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Manual Description

About This Manual

About This Manual

Target Group

This manual is intended for distributor/installer, end user, and O&M personnel of PV residential system, energy storage system, commercial system, and microgrid.

Symbols

NOTE indicates additional information, emphasized contents or tips to help you solve problems or save time.

Introduction

This manual mainly describes how to install, configure, and operate the Smart Solar Cloud App.

Screenshots in this manual are based on the Smart Solar Cloud App V1.1.1.20220730. All icons and data displayed are for reference only, and the actual screens may differ.

Operation method is described by using the iOS system as an example. The method for the Android system is the same, except that the screens are somewhat different. The actual screens prevail.

Product Description

Product Description

App Introduction

The Smart Solar Cloud App is a mobile application used for managing PV plants. The App can provide power plant operation analysis and mobile intelligent O&M services. It is designed with functions such as display of plant operation data, rapid plant access, remote parameter setting, quick fault positioning and notification, and power generation and revenue analysis, achieving convenient and efficient end-to-end operation and maintenance.

Networking Modes

Users can monitor plant device information either remotely or locally via the App.



Login via Account and Password (Remote)

Establish communication connection between the communication module and home router or base station, so that the inverter can communicate with cloud server. The users can view inverter data or send instructions to control the inverter through the App.

Direct Login (Near end)

Establish communication connection between the mobile phone and WiFi wireless communication module or Bluetooth module integrated into the inverter, achieving near-end maintenance on the inverter. The users can view inverter information and set parameters through the APP.

Bluetooth login is only applicable to inverters with built-in Bluetooth module. For whether the inverter is equipped with the Bluetooth module, consult the distributor/installer.

App Installation

This section introduces how to download and install the Smart Solar Cloud App.

Prerequisites

- Mobile phone operating system: Android 5.0 or later; iOS 11.0 or later.
- The mobile phone can be normally connected to WLAN or 2G/3G/4G network.
- The mobile phone has sufficient memory space for App installation.
- The mobile phone has sufficient battery power.

Procedure

1.Download the Smart Solar Cloud App from Google Play (Android users), or APP Store (iOS users). Alternatively, scan the following QR code and follow the instructions on the screen to download the App.



2.Select the downloaded installation package and follow the instructions on the screen to complete the installation. After installation, the Smart Solar Cloud icon will be displayed on the mobile phone screen.



Operation Instruction

Operation Instruction

Images in this manual are for reference only, and the actual screens may differ.

Login Interface


Login Interface

Server Setting


When you first access the App, the default server address is “International server”.

The service address accessed by the App must be the same as that accessed by the Logger, and communication failure will occur if otherwise. If there are any problems, contact the company.

Procedure

1. Tap the icon  in the upper right corner of the login screen.
2. Tap “Select server”.
3. Select the corresponding service address.

Help

Tap the button  in the upper right corner of the login screen to view the corresponding user manual, FAQs, terms of service, etc.

Remote Monitoring

Remote Monitoring

This section describes how to register an account, log into the Smart Solar Cloud App via the account and password, view plant information and set plant parameters.

Account Registration

Account Registration

Introduction

The account distinguishes two user groups end user and distributor/installer.

The end user can view plant information, create plants, set parameters, share plants, etc.

The distributor/installer can help the end user to create plants, manage, install, or maintain plants, and manage users and organizations.

Procedure

1. Tap “Register” to enter the registration screen.

2. Select “End user” or “Distributor/installer” to enter the corresponding screen.

Select "International server", end user and distributor/installer are allowed to register.

3. Fill in the registration information, including select server, email, verification code, password, confirm password, country (region), and time zone. The distributor/installer further has the permission to fill in the company name and the code of upper level distributor/installer.

Select "International server", email is allowed to register.

4. Tick “Accept privacy protocol” and tap “Register”, to finish the registration operation.

-Select “International server”.

- The code of upper level distributor/installer can be obtained from the upper level distributor/installer. Only when your organization belongs to the upper level distributor/installer organization, can you fill in the corresponding code.

Login via Account

Login via Account

This section describes how to log into the Smart Solar Cloud App.

Prerequisites

- The Smart Solar Cloud App has been installed.
- You have already registered an account or have got the account and password from the distributor/installer.

Procedure

1. Enter the account and password on the login screen.
2. Tap “Login” to enter the home screen.







1. Navigation bar
2. Plant status bar
3. Search bar
4. Plant information list

Description of home screen

- Navigation bar

Navigation bar	Description
Home	The plant list shows plants created and plants shared to others. Users can create plants, share plants, view plant information and set plant parameters on this screen.
Fault	Tap “Fault” to view fault types and detailed fault information.
More	Tap “More” to perform operations such as WLAN configuration, local access, and personal setting.

- Plant status bar
 - View plant status information such as number of plants, number of faults, number of alarms, number of offline devices, etc.
 - View plant status indicator information such as plant PR, equivalent hours, etc. Tap  to reorder the plant information list.
- Search bar

- Tap  to search plants by manually entering the plant name or device S/N.
- Tap  and  to search the device by scanning the QR code.

WLAN Configuration

WLAN Configuration

The WiFi or WiNet-S module can be connected to the home network, so that the inverter can communicate with the Smart Solar Cloud server. Users can view inverter data or send instructions to control the inverter through the App.

Prerequisites

- You have already got the account and password from the distributor/installer or Smart Solar Cloud.
- The inverter has been connected with the WiFi or WiNet-S wireless communication module researched by Smart Solar Cloud.
- You have got the WLAN name and password of the home network.

Procedure

1. Enter the account and password on the login screen and tap “Login”, to enter the App home screen.

2. Tap “More” on the navigation bar to enter the corresponding setting screen.

3. Tap “WLAN Configuration” to enter the corresponding interface, and scan the QR code on the wireless communication module.

4. Follow the page prompt to connect the mobile device to the inverter WLAN or home network. For Android users, tap “Settings” to enter the wireless network page. For iOS users, tap “Setup”->“Wireless LAN”.

- WiFi module: Select the inverter WLAN named as “AP - WiFi module SN”. The WiFi module SN can be obtained on the side of the WiFi module.
- WiNet-S module: Select home network and enter home network password.



5. When the mobile device is connected to the inverter WLAN or home network, tap “Next” at the bottom of the page.

- When the communication module is WiNet-S, complete the WLAN activation according to the page prompt. And then tap “Next”.

6. WLAN Configuration

- WiFi module: Tap the home network WLAN, enter the password, and tap

"Complete".

- WiNet-S module: Enter the home network password, and tap "Complete".

7.The connection is successfully established if a tick “√” appears on the page. Tap “Complete” to end the WLAN configuration.

Alternatively, you can tap the icon ![]
(<http://base.isolarcloud.com:8181/uploads/202102/0981bc2f05e288fc608ce11f9b9271ab.jpg>)in the upper right corner on the login screen and select WLAN configuration to configure the WLAN.

Disconnect the mobile phone from the inverter WLAN to ensure the phone can normally access the Internet. Then connect the mobile phone to the home network, or enable the "Mobile data".

Home

Home

Create Plant

Create Plant

This section describes the procedure of creating plants through the App.

The plant creation screen may slightly vary with plant type, inverter type, and communication device. For details, refer to the actual screen.

Prerequisites

- You have already got the account and password from the distributor/installer or Smart Solar Cloud.
- The inverter is normally connected to the communication device researched by Smart Solar Cloud.

Introduction

The end user assigns the plant to the distributor/installer for management and gets the distributor/installer code from the distributor/installer.

The distributor/installer who creates a plant for the end user needs to get the end user's e-mail address.

In creating a plant, the e-mail address is required, and each e-mail address can be registered only once.

Procedure

If there is no plant in the account, tap "Create Plant". If there is a plant in the account, tap

to enter the "Create Plant" interface.

Fill in Basic Plant Information

Parameter name	Description
*Plant name	The plant name is the device SN by default
*Plant type	Tap <input type="text"/> to select corresponding plant type
*Installed power (kWp)	Enter the installed power
*Country (region)	Tap <input type="text"/> to select the country (region) of the plant

*Time zone	Tap <input type="button" value="📍"/> to select the time zone of the plant
*Plant address	The plant address can be added in two ways: Manual entry: enter the plant address manually in the input box; Automatically access: tap <input type="button" value="📍"/> to get the current location or search the plant address automatically.
*Grid-connection type	Tap <input type="button" value="⚙️"/> to select the grid-connection type of the plant
Grid-connection date	Tap <input type="button" value="📅"/> to select the grid-connection date
*Owner email address	Enter the owner's email address
Postcode	The postcode where the plant is located
Plant picture	Tap <input type="button" value="📷"/> to upload the plant picture
Feed-in tariff and consumption tariff	<ol style="list-style-type: none"> 1. Enter the feed-in tariff 2. Tap "More configurations": <ol style="list-style-type: none"> a. Enter the tariff unit b. Enter grid tariff or turn on time-of-use tariff and fill in the grid tariff in different time segments

Note:

1. *indicates required fields.
2. The time zone of the plant and the plant address are automatically obtained when "Creat Plant" is tapped.

Add Communication Device

1. Scan the QR code on the communication device or identify the QR code picture. Tap "Confirm" to add the device.
2. Select a communication device type and view the serial number of the device in the lower part of the interface. Manually enter the S/N of the communication device and click "Confirm" to add the communication device.

System Debugging

When the communication device is successfully added, the device interface is displayed by default.

- If the communication device is WiNet or WiFi, perform the following steps.

Network Configuration

Tap "System Debugging" in the lower left corner of a device to enter the system debugging interface, on which the network configuration and grid-connection debugging can be accessed.

- If the communication device is WiNet:

Tap “Network Configuration”. If the mobile device (such as a mobile phone) is connected to a non-communication device network, the Easyconnect interface is displayed. If the mobile device is connected to a communication device network, the WLAN direct connection interface is displayed:

- WLAN


- Easyconnect

(1) The prompt “Activate EasyConnect” pops up. Tap “Activated”.

(2) Enable WLAN of the mobile phone and connect it to the home network in network list and return to Smart Solar Cloud App.

(3) If the mobile device runs iOS, enter the home network name and password, and tap “Connect”; If the mobile device runs Android, tap a home network in the WLAN list, enter the password, and tap “Confirm”.

(4) If the network is configured successfully, the waiting processing interface is displayed. After processing, the system debugging interface is automatically displayed.

(5) When  appears on the left of “Network Configuration”, the network is successfully configured.


(6) If the network configuration fails:

a. Tap “Try Again”.

b. Tap “WLAN Direct Connection” to connect the mobile phone to the network of the communication device. After connection, access the WLAN direct networking.

- WLAN Direct Connection

(1) Tap the home network in the WLAN list. After connection, the waiting process interface is displayed. Then the system debugging interface is displayed when processing finishes.

(2) When  appears on the left the “Network Configuration”, the network is successfully configured.


- Ethernet

(1) Tap “Ethernet Connection” in the lower left corner of the interface. The interface displays “Activate hotspot”. Tap “Next”.

(2) The interface prompts to connect the mobile device to the WLAN of “AP-”

Communication Module SN". After connection, the prompt of successful connection is displayed on the App interface. Click "Next".


(3) Fill in the relevant information, including automatically obtain IP settings (DHCP), subnet mask, IP address, default gateway, DNS1 and DNS2, and then tap "Confirm" to return to the system debugging interface.


(4) When  appears on the left the "Network Configuration", the network is successfully configured.

- If the communication device is WiFi:

(1) When the communication device is successfully added, the device interface is displayed by default. Tap the "System Debugging" at the bottom left corner of the individual device to enter the corresponding interface.

(2) Tap the "Network Configuration", and a pop-up prompt that Smart Solar Cloud asks to connect to device "AP-Communication Module SN" for system debugging is displayed. Agree the request and select the home network.

(3) Tap the home network in the WLAN list. After connection, the system debugging interface is displayed. Tap  to refresh the WLAN list.

(4) When  appears on the left the "Network Configuration", the network is successfully configured.

When the network is successfully configured, grid-connection debugging button can be tapped.

Grid-connection Debugging

(1) Tap "Grid-connection Debugging".

(2) If there is no latest device installation package in the system, skip to step 6 directly. If the latest device upgrade package is available in the system, a pop-up prompt appears with the following content:

Smart Solar Cloud provides important upgrades for the device.

Note: Please make sure the DC side is powered on when upgrading.

(3) Enable WLAN of the mobile phone and connect it to the home network in network list and return to Smart Solar Cloud App.

(4) Tap "Update Now".

(5) When the communication device is updated, connect the mobile phone to the WLAN of "AP-Communication Module SN" according to the prompt.

(6) After upgrade, the version number of the package before and after the upgrade and the

upgrade time are displayed on the interface. Tap “Next” to enter the initialization interface.

(7) Set the initialization protection parameters according to the actual needs. Save the settings and return to the system debugging interface.

The parameter "country (region)" must be set to the country (region) where the inverter is located. Otherwise, the inverter may report errors.

(8) When ☐ appears on the left of the “Grid-connection Debugging”, the initialization parameters are successfully set.

(9) Tap “Complete” when the connection of the communication device, the network configuration and the grid-connection debugging are finished. Return to the App home page to view the plant information.

The "User Review" interface is displayed when the plant is created or the creation is suspended. Tap to enter the corresponding interface.

- If the communication device is “EyeM4” or “Logger1000”:

Network Configuration

When EyeM4 and Logger1000 use the data card, the following operations are not necessary.

(1) When the communication device is successfully added, the device page is displayed by default.

(2) Connect the mobile device to the WLAN of the “AP-Communication Module SN”.

(3) Open the browser and enter the webpage <http://11.11.11.1>

(4) Tap ☐ > “Login”, and enter the password to log in.

(5) Tap “System”> “Port Parameter”> “WLAN”, enable the WLAN, and connect the device to a nearby WLAN. The prompt of successful connection is displayed when the connection is completed.

(6) Return to the App.

Grid-connection Debugging

(1) The network configuration is completed.

(2) Tap the “Not Configured” at the upper right corner of the device.

If the device has been initialized, there is no “Not Configured” button at the upper right corner of

the device.

(3) Set the initialization protection parameters according to the actual needs. Save the settings and return to the device list.

The parameter "country (region)" must be set to the country (region) where the inverter is located. Otherwise, the inverter may report errors.

Sharing and Deleting Plant

Sharing and Deleting Plant

This section describes how to share and delete plants.


Plant sharing

End user can assign plants to other end users or distributor/installer for management.

Prerequisites

The end user has the permission to share plants, but the distributor/installer does not have the permission.

Procedure

1. Select the to-be-shared plant on the home screen, and tap the icon  on the right of the plant.
2. Tap "SHARE" to enter the "SHARE PLANT" screen.
3. Tap "ADD Share" to enter the corresponding screen.

Description of sharing permission

Type	Permission	Description
Designated user	Browser	User can only view plant data
Designated user	Administrator	User can manage plant
Visitor	Browser	Visitor can only view plant data

4. Tap "Confirm", after which the added new information will be displayed on the plant sharing screen.


Plant deletion

Delete the plant when it is connected abnormally or the corresponding onsite plant has been shut down.

Prerequisites

End user has the permission of deleting plants, and distributor/installer can delete plants assigned to the distributor/installer for management.

Procedure

1. Select the to-be-deleted plant on the home screen, and tap the icon  on the right of the plant.
2. Tap "DELETE".
3. Select "STILL DELETE" on the pop-up window.
4. Tap "CONFIRM DELETE" to delete the selected plant.

Configuration


Configuration

This section describes plant configuration, device configuration, device replacement and tariff configuration.

Plant configuration

You can set plant name, plant type, etc.

Procedure

1. Tap a plant listed on the home screen to enter the plant detail screen.
2. Tap the icon  in the upper right corner of the detail screen, to enter the “Configuration” screen.
3. Select “Plant” to enter the corresponding screen.
4. Fill in the plant information.

Description of plant parameters

Parameter	Description	End user	Distributor/installer
Plant name*	Name of the plant	√	√
Plant type*	Type of the plant including residential PV plant, residential energy storage plant, commercial PV plant, and microgrid	√	√
Battery type**	Type of the battery including lithium battery and lead-acid battery	√	√
Battery capacity**	Capacity of the battery	√	√
Distributor/installer code***	Fill in the distributor/installer code, so that the distributor/installer can view and manage the plant.	√	√
	The first time you fill in the end user's email, the system will create an account for the end user and send a text message to the		

	end user. The Distributor/installer creates plants for the end user and can manage the plants by default.		
Channel/Partner	Assign plants to other channel/partner for management. Refer to the “Plant sharing” chapter to set sharing permissions.	√	√
Power installed	Installed power of PV modules	√	√
Creation date	Time of constructing the plant	√	√
Grid-connection date	Time at which the plant starts feed-in operation	√	√
Grid-connection type	Type of grid-connection including 100% feed-in, self-consumption, surplus electricity feeds to grid, zero export and off-grid	√	√
Time of connection	Time at which Smart Solar Cloud starts to monitor the plant	√	√
Image	Upload plant picture	√	√
Country (region)*	Country (region) where the plant is located at	√	√
Plant time zone*	Time zone of the plant	√	√
Plant zip	Zip code of the place where the plant is located	√	√
Plant address*	Location of the plant, which can be added in two manners. Manual input: enter the plant location manually. Automatic obtaining: tap the icon  to automatically obtain current location or search for plant location, and tap “Confirm”.	√	√
Delivery zip	Zip code of the place of the receiver	√	√

Delivery address	Address of receiver	√	√
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Note: * indicates fields that must be filled in.

** applicable only to residential energy storage plant and microgrid.


*** indicates fields that must be filled in for distributor/installer.

5. Tap “Confirm” in the lower part of the screen to finish the plant configuration.

Equipment configuration

You can add or delete communication devices on the device configuration screen.

1. Tap a plant listed on the home screen to enter the plant detail screen.

2. Tap the icon  in the upper right corner of the detail screen, to enter the “Configuration” screen.

3. Select “Device” to enter the corresponding screen.

4. Perform the following operations according to actual conditions.

- Add device

1. Tap the icon  in the upper right corner of the screen.

2. Scan the QR code on the communication module or manually input the serial number of the module. Tap “Confirm” after the QR code is recognized or the serial number input is correct.

3. Tap “Confirm” to finish the adding operation.

It takes 1 to 10 minutes to establish communication connection after the communication device is added. The newly added communication device will be displayed on the device configuration screen.

- Delete device

1. Select a to-be-deleted device, swiping left (iOS) or pressing and holding (Android).


2. Tap the icon  (iOS) or “Delete” (Android), to delete the device.

- Querying device

1. Tap the icon  in the upper right corner of the screen.

2. Enter device name or S/N to view the corresponding devices.

- Modify device name


1. Tap the icon  next to the device name.
2. Modify the device name and tap “Confirm”.

Device replacement


If plant device is faulty or it has been replaced on site, perform device replacement through the App.

You can replace communication device or inverter on the device replacement screen.


Procedure


1. Tap a plant listed on the home screen to enter the plant detail screen.
2. Tap the icon  in the upper right corner of the detail screen, to enter the “Configuration” screen.
3. Select “Device replacement” to enter the corresponding screen.
4. Tap “Continue”.



5. Tap the icon  under “Old device” to enter the “Add old device” screen. You can add old devices in the following two manners:

- Switch the “Communication device” tab and “Inverter” tab, and select desired to-be-replaced device from the device list under corresponding tab.
- Enter the inverter name or communication device serial number into the searching box.

6. Tap the icon  in the upper right corner of the screen after selecting the to-be-replaced device, so as to successfully add the device.

7. Tap the icon  under “New device” to enter the “Add new device” screen.

8. Scan the QR code on the communication module or inverter, or manually input the serial number of the device, to add the new device.

9. Tap “Start replacement” after confirming that the old device and new device are desired ones. Device replacement is completed once the instruction delivered successfully.


When replacing an inverter, you can tick "Power generation compensation to new device", so that the total power generation of the replaced device will be used as a compensation value of the new inverter.

Tariff

Tariff is used for revenue calculation. This section describes how to set specific electricity price and TOU tariff.

Procedure

1. Tap a plant listed on the home screen to enter the plant detail screen.

2. Tap the icon  in the upper right corner of the detail screen, to enter the “Configuration” screen.

3. Select “Tariff” to enter the corresponding screen. The electricity price can be set to a specific value or Time-of-Use tariff.

- Set electricity price

a. Select a price unit.

b. Enter the feed-in price and consumption tariff according to actual conditions, and tap “Confirm”.

- Set Time-of-Use tariff

a. select a price unit.

b. Turn on the feed-in price and consumption tariff switches as you need.

c. Tap “ADD TIME SEGMENT”, enter unit price, set start time and end time, and click “CONFIRM”.

d. Optionally, repeat the foregoing step to set Time-of-Use tariffs for multiple time segments within a day.

e. Tap “Other time” and enter unit price for other time segment.

f. Tap “Confirm”.

Tap the time segment to enter the "EDIT TARIFF" screen, on which you can modify and delete Time-of-Use tariff.

Time-of-Use tariff should cover 24 hours and be different in each time segment.

Viewing Plant Information

Viewing Plant Information

This section describes how to view power generation information and information of plant devices.


Parameters displayed may vary with plant types, and actual screens prevail.

Description is given by using residential PV plant as an example.


Plant information

1. Tap a plant listed on the home screen to enter the plant detail screen.
2. Tap “Overview” tab to view power generation information of the plant.

Parameter	Description
Power flow chart	<p>Including information such as PV power generation power and feed-in power, where the line with an arrow indicates energy flow between connected devices, and the arrow pointing indicates energy flow direction.</p> <p>If the current user has permission for the live data function, the following statuses can be viewed:</p> <p><input type="checkbox"/>: live data synchronization in progress;</p> <p><input type="checkbox"/>: live data is being enabled;</p> <p><input type="checkbox"/>: device is offline or faulty, and the live data can not be enabled.</p>
Real-time power	Present output power of all inverters in the plant
Installed power	Installed power of PV modules
Today yield	Today power yield of all inverters in the plant
Total yield	Accumulative power yield of all inverters in the plant
E-use today	Display the electricity consumption of the plant today
Cumulative electricity consumption	Display the cumulative electricity consumption of the plant
Today revenue	Today's revenue

Total revenue	Total revenue
Power generation chart	Including daily, monthly, and annual power generation histograms
Weather	Weather of today, tomorrow, and the day after tomorrow
Energy Conservation and Emissions Reduction	Including information such as CO2 emission reduction, equivalent trees planted, and save standard coal. Click the icon  to view the calculation standards for energy conservation and emissions reduction of PV power generation

Device information

1. Tap a plant listed on the home screen to enter the plant detail screen.
2. Tap “Device” tab to view all devices of the plant.
3. Optionally, tap the icon  in the upper right corner to screen devices displayed. You can screen according to device state and device type.
4. Tap device name, and you will enter “General information” screen by default. Switch the tabs “Active Fault”, “Fault History”, “Curve”, “Yield information”, and “Settings” to access respective screen.

Parameters displayed may vary with device types, and actual screens prevail.

Description is given by using PV inverter as an example.

Description of plant parameters


Tab	Description
General information	Prerequisite: permission to view measuring point data. Display measuring point data such as device overview information, MPPT information, load information, battery information, grid information, and device information such as device status, model, S/N, and manufacturer.
Existing fault	Display fault lists including fault, alarm, prompt, and advice.
Fault history	Display a list of historical fault messages that have been cleared.
Curve	Display the equipment's power generation history curve.

Energy information	Display inverter power change curve.
Settings	You can perform initial grid-connection setting on the inverter. You can further set system parameters, protection parameters and power control.

Fault information

1. Tap a plant listed on the home screen to enter the plant detail screen.
2. Tap “Fault” to enter the corresponding screen, where the screen displays the fault list whose types are “Fault” and “Alarm” by default.
3. Enter fault name and select fault state, plant name, and fault type, to view corresponding fault list.
4. Tap the fault name to view detailed fault information.

Remote Signaling Status

1. Tap a plant listed on the home screen to enter the plant detail screen.
2. Tap “Device” tab to view all devices of the plant.
3. Tap device name, and you will enter “General information” screen by default.
4. Tap “Remote Signaling Status” tab to view parameter information of the device.
5. Click the icon  and then select time segment to view history information.

Device Initialization

Device Initialization

Prerequisites

If the inverter has not been initialized, perform initial grid-connection setting.

If there are multiple inverters that have not been initialized, perform initial grid-connection setting for each inverter.

Procedure

1. Tap a plant listed on the home screen to enter the plant detail screen.
2. Tap “Device” tab. Tap the name of the device that needs to be initialized and switch to “Settings” tab.
3. Tap “Initial grid connection” to enter the corresponding screen.
4. Set initial grid-connection parameters.

Parameters displayed may vary with device types, and actual screens prevail.

Different countries (regions) have different parameter setting requirements, please refer to the local regulations.

Description is given by using PV inverter as an example.

Description of initial grid-connection parameters

Parameter	Description
Country (region)	Country (region) where the inverter is located at
Grid type	Type of grid

The parameter "country (region)" must be set to the country (region) where the inverter is installed.


5. Tap “Send down instruction” to finish the initial grid-connection setting.

Viewing Fault Information

Viewing Fault Information

This section describes how to query fault types and view detailed fault information.

Procedure

1. Tap “Fault” to enter the corresponding interface, on which the faults whose types are “Fault” and “Alarm” are displayed by default.
2. Tap the icon  to Enter fault classification or fault code and select fault state, plant name, and fault type, to view corresponding fault list.
3. Tap the fault name to view detailed fault information.
4. Tap the faulty device on Fault Detail interface to jump to the device detail interface.
5. Tap the name of the associated plant on Fault Detail interface to jump to the single plant overview interface.
6. Tap “View” on the right of “Fault Recorder” to view the fault recorder tasks. Tap the icon on the right of the fault recorder task to view the fault record of the corresponding task.




More

More

This section describes WLAN configuration, FAQs, and personal setting.

Tap “More”, to enter the corresponding screen.

Parameter description

Parameter	Description
Profile	You can view and modify the general information of the account. The distributor/installer can also view and modify organization information.
WLAN configuration	For details, refer to "WLAN Configuration".
Local access	For details, refer to "WLAN Login (Near End)" and "Bluetooth Login (Near End)".
Firmware Download	For details, refer to "Firmware Download" .
Message Center	You can view the history records of creating plants, sharing plants, upgrading device, and changing installers.
My Service Provider	You can view service provider information.
FAQs	You can view frequently asked questions about using the App.
Feedback	You can submit your feedback. Tap the icon () in the upper right corner to view all feedback.
	<p>You can perform private settings.</p> <p>1.Tap "General" and "Default Language", to switch the language. Alternatively, you may tap the icon () in the upper right corner and select "Language", to switch the language.</p> <p>2.Tap “General” and “Unit” to switch the units of radiation and temperature.</p> <p>3.Tap “Report push” and “Add” to enter the corresponding screen. Tap “Add”, fill in receiver e-mail address, select the desired type of reports (“Daily Report”, “Weekly Report”, “Monthly Report” and “Annual Report”), and tap the icon () in the upper right corner of the screen. You can view information</p>

Settings	<p>such as revenue, power generation, energy conservation and emission reduction.</p> <p>4. Tap “Account and Security” to bind the email address for retrieving password. You can change the password and cancel the account.</p> <p>5. Tap “Notification” to determine whether to receive notifications. If you turn off “Allow notifications”, you will not receive system notifications after parameter setting.</p> <p>6. Tap “Application Sharing” to invite friends to scan and download the App.</p> <p>7. Tap “Declaration” to view system declaration terms.</p> <p>8. Tap “About” to view system version and privacy policy.</p> <p>9. Tap “Website” to jump to Smart Solar Cloud official website and view more information.</p>
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Firmware Download

Firmware Download

Users can download the upgrade package of the firmware through “Firmware Download”.

1. Click “More”->“Firmware Download” to enter corresponding interface on which you can view the device list.
2. The default device type is Inverter. Click ☐ to filter the device type you need to upgrade.
3. Click ☐, enter “Device Model” and click “Enter” or “Search” to search for the device that needs to perform a firmware upgrade.
4. Click the device name in the device list to enter the firmware upgrade package detail interface, and click ☐ behind the firmware upgrade package to download it.
5. Return to the “Firmware Download” interface, click ☐ in the upper right corner of the interface to view the downloaded firmware upgrade package.
6. Click on the name of the upgrade package and then ☐, select the upgrade package, and click “Delete” to delete the corresponding upgrade package.
7. Optional: Click “Delete All” at the bottom left of the page, the Delete All confirmation prompt box will pop up, click “Confirm”, and the system will delete all downloaded upgrade packages.

Live Data

Live Data

Users with live data permission can use this function to judge the operating status of the device.

Prerequisites

The current user has permission for live data function.

Procedures

1. Tap “More -> Live Data” to enter the “Plant” interface.

2. Select the needed plant or search the plant by entering the plant name to view its live data.

3. Live data status: - ☐: live data synchronization in progress; - ☐: live data is being enabled; - ☐: device is offline or faulty, and the live data can not be enabled.

4. View live data

- Click the device to enter the live data interface. The interface displays the measuring point interface and the curve interface.
- Click ☐ behind the measuring point to view the measuring point curve.
- Measuring point preceded by ☐ is a live data measuring point that is not supported by the current device.

WLAN Login (Near End)

WLAN Login (Near End)

In case of WLAN direct login, a WiFi wireless communication module researched by the company is required.

The WiFi wireless communication module establishes a communication connection with the mobile phone through WLAN, achieving near-end maintenance on the inverter. Users can view inverter information and set parameters through the App.

Parameters displayed may vary with inverter types, and actual screens prevail.

Description is given by using PV inverter as an example.

Login

Login

Prerequisites

- The AC and DC sides of the inverter are energized or the AC side of the inverter is energized.
- The Bluetooth of the mobile phone is enabled.
- The mobile phone is within the coverage of the wireless signal of the WiFi module.

Procedure

There are two ways to establish WLAN connection, QR code connection and manual connection.

QR Code Connection

(1) Tap “Local Access” at the bottom of the interface, and scan the QR code to establish the WLAN connection.

(2) Tap “Activated” when seeing the prompt “Activate hotspot”.

(3) Connection status

- Successfully connected: enter the account and password on the verification interface.
- Connection Failed: repeat the foregoing procedure or perform manual connection.

(4) Tap “Verification”. If there is no latest upgrade package, skip to step 9. If a latest upgrade package is available, the window pops up.

(5) Tap “Update Now” to prompt the phone to reconnect to the Internet. Disconnect the mobile phone from the inverter WLAN to ensure the phone can normally access the Internet. Then connect the mobile phone to the local network, or enable the data network.

(6) Tap “Next” to download the latest upgrade package when successful connection to the Internet is displayed on the App interface.

(7) After download, tap “Next”.

a. When the system automatically connects to the hotspot of the mobile phone, successful connection of the mobile phone to the inverter is displayed on the interface. Tap “Next” to upgrade the device.

b. If the system fails to automatically connect to the hotspot, the system prompts the mobile phone to reconnect to the WLAN of AP-Device SN. After connection, tap “Next” to upgrade the device.

(8) After successful upgrade, the version numbers before and after the upgrade as well as the upgrade time are displayed on the interface. Tap “Complete” to enter the verification interface.

(9) Tap “Verification”.

a. If the device initialization parameters are set, the home page is displayed.

b. If no initialization parameter is set, the system debugging interface is displayed. Perform debugging referring to “System debugging”. After debugging, the home page is displayed.

User name is "user" by default. And the initial password is "pw1111", which should be changed as soon as possible to ensure the account security.

Munual Connection

(1) Tap “Local Access” at the bottom of the interface to enter the QR code scanning interface. Tap “Manual Connection” at the bottom of the interface.

(2) Enable WLAN of the mobile phone and connect it to the WLAN of AP-Device SN, which can be found at the side of the WiFi module.

(3) Select the device type on the App.

(4) For connection status, refer to step 3 in “QR Code Connection”.

(5) Tap “Verification”. If there is no latest upgrade package, skip to step 6. If a latest upgrade package is available, refer to step 5~8 in “QR Code Connection”.

(6) Tap “Verification”, referring to step 9 in “QR Code Connection”.

System Debugging

After connection, the system debugging interface is displayed.

Network Configuration

(1) Tap “Network Configuration”.

(2) Tap available home networks in the WLAN list.

(3) After connection, the system debugging interface is automatically displayed.

(4) When ☐ appears on the left of “Network Configuration”, the network is successfully configured.

Grid Connection Debugging

(1) Tap “Grid Connection Debugging” to enter the initialization interface.

(2) Set initialization protection parameters according to actual needs and confirm the settings. After

setting, the system debugging interface is displayed.

The parameter "country (region)" must be set to the country (region) where the inverter is located. Otherwise, the inverter may report errors.

(3) Tap "Complete", and the plant information is displayed on the App home page.

The "User Review" interface is displayed when the plant is created or the creation is suspended. Tap to enter the corresponding interface.

Function Overview

Function Overview

You can view inverter real-time power and power generation, to start/stop the inverter, and to upgrade firmware, etc.



Home


Home

You will enter the home screen after login.



Function description of home screen

No.	Name	Description
1	Inverter state	Present operation state of the inverter
	Network status	Present the current network status. (1) Tap "Network Status" to enter the "Select Home Network" interface. (2) Tap a home network in the WLAN list to configure.
	Cloud connection status	Present the cloud connection status. Tap "Cloud Connection Status" to select the server site.
2	Power flow chart	Indicate the PV power generation power, feed-in power, etc. The line with an arrow indicates energy flow between connected devices, and the arrow pointing indicates energy flow direction.
3	Real-time power	Present output power of the inverter
4	Nominal power	Nominal power of PV modules
5	Today yield	Today yield
6	Total yield	Accumulative power yield of the inverter
7	Navigation bar	Including menus of "Home", "Run Information", "Records" and "More"

If the inverter runs abnormally, the fault icon  appears in the upper left corner of the screen. Users can tap the icon to view detailed fault information and corrective measures.

Chart

Chart

The App displays power generation records in a variety of forms, including daily power generation graph, monthly power generation histogram, annual power generation histogram, and total power generation histogram.

Description of power generation chart

Parameter	Description
Daily power generation graph	Curve showing change of power between 5 am and 22 pm every day. (Each point on the curve corresponds to a power value).
Monthly power generation histogram	Display power generation of the current month and monthly equivalent hours.
Annual power generation histogram	Display power generation of the current year and annual equivalent hours.
Total power generation histogram	Display total power generation and total equivalent hours.

1.Click “Chart” on the navigation bar to enter the screen showing daily power generation curve.



2.Swipe the screen left to view monthly power generation histogram, annual power generation histogram, and total power generation histogram.

More

More

Tap “More” to enter the corresponding screen, on which you can perform WLAN configuration, settings, update firmware, etc.



Description of parameters on the “More” screen

Parameter	Description
WLAN Configuration	The WiFi module can be connected to the home network, so that the inverter can communicate with the server. Users can view inverter data or send instructions to control the inverter through the App.
Settings	Tap “Settings” to set inverter system parameters, operation parameters and protection parameters.
Firmware update	Tap “Firmware Update” to upgrade the firmware of the inverter.
Software version	Tap “Software Version” to view the version of the software.

WLAN Configuration

Prerequisites

- You have already got the account and password from the distributor/installer or the company.
- The inverter has been connected with the WiFi wireless communication module researched by the company.
- You have got the WLAN name and password of the home network.

Procedure

1. Enter the account and password on the login screen and tap “Login”, to enter the App home screen.
2. Tap “More” on the navigation bar to enter the corresponding setting screen.
3. Tap “WLAN Configuration” to enter the corresponding screen.
4. Connect to the inverter WLAN. For Android system, tap “Settings” to automatically enter the

wireless network screen. For iOS system, manually switch to “Settings-WLAN”. Select the inverter WLAN named in the form of “AP-WiFi module serial number”, where the serial number can be found on the side of the WiFi module.



5. Prompt information will pop up once you successfully connect to the inverter WLAN.




6. Tap “Next” at the lower part of the screen to connect the inverter to the home network. Select the home network WLAN and enter the password. The symbol “√” indicates a successful connection to the home network WLAN.



7. Tap “Next”, and information indicating a successful connection to the home network will pop up. Tap “Complete” to finish the WLAN configuration.



Alternatively, you can tap the icon  in the upper right corner on the login screen and select WLAN configuration to configure the WLAN.

Disconnect the mobile phone from the inverter WLAN to ensure the phone can normally access the Internet. Then connect the mobile phone to the home network, or enable the "Mobile data".

Parameter Setting

1. Tap “Settings” to enter the parameter setting screen.

2. You can set inverter system parameters, running parameters and protection parameters.



Parameter ranges and default values will update from time to time, and the actual screens prevail. If there are any questions, contact SUNGROW.

Firmware Update

This section describes how to upgrade inverter firmware.

Prerequisite

The user has the permission of upgrading firmware.

Procedure

1. Obtain the firmware upgrade package. See “Firmware Download” for details.
2. Click “More” -> “Local Access” -> “WLAN” on the remote terminal to log into the system. For details, please refer to “Login”.
3. Click “More” -> “Firmware Upgrade” in the navigation bar to enter the firmware upgrade interface.
4. Click the upgrade package file, a prompt box will pop up asking you to upgrade the firmware with the file, click “Confirm” to perform the firmware upgrade.
5. Wait for the file to be uploaded. When the upgrade is finished, the interface will inform you of the upgrade completion. Click “Complete” to end the upgrade.

When the user has not copied the local upgrade package and remote download upgrade package, the upgrade package list on the firmware upgrade interface is empty.

Click "Download Now" to jump to the "More" interface. Click "Firmware Download", follow the steps to complete the firmware download, and then follow this section to perform the upgrade.

If the WiFi wireless communication module is upgraded from non-encrypted version to encrypted version, the password of WiFi wireless communication module is the S/N of the communication module when creating the plant or configuring WLAN.

Bluetooth Login (Near End)

Bluetooth Login (Near End)

The WiFi wireless communication module establishes a communication connection with the mobile phone through Bluetooth, achieving near-end maintenance on the inverter. Users can view inverter information and set parameters through the App.

Parameters displayed may vary with inverter types, and actual screens prevail.

Login

Login

Prerequisites

- The AC and DC sides of the inverter are energized or the AC side of the inverter is energized.
- The mobile phone is within 5m away from the inverter or the EyeS4 and there are no obstructions in between.
- The mobile device is within 60° azimuth of the EyeS4 or the inverter.
- The Bluetooth of the mobile phone is enabled.
- The mobile phone has had access to network

Procedure

There are two ways to establish Bluetooth connection, QR code connection and manual connection.

QR Code Connection

(1) Tap “Local Access” at the bottom of the interface, and scan the QR code to establish the Bluetooth connection.

(2) Enable bluetooth notification:

- If the mobile phone runs iOS, enable the Bluetooth on the system settings interface when seeing the prompt “Please turn on the bluetooth setting”, and tap “Close” on the App;
- If the mobile phone runs Android, tap “Allow” when seeing the prompt “Smart Solar Cloud requests that you enable Bluetooth to connect to the device”.

(3) Connection status

- Successfully connected: enter the account and password on the verification interface.
- Connection Failed: the connection failure interface is displayed. Check the device as prompted.

a. Refer to the procedure in "Manual Connection";

b. Tap "Close", and repeat the procedure of "QR Code Connection".

(4) Tap “Verification”. If there is no latest upgrade package, skip to step 8. If a latest upgrade package is available, the following prompt window pops up.



(5) Tap "Download Now", to download the latest upgrade package. After download, tap "Update Immediately" to enter the firmware upgrade interface.

(6) If upgrade fails, a corresponding prompt window pops up. Tap "Confirm" to continue the upgrade. After successful upgrade, the version numbers before and after the upgrade as well as the upgrade time are displayed on the interface.

(7) Tap "Complete", the upgrade success prompt is displayed. Tap "Close" to enter the verification interface.

(8) Tap "Verification".

a. If the device initialization parameters are set, the home page is displayed.

b. If no initialization parameter is set, the setting interface of initialization protection parameter is displayed. After setting, tap "Boot" in the upper right corner of the interface.

The App delivers the start instruction, and the inverter starts and operates. After initialization, the home page is displayed.



The parameter "Country (region)" must be set to the country (region) where the inverter is located. Otherwise, the inverter may report errors.

User name is "user" by default. And the initial password is "pw1111", which should be changed as soon as possible to ensure the account security.

Manual Connection


(1) Tap "Local Access" at the bottom of the interface to enter the QR code scanning interface.

(2) Tap "Manual Connection" at the bottom of the interface.

(3) Tap the devices with Bluetooth communication function at the bottom of the interface.

(4) Enter the identity verification interface, and the Bluetooth search interface pops up automatically.

a. Select the to-be-connected inverter according to the serial number on the nameplate on the side of the inverter.

b. Or tap  to scan the QR code on the side of the inverter to establish Bluetooth connection.

(5) After connection, enter the account and password.

(6) Tap "Verification". If there is no latest upgrade package, skip to step 7. If a latest upgrade package is available, refer to step 4~7 in "QR Code Connection".

(7) Tap "Verification", referring to step 8 in "QR Code Connection".

User name is "user" by default. And the initial password is "pw1111", which should be changed as soon as possible to ensure the account security.

Function Overview

Function Overview

You can view inverter running state and power generation, to start/stop the inverter, and to change password, etc.



Home


Home

You will enter the home screen after login.



Function description of home screen

No.	Name	Description
1	Date and time	The system date and time of the inverter
2	Inverter state	The current operating state of the inverter
3	Power flow chart	Indicate the PV power generation power, feed-in power, etc. The line with an arrow indicates energy flow between connected devices, and the arrow pointing indicates energy flow direction.
4	Power	Present output power of the inverter
5	Power yield	Today power yield and accumulative power yield of the inverter
6	Power curve	Curve showing change of power between 5 am and 23 pm every day.(Each point on the curve is the percentage of inverter current power to rated power)
7	Navigation bar	Including menus of “Home”, “Run Information”, “Records”, and “More”

If the inverter runs abnormally, the fault icon  appears in the lower right corner of the inverter icon on the power load chart. Users can tap the icon to view detailed fault information and corrective measures.

Run Information

Run Information

Tap “Run Information” on the navigation bar to enter the running information screen. Running information includes PV information, inverter information, input, output, and more.




Records

Records


Tap “Records” on the navigation bar to enter the history record screen on which you can view alarm records, energy records and event record.




Viewing alarm records

1. Tap “Fault Alarm Record” to enter the corresponding screen.
2. Tap the icon  to select a time segment and view records within this period.
3. Select a record and tap it to view detailed fault information, including alarm level, occurrence time, alarm ID, and repair advice.

Viewing energy records

1. Tap “Yield Record” to enter the power curve screen.
2. Tap the time bar  on the top of the screen to select a time segment and view the corresponding power curve.
3. Swipe the screen left to view daily power generation histogram, monthly power generation histogram and annual power generation histogram.

Viewing event record

1. Tap “Event Records” to view the event record list.
2. Tap the icon  to select a time segment and view event records within this period.

More

More

Tap “More” to enter the corresponding screen, on which you can start or stop the machine, set parameters, firmware update and change password.

Setting Parameter

1. Tap “Settings” to enter the parameter setting screen.
2. Set the following parameters if necessary.

Parameter	Description
System Parameters	Deliver a start or stop command to the inverter, set the date and time, and view the ARM and MDSP software versions.
Operation parameters	Set running time and PID parameters.
Power Regulation Parameters	Perform active power regulation or reactive power regulation on the inverter.
Communication Parameters	Set the device address.

Firmware Update

This section describes how to upgrade inverter firmware.

Prerequisite

The user has the permission of upgrading firmware.

Procedure

1. Obtain the firmware upgrade package. See “Firmware Download” for details.
2. Click “More” -> “Local Access” -> “Bluetooth” on the remote terminal to log into the system. For details, please refer to “Login”.
3. Click “More” -> “Firmware Upgrade” in the navigation bar to enter the firmware upgrade interface.
4. Click the upgrade package file, a prompt box will pop up asking you to upgrade the firmware with

the file, click “Update Immediately” to perform the firmware upgrade.

5.Wait for the file to be uploaded. When the upgrade is finished, the interface will inform you of the upgrade completion. Click “Complete” to end the upgrade.

When the user has not copied the local upgrade package and remote download upgrade package, the upgrade packa

Click "Download Now" to jump to the "More" interface. Click "Firmware Download", follow the steps to complete

Modify Password

1.Tap “Modify Password” to enter the corresponding screen.

2.Enter new password and tap “Confirm” to finish changing the password, where the new password must consist of 8 - 20 characters, a combination of letters and digits.

Appendix

Appendix

Manual Description

Manual Description

The information contained in this document is the property of Smart Solar Cloud (referred to as “us” hereinafter). Publishing its content, either partially or in full, requires the written permission of us. Any internal company copying of the document for the purposes of evaluating the product or its correct implementation is allowed and does not require permission.

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The content of the manual will be periodically updated or revised as per the product development. It is probably that there are changes in manuals for the subsequent module edition.