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# About This Manual

## About This Manual

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### Target Group

This manual is intended for distributors, installers, and end users of residential PV plant, energy storage system, and commercial PV plant.

### Symbols

Additional information, emphasized contents or tips that may be helpful, e.g. to help you solve

### System Requirements

| Item | Requirement | | ———— | ———— | | Browser | Chrome 60 or later (recommended), Safari 10 or later, and Firefox 60 or later | | Resolution | 1920 \* 1080 (recommended) / 1366 \* 768 (supported) |

### Expression Explanation

Type	Example
Select certain element or menu	Select “Plant Overview”
Select several elements or menus	Select “All plants -> Plant unit”

### Intended Use

This manual is intended to guide users in operating and managing iSolarCloud.

This manual is prepared based on the version V1.4.6.20230530. Screenshots are for reference or

## Common Operations

## Common Operations

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# Account Registration

## Account Registration

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This section describes how to register an iSolarCloud account.

### Prerequisites

The iSolarCloud operates normally and the network between the computer and the server is normal.


### 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 organizations as well as users.

### Procedure

1. Enter the specified URL <https://www.isolarcloud.com>.
2. Click the icon  in the upper right corner to switch languages.
3. Click "Register" to enter the registration interface.
4. Select "end user" or "distributor/installer" to enter the corresponding interface.

Select "Chinese server", only distributor/installer is allowed to register.  
Select "International server", "European server" or "Australian server", end user and distributor are allowed to register.

5. Enter the registration information, including server address, e-mail or phone number, 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 "Chinese server", phone number is allowed to register.  
Select "International server", "European server", or "Australian server", email is allowed to register.

6. Tick "Accept privacy protocol" and click "Register", to finish the registration operation.

- Mainland China users select "Chinese server", European users and African users select "European server", Australian users select "Australian server", and the other users 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 the code.

- When the country (region) is set to Brazil or Mexico, the field “Code of upper level distributor/installer” must be filled in.

# Login

## Login

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This section describes how the end user or distributor/installer logs into the iSolarCloud management system.


### Prerequisites


The user has got the account and password.

The iSolarCloud operates normally and the network between the computer and the server is normal.

### Procedure

1. Enter the specified URL <https://www.isolarcloud.com> in the browser address bar.

2. Click the icon  in the upper right corner to switch languages.

3. The system automatically switches to the corresponding server address according to the user IP; or users can click the button  to manually switch the server address. Mainland China users select "Chinese server", European and African users select "European server", Australian users select "Australian server", and the other users select "International server".

4. Enter the username and password and click "Login".

For the convenience of subsequent login, the users can select "Remember me".



# Logout

## Logout

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This section describes how the end user or distributor/installer logs out of the iSolarCloud management system.

### **Prerequisites**

The user has logged into the iSolarCloud management system.

### **Procedure**

Click the button “Logout” in the lower left corner of the home page to log out of the iSolarCloud management system.

Home

**Home**

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# Interface Description

## Interface Description

Click the menu “Home” to enter the corresponding interface, on which you can view plant information, share plants, etc.



1. Menu Bar 2. Message center and help 3. Personal center 4. Plant query bar 5. Plant information List 6. Plant operation Bar 7.Feedback

The figure is for reference only. The actual interface may be different and shall prevail.

### Menu bar

The menu bar displays main function categories of the iSolarCloud. Users can switch to the corresponding interface of different functions and perform related operations.

Function page	Description	
Home	Display plant list. View detailed plant information. Share or delete plants.	
Fault	View fault information of plant devices.	
Report	View plant statistics reports (daily report, weekly report, monthly report, annual report and overall report); create self-defined reports.	
Curve	View plant power generation curve.	
Advanced	Settings	Set initial grid connection parameters of plant devices.
	Firmware update	Upgrade plant software device.
	String IV curve scan and diagnosis	Scan component I-V curve, diagnose component working status, and automatically locate faulty components.
	Live date	Display the measuring point interface and the curve interface, and the measuring points that the current device does not support.

	Alarm subscribe	Set plant plan manner.
Device Monitoring	Energy storage unit view	Check the overview of the energy storage unit and monitor the real-time status of indicators.
	PV unit view	Check the overview of the PV unit and monitor the real-time status of indicators.
	Other unit view	Check the access status of auxiliary equipment in industrial and commercial plants.
Control Method	Ground strategies	Display the control method uploaded by industrial and commercial EMS to the cloud.
	Cloud strategies	Adjust the control method used to issue the energy storage scheduling plan.

Only the distributor/installer has the permission of firmware update and string IV curve scan and diagnosis.

## Message center and help

### Message center

You can view the history records of creating plants, sharing plants, upgrading device, and changing installers.

Click “Edit” in the upper right corner, to delete history messages or mark the unread messages as read.

### Help

Item	Description
About	Click “About” to view the software version, terms of service, and privacy policy.
User manual	Click “User manual” to view the corresponding user manual.
Help center	Click “Help center” to view FAQs.

### Personal center

Item	Description
	Click “Me” to enter the user information interface, on which you can modify nickname and user ID, select country (region), and set time


Me	Profile	<p>zone.</p> <p>The distributor/installer can view his organization information, but the end user does not have organization information.</p> <p>When the country (region) is set to Brazil or Mexico, the field “Superior Code” must be filled in.</p>
	My Service Provider	You can view service provider information.
	Account and security	Click “Account and security” to bind a phone number or email address for retrieving password. In addition, you can change the password and delete account.
	Notification	You can determine whether to receive notifications.
	General settings	You can switch the language, theme color, background color, radiation unit, and temperature unit.
Large Screen		On which users can view information such as today yield, total yield, daily/monthly/yearly yield trend, energy conservation, and emissions reduction.
Background management		If you have the background management permission, click “Background management” to enter the corresponding interface.

## Plant query bar

Users can search for desired plants by setting corresponding conditions.

## Plant information list

Display all plants of the current user and plants shared by others.

1. Click plant name to enter “Overview” interface by default, where you can view plant information. See the section of “Viewing Plant Information” for more detailed operation.
2. Click  to reorder the list.


## Plant operation bar

You can share and delete plants.

Only the end user can share plants, and the distributor/installer does not have the sharing permission but can


## Plant Creation and Viewing

### Plant Creation



Click  to enter the corresponding interface by default. For creation process, refer to the section of “Create Plant”。

1. A single plant can be created.
2. Plants can be created in batches.

### Filter Columns


Click  to check the indexes needed to be checked, such as communication, transient irradiance, PR values, etc.

### Viewing Plant Information



1. Click  in the upper-right corner to view the plant list under current the user. 2. Click  in the upper-right corner to view the plant tiles under the current user.

### Feedback


#### Submit feedback

1. Click the icon  in the lower right corner, to access the “Feedback” interface.
2. Select the product type , plant, device type, and device S/N, fill in problem description, add contact information (optionally), and upload screenshots and files (optionally).
3. Click “Submit” to finish the operation.

#### My feedback

1. Click the icon  in the lower right corner, to access the “Feedback” interface.
2. Click the icon  in the upper right corner, to access the “My Feedback” interface.
3. Enter the “All” tab by default. Alternatively, change the tab to “Pending”, “Processing”, or “Already Closed” to view corresponding feedback.
4. Perform the following operations if necessary.

- Query feedback

Fill in the problem/work order No., and click the icon , to view the corresponding feedback.

- Reply feedback

Select the question to be replied, click “Reply”, fill in your opinions, upload screenshots and files (optionally), and click “Submit”.

- Close problem

Select the problem to be closed, click “Close Problem”, and click “Confirm” on the pop-up window.

# Viewing Plant Information

## Viewing Plant Information

In the plant information list area, you can view plant information and device information as well as configure plants.

This area displays plant state and other basic information.

Description of plant information parameters

Parameter	Description
Plant Status	Running and communication states of the power plant normal running <input type="checkbox"/> , fault <input type="checkbox"/> , alarm <input type="checkbox"/> , offline <input type="checkbox"/> , connecting <input type="checkbox"/>
Plant Name	User self-defined name
Plant Type	The type is determined based on application scenario and it can be set on the “Plant configuration” interface.
Installed Power	Installed power of the plant which can be edited on the “Plant configuration” interface.
Real-time Power	Real-time output power of the plant
Today Yield	Accumulative power yield of the day
Total Yield	Accumulative power yield of the plant



# Plant Information Introduction

## Plant Information Introduction

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

Description is given by using residential energy storage plant as an example.

1. Click the plant name on the “Home” page to enter the corresponding plant information interface.
2. Click “Overview” on the menu bar to view detailed plant information.

### Viewing basic plant information

Basic plant information includes “today revenue”, “today yield”, “real-time power”, “current month’s yield”, “total yield”, “CO2 reduction”, etc.

### Viewing power flow diagram

You can view information such as real-time power, feed-in power, load power, and battery charging/discharging power.




The power flow diagram of the energy storage system is as follows:



The line with an arrow indicates energy flow between connected devices, and the arrow pointing  
Gray line indicates that the connected devices are in off-line state.


### Viewing and exporting plant data

Plant data can be viewed and exported based on time segment “Day”, “Month”, “Year”, and “Total”.

1. Click “Day”, “Month”, “Year”, or “Total” to select the desired period.
2. Perform the following operations according to actual conditions.
  - Click the icons  and  in the upper right corner to display the data in chart form and table form respectively.
  - Click the icon  in the upper right corner to export the plant data, where the exported file is in .xlsx format by default.

### Viewing the calculation standards

The bottom of the overview page shows data related to energy saving and emission reduction, including CO2 reduction, standard coal saving, equivalent tree planting, etc.

Click the icon  to view the calculation standards for energy conservation and emissions reduction of PV power generation

The following takes a PV storage plant as an example to illustrate detailed operation.

1. Click a plant name on “Home” to view the information of a single plant.

### Viewing ES Information

Eday-charge, Eday-discharge, Cumulative charge, and cumulative discharge.

### Viewing 7 Day Charge/Discharge Information

Charge/Discharge histogram for last seven days.

### Viewing Plant Overview

3D diagram of PV/ES/Load/Grid and corresponding active power and remaining charge.

The plant overview is shown below.



### Viewing PV Information

PV daily yield, total PV yield, and PV installed capacity.

### Viewing 7 Day Yield Information

Yield histogram for last seven days.

# Layout




## Layout

The plant layout can be viewed after the physical layout of optimizers in the plant is set. For






1. Click a plant name on “Home” to view the information of a single plant.
2. Select “Layout” in the menu bar to enter the layout interface, on which you can view the module status and module information.

### Viewing Optimizer Running Status

Judge the optimizer status according to the color of the PV module on the layout. Colors and status are described in the following table.

Color	Status
 Blue	The optimizer is running properly
 Red	A fault occurs to the optimizer
 Grey	The optimizer is offline

The module is blue if the optimizer is running properly. The color of a PV module depends on the power ratio range. The darker the color, the larger the power ratio and the higher the power generation efficiency of the module. The lighter the color, the smaller the power ratio, and the lower the power generation efficiency.

Color	Actual Power/Peak Power * 100%
	80~100%
	60~80%
	40~60%
	20~40%
	0~20%


	Default
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## Viewing Optimizer Layout

Click to switch between “Physical Layout” and “Logical Layout”.



## Viewing Optimizer Status

Click  to view the the optimizer status and the corresponding number.




## Viewing Power Yield

Click to switch between “Daily Yield”, “Monthly Yield”, “Annual Yield”, and “Total Yield” to view the power generation of modules in different time periods. Select “Power” to view the live data of the module.







## Viewing History Data


Turn on history data in the upper right corner of the interface and click  to select the date to view the data. Slide on the curve to view the power generation data at different points in time.



## Viewing Module Information

1. Click the module on the interface to view the running data and device information of the optimizer. 
2. Click  and select a module to view the yield curve of this module. Click  in the upper left corner of Curve interface and select the unit to view the corresponding curve. At most 2 units can be selected at a time. 

## Smart IV Curve Diagnosis

Click , click “Settings” → “PV Module Management” → “Add”. Fill in the module configuration parameter information, determine the module to be diagnosed, and then click “Start Diagnosis”. The login password is the password used to log in to iSolarCloud.

At most six modules can be selected in one round of smart IV curve diagnosis.



The diagnostic result of the module is shown in the figure below. The module status is displayed on the interface. Click “View” on the right of a module to view the detailed results, including the general information, IV curve, and PV curve.



To export the diagnostic report, click “New Report” in the upper right corner.




# Viewing Device Information

## Viewing Device Information

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Select “Device information” on the menu bar to enter the device information interface, on which you can view basic device information and alarm information.

### Querying device






1. Enter device S/N and device name and select device type and device state.
2. Click  to view the corresponding devices.

### Viewing device information

All devices in the plant are displayed in the tab form. Click the tab to view corresponding device information. You can view the general information, device alarm information, power curve, etc.

### Viewing General Information


The basic device information includes measuring point data such as the general information, MPPT information, load information, battery information, and grid information, as well as device information such as device status, model, S/N, manufacturer, etc.

1. Click device name, and you will enter “General Information” interface by default.
2. Click  or  behind the parameters to select time segment and time interval, and click . In this way, you can view history information.
3. Perform the following operations according to actual conditions.
  - Click the icon  to refresh the interface information.
  - Click the icon  to change the curve into report.
  - Click “Save table data” to export the parameter information to the local.

### Viewing Active Fault

View the list of alarms not closed.

1. Click device name, and you will enter “General Information” interface by default.
2. Click “Active Fault” to enter the corresponding interface.
3. Enter time segment and fault classification, and select “Alarm processing state”.

4. Click  to view the corresponding faults.


### Viewing Fault History

View the list of history alarms closed.

1. Click device name, and you will enter “General Information” interface by default.

2. Click “Fault History” to enter the corresponding interface.

3. Enter time segment and fault classification.


4. Click  to view the corresponding faults.


### Viewing chart

View power generation information displayed in the chart.



1. Click device name, and you will enter “General Information” interface by default.

2. Click “Chart” to enter the corresponding interface.

3. Select time segment and click the icon  to select the time interval. The power generation statistical period can be set to 10 seconds, 5 minutes, 15 minutes, 30 minutes, or 60 minutes.

4. Click  to view the corresponding curve.

5. Perform the following operations according to actual conditions.

- Click the icon  to refresh the interface information.
- Click the icon  to change the curve into report.


Click "Save table data" to export the parameter information to the local.



### Viewing Remote Signaling Status


1. Click device name, and you will enter “General Information” interface by default.

2. Click “Remote Signaling Status” to enter the corresponding interface.

3. View remote signaling status.

4. Click  to refresh the interface information.

5. Click , select the time, and click , to view parameter history.

6. Click  to export the table.

Only Logger1000 and Logger3000 have remote signaling status.

## Repair

This section describes how to repair devices.

### Procedure

1. Click device name, and you will enter “General Information” interface by default.
2. Click “Repair” at the bottom of the interface to enter the corresponding interface.
3. Fill in fault information.

Parameter	Description
Fault classification	Fault and warning
Processing time	Estimated time for processing the fault. Includes emergency, 1 hour, 8 hours, 1 day, 3 days, 3 days above
Source	Cause of the fault Includes manual inspection, routine maintenance, interval test, device maintenance, device rebuilding, system note, and other sources

4. Optionally, fill in fault details and upload fault picture.
5. Click “Repair” to upload the fault. You can view the repair information on the “Fault” interface.



# Viewing Fault Information

## Viewing Fault Information

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Select “Fault” on the menu bar to enter the fault information interface, on which you can view fault information.

For details, refer to “Fault”.

# Plant Configuration

## Plant Configuration

This section describes how to modify plant information and how to set the tariff.

### Modifying plant information

This section describes how to edit basic plant information.

#### Prerequisites

The user has the permission of editing plant information.

#### Procedure

1. Click “Plant configuration”-> “Plant” to enter the corresponding interface.
2. Fill in the basic plant information.

Parameter	Description
Plant name*	User self-defined name
Owner's email	The e-mail address of the end user, used for receiving fault and alarm notification messages.
Power installed*	Plant installed power Click “Setting” and a setting window pops up. Click <input type="text"/> to enter the power value, in kWp. Click “Confirm”.
Plant type*	It can be set to “Utility”, “Commercial PV”, “Residential (PV)”, “Residential (Storage)”, and “Microgrid” according to the application scenario.
Grid-connection type	It can be set to “100% Feed-in”, “Self-consumption”, “Zero Export”, or “Off-grid”.
Location	The system automatically obtains the longitude, latitude and detailed address of the plant. Users can manually modify longitude, latitude, and detailed address of the plant.
Image	Click “Image upload” to select a local image and upload it.
Country (region)	Country (region) where the plant is located at.

Time zone	Time zone of the plant
Time of connection	Time at which iSolarCloud starts to monitor the plant
Grid-connection date	It is the time of creating the plant by default. Click the icon <input type="button" value="🗓️"/> to modify the grid-connection time.
Plant delivery address and zip	Delivery address and zip code for spare parts
Distributor/installer organization code	-

Note: \* indicates fields that must be filled in.

- The end user assigns the distributor/installer to manage the plant, and fills in the distributor/installer organization code which can be obtained from the corresponding distributor/installer.
- If the end user changes another distributor/installer to manage the plant, click the button  to modify the organization code, so that the plant will be managed by the another distributor/installer.
- The distributor/installer can change the organization code to transfer the plant to another distributor/installer for management.

3. Click "Save".

## Tariff

The tariff is used to calculate revenue.

This section describes how to set a specified tariff and TOU tariff.

### Prerequisites

The user has the permission of setting the tariff.

### Procedure

1. Click "Plant configuration"-> "Tariff" to enter the corresponding interface.
2. Set the tariff to a specific value or set the TOU tariff.
  - Setting the tariff to a specific value

Specific value: the tariff is the same for all time segments.

- i. Select a charging unit.
- ii. Enter the tariff.
- iii. Click “Save”.

- Setting TOU tariff

TOU tariff: the tariff is different at different time segment.

1. Select a charging unit.
2. Enable “TOU tariff”.
3. Fill in start time, end time, and price.
4. Optionally, click “Add” to set time segment and tariff.
5. Optionally, repeat the foregoing step to set TOU tariff for multiple time segments within a day.
6. Fill in “Price in other time period”.
7. Click “Save”.

Click ☐ to delete the corresponding setting item.

TOU tariff should cover 24 hours and be different in each time segment.

## Layout Settings

On this interface, users can set the physical layout of modules.

### Prerequisites

The current account has the permission to set the physical layout.

### Procedure

1. Click “Plant Configuration” -> “Layout Settings”.
2. Import optimizer and module information.
  - i. Click “Generate From Image” to upload the physical layout template photo of the plant.
  - ii. If there are already some PV modules in the current layout, importing the template will clear all existing settings. Click “Confirm” to finish the layout setting. The layout of PV modules that have bound with optimizer is displayed.



Please turn off the live function of the mobile phone camera when taking

photos and upload a still photo. Otherwise the QR code may not be recognized.

Please check the recognition result carefully. If the QR code cannot be recognized due to damage, folding, etc., please manually assign the optimizer by selecting the S/N.


3. If the QR code of some optimizers cannot be recognized by the above methods, manually assign the optimizer and the PV module in the layout.

- i. Drag and drop the PV module to the layout, fill in the PV module information such as line, column, and angle, and then click “Confirm”.
- ii. Right-click a PV module, click “Assign”, and select the optimizer S/N to assign the optimizer to the PV module.



4. For a distributed PV plant, you can also import PV module configuration by importing a physical layout template (which requires you to manually fill in the template with information about the owner, installer, PV module, and optimizer S/N, etc.).

The default steps are: Add the inverter to the data collecting device, and make sure they can communicate with each other normally → Create a plant in iSolarCloud, and add the data collecting device and inverter → Complete the physical optimizer layout settings for the plant (edit the white list) → Complete layout setup.

- i. Click  and select “Import”.
- ii. If there is no template, click “Click to Download Template”. Fill in the information about inverter S/N and inverter number, optimizer S/N and optimizer number in the template. After editing the template, click “Select File” to import the template and click “Import”.
- iii. If there are already some PV modules in the current layout, importing the template will clear all existing settings, Click “Confirm”.



- Complete the information based on the actual physical layout.

- Fill in the actual inverter S/N and inverter number (the number of the inverter should be consistent with that indicated in the layout in iSolarCloud).



- Where there is an optimizer, fill in the optimizer S/N and optimizer number. The rule of numbering is “inverter No.-string No.-optimizer No. (for example, the first optimizer in the first string connected to the first inverter should be numbered 1-1-1, as shown in the figure below)”.







- Where there is a PV module but no optimizer, fill the corresponding cell in the template with black, as shown in the figure below.



5. Click “Logic”, select the inverter and the string number, and select modules according to the actual connection order of optimizers and click “String Together”. After all strings are configured, click “Publish” in the upper-right corner to finish the physical layout setting.



### Icon Description

1. Click  to zoom in the layout in the edit area.
2. Click  to zoom out the layout in the edit area.
3. Click  to place the layout in the middle of the edit area.
4. Click  to view operation instructions.

Function	Description
Drag	Drag Images for PV modules or Inverters to the Edit Area. Drag images for Inverters assign to Inverters in the Device List and Optimizers assign to PV Modules. Move Content on the Edit Area.
Single Click	PV module images or inverter images on the chosen edit area .
Double click	Rotate PV Module Images on the Edit Area.
Long Press	Drag Images for PV modules on the Edit Area.
Copy	Right-click on a selected equipment image to select the copy function.
Unassign	Right-click on a selected equipment image to unassign a device.
Delete	Right-click on a selected equipment image to select the delete function.

# Smart IV Curve Diagnosis

## Smart IV Curve Diagnosis

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Click “Smart IV Curve Diagnosis” to enter the corresponding interface, on which you can perform unit level scanning and inverter level scanning.

For details, refer to “Smart IV Curve Diagnosis”.

# Settings

## Settings

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Click “Settings” on the menu bar to enter the parameter settings page to set the parameters of devices in the plant.

See the section of “Settings” for more detailed operation.



# Firmware Upgrade

## Firmware Upgrade

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Click “Device Upgrade” on the menu bar to enter the device upgrade page to perform a software upgrade of devices in the plant.

See the section of “Device Upgrade” for more detailed operation.

# Plant Sharing

## Plant Sharing

---

The plant list includes plants of the end user and plants shared by other end users.

### Sharing Plant


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

### Prerequisites

Only the end user can share plants, and the distributor/installer does not have the sharing permission but can receive shared plants.

The end user has plants.

### Procedure

1. Click the icon  on the operation bar, to enter the sharing interface.
2. Click “ADD Share”, and the ADD Share window pops up.
3. Fill in the “Shared email” select sharing authority (Read Only or Management).

Description of sharing permission

Permission	Description
Read only	Users can only view data of the plant.
Management	Users can manage the plant but cannot delete the plant.

4. Click “Confirm” to finishing the sharing operation.


Plants can be shared to at most 6 users who have the management permission, but the number of


The user cannot share the plants shared to him by the end user to other users.

### Subsequent procedure


Once the sharing is cancelled, the user to whom a plant is shared cannot view or manage the plant any more.

- The end user cancels the sharing

1. Click the icon  on the operation bar, to enter the sharing interface.

2. Click the icon  on the operation bar, to cancel the sharing.

- The user to whom a plant is shared cancels the sharing

1. Click the icon  in the plant operation area, and a window pops up.

2. Click “Confirm”.

## Plant Publicity

When “Publish plant” is turned on, the plant can be shared to visitors.

### Prerequisites

The end user has the permission of turning on “Publish plant”.

The end user has plants.


### Procedure

1. Click the icon  on the operation bar, to enter the sharing interface.

2. Turn on the “Publish plant” switch, so that visitors can view plant data.

### Subsequent procedure

The end user cancels plant publicity

1. Click the icon  on the operation bar, to enter the sharing interface.

2. Turn off the “Publish plant” switch, so that visitors cannot view plant data.

# Create Plant

## Create Plant

Click  on the homepage to enter the corresponding page by default.

### Create Plan

A single plant can be created. Perform the following operations according to actual condition.

#### Viewing Basic Plant Information

Parameter name	Description
* Plant name	The name of a plant is the device serial number by default.
*Plant type	Click <input type="text"/> to select the corresponding plant type.
*Installed power (kWp)	Input installed power.
*Country (Region)	Click <input type="text"/> to select the country (region) of the plant.
*Time zone	Click <input type="text"/> to select the time zone where the plant is located.
	*Grid-connection type
Grid-connection date	Click <input type="text"/> to select the grid-connection date.
Plant picture	Click <input type="text"/> to upload a plant picture.

Note: \* indicates required fields.

### Plant location

Plant location, which can be added in two ways:

- Manual entry: Manually enter the plant location in the input box;
- Automatic access: Click on the map to automatically obtain the location and longitude and latitude information of the plant.
  - Click  in the lower-right corner of the map or slide the mouse wheel up to zoom in the map. Click  or slide the mouse wheel down to zoom out the map.

Parameter name	Description
*Plant address	Fill in the specific address of the plant
Postcode	Fill in the postcode of the plant location
*Longitude	Fill in the longitude of the plant location
*Latitude	Fill in the latitude of the plant location

Note: \* indicates required fields.

### Owner Information

Owner's mobile phone: used to receive SMS

### Configure Tariff (Optional)

Parameter name	Description
Unit	Click <input type="checkbox"/> to select the tariff unit.
Feed-in tariff	The price of electricity sold to the grid. Enter tariffs in either of the following ways. 1.Enter feed-in tariff. 2.Turn on time-of-use tariff and fill in the feed-in tariff in different time segments.
Consumption tariff	The price of electricity purchased from the grid. Enter tariffs in either of the following ways: 1.Enter grid tariff. 2.Turn on time-of-use tariff and fill in the grid tariff in different time segments.

### Add Communication Device (Optional)

Communication devices can be added in either of the following ways. - Manually add: Click ☐ to select the device model, enter the S/N of the communication device, and click Add.

- Scan QR Code: Click Identify QR code to upload a picture of the device's QR code or drag the image to the QR code identification box.

Click "Create Plant" below to finish adding.

### Create Plants in Batch

Import plants in batches. Perform the following operations according to actual condition.

## Plant Information

- Fill in the parameters and click Next to enter the batch import page.

Parameter name	Description
*Plant type	Residential
*Country (Region)	Click <input type="text"/> to select the country (region) of the plant.
*Time zone	Click <input type="text"/> to select the time zone where the plant is located

## Batch Import:

- Click to download the template to local and enter the plant information according to the instruction in Excel and save it.
- Click Batch Import and select the edited Excel file to upload.
- Click Create Plant below to enter the overview page.

## Overview

To view information about the plants that are being created.

- Click Continue Batch Plant Creation to continue with the batch creation.
- Click Complete. Create Plants in Batch finishes.

# Querying Plant

## Querying Plant

---

1. Select plant state and plant type, enter plant name and S/N on the top of the home interface.
2. Click ☐, to view corresponding plants.

Fault

**Fault**

---



# Interface Description

## Interface Description

Click “Fault” on the menu bar to enter the fault list interface and view the plant alarm information.



1.Plant list 2. Fault query bar 3. Fault information list 4. Operation bar



### Plant list

Display information on the plants, devices, and measuring points.

### Fault query bar

Users can search corresponding faults by setting corresponding conditions.

Other functions



Parameter	Description
Fault recording task	To query a fault recording task, enter the task name, device name, device S/N, and fault name in the search box. Click “View” to view the fault recordings for the corresponding task.
Fault refresh setting	Set refresh time in the upper right corner of the interface, where the minimum interval is 5 minutes, and click  to refresh the fault list.
Batch close	Select multiple faults in the fault list, and click “Batch close” in the upper right corner to close faults in batch.
Fault export	Click the icon  in the upper right corner to export faults within specified time segment, where the exported file is in .xlsx format by default.

### Fault information list

In the fault information area, users can view information such as plant name, alarm type, fault code, alarm name, device name, and occurrence time. In addition, users can view fault details and close the faults. Click the plant name to jump directly to the single plant overview, and click the device name to jump directly to the device detail interface.

### Plant operation bar

- Click  to view fault details.

- Click  to close faults.
- Click  to deliver the fault recording task.

# Querying Faults

## Querying Faults

---

This section describes how to query faults.


### Procedure

1. Select the fault tab “Active” or “Fault History”.
2. Set time segment, where the default time segment is one year.
3. Enter the alarm name and fault code and select alarm type.
4. Click  to view the corresponding faults.

# Viewing Fault Details

## Viewing Fault Details

---

1. Click the icon  on the operation bar, to enter the fault detail interface.
2. View basic fault information, such as fault type, source, processing time, and processing opinion.


# Closing Fault

## Closing Fault

---

This section describes how to close faults.

### Procedure

1. Click the icon  on the operation bar, to enter the fault closing interface.
2. Fill in processing opinion.
3. Click “Close fault”.

# Report

## Report

---

View plant statistics reports (daily report, weekly report, monthly report, annual report overall report and plant report); or create self-defined reports.

# Interface Description

## Interface Description

---

Click the menu “Report” to enter the report interface and view report information.



1.Display area 2.Report push configuration

The figure is for reference only. The actual interface may be different and shall prevail.

### Display area

Content displayed in this area varies with function interfaces.

### Report push configuration

The report can be sent to the reserved e-mail box through configuration.

# Custom Report

## Custom Report

---

Users can create self-defined reports according to demands.

### Procedure


1. Click the menu "Report" to enter the "All" tab by default.
2. Click "Custom report" to enter the corresponding interface.
3. Click "Add" and enter the Page Report interface by default.
  - Select the report type, report period, and the parameter indicators to be displayed.
  - Click "Save", enter the report name, and click "Confirm", to add the new report to the custom report.
4. Click "Add" and then click "EXCEL Report".
  - Select the report type, report period, plant (multiple choices supported) and the parameter indicators to be displayed (multiple choices supported).
  - Click "Generate Comparison Excel" or "Generate Statistics Excel" to generate the corresponding EXCEL report according to your needs.
1. Click "Task List" in the upper right corner to view the operation time and status of historical custom reports.

## View Custom Report

### Procedure

1. Click "Report" on the menu bar to enter the "All" tab by default.
2. Click "Custom Report" to enter the "Custom Report" interface.
3. Click the custom report tab you want to view to enter corresponding interface.
4. Tick the plant (multiple choices supported) and click ☐ to set the time to display the plant report for the day.
5. Click "Switch Table" to switch the table style.
6. Click "Modify" to modify the custom report settings.
7. Click "Delete" to delete the custom report.



8. Click  to export the table.

# Statistics Report

## Statistics Report

---

You can view statistics report of a plant, and the report types include daily report, weekly report, monthly report, annual report, overall report and plant report.

The procedure of viewing daily report, weekly report, monthly report, annual report, and overall report is as follows:

The procedure of viewing plant report is different from others, refer to "view plant report" for details.

### View daily report

1. Click the menu "Report" to enter the "All" tab by default.
2. Click "Statistics reports -> Daily report" to enter the corresponding interface, on which statistics information of the plant on the current day is displayed by default, including today yield, today revenue, etc.
3. Perform the following operations according to actual conditions.


- Viewing report on the specific day

Click the icon , select the desired date. Corresponding data will be displayed.

- Exporting report

Click "Export" to export the report locally.

### View plant report

1. Click "Report" in the menu bar to enter the "All" tab.
2. Click "Statistics Report -> Plant Report" to enter the corresponding interface.
3. Tick the plant in the plant list on the left (Multiple options available) to view the plant report. By default, the interface will display the daily statistics of the plant, such as daily yield, total yield, daily purchased energy, daily feed-in energy, daily equivalent hours, etc.
4. According to the actual situation, perform the following operations.
  - Click "Day", "Month", "Year", "Total" to view the daily, monthly, yearly, or the total report of the plant.
  - Click  and select the date to view the plant report data for the corresponding date.

- Click ☐ to switch the report data interval time.
- Click “Switch Table” to switch the table format.
- Click “Screening Column” to filter the data displayed in the report.
- Click “Task List” to view the history of downloaded reports.
- Exporting Report

Click “Export” to export the plant report locally.

Click ☐ behind “Export” and select “Export All Plants” to export all plant reports locally.



# Report Push

## Report Push

---

The report can be sent to the reserved e-mail box.

### Procedure


1. Click the menu “Report” to enter the “All” tab by default.
2. Click the icon  in the upper right corner to enter the “Email configuration for receiving report” interface.
3. Click “Add” to enter the e-mail address.
4. Optionally, click the icon  to add several addresses.
5. Select report type and click “Confirm”. The added e-mail address information will be displayed on the “Email configuration for receiving report” interface, and the state is “Wait the other party to confirm”.
6. You will receive a system e-mail once the e-mail address is added successfully. Click “Accept” in the received e-mail to finish the activation.
7. The state will turn into “Success”.

### Subsequent processing

- Modifying the type of report you would like to receive.

Click the icon  to enter the “Edit” interface, select report types, and click “Confirm”.

- Deleting e-mail address

Click the icon  on the operation bar and then click “Confirm” on the pop-up window.

# PV Standard Reports

## PV Standard Reports

---

Users can view plant report, grid point report, unit report, and inverter report.

### Viewing Report

1. Click “Report” in the menu bar, and the “All” tab is displayed by default.
2. Click “PV Standard Reports” and select the report type to view.
3. Select desired plants in the plant list on the left to view the report.
4. Perform the following operations according to actual condition.
  - Click “Day”, “Month”, “Year” and “Total” to switch between daily report, monthly report, annual report, and total report of the plant.
  - Click ☐ and select a date to view the report for the corresponding date.
  - Click ☐ to switch the data interval.
  - Click “Screening Column” to filter the data displayed in the report.
  - Export the report.

# Energy Storage Standard Reports

## Energy Storage Standard Reports

---

Users can view the energy storage unit report.

### Viewing Report

1. Click “Report” in the menu bar, and the “All” tab is displayed by default.
  2. Click “Energy Storage Standard Reports” and select the report type to view.
  3. Check desired energy storage units under a plant in the plant list on the left to view the report.
4. Perform the following operations according to the actual condition.
- Click “Day”, “Month”, “Year” and “Total” to switch between daily report, monthly report, annual report, and total report of the plant.
  - Click  and select a date to view the report for the corresponding date.
  - Click  to switch the data interval.
  - Click “Screening Column” to filter the data displayed in the report.
  - Export the report.

Curve

**Curve**

---

# Interface Description

## Interface Description

---

Click “Curve” on the menu bar to enter the “Curve” interface and view the curve of the plant and device.



1.Plant list 2.Time range 3.Refresh time 4.Query template 5.Display area



### Plant list

Display information on the plants, devices, and measuring points.

### Time range

Set the time range and time interval.

### Refresh time

The refresh time is 5 min by default (the minimum refresh interval). Tick “Refresh time”, and click the icon  to increase the value or click the icon  to decrease the value.

### Query template

Save template: save the current search conditions as a template for future using.

Template library: use the existing templates.

### Display area

Display the plant or device information, such as curve and report.




# Viewing Curve

## Viewing Curve


---

### Procedure


1. Click “Curve” on the menu bar to enter the corresponding interface.
2. Select parameters of a corresponding device in the plant list to add a parameter curve. The upper display area displays curve within a day by default. The lower part displays parameter list. You can change the curve type and statistical patten.
3. Optionally, click the icon  in the upper right corner of the interface to display the parameters in the table form. Click “Export”, select a desired location, and click “save” to save the report locally.

### Subsequent processing

- Deleting a single curve

Click the icon  in the parameter list area, to delete the corresponding curve.

- Deleting all curves

Click the icon  in the title bar of the parameter list area, to delete all the curves.

# Saving Template

## Saving Template

---

Save the current query conditions as a template for future using.

### Procedure

1. Click “Curve” on the menu bar to enter the corresponding interface.
2. Select parameters of a corresponding device in the plant list to add a parameter curve.
3. Optionally, modify time range and time interval.
4. Click “Save template” and enter the template name.
5. Click “Confirm” to save the current query template.

# Template Library

## Template Library


---

Directly use the existing query templates.

### Prerequisites

The system has query templates.

### Procedure

1. Click “Curve” on the menu bar to enter the corresponding interface.
2. Click “Template Library” and click  on the operation bar. The system will automatically return to the “Curve” interface and display curves according to the selected template.

# Device Monitoring

## Device Monitoring

---

This interface mainly displays detailed working conditions of PV, energy storage, and other devices in the plant.

### Prerequisites

---

The current account has the permission of device monitoring.

### Energy Storage Unit View

---

1. Click “Device Monitoring -> Energy Storage Unit” in the menu bar.
2. Click a plant name to view the real-time information of the energy storage unit under this plant.



### PV Unit View

---

1. Click “Device Monitoring -> PV Unit View” in the menu bar.
2. Click a plant name to view the real-time information of the PV unit under this plant.



### Other Device View

---

1. Click “Device Monitoring -> Other Device View” in the menu bar.
2. Click a plant name and select the device to view the remote measurement information and remote signaling status.



# Control Method

## Control Method

---

The control method interface displays the control methods uploaded by EMS300CP to the cloud and on this interface, users can modify the control methods used to issue the scheduling plan.

## Prerequisites

---

The current account has the permission of control method.

# Ground Strategies

## Ground Strategies

---

1. Click “Control Method -> Ground Strategies” in the menu bar.
2. Select the plant in the plant list on the left.
3. Perform the following control methods according to actual condition.
  - Operation Parameters
  - Required Quantity Control
  - Reverse Power Relay
  - Time-of-Use Power
  - Tariff Setting
  - Force Regulation Control
  - Active Power Control
  - Reactive Control
  - Standby Power Function
  - SOC Balancing
  - PID Control

The above methods can be viewed only. If you need to modify them, please scan the QR code below to view the EMS300CP user manual.



# Cloud Strategies

## Cloud Strategies

---

1. Click “Control Method -> Cloud Strategies” in the menu bar.
2. Select the plant in the plant list on the left.
3. Perform the following operations according to actual condition.

### Production Plan

Production plan is used to judge the yield and the charge/discharge of a device, and the load change of electricity-consuming equipment, for PV maintenance, energy storage maintenance and load change.

Perform the following operations according to actual condition.

- Click ☐ and select a date to view the production plan for the corresponding date.
- Click “Add”, select “Device ID”, “Start Time” and “End Time”, and click “Save” to finish setting the production plan.
- Click “Delete” to delete a production plan.

### Tariff Scheme

View the tariff scheme uploaded by EMS300CP to the cloud. If you want to modify it, please scan the QR code below to view the EMS300CP user manual.



### Load Forecast

It is used to predict the load curve according to the production plan.

Perform the following operations according to actual condition.

- Click ☐, select the date, and click “Query” to view the load curve of the corresponding date.
- Click “Start to Forecast” to predict the load curve for that day.
- Click “Export” to save the load curve to local.

### Power Forecast

It is used to predict short-term power and ultra-short-term power.

Perform the following operations according to actual condition.

- Click , select the date, and click “Query” to view the actual power, short-term power forecast and ultra-short-term power forecast for the corresponding date.

Short-term power forecast range: Power yield of a PV plant from 0: 00 to 24: 00 in a day.

Ultra-short-term power forecast range: Power yield in future 15 min ~ 4 h of a PV plant.

- Click  to switch between chart and list.
- Click  to select the content to be displayed.
- Click  to export the forecast power curve.

## Scheduling Management

It is used to maintain and manage plans.

Click , select the date, and click “Query” to view the actual and planned values of charge and discharge power and SOC on the corresponding date.



## Settings

## Settings

---

# Interface Description

## Interface Description

---

Click “Advanced -> Settings” to enter the parameter setting interface, on which you can set device parameters.



1. Plant list
2. Device query bar
3. Operation bar
4. Device information list

### **Plant list**

Display information on the plants, devices, and measuring points.

### **Device query bar**

Users can search for desired devices by setting corresponding conditions.

### **Operation bar**

The operation bar includes buttons such as “Initial grid connection”, “General parameter setting” and “Task list”.

### **Device information list**

In the device information list area, you can view information such as plant name, device name, initial grid-connection state, device S/N, and inverter model. In addition, you can further view inverter parameters and history tasks.

# Querying Device

## Querying Device

---

In the device list area, you can view plant name, device name, device S/N, device model, grid frequency, and device interval. In addition, you can further view inverter parameters and history tasks.

1. Select inverter model, device model, country (region), and grid frequency in the device query area.

2. Click ☐, to view corresponding devices.

# Initial Grid Connection

## Initial Grid Connection

---

On the initial grid connection interface, you can set parameters for the inverter, such as “Country (region) selection”, “Grid type”, and other parameters related to the specific inverter type.

### Prerequisites

The user has the permission of setting initial grid-connection parameters.

The device supports the initial grid-connection setting.

### Procedure

1. Select desired plants from the left plant list.
2. Select desired plant devices from the device information list.
3. Click “Initial grid connection” or “Unset” to enter the corresponding interface.
4. Select country, grid type, and other related parameters, and then click “Apply settings” on the bottom of the interface.

When the country (region) selects Australia, set the network service provider and grid type as

5. Enter the login password on the pop-up window and enter the setting interface.
6. Enter the task name on the “Settings” interface, select “Instruction valid period”, and click “Confirm”, so that the system generates parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.  
  
If the delivered instruction has not been executed within the set time, the instruction will turn to be invalid.
7. Automatically enter the “Task list” interface. Click “View” on the operation bar to view the corresponding task. Click “Cancel the task” to cancel the latest parameter setting.

# Command Line Parameters Setup

## Command Line Parameters Setup

---


Users can set parameter address, data type, and set value for the inverter through the command line parameters setup.

### Prerequisites

The user has the permission of command line parameters setup.

The device supports the parameter setting.

### Procedure

1. Select a desired plant from the left plant list.
2. Select desired plant devices from the device information list.
3. Click " -> Command line parameters setup" to enter the corresponding interface.
4. Click "Add" to fill in parameter address, data type, and set value.
5. Tick desired instructions and click "Apply settings".
6. Enter the login password on the pop-up window and enter the setting interface.
7. Enter the task name on the "Settings" interface, select "Instruction valid period", and click "Confirm", so that the system generates parameter delivery task. The "Instruction valid period" can be set to 0.5h, 1h, or 72h.  
  
If the delivered instruction has not been executed within the set time, the instruction will turn to be invalid.
8. Automatically enter the "Task list" interface. Click "View" on the operation bar to view the corresponding task. Click "Cancel the task" to cancel the latest parameter setting.

# Common Parameter Setting

## Common Parameter Setting

---

Users can set specific parameters for the inverter, such as start/stop, power generation compensation, standby time, etc.

### Prerequisites

The user has the permission of general parameter setting.

The device supports the parameter setting.

### Background information

The initial grid-connection setting has been performed on the device.

### Procedure

1. Select a desired plant from the left plant list.
2. Select desired plant devices from the device information list.
3. Click “Common parameter settings” to enter the corresponding interface.
4. Set system parameters/protection parameters/power control parameters.

Energy management parameter is available for energy storage inverters.

5. Click “Apply settings”.
6. Enter the login password on the pop-up window and enter the setting interface.
7. Enter the task name on the “Settings” interface, select “Instruction valid period”, and click “Confirm”, so that the system generates parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.

If the delivered instruction has not been executed within the set time, the instruction will turn to be invalid.

8. Automatically enter the “Task list” interface. Click “View” on the operation bar to view the corresponding task. Click “Cancel the task” to cancel the latest parameter setting.

### One-click Update

Enter the parameter setting page, select desired plant devices from the device information list, then click “Common Parameter Settings”.

- When there is a device to be updated, the interface will pop up to remind to update, the interface shows the device type, device model and the corresponding update package of the device to be updated.
  - Click “One-Click Upgrade” to bring up the firmware update interface, displaying the task name.
  - Click “View Update Details” to bring up the task list and view the device upgrade information.
- If a device is currently being updated, the parameter setting interface will pop up, click “View upgrade details” to view the upgrade information of the device.

# Advanced Parameter Setting

## Advanced Parameter Setting

---

Users can set parameters such as restore default parameter, 10-min over-voltage protection and over-frequency derating.

### Prerequisites


The user has the permission of advanced parameter setting.

The device supports the parameter setting.

### Background information

The initial grid-connection setting has been performed on the device.

### Procedure

1. Select a desired plant from the left plant list.
2. Select desired plant devices from the device information list.
3. Click " -> Advanced settings" to enter the corresponding interface.
4. If parameter settings cannot be performed on the inverter, click "One-click Update" to access the "Firmware Update" interface. Click "Confirm", so that the inverter will be upgraded automatically. Click "Firmware Update -> View Task History" to view the upgrade progress.

If a device is currently being updated, the parameter setting interface will pop up, click "V:

5. After upgrading the inverter, click "Advanced Settings" to access the inverter parameter setting interface. In case, parameter settings still cannot be performed on the inverter, click "Customer Feedback", to enter the "Feedback" interface, on which you can submit feedback.

If parameter settings can be performed on the inverter, skip performing step 4 and step 5.

6. Set system parameters/protection parameters/power control parameters.

Energy management parameter and battery parameter are available for energy storage inverters.

7. Click "Apply settings".
8. Enter the login password on the pop-up window and enter the setting interface.
9. Enter the task name on the "Settings" interface, select "Instruction valid period", and click "Confirm",



so that the system generates parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.

If the delivered instruction has not been executed within the set time, the instruction will turn to be invalid.

10. Automatically enter the “Task list” interface. Click “View” on the operation bar to view the corresponding task. Click “Cancel the task” to cancel the latest parameter setting.

# Viewing History Task

## Viewing History Task

---

Users can view parameter setting history for a single device or several devices.

### Procedure

1. Click “Task list” to enter the corresponding interface.
2. Select a time range, enter the task name, and click “Search”, to view the corresponding history tasks.
3. With regard to “Parameter Query” task, click the “View” button on the operation bar to view corresponding information, such as execution result of parameter setting, and parameter value and read-back value of the executed instruction.
4. Click “Export” to download the read-back values.

# Firmware Update

## Firmware Update

---

Only distributor/installer has the permission of firmware update.

# Interface Description

## Interface Description

---

Click “Advanced -> Firmware update” to enter the corresponding interface, on which you can upgrade plant software.。



1. Plant list
2. Device query bar
3. Operation bar
4. Device information list

### **Plant List**

You can view the plant information.

### **Device query bar**

Users can search for desired devices according to conditions set.

### **Operation bar**

You can perform firmware update and view history tasks.

### **Device information list**

You can view plant name, device S/N, device type, device model, online state, current version, etc.

# Firmware Update

## Firmware Update

---

On this interface, you can remotely upgrade device software of the plant system.

### Prerequisites

The user has the permission of firmware upgrade.

The device supports the remote upgrade.

The user has got the upgrade file and has saved it locally.

### Procedure

1. Click "Advanced -> Firmware update" to enter the corresponding interface.
2. Select plants from the left plant list. Devices of the selected plants are displayed in the display area.
3. Select desired devices in the device information list area. (Batch selection is supported)

You can upgrade devices of the same type and same model in batch.

4. Optionally, select "Device type", "Device model", and "Device S/N" and click ☐. The interface will display corresponding devices. Select desired devices.

Currently, you can select device S/N in the following two manners:

- Manually enter: enter the device S/N in the "Device S/N" field, where S/Ns are separated by
- Batch import: Click the "Device S/N" field and then "Select file" to import the desired file

5. Click "Firmware update", after which the "Upload the upgrading package" pops up.
6. Click "Select file" to select the upgrade package and click "Upgrade". The password window pops up.

The upgrade package is the .zip file.

7. Enter the login password and wait for the uploading. You can view history upgrade information by click "View task history".



# Viewing Task History

## Viewing Task History

---

You can view the history update information.

### Procedure

- 1.Click “Advanced -> Firmware update” to enter the corresponding interface.
- 2.Click the icon  to enter the corresponding interface.
- 3.Select the time range, device type, device model, and goal software version, and click  , so that you can view the corresponding history tasks.

## Smart Alarm Analysis Setting

## Smart Alarm Analysis Setting

---

# Interface Description

## Interface Description

---

Click “Advanced -> Smart Alarm Analysis Setting” to enter the corresponding interface.



1. Search Bar
2. Plant list
3. List of alarms
4. Operation bar

### **Search Bar**

Search for alarms that match the set criteria.

### **Plant list**

Select plants to view the alarm information.

### **List of alarms**

Displays alarm messages that meet the search criteria.

### **Operation bar**

Edit smart alarm analysis settings.



# Alarm Search


## Alarm Search

---

1. Select a plant from the plant list.
2. Enter the alarm name in search bar, click  and select the open status.
3. Click  to view information of alarms that meet the query criteria。

# Edit Smart Alarm Analysis Setting

## Edit Smart Alarm Analysis Setting

1. Click the icon  to enter the setting interface.

2. Modify the open status, judgment condition, and judgment rule on this interface. The following table lists the default judgment conditions and rules for different alarms.

Item	Judgment Condition	Judgment Rule
Plant Stops Operation	7:00-19:00	Plan power/load < 1% (default value)
DC Bus Box PV Array Current Steady Value	Plant power/load > 30%	The Nth current keeps unchanged for 60 or 120 minutes.
Low Efficiency on String Inverter PV Array	Plant power/load > 30%	Average deviation of the string current from that of the device < -20%
DC Bus Box PV Array Low Efficiency	Plant power/load > 30%	Average deviation of the string current from that of the device < -20%
DC Converter Box N-way Branch Current Is Zero or Low	Plant power/load > 30%	The Nth current is constantly zero or less than 1A.
The String N-way Tributary Current Is Zero or Low	Plant power/load > 30%	The Nth current is constantly zero or less than 1A.
Inverter Stops Running	Plant power/load > 30%	Output power < 1% of installed power
Communication Interruption	7:00-19:00	Interruption Duration (Minute) = 60 min
Plant Operation Reliability	Plant power/load > 30%	General: 5% < inverter output dispersion ratio ≤ 10% Comparatively poor: 10% < inverter output dispersion ratio ≤ 20% Poor: inverter output dispersion ratio >

		20%
String Inverter Operation Reliability	Plant power/load > 30%	General: 5% < inverter input dispersion ratio ≤ 10% Comparatively poor: 10% < inverter input dispersion ratio ≤ 20% Poor: inverter input dispersion ratio > 20%
DC Bus Box Operation Reliability	Plant power/load > 30%	General: 5% < bus box input dispersion ratio ≤ 10% Comparatively poor: 10% < bus box input dispersion ratio ≤ 20% Poor: bus box input dispersion ratio > 20%
PV Array Constant Current of String Inverter	Plant power/load > 30%	The Nth current keeps unchanged for 60 or 120 minutes.
Low PR value	P-radiation-H>200W/m <sup>2</sup>	Plant PR<65%
No plant yield	-	Starting Point of Derating Curve of Ambient Temperature=1

3.Reminder Settings. Set the reminder for low PR value and no plant yield. If this reminder is enabled, the system will send an email to the user when an alarm occurs. If this reminder is disabled, users will not be notified by email when an alarm occurs.

4.Apply the configuration to one or more plants.

- Apply it to one plant

Click “Confirm”.


- Apply it to several plants

Click “Confirm and copy”, select desired plant(s), and click “Confirm”.

# View Help File

## View Help File

---

Click  to view detailed description of the function.

# Live Data

## Live Data

---

# Interface Introduction

## Interface Introduction

---

Click “Advanced->Second Data” on the menu bar to enter the live data interface.



1.Plant list 2.Device query bar 3.Operation bar

### **Plant List**

You can browse the information of the plant, device and measuring points of the current user.

### **Device Query Bar**

You can search for the device to be displayed by setting the conditions.

### **Operation Bar**

View the live data of the device.

# Live Data

## Live Data

---

Live data function allows collecting a large amount of device data in a short period of time. The data is automatically refreshed when the live data page is displayed.

### Procedure



1. Tick the plant on the left side of the plant list bar, or enter the plant name and click ☐ to search for the plant. The operation bar shows the devices under the plant.
2. Enter "Device S/N", "Device Name", tick "Device Type", "Plant Status", and "live data status" in the device query field, click ☐, and the page displays the eligible devices.


# Viewing Live Data

## Viewing Live Data

---

Click the device card to view the live data measuring points and corresponding data curves on the pop-up interface.

1. Click "Main Measuring Point" to enter the device measuring point interface.
2. Click  on the right side of the measuring point data to bring up the measuring point curve graph.
3. Click  on the top right corner of the measuring point graph interface to refresh the measuring point curve.

Note:  means that the measuring point is a live level data measuring point that is not supported by the current device



# Alarm Subscribe

## Alarm Subscribe

---

Plan management is managing the running state of the device in the plant system, for example, fault, alarm, and advice.

# Interface Description

## Interface Description

---

Click “Advanced -> Alarm Subscribe” to enter the corresponding interface. You can add, modify, and delete (singly or in batch) plan information.



1. Query bar
2. Plan information list
3. Operation bar
- 4 Add and batch deleted

### Query bar

Users can search for desired plan information according to conditions set.

### Plan information list

Users can view the corresponding plan information.

### Operation bar

Modify and delete selected plan information.

### Add and batch delete

Add and delete plan information in batch.

# Querying Plan Information

## Querying Plan Information

---

1. Enter the plant or plan name.

2. Click ☐ to view the corresponding plan information.

# Adding Plan Information

## Adding Plan Information

---

This section describes the procedure of adding plan information.

### Prerequisites

The user has the permission of adding plan information.

### Procedure

1. Click “Add” to enter the corresponding interface.
2. Fill in the plan name, select a plant, and tick fault types that you would like to receive.
3. Click “Add” to add the remind person. You can add the remind person in the following two manners:
  - Add e-mail address not registered in the iSolarCloud system:  
Click “Custom” to access the “Add to-be-prompted person” window. Select the language and fill in Contact Name, select remind method, fill in e-mail address and verification code, and click “Confirm”.
  - Add e-mail address already registered in the iSolarCloud system:  
Click “Select people” to access the “Add to-be-prompted person” window. Select the desired people and remind method, and click “Confirm”.
4. Click “Confirm” to save the plan configuration.
5. The newly added plan is displayed on the plan management interface after it is added successfully.

# Deleting Plan Information in Batch

## Deleting Plan Information in Batch

---

This section describes the procedure of deleting plans in batch.

### Prerequisites

The user has the permission of deleting plan information in batch.

### Procedure

1. Select several pieces of plan information in the plan list, and click “Batch deleted”.
2. A prompt window pops up.
3. Click “Confirm” to delete the selected plan information in batch.

# Modifying Plan Information

## Modifying Plan Information


---

This section describes the procedure of modifying plan information.

### Prerequisites

The user has the permission of modifying plan information.

### Procedure

1. Click the icon  corresponding to the plan that needs to be modified, to enter the “Modify” interface.
2. Change the plan name and select a desired plant as well as corresponding plan type, such as fault, alarm, and advice. Further, change the remind person and remind method.
3. Click “Confirm” to finish modifying the plan information.

# Deleting Plan Information

## Deleting Plan Information


---

This section describes the procedure of deleting plan information.

### Prerequisites

The user has the permission of deleting plan information.

### Procedure

1. Click the icon  corresponding to the plan that needs to be deleted.
2. A “Prompt” window pops up.
3. Click “Confirm” to delete the plan information.

# Smart IV Curve Diagnosis

## Smart IV Curve Diagnosis

---

Only the distributor/installer has the permission of the “Smart IV Curve Diagnosis”.

Scan PV module IV curve in online manner, automatically locate faulty PV modules through the diagnostic algorithm analysis, and generate diagnostic reports and O&M advice, thereby greatly improving O&M efficiency and power generation.



# Interface Description

## Interface Description

---

Click “Advanced -> Smart IV Curve Diagnosis” to enter the corresponding interface, on which you can perform unit level scanning and inverter level scanning.



1. Plant list
2. Device list
- 3 Operation bar

### **Plant List**

You can view the plant information.

### **Device List**

You can view unit devices and inverters of the corresponding plant.

### **Operation bar**

You can view history task and perform related settings.

# Parameter Setting

## Parameter Setting

---

This section describes how to set plant or inverter parameters.

### Prerequisites

The user has the permission of the “Smart IV Curve Diagnosis”.

### Procedure

1. Click “Advanced -> Smart IV Curve Diagnosis” to enter the corresponding interface.





2. Click “Setting” on the operation bar to enter the “IV Intelligent curve analysis” interface. Enter the “Plant parameter” interface by default.

3. Perform the following operations if necessary.

- Set plant terrain on the “Plant Parameter” interface. After finishing the parameter setting, click “Confirm” to save the operation.
- Click the tab “Unit parameter setting” or “Inverter Parameter Set”. Click “Settings” on the operation bar, to enter the corresponding interface, on which you can set parameters.

a. Single setting: After finishing parameter setting, click “Confirm”.

b. Batch setting: After finishing parameter setting, click “Confirm and copy”. Select the inverters that require the same settings, click “Confirm”.

- Click the tab “PV module management”, to add, delete, or view PV module information.
  - Query PV module: enter PV module manufacturer, set the time range as “Last three years” or “All”, and enter the module model. Click the icon  to view corresponding PV modules.
  - Add PV modules: click “Add” to enter the corresponding interface. Fill in corresponding information and click “Confirm”.
  - View PV module information: click the icon  in the operation bar to enter the corresponding interface, on which you can view detailed information on the PV modules.
  - Modify PV module information: click the icon  in the operation bar to enter the corresponding interface, on which you can modify the information on the PV modules.
  - Delete PV module information: Click the icon  in the operation bar, click “Confirm” on the pop-up window, and click “Confirm” on the prompt window to finish the operation.

- Batch delete: select multiple pieces of PV module information, click “Batch Delete”, and click “Confirm” to finish the operation.

# Advanced Settings

## Advanced Settings

---

### Prerequisites

The user has the advanced permission of “Smart IV Curve Diagnosis”.

### Procedure

1. Select the desired plant from the left plant list.

2. Click “Advanced Settings”, to enter the corresponding interface.

3. Perform the following operations if necessary.

- Query advanced parameter settings: enter parameter and parameter name, and click , to view the corresponding setting list.
- Add advanced parameter settings: click “Add” to enter the corresponding interface. Fill in parameter, parameter name, and parameter value, and click “Confirm”. The save successfully prompt page pops up, click “Confirm”.
- Modify advanced parameter settings: click  in the operation bar, to enter the modify interface, on which you can modify advanced parameter settings. Click “Confirm” to finish the operation. A pop-up box will appear to indicate the success of saving, click “Confirm”.
- Delete advanced parameter settings: click  in the operation bar, deletion confirm prompt box will pop up, click “Comfirm”. Deletion success prompt box will pop up, click “Comfirm”.

# IV Intelligent Curve

## IV Intelligent Curve

---

This section describes how to scan IV curve and view the diagnosis analysis.

### Prerequisites

The user has the permission of the “Smart IV Curve Diagnosis”.

### Procedure for unit scan

1. Click “Advanced -> Smart IV Curve Diagnosis” to enter the corresponding interface.
2. Select the desired plant from the left plant list.
3. Enter the “Unit Scan” interface by default.
4. Select unit devices and click “Start Diagnosis” in the lower right corner.
5. Enter login password on the pop-up window and click “Confirm”.

The system will judge whether the device parameters have been configured. If not, a “Prompt” window will pop up. Click “Confirm” to jump to the corresponding interface and perform parameter settings.

6. After the instruction is delivered successfully, the unit state is changed to “Scanning” and you can view the scanning progress.
7. After the scanning, click “Diagnosis Report” to view the scanning results.
8. The upper part of the interface displays the examination report and the number of abnormal strings.

Click “New Report”, select report type and unit equipment. Click “Confirm” to enter the “Report List” interface. Click the icon ☐ to preview the diagnostic report online. Click the icon ☐ to download the diagnostic report locally.

Click “Report List” to query, preview online and download reports.

The lower part displays the tab “IV Diagnosis Results”, on which string information is displayed. Click “View” to enter the “String diagnosis and analysis” interface, on which detailed string information and curves are displayed.

9. Click “IV curve” to view IV curves of all strings.

### Procedure for inverter scan

1. Click “Advanced -> Smart IV Curve Diagnosis” to enter the corresponding interface.

2. Select the desired plant from the left plant list.
3. Enter the "Unit Scan" by default.
4. Click "Inverter Scan" to scan a single inverter or several inverters.
5. Select inverters and click "Start Diagnosis" in the lower right corner.
6. See Step 5 to Step 9 in the procedure for unit level scan.

Residential PV plant and residential energy storage plant only have inverter level scan.

# Viewing Task History

## Viewing Task History

---

You can view the history IV curve scanning.

### Procedure

1. Click “Advanced -> Smart IV Curve Diagnosis” to enter the corresponding interface.
2. Click “Task history” to enter the corresponding interface.
3. Select time range and task type, enter task name, and click , so that you can view the corresponding history tasks.

## Appendix

## Appendix

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# Manual Description

## Manual Description

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