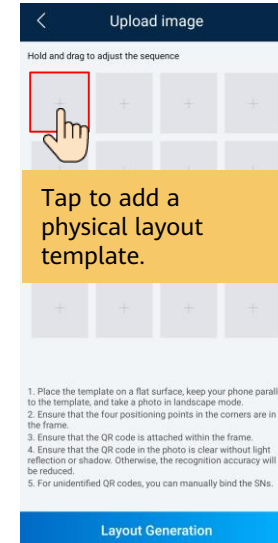
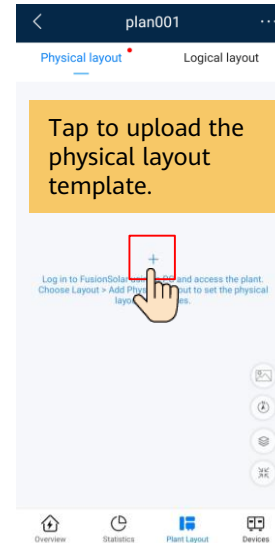
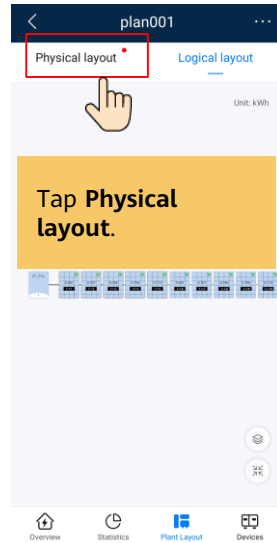
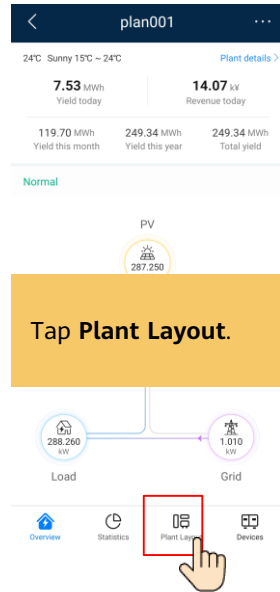
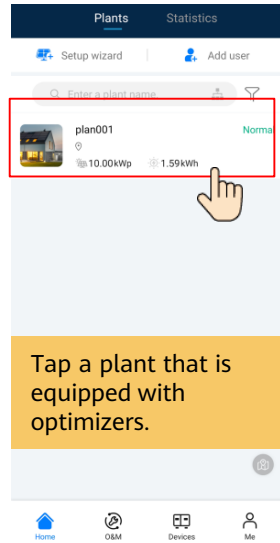
Step 2 Take a photo of the template with the QR code attached.

Positioning point for photographing



Note: Ensure that the four positioning points on the template are within the frame.

FAQ 1. Physical Layout Design on the FusionSolar App (Connected to the SmartPVMS)

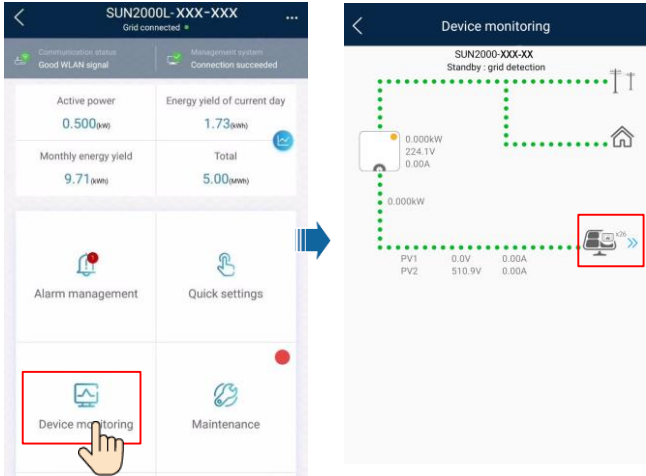


Note:
For some unidentified QR codes, log in to the FusionSolar WebUI to manually bind them. For details, see section "FAQ 3" of this document.

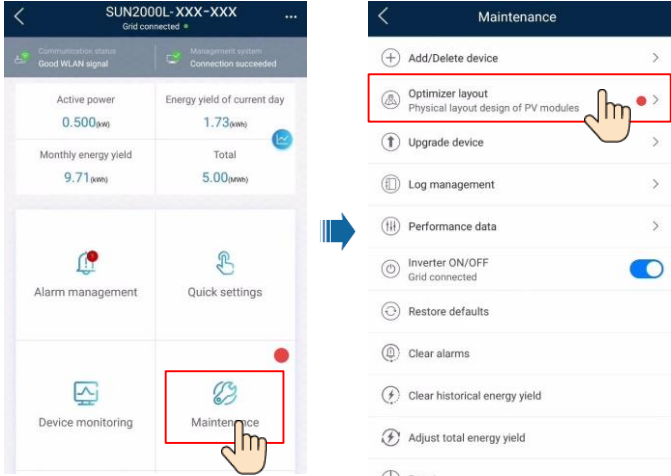
FAQ 2. Physical Layout Design of SUN2000 APP (The SmartPVMS is not connected)

Step 1. Check that the Smart PV Optimizers are successfully searched.

- 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.

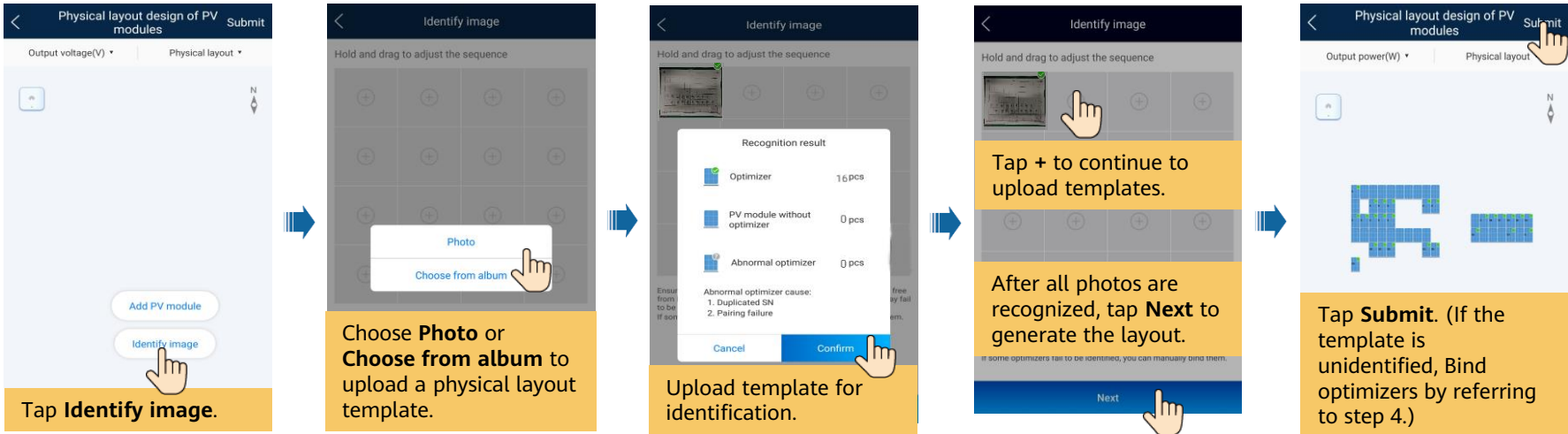


Step 2. Set optimizer physical layout



Tap the blank area. The selection buttons are displayed.

Method 1: Tap **Identify image** for automatic layout.



FAQ 2. Physical Layout Design of SUN2000 APP (The SmartPVMS is not connected)

Method 2: Tap Add PV modules for manual layout.

The process consists of four sequential screenshots of the SUN2000 APP interface:

- Step 1:** The 'Physical layout design of PV modules' screen. A hand icon points to the 'Add PV module' button at the bottom.
- Step 2:** The 'Add PV modules' dialog box. It prompts the user to 'Enter the row and column numbers of the PV module'. The 'Row' is set to 2 and 'Column' is set to 3. A hand icon points to the 'Next' button.
- Step 3:** The 'Add PV modules' dialog box. It shows a 2x3 grid of modules. A hand icon points to the '+' and '-' buttons to adjust the grid size.
- Step 4:** The 'Add PV modules' dialog box. It shows a slider to adjust the PV module angle. A hand icon points to the 'Confirm' button.

Tap Add PV module.

Select the number of rows and columns for added PV modules.

Tap + or - to change the number of rows and columns.

Adjust the PV module angle, and tap Confirm.

Step 3. Bind Smart PV Optimizers

The process consists of three sequential screenshots of the SUN2000 APP interface:

- Step 1:** The 'Physical layout design of PV modules' screen. A hand icon points to a selected PV module on the layout.
- Step 2:** The 'Bind' dialog box. It prompts the user to 'Enter SN'. A hand icon points to the 'Device name: 4617' field.
- Step 3:** The 'Physical layout design of PV modules' screen. A hand icon points to the 'Submit' button.

Select a PV module to be bound to the optimizer.

Select the corresponding optimizer.

After the layout is complete, tap Submit.

Step 4. Check the Smart PV Optimizer status.

The process consists of four sequential screenshots of the SUN2000 APP interface:

- Step 1:** The 'SUN2000-XXXX-XX' screen. A hand icon points to the 'Device Monitoring' button.
- Step 2:** The 'Device monitoring' screen. It shows a map with PV strings. A hand icon points to a selected PV string.
- Step 3:** The 'Physical layout design of PV modules' screen. A hand icon points to a selected PV string on the layout.
- Step 4:** The 'Physical layout design of PV modules' screen. A hand icon points to the 'Unbind' button.

Tap a corresponding PV string and check the optimizer status.

Unbind the optimizer.

Parameter	Value
Running status	Operating
Output power	98W
Input voltage	28.4V
Output voltage	20.7V
Input current	3.53A
Output current	4.74A
Total	98.06kWh
SN	XXXXXXXXXX

FAQ 3. Physical Layout Design of PV Modules on the FusionSolar WebUI

Method 1: Automatic generation

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

Plant name: Region:

Grid connection date:

Status

Plant Name

Step 2. Click **Layout**.

Overview **Layout** Reports Devices

Energy Yields

576.63 kWh
Total yield

0.00 kWh
Yield today

0.00 kWh
Consumption today

0.00 kWh
Self-consumpt

Step 3. Upload the physical layout.

Plant Layout

Click to Upload

Click to Upload

Step 4. Click **Generate Layout** to generate a physical layout diagram.

← Back

Plant Layout

Layout_1.png

Click to Upload

Click to Upload

Click to Upload

Move Drawing **Generate Layout**

Step 5. Click **Save** to save the generated physical layout diagram.

Result

BT2***305
1.1.1

BT2***607
1.1.2

BT2***628
1.1.3

BT2***017
1.1.4

BT2***686
1.1.5

BT2***628
1.1.6

BT2***017
1.1.7

BT2***686
1.1.8

BT2***305
1.1.9

BT2***607
1.1.10

Cancel

Save

Note:
For some unidentified QR codes, you can manually bind the SNs.

19

FAQ 3. Physical Layout Design of PV Modules on the FusionSolar WebUI

Method 2: Manual creation

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

Plant name:

Region:

Grid connection date:

Status

Plant Image

Plant Name

407-GJC-TEST

Step 2. Click **Layout**.

Overview

Layout

Reports

Devices

Energy Yields

576.63 kWh

Total yield

0.00 kWh

Yield today

0.00 kWh

Consumption today

0.00 kWh

Self-consumpt

Step 3. Upload the physical layout.

Physical Layout

+

Click to Create

You have not created a physical layout. Click + to create now.

Step 4. Drag the PV module to the physical layout area, increase the number of widgets, and adjust the angle based on the site requirements.

Layout Configuration

Configuration

Select Device

Device List

HV20B0031861 (HV20B0031861)

PV1

BT2049046719 (BT2049046719)

2102312LFHBT49 (2102312LFHBT49)

2102312LFHBT49 (2102312LFHBT49)

Module

Quantity

Rows

Columns

Tilt

Azimuth

Cancel

Save

Layout Configuration

Configuration

Select Device

Device List

HV20B0031861 (HV20B0031861)

PV1

BT2049046719 (BT2049046719)

2102312LFHBT49 (2102312LFHBT49)

2102312LFHBT49 (2102312LFHBT49)

Inverter

Quantity

Installation mode

Horizontal

Vertical

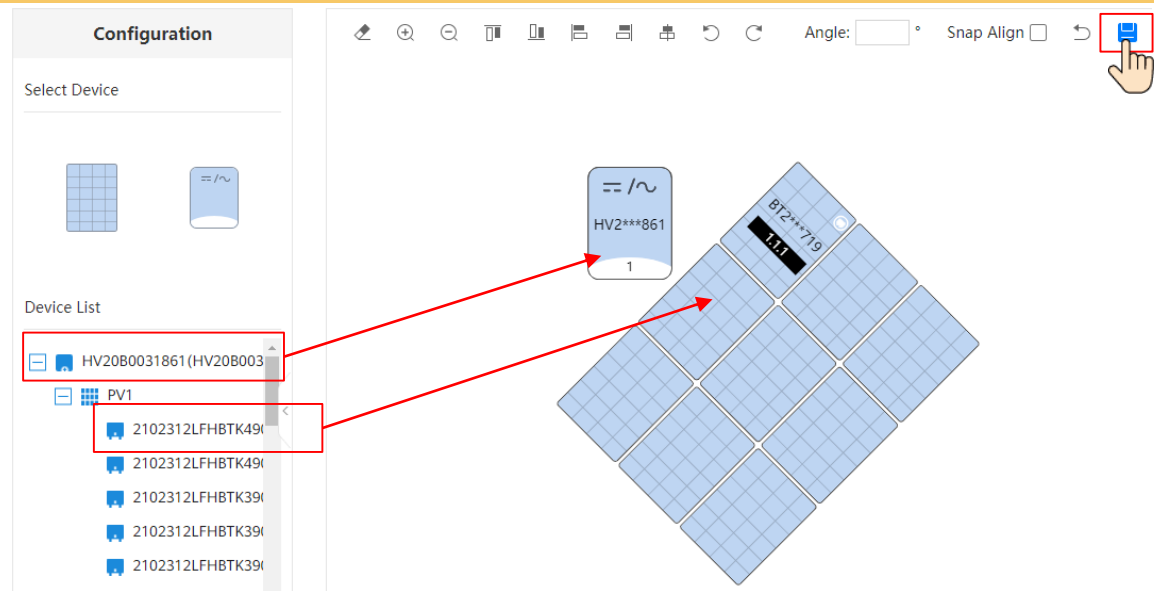
Cancel

Save

FAQ 3. Physical Layout Design of PV Modules on the FusionSolar WebUI

Step 5. Select a device in the device list, and drag it to the corresponding icon position to bind the device to the icon.

Step 6. Click  on the toolbar to save the settings.



Note:
Right-click a PV module that has been bound to a device to unbind the device.

