

User Manual

iSolarCloud O&M

iSolarCloud



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2 About This Manual

Target Group

This manual gives instructions for users on how to perform operation and maintenance on devices in the plant through the iSolarCloud O&M management platform. Functions such as plant management, device management, O&M tools, reports, warranty inquiry, and customer service management are available on this platform.

This manual is intended for:

- Retailer/Installer
- Owners
- O&M personnel
- After-sales service team

Requirements

Item	Requirement
Browser	Chrome 60 or later (recommended); Safari 10 or later, Firefox 60 or later (supported)
Resolution	1920 * 1080 (recommended); 1366 * 768 (supported)



User interfaces presented in this manual come from iSolarCloud V1.4.6.20240130. They are for reference only and may deviate from the user interface you actually see.

3 Common Operations

3.1 Create an Account

This section introduces how to create an Owner or Retailer/Installer account in iSolarCloud.

Requirements

The iSolarCloud system functions properly and the network connection between the computer and server is normal.

Background Information

User roles include the Owner and the Retailer/Installer.

Owner: Users who already have or are about to have a power plant of their own.

Retailer/Installer: Users who provide owners with services such as plant creation and O&M.

Step 1 Enter <https://web3.isolarcloud.com> in the address bar of a browser.

Step 2 Click **Register** to enter the page for account registration.

Step 3 Select the server and the user role.

01 Account Information — 02 Detailed Information

01 Account Type
Please select the relevant server for your area; if not available, please select the international server

European Server ▼

02 Please select your role

☒  Retailer/Installer ⓘ

☐  Owner ⓘ

Next



Users in mainland China may choose **Chinese Server** and can only create an Retailer/Installer account.
Users in Europe and Africa may choose **European Server** and create an Owner or Retailer/Installer account.
Users in Australia may choose **Australian Server** and create an Owner or Retailer/Installer account.
Users in other regions may choose **International Server** and create an Owner or Retailer/Installer account.

Step 4 Complete the required information.

Table 3-1 Information Needed to Create an Account

Parameter	Description
Phone Number or Email*	Register using your phone number if you have selected Chinese Server . Register using your email if you have selected International Server , European Server , or Australian Server .
Verification Code*	Enter your Phone Number or Email , and click Send . Then, enter the verification code you have received.
Username	Used for login. It can be defined by users.
Password and Confirm Password*	The password shall be 8–32 characters long and contain numbers, letters, and symbols.
Country/Region*	The country or region where the user is located.
Company Name	The company where the Retailer/Installer belongs.
Code of Upper Level Installer/Retailer	The organization code of the upper-level service provider. You can reach your upper-level retailer/installer for this code. If you fill in this code, the upper-level retailer/installer will be able to browse and manage the plants under your management (except for the plants that are shared with you).



Those marked with * are required fields.

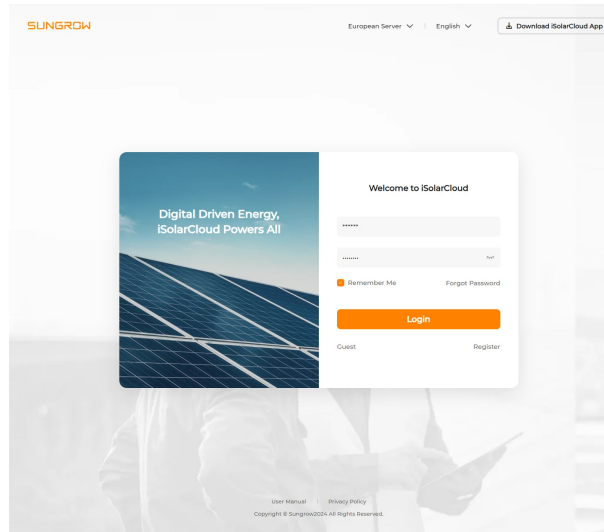
Step 5 Click **Confirm**, agree to privacy policy. Your account is now created.

--End

3.2 Log in to an Account

Prerequisite

This section gives a step-by-step instruction on how to log in to the iSolarCloud system.



Step 1 Enter <https://web3.isolarcloud.com> in the address bar of a browser.

Step 2 You can change the server and system language in the upper right corner of the page. Users in mainland China may choose **Chinese Server**. Users in Europe and Africa may choose **European Server** and those in Australia may choose **Australian Server**. Users in other countries/regions may choose **International Server**.

Step 3 Enter the account name and password on the login page, and click **Login**. You may select the **Remember Me** checkbox so that you will not need to enter the password at the next login.

--End

3.3 Reset Password

Step 1 Click **Forgot Password** on the login page.

Step 2 Three options are available for users to reset the password: **Retrieve via Phone Number**, **Retrieve via Email**, and reset via **Device S/N**.



If you have selected the **Chinese Server**, you may choose **Retrieve via Phone Number** or **Retrieve via Email**.

If you have selected the **International Server**, **European Server**, or **Australian Server**, you can only choose **Retrieve via Email**.

--End

3.3.1 Reset Password via Phone Number/Email

Retrieve via Email

* Email
Please Enter

* Verification Code
Please Enter

* New Password

* Confirm New Password

Verification code not received by email?

1. The verification email has not been sent due to a delay or other reasons.
2. The verification email is treated as junk mail by the server and is automatically transferred to the trash box. You may check the trash box for the verification email.
3. You may click Resend or change to another email.
4. If the verification code has not been received after several times, please select other verification methods.

If you have forgotten your email address, please "Retrieve via Device S/N".

Step 1 Enter your **Phone Number** or **Email**, and click **Send**. Then, enter the verification code you have received through text message or email.

Step 2 Enter a **New Password**, and then **Confirm New Password**. The password shall be 8–32 characters long and contain numbers, letters, and symbols.

Step 3 Click **Confirm**, and you will go back to the login page. Now you can log into the system using your new password.

--End

3.3.2 Reset Password via Device S/N

In case you forgot the phone number or email used to create the account, you may reset your password using the S/N of any inverter or communication device that has been added to the account.

< Retrieve via Device S/N

* Account
Please Enter

* Device S/N
Please enter the S/N of any inverter or communication device associated with the account.

* New Password

* Confirm New Password

Forgot Account/Device S/N?

Please contact Sungrow Customer Service to retrieve your password. Contact method: 400 119 7799

Step 1 Click **Retrieve via Device S/N**.

Step 2 Enter your **Account** and **Device S/N**.

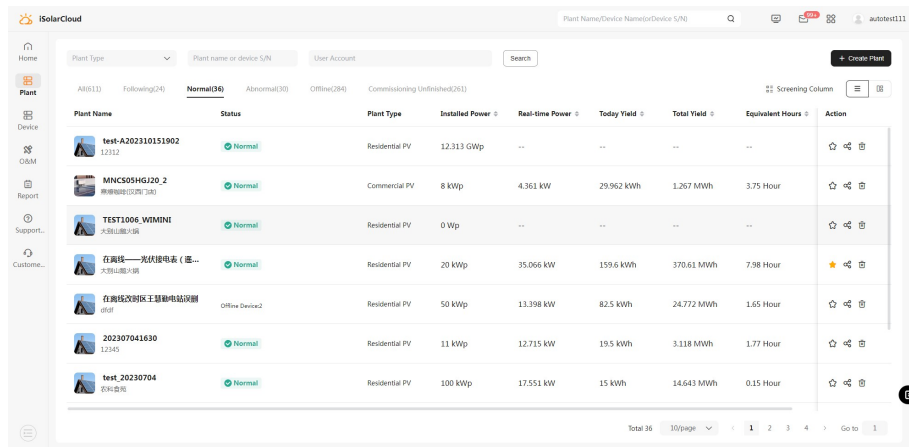
Step 3 Enter a **New Password**, and then **Confirm New Password**. The password shall be 8–32 characters long and contain numbers, letters, and symbols.

Step 4 Click **Confirm**, and you will go back to the login page. Now you can log into the system using your new password.

--End

4 Plant

After logging in to the iSolarCloud system, click **Plant** in the side navigation bar. You will then go to the page as shown below .

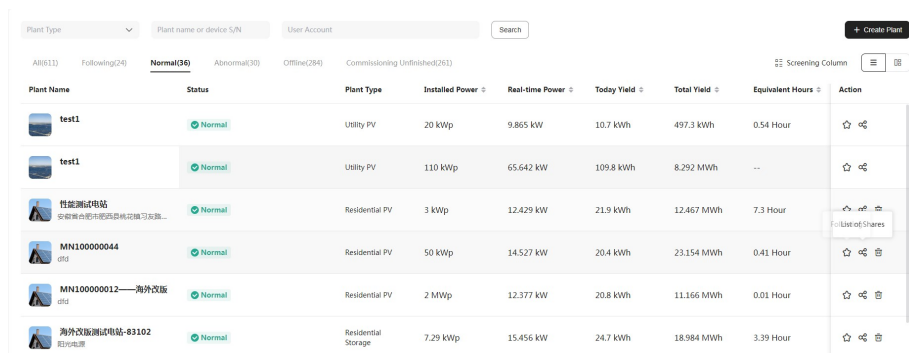


Plant Name	Status	Plant Type	Installed Power	Real-time Power	Today Yield	Total Yield	Equivalent Hours	Action
test-A202310151902	Normal	Residential PV	12.313 GWp	--	--	--	--	☆ 🔊 🗑
MNCS05HGJ20_2	Normal	Commercial PV	8 kWp	4,361 kW	29,962 kWh	1,267 MWh	3.75 Hour	☆ 🔊 🗑
TEST1006-WIMINI	Normal	Residential PV	0 Wp	--	--	--	--	☆ 🔊 🗑
在系统——光伏逆变器 (逆...	Normal	Residential PV	20 kWp	35,066 kW	159.6 kWh	370.61 MWh	7.98 Hour	☆ 🔊 🗑
在系统改测区王基助电站深测	Offline Device2	Residential PV	50 kWp	13,398 kW	82.5 kWh	24,772 MWh	1.65 Hour	☆ 🔊 🗑
202307041630	Normal	Residential PV	11 kWp	12,715 kW	19.5 kWh	3,118 MWh	1.77 Hour	☆ 🔊 🗑
test_20230704	Normal	Residential PV	100 kWp	17,551 kW	15 kWh	14,643 MWh	0.15 Hour	☆ 🔊 🗑

Figure 4-1 Plant

4.1 Plant List

On this page, you can view information such as the status, installed power, real-time power, and yield data of the plants. You can also follow, share, or delete a plant.



Plant Name	Status	Plant Type	Installed Power	Real-time Power	Today Yield	Total Yield	Equivalent Hours	Action
test1	Normal	Utility PV	20 kWp	9,865 kW	10.7 kWh	497.3 kWh	0.54 Hour	☆ 🔊 🗑
test1	Normal	Utility PV	110 kWp	65,642 kW	109.8 kWh	8,292 MWh	--	☆ 🔊 🗑
性能测试电站	Normal	Residential PV	3 kWp	12,429 kW	21.9 kWh	12,467 MWh	7.3 Hour	☆ 🔊 🗑
MN100000044	Normal	Residential PV	50 kWp	14,527 kW	20.4 kWh	23,154 MWh	0.41 Hour	☆ 🔊 🗑
MN100000012——海外改版	Normal	Residential PV	2 MWp	12,377 kW	20.8 kWh	11,166 MWh	0.01 Hour	☆ 🔊 🗑
海外改版测试电站-83102	Normal	Residential Storage	7.29 kWp	15,456 kW	24.7 kWh	18,984 MWh	3.39 Hour	☆ 🔊 🗑

Figure 4-2 Plant List

Procedure

- Search for a plant

All Regions ▾

Plant Type ▾

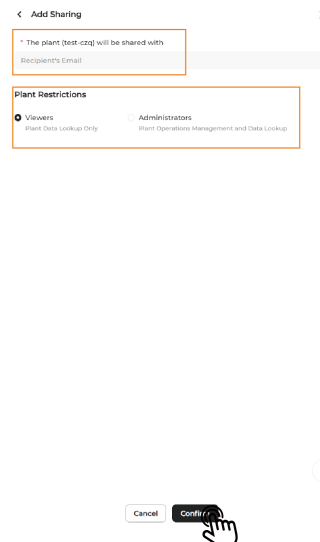
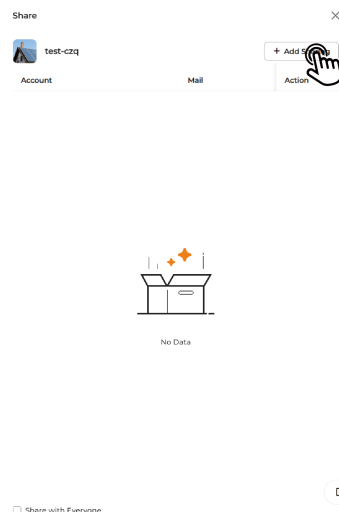
Plant name or device S/N

User Account

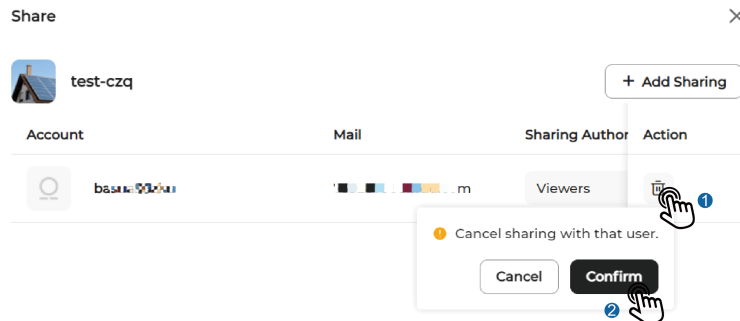
Search

Filter

- Search by region: Click **All Regions**, and select the name of the organization where the account belongs and its subordinate organization. A list of plants that meet the search criteria will then be shown on the screen.
- Search by plant information: Select the **Plant Type**, and enter the **Plant name or device S/N** and **User Account**. Click **Search**, and a list of plants that meet the search criteria will be shown on the screen.
- Search by equivalent hour: Click **Filter**, set the **Min Value** and **Max Value** of equivalent hours, and click **Confirm**. A list of plants that meet the search criteria will then be shown on the screen.
- Search by device: Click **Filter**, select **Optimizer** or **RSD** in “Devices of the Plant”, and click **Confirm**. Plants that meet the search criteria will then be shown on the screen.
- Switch between the list view and card view
 - Click  in the upper right corner to show the plants under the current account in a list view.
 - Click  in the upper right corner to show the plants under the current account in a card view.
- Follow a plant
 - Click  to follow a plant. You may check the plants you have followed in the “Following” list.
 - You may click  to unfollow a plant.
- Share a plant



1. Click  in the action column to open the “Share” panel.
 2. Click **Add Sharing**, enter the email of the user with whom you want to share the plant in **Shared Email**, and assign permissions in **Plant Restrictions** accordingly.
 - Viewers: Plant data lookup only.
 - Administrators: Plant operation management and data lookup.
 3. Click **Confirm** to share the plant.
- Stop sharing a plant



1. Click  in the Action column to open the “Share” panel.
 2. Find the user to be removed, and click .
 3. Click **Confirm**. The plant will no longer be shared with this user.
- Delete a plant

Click  to delete the corresponding plant.



Deleted plants cannot be recovered. Please proceed with caution.

4.2 Create Plant

Go to the “Plant” page and click **Create Plant** in the upper right corner. You may choose to create one plant, or create multiple plants at a time.

4.2.1 Create One Plant

Create plant

Create plant

* Plant type
Residential PV

01 Plant information — 02 Add communication device — 03 Tariff

Basic plant information [Import plant from SolarDesign >](#)

* Plant name
Please enter

* PV installed power(kWp)
Please enter

* Detailed address
Please select

* Country/Region
Country/Region

* Time zone
Please select

* Grid connection type
Please select

Grid connection date
Please select

Postal code
Please enter

Plant image
+
Upload

Owner information Assign an owner to the plant. You can use an email address that is new or already registered with SolarCloud.

* Owner's email address
Please enter

☐ I have obtained authorization from the owner to grant access to channel/partner services for the current plant.
Any third-party personal data submitted here must be authorized by the corresponding owner.

Assign an owner to the plant. You can use an email address that is new or already registered with SolarCloud. Once the plant is successfully created, the system will automatically create an account for the plant owner and send it to both the owner and you via email. If the owner does not receive the system email, please forward it to them.

Other information
...

Next

Step 1 Complete the basic plant information.

Parameter	Description
* Plant Name	Enter the plant name. If you want to change the plant's name after it has been created, refer to 4.3.7.1 Plant Information Setting .
* Plant Type	Select a plant type according to the actual situation.
PV Installation Power (kWp)	The sum of the rated power of devices that have been installed in the plant.
* Country/Region	Select the country/region where the plant is located.
* Time Zone	This field will be completed automatically according to the country/region you have selected.
* Detailed Address	- Manual setting: Enter the location of the plant in the input box. - Auto acquisition: Click  to get the current location automatically.
* Grid-connection Type	Select the grid-connection type according to the actual situation.

Parameter	Description
Grid-connection Date	Select the date when the devices in the plant are connected to the grid.
Postal Code	The postal code of the place where the plant is located.
Plant Image	You may upload a photo of the plant.
* Owner's Phone	Enter a new owner phone number or an existing owner phone number in iSolarCloud system. When the plant is successfully created, iSolarCloud system will automatically send the account information to the new owner by SMS.
* Energy Storage Solution	This field is required when the Plant Type is set to Microgrid . You can select DC Coupling or AC Coupling .
NMI	You can set this parameter when the Country/Region is set to Australia .



Those marked with * are required fields.

Step 2 Add a communication device. Two methods are available to add a communication device:

Create Plant Create Plants in Batch

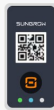
01 Plant Information **02 Add Communication Device** 03 Tariff

Add Communication Device

Device Type Communication Device S/N

Drag the picture into the box to identify the QR code

When taking a photo, please ensure that each image contains just one QR code, and that the code appears both clear and readable on the screen

- Add manually: Select the device type, enter the S/N of the communication device, and click **Add**.
- Scan a QR code: Click **Identify QR code**. Upload a picture of the device's QR code, or drag and drop the picture to the box for QR code identification.

Step 3 Set tariffs.

Create Plant Create Plants in Batch

01 Plant Information 02 Add Communication Device 03 Tariff

Currency

Unit
ALL

Feed-in Tariff(ALL)

Tariff Type Tariff(ALL/kWh)
Fixed Tariff Please Enter

Consumption Tariff(ALL)

Tariff Type Tariff(ALL/kWh)
Fixed Tariff Please Enter

Previous Complete

- Select a currency from the **Unit** drop-down list.
- Set the Tariff Type and Tariff respectively for **Feed-in Tariff** and **Consumption Tariff**.
 - Fixed tariff: Rate charged for electricity consumed at different times of day is fixed.
 - Feed-in/Consumption Based Tariff: You can set tiered rates for feed-in/consumption electricity during different time windows based on usage.

Feed-in Tariff(EUR)

Tariff Type
Feed-in Based Tariff

+ Add Clear

No.	Start Time	End Time	Tiered Electricity Consumption(kWh)	Tariff(EUR/kWh)	Action
1	00:00am	00:00am	Total Electricity Consumption	1	
2	Other Time Period		Not Set	Not Set	

Consumption Tariff(EUR)

Tariff Type
Consumption Based Tariff

+ Add Clear

No.	Start Time	End Time	Tiered Electricity Consumption(kWh)	Tariff(EUR/kWh)	Action
-----	------------	----------	-------------------------------------	-----------------	--------

- Time-of-Use Tariff: You may set different rates for electricity consumed in different time windows of day. The time windows cannot overlap.

Tariff Type
Time-of-Use Tariff

Time

* Start Time * End Time * Tariff
Start Time End Time Please Enter

+ Add Time

* Other Time Period(EUR/kWh)
Please Enter

- Time-of-Use Tariff (Weekday+Weekend): You may set rates for electricity consumed in different time windows of day, for the weekday and the weekend separately.

Tariff Type
Time-of-Use Tariff (Weekday+Weekend) Weekday Weekend

Time1

* Start Time * End Time * Tariff

Start Time End Time Please Enter

+ Add Time

* Other Time Period(EUR/kWh)

Please Enter

Step 4 Click **Complete**.

--End

4.2.2 Create Plants in Batch

Create Plants in Batch can be used to create more than one residential PV plant at a time.

Create Plant **Create Plants in Batch**

Plant Information Please enter basic plant setup information for all plants

Plant Type * Country/Region * Time Zone

Residential PV Country/Region Please Select

Upload Completed Table Download Table Template

+

Upload Completed Table

Create Plant

Step 1 Go to the “Create Plant” page and choose **Create Plants in Batch** at the upper left.

Step 2 Select the **Country/Region** where the plant is located. The **Time Zone** will be auto-filled based on the country/region you have selected.

Step 3 Click **Download Table Template** to download and save the template file locally. Then, fill in the plant information by referring to the “Note” in the template file, and save.

Owner's Name (Required)	Phone	Email (Required)	S/N (Required)	Installed Power (kWp) (Required)	Grid-connection Date	Plant Address	Longitude	Latitude
Jack	138xxxx7553	jack@xxx.com	A111999999	1000	2018/1/1	xxx	101.87306167	115.5056798

Notes:

1. Mobile phone number: Chinese users must fill in this information, and it must be true and valid.
2. Email: required for invoice issues, and must be true and valid.
3. Installed power of the power station: The default unit is kWp. This data is the basic index of the calculation data, which affects the calculation of the basic data of the power station and needs to be filled in correctly.
4. Grid-connection date: It is in the format of YYYY/MM/DD.
5. The weather of the power station is obtained according to the latitude and longitude. It can be obtained according to the tripartite map. It is recommended to fill in.

Step 4 Click **+** to upload the file.

Step 5 Click **Create Plant** to create multiple plants at a time.

--End

4.3 Plant Details

Click on a plant name on the “Plant” page. You can then check the information about the plant, the devices in the plant, and the faults, and complete the plant configuration settings.

4.3.1 Overview

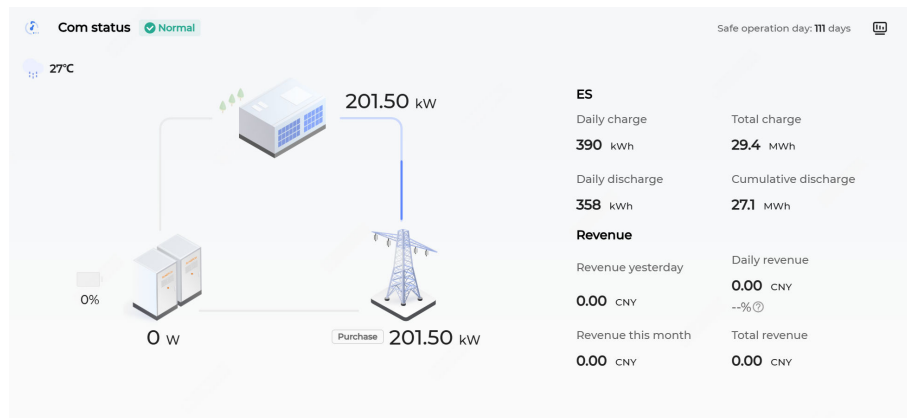


Information shown on the user interfaces may vary by plant type. Please refer to the information actually shown on the interface.

Click a plant name on the **Plant** page, and you will go to **Overview** by default. Here you can check the detailed information about the plant.

Procedure

- View the power flow



Information such as generated output and feed-in power of the PV system is shown here. Arrows between the icons indicate that there is energy flowing between the devices. The direction in which the arrow points indicates the direction of the energy flow.

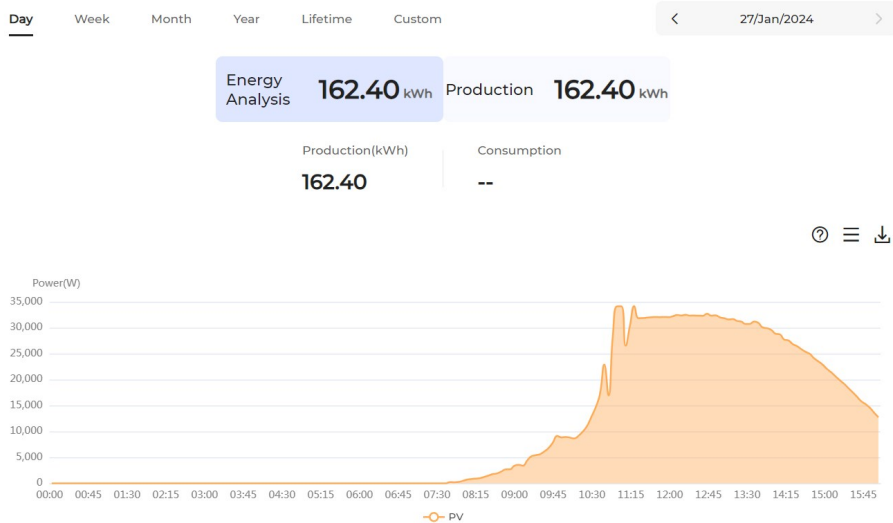
- View and set energy management mode



Click the current energy management mode.

On the **Energy Management** page, configure the energy management mode. For information about how to configure the energy management mode for Data Logger and iHomeManager, see [5.3.2.1.2 Energy Management](#) and [5.3.2.2.1 Energy Management](#) respectively.

- View revenue
The Overview page displays data including **Revenue yesterday**, **Daily revenue**, **Expected revenue deviation today**, **Revenue this month**, and **Total revenue**.
- View and export production and consumption data



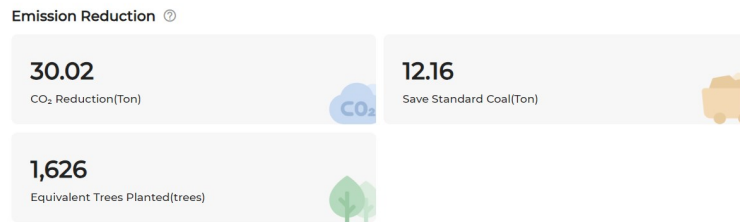
1. Click **Day**, **Week**, **Month**, **Year**, **Lifetime**, or **Custom** to view statistical data of different time periods.
2. Proceed as follows based on the actual situation.
 - Click the icons in the upper right corner to change the format of data display. By choosing , the plant data will be presented in a chart; and by , the data will be presented in a table.
 - Click  to export the plant data to an Excel or CSV file.
- View the net revenue of the plant
 - Click **Day**, **Week**, **Month**, **Year**, or **Lifetime**, or click **Custom** and specify a time period. Then, click **Net revenue** to view the revenue gained by the plant.
 - When the tariff mode is set to Dynamic tariff and the AI mode is enabled, the revenue increase rate driven by AI mode is displayed on the page. You can click **Details** to view the revenue increase details in a pop-up window.



The displayed revenue increase rate is calculated by iSolarCloud based on its algorithms and may differ from the actual data.



- Check the plant's contribution to emission reduction



1. Data related to the plant's contribution to energy saving and carbon emission reduction are shown at the bottom of the page, including the amount of CO₂ emission reduction, saving in standard coal, and equivalent of trees planted.
2. Click to check how the system calculates the plant's contribution to energy saving and emission reduction. You can click to set the coefficient based on which the CO₂ emission reduction is calculated. The range is 0.1 to 10. If the checkbox to the left of **Are you sure you want to clear all history data?** is selected, the amount of CO₂ emission reduction, since the plant has first accessed to iSolarCloud, will be recalculated based on the new coefficient. If the checkbox is not selected, the coefficient will be applied to calculate future emission reduction only.

CO₂ Reduction

×

* Coefficient Setting

0.997

Setting Range for Reference: 0.1-10

☒ Are you sure you want to clear all history data?

Recalculate the CO₂ reduction since the plant was connected to iSolarCloud.

Cancel

Confirm

4.3.1.1 C&I PV-Charging Plant Overview

- View the power flow

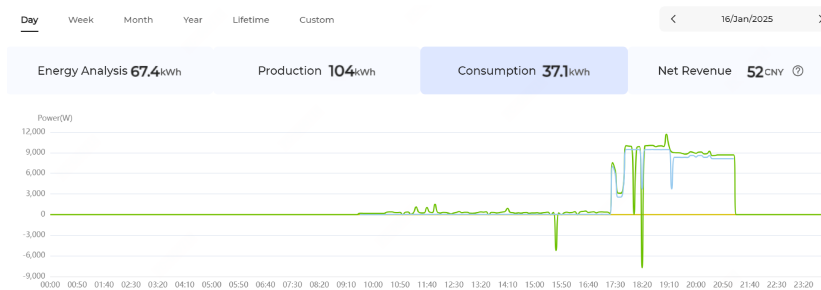


The power flow diagram displays information such as PV output power, DC charger charging power, and feed-in power.

- View and set the **Charging Mode**

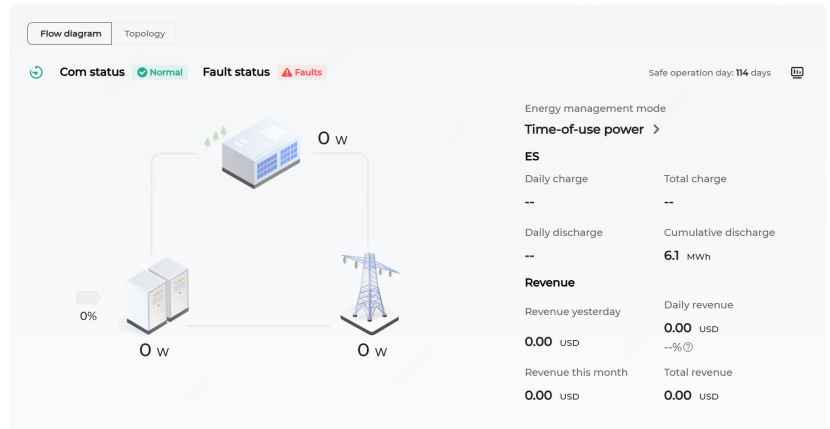
The **Overview** page displays the **Charging Mode**. You can click the current charging mode to enter the **Charging Management** page and set the **Charging Mode**. For details about how to set the **Charging Mode**, see [5.3.2.1.1 Charging Management](#).

- View the power and energy data of the DC charger



4.3.1.2 C&I PV-ESS-Charging Plant Overview

- View the power flow



The power flow diagram displays information such as PV output power, battery power of the ESS cabinet, and load power.

- View and set energy management mode

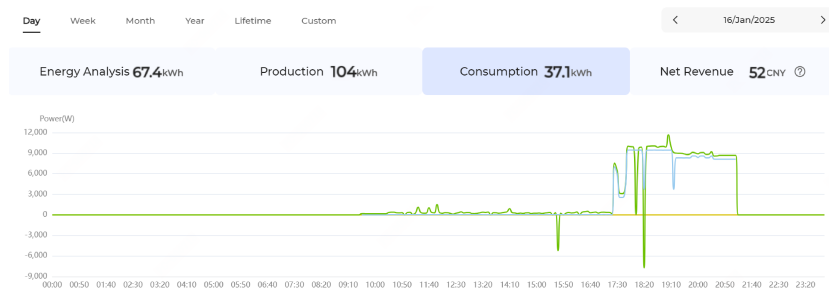
On the **Overview** page, click the current charging mode to enter the **Energy management** page and set the energy management mode.



The configurable parameters may vary by server. Refer to the actual parameters on the interface.

Server	Configuration details
Chinese server, European server, and International server	For details about how to set the energy management mode, see 4.3.12 Strategy Configuration .
Australian server	For details about how to set the energy management mode, see 5.3.2.3 Common Parameter Settings of Energy Management System .

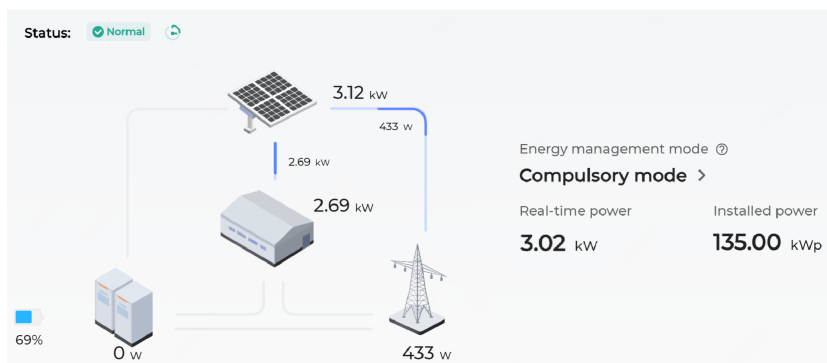
- View battery power curve of the ESS cabinet



In the production and consumption data section, click **Consumption** to view the battery power curve of the ESS cabinet for the selected time period.

4.3.1.3 C&I ESS Plant Overview

- View power flow



The power flow diagram displays information such as PV output power, energy storage battery power, and feed-in power.

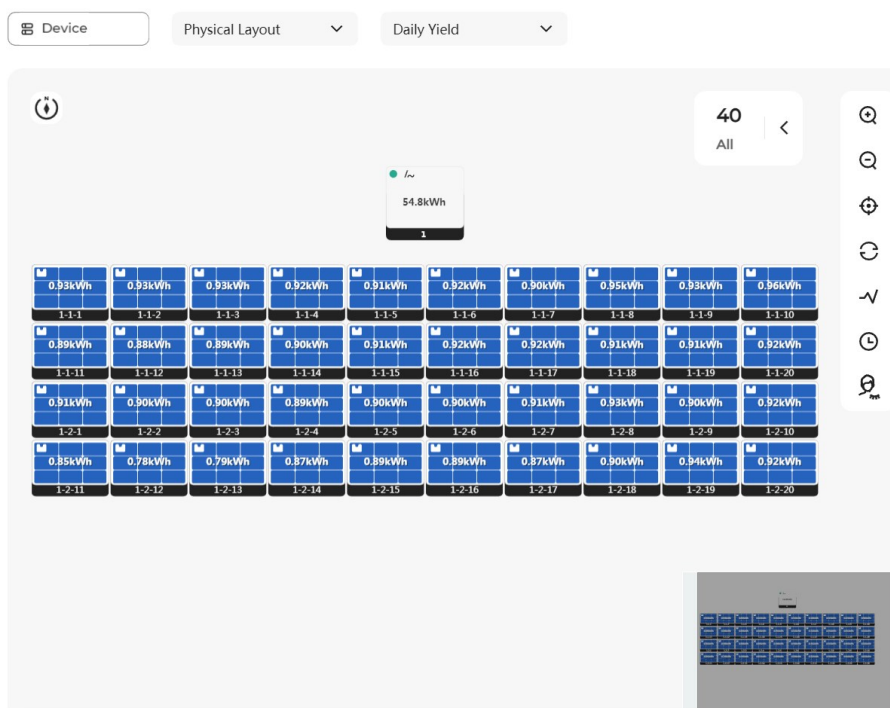
- View and set energy management mode

The Overview page displays the **energy management mode**. For configuration instructions, please refer to [4.3.1 Overview](#).

4.3.2 Layout

If optimizers or RSDs have been installed in the plant, you can go to “**Layout**” and check the detailed information about the optimizers or RSDs.

Click on a plant name on the “Plant” page, and you will go to “**Overview**” by default. Choose **Layout** on the left.



- View device layout

Click  at the top to switch between **Physical Layout** and **Logical Layout**.

- View power yield data

Click  at the top to switch between **Daily Yield**, **Monthly Yield**, **Annual Yield**, **Total Yield**, and **Power** and view the power generation data of modules accordingly.

- Open/Close navigator

If there are a large number of optimizers or RSDs, the layout page may see lags. You

can click  on the right of the layout to close the navigator and thus speed up the web page. You can also click  to open the navigator again.

4.3.2.1 Check Device Status

- Check device S/N

Click **Device** in the upper left of the screen to check the S/N and No. of the optimizer or RSD attached to the inverter and whether it has been assigned or not.

- Check device running status

- You can tell the status of the optimizer or RSD device based on the color of the corresponding PV module in the layout. The table below shows the relation between the PV module color and the device status.

Color	Status
	The device is operating normally
	There is a fault in the device
	There is an alarm with the device
	The device is offline

- The PV module is blue if the device is operating properly. The color shade of a module reflects its power generation efficiency. Darker blue indicates a higher power ratio and greater power generation efficiency.

Color Shade	Actual Power/PV Module Peak Power*100%
	80–100
	60–80
	40–60
	20–40

Color Shade	Actual Power/PV Module Peak Power*100%
	0-20

4.3.2.2 View Device Information



S/N

A2261539444

Partial Installation

Data Update Time: 27/Jan/2024 16:05:00

Yield Today(kWh)

54.80

Total Yield(kWh)

68.40

Total DC Power(kW)

2.71

Phase A Voltage(V)

232.8

Phase B Voltage(V)

229.6

Phase C Voltage(V)

230.4

Phase A Current(A)

3.8

Phase B Current(A)

3.8

Phase C Current(A)

3.8

Total Active Power(kW)

2.70

Device Name

SG12RT

Commissioning

2024-01-25 17:46:40

Device

SG12RT-P2

S/N

A2261539444

Manufacturer

SUNGROW

Information

Inverter Settings

Optimizer Settings

Optimizer 1-2-6

S/N A2342675167 

Data Update Time: 27/Jan/2024 16:10:00

Tilt Angle 0
Azimuth Angle 0

Total Yield(kWh)	93.01
 Input Voltage(V)	32.9
 Output Voltage(V)	32.6
 Input Current(A)	1.99
 Output Current(A)	2.00
 Output Power(W)	65

Note: The current live data period for optimizers...

Device Name	Optimizer
Commissioning	2024-01-26 10:30:43
Module	--
S/N	A2342675167
Module Manufacturer	--

Settings

RSD 1-1-1

S/N VOPT00760101 

 Offline

Data Update Time: 2024-03-27 16:45:00

Tilt Angle	0
Azimuth Angle	0

Total Yield(MWh)	165.61
Input Voltage(V)	80.0
Output Voltage(V)	79.9
Input Current(A)	10.00
Output Current(A)	9.95
Output Power(W)	857

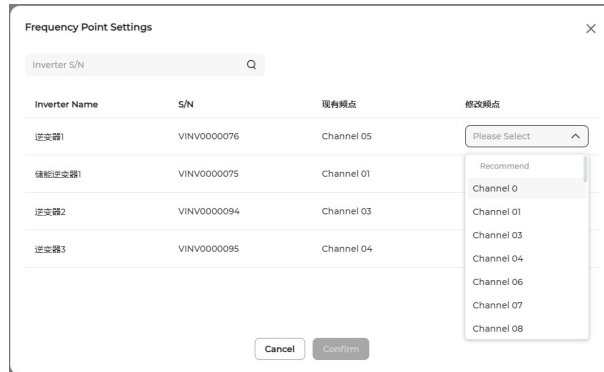
Device Name	RSD
Commissioning	2024-03-26 21:36:43
Module	--
S/N	VOPT00760101
Module Manufacturer	--

Settings

- Click on an inverter in the layout to view its yield data. A panel will then open on the right side. You may:
 - Choose **Information** to check the detailed information about the inverter, such as **General Information**, **Fault**, **Curve**, **Settings**, and **Remote Signaling Status**.
 - Choose **Inverter Settings** to set parameters for the inverter. See [5.3 Parameter Setting](#) for details.
 - Choose **Optimizer Settings** to set the communication frequency point for inverter. If **Auto Frequency Point Setting** is set to **Enable**, the setting will be completed by the system automatically. If **Auto Frequency Point Setting** is set to **Disable**, you can set the communication frequency point for each inverter manually. You may click **Parameter Query** to query about the current communication frequency point of the inverter.
- Click on an optimizer or RSD in the layout to view its power generation data. You can choose **Settings** to set the parameter of **PV Module Total Yield Adjustment**. You may click **Parameter Query** to query about the current setting of the inverter.

4.3.2.3 Inverter Settings

- Set the frequency point for the inverter

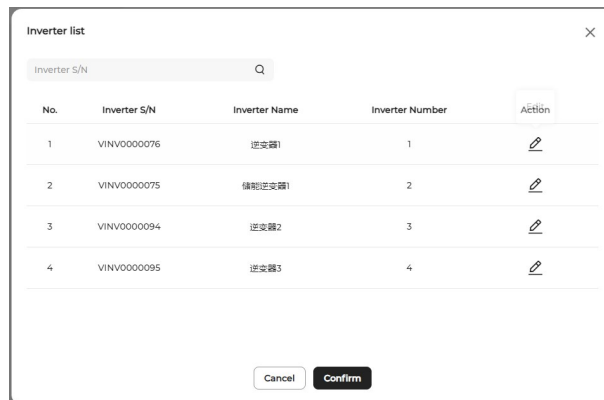


1. Choose ***** > Frequency Point Settings** at the top of the “Layout” page.
2. Click  to the right of the inverter, select a new frequency point, and click **Confirm**.



Prioritize the recommended frequency points when setting.
The frequency points set for inverters in the same plant cannot be the same.

- Change inverter name or number

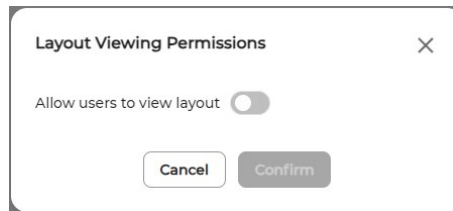


1. Choose ***** > Edit Inverter** at the top of the “Layout” page.
2. Click  to the right of the inverter to change the **Inverter Name** or **Inverter Number**.
3. Click  to save the settings.



The numbers set for inverters in the same plant cannot be the same.

- Set layout viewing permissions



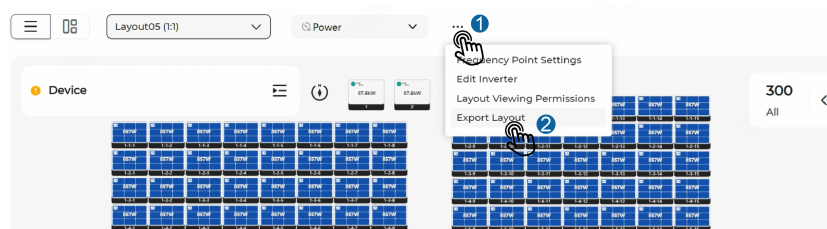
1. Choose ******* > **Layout Viewing Permissions** at the top of the “Layout” page.
2. If the button **Allow users to view layout** is turned on, users can view the layout of the plant using an Owner account.
If the button **Allow users to view layout** is turned off, users cannot view the layout using an Owner account.



The Owner users may ask the upper-level retailer/installer to grant them layout viewing permission if needed.

4.3.2.4 Export Layout

To export the current layout on the canvas, click ******* and choose **Export Layout**. The export progress will be displayed on the page.



You can select another layout from the layout drop-down list to export that layout.

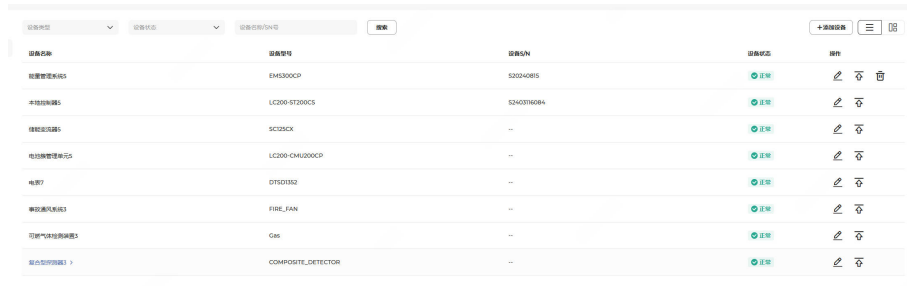
NOTICE

You cannot export a layout under any of the following conditions:

- The layout is empty.
- There are optimizers/RSDs not associated with modules.
- There are optimizers/RSDs with an inverter string number of 200 in their optimizer/RSD numbers.

4.3.3 Plant Device

Click a plant name on the Plant page, and you will go to **Overview** by default. Then, choose **Device** on the left to go to the device list. Here you can view the general device information and the fault alarm information. The page is shown below:



设备名称	设备型号	设备S/N	设备状态	操作
能量管理系统	EMS300CP	S3024085	正常	编辑 删除
本地控制器	LC200-ST200CS	S240219084	正常	编辑 删除
储能柜控制器	SC200CK	—	正常	编辑 删除
电池簇管理单元	LC200-CHU200CP	—	正常	编辑 删除
电表	DT1013B2	—	正常	编辑 删除
集流逆变器	FIRE_FAN	—	正常	编辑 删除
可燃气体检测装置	Gas	—	正常	编辑 删除
复合气体探测器	COMPOSITE_DETECTOR	—	正常	编辑 删除

Figure 4-3 Plant Device List

Operations

• Search for Device

You can search for a device by type, status, name, or S/N using the drop-down box and search box at the top of the page. Then, click **Search**. Devices that meet the search criteria will then be shown on the page.

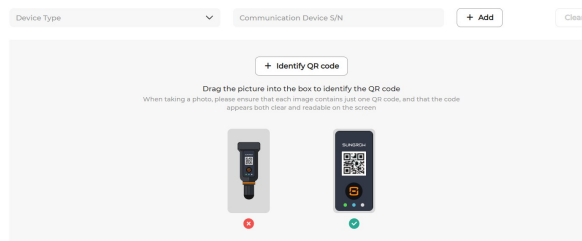
• View Device Information

Click the device name to go to the details page. Here you can view the detailed information about the device, such as the general information, fault alarm, and power curve.



- When the Device type is set to Local controller, PCS, Battery system controller, Battery cluster management unit, Composite detector, HVAC, Combustible gas detector, and Emergency ventilation system, more device information can be displayed. See [4.3.3.1 View C&I ESS Information](#) for details.
- When the Device type is set to C&I energy storage battery cabinet, more device information can be displayed. See [4.3.3.2 View C&I Energy Storage Battery Cabinet Information](#) for details.

• Add Device



1. Click **Add device** in the upper right corner of the page.
2. Add a communication device. Two methods are available to add a communication device:
 - Add manually: Select the device model, enter the S/N of the communication device, and click **Add**.

- Scan a QR code: Click **Identify QR code**. Upload a picture of the device's QR code, or drag and drop the picture to the box for QR code identification.

3. Click **Confirm** to finish adding.

- Switch Between List View and Card View

- Click  in the upper right corner to show the devices in a list view.
- Click  in the upper right corner to show the devices in a card view.

- Change Device Name

Click , enter a new device name, and click **Confirm**.

- Replace Device

In case any device in the plant has been damaged or replaced, please proceed as follows to replace the device in the iSolarCloud system.

Before replacing the device, please ensure that:

1. The new device's total yield has been cleared;
2. The device has been replaced in the plant.

Please replace carefully. A replacement error will cause data loss.

Old Device

Device Name


Total Yield
68.7kWh

Device Type
Inverter

S/N
A2300011111

Manufacturer
SUNGROW

New Device



Add New Device for Replacement
[Add Manually >](#)

☒ Add Compensatory Yield to New Device

[Start Replacement](#)

1. Click  to go to **Device replacement**.
2. Check if the information about the device to be replaced is correct. If so, click  to go to **Add new device**.
 - Enter the device name or S/N, and click **Search**. Then, select the new device, and click **Confirm**.
 - Click **Add manually**, enter the S/N of the new device, and click **Confirm**.
3. Check if the information about the new device is correct. If so, click **Start replacement**.



When replacing an inverter, you can select **Add compensatory yield to new device** to add the total yield of the old device to that of the new device as compensatory yield.

- Delete Device

Choose ***** > Delete** in the **Action** column to delete the device. Then, all data on the device, such as those related to the inverter, will be deleted.

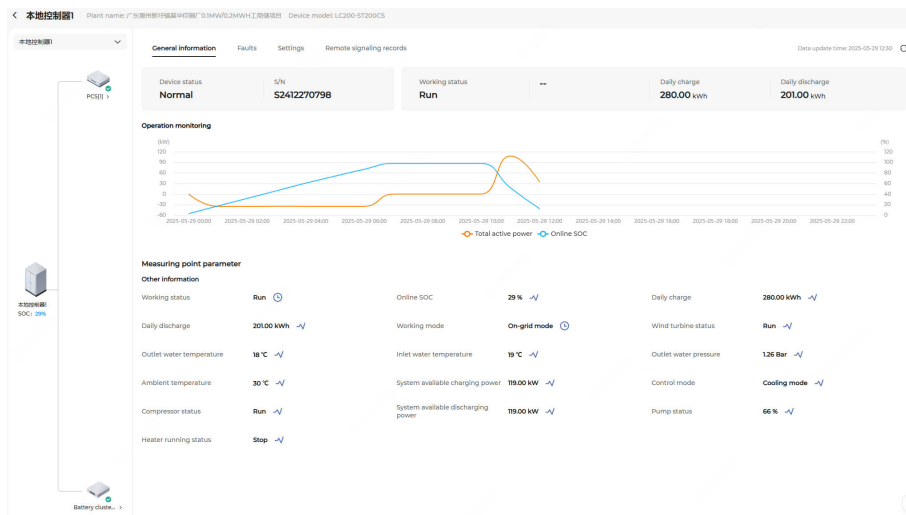
- Rearrange Items in Device List

Device Name	Device Model	Device S/N	Device Status	Action
	SCDRT-P2	A2-11111111	Normal	  
	WiNet-S2	B2-11111111	Normal	  

Click  or choose ***** > Pin to top** in the **Action** column to pin the device to the top of the list. If multiple devices are pinned, the newly pinned will always top the previously pinned.

4.3.3.1 View C&I ESS Information

Step 1 Click a device name to enter the **device details** page.



Step 2 View device information.

Device Type	Indicators
Local controller	Displays device status, device S/N, energy storage active power, SOC, ESS daily charge, ESS daily discharge, total active power curve, and daily SOC curve.
PCS	Displays device status, device S/N, total active power, total reactive power, daily charge, daily discharge, and daily active power curve.
Battery system controller	Displays device status and device S/N.
Battery cluster management unit	Displays device status, device S/N, highest cell voltage, lowest cell voltage, highest cell temperature, lowest cell temperature, as well as daily curves of the highest and lowest cell voltages and temperatures.

Device Type	Indicators
	- By switching between Voltage and Temperature in the upper left corner of the Cell monitoring page, you can view the voltage and temperature values of the Racks. - You can click a Pack to view all cell information under the Pack.  Each column of Packs on the page are arranged in ascending order from top to bottom. Please refer to the actual Pack data shown on the interface.
Composite detector	Displays device status and device S/N.
HVAC	Displays device status and device S/N.
Combustible gas detector	Displays device status and device S/N.
Emergency ventilation system	Displays device status and device S/N.



The displayed indicators vary by device type. Please refer to the actual interface.

Step 3 View device faults:

Click the **Faults** tab. For detailed instructions, see [5.2 Fault List](#).

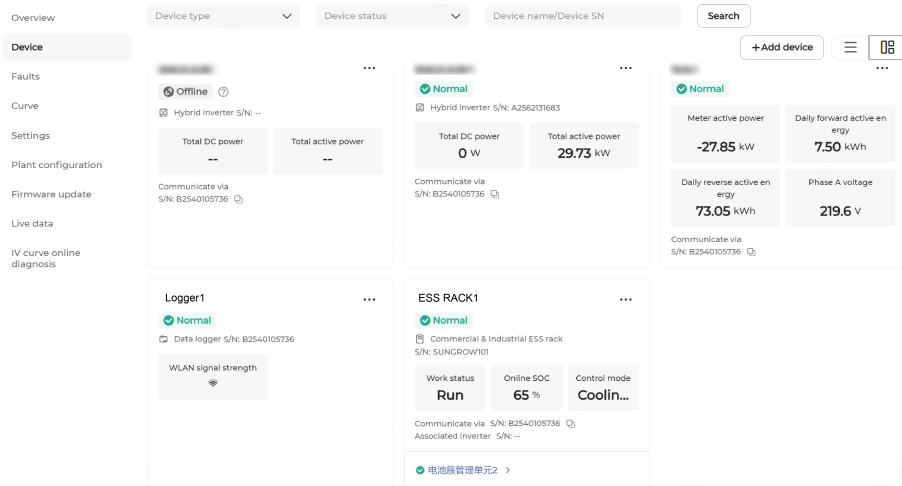
Step 4 Set parameters.

- Click the **Settings** tab.
- For detailed instructions, see [5.3 Parameter Setting](#).

--End

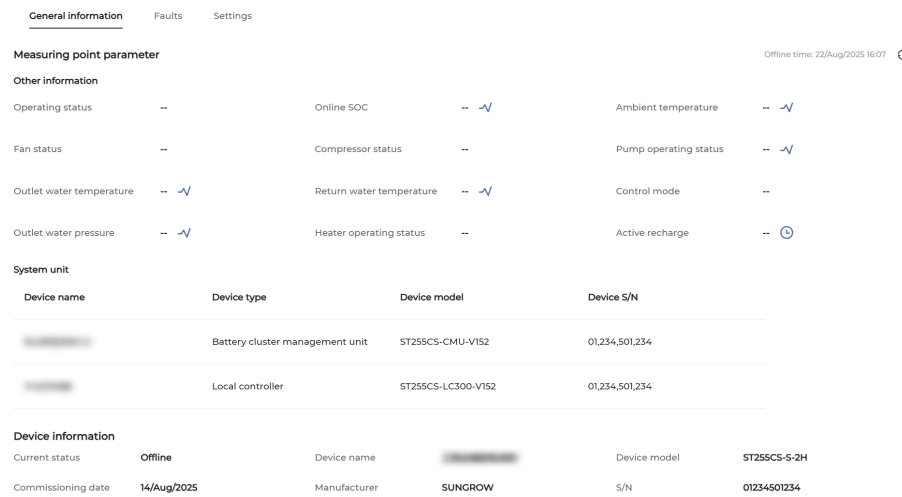
4.3.3.2 View C&I Energy Storage Battery Cabinet Information

Step 1 Click **Device** for a C&I ESS plant. The page displays all cloud-connected devices in the C&I ESS plant.



Step 2 You can view the name, status, and S/N of each C&I energy storage battery cabinet. Click a C&I energy storage battery cabinet to view its details.

Step 3 View general information: On the details page of the C&I energy storage battery cabinet, you can view the measuring point data and device information on the **General information** tab.



Step 4 View device faults: Click the **Fault** tab to view pending and resolved faults of the device.

Step 5 Settings: Click the **Settings** tab to configure common settings for the device. See [5.3 Parameter Setting](#) for details.



The **Settings** tab is not available for battery cluster management units.

--End

4.3.4 Fault

Click on a plant name on the “Plant” page to go to “**Overview**”, then choose **Fault** on the left. You will see a list of faults in pending state. Here you can view the device alarms.

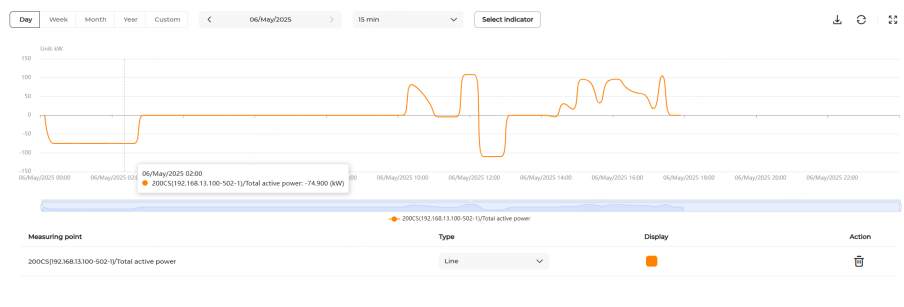
See [5.2 Fault List](#) for details.

4.3.5 Curve

Click a plant name on the “Plant” page, and you will go to “**Overview**” by default. Then, choose **Curve** on the left. Here you can view device curves, revenue deviation rate curves, and demand curves of the plant.

4.3.5.1 Device Curve

Step 1 Click the **Device curve** tab.



Step 2 Select a time period

- Click “Day”, “Week”, “Month”, “Year”, or “Custom” to view curves generated based on data from different time periods.
- Set the time interval.

Step 3 Select indicators

Click **Select indicator**. In the pop-up window, select the device type, device, and indicators, then click **Confirm**. > >

The screenshot shows the 'Select Indicator' pop-up window. It has a title bar with a close button. Below the title, a message states: 'To ensure data display experience, you can select up to 15 indicators.' The window is divided into three sections: '1. Select device type', '2. Select device', and '3. Select indicator (0/1)'. In section 1, 'Local controller' is selected. In section 2, '200CS192.168.13.100-502-1' is selected. In section 3, 'Total active power' is selected. At the bottom, there are 'Cancel' and 'Confirm' buttons.

Step 4 Go/Exit full screen

- Click  to view curves in full screen.

- Click  to exit the full-screen mode.

Step 5 Refresh data

Click  to refresh the current data curves.

Step 6 Export data

Click  to export the data of the curves that are currently shown.

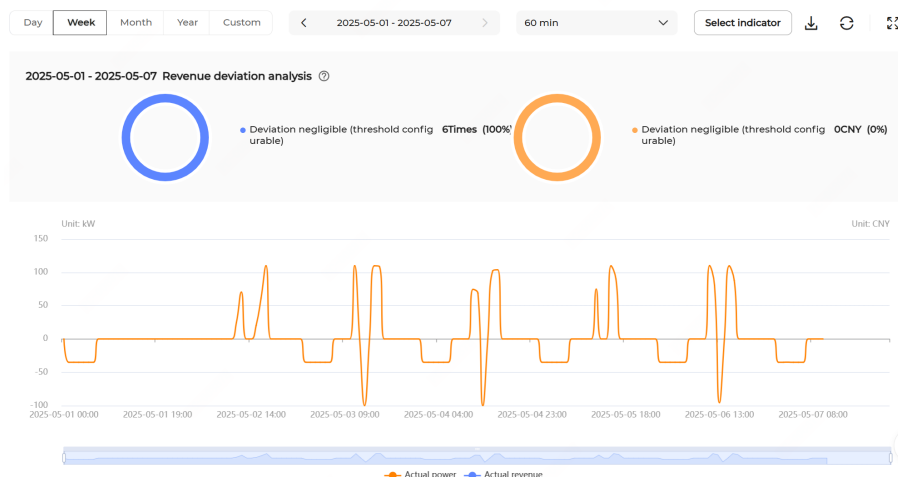
Step 7 Delete indicator

Click  in the **Action** column to delete an indicator. The corresponding data will no longer be displayed.

--End

4.3.5.2 Revenue Deviation Curve

Step 1 Click the Revenue deviation curve tab.

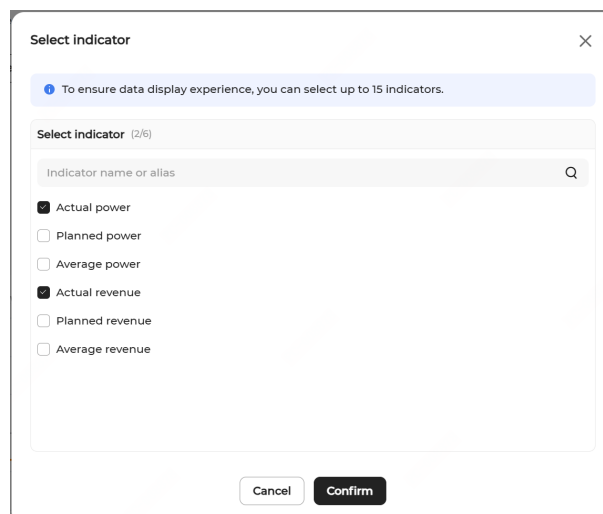


Step 2 Select a time period

- Click “Day”, “Week”, “Month”, “Year”, “Lifetime”, or “Custom” to view curves generated based on data from different time periods.
- Set the time interval.

Step 3 Select indicators

Click **Select indicator**. In the pop-up window, select indicators, then click **Confirm**.



To ensure optimal data display, you can select up to 15 indicators.

Step 4 Go/Exit full screen

- Click  to view curves in full screen.
- Click  to exit the full-screen mode.

Step 5 Refresh data

Click  to refresh the current data curves.

Step 6 Export data

Click  to export the data of the curves that are currently shown.

Step 7 Delete an indicator

Click  in the **Action** column to delete an indicator. The corresponding data will no longer be displayed.

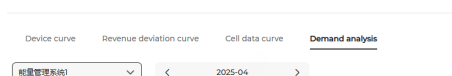
--End

4.3.5.3 Demand Analysis

The Demand analysis displays the maximum demand value collected by the meter in the current month and the occurrence time. At the end of the month, the system will display the grid power curve and ESS charging/discharging curves of the day with the maximum demand.



This function is unavailable if no meter is installed in the plant.



- Step 1** Click  to select an energy management system.
- Step 2** Click the time selector to choose the target month. You can then view the demand values for the month and the monthly demand heatmap.
- Step 3** Click a curve or demand value in the heatmap to view the **Peak demand curve**.
- End

4.3.6 Parameter Settings

Click on a plant name on the “Plant” page. You will go to “**Overview**” by default. Then, choose **Settings** on the left to go to the page for device parameter setting.

See [5.3 Parameter Setting](#) for details.

4.3.7 Plant Configuration

Click on a plant name on the “Plant” page. You will go to “**Overview**” by default. Then, choose **Plant Configuration** on the left. Here you can edit the plant information and set tariffs.

4.3.7.1 Plant Information Setting

The current account should have the permission to edit the plant information.

Procedure

- Complete plant information and owner information
For description of parameters, see [4.2.1 Create One Plant](#).
- Complete other information

Parameter	Description
Retailer/Installer Organization Code	Code of the retailer/Installer to which the plant belongs.
Module Model	Model of the PV module connected to the inverter.
Channel/Partner	To allow a third-party service provider to check or manage the current plant.
Plant Delivery Zip	Postal code for the place of receipt of spare parts.
Plant Delivery Address	Shipping address of spare parts.
Reset Password	Click Settings to reset the account password.

4.3.7.2 Tariff Setting

- Step 1** In the **Basic Information** section, select a currency from the **Currency** drop-down list.
- Step 2** Set the tariff mode. Options include **Dynamic Tariff** and **Fixed/TOU tariff**.



Currently, only users in certain countries can set dynamic tariffs when purchasing iHomeManager. The function availability is subject to the actual page display. If you wish to expand the countries to which the dynamic tariff function is applicable, contact Sungrow Customer Service at any time.

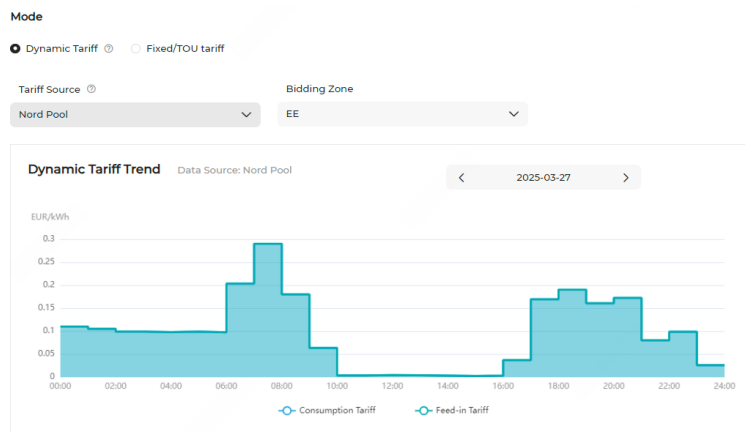
- Dynamic Tariff



Make sure you have signed dynamic tariff plans with the electricity retailer. Otherwise, the revenue may be inaccurate.

a. Configure the **Tariff Source** and **Bidding Zone**.

After the configuration is complete, the dynamic tariff trend of the bidding zone will be displayed on the page.



b. If needed, turn on **Taxes & Markup**, and set the **VAT** and **Surcharge** to adjust the **Consumption Tariff** and **Feed-in Tariff**.

Taxes & Markup ☒

Consumption Tariff

VAT (%) Range:[0-99]

Surcharge (EUR/kWh) Range:[0.0000-99.9999]

Feed-in Tariff

VAT (%) Range:[0-99]

Surcharge (EUR/kWh) Range:[0.0000-99.9999]



Calculation formula for the electricity taxes and markup:

$(1 + \text{VAT}) \times (\text{spot price} + \text{surcharge})$

VAT: Additional charge applied as a percentage of the total electricity fee for a billing period.

Surcharge: All the extra fees you need to pay per kWh (e.g. grid fees, taxes and levies, service fees, renewable energy surcharges).

Example: Quickly set electricity tariffs

Table 4-1 Electricity Tariffs of a Power Company (Excluding Tax)

Item	Price	Remarks
Electricity Tariff	Hourly spot price set by the power exchange	Excluding tax

Grid Consumption Fee	0.24 NOK/kWh
----------------------	--------------

Energy Tax	0.32 NOK/kWh
------------	--------------

VAT: 25%

Enter 25 in **VAT (%)** based on the VAT, and enter 0.56 in **Surcharge (NOK/kWh)** based on the sum of the grid consumption fee and energy tax.

- Fixed/TOU tariff

Set the Tariff Type and Tariff respectively for **Feed-in Tariff** and **Consumption Tariff**.

- Fixed tariff: Rate charged for electricity consumed at different times of day is fixed.
- Feed-in/Consumption Based Tariff: You can set tiered rates for feed-in/consumption electricity during different time windows based on usage.

Feed-in Tariff(EUR)

Tariff Type
Feed-in Based Tariff

+Add Clear

☐	No.	Start Time	End Time	Tiered Electricity Consumption(kWh)	Tariff(EUR/kWh)	Action
☐	1	01/Jan	01/Dec	Total Electricity Consumption	1	
☐	2	Other Time Period		Not Set	Not Set	

Consumption Tariff(EUR)

Tariff Type
Consumption Based Tariff

+Add Clear

☐	No.	Start Time	End Time	Tiered Electricity Consumption(kWh)	Tariff(EUR/kWh)	Action
--------------------------	-----	------------	----------	-------------------------------------	-----------------	--------

- Time-of-Use Tariff: You may set different rates for electricity consumed in different time windows of day. The time windows cannot overlap.

Tariff Type
Time-of-Use Tariff

Time1

* Start Time * End Time * Tariff

Start Time End Time Please Enter

+ Add Time

* Other Time Period(EUR/kWh)

Please Enter

- Time-of-Use Tariff (Weekday+Weekend): You may set rates for electricity consumed in different time windows of day, for the weekday and the weekend separately.

Tariff Type
Time-of-Use Tariff (Weekday+Weekend)

Weekday Weekend

Time1

* Start Time * End Time * Tariff

Start Time End Time Please Enter

+ Add Time

* Other Time Period(EUR/kWh)

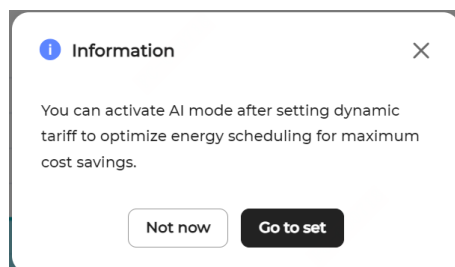
Please Enter



By selecting the **Reset Revenue** checkbox, you can reset the revenue since the plant was first connected to iSolarCloud.

Step 3 Click **Save**.

If the communication equipment includes iHomeManager and the current energy management mode is not AI Mode, when you set the tariff mode to **Dynamic Tariff** and click **Save**, the following prompt is displayed.



To activate AI Mode now, click **Go to set** to jump to the **Energy Management** page for configuration. For detailed instructions, see [5.3.2.2.1.6 AI Mode](#).

--End

4.3.8 Layout Settings

On the **Plant** page, click a plant name. You are directed to the **Overview** page by default. Then, choose **Layout Settings** on the left to go to the page for layout setting.

After optimizers or RSDs have been installed, you can set up the layout in the iSolarCloud system. Before proceeding with the layout setting, make sure you have completed the following steps:

1. Turn on the AC switches of all inverters, and turn off all DC switches.
2. Create a plant. See [4.2 Create Plant](#) for details.
3. Set up layouts based on the plant type. See [4.3.8.1 Layout Setup for Distributed PV Plant](#) or [4.3.8.2 Layout Setup for Residential PV Plant](#) for details.

4.3.8.1 Layout Setup for Distributed PV Plant

For a distributed PV plant, it is recommended to complete the layout setup by importing an Excel layout file.

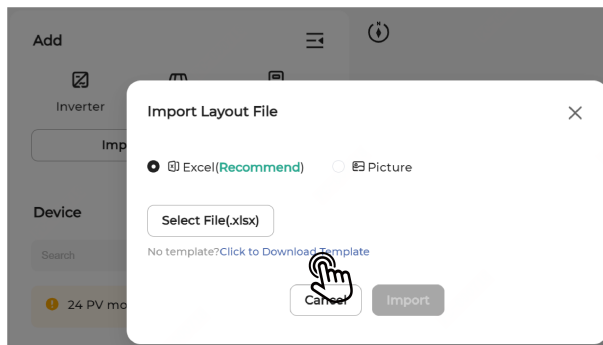


To save time during plant creation and commissioning, if the Excel layout template is available, you can create an Excel layout file in advance based on the template during on-site installation.

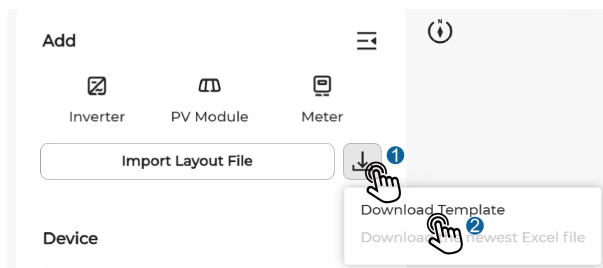
Step 1 Create an Excel layout file (skip this step if one is already created).

To obtain the Excel layout template, use one of the following download methods:

- Click https://file.isolarcloud.com/template/optimizer_sn_import/optimizer_sn_import_template_zh_CN.xlsx to download the template.
- On the **Layout Settings** page, click **Import Layout File** and then click **Click to Download Template**.



- On the **Layout Settings** page, click  next to **Import Layout File** and choose **Download Template**.



Follow the instructions on the **Demo** sheet to fill in layout data on the **Layout** sheet based on the actual physical layout of the plant.

NOTICE

You must strictly follow the instructions in the Excel template. The Demo sheet cannot be modified or adjusted.

Layout Template

Illustrate:

1. Please fill in the actual layout.
2. Fill in the actual inverter S/N and define the inverter number (the number starts from 1).
3. Fill in the S/N and the number of each optimizer/RSD following the rule: **inverter number-inverter string number-optimizer/RSD number** (e.g., the number of the first optimizer/RSD of the first inverter in the first string is 1-1-1).
4. Paint the cell where there is a PV panel but no optimizer with black, as shown in the figure.



Inverter	
S/N	
Inverter Number	

Optimizer/RSD	
S/N	
Optimizer/RSD Number	
S/N	
Optimizer/RSD Number	
S/N	
Optimizer/RSD Number	
S/N	
Optimizer/RSD Number	
S/N	
Optimizer/RSD Number	
S/N	
Optimizer/RSD Number	
S/N	
Optimizer/RSD Number	
S/N	
Optimizer/RSD Number	
S/N	
Optimizer/RSD Number	
S/N	
Optimizer/RSD Number	

Demo Layout

- Fill in the inverter S/N and assign a number to the inverter (starting from 1).
- Fill in the S/N and number of each optimizer/RSD. Follow the following format for the optimizer/RSD number: inverter number-inverter string number-optimizer/RSD number (e.g., the number of the first optimizer/RSD of the first inverter in the first string is 1-1-1).



In 2-in-1 optimizer/RSD scenarios where two modules are connected to a single optimizer/RSD, fill the same optimizer/RSD S/N and optimizer/RSD number for both modules in the Excel template.



It is recommended to use a QR code scanner to fill the optimizer/RSD S/N. Scan the QR code on the label of a device to automatically fill the S/N in the corresponding position of the Excel template.

- For the optimizer/RSD S/N and optimizer/RSD number, you can add rows and columns based on actual needs (up to 1000 rows and 1000 columns).

NOTICE

After completing the layout file, check against the following checklist to prevent import or parsing failures:

- The inverter S/N and inverter number cannot be empty or duplicated. The inverter number must be a number.
- The optimizer/RSD S/N and optimizer/RSD number cannot be empty or duplicated. The S/N must be 11 digits in length and cannot contain spaces.
- The imported Excel file cannot be empty or encrypted, or contain formulas.
- The same S/N cannot be contained on multiple canvases.
- No more than 35 optimizers/RSDs can be connected to a single string.
- The string number contained in the optimizer/RSD number cannot exceed 36.

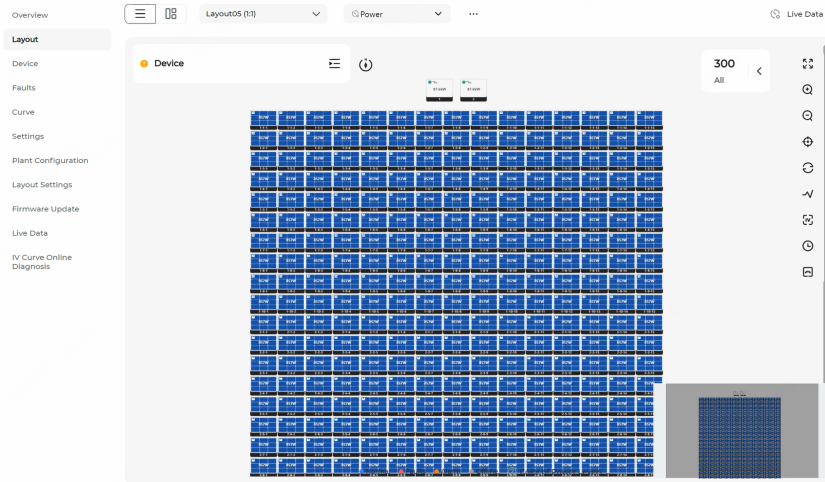
Step 2 Import the Excel layout file.

Click **Import Layout File**. In the **Import Layout File** pop-up window, choose **Excel**, click **Select File(.xlsx)**, select the file to be imported, and then click **Import**. The import progress of the layout file will be displayed on the page.

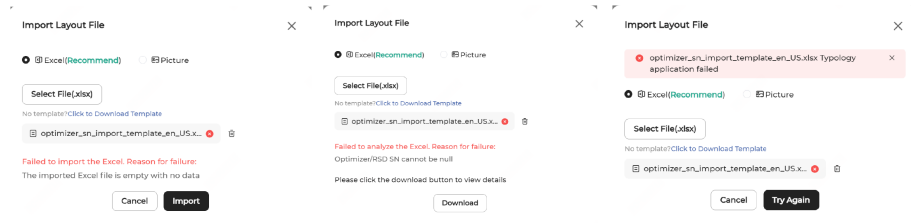


Step 3 View import results and handle exceptions.

After the import is complete, the system returns the **Layout import successful** message and redirect to the **Layout** page. You can view the imported layout.



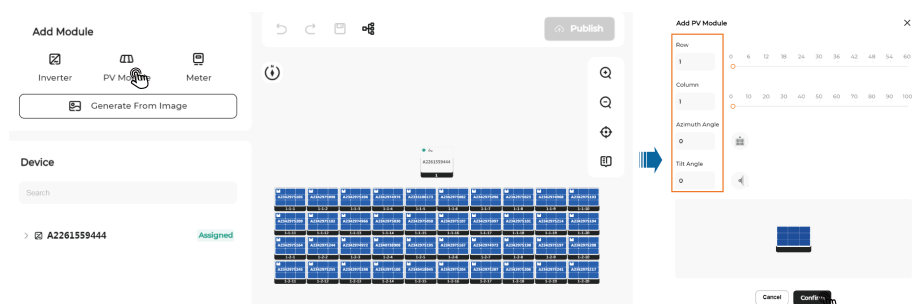
Take corresponding measures to handle exceptions.



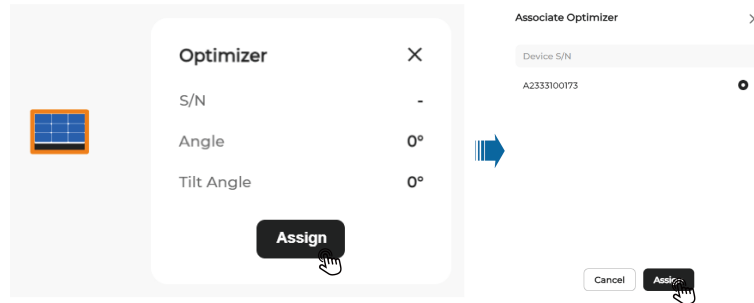
- If the Excel layout file fails to be imported or parsed, the failure reason will be displayed in the **Import Layout File** pop-up window. Modify the file accordingly and re-import it.
- To view details about the file that failed to be parsed for quick troubleshooting, click **Download**.
- If the topology fails to be applied, a prompt will be displayed in the pop-up window. Try again or try another file.

Step 4 If a module fails to be recognized, manually add the module and associate an optimizer/RSD S/N with it:

- Drag and drop the icon  to the layout. Then, fill in the module information such as **Row**, **Column**, **Azimuth Angle**, and **Tilt Angle**, and click **Confirm**.



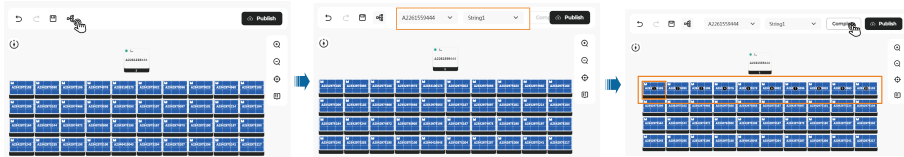
- Click the module, and click **Assign**. Then, select the S/N of the corresponding optimizer/RSD to associate it with this module.



Step 5 Adjust the position or orientation of modules as needed.

Press and hold Ctrl, select the modules to be adjusted on the canvas, and then drag or rotate them.

Step 6 Set up the logical layout:



- Click to select the inverter and string to be set.
- Click to drag the modules and arrange them in the correct order based on the actual wiring of the optimizers/RSDs, and then click **Complete**.
- In case modules are arranged incorrectly, right-click a module and choose **Clear**. After confirmation, the optimizer/RSD numbers of the current and subsequent modules will be cleared.

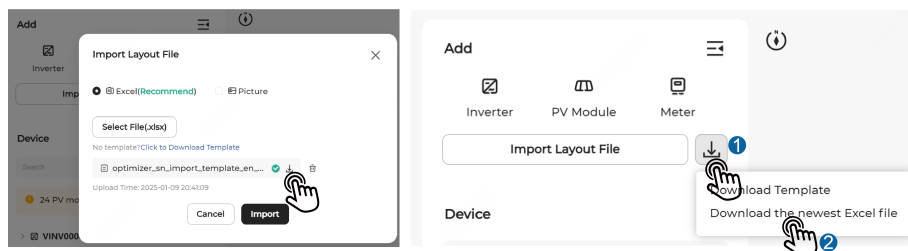
Step 7 Re-import the layout file if there are changes to the devices in the plant.

NOTICE

Re-importing the layout file for a layout will clear all current settings of the layout.

You can download the most recently uploaded history file by using one of the following methods, make adjustments, and then re-import it.

- Click **Import Layout File** and then click .
- Click next to **Import Layout File** and choose **Download the newest Excel file**.



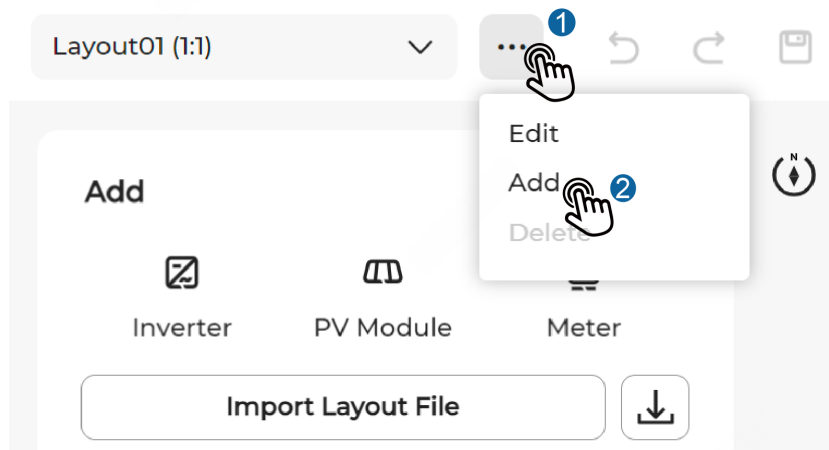
Step 8 After completing the layout setup, tap  in the upper right corner of the page to publish the layout.



If you do not want to publish the layout immediately, you can click  to save the current layout settings.

Step 9 If a plant is geographically scattered, add multiple layouts for the plant.

Click **...** at the top of the page, choose **Add**, set the **Physical Layout Name** and **Optimizer/Module Ratio**, and then click **Confirm**.



--End

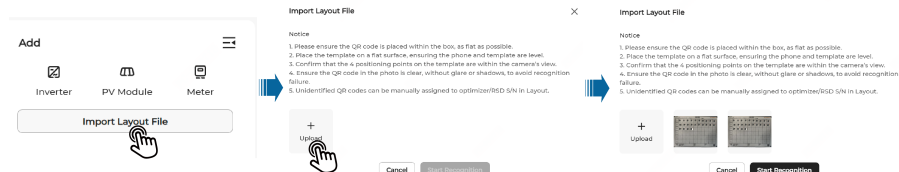
4.3.8.2 Layout Setup for Residential PV Plant

For a residential PV plant, it is recommended to complete the layout setup by importing the picture of the physical layout template.



The physical layout template is included in the scope of delivery of optimizers/RSDs. For usage instructions, refer to the guidance on the template.

Step 1 Click **Import Layout File**, and click  to upload the picture of the physical layout template for the plant. Then, click **Start Recognition**. The import progress of the layout file will be displayed on the page.

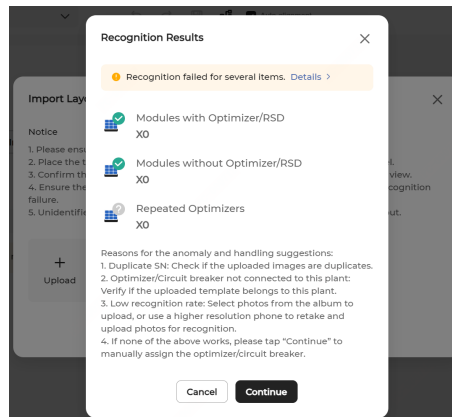


NOTICE

- Do not take photos of the physical layout template under strong light. Otherwise, the QR code may not be recognized due to reflection of light.
- Turn off the live photo function on the phone before taking a photo. Upload a still photo to ensure successful QR code recognition.
- Check the recognition result carefully. If the QR code cannot be recognized due to damage or folding, manually add the optimizer/RSD by its S/N.

Step 2 View import results and handle exceptions.

After the import is complete, the system returns the **Layout import successful** message and redirects to the **Layout** page. You can view the imported layout. Take corresponding measures to handle exceptions.



Step 3 To adjust the imported layout, see Steps 4 to 7 in [4.3.8.1 Layout Setup for Distributed PV Plant](#).

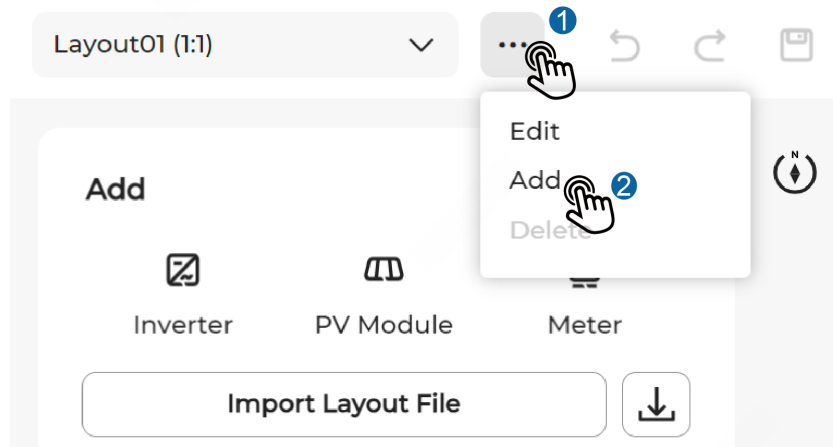
Step 4 After completing the layout setup, tap  in the upper right corner of the page to publish the layout.



If you do not want to publish the layout immediately, you can click  to save the current layout settings.

Step 5 If a plant is geographically scattered, add the layouts for the other areas of the plant.

Click ******* at the top of the page, choose **Add**, set the **Physical Layout Name** and **Optimizer/Module Ratio**, and then click **Confirm**.

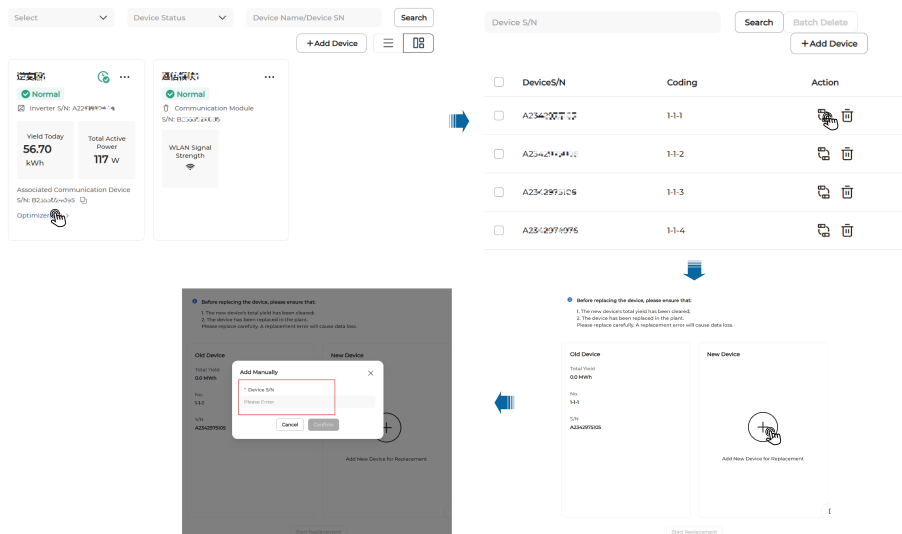


--End

4.3.8.3 Replace/Delete/Add Optimizer or RSD

Go to “Device” and switch to the card view. For details, see [4.3.3 Plant Device](#).

Replace Optimizer or RSD



1. Click “Optimizer” or “RSD” at the bottom of the inverter card.
2. Find the S/N of the optimizer or RSD to be replaced, and click on its right.
3. Click , enter the S/N of the new device, and then click **Start Replacement**.



After replacement, the new device will take the place of the old device in the layout automatically and thus does not need to be added again.

Delete Optimizer or RSD

Device S/N		Search	Batch Delete	+ Add Device
☐	DeviceS/N	Coding	Action	
☐	A2342970105	1-1-1		
☐	A2342970000	1-1-2		
☐	A2342970003	1-1-3		

In the optimizer or RSD list, choose a device and click in the Action column, or select multiple devices and click **Batch Delete** in the upper right corner, to delete the device(s).

Add Optimizer or RSD

Device S/N	Search	Batch Delete	+ Add Device
☐	DeviceS/N	Coding	Action
☐	A234270005	111	
☐	A234270000	112	
☐	A234270001	113	
☐	A234270002	114	
☐	A234270003	115	
☐	A234270004	116	
☐	A234270006	117	

A2345682786 1String 1No Clear

Click Confirm to save the added device.

No Data

In the optimizer or RSD list, click **Add Device**. Then, enter the device S/N, select the string and the number, and then click **Add**. After the device has been added, click **Confirm** at the bottom of the page.

4.3.9 Firmware Update

Click on a plant name on the “Plant” page. You will go to the **Overview** tab page by default. Click **Firmware Update** on the left. Here you can update the device in the plant.

See [5.4 Firmware Update](#) for details.

4.3.10 Live data

Click on a plant name on the “Plant” page. You will go to the **Overview** tab page by default. Click **Live Data** on the left to go to the “Live Data” page.

See [6.4 Live data](#) for details.

4.3.11 IV Curve Online Diagnosis

Click on a plant name on the “Plant” page. You will go to the **Overview** tab page by default. Then, click **IV Curve Online Diagnosis** on the left to go to the “IV Curve Online Diagnosis” page.

See [6.5 IV Curve Online Diagnosis](#) for details.

4.3.12 Strategy Configuration

Click a plant name on the **Plant** page, and you will go to **Overview** by default. Choose **Strategy configuration** on the left. On the page that opens, configure **Energy management**, **Power control**, and **System settings** for the plant.



- The **Strategy configuration** function is only applicable to **Commercial & Industrial ESS** plants. The default control strategies may vary by region. Please refer to the actual interface.
- For configurations in Japan's HV scenarios, refer to *iSolarCloud O&M User Manual (Japan's HV Scenarios)*.

4.3.12.1 Energy Management

4.3.12.1.1 Energy Management Mode

You can select appropriate control strategy to configure the charging and discharging power settings for different time periods based on electricity rates across different periods. The ESS will charge or discharge at the specified power within the specific time periods, thereby reducing electricity costs.

4.3.12.1.1.1 Self-Consumption

The **Self-consumption** mode maximizes the utilization of PV output and battery energy to power the loads, thus minimizing grid energy consumption. Users can configure specific time periods for **Allow discharging** and **Force charging** based on electricity rates to optimize energy costs.

- When the PV output power is sufficient, the energy will be first supplied to the loads, with the excess stored in the battery. If, after this, there is still energy surplus, it will be fed into the grid.
- If the PV output power is insufficient to meet the load demand, the system discharges the battery to compensate. If the battery capacity is insufficient, the system draws power from the grid to meet the load demand.

Common parameter settings

Energy management | Power control | System parameters

Self-Consumption | Time plan | Compulsory mode | VPP | Mode description

Threshold on power purchase (demand control)(kW) ①
0.0
Range:[0.0, 999999.9]

Threshold on power feed-in (demand control)(kW) ②
0.0
Range:[0.0, 999999.9]

☐ Custom month span ③

Step 1 On the **Energy management** page, click **Energy management mode** and select the **Self-consumption** mode.

Step 2 Set the **Threshold on power purchase (demand control)** and **Threshold on power feed-in (demand control)**.

- **Threshold on power purchase (demand control):** When the power imported from the grid exceeds the set threshold, the battery will cover the excess demand.
- **Threshold on power feed-in (demand control):** When the power fed into the grid exceeds the set threshold, the excess will be used to charge the battery.

Step 3 Enable **Custom month span**. For details, see [4.3.12.1.1.1 Custom Month Span](#).



If **Custom month span** is disabled, the battery is allowed to discharge all day (24 hours) without charging.

Step 4 Click **Apply settings**.

--End

4.3.12.1.1.1 Custom Month Span

In the **Self-consumption** mode, users can set battery charging/discharging plans to optimize the energy usage and management. With properly set battery charging/discharging windows, the system maximizes the use of PV output during on-peak hours and reduces the energy purchased from the grid during off-peak hours, thus lowering the electricity costs.

Function Logic

- **Allow discharging:** The battery is allowed to discharge to supply the loads in the specified time period. All-day by default (24 hours).
- **Force charging:** Charge the battery at the maximum allowable power in a specific time period until the target SOC is reached. If the PV output cannot meet the battery charging power demand, the system is allowed to charge the battery with energy from the grid.



Battery discharging and charging windows can overlap. Force charging takes priority if a time window allows both battery discharging and force charging.



Step 1 Enable **Custom month span**.

Step 2 Set the desired month span. You can set different time windows based on seasonal energy demand patterns.

Step 3 Select the days on which the battery charging/discharging plan applies.

You can apply the charging/discharging plan to all days, or set different charging/discharging plans for weekdays and weekends. The plan applies to every day by default.

- **Every day:** The set charging/discharging plan applies on all days. This option is ideal for scenarios where the daily energy demand is relatively stable.
- **Weekdays & weekends:** Set different charging/discharging plans for weekdays and weekends.

Step 4 To add more month spans, click **Add** to the right of the default month span name.

You can select a month span and click  to modify its name or delete it.

Step 5 Tap a time period in the **Allow discharging** time bar. A new discharging window will be created (1 hour by default). Then, drag the left or right boundary of the window to adjust the length of time.

Step 6 Tap a time period in the **Force charging** time bar. A new charging window will be created (1 hour by default). Then, drag the left or right boundary of the window to adjust the length of time.

Click a time window that has been added, set a charging target in **Target SOC (%)**.

--End

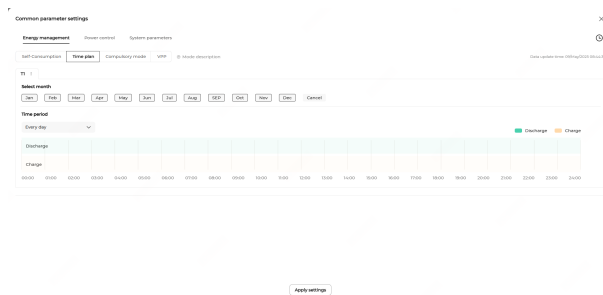
4.3.12.1.1.2 Time Plan

The **Time plan** mode is mainly used in electricity transaction scenarios. You can set the time windows and power for battery charging/discharging manually, according to the on- and off-peak electricity prices, to maximize the economic benefits.

It is recommended to allow the battery to discharge during on-peak hours (when electricity prices are higher) and charge during off-peak hours (when electricity prices are lower).

Function Logic

- Discharging window: The battery discharges at the predefined discharging power within the set time period until it is fully discharged.
- Charging window: The battery charges at the predefined charging power within the set time period until it is fully charged.



Step 1 Navigate to the **Energy management** page and select the **Time plan** mode.

Step 2 Set the desired month span. You can set different time windows based on seasonal energy demand patterns.

Step 3 Select the days on which the battery charging/discharging plan applies.

You can apply the charging/discharging plan to all days, or set different charging/discharging plans for weekdays and weekends. The plan applies to every day by default.

- **Every day:** The set charging/discharging plan applies on all days. This option is ideal for scenarios where the daily electricity price is relatively consistent.
- **Weekdays & weekends:** Set different charging/discharging plans for weekdays and weekends.

Step 4 To add more month spans, click **Add** to the right of the default month span name.



Before adding a month span, you must first configure the charging and discharging time periods for the current season.

You can select a month span and click  to modify its name or delete it.

Step 5 Tap a time period in the **Discharge** or **Charge** time bar. A new discharging or charging window will be created (1 hour by default). Then, drag the left or right boundary of the window to adjust the length of time.



The charging and discharging windows cannot overlap.

The battery will not discharge in a time period with no settings. If the PV output is insufficient, the system purchases energy from the grid to meet the load demand, and allows the battery to charge from the excess PV energy.

Step 6 Click a time window that has been added, set the discharging or charging power in **Power**.

Step 7 Click **Apply settings**.

--End

4.3.12.1.1.3 Time-of-Use Power

Time-of-use power management consists of two key steps:

- **Configure Time-of-Use Power Templates**
Define the charging and discharging schedule for the energy storage system across different periods of the day. The configured templates are stored in the template list for strategy configuration.
 1. On the **Energy management** page, click **Energy management mode** and select **Time-of-use power**.
 2. When you enable time-of-use power for the first time, a time-of-use power template must be created to define the charging and discharging schedule for different time periods. The system supports two time granularities: 30-minute interval, and 1-second interval. The following sections provide detailed setup instructions for each.



The first created time-of-use power template is designated as the default template, which can be modified but not deleted.

- **30-Minute Interval Configuration:**
 - a. When you enter the **Time-of-use power** page for the first time, the **Time-of-use power template settings** pop-up window will appear.

Time-of-use power template settings

The settings of the time-of-use power templates in the 30min and 1s modes must be set separately due to different data precision.

Template name

Please enter 30 min

Import template Template export

Time period The template must cover 24 hours with no overlaps.

Charge Discharge No charging/discharging

Tip

Peak

Flat

Valley

Deep valley

00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 24:00

Save



The following steps demonstrate how to manually configure the charging and discharging schedule for a day. Alternatively, an existing template can be imported using the Import template button.

- b. Enter a custom **Template name**.
- c. Select **30min** as the time unit.
- d. Click the Critical peak, Peak, Shoulder, Valley, and Deep valley sections respectively to select time blocks. Drag the handles on the two sides of the selected block to adjust its duration.

Time-of-use power template settings

The settings of the time-of-use power templates in the 30min and 1s modes must be set separately due to different data precision.

Template name

Please enter 30 min

Import template Template export

Time period The template must cover 24 hours with no overlaps.

Charge Discharge No charging/discharging

Tip

Peak

Flat

Valley

Deep valley

00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 24:00

Save

To delete a selected time period, click the Close icon in the upper right corner of the selected block.

- e. Click a time block to configure charging and discharging parameters. Click **Confirm** to apply the settings.

Time-of-use power template settings

The settings of the time-of-use power templates in the 30min and 1s modes must be set separately due to different data precision.

Template name

Please enter 30 min

Import template Template export

Time period The template must cover 24 hours with no overlaps.

Charge Discharge No charging/discharging

Tip

Peak

Flat

Valley

Deep valley

00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 24:00

Save

Charging/discharging

Charge

Power(kW)

0

Range [0.00-275.00]

Cancel Confirm

Charging/discharging: Select **Charge**, **Discharge**, or **No charging/discharging**.

Power: Set the charging and discharging power based on actual needs.

- f. Repeat steps d to e until the entire 24-hour period is defined without overlaps.
- g. Click **Save** to save the settings.

- h. The created template will appear in the Template list on the right panel.

1-Second Precision Configuration:

- a. When you enter the **Time-of-use power** page for the first time, the **Time-of-use power template settings** pop-up window will appear.



The following steps demonstrate how to manually configure the charging and discharging schedule for a day. Alternatively, an existing template can be imported using the Import template button.

- b. Enter a custom **Template name**.
- c. Select **1s** as the time unit.

No.	Select period	Start time	End time	Charging/discharging	Power(KW)	Action
1	Deep valley	00:00:00	06:00:00	No charging/discharg...	0.00	
2	Valley	06:00:00	10:00:00	Discharge	100.00	
3	Peak	10:00:00	18:00:00	Discharge	100.00	
4	Flat	18:00:00	22:00:00	Charge	100	

- d. Click **Add** and configure the following parameters.

Parameter	Description
Select period	Click to choose from Critical peak, Peak, Shoulder, Valley, and Deep valley.
Start time	Set the start time (in HH:MM:SS format).
End time	Set the end time (in HH:MM:SS format).
Charging/ discharging	Select a status for the period from Charge, Discharge, or No charging/discharging.
Power (KW)	Enter a fixed power value, up to the rated power.

- e. Repeat step d until the entire 24-hour period is defined without overlaps.
f. Click **Save** to save the settings.

No.	Select period	Start time	End time	Charging/discharging	Power(KW)	Action
1	Deep valley	00:00:00	06:00:00	No charging/discharg...	0.00	
2	Valley	06:00:00	10:00:00	Discharge	100.00	
3	Peak	10:00:00	18:00:00	Discharge	100.00	
4	Flat	18:00:00	22:00:00	Charge	100	

- g. The created template will appear in the Template list on the right panel.

3. (Optional) Add a time-of-use power template. If the existing time-of-use power templates do not meet requirements, a new template can be added.
 - a. Click **Add new template** above the template list.

- b. Configure the template following the steps outlined in .
 - c. The created template will appear in the Template list on the right panel.

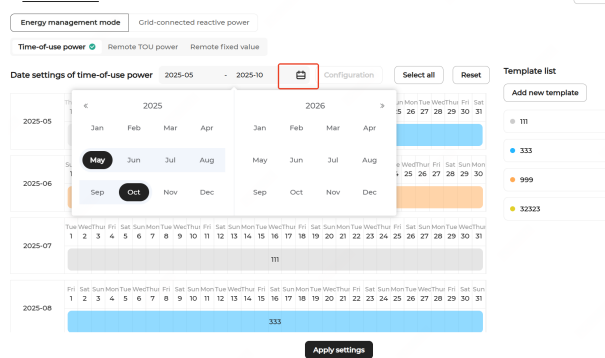


Up to 10 templates are supported.

4. (Optional) Edit an existing time-of-use power template. Click the Edit icon of the desired template to edit it.
5. (Optional) Delete a time-of-use power template. Click the Delete icon of the desired template to delete it.
- **Configure Time-of-Use Power Strategies**
 Select a time period and define the charging and discharging schedule for the energy storage system during that period.
 1. On the Strategy configuration page, choose **Energy management > Energy management mode > Time-of-use power**.
 2. Click the calendar icon marked by the rectangular red box, as shown in the following figure, to select a target period (e.g., a specific month).

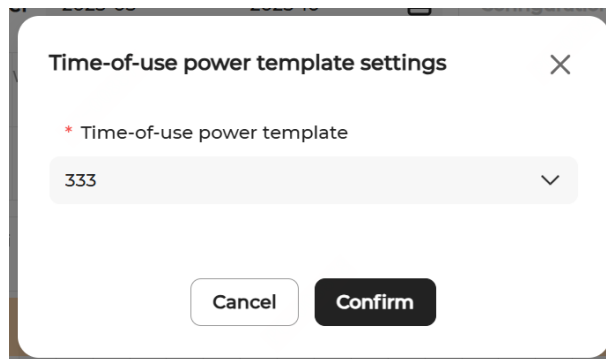


The system applies a default time-of-use power template initially. Modify or replace it as needed.

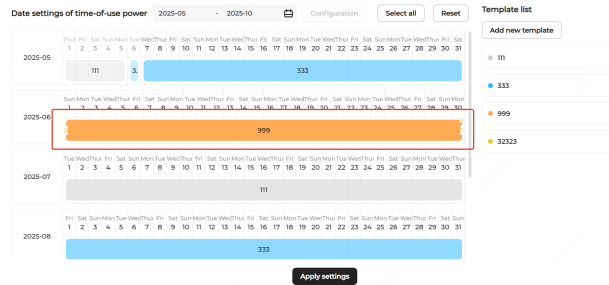


3. Choose an appropriate time-of-use power template to configure the time-of-use power strategy:

- If the same strategy applies to all days in the selected period, select all dates using the **Select all** option, then click **Configuration**. In the pop-up window, select the desired time-of-use power template and click **Confirm**. The configured strategy will apply to all selected days.



- If different strategies apply to different days (e.g., differentiating weekdays and weekends), hover over a specific date, select a single day or a date range, then click **Configuration**. In the pop-up window, select the desired time-of-use power template and click **Confirm**. The configured strategy will apply only to the selected days.
4. Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.
 5. (Optional) Delete a time-of-use power strategy.
 - a. Hover over the configured time block you want to delete, and click the Close icon in the upper right corner of the time block.



- b. Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

4.3.12.1.1.4 Self-Consumption

The **Self-Consumption** mode maximizes the utilization of PV output and battery energy to power the loads, thus minimizing grid energy consumption. Users can configure specific time periods for **Allow Discharging** and **Force Charging** based on electricity rates to optimize energy costs.

See [5.3.2.1.2.3 Compulsory Mode](#).

4.3.12.1.1.5 VPP

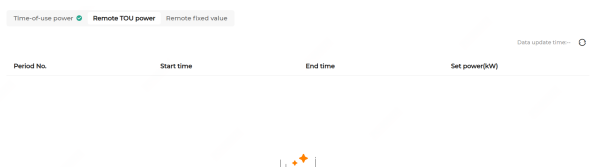
The **VPP** mode is mainly used when a third-party VPP provider is involved. In this mode, the system operates according to the feed-in power and battery charging/discharging commands from the VPP provider.

See [5.3.2.1.2.4 VPP](#).

4.3.12.1.1.6 Remote Time-of-Use Power Management

Third-party scheduling units can allocate and adjust the output power in different time periods based on grid demand and power generation resources to ensure stable grid operation. On the **Remote TOU power** page, users can view power settings for each time period but cannot modify the parameters.

Step 1 Choose **Energy management mode > Remote TOU power**.



Step 2 View power allocation information for each time period sent by the third-party dispatch unit on this page. Take note of the following items:

- Each row on the page shows the charging or discharging status of the ESS during a specific time period.
- Set power: A positive value indicates that the ESS is discharging, while a negative value indicates that the ESS is charging.

--End

4.3.12.1.1.7 Remote Fixed Value

This function is used to make the plant output active power according to the target value remotely set in Third party scheduling mode.

Step 1 Choose **Energy management > Energy management mode > Remote fixed value**.

The screenshot shows the 'Energy management' section with tabs for 'Energy management mode', 'Power control', and 'System settings'. The 'Energy management mode' tab is active, showing sub-tabs for 'Self-Consumption', 'Time plan', 'Compulsory mode', 'VPP', 'Remote fixed value', and 'Mode description'. The 'Remote fixed value' sub-tab is selected. It contains three input fields: 'Set value (remote)(MW)' with a value of 101.0000, 'Active power control dead zone(kW)' with a value of 1.000 and a range of [1.000-3.000], and 'Scheduled object' with a dropdown menu showing 'Energy storage system'. There is also a 'Control priority' dropdown menu showing 'Schedule first'. An 'Apply settings' button is located at the bottom right of the configuration area.

Step 2 Configure the following parameters.

Parameter	Description
Set value (remote) (MW)	Shows the remotely set active power when the scheduling mode is set to Third party scheduling.
Active power control dead zone (kW)	Set this parameter based on the actual power of the plant. It is recommended to set this parameter to 1% of the rated power. It defines the range within which the target active power value can fluctuate. For example, if the target active power of the grid-connected point is 10 KW, and the control dead zone is set to 5 KW, then the target active power of the grid-connected point can range from 5 KW to 15 KW.
Scheduled object	This parameter takes effect only when the Control priority is set to Schedule first. Grid-connection point: The target power value set in active power control will be used to perform

Parameter	Description
	closed-loop control for the power of the grid-connection point. Energy storage system: The target power value set in active power control will be used to perform closed-loop control for the power of the ESS.  This item is valid when active power control is enabled alone. If other control strategies such as overload protection are enabled, the target power value will be used to perform closed-loop control on the power of the grid-connection point.
Control priority	- Local first: When the power command from third-party scheduling conflicts with the local control strategy, the local control command will be prioritized. - Schedule first: When the power command from third-party scheduling conflicts with the local control strategy, the third-party scheduling command will be prioritized.

Step 3 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

4.3.12.1.1.8 Cloud Scheduling

Step 1 If **Cloud scheduling** is selected, the ESS can receive scheduling commands from the cloud platform.

--End

4.3.12.1.2 Grid-connected Reactive Power

Step 1 Choose **Energy management > Grid-connected reactive power**.

Step 2 Click  to set **Function enable/disable**.

- **Enable:** Enable the grid-connected reactive power function. Select one of the following modes and configure the relevant parameters.

- **Optimized power factor control:**

Used to adjust the power factor to reduce the power factor adjustment charges. If you select this mode, configure the following parameters:

Parameter	Description
Grid-connected point PF target value	Set this parameter according to actual conditions. If the power factor of the grid-connection point is less than the set target value, the target reactive power value of the grid-connection point can be calculated on the basis of the set target value and the active power value of the grid-connection point, and then the reactive power can be regulated by the ESS and PV system.
Execute strategy only when ESS is discharging	Set this parameter according to actual conditions. Default value: No . • Yes: When the grid power factor decreases, the optimized power factor control strategy will only be executed during discharging of the ESS. • No: When the grid power factor decreases, the optimized power factor control strategy will be executed during charging, discharging, and zero power output of the ESS.

- **Remote fixed value:**

This function is used to make the plant output reactive power according to the target value remotely set in Third party scheduling mode.

Parameter	Description
Remotely set value (Mvar)	Shows the remotely set reactive power when the scheduling mode is set to Third party scheduling.
Control dead zone (kvar)	Set this parameter according to actual conditions. It limits the range within which the target reactive power value can fluctuate. For example, if the target reactive power of the grid-connected point is 10 kvar, and the control dead zone is set to 5 kvar, then the target reactive power of the grid-connected point can range from 5 kvar to 15 kvar.

- **Disable:** Disable the reactive power control function.

Step 3 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

4.3.12.1.3 Fast Frequency Response

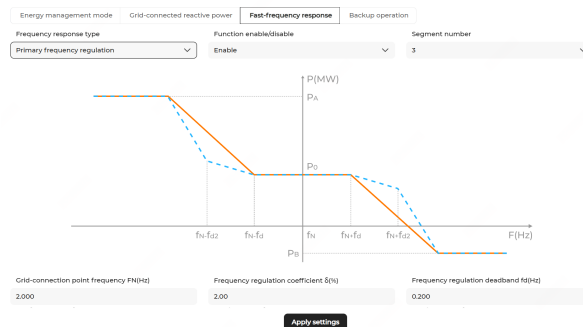
Fast frequency response is used to measure the frequency at the grid-connection point in real time and perform auto control accordingly to keep the frequency within a safe range.

Choose **Energy management > Fast-frequency response**.

4.3.12.1.3.1 Primary Frequency Regulation

Step 1 Click  below **Frequency response type**. Select **Primary frequency regulation**.

Step 2 Set **Function enable/disable** and **Segment number**.



The figure is for reference only. The actual user interface may differ.

Step 3 Configure the frequency regulation parameters. The descriptions of the parameters are shown below.

Parameter	Description
f_N	Rated frequency of grid-connection point

Parameter	Description
$\delta\%$	Frequency regulation coefficient ($\delta\% = -\Delta f(\%) / \Delta P(\%)$)
f_d	Frequency regulation dead zone
P_A	Maximum output active power
P_B	Maximum active power absorbed
α_1	Lower limit of active power limit coefficient
α_2	Upper limit of active power limit coefficient
δ_2^*	Frequency regulation II regulation coefficient
f_{d2}^*	Frequency regulation II dead zone

*Parameters required to be set when Segment number is set to 5.



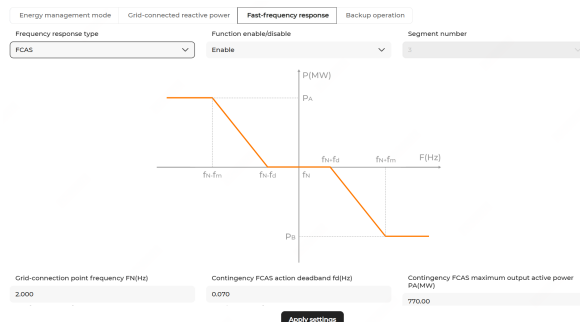
The active power limit coefficient is the absolute value of the ratio of the active power output increment limit against the rated power of energy storage.

Step 4 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

4.3.12.1.3.2 FCAS

Step 1 Click  below **Frequency response type**. Select **FCAS**.



Step 2 Set **Function enable/disable**.

- **Enable:** Enable the function. Proceed to subsequent configurations.
- **Disable:** Disable the function.

Step 3 (Optional) Complete the secondary frequency regulation settings.

Parameter	Description
Secondary frequency regulation lockout	Default value: Disable. • Enable: Enable secondary frequency regulation. • Disable: Disable secondary frequency regulation.
Lockout error of secondary frequency regulation	Set this parameter when Secondary frequency regulation lockout is set to Enable. The default value is recommended. This parameter is used for coordinated control of primary and secondary frequency regulation. When the grid frequency deviation is less than the value of this parameter, secondary frequency regulation (i.e., receiving AGC commands) and primary frequency regulation will be combined, regardless of whether they are in the same or opposite directions. When the grid frequency deviation exceeds the value of this parameter, the secondary frequency regulation lockout strategy is executed, and combination will not be performed.

Step 4 Configure the frequency regulation parameters. The descriptions of the parameters are shown below.

Parameter	Description
f_N	Rated frequency of grid-connection point
f_d	Contingency FCAS action deadband
P_A	Contingency FCAS maximum output active power
P_B	Contingency FCAS maximum absorption active power
f_m	Contingency FCAS frequency deviation threshold for full-scale response

Step 5 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

4.3.12.1.4 Backup Operation

In the event of off-grid startup, if the PV system supplies power to both the ESS and the loads, you can set different PV active power values for different power supply scenarios.



This function is applicable to off-grid scenarios.

Step 1 Choose Energy management > Backup operation.

Step 2 Configure the following parameters:

Parameter	Description
Charging protection SOC (%)	Charging stops when the ESS SOC reaches this threshold. Default value: 90. Range: 0–100. One decimal place is supported.
Charging protection SOC deadband setpoint	It limits the range within which the target charging protection SOC value can fluctuate. Default value: 2. Range: 0–100. One decimal place is supported.
SOC threshold for stopping DG & starting ESS	When the ESS SOC reaches this threshold, the diesel generator will shut down. Default value: 80. Range: 0–100. One decimal place is supported. This parameter is displayed only when diesel generators are connected to the plant.
SOC threshold for starting DG	When the ESS SOC reaches this threshold, the diesel generator will start. Default value: 15. Range: 0–100. One decimal place is supported.

Parameter	Description
	 This parameter is displayed only when diesel generators are connected to the plant.
SOC threshold for stopping ESS	When the ESS SOC is less than or equal to this threshold, discharging is prohibited. Default value: 10. Range: 0–100. One decimal place is supported.
Illuminance for starting PV (W/m²)	When the PV irradiance reaches this value, the PV equipment starts. Default value: 50. Range: 0–100. One decimal place is supported.
Energy storage fast charging setting	When the system supplies power to both the ESS equipment and the loads, PV active power = energy storage fast charging setting × current minimum charging power allowed by ESS equipment + load power. Default value: 0.8. Range: 0–1. Two decimal places are supported.
Load factor K2	When the ESS equipment is fully charged and power is supplied only to the loads, PV active power = K2 × load power. Default value: 0.98. Range: 0–1. Two decimal places are supported.
Regular load power (kW)	Set this parameter to the total power demand value of all electrical equipment and loads in the system except chargers. The default value is 10 kW. The maximum value cannot exceed the maximum discharge capacity of the ESS. Default value: 10. The set value must be greater than 0. One decimal place is supported.  This parameter is displayed only when chargers are connected to the plant.
SOC threshold to stop supplying power to charger (%)	Set this parameter to the product of the Regular load power and the expected power supply duration. The expected power supply duration is determined based on the needs of the user. When the SOC of the ESS (number of available energy storage units × remaining power of a single energy storage

Parameter	Description
	unit) falls below the value of this parameter, the system will stop supplying power to the chargers. Default value: 50. Range: 0–100. Only integers are supported.  This parameter is displayed only when chargers are connected to the plant.
ESS VSG frequency adjustment amount (Hz)	Default value: 0. Range: -0.3 to 0.3. Two decimal places are supported.  This parameter is displayed only when ATs are connected to the plant.
Diesel generator startup timeout threshold	Default value: 5. Range: 0–15. One decimal place is supported.  This parameter is displayed only when ATs and diesel generators are connected to the plant, and it takes effect only when diesel generators are controlled via DO ports.

The matrix of parameter settings and ESS SOC levels under the Backup operation control strategy is as follows:

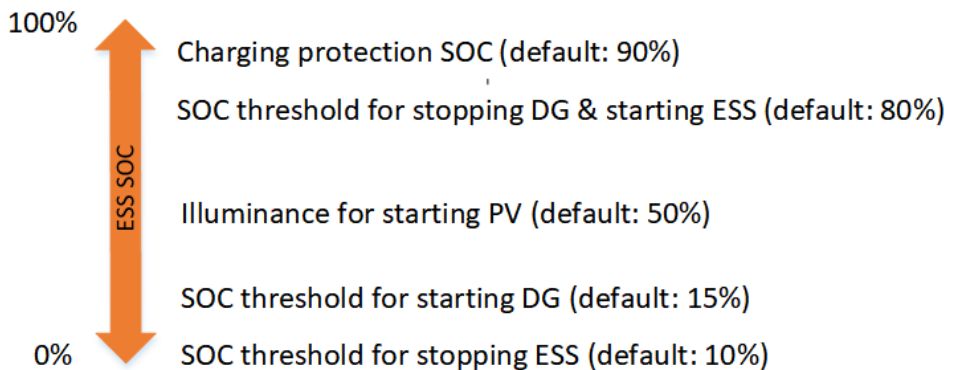


Figure 4-4

Step 3 (Optional) Configure **VSG parameter management**. After you configure the following parameters, the system can independently maintain stable voltage and frequency in off-grid mode, ensuring reliable power supply to the load.



- **VSG parameter management** is displayed only when ST200CS or ST255CS devices are connected to the plant.
- If you do not want to use this function in the plant, select **Disable**.

- **Enable:** Enable the function. Configure the following parameters. Then, the system will send the configured parameters to the LC.

Parameter	Description
Output voltage setpoint (V)	Default value: 340. Range: 340–440.
Output frequency setpoint (Hz)	Default value: 48. Range: 48–52.
Active power-frequency droop coefficient	Default value: 1. Range: 1.0–4.0.
Reactive power-voltage droop coefficient	Default value: 1. Range: 1.0–2.0.
Sent active power setpoint (kW)	Default value: 0. The maximum value cannot exceed the rated power of the LC.
Sent reactive power setpoint (kvar)	Default value: 0. The maximum value cannot exceed the rated power of the LC.

- **Disable:** Disable the function.

Step 4 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

4.3.12.2 Power Control

4.3.12.2.1 Demand Control

After you set the maximum demand threshold, the system will intelligently regulate the charging and discharging behavior of energy storage devices to ensure that the real-time power at the grid-connection point remains below this threshold. This effectively reduces demand charges.

Step 1 Choose **Power control > Demand control**.

Step 2 Click  to set **Function enable/disable**.

- **Enable:** Enable the demand control function. Proceed to subsequent configurations.

Energy management **Power control** System settings

Demand control Reverse power protection Overload protection Power backup SOC protection

Function enable/disable
Enable

Select strategy
Max. actual demand

Lower limit for demand control(kW)
222.0
Range:[0.0-9,999,999.0]

Allow ESS to discharge or not
No

Apply settings

- **Disable:** Disable the demand control function.

Step 3 Set **Allow ESS to discharge or not**.

- **Yes:** The ESS is allowed to discharge to supply the load in addition to reducing the charging power in demand control.
- **No:** The ESS is allowed to reduce the charging power but not to discharge in demand control.



When **Allow ESS to discharge or not** is set to **No**, if the ESS is discharging and the demand control strategy is enabled, the strategy will not be executed.

Step 4 Select an option in **Select strategy**. Options include **Max. contract demand** and **Max. actual demand**.

- **Max. contract demand** (static demand)
In ESS or PV+ESS scenarios, power is consumed in charging the ESS and supplying the load, which may cause the demand value to become excessively high. However, the EMS can reduce the charging power of the ESS based on the set static demand (Max. contract demand) value, to ensure that the static demand is not exceeded in planned charging of the ESS (e.g., when the time-of-use power control strategy is enabled). If the power at the point of common coupling (PCC) still exceeds the demand, the ESS can discharge to meet load consumption. In this case, set **Allow ESS to discharge or not** to Yes.

Demand control Reverse power protection Overload protection Power backup SOC protection

Function enable/disable
Enable

Select strategy
Max. actual demand

Lower limit for demand control(kW)
222.0
Range:[0.0-9,999,999.0]

Allow ESS to discharge or not
No

- **Max. actual demand** (dynamic demand)

In ESS-only or PV+ESS scenarios, the EMS collects the real-time demand value from the PCC meter. (The value is dynamic and refreshed whenever the power drawn from the grid at the PCC exceeds the history maximum value.) The EMS controls the ESS to reduce the charging power, ensuring that the maximum demand is not exceeded in planned charging of the ESS. If the power at the PCC still exceeds the demand, the ESS can discharge to meet load consumption. In this case, set **Allow ESS to discharge or not** to Yes.

The descriptions of the demand control parameters are as follows.

Demand Control Strategy	Description
Max. actual demand	Set the value to the real-time demand of the gateway meter. You must also set the Lower limit for demand control (kW). If the meter's real-time demand value falls below the set Lower limit for demand control, the set Lower limit for demand control will be adopted as the maximum allowable demand. Range: 0.0-999999.0 kW. Default value: 100 kW.
Max. contract demand	Set the value to the maximum contract demand. In this case, you must also set Max. allowable demand (kW) to the maximum contract demand. Range: 0.0-999999.0 kW. Default value: 0.

Step 5 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

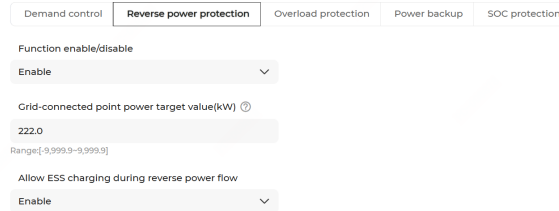
4.3.12.2.2 Zero Export

The zero export strategy prevents the PV-ESS system from feeding power into the grid. If the discharging power of the PV-ESS system exceeds the load power, the system will automatically reduce the PV output, lower the ESS discharging power, or charge to prevent power back-feeding.

Step 1 Choose **Power control > Zero export**.

Step 2 Click  to set **Function enable/disable**.

- **Enable:** Enable the zero export function. Configure the following parameters.



Parameter	Description
Grid-connected point power target value (kW)	This value is ≤ 0 by default. It is recommended to set this value to -1% to -2% of the rated active power of the ESS. When the actual power of the grid-connected point exceeds the set target value, the system will automatically reduce the PV output or charge the ESS.
Allow ESS charging during reverse power flow	- Enable In ESS-only scenarios, when zero export is enabled, the EMS controls the ESS discharging power to be not higher than the actual load consumption power to prevent power back-feeding at the grid-connection point. In PV-ESS scenarios, when zero export is enabled, the EMS will appropriately limit the PV power output, and control the ESS to reduce discharge or switch to charging mode, ensuring that no power is fed into the grid at the grid-connection point. - Disable When PV power is output normally and the ESS is discharging, if power back-feeding is detected at the grid-connection point, the EMS enables the zero export function. In this case, the EMS will first reduce the ESS discharge power until power back-feeding is eliminated. If the ESS discharge power is reduced to 0 and power back-feeding persists, the EMS allows power back-feeding to exist and does not take further action.

- **Disable:** Disable the zero export function.

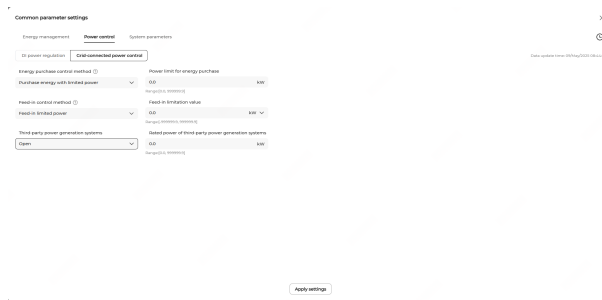
Step 3 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

4.3.12.2.3 Grid-connection Power Regulation

To ensure electrical safety and regulatory compliance, users need to set a proper feed-in power limit based on the requirements of the local grid operator, preventing the feed-in power of the system from exceeding the allowable range. In addition, based on the rated specification of the household main switch, users need to accurately set the energy purchase power limit to effectively prevent tripping caused by power overload.

Step 1 Access the **Power control** page and select **Grid-connected power control**.



Step 2 In the **Energy purchase control method** drop-down list, select **No limit** or **Purchase energy with limited power**.

Step 3 If **Purchase energy with limited power** is selected, set a proper power limit in **Power limit for energy purchase** based on the rated current of the main power source equipment that is connected to the system.

Step 4 In the **Feed-in control method** drop-down list, select **No limit** or **Feed-in limited power**.

Step 5 If **Feed-in limited power** is selected, you need to select a unit for the target feed-in power. Options include **kW** and **%**.

Step 6 When the unit **kW** is selected, set a proper feed-in power value based on local regulatory requirements.

Step 7 When the unit **%** is selected, select a basis for limiting the grid-connected power from the **Feed-in power limit ratio calculation basis** drop-down list.

- **Nominal power:** The value of the schedule command is calculated based on the rated power of the inverter that is connected.
- **Installed PV power:** The value of the schedule command is calculated based on the installed PV power of the inverter that is connected. Please enter the **Feed-in power limit ratio calculation basis** based on the actual plant conditions.

Step 8 In the **Third-party power generation systems** drop-down list, select **Open** or **Close**.

Step 9 If **Open** is selected in **Third-party power generation systems**, users can specify the rated power in **Rated power of third-party power generation systems (kW)**. Range: 0–99999999, unit: kW. The default value is 0.

Step 10 Click **Apply settings**.

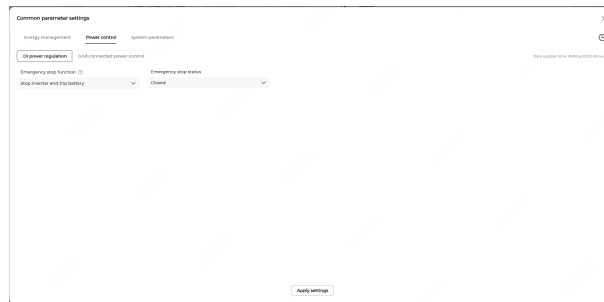
--End

4.3.12.2.4 DI Power Regulation

This function regulates the inverter output power based on the external emergency stop signals.

Emergency Stop Modes

Mode	Description
Close	Emergency stop control is disabled.
Stop inverter	When emergency stop is triggered, the inverter enters the stop state and the ESS enters the standby state.
Stop inverter and trip battery	When triggered, the inverter stops exporting power to the grid, and the battery ceases all interactions with the inverter or grid, neither charging nor discharging. The inverter enters the stop state, and the ESS enters the standby state.



Step 1 Navigate to the **DI power regulation** page.

Step 2 In the **Emergency stop function** drop-down list, select **Close** to disable the function or choose a desired emergency stop mode to enable it.

Step 3 If **Stop inverter** or **Stop inverter and trip battery** is selected, select a trigger condition from the **Emergency stop status** drop-down list.

- **Disconnect:** Emergency stop will be triggered when DI opens.
- **Closed:** Emergency stop will be triggered when DI closes.

Step 4 Click **Apply settings**.

--End

4.3.12.2.5 Overload Protection

Overload protection is used to regulate the charging power of the ESS, so as to ensure the power of the transformer at the grid-connection point does not exceed the rated capacity of the transformer, thus preventing overload.

Step 1 Choose **Power control > Overload protection**.

Step 2 Click  to set **Function enable/disable**.

- **Enable:** Enable the overload protection function. Configure the following parameters.



Parameter	Description
Transformer capacity (kVA)	The capacity of the transformer at the grid-connection point. Set this parameter based on the actual situation.
Active power conversion coefficient	Range: 0 to 1.
Dynamic capacity expansion	- Enable: Allow the ESS to discharge. - Disable: Do not allow the ESS to discharge.

- **Disable:** Disable the overload protection function.

Step 3 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

4.3.12.2.6 Power Backup

Power backup is used to protect the charge level of the ESS, so that the ESS operates within the set SOC range when connected to the grid, and some energy is reserved to supply the loads in the event of a grid outage.

Step 1 Choose **Power control > Power backup**.

Step 2 Click  to set **Function enable/disable**.

- **Enable:** Enable the power backup function. Configure the following parameters.



Parameter	Description
Power backup lower SOC threshold (%)	50% by default. Set this parameter according to actual conditions. When

Parameter	Description
	the SOC of the ESS falls below this threshold, the ESS is not allowed to discharge.
Recharging lower SOC threshold (%)	When the SOC of the ESS drops to this threshold, the recharging mechanism is triggered to restore the SOC to the Power backup lower SOC threshold level, after which recharging stops.
Recharging power (kW)	Set this parameter according to actual conditions. When the SOC of the ESS falls below the Recharging lower SOC threshold, the ESS will be charged at this specified power.



SOC in the table refers to the percentage of the current battery power to the total capacity of the battery, namely, the actual available battery power.

- **Disable:** Disable the power backup function.

Step 3 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

4.3.12.2.7 SOC Protection

To ensure the safe and efficient operation of the ESS, you can configure the SOC protection thresholds to keep the system strictly within the specified SOC range during grid-connected operation. SOC balancing is used to better control the operation of DC/AC power converter units and keep the SOC of batteries across the entire plant in a healthy state. The purpose is to avoid damage to batteries caused by overcharging or overdischarging and extend the battery life.

Step 1 Choose **Power control > SOC protection**.

Step 2 Configure the corresponding SOC balancing strategy by setting **Grid-connected** or **Off-grid** parameters.

Step 3 Click  in **SOC balancing**.

- **Enable:** Enable the SOC balancing function. Configure the following parameters.

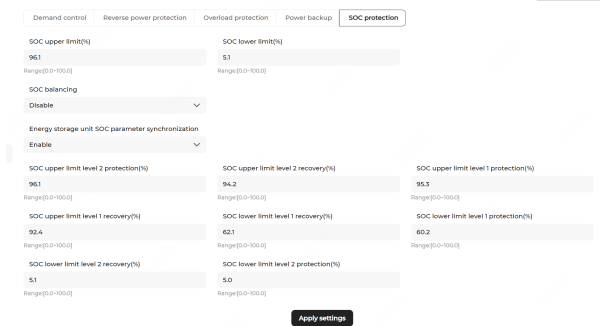
Parameter	Description
SOC upper limit (%)	If the SOC reaches or exceeds the SOC upper limit, the system stops charging the battery. Default value: 97%.

Parameter	Description
SOC lower limit (%)	If the SOC reaches or drops below the SOC lower limit, the battery stops discharging. Default value: 5%.

- **Disable:** Disable the SOC balancing function.

Step 4 Click  in **Energy storage unit SOC parameter synchronization**.

- **Enable:** Enable the energy storage unit SOC parameter synchronization function. Configure the following parameters.



Parameter	Description
SOC upper limit level 1 protection (%)	95% by default. Set this parameter according to actual conditions. When the SOC of the ESS is greater than or equal to this threshold, the ESS is prohibited from charging.
SOC upper limit level 1 recovery (%)	92% by default. Set this parameter according to actual conditions. If the SOC of the ESS is less than or equal to this threshold, the ESS resumes charging.
SOC lower limit level 1 recovery (%)	62% by default. Set this parameter according to actual conditions. If the SOC of the ESS is greater than or equal to this threshold, the ESS resumes discharging.
SOC lower limit level 1 protection (%)	60% by default. Set this parameter according to actual conditions. If the SOC of the ESS is less than or equal to this threshold, the ESS is prohibited from discharging.
SOC lower limit level 2 recovery (%)	7% by default. Set this parameter according to actual conditions.

Parameter	Description
	If the SOC of the ESS is greater than or equal to this threshold, the system goes back to the lower level 1 protection status, and discharging is prohibited.
SOC lower limit level 2 protection (%)	5% by default. Set this parameter according to actual conditions. If the SOC of the ESS is less than or equal to this threshold, the system is prohibited from discharging and carries out charging with the set Recharging power.
SOC upper limit level 2 protection (%)	97% by default. Set this parameter according to actual conditions. When the SOC of the ESS is greater than or equal to this threshold, the ESS is prohibited from charging.
SOC upper limit level 2 recovery (%)	96% by default. Set this parameter according to actual conditions. If the SOC of the ESS is less than or equal to this threshold, the ESS resumes charging.

- **Disable:** Disable the energy storage unit SOC parameter synchronization function.

Step 5 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

4.3.12.2.8 Anomaly Handling

Step 1 Choose **Power control > Anomaly handling**.

	Communication interruption control	Anomaly alarm duration (ms)	Monitoring time window (s)	Anomaly alarm count	Anomaly handling method	Control parameters
Third party scheduling	Disable	1200 Range(200~1200)	60 Range(20~5400)	2 Range(2~10)	Keep current ...	5
LC	Disable	600 Range(200~1200)	60 Range(20~5400)	2 Range(2~10)	Zero power o ...	60 5 Range(20~600)
Logger/upper	Disable	600 Range(200~1200)	60 Range(20~5400)	2 Range(2~10)	Zero power o ...	60 5 Range(20~600)

Apply settings

Step 2 Configure the following anomaly check settings as needed. If an anomaly occurs, the system will operate according to the configured **anomaly handling** method.

Parameter	Description
Communication interruption control	• Enable: Enable anomaly check for the device. • Disable: Disable anomaly check for the device.
Communication interruption counting period (s)	Anomaly handling can be triggered in the following two ways: • When a single communication interruption lasts for a period longer than the set Communication interruption counting period (s), the system triggers anomaly handling. • When the duration of a communication interruption exceeds the set Communication interruption time (ms), the system records a communication interruption event. If the number of communication interruptions occurring within the set Communication interruption counting period (s) reaches the set Communication interruption counts, the system triggers anomaly handling.
Communication interruption time (ms)	
Communication interruption counts	
Anomaly handling method	The available options for Anomaly handling method vary by device type. • For third-party scheduling device: Keep current value, Zero power output, and Full-plant shutdown are supported. • For ESS LC: Zero power output is supported. • For Logger Upper: Keep current value, Zero power output, and Full-plant shutdown are supported.
Control parameter	Default value: 60. Range: [0, 600]. Unit: s. The Control parameter settings vary by the Anomaly handling method: • Keep current value: There is no need to set the Control parameter. When an anomaly occurs, the system keeps the current value. • Zero power output: - If the Control parameter is set to 0, the system immediately sends a zero power output command. - If the Control parameter is set to a non-zero value, the system calculates the ramp-down rate based on the current power and sends a command to reduce power to zero within the time specified by the Control parameter.

Parameter	Description
	Full-plant shutdown: There is no need to set the Control parameter. When an anomaly occurs, the system executes the full-plant shutdown command.



The Communication interruption counting period (s), Communication interruption time (ms), and Communication interruption counts for third-party scheduling devices can be modified remotely.

Step 3 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

4.3.12.3 System Settings

Choose **Strategy configuration > System settings**.

4.3.12.3.1 Plant Parameters

Step 1 Choose **System settings > Plant parameters**.

Step 2 Click  in **Debug mode**, select **Enable** or **Disable**, and configure the following parameters:

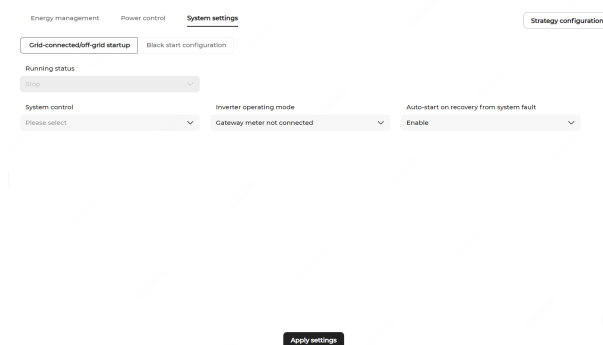
Parameter	Description
Active power control dead zone (kW)	Set this parameter based on the actual power of the plant. It is recommended to set this parameter to 1% of the rated power. It defines the range within which the target active power value can fluctuate. For example, if the target active power of the grid-connected point is 10 KW, and the control dead zone is set to 5 KW, then the target active power of the grid-connected point can range from 5 KW to 15 KW.

Parameter	Description
Reactive power control dead zone (kW)	Set this parameter based on the actual power of the plant. It is recommended to set this parameter to 1% of the rated power. It defines the range within which the target reactive power value can fluctuate. For example, if the target reactive power of the grid-connected point is 10 KW, and the control dead zone is set to 5 KW, then the target reactive power of the grid-connected point can range from 5 KW to 15 KW.
Rated capacity of energy storage (MWh)	The default value is 0.100.
ESS connection point	After CT by default.
Energy storage data source	- Meter data: Select this option when the meter type is ESS electricity meter. In this case, the EMS collects ESS charge/discharge data from the ESS electricity meter. - Local controller data: The EMS collects ESS charge/discharge data from the LC.
Method to exit from strategy	- Keep current value: Maintain the current set value. - Apply "0" power: Issue a zero power output command.
PV installed capacity (MWp)	The actual PV installed capacity of the plant.
PV connection point	After CT by default. A third-party PV device must be connected after CT.
Replacement percentage (%)	$\text{PV\&ES replacement step} = \text{PV rated power} \times \text{Replacement percentage}$
Total charger output power (offline) (W)	If the communication interruption between the system and the charger exceeds the Communication timeout , the charger will operate at this output power.
Communication timeout (s)	If the communication interruption between the system and the charger exceeds the Communication timeout , the charger will operate at the power specified by Total charger output power (offline) (W) .

Step 3 Tap **Apply settings**.**--End****4.3.12.3.2 Grid-connected/Off-grid Startup**

Users can configure the start-up settings for the devices and start or stop the devices in the plant in one click.

The configuration page of grid-connected/off-grid startup is shown below.

**Configure Startup Parameters**

Step 1 Choose **System settings > Grid-connected/off-grid startup**.

Step 2 Select a startup method for devices in the plant from the **System control** drop-down list.

- When no ATS is connected, the **Startup method** can be set to **Off-grid startup** or **Grid-connected startup**.
 - Off-grid startup

When the device is in the off-grid status, select **Off-grid startup** to start all the devices in the plant. After a successful startup, the **Running status** will show "Off-grid".

Configure the black start parameters before proceeding with the startup. Choose **System settings > Black start configuration**. The descriptions of the parameters are shown below.

Parameter	Description
Black start SOC threshold (%)	The default value is 46.
Minimum number of running units	Number of units with the minimum SOC.
Load rated power (kW)	Set this parameter based on the actual situation.
Startup mode	Select an option based on the actual situation. • VSG mode: Users can select VSG mode if there is one or more LCs.

Parameter	Description
	Off-grid mode: Users can select off-grid mode if there is one LC only.
System waiting time (s)	Range: 0-100. Default value: 20.
System timeout (s)	Range: 0-200. Default value: 60.

- Grid-connected startup

When the device is in the grid-connected status, select **Grid-connected startup** to start all the devices in the plant. After a successful startup, will the **Running status** will show “Grid-connected”.



At least one LC is needed to start the system. The system starts the LC first, and then the PV system.

- When ATSs are connected, the following options are available for **Startup method**:
 - ATS grid-connected startup: Ensure that the diesel generator circuit breaker QF2 is in the open state. Switch on the grid connection circuit breaker QF1 manually. Then, apply this startup method.
 - ATS off-grid startup (VSG mode): Ensure that the grid connection circuit breaker QF1 and diesel generator circuit breaker QF2 are in the open state. Then, apply this startup method.
Configure the black start parameters before proceeding with the startup. For details, refer to [parameters](#).
 - ATS off-grid startup (diesel generator): Ensure that the grid connection circuit breaker QF1 is in the open state. Switch on the diesel generator circuit breaker QF2 manually. Then, apply this startup method.
 - ATS grid-connected startup (bypass switch on): Ensure that the diesel generator circuit breaker QF2 is in the open state. Switch on the grid connection circuit breaker QF1 manually. Then, apply this startup method.
 - ATS startup (bypass switch on, diesel generator): Click **Diesel generator startup**. Switch on the diesel generator circuit breaker QF2 manually. Then, apply this startup method.

Step 3 Select the **Operation mode**.

Three operation modes are available, Gateway meter connected, Gateway meter not connected, and Auto on/off-grid switching. When the system is in Stop state, you can select Gateway meter connected or Gateway meter not connected for startup. After the system starts operating properly, the operation mode will automatically change to “Auto on/off-grid switching”. In this mode, the system will switch between grid-connected startup and off-grid startup according to the voltage changes at the grid-connection point.

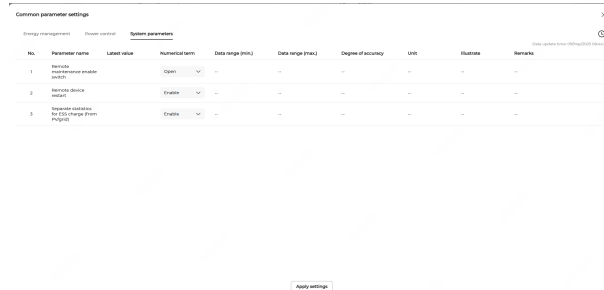
Step 4 Enable or disable **Auto-start on recovery from system fault**. This function is enabled by default. When this function is enabled, if a fault occurs in the system, the system will restart automatically after recovering from the fault.

Step 5 Click **Apply settings**. In the pop-up window, enter the **Task name**, set the **Instruction valid period**, and click **Confirm**.

--End

4.3.12.3.3 System Parameters

On the System parameters page, you can configure the enabling status of the remote maintenance enable switch and remote device restart.



Step 1 Click  in the **Action** column of EMS300CP to access the **Common parameter settings** window. Click **System parameters**.

Step 2 Configure the following parameters:

Parameter	Description
Remote maintenance enable switch	- Enable: Enable remote maintenance. - Disable: Disable remote maintenance.
Remote device restart	Select Enable to allow remote device restart.

Step 3 Click **Apply settings**.

--End

4.3.13 Plant Report

Click a plant name on the "Plant" page, and you will go to "**Overview**" by default. Then, choose **Report** on the left to access the page where you can view the **ESS time-of-use electricity report** and the **ESS revenue report** for the plant.

For detailed instructions, see [7.2 System Reports](#).

5 Device

After logging in to the iSolarCloud system, click **Device** in the side navigation bar to go to the page for device monitoring.

5.1 Device List

After logging into the iSolarCloud system, click **Device** in the side navigation bar. You will go to “Device List” by default.

Inverter Hybrid InverterData LoggerCommunication ModuleBatteryChargerMeter								
All Plants		Device Name/Device SN		Search				
Device Name	Device Model	Device S/N	Device Status	Nominal Power	Real-time Power	Daily Yield	Associated Plant	Action
逆变器1	SG50CX-P2	A23221C7573	Normal	--	0 W	196.8 kWh	南昌城南社区第七...	  
逆变器1	SG125CX-P2	LY00000004	Normal	--	0 W	316.9 kWh	贵县4#	  
PLC-4	SG320HX-20	Y2382200010	Normal	--	0 W	1.954 MWh	贵县C1区SG320HX-G2	  
PLC-6	SG320HX-20	Y2382200020	Normal	--	0 W	1.686 MWh	贵县C1区SG320HX-G2	  
逆变器11	SG320HX-20	Y2382200017	Normal	--	0 W	1.436 MWh	贵县C1区SG320HX-G2	  
PLC-7	SG320HX-20	Y2382200014	Normal	--	0 W	2.006 MWh	贵县C1区SG320HX-G2	  
PLC-3	SG320HX-20	Y2382200008	Normal	--	0 W	1.541 MWh	贵县C1区SG320HX-G2	  
PLC-5	SG320HX-20	Y2382800005	Normal	--	0 W	1.486 MWh	贵县C1区SG320HX-G2	  

Figure 5-1 Device List

Procedure

- Search for a device
Select a device type by choosing the corresponding tab at the top of the page. Then, select a plant, and enter the device name or S/N. Click **Search**, and devices that meet the search criteria will be shown.
- View device information
Click on the device name to go to the details page. Here you can check information such as **General Information**, **Fault**, **Curve**, **Settings**, and **Remote Signaling Status**. For detailed instructions for parameter settings, see [5.3 Parameter Setting](#).
- Switch between the list view and card view
 - Click  in the upper right corner of the device list to display all devices in a list view.
 - Click  in the upper right corner of the device list to display all devices in a card view.
- Change device name

Click , enter a new device name, and click **Confirm**.

- Replace a device

In case any device in the plant has been damaged or replaced, please proceed as follows to replace the device in the iSolarCloud system.

1. Click  to go to "**Device Replacement**".
2. Check if the information about the device to be replaced is correct. If so, click  to go to "**Add New Device**".
 - Enter the device name or S/N, and click **Search**. Then, select the new device, and click **Confirm**.
 - Click **Add Manually**, enter the S/N of the new device, and click **Confirm**.
3. Check if the information about the new device is correct. If so, click **Start Replacement**.



When replacing an inverter, you can select **Add Compensatory Yield to New Device** to add the total yield of the old device to that of the new device as compensatory yield.

- Delete a device

Click  to delete the device. This will remove all the data on the device, such as those related to the inverter and other devices.

- Battery augmentation

1. Click  to open the window for battery augmentation settings.
2. Enter **Supplement Battery Module SOC**, or click **Get** and then enter **New Battery Module S/N** to acquire the SOC value automatically.
3. Set the start time of charging/discharging in **Charging/Discharging Started**.
4. Click **Apply Settings**.

5.2 Fault List

After logging into the iSolarCloud system, choose **Device > Fault**. You will see the page shown below.

Pending

Resolved

Refresh Interval

5 min

Select

Alarm Name

Fault Code

Search

Filter

Batch Close

☐	Alarm Name	Alarm Type	Fault Code	Plant Name	Device Name	Device Model	Occurrence Time	Action
☐	Battery Fault	Fault	703	上海-55#南庄多机测...	储能逆变器1	SH10RS	30/Oct/2023 18:33:54	
☐	Battery Fault	Fault	703	SH10RS新样机	储能逆变器1	SH10RS	30/Oct/2023 17:27:05	
☐	Grid Power Outage	Fault	10	SH10RS新样机	储能逆变器1	SH10RS	30/Oct/2023 17:26:45	
☐	Grid Power Outage	Fault	10	LzzTest	储能逆变器7	SH10RS	24/Oct/2023 14:47:34	
☐	System Fault	Fault	38	LzzTest	储能逆变器5	SH10RS	24/Oct/2023 14:30:37	
☐	System Fault	Fault	303	sh25t	储能逆变器2	SH25T_V11	21/Oct/2023 19:11:18	
☐	Parallel Communicat...	Alarm	75	sh25t	储能逆变器2	SH25T_V11	21/Oct/2023 15:22:34	
☐	Parallel Communicat...	Alarm	75	LzzTest	储能逆变器6	SH10RS	19/Oct/2023 08:53:00	

Figure 5-2 Fault List

Procedure

- Search for a fault
 - Select **Pending** or **Resolved**.
 - Click **Filter**, set the **Device Model**, **Occurrence Time**, **Fault Classification**, and **Alarm Type**, and then click **Confirm**.
 - Select the plant name, alarm name, and the fault code, and click **Search**.
- View fault details

Click or the alarm name to view the detailed information about the fault.
- Close a fault
 - Click

✕

, or click **Close Fault** on the details page of the fault.
 - Enter your **Processing Opinion**, and then click **Close Fault**.
- Close faults in batch
 - Select the checkboxes of fault alarms you want to close, and click **Batch Close**.
 - Enter your **Processing Opinion**, and then click **Close Fault**.
- Export fault data

Click

↓

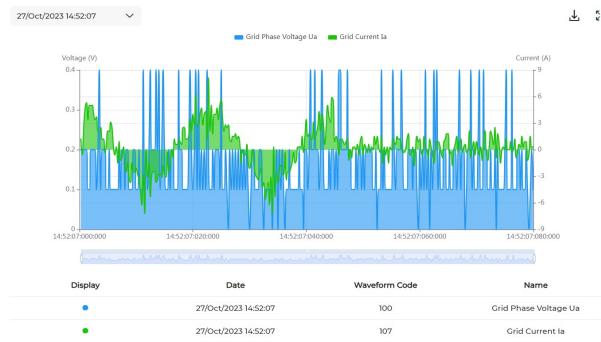
 to export the data of faults filtered by the current criteria.
- Check fault recording tasks
 - Choose a fault, and click

✓

 in the Action column to execute a fault recording task.
 - Click

✓

 in the upper right corner of the fault list to view the fault recording tasks.
You can choose a task and click **View** to check the voltage and current curves of the device.



5.3 Parameter Setting

After logging into the iSolarCloud system, choose **Device > Settings**. Here you can set the parameters of devices in the plant.

All Plants		Inverter	Device Model	Device S/N	Search	Filter	Template Library			Initial Grid Connection	Common Parameter Settings	...
☐	Plant Name	Device Name	Initial Grid	Device S/N	Device Model	Country/Region	Grid Type	Version No.	Action			
☐	A1905160003	SG80KTL-(COM1-001)_001_001	Already Set	A180408545	SG80KTL-M	China	50 Hz	V515-MDSP_Crystal-V21_V171717171717-SDSP_Crystal-V21_V292929292929	☐	☐	☐	...
☐	A1906030001	SG80KTL-(COM1-002)_001_001	Already Set	A18040854521212124	SG80KTL-M	China	50 Hz	V5153322114455667788-MDSP_Crystal-V21_V171717171717-SDSP_Crystal-V21_V292929292929	☐	☐	☐	...
☐	A1908120008	SG80KTL-MICOM2-010)_001_002	Already Set		SG80KTL-M	China	50 Hz	..	☐	☐	☐	...
☐	Z1909190001	SG80KTL-(COM1-001)_001_001	Already Set		SG80KTL-M	China	50 Hz	V515-MDSP_Crystal-V21_V171717171717-SDSP_Crystal-V21_V292929292929	☐	☐	☐	...
☐	Z1909260001	SG80KTL-MICOM2-009)_001_001	Already Set		SG80KTL-M	China	50 Hz	-MDSP_Crystal-V21_V17-SDSP_Crystal-V21_V29	☐	☐	☐	...
☐	Z1909260001	SG110HV-MICOM3-	Already Set		SG80KTL-M	China	50 Hz	V515-MDSP_Crystal-V21_V171717171717-SDSP_Crystal-V21_V29	☐	☐	☐	...

Figure 5-3 Settings

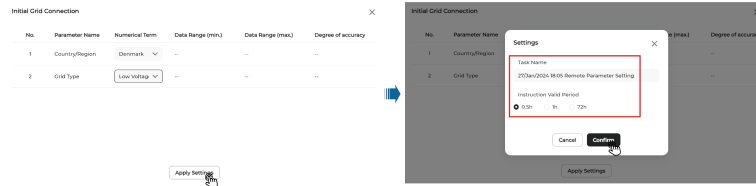
Search for devices

1. Select the plant (you can select more than one plant here). Then, select the type, model, and S/N of the device, and click **Search**.
2. Click **Filter**, choose **Not Set** or **Already Set** in "Initial Grid", and select the **Country/Region**. Then, click **Confirm**. Devices that meet the search criteria will be shown on the screen.

5.3.1 Initial Grid Connection

Here you can set the country/region where the inverter is located and the grid type.

Procedure



1. Select the device to be set from the list.
2. Click the icon , or click **Initial Grid Connection**.
3. Select the **Country/Region** and **Grid Type**, click **Apply Settings**.
4. Enter the **Task Name**, set the **Instruction Valid Period**, and click **Confirm**.

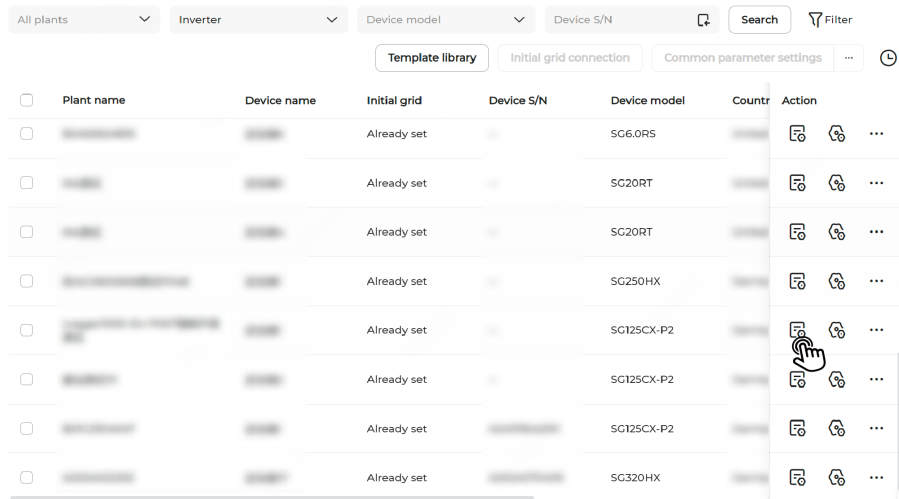


You can only proceed with **Common Parameter Settings**, **Advanced Settings**, and **Command Line Parameters Setup** after completing the **Initial Grid Connection** settings.

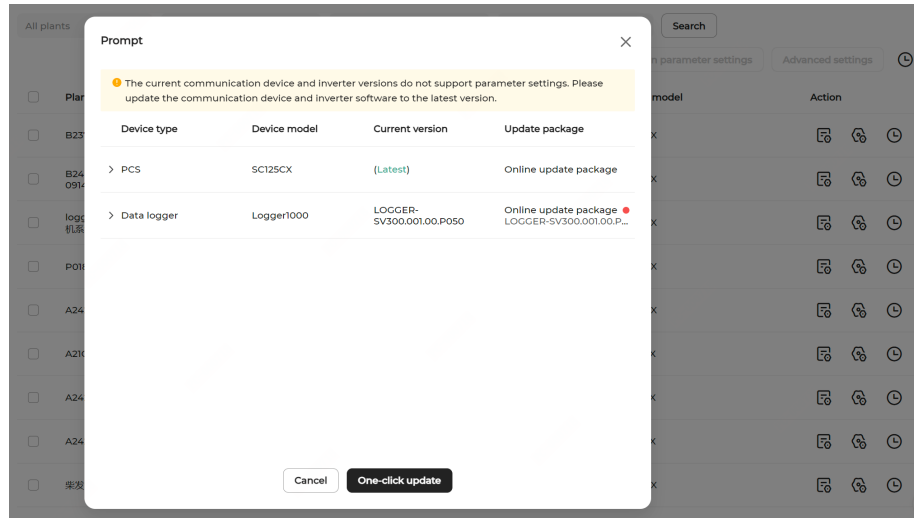
5.3.2 Common Parameter Settings

Procedure

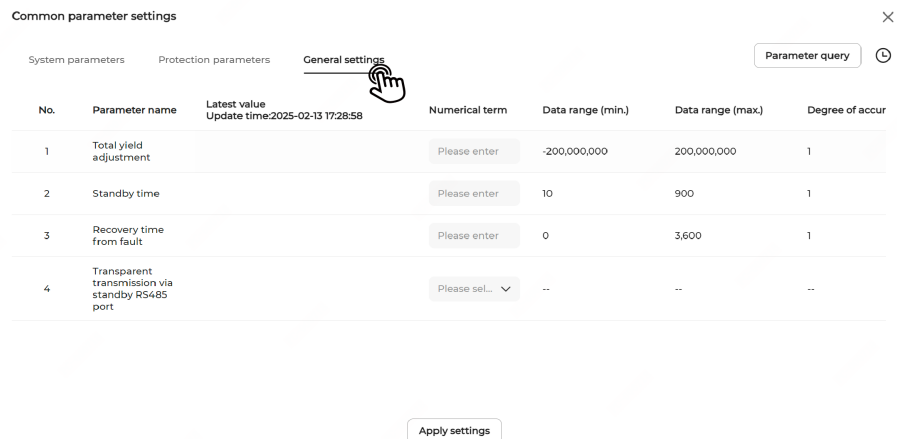
1. Select the device to be set from the list.
2. Click  to enter the **Common parameter settings** page.



3. If you are not able to proceed with parameter settings for the device and the following prompt appears, click **One-click update > Confirm and update**. The device will be updated automatically.



4. Click the target tab and configure the corresponding parameters.



The supported common parameter settings vary by device. Please refer to the actual page.

5. Click **Apply settings** and then click **Confirm** in the pop-up window.



Local controllers do not support Common parameter settings.

5.3.2.1 Common Data Logger Settings

To set parameters for a data logger, navigate to the **Device > Settings** page, select **Data**

Logger from the device type drop-down list, and then click  in the **Action** column for that data logger.

5.3.2.1.1 Charging Management

Procedure

1. In the **Common Parameter Settings** window, click the **Charging Management** tab to set the **Charging Mode** and related parameters. Options include:
 - **Eco & Economic Charging**
The PV power will be first used for the loads, with any surplus supplied to the electric vehicle (EV) charger. If the surplus falls below the charger's minimum charging power, the system will either ensure the minimum charging power for the charger or stop charging, depending on whether drawing power from the grid is allowed.
 - **Eco & Fast Charging**
The EV charger maximizes the use of PV energy. If PV power exceeds the charger's minimum charging power, no additional power will be drawn from the grid. Conversely, if PV power falls short, the charger can supplement with grid power to meet the minimum charging power.
 - **Fast Charging**
The EV charger can use both PV energy and grid energy. In this mode, the charger operates at the rated power, delivering the exact power required by the EV.
 - **No Control**
The EV charger is under the control of a third party instead of power dispatch commands.

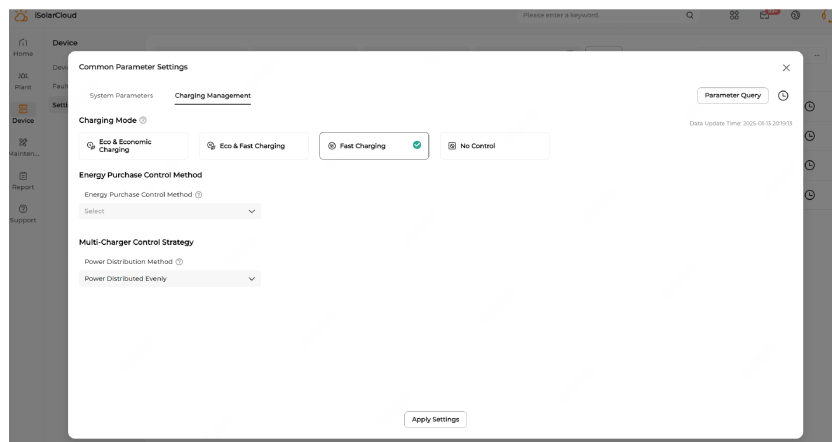


Table 5-1 Parameter Description

Parameter	Description
Allow Power Purchasing or Not	Setting the value to No may interrupt the charging process. To continue charging in this case, you need to disconnect and then reconnect the charging connector.
Energy Purchase Control Method	Set a power limit on energy purchase based on the specifications of the air circuit breaker at the grid-connection point. This will prevent tripping caused by imported power exceeding the limit.

Parameter	Description
	Options include No Limit and Purchase Energy With Limited Power .
Power Distribution Method	Multi-Charger Control Strategy: Distribute power across chargers based on the preset strategy to meet the varying demands of different users. Options include: • First Come First Charged: Based on charger sequence and grid power limits, allocate power according to EV needs, prioritizing earlier-sequence EVs for quicker charging. • Power Distributed Evenly: Allocate charging power evenly according to the quantity of EVs and grid power limits.

2. Click **Apply Settings**.

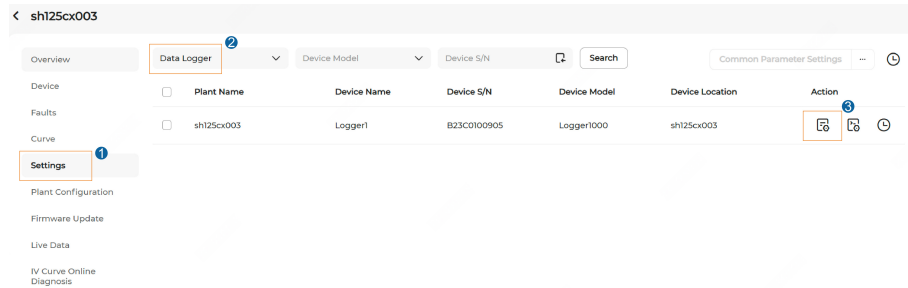
5.3.2.1.2 Energy Management

The Logger1000 enables users to manage system energy effectively. Users can select the energy management mode, adjust power through DI signals, or set limits on the grid-connected power.

Logger1000 supports the following working modes:

Mode	Description
Self-Consumption	The self-consumption mode maximizes the utilization of PV output and battery energy to power the loads, thus minimizing the consumption of grid energy. Users can configure the battery to discharge or force the battery to charge in specific time periods, based on electricity prices at different times, to lower the overall electricity costs.
Time Plan	The time plan mode is mainly used for electricity trading scenarios. Users can set the time windows and power for battery charging/discharging, according to the on- and off-peak electricity prices, to maximize the economic benefits.
Compulsory Mode	The compulsory mode is mainly used in battery O&M to ensure it operates in compliance with the preset charging/discharging mode and power.
VPP	In the VPP mode, the system operates according to the feed-in power and battery charging/discharging commands from the VPP provider. Energy management and scheduling will be conducted based on the external demands, to satisfy the needs and

Mode	Description
	operational requirements of the grid and achieve efficient utilization and scheduling of external resources.



Click  in the action bar of Logger1000 to access the **Common Parameter Settings** page. The **Energy Management** tab is displayed by default.

5.3.2.1.2.1 Self-Consumption

The **Self-Consumption** mode maximizes the utilization of PV output and battery energy to power the loads, thus minimizing grid energy consumption. Users can configure specific time periods for **Allow Discharging** and **Force Charging** based on electricity rates to optimize energy costs.

Function Logic

- When the PV output power is sufficient, the energy will be first supplied to the loads, with the excess stored in the battery. Any remaining energy beyond battery capacity will be fed into the grid.
- If the PV output power is insufficient to meet the load demand, the system discharges the battery to compensate. If the battery capacity is insufficient, the system draws power from the grid to meet the load demand.

Procedure

Common Parameter Settings

Energy Management | Power Control | System Parameters

Self-Consumption | Time Plan | Compulsory Mode | VPP

Threshold on Power Purchase (Demand Control)(kW) [?] Range:[0.00, 999999.99]

Threshold on Power Feed-in (Demand Control)(kW) [?] Range:[0.00, 999999.99]

☐ Custom Season

Apply Settings

1. Navigate to the **Energy Management** page and select the **Self-Consumption** mode.
2. Set the **Threshold on Power Purchase (Demand Control)** and **Threshold on Power Feed-in (Demand Control)**.
 - Threshold on Power Purchase (Demand Control): When the power imported from the grid exceeds the set threshold, the battery will cover the excess demand.
 - Threshold on Power Feed-in (Demand Control): When the power fed into the grid exceeds the set threshold, the excess will be used to charge the battery.
3. Enable **Custom Month Span**. For details, see [5.3.2.1.2.1.1 Custom Month Span](#).



If **Custom Month Span** is disabled, the battery is allowed to discharge all day (0-24h) without charging.

4. Click **Apply Settings**.

5.3.2.1.2.1.1 Custom Month Span

In the **Self-Consumption** mode, users can set battery charging/discharging plans to optimize the energy usage and management. With properly set battery charging/discharging windows, the system maximizes the use of PV output during on-peak hours and reduces the energy purchased from the grid during off-peak hours, thus lowering the electricity costs.

Function Logic

- Allow Discharging: Allow the battery to discharge to power the loads in a specific time period. All-day by default (0–24h).
- Force Charging: Charge the battery at the maximum allowable power in a specific time period until the target SOC is reached. If the PV output is insufficient to meet the battery charging power demand, the system is allowed to charge the battery with energy from the grid.



Battery discharging and charging windows can overlap. Force charging takes priority if a time window is set for both battery discharging and force charging.

Procedure

1. Enable **Custom Month Span**.
2. Set the desired month span. You can set different time windows based on seasonal energy demand patterns.
3. Select the days on which the battery charging/discharging plan applies.
You can apply the charging/discharging plan to all days, or set different charging/discharging plans for weekdays and weekends. The work plan applies to all days by default.
 - **Every Day:** The set charging/discharging plan applies on all days. This option is ideal for scenarios where the daily energy demand is relatively stable.
 - **Weekdays & Weekends:** Set different charging/discharging plans for weekdays and weekends.
4. To add more month spans, click **Add** to the right of the default month span name.



You can select a month span and click to modify its name or delete it.

5. Click on a time period in the **Allow Discharging** time bar. A new discharging window will be created (1 hour by default). Then, drag the left or right edge of the window to adjust the length of time.
6. Click on a time period on the **Force Charging** row, a new charging window will be created (1 hour by default). Then, drag the left or right edge of the window to adjust the length of time.

Click a time window that has been added, set a charging target in **Target SOC (%)**.

5.3.2.1.2.2 Time Plan

The **Time Plan** mode is mainly used for electricity trading scenarios. Users can set the time windows and power for battery charging/discharging according to the on- and off-peak electricity prices to maximize the economic benefits.

It is recommended to schedule battery discharge during on-peak hours (electricity prices are higher) and charge during off-peak hours (electricity prices are lower).

Function Logic

- **Discharge Period:** The battery discharges at the predefined discharging power within the set time period until it is fully discharged.
- **Charge Period:** The battery charges at the predefined charging power within the set time period until it is fully charged.

Procedure

1. Navigate to the **Energy Management** page and select the **Time Plan** mode.
2. Set the desired month span. You can set different time windows based on seasonal energy demand patterns.
3. Select the days on which the battery charging/discharging plan applies. You can apply the charging/discharging plan to all days, or set different charging/discharging plans for weekdays and weekends. The work plan applies to all days by default.
 - **Every Day:** The set charging/discharging plan applies on all days. This option is ideal for scenarios where the daily electricity price is relatively consistent.
 - **Weekdays & Weekends:** Set different charging/discharging plans for weekdays and weekends.
4. To add more month spans, click **Add** to the right of the default month span name.



Before adding a month span, you must first configure the charge and discharge settings for the current month span.

You can select a month span and click  to modify its name or delete it.

5. Click on a time period in the **Discharge** or **Charge** time bar. A new discharging or charging window will be created (1 hour by default). Then, drag the left or right edge of the window to adjust the time range.



The charging and discharging windows cannot overlap.

The battery will not discharge in a time period with no settings. If the PV output is insufficient to meet the load demand, the system purchases energy from the grid to meet the load demand, and allows the battery to charge from the excess PV energy.

6. Click a time window that has been added, set the discharging or charging power in **Power**.
7. Click **Apply Settings**.

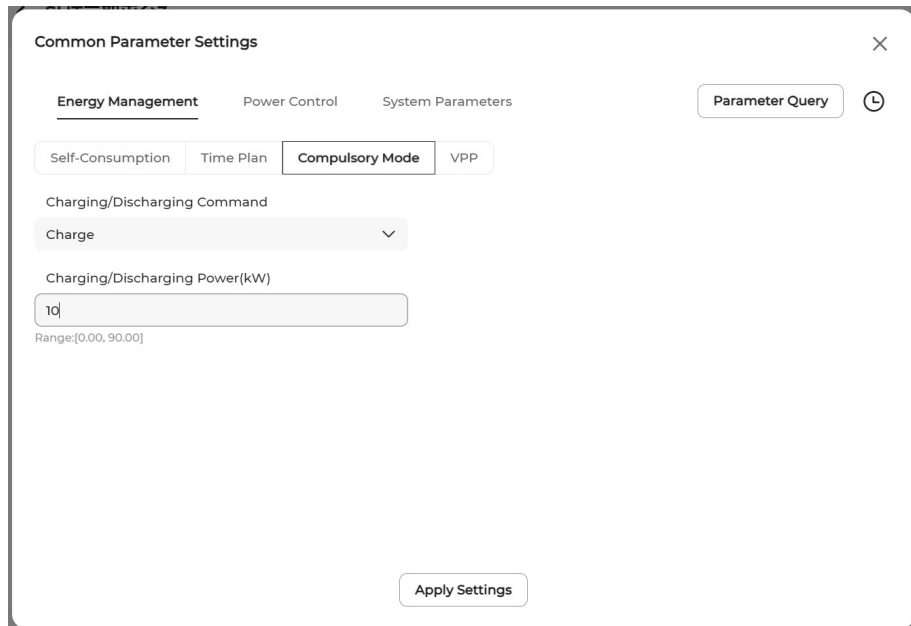
5.3.2.1.2.3 Compulsory Mode

The **Compulsory Mode** is mainly used in battery O&M to ensure it operates in compliance with the preset charging/discharging mode and power. Restore the system to the previous working mode after maintenance work is completed.

Function Logic

- Forced Charging: The battery charges at the preset charging power until it is fully charged.
- Forced Discharging: The battery discharges at the preset discharging power until it is fully discharged.

Procedure



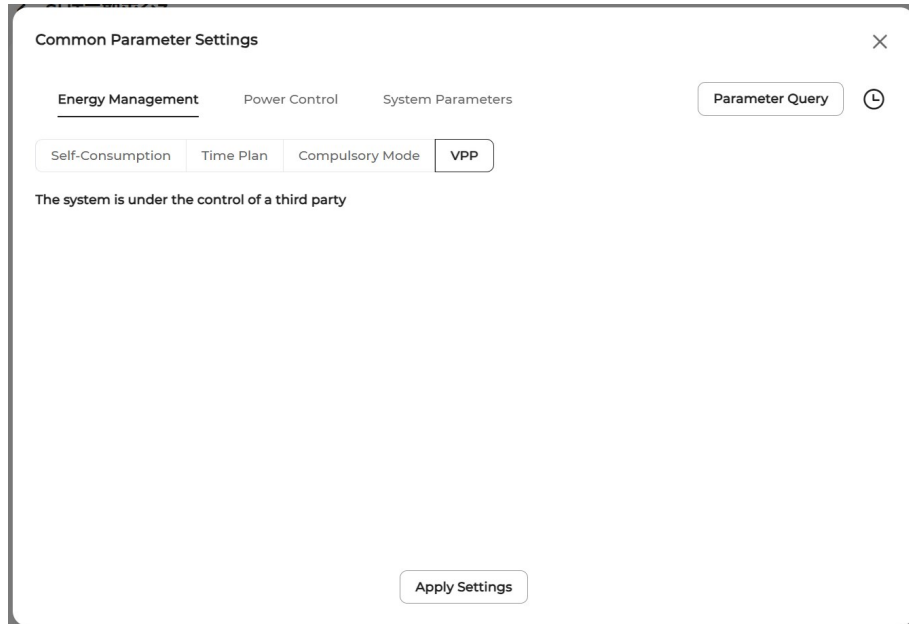
1. Navigate to the **Energy Management** page and select the **Compulsory Mode**.
2. Set the **Charging/Discharging Command**.
 - **Charge**: Force the battery to charge at the preset charging power until the battery SOC upper limit is reached.
 - **Discharge**: Force the battery to discharge at the preset discharging power until the battery SOC lower limit is reached.
 - **Stop**: Stop battery charging or discharging.
3. If **Charge** or **Discharge** is selected, set the target charging or discharging power in **Charging/Discharging Power**.
4. Click **Apply Settings**.

5.3.2.1.2.4 VPP

The **VPP** mode is mainly used when a third-party VPP provider is involved. In this mode, the system operates according to the feed-in power and battery charging/discharging commands from the VPP provider.

Energy management and scheduling will be conducted based on the external demands, to satisfy the needs and operational requirements of the grid and achieve efficient utilization and scheduling of external resources.

Procedure



1. Navigate to the **Energy Management** page and select **VPP** mode.
2. Click **Apply Settings**.

5.3.2.1.3 Power Control

Power Control allows the configuration of DI power control and grid-connected power control.

Click  in the action bar of Logger1000 to access the **Common Parameter Settings** page. Select **Power Control** to enter its settings.

5.3.2.1.3.1 DI Power Control

DI Power Control supports DRM and Ripple Control (dry contact signaling). If an emergency stop device is connected, users can also configure the emergency stop function.



If the DI power control is not needed, set **DI Control Method** to **Close**.

Click  in the action bar of Logger1000 to access the **Common Parameter Settings** page. Select **Power Control** to enter the **DI Power Control** settings by default.

5.3.2.1.3.1.1 DRM

DRM is a power control method that responds to external demands. In this context, power control is carried out according to the received external DRM signals.

Procedure

Common Parameter Settings

Energy Management **Power Control** System Parameters

DI Power Control Grid-connection Power Regulation

DI Control Method

DRM

Emergency Stop Function

Select

Parameter Query

Apply Settings

1. Navigate to **DI Power Control** page.
2. Set **DI Control Method** to **DRM**.
3. Click **Apply Settings**.

5.3.2.1.3.1.2 Ripple Control

In the Ripple Control mode, the system receives control signals from the grid through dry contact signals, and performs power control as required.

If the Ripple Control mode is selected, the grid operator will convert the dispatch signals into the dry contact signals for transmission. A total of 16 DI combinations are available, each with a specific power ratio. Please set the DI combination for the system so that it can receive and respond to grid signals properly.

Table 5-2 DI Interface Status

Icon	Description
☐	This DI interface is in the open state.
☒	This DI interface is in the closed state.



Each DI combination must be unique.

Procedure

Common Parameter Settings

Energy Management **Power Control** System Parameters Parameter Query

DI Power Control Grid-connection Power Regulation

DI Control Method
Ripple Control

Inverter Output Power Limit Ratio Calculation Basis
Installed PV Power

Total Installed Power of Modules
100 kW
Range:[0.00, 999999.99]

No.	DI1	DI2	DI3	DI4	P%
01	☒	☒	☐	☐	30

+
Add DI Combination

Note: ☐ Disconnect ☒ Closed Range : 0 ~ 100%

Emergency Stop Function
OFF

Apply Settings

1. Navigate to **DI Power Control** page.
2. Set the **DI Control Method** to **Ripple Control**.
3. Set the **Inverter Output Power Limit Ratio Calculation Basis**.
 - **Nominal Power:** The dispatch value is calculated based on the rated power of the inverter that is connected.
 - **Installed PV Power:** The dispatch value is calculated based on the installed PV power of the inverter that is connected. Please enter the **Total Installed Power of Modules** based on the actual plant conditions.
4. Select DI ports, and set a power ratio in a range of 0-100%.



Set DI combinations based on the control signals sent from the grid operator.

5. Click **Add DI Combination** to add other DI combinations.
6. Click **Apply Settings**.

5.3.2.1.3.1.3 Emergency Stop Function

The emergency stop function allows users to stop the inverter immediately in case of an emergency.



The emergency stop function is available for SUNGROW inverters only.

Table 5-3 Emergency Stop Modes

Mode	Description
OFF	Emergency stop control is disabled.
Stop Inverter	When emergency stop is triggered, the inverter enters the emergency stop state.
Stop Inverter and Trip Battery	When triggered, the inverter stops exporting power to the grid, and the battery ceases all interactions with the inverter or grid, neither charging nor discharging. Both the inverter and battery enter standby mode.

Procedure

Emergency Stop Function

Stop Inverter

Emergency Stop Status

Disconnect

1. Navigate to **DI Power Control** page.
2. In the **Emergency Stop Function** drop-down list, select OFF to disable the function or choose a desired emergency stop mode to enable it.
3. If **Stop Inverter** or **Stop Inverter and Trip Battery** is selected, select a trigger condition in the drop-down list of **Emergency Stop Status**.
 - **Disconnect**: Emergency stop will be triggered when DI opens.
 - **Closed**: Emergency stop will be triggered when DI closes.
4. Click **Apply Settings**.

5.3.2.1.3.2 Grid-Connected Power Control

Users must first configure the system's energy purchase control method and feed-in control method. These thresholds define the system's maximum power limits when connected to the grid, ensuring stability and energy efficiency. They also directly affect the parameters in energy management modes and the valid range of DI Power Control.

Procedure

1. Access the **Power Control** page and select “Grid-Connected Power Control”.
2. In the **Energy Purchase Control Method** drop-down list, select **No Limit** or **Purchase Energy With Limited Power**.
 - **No Limit:** There is no power limit for purchasing energy from the grid.
 - **Purchase Energy With Limited Power:** There is a power limit for purchasing energy from the grid.
3. If **Purchase Energy With Limited Power** is selected, enter a proper power limit in **Power Limit for Energy Purchase** based on the rated current of the main power source equipment (e.g., household air circuit breaker) that is connected in the system.



The value of **Power Limit for Energy Purchase** must not be lower than the total load connected in the system.

4. In the **Feed-in Control Method** drop-down list, select **No Limit** or **Feed-in Limited Power**.
 - **No Limit:** There is no power limit on energy feed-in.
 - **Feed-in Limited Power:** There is a power limit on energy fed into the grid.
5. If **Feed-in Limited Power** is selected, select the unit in the **Feed-in Limitation Ratio/Value** text box.
 - If set to %, enter a reasonable feed-in power ratio based on local regulations and select the **Feed-in Power Limit Ratio Calculation Basis** from the drop-down list.
 - **Nominal Power:** The dispatch value is calculated based on the rated power of the inverter that is connected.

- **Installed PV Power:** The dispatch value is calculated based on the installed PV power of the inverter that is connected. Enter the **Total Installed Power of Modules** based on the actual plant conditions.
- If set to kW, enter a reasonable feed-in power value based on local regulations.

6. Click **Apply Settings**.

5.3.2.2 Common Home Energy Manager Settings

To set parameters for a Home Energy Manager, navigate to the **Device > Settings** page, select Home Energy Manager from the device type drop-down list, and then click  in the Action column for that Home Energy Manager.

5.3.2.2.1 Energy Management

The system provides various energy management modes to ensure effective energy management and maximization of energy utilization.

The following working modes are available.

- Self-consumption
- Time Plan
- Backup Mode
- Compulsory Mode
- VPP
- AI Mode

5.3.2.2.1.1 Self-consumption

The **Self-consumption** mode maximizes the utilization of PV output and battery energy to power the loads, thus minimizing the consumption of grid energy. Users can allow the battery to discharge or force the battery to charge in specific time periods, based on electricity prices at different times, to lower the overall electricity costs.

Function Logic

- When the PV output power is sufficient, the PV energy will be first supplied to the loads, with the excess stored in the battery. If, after this, there is still energy surplus, it will be fed into the grid.
- If the PV output power is insufficient to meet the load demand, the system supplies the energy stored in the battery to the load. If the battery capacity is insufficient, the system purchases energy from the grid to fulfill the load demand.

Procedure

1. Navigate to the **Energy Management** page and select the **Self-Consumption** mode.
2. Set the **Threshold on Power Purchase (Demand Control)** and **Threshold on Power Feed-in (Demand Control)**.
 - **Threshold on Power Purchase (Demand Control):** When the power imported from the grid exceeds the set threshold, the excess demand is covered by the battery.
 - **Threshold on Power Feed-in (Demand Control):** When the power fed into the grid exceeds this threshold, the excess will be used to charge the battery.
3. Enable **Custom Season**. For details, see [5.3.2.1.2.1 Custom Month Span](#).



If **Custom Season** is disabled, the battery is allowed to discharge all day (24 hours) without charging.

4. Click **Apply Settings**.

5.3.2.2.1.1.1 Custom Season

In the **Self-consumption** mode, users can set a battery charging/discharging plan to optimize the energy usage and management. With properly set battery charging/discharging windows, the system maximizes the use of PV output during on-peak hours and reduces the energy purchased from the grid during off-peak hours, thus lowering the electricity costs.

Allow Discharging

Allow the battery to discharge to serve the loads in a specific time period. All-day by default (0–24h).

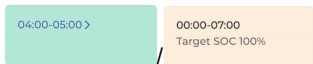
Force Charging

Charge the battery at the maximum power in a specific time period, without being restricted by the **Threshold on Power Feed-in (Demand Control)**, until the preset target SOC is reached. If the PV output cannot meet the battery charging power demand, the system is

allowed to charge the battery with energy from the grid. No time window is set for forced charging by default.

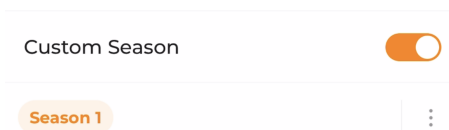


Battery discharging and charging windows can overlap. If a time window allows both battery discharging and forced charging, forced charging will be executed first.

Time Window Status	Description
	Allow Discharging: Green Forced Charging: Orange If the time window is displayed in a dark color, you can drag up and down to adjust its length, to a minimum of 15 minutes.
	Allow Discharging: Green Forced Charging: Orange If the time window is displayed in a light color, it indicates that the discharging or charging time has been set for this period of time. You can tap and delete the window.

Steps

1. Turn on **Custom Season**.
2. Select months for the current season. Users can set different seasons according to the energy demand and seasonal changes of each quarter.
3. Select the days on which the battery charging/discharging plan applies.
You can apply the charging/discharging plans to every day, or set different charging/discharging plans for weekdays and weekends respectively. The plan applies to every day by default.
 - **Every Day:** The set charging/discharging plan applies on all days. This mode is suitable for scenarios where the daily energy demand is relatively stable.
 - **Weekdays & Weekends:** Set different charging/discharging plans respectively for weekdays and weekends.
4. To add more seasons, tap  to the right of the default season name and select **Add**.



You can select a season and tap  to modify its name or delete it.

5. Tap a time period on the **Allow Discharging** column, a new discharging window will be created (1 hour by default). Then, drag up and down to adjust the length of time, and tap on the window again to add it.
6. Tap a time period on the **Forced Charging** column, a new charging window will be created (1 hour by default). Then, drag up and down to adjust the length of time, and tap on the window again to add it.
Tap on a time window that has been added, and choose **Set Target SOC** to set a charging target.

5.3.2.2.1.2 Time Plan

The **Time Plan** mode is mainly used in electricity transaction scenarios. You can set the time windows and power for battery charging/discharging manually, according to the on- and off-peak electricity prices, to maximize the economic benefits.

It is recommended to allow the battery to discharge during on-peak hours (when electricity prices are higher) and charge during off-peak hours (when electricity prices are lower).

Function Logic

- Discharging window: The battery discharges at the predefined discharging power within the set time period until it is fully discharged.
- Charging window: The battery charges at the predefined charging power within the set time period until it is fully charged.

Procedure

1. Navigate to the **Energy Management** page and select the **Time Plan** mode.
2. Select months for the current season. Users can set different seasons according to the energy demand and seasonal changes of each quarter.
3. Select the days on which the battery charging/discharging plan applies.

You can apply the charging/discharging plan to every day, or set different charging/discharging plans respectively for weekdays and weekends. The work plan applies to every day by default.

- **Every Day:** The set charging/discharging plan applies on all days. This mode is suitable for scenarios where the daily electricity price is relatively consistent.
- **Weekdays & Weekends:** Set different charging/discharging plans respectively for weekdays and weekends.

4. To add more seasons, click **Add** to the right of the default season name.



Before adding a season, you must first configure the charging and discharging time periods for the current season.

You can select a season and click  to modify its name or delete it.

5. Tap a time period in the **Discharge** or **Charge** time bar. A new discharging or charging window will be created (1 hour by default). Then, drag the left or right boundary of the window to adjust the length of time.



The discharging and charging windows cannot overlap.

The battery will not discharge in a time period with no settings. If the PV output is insufficient, the system purchases energy from the grid to meet the load demand, and allows the battery to charge from the excess PV energy.

6. Click a time window that has been added, set the discharging or charging power in **Power**.
7. Click **Apply Settings**.

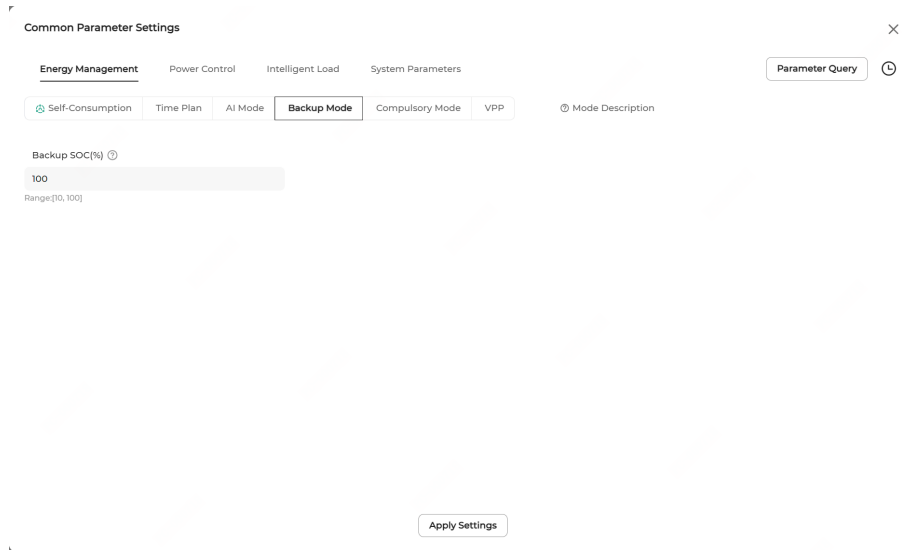
5.3.2.2.1.3 Backup Mode

The **Backup Mode** is mainly used for emergency power backup in off-grid scenarios. This mode can be enabled by the user based on the actual situation, and it will take effect once the settings are applied. In this mode, the battery charges at the maximum power until reaching the backup SOC, while battery discharging is not allowed.

Function Logic

- When the PV output power is sufficient, the system uses the PV power to charge the battery first. If, after this, there is excess energy, it will be supplied to the load.
- If the PV power cannot meet the backup demand, the system purchases energy from the grid to charge the battery.

Procedure



1. Navigate to the **Energy Management** page and select the **Backup Mode**.

2. Set the **Backup SOC**, in a range of 10–100.

The **Backup SOC** sets the upper limit for battery charging. If the current battery SOC is higher than this level, the system allows the battery to discharge until reaching the **Backup SOC**.

Example: If the current battery SOC is 80% and the **Backup SOC** is 70%, the battery is allowed to discharge to 70% SOC.

3. Click **Apply Settings**.

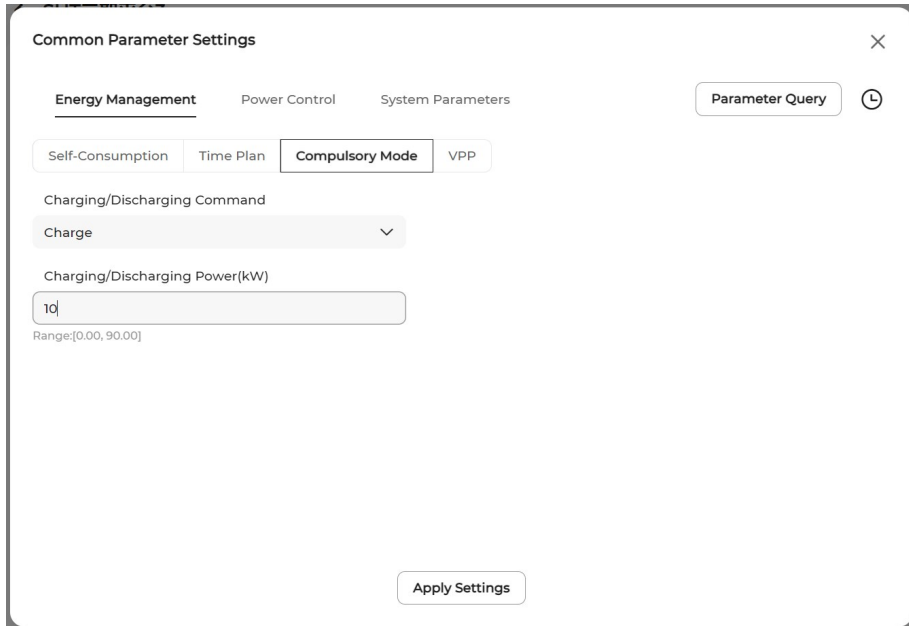
5.3.2.2.1.4 Compulsory Mode

The **Compulsory Mode** is mainly used in battery O&M to ensure it operates in compliance with the preset charging/discharging mode and power. Restore the system to the previous working mode after maintenance work is completed.

Function Logic

- **Forced Charging:** The battery charges at the preset charging power until it is fully charged.
- **Forced Discharging:** The battery discharges at the preset discharging power until it is fully discharged.

Procedure



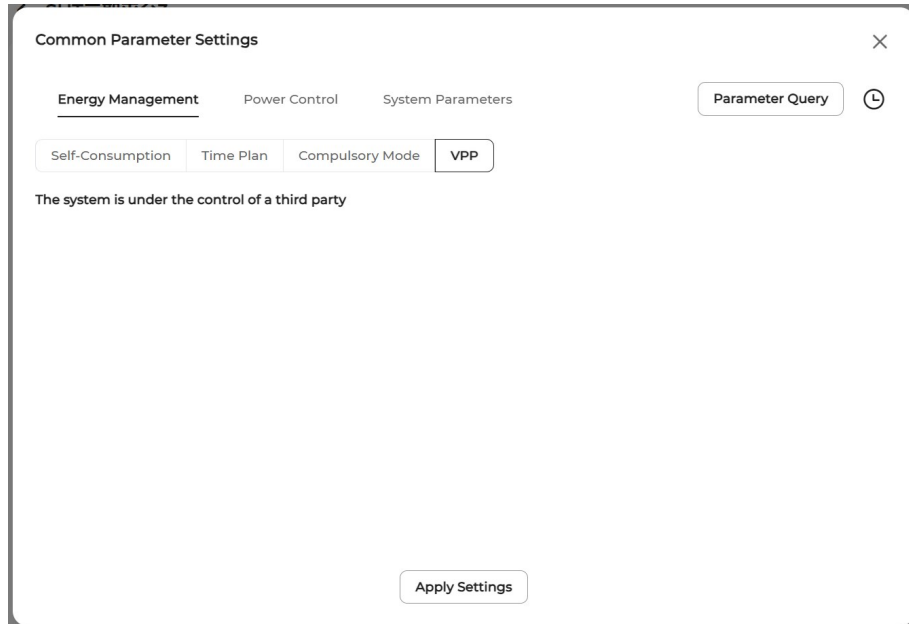
1. Navigate to the **Energy Management** page and select the **Compulsory Mode**.
2. Set the **Charging/Discharging Command**.
 - **Charge**: Force the battery to charge at the preset charging power until the battery SOC upper limit is reached.
 - **Discharge**: Force the battery to discharge at the preset discharging power until the battery SOC lower limit is reached.
 - **Stop**: Stop battery charging or discharging.
3. If **Charge** or **Discharge** is selected, set the target charging or discharging power in **Charging/Discharging Power**.
4. Click **Apply Settings**.

5.3.2.2.1.5 VPP

The **VPP** mode is mainly used when a third-party VPP provider is involved. In this mode, the system operates according to the feed-in power and battery charging/discharging commands from the VPP provider.

Energy management and scheduling will be conducted based on the external demands, to satisfy the needs and operational requirements of the grid and achieve efficient utilization and scheduling of external resources.

Procedure



1. Navigate to the **Energy Management** page and select **VPP** mode.
2. Click **Apply Settings**.

5.3.2.2.1.6 AI Mode

In the **AI Mode**, the system predicts future PV yield and household electricity use, based on the meteorological data and the user's consumption profile. It then decides on an optimal strategy to control battery charging/discharging and electricity usage in the household, thus maximizing the clean energy usage or the revenue.



A certain amount of data accumulation is required for AI mode to predict future production and consumption more accurately.

Procedure

1. Navigate to the **Energy Management** page and select the **AI Mode**.
2. Turn on or off **Storm Protection** as needed.
 - If **Storm Protection** is enabled, upon receiving an extreme weather alert, the system charges at maximum capacity until reaching the SOC upper limit, ignoring all the preset restrictions. When the extreme weather ends, the system will go back to the previous working mode.
 - Disable: The system will work as per the set working strategy.
3. Set **Working Strategy** to **Revenue Maximization** or **Maximizing PV Energy Usage**. See [5.3.2.2.1.6.1 Maximize Revenue](#) and [5.3.2.2.1.6.2 Maximize PV Energy Usage](#) for details.
4. Click **Apply Settings**.

5.3.2.2.1.6.1 Maximize Revenue

Function Logic

By analyzing the meteorological data, based on the PV energy production forecast, electricity price settings, and energy consumption by loads, the system controls the charging/discharging of the battery intelligently to minimize the electricity cost.



The meteorological data comes from official statistics.

Procedure

1. In the **Working Strategy** drop-down list, select **Revenue Maximization**.
2. Set tariffs. You can set **Dynamic Tariff** or **Fixed/TOU tariff**. For detailed instructions, see [4.3.7.2 Tariff Setting](#).

5.3.2.2.1.6.2 Maximize PV Energy Usage

Function Logic

Based on the PV energy production forecast and controllable loads, as well as the rated power and control time of the loads, to make the most of PV energy production.

Procedure

1. In the **Working Strategy** drop-down list, select **Maximize PV Energy Usage**.
2. Set the load's power and work plan.

- a. Turn on the load setting switch.
- b. Enter the **Load Name** and **Nominal Power**.
- c. Select the days on which the work plan applies.
 - **Every Day**: The work plan applies on all days.
 - **Weekdays & Weekends**: Set different work plans respectively for weekdays and weekends.
- d. Set the **Start Time** and **End Time** of work for the load. You can also click **Add Time** to add more time windows.

5.3.2.3 Common Parameter Settings of Energy Management System

On the **Settings** page, select **Energy management system** from the **Device type** drop-down list, and then click  in the **Action** column for the target energy management system to configure parameters on the **Common parameter settings** window. See [4.3.12 Strategy Configuration](#) for details.

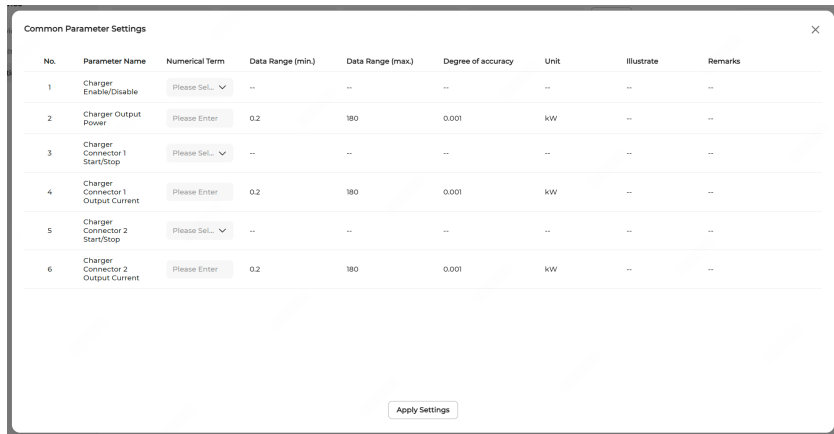


This function is applicable to the Australian server.

5.3.2.4 Common DC Charger Settings

Procedure

1. To set parameters for a DC charger, navigate to the **Device > Settings** page, select **DC Charger** from the device type drop-down list, and then click  in the **Action** column for that DC charger.



Common Parameter Settings

No.	Parameter Name	Numerical Term	Data Range (min.)	Data Range (max.)	Degree of accuracy	Unit	Illustrate	Remarks
1	Charger Enable/Disable	Please Sel...	--	--	--	--	--	--
2	Charger Output Power	Please Enter	0.2	180	0.001	kW	--	--
3	Charger Connector 1 Start/Stop	Please Sel...	--	--	--	--	--	--
4	Charger Connector 1 Output Current	Please Enter	0.2	180	0.001	kW	--	--
5	Charger Connector 2 Start/Stop	Please Sel...	--	--	--	--	--	--
6	Charger Connector 2 Output Current	Please Enter	0.2	180	0.001	kW	--	--

Apply Settings

2. Click **Apply Settings**.

5.3.3 Advanced Settings

Procedure

1. Select the device to be set from the list.
2. Click  to enter the **Advanced settings** page.

All plants

Inverter

Device model

Device S/N

Search

Filter

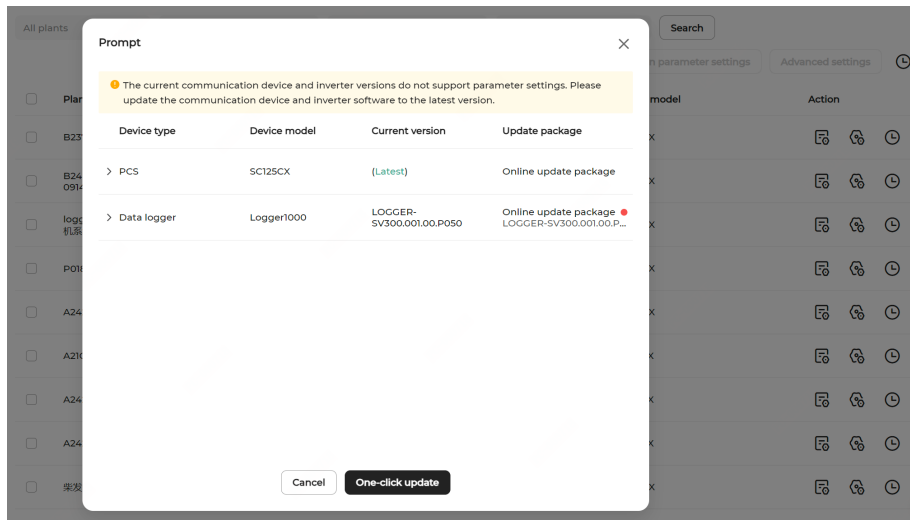
Template library

Initial grid connection

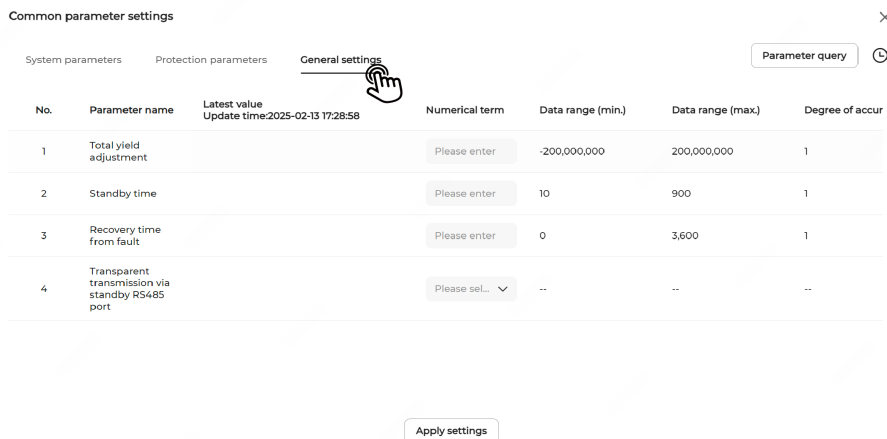
Common parameter settings

☐	Plant name	Device name	Initial grid	Device S/N	Device model	Count	Action
☐			Already set		SG6.0RS		  ...
☐			Already set		SG20RT		  ...
☐			Already set		SG20RT		  ...
☐			Already set		SG250HX		  ...
☐			Already set		SG125CX-P2		  ...
☐			Already set		SG125CX-P2		  ...
☐			Already set		SG125CX-P2		  ...
☐			Already set		SG320HX		  ...

3. If you are not able to proceed with parameter settings for the device and the following prompt appears, click **One-click update > Confirm and update**. The device will be updated automatically.



- Then, click **Advanced settings**. If you still cannot set parameters for the device, click **Feedback** to submit your feedback.
- Click the target tab and configure the corresponding parameters.



The supported advanced parameters vary by device. Please refer to the actual page.

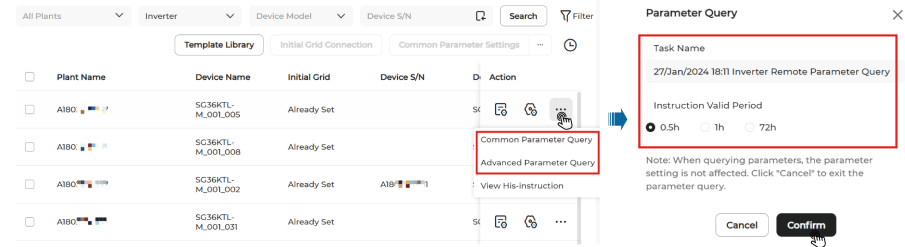
- Click **Apply settings** and then click **Confirm** in the pop-up window.

5.3.4 Parameter Query

This feature allows you to search for and check the inverter's parameter settings.

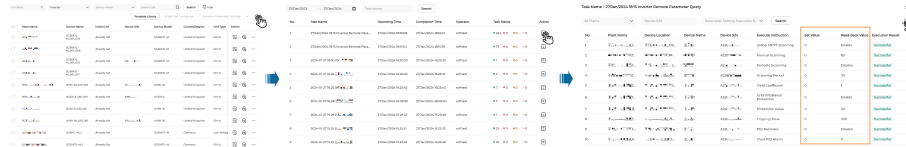
Procedure

- Select the device you want to check from the list.
- Click **...**, choose **Common Parameter Query** or **Advance Parameter Query**.



3. Enter the **Task Name**, set the **Instruction Valid Period**, and click **Confirm**.

4. Click to open the task list.



5. Select a task with “Parameter Query” in its name, click in the Action column to check the execution result of the parameter setting, and the set value and read-back value of the instruction executed.

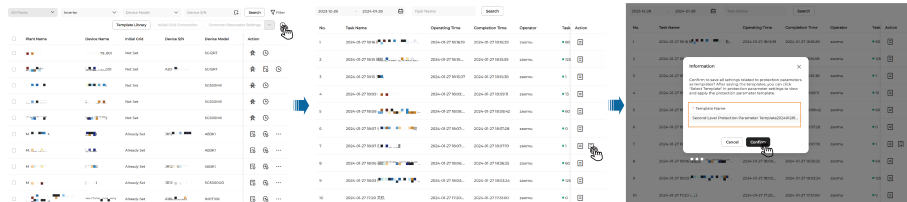
6. Click to export the query results.

5.3.5 Template Library

You can save the protection parameter configuration as a template, and apply it to different plants in batch, to improve the O&M efficiency.

Add a template

Add a template in task List

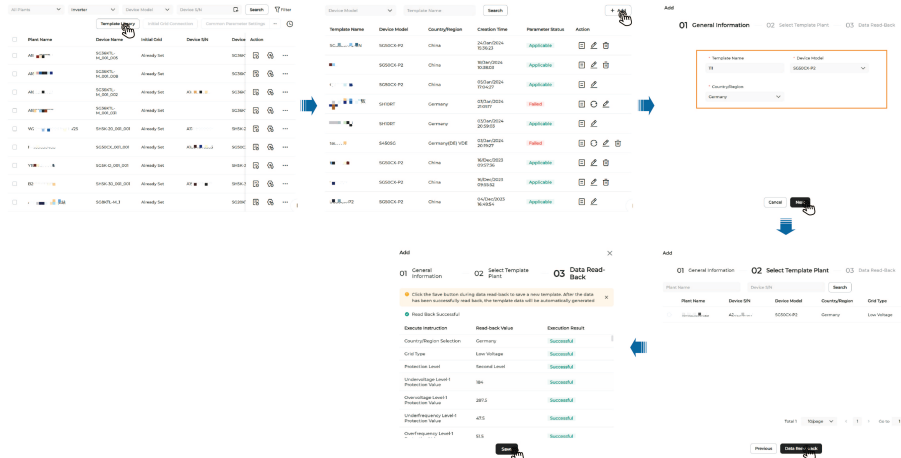


1. Go to “**Settings**” and click in the upper right corner of the page to open “Task List”.

2. Choose a successful task, and click in the Action column to save it as a template.

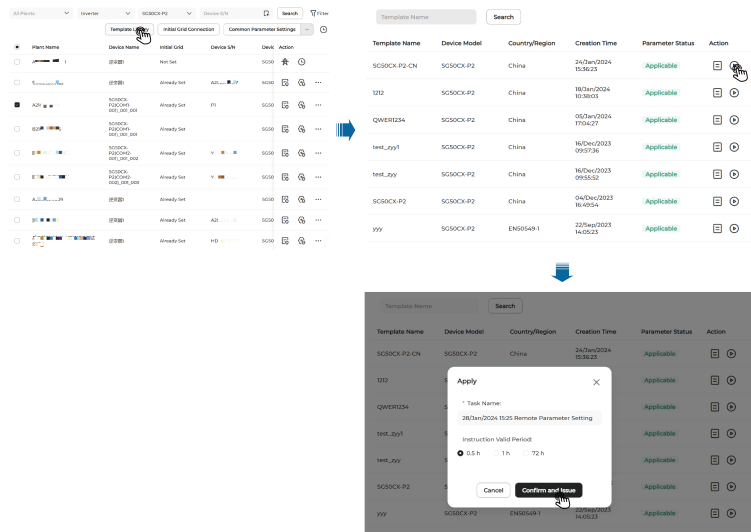
3. Enter the template name, and then click **Confirm**.

Add a template manually



1. Go to “**Settings**”, and click **Template Library** in the upper right corner of the page.
2. Click **Add** at the upper right.
3. Fill in the general information, and then click **Next**.
4. Select the template plant, and choose **Data Read-Back > Save** to save the parameter settings of this plant as a template for future use.

Apply a template



1. Select the plants to which the template is to be applied, and then click **Template Library**.
2. Choose a template, and click  on the right.
3. Confirm the **Task Name** and **Instruction Valid Period**. Then, click **Confirm and Issue** to complete the setting.

Edit a template

Device Model

▼

Template Name

Search

+ Add

Template Name	Device Model	Country/Region	Creation Time	Parameter Status	Action
SG50CK-P2-CN	SG50CK-P2	China	24/Jan/2024 15:36:23	Applicable	

1. Go to “**Settings**”, and click **Template Library** in the upper right corner of the page.
2. Click to the right of the template. You can then view the read-back values of the parameters contained in the template.
3. Click to edit the **Template Name** and **Country/Region**.
4. Click to delete the template.

5.4 Firmware Update

After logging in to the iSolarCloud system, choose **Device > Firmware Update**. You will see the page shown below .

All Plants

Inverter

Device Model

Device S/N

Search

Firmware Update

☐	Plant Name	Device Name	Device Type	Device S/N	Device Model	Online Status	Current Version	Action
☐	zjtest升级设置的电站	SG2K5-S_1	Inverter	--	SG3K-S	Offline	Check Version	
☐	zjtest升级设置的电站	SG5K-D-V36_1	Inverter	A1803241001	SG6K-D	Offline	Check Version	
☐	LTEST1811292539的电站	SG6K-D_1	Inverter	--	SG5K-D	Offline	Check Version	
☐	TIME1811292541的电站	SG5K-D_3	Inverter	--	SG3K-S	Offline	Check Version	
☐	92544的电站	SG5K-D_3	Inverter	--	SG5K-D	Offline	Check Version	
☐	92544的电站	SG5K-D_3	Inverter	--	SG5K-D	Offline	Check Version	
☐	92544的电站	SG5K-D_3	Inverter	--	SG5K-D	Offline	Check Version	
☐	Y1811292544的电站	SG5K-D_3	Inverter	--	SG5K-D	Offline	Check Version	

Figure 5-4 Firmware Update

Procedure

- Search for a device
 1. Click to select the plant where the device is installed. You can select multiple plants at a time.
 2. Select the type and model of the device.
 3. Enter the device S/N. You can input more than one S/N here, but make sure they are separated by commas. Then, click **Search**.
- Check the device's firmware version
Click **Check Version** to check the version of the device's each module.
- Update a device
 1. Click the icon following the device name.

2. Choose **Online Update Package** or **Local Update Package**.
 3. Set **Single Device Update Timeout**, and click **Update**.
- Update devices in batch
 1. Select devices of the same model, and click **Firmware Update** in the upper right corner of the page.
 2. Choose **Online Update Package** or **Local Update Package**.
 3. Set **Single Device Update Timeout**, and click **Update**.
 - View task history

Click  in the upper right corner of the page to view all the device update tasks under the current account.
 - View the update history of a specific device

Click the icon  to view all the update tasks of the corresponding device.

6 Maintenance

After logging in to the iSolarCloud system, click **Maintenance** in the side navigation bar to open the page for O&M.

6.1 Curve

After logging in to the iSolarCloud system, click **O&M** in the side navigation bar.

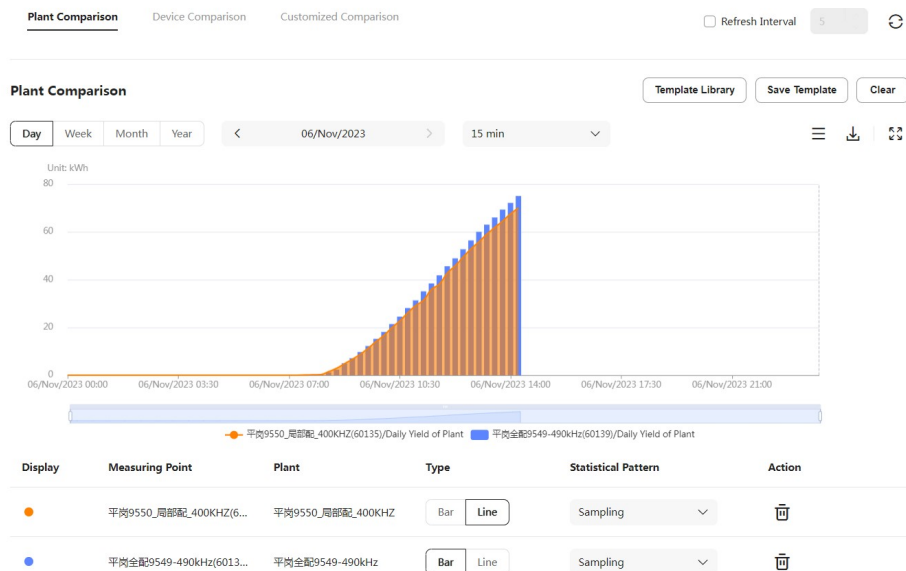


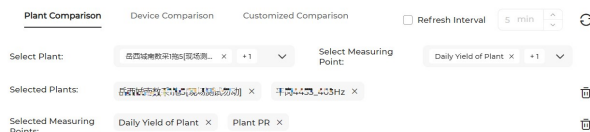
Figure 6-1 Curve

6.1.1 Plant Comparison

Plant Comparison is used to compare the measuring points of different plants.

Procedure

- Select plants and measuring points



- Click ✓ to select the plants and measuring points that need to be compared.
- Click ✗ following the plant or measuring point to delete it.

3. Click  to delete all the plants or measuring points that have been selected.
4. If too many plants and measuring points are selected, you can click  or  to show or hide items.
5. Click **Save Template**, enter the **Template Name**, and click **Confirm**. The template that has been saved can be viewed in **Template Library**.

Save Template
×

Template Name

test

Note: Once saved, templates can be viewed in the [template library](#)

Cancel
Confirm

- Apply different time periods and intervals to the curves

Day

Week

Month

Year

<

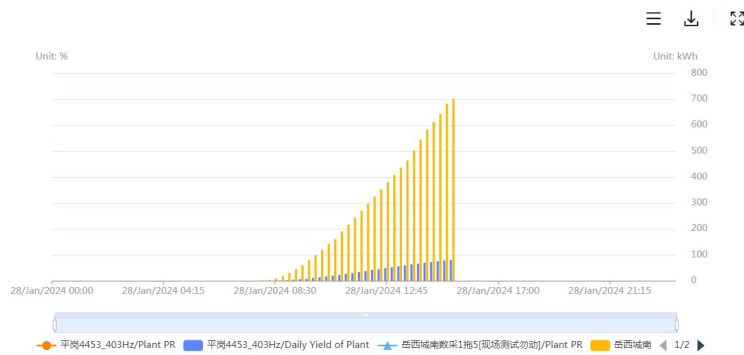
28/Jan/2024

>

15 min

▼

1. Click “Day”, “Week”, “Month”, or “Year” to show curves based on data collected from different time periods.
 2. Click  to apply a specific time interval to the curves.
- View comparison results



1. Click  or  to show results in a table or chart.
2. In the chart view, you can click **Bar** or **Line** to switch between the bar and line graph.
3. Click  to download the data currently presented. In the table view, you can download the results in Excel or CSV format; in the chart view, you can download the results in PNG format.
4. Click  to view curves in full screen.

5. Click  to exit the full-screen mode.

6.1.2 Device Comparison

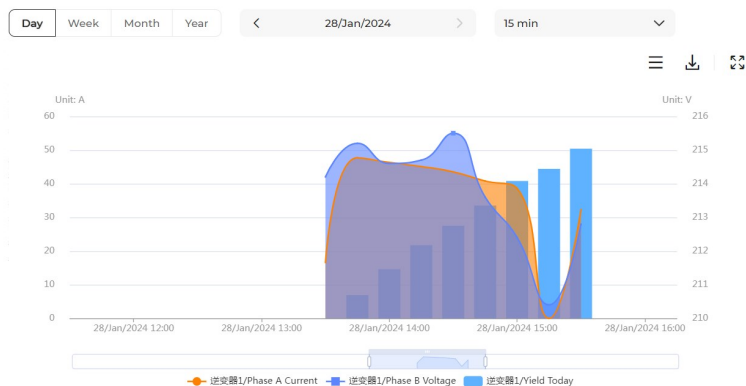
Device Comparison is used to compare the measuring points of devices of the same type.

Procedure

- Select devices and measuring points



- Select the device type.
 - Select the plant where the devices are located, and the model and name of the devices.
 - Select the measuring points to be compared.
 - Click  following the device or measuring point to delete it.
 - Click  to delete all the devices or measuring points that have been selected.
 - If too many devices and measuring points are selected, you can click  or  to show or hide items.
 - Click **Save Template**, enter the **Template Name**, and click **Confirm**. The template that has been saved can be viewed in **Template Library**.
- Apply different time periods and intervals to the curves
 - Click “Day”, “Week”, “Month”, or “Year” to show curves based on data collected from different time periods.
 - Click  to apply a specific time interval to the curves.
 - View comparison results



1. Click  or  to show results in a table or chart.
2. In the chart view, you can click **Bar** or **Line** to switch between the bar and the line graph.
3. Click  to download the data currently presented. In the table view, you can download the results in Excel or CSV format; in the chart view, you can download the results in PNG format.
4. Click  to view curves in full screen.
5. Click  to exit the full-screen mode.

6.1.3 Customized Comparison

Customized Comparison is used to compare the measuring points of any plants and devices.

Procedure

- Select measuring points
 1. Click  in the plant list on the left to select the measuring points that need to be compared. You can select measuring points of any plants and devices.
 2. Click  following the measuring point to delete it.
 3. Click **Save Template**, enter the **Template Name**, and click **Confirm**. The template that has been saved can be viewed in **Template Library**.
- Apply different time periods and intervals to the curves
 1. Click “Day”, “Week”, “Month”, or “Year” to show curves based on data collected from different time periods.
 2. Click  to apply a specific time interval to the curves.
- View comparison results
 1. Click  or  to show results in a table or chart.
 2. In the chart view, you can click **Bar** or **Line** to switch between the bar and the line graph.
 3. Click  to download the data currently presented. In the table view, you can download the results in Excel or CSV format; in the chart view, you can download the results in PNG format.
 4. Click  to view curves in full screen.
 5. Click  to exit the full-screen mode.

6.2 Intelligent Analysis

The intelligent analysis function is used to analyze and show the performance of plants and devices in real time. Here you can view the analysis results in detail.

After logging into the iSolarCloud system, choose **O&M > Intelligent Analysis**. You will see the page shown below.

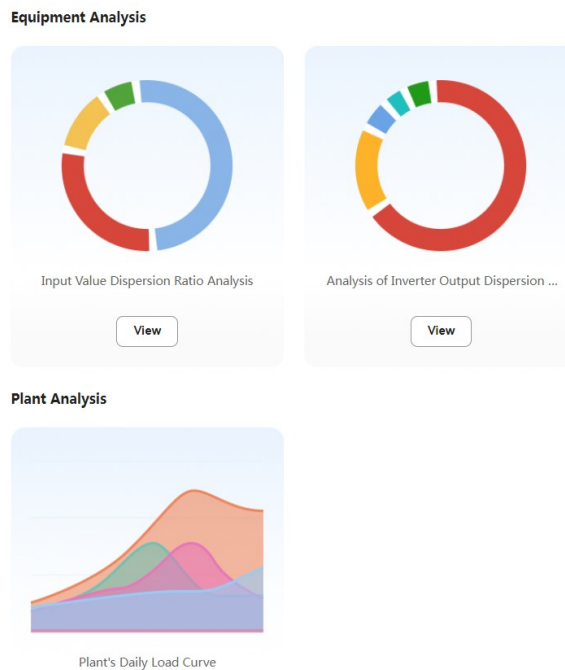


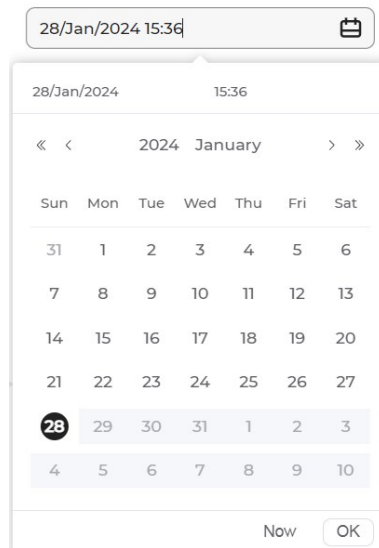
Figure 6-2 Intelligent Analysis

6.2.1 Input Value Dispersion Ratio Analysis

Click **Input Value Dispersion Ratio Analysis**, and you will go to “**Analysis of Inverter Input Dispersion Rate**” by default. Here you can check the pie chart and table generated based on the results of input value dispersion rate analysis. You can also switch to **Analysis of Combiner Box Input Dispersion Rate** to check the analysis results of the combiner box data.

Procedure

- Select a time period for data review



Click , and select a time period you want to review. Then, click **Confirm**.

- Download the chart of input value dispersion analysis

Click , and the dialog pops up. Select a path to save the chart, and click “Download”. The chart will then be downloaded and saved in your local system.

- Switch between “Average Current” and “Average Normalized Power”

Click  to switch between “Average Current” and “Average Normalized Power”.

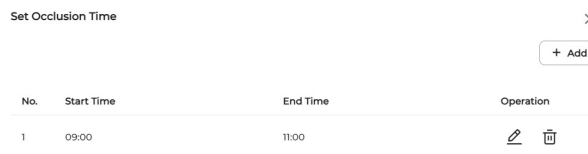
- Set occlusion time for one string



1. Click  below a String x, and the dialog titled **Set Occlusion Time** will show up.

2. Click **Add**, set the **Start Time** and **End Time**, and click .

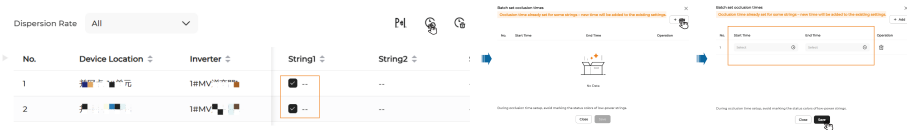
3. Proceed as follows based on the actual situation.



During occlusion time setup, avoid marking the status colors of low-power strings.

Close

- Click **Add**, and repeat the step above.
- Click  to change the current settings.
- Click  to delete the current settings.
- Set occlusion time in batch

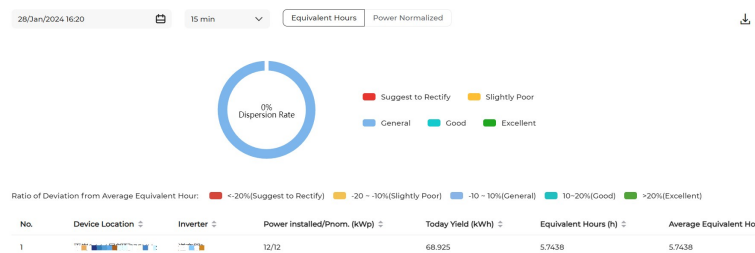


1. Select the strings to be set, and click  in the upper right corner of the table. A dialog titled **Batch set occlusion times** will show up.
2. Click **Add**, set the **Start Time** and **End Time**, and click **Save**.
3. Proceed as follows based on the actual situation.
 - Click **Add**, and repeat the step above.
 - Click  to delete the current settings.
- Clear the occlusion time settings in batch
 1. Select the strings, and click  in the upper right corner of the table. A dialog will then show up.
 2. Click **Confirm** to clear the settings for these strings.

6.2.2 Analysis of Inverter Output Dispersion Rate

Click **Analysis of Inverter Output Dispersion Rate**. Here you can check the pie chart and table generated based on the results of output dispersion rate analysis.

Procedure



- Select a time period for data review

Click , and select a time period you want to review. Then, click **Confirm**.
- Download the chart of output dispersion analysis

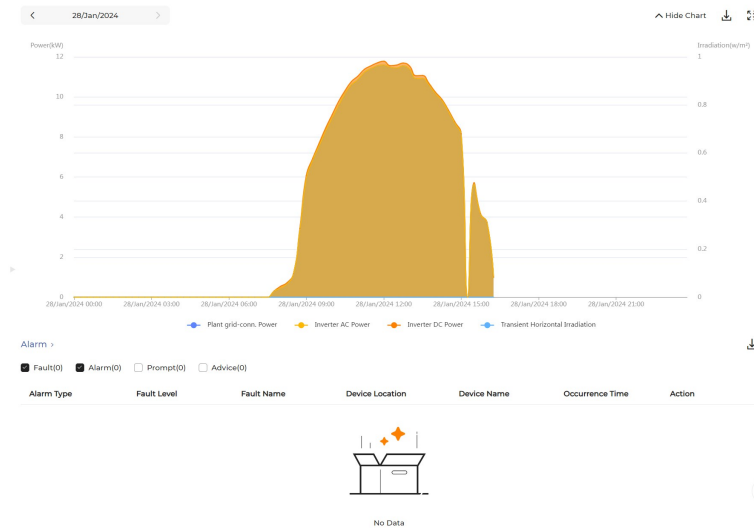
Click , and the dialog pops up. Select a path to save the chart, and click "Download". The chart will then be downloaded and saved in your local system.
- Switch between "Average Current" and "Average Normalized Power"

You can switch between **Equivalent Hours** and **Power Normalized** by clicking the corresponding tabs.

6.2.3 Plant's Daily Load Curve

Click **Plant's Daily Load Curve**. Here you can check the curves related to the plant's operating status and the fault alarms.

Procedure



- Select a date for curve review
Click **<** and **>** to select the date for curve review.
- Hide and show the daily load curves
Click **Hide Chart** to hide the daily load curves. Click **Display Chart** to show the daily load curves.
- Download the daily load curve
Click  in the upper right corner of the curve graph, and a dialog will then pop up. Select a path to save the curve graph, and click "Download". The curve graph will then be downloaded and saved in your local system.
- Download alarm information
Click  in the upper right corner of the alarm list, and a dialog will then pop up. Select a path to save the alarm records, and click "Download". The alarm records will then be downloaded and saved in your local system.

6.3 Remote Maintenance

After logging into the iSolarCloud system, choose **O&M > Remote Maintenance**. Here you can access your devices via a remote link.

I18N_COMMON_ALL_PLANTS		Device S/N		Search
Device Name	Device S/N	LAN address	HTTP remote connection address	TCP remote connection address
e789439f09f	CG666888	127.0.0.1:80	http://e789439f09f.testconn...	
5fc699908a4	T201803200033	127.0.0.1:80	http://5fc699908a4.testconn...	
ab80cfb04c4	Y2009816315	127.0.0.1:80	http://ab80cfb04c4.testconn...	
c1a2769c713	ZCS20201121	127.0.0.1:80	http://c1a2769c713.testcon...	

Figure 6-3 Remote Maintenance

Procedure

- Select the plant, enter Device S/N, and click **Search** to look for the device.
- Click the link in **HTTP remote connection address** to open it directly.
- You can click  to copy the link.



The remote maintenance function is available for EyeM4, Logger1000, Logger3000, and Logger4000 only.

6.4 Live data

Users granted access to “Live Data” can use it to evaluate the operating status of the device based on the real-time device data.

After logging in to the iSolarCloud system, choose **O&M > Live Data**. You will see the page shown below.

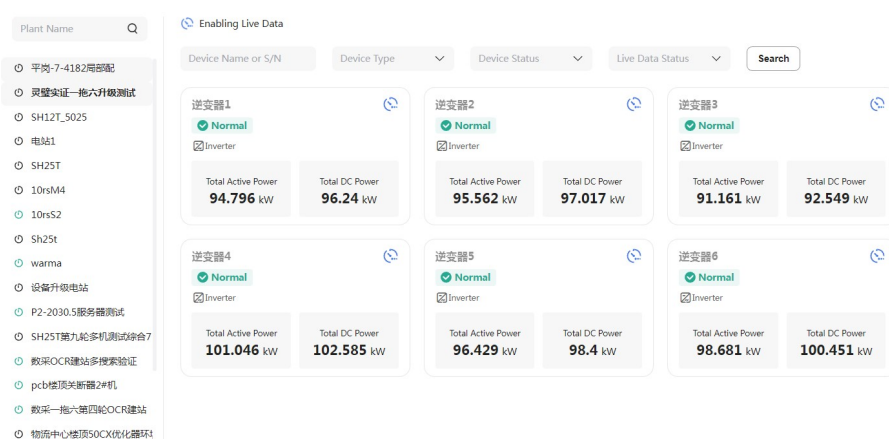


Figure 6-4 Live data

Procedure

- Enable live data
 1. Choose a plant you want to review in the plant list on the left. You may also enter the plant name in the search box at the top of the list to look for the plant.
 2. In the search boxes, enter **Device Name or S/N**, select the **Device Type**, **Device Status**, **Live Data Status**, and click **Search** to show devices that meet the search criteria.
- View live data
 1. Click the device card, and you will go to the **Main Measuring Point** tab page by default.
 2. Click  following a measuring point to view its curve.
 3. Click **AC Curve** to view the phase voltage and current curves.

6.5 IV Curve Online Diagnosis

This function is used to perform online IV curve diagnosis. By applying the diagnosis algorithm and through analysis, the faulty module can be located automatically, and diagnosis report and O&M suggestions will be provided. It can help to improve the O&M efficiency and the yield of the plant.

☐ After logging in to the iSolarCloud system, choose **O&M > IV Curve Online Diagnosis**. Here you can run an online diagnosis on modules in the plant at unit level or inverter level. The interface is shown below.

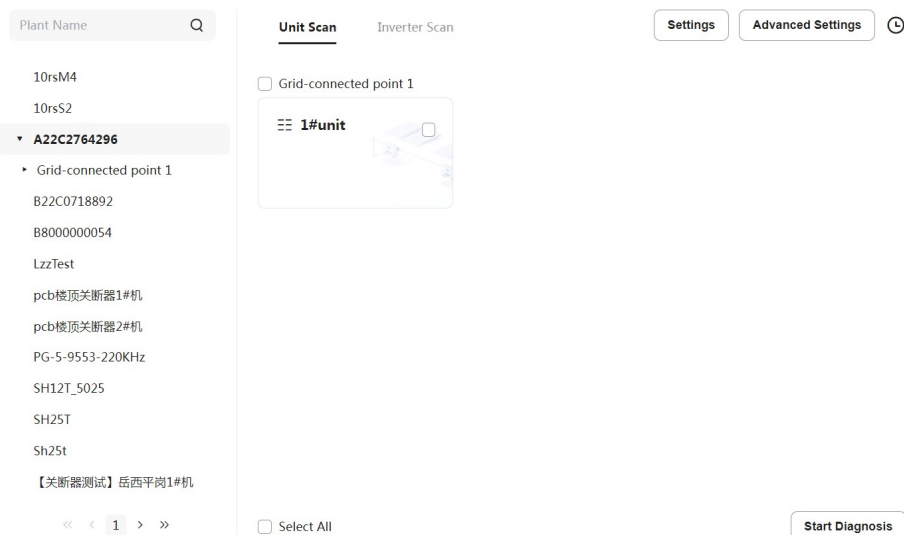


Figure 6-5 IV Curve Online Diagnosis

6.5.1 Parameter Setting

Click **Settings** in the upper right corner, and you will then go to **Settings**. You need to complete the settings in **Plant Parameter** and **Inverter Parameters** before performing the IV curve diagnosis for the first time.

Procedure

- Set plant parameters

The screenshot shows the 'Plant Parameter' tab in the settings menu. Under 'Plant Terrain', the selection is 'String orientation is consistent'. Below this, there are two rows of images illustrating different roof types. The first row, labeled 'String orientation is consistent', shows flat roofs and single-pitched roofs. The second row, labeled 'String orientation is inconsistent', shows double-pitched, quadruple-pitched, and mansard roofs. At the bottom of the interface are 'Cancel' and 'Confirm' buttons.

Select **String orientation is consistent** or **String orientation is inconsistent** in "Plant Terrain" based on the actual situation.

- Set parameters for one inverter
 - Find the target inverter, and click  in the Action column.
 - Select the **Module Model** and **Initial Commissioning Time of PV Modules**.

String Configuration Information

The screenshot shows two dropdown menus for string configuration. The first dropdown is labeled '* Module Model' and the second is labeled '* Initial Commissioning Time of PV Modules'. Both dropdowns currently display 'Please Select'. A calendar icon is visible next to the second dropdown.

- If the Y-type branch connector is used on the site, turn on the "Branch Connector" toggle button. If the number of modules connected to each string is different, please set the number of modules for each string separately. If the field is set to "0" or left empty, it indicates no module is connected.

Branch Connector ☒

String	Quick Configuration	PV1	PV2	PV3	Action
String Configurations	Please Enter	4	6	8	
Branch Connector		☒	☒	☒	

Figure 6-6 Strings have different number of modules

- If the Y-type branch connector is not used on the site, turn off the "Branch Connector" toggle button. If the strings all have the same number of modules, you can enter the number of modules connected to each string in "Quick Configuration", and this value will then be auto-filled in the fields of all PV strings.

Branch Connector ☐

String	Quick Configuration	PV1	PV2	PV3	Action
String Configurations	10	10	10	10	

Figure 6-7 Strings have the same number of modules

- Click **Confirm**.
- Set parameters for a group of inverters
 - Select inverters of the same model, and click **Batch Settings**.
 - For the rest of the steps, refer to the instructions for setting a single inverter.

6.5.2 Advanced Settings

Select a plant on which you want to perform IV curve scanning from the plant list on the left. Click **Advanced Settings** in the upper right corner of the page.

Procedure

U-system	1000V	Parameters	Parameter Name	Search	+Add
U-system(V)	Parameters	Parameter Name	Parameter Value	Action	
1000	1000		1,000		
1000	123		987		
1000	AzimuthTimeThrd		30		
1000	LowImThre		0.8		
1000	shadowThreU		0.5		
1000	ShadowThreD		0.3		
1000	PIntervalThre		0.5		

- Search for advanced parameter settings
Set **U-system**, enter the parameter and its name, and then click **Search**. Parameters that meet the search criteria will then be shown on the screen.
- Add a parameter
 - Click **Add** in the upper right corner.

2. Select the **U-system**, enter the **Parameter**, **Parameter Name**, and **Parameter Value**, and then click **Confirm**.

3. A message box will show up, saying that your settings have been saved successfully. Click **Confirm**.

- Modify a parameter

1. Click  in the Action column.
2. Here you can change the **Parameter Name** and **Parameter Value**, and choose whether to apply this change to all plants. Then, click **Confirm**.

3. A message box will show up, saying that your settings have been saved successfully. Click **Confirm**.

- Delete a parameter

- Click  in the Action column. In the popped-up deletion confirmation dialog, click **Confirm**.
- A message box will show up, saying that the parameter has been deleted. Click **Confirm**.

6.5.3 Unit Scan

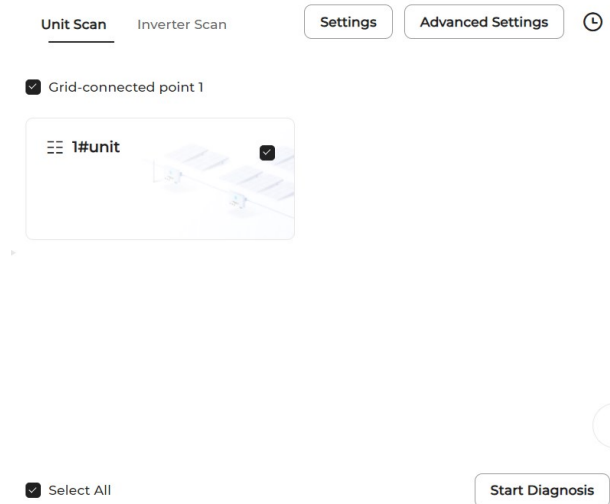
Prerequisite

You cannot perform IV curve scanning on an offline plant.

The unit scan function is not available for residential PV and residential energy storage plants.

- Step 1** Select the plant, on which you want to perform IV curve scanning, from the list. You will then go to the **Unit Scan** tab. Inverters in the plant will all be scanned by default.

Step 2 Select the unit, and click **Start Diagnosis** in the lower right corner. The system will verify whether settings of device parameters have been completed. If the parameters have not been set, a prompt will show up. Click **Complete Them Now**. For details, see [6.5.1 Parameter Setting](#).

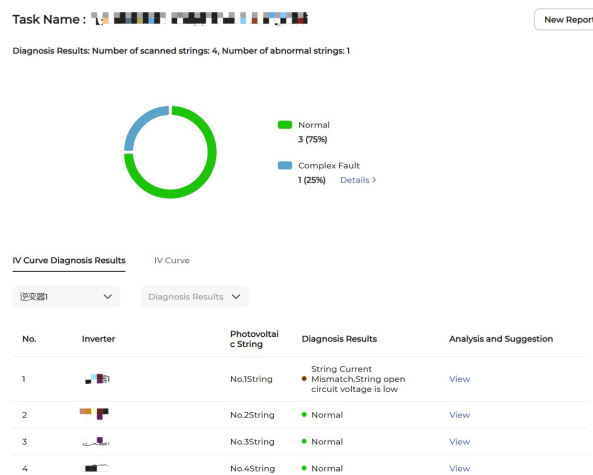


Step 3 Enter the task name, and click **Confirm**.

Step 4 Once the command is sent out, the scanning status will be refreshed in real time, with diagnosis progress showing at the bottom of the screen.

Step 5 After the scan is complete, click **Diagnosis Results** to check the result.

Step 6 The diagnosis result and the number of abnormal strings will be presented in the upper half of the page.



Step 7 Click **New Report**, select the report type and device, and click **Confirm**. You will then go to the report list automatically. You can click to preview the diagnosis report online. Click to download the diagnosis report to your local system.

--End

6.5.4 Inverter Scan

- Step 1** Select the plant, on which you want to perform IV curve scanning, from the list. You will then go to the **Unit Scan** tab by default.
- Step 2** Choose **Inverter Scan**. You can have one or multiple inverters scanned.
- Step 3** Select the inverter, and click **Start Diagnosis** in the lower right corner. The system will verify whether settings of device parameters have been completed. If the parameters have not been set, a prompt will show up. Click **Complete Them Now**. For details, see [6.5.1 Parameter Setting](#).
- Step 4** For other steps, see Step 3 to 7 in [6.5.3 Unit Scan](#).

--End

6.6 Plant Operation Report

After logging in to the iSolarCloud Web, go to the Home page and choose **Maintenance > Plant operation report**. On this page, you can export the operation report of a plant.

Task name	Send frequency	Recipient	Email	Reminder method	Action
1234	Jun, Jul, Aug, Sep, Oct, Nov, Dec	langwei@emakfadmin-langwei	zuo.1...	Mail	
1234	Every month, Annually	langwei@emakfadmin-langwei	*****@qq.com	Mail	
1234	Jan, Mar, May, Jul, Sep, Nov	zuo.1234@emakfadmin-langwei	*****@qq.com	Mail	
1234	Every month, Annually	langwei@emakfadmin-langwei	*****@qq.com	Mail	

- Step 1** On the **Plant operation report** page, a list of report export tasks is displayed.
- Step 2** Click **Scheduled report settings** or **Report export** in the upper right corner.
- Scheduled report settings: Send reports periodically based on the selected plant and time.

- a. Click **Scheduled report settings** in the upper right corner of the page.
- b. Enter the **Task name**
- c. Click to select plants (multiple selections are supported).
- d. Configure the settings for **Subscribe monthly report**, **Subscribe annual report**, and **Report recipient**.



A maximum of 20 recipients can be selected.

- e. To edit the information of a recipient, click in the **Action** column for that recipient.
 - f. Click **Confirm**.
- Report export: Export the operation report of the selected plant immediately.

- a. Click **Report export** in the upper right corner.
- b. Click  to select a plant.
- c. Select a **Time frame**.



The selected time frame cannot exceed 1 year.

- d. Click **Export** to download the report to your local system.

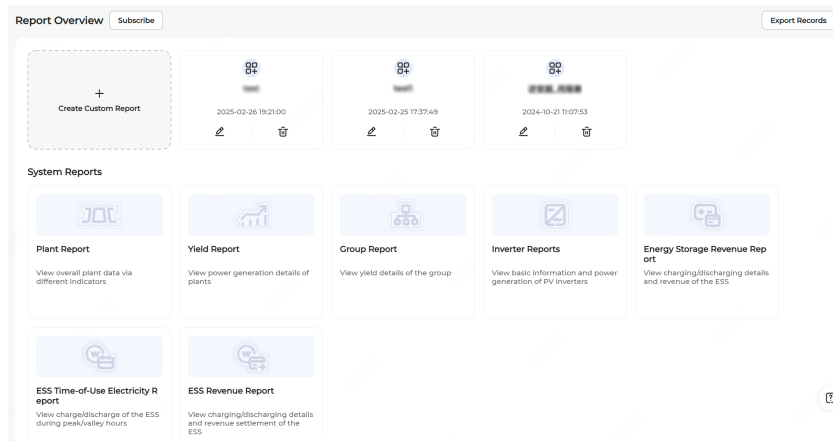
Step 3 To edit the information of an export task, click  in the **Action** column for that task.

Step 4 To delete an export task, click  in the **Action** column for that task.

--End

7 Report

After logging in to the iSolarCloud system, click **Report** in the side navigation bar to view, export, and subscribe to reports. The system offers a selection of default reports and allows you to create custom reports by selecting the indicators you need.



7.1 Custom Report

Create a Custom Report

Procedure

1. Click **Create Custom Report** in the upper left corner to access the **Create New Report** page.

2. Select the **Report Type**, enter a **Report Name**, and choose desired report indicators.



Report Name Requirements: Names must be unique under each user account, not exceed 20 characters, and avoid special characters.

3. Click **Save > Confirm**. The report will be created and displayed on the **Report Overview** page.

Edit a Custom Report

Procedure

1. Click to access the **Custom Report** page.
2. Modify the **Report Type**, **Report Name**, or the selected indicators as needed.
3. Click **Save > Confirm** to confirm the changes.

Delete a Custom Report

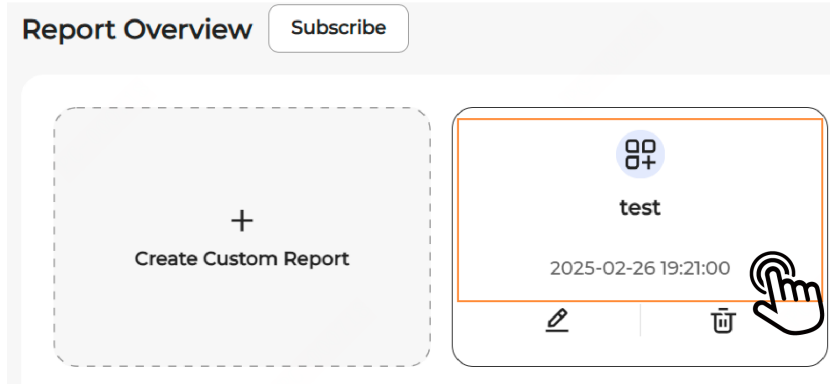
Procedure

- Click > **Delete** to delete the report.

Use a Custom Report

Procedure

1. Click on an existing custom report to view it.



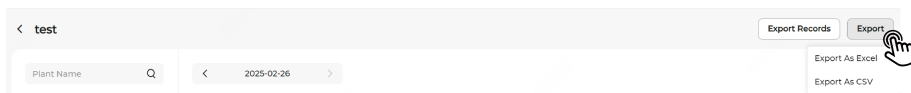
2. Select a plant (or multiple plants) in the plant list on the left. The report data for selected plants will populate on the right. You can click **Clear** to reset your selections.

Plant Name	Time	Daily Yield(kWh)	Total Yield(kWh)	Plant Information	Daily Consumption(kWh)	Total Power Consumption(kWh)	De
Plant 1	2025-02-26 00:00						
Plant 1	2025-02-26 01:00						
Plant 1	2025-02-26 02:00						
Plant 1	2025-02-26 03:00						
Plant 1	2025-02-26 04:00						
Plant 1	2025-02-26 05:00						
Plant 1	2025-02-26 06:00						
Plant 1	2025-02-26 07:00						
Plant 1	2025-02-26 08:00						
Plant 1	2025-02-26 09:00						
Plant 1	2025-02-26 10:00						
Plant 1	2025-02-26 11:00						
Plant 1	2025-02-26 12:00						
Plant 1	2025-02-26 13:00						
Plant 1	2025-02-26 14:00						
Plant 1	2025-02-26 15:00						
Plant 1	2025-02-26 16:00						
Plant 1	2025-02-26 17:00						
Plant 1	2025-02-26 18:00						
Plant 1	2025-02-26 19:00						
Plant 1	2025-02-26 20:00						
Plant 1	2025-02-26 21:00						
Plant 1	2025-02-26 22:00						
Plant 1	2025-02-26 23:00						
Plant 1	2025-02-26 00:00						

Export a Custom Report

Procedure

- Click **Export** and choose either **Export As Excel** or **Export As CSV** to export the current report. An export record will be displayed on the **Export Records** page.



7.2 System Reports

The platform supports the following predefined system reports:

- **Plant Report:** View overall plant data via different indicators.
- **Yield Report:** View power generation details of plants.
- **Inverter Reports:** View basic information and power generation of PV inverters.
- **Energy Storage Revenue Report:** View charging/discharging details and revenue of the ESS.

- ESS Revenue Report: View charging/discharging details and revenue settlement of the ESS.
- ESS Time-of-Use Electricity Report: View charge/discharge of the ESS during peak/valley hours.

7.2.1 Plant Report

The Plant Report provides an overview of plant data across various metrics.

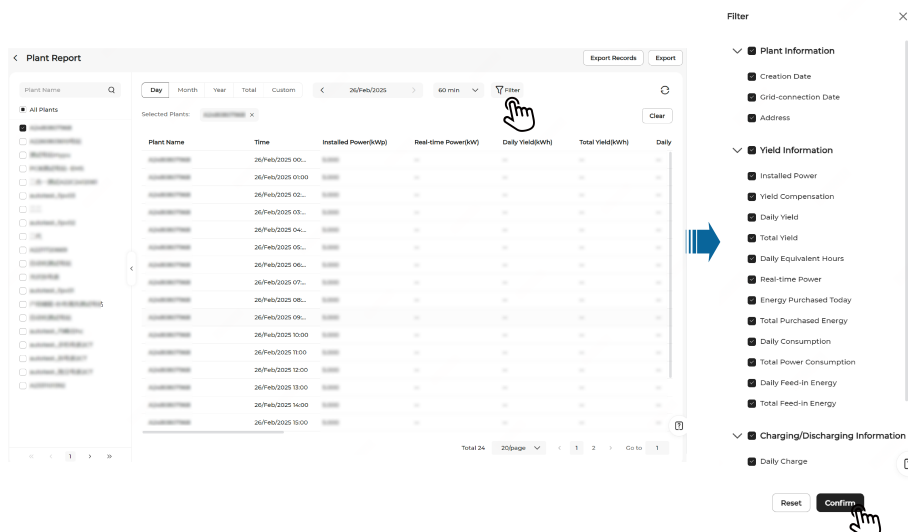
Procedure

1. Click **Plant Report** on the **Report Overview** page.

The screenshot shows the 'Plant Report' interface. On the left, there is a list of plants under 'All Plants'. The main area displays a table of data for a selected plant. The table has columns for Plant Name, Time, Installed Power(kWp), Real-time Power(kW), Daily Yield(kWh), Total Yield(kWh), and Daily. The data is filtered for 26/Feb/2025, 60 min interval. The table shows 24 rows of data, with a total of 24 rows and 20 pages.

Plant Name	Time	Installed Power(kWp)	Real-time Power(kW)	Daily Yield(kWh)	Total Yield(kWh)	Daily
Academy/1788	26/Feb/2025 00:00	10000				
Academy/1788	26/Feb/2025 01:00	10000				
Academy/1788	26/Feb/2025 02:00	10000				
Academy/1788	26/Feb/2025 03:00	10000				
Academy/1788	26/Feb/2025 04:00	10000				
Academy/1788	26/Feb/2025 05:00	10000				
Academy/1788	26/Feb/2025 06:00	10000				
Academy/1788	26/Feb/2025 07:00	10000				
Academy/1788	26/Feb/2025 08:00	10000				
Academy/1788	26/Feb/2025 09:00	10000				
Academy/1788	26/Feb/2025 10:00	10000				
Academy/1788	26/Feb/2025 11:00	10000				
Academy/1788	26/Feb/2025 12:00	10000				
Academy/1788	26/Feb/2025 13:00	10000				
Academy/1788	26/Feb/2025 14:00	10000				
Academy/1788	26/Feb/2025 15:00	10000				

2. Select a plant (or multiple plants) in the left-side plant list to view the corresponding report data.
3. You can perform the following actions as needed:
 - a. Click **Day**, **Month**, **Year**, **Total**, or **Custom** and set the time and time interval. You can then view the plant's daily, monthly, annual, overall, or custom time reports.
 - b. Click **Filter** to open the indicator selection panel on the right. Choose specific indicators and click **Confirm** to refine the report.



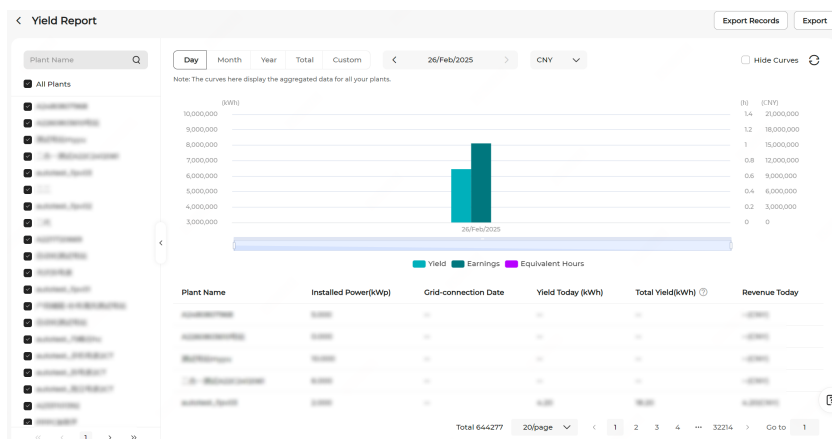
- c. Click **Clear** to reset your selections.
- d. Click **Export** and choose either **Export As Excel** or **Excel As CSV** to export the current report. An export record will be displayed on the **Export Records** page.

7.2.2 Yield Report

The Yield Report offers detailed yield data for each plant.

Procedure

1. Navigate to **Report Overview** and click **Yield Report**.
2. Select a plant (or multiple plants) in the left-side plant list to view its yield report accordingly.



3. You can perform the following actions as needed.
 - a. Choose from Day, Month, Year, Total, or Custom and specify the desired time span to view the report as needed.

- b. View IV curve graphs. By default, the plants are all selected and curves for all plants are displayed. You can click **Hide Curves** in the upper right corner to hide the curves.
- c. Click **Export** and choose either **Export As Excel** or **Excel As CSV** to export the current report. An export record will be displayed on the **Export Records** page.



The curve graphs displayed on the report page will be included in the exported report file.

7.2.3 Inverter Report

The Inverter Reports provide the basic information about the PV inverters and their detailed yield data.

Procedure

1. Navigate to **Report Overview** and click **Inverter Reports**.
2. Select a plant (or multiple plants) in the left-side plant list to view its inverter report accordingly.

The screenshot shows the 'Inverter Reports' interface. On the left is a list of plants with checkboxes. The main area displays a table for selected plants. The table has columns for Plant Name, Device Model (S/N), Communication Device S/N, Daily Yield (kWh), and four time-based yield columns: 27/Feb/2025 00:00, 27/Feb/2025 01:00, 27/Feb/2025 02:00, and 27/Feb/2025 03:00. Two plants are listed: 'SG110CK-P-4400220502' (Offline) and 'SG136TX-3009220220' (Online). Both show a daily yield of 0.00 kWh. The interface includes filters for Day, Month, Year, Total, and Custom, with a time span of 60 min. Buttons for 'Export Records' and 'Export' are in the top right. A 'Clear' button is next to the selected plants list.

Plant Name	Device Model (S/N)	Communication Device S/N	Daily Yield (kWh)	27/Feb/2025 00:00	27/Feb/2025 01:00	27/Feb/2025 02:00	27/Feb/2025 03:00
SG110CK-P-4400220502	Offline	SG110CK-P-4400220502	0.00	0.00	0.00	0.00	0.00
SG136TX-3009220220	Online	SG136TX-3009220220	0.00	0.00	0.00	0.00	0.00

3. You can perform the following actions as needed.
 - a. Choose from Day, Month, Year, Total, or Custom and specify the desired time span to view the report as needed.
 - b. Click **Clear** to reset your selections.
 - c. Click **Export** and choose either **Export As Excel** or **Excel As CSV** to export the current report. An export record will be displayed on the **Export Records** page.

7.2.4 ESS Time-of-Use Electricity Report

The ESS time-of-use electricity reports allow you to view charge/discharge of the ESS during peak/valley hours based on different indicators.

Step 1 Navigate to the **Report overview** page and click **ESS time-of-use electricity report**.

ESS time-of-use electricity report

Export records Export

Plant name Month Year Total < May/2025 > Filter

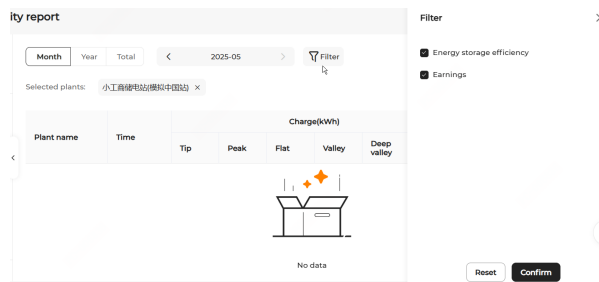
Selected plants: 光储充演示电站2

Plant name	Time	Charge(kWh)						Discharge(kWh)					
		Tip	Peak	Flat	Valley	Deep valley	Total	Tip	Peak	Flat	Valley	Deep valley	Total
光储充演示电站2	01/May/2025	0.00	22.00	18.00	0.00	0.00	40.00	0.00	24.00	30.00	0.00	0.00	54.00
光储充演示电站2	02/May/2025	0.00	17.00	24.00	19.00	0.00	60.00	0.00	43.00	19.00	0.00	0.00	62.00
光储充演示电站2	03/May/2025	0.00	32.00	31.00	27.00	0.00	90.00	0.00	26.00	39.00	21.00	0.00	86.00
光储充演示电站2	04/May/2025	0.00	29.00	32.00	30.00	0.00	91.00	0.00	49.00	19.00	0.00	0.00	68.00
光储充演示电站2	05/May/2025	0.00	14.00	19.00	17.00	0.00	50.00	0.00	0.00	30.00	0.00	0.00	30.00
光储充演示电站2	06/May/2025	0.00	3.00	17.00	1.00	0.00	21.00	0.00	7.00	1.00	0.00	0.00	19.00

Step 2 Select a plant (or multiple plants) in the left-side plant list to view the corresponding report data.

Step 3 You can perform the following actions as needed:

- Click "Month", "Year", or "Total" and set the time and time interval. You can then view the plant's monthly report, annual report, or overall report.
- Click **Filter** to open the indicator selection panel on the right. Choose specific indicators and click **Confirm** to view the target information.



Step 4 Click **Clear** to reset selections.

Step 5 Export reports. Click **Export** and select **Export as Excel** or **Excel as CSV** to export the current report. An export record will be displayed on the **Export records** page.

--End

7.2.5 ESS Revenue Report

The ESS revenue reports allow you to view charging/discharging details and revenue settlement of the ESS.

Step 1 Navigate to the **Report overview** page and click **ESS revenue report**.

ESS revenue report

Plant name

01/May/2022 - 06/May/2022

Export records

Export

Revenue type	Time interval	Mains electricity price(CNY/kWh)	Charging/discharging	Electrical energy(kWh)	Electricity bill(CNY)	Total(CNY)
Critical peak hours		0	Charge	0	0	
			Discharge	0	0	
Peak hours		1.1865	Charge	177	-138.8205	
			Discharge	149	176.7885	
Peak-valley arbitrage	Shoulder hours	0.7093	Charge	141	-100.0113	14.9183
			Discharge	138	97.8534	
Valley hours		0.2866	Charge	94	-26.9404	
			Discharge	21	6.0386	
Deep valley period		0	Charge	0	0	
			Discharge	0	0	
Total						14.9183

Step 2 Select a plant in the left-side plant list to view the corresponding report data.

Step 3 Click the calendar icon marked by the rectangular red box, as shown in the following figure, to select a target period.

01/May/2025 - 06/May/2025

Calendar icon

Revenue type	Time interval	Mains electricity price(CNY/kWh)
	Critical peak hours	0
		0
	Peak hours	1.1865
		1.1865
Peak-valley arbitrage	Shoulder hours	0.7093
		0.7093
	Valley hours	0.2866
		0.2866
	Deep valley period	0
		0

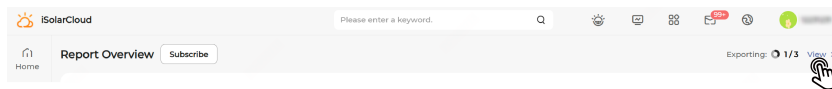
Step 4 Click **Export** to export the report. An export record will be displayed on the **Export records** page.

--End

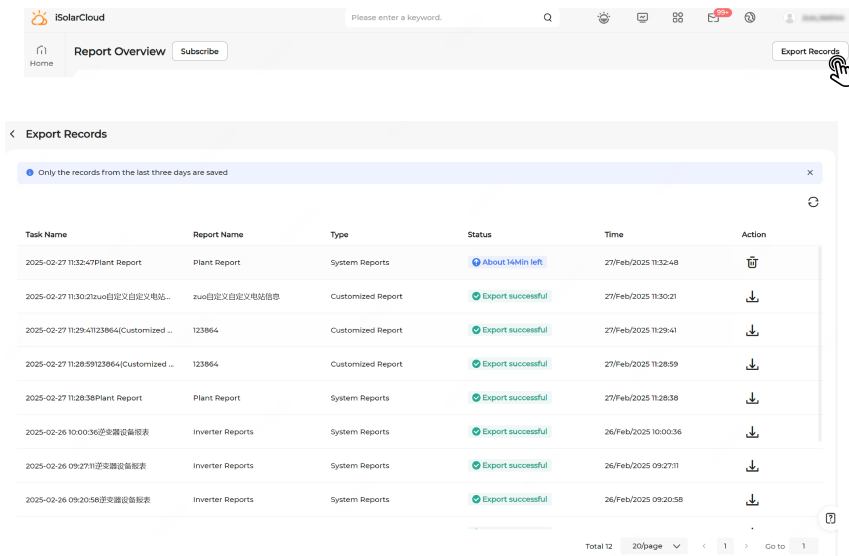
7.3 Export Records

The reports exported within the past three days are displayed on the Export Records page. In the upper right corner of the **Report Overview** page:

- If an export task is in progress: The number of reports being exported will be shown. For example, **"1/3"** indicates that three reports are being exported, with one successfully completed. You can click **View** to access the Export Records page.



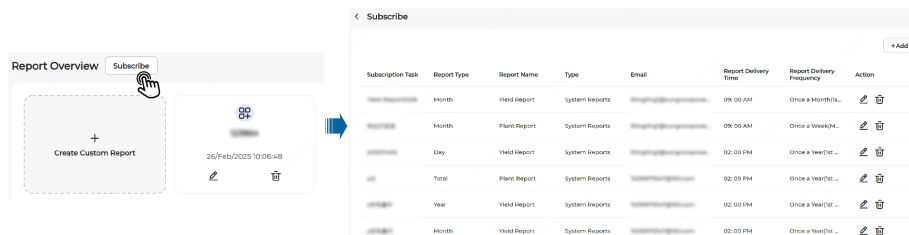
- If no export task is in progress: You can click **Export Records** to go to the Export Records page.



- For a successfully exported report, you can click  in the Action column to re-download it.
- For an ongoing export task, the estimated remaining time will be shown in the Status column.

7.4 Report Subscription

You can click **Subscribe** on the **Report Overview** page to create, view, and edit your report subscriptions.



You can select the report type and time span, and subscribe to receive the reports via email. The reports will be sent at regular intervals and can be viewed and downloaded.

Procedure

- Add a Subscription

1. Click **Add** to go to the **Add Subscriptions** page.

2. Complete the below settings:

- Subscription Task: Name the subscription task.
- Report Type: Select Day, Month, Year, or Total.
- Report Template.
- Report Delivery Frequency: Select Once a Day, Once a Week (Monday), Once a Month (first day of the month), or Once a Year (January 1).
- Report Delivery Time: Select 09:00 AM, 02:00 PM, or 07:00 PM.
- Select Plant: Choose **All Plants** or **Specific Plants**. If you select **Specific Plants**, click **Select Plant** to select the plants you need.

- Email: Enter the email address where you would like to receive reports.
Verification Code: Click **Send** to send a verification code to the provided email address. Then, enter the received verification code here.
Add more email addresses: Click **+Add** to add more email addresses. Up to 10 emails can be added.

3. Click **Save** to save the settings.

- Edit a Subscription

1. Select a subscription task and click in the Action column to access the edit page.

2. Modify the settings and click **Save > Confirm** to apply the changes.

- Delete a Subscription

Select a subscription task and click  in the Action column to delete it.

8 Support

After logging in to the iSolarCloud system, click **Support** in the side navigation bar. Here you can view the user manual and frequently asked questions, etc.

8.1 Warranty Query

After logging in to the iSolarCloud system, click **Support** in the side navigation bar. You will then go to “Warranty Query” .

Plant name or device S/N		Start Time - End Time		Warranty Period (Month)		Search	
No.	Device S/N	Device Type	Plant	Service Start Date	Service End Date	Warranty Period	Under Warranty
341	A1712301666	Inverter	Z1852068998的电站	28/Jul/2018	28/Jul/2028	121	Yes
342	A1712301426	Inverter	A19041200098的...	12/Apr/2018	12/Apr/2028	121	Yes
343	A1712119641	Inverter	shenwde的52第二...	14/Apr/2019	14/Apr/2024	60	Yes
344	A1711077927	Inverter	50KTL测试电站	10/Feb/2018	10/Feb/2023	60	No
345	A1711071868	Communication ...	A1711072270的...	12/Apr/2018	12/Apr/2023	60	No
346	A1710250056	Inverter	A1707260125的...	--	--	--	No
347	A1708044466	Communication ...	A1708044466的...	22/Dec/2017	22/Dec/2022	60	No
348	A1708044458	Communication ...	A1708044458的...	22/Dec/2017	22/Dec/2022	60	No
349	A1708044457	Communication ...	A1708044457的...	22/Dec/2017	22/Dec/2022	60	No
350	A1708043026	Inverter	A1910053872	--	--	--	No

Enter the **Plant name or device S/N**, set the **Start Time** and **End Time**, select the **Warranty Period**, and then click **Search** to check the warranty for the device.

8.2 Push Notifications

After logging in to the iSolarCloud system, choose **Support > Push Notifications** to go to the corresponding page.

8.2.1 Alarm Subscribe

"Alarm Subscribe" is used to manage the remote signaling status of devices in the plant, such as the fault, alarm, and suggestions.

Procedure

Alarm Subscribe						
Plant or Plan Name		Search		+ Add Batch Delete		
☐	No.	Plan Name	Plant Name	Creator	Creation Time	Action
☐	1	te	Y1	softtest	26/Oct/2023 20:49...	
☐	2	to		softtest	12/Oct/2023 20:40...	
☐	3	wj		softtest	21/Sep/2023 16:59...	
☐	4	.		softtest	08/Jul/2023 13:54:31	
☐	5		Y1	softtest	07/Jun/2023 20:21...	
☐	6		92	softtest	12/Apr/2023 10:29:54	
☐	7	2018	LTE	softtest	04/Jun/2023 22:07...	
☐	8			softtest	15/Dec/2022 10:38...	

- Search for a plan
Enter a **Plant or Plan Name**, and click **Search**. Plans that meet the search criteria will then be shown on the screen.
- Add a plan
 1. Click **Add** in the upper right corner of the page.
 2. Enter a plan name, select the plant, and select the faults of which you'd like to be reminded.
 3. Click **Custom** to add an email that has not been used to create any iSolarCloud account. Complete information such as the email's language, the contact's name, and the frequency of notification. Enter the email address, and fill in the verification code that is sent to this address. Then, click **Confirm**.
 4. Click **Select** to add an iSolarCloud user. Select the **Personal Name**, **Reminder Method**, and **Reminder Frequency**, and then click **Confirm**.
 5. Click **Confirm** to save the current settings.
 6. After the plan has been added, you can see its information on the **Alarm Subscribe** page.
- Delete a plan
 1. Select the plan you want to delete in the plan list, and click .
 2. A confirmation dialog will then pop up. Click **Confirm** to delete the plan.
- Delete plans in batch
 1. Select the plans you want to delete in the plan list, and click **Batch Delete**.
 2. A confirmation dialog will then pop up. Click **Confirm** to delete these plans.
- Modify a plan
 1. Select the plan you want to edit in the plan list, and click .
 2. On the **Modify** page, you can change the plan's name, select another plant, and select the information you want to receive in "Fault", "Alarm", and "Advice". You can also change the recipient of the reminder, and how this person will be reminded.

3. Click **Confirm** to change the plan settings.

8.2.2 Smart Alarm Analysis Setting

Procedure

- Search for an alarm
Select the plant and open status (open or shield), enter the alarm name, and click **Search**. The alarms that meet the search criteria will then be shown on the screen.
- Edit the suggestions

Alarm Name
Plant Stops Operation

Open Status
☐ Open ☒ Shield

Execution Frequency
60Minute(s)

Judgment Condition
7:00 - 19:00

Judgment Rule
Plant Stops Operation : Power/Installed Power of Plant < 1 %

1. Click  in the alarm list to go to "Intelligent Analysis Advice".
2. Here you can set the "Open Status", "Judgment Condition", and "Judgment Rule".
3. Click **Confirm** to apply the settings to one plant.
4. You can also click **Confirm and copy**, select one or more than one plant, and click **Confirm** to apply the settings to different plants.

8.2.3 Offline Notifications

Procedure

Alarm Subscribe Smart Alarm Analysis Setting Offline Notification

Plant Type Offline Time Notification Status

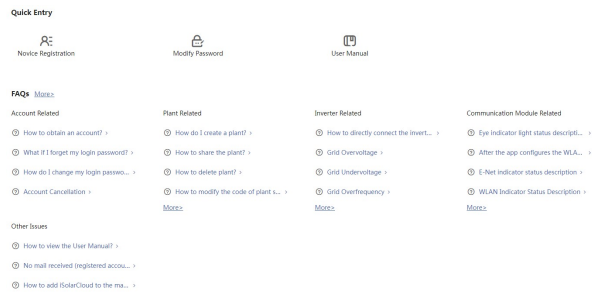
☐	Plant Name	Plant Type	Owner's Email Address	Offline Time	Notification Status	Action
☐	zjter...  ...	Residential PV	222...  ...	07/Dec/2023 17:01...	Notification Not Sent	

- Search for a notification
Select the plant type, offline time, and notification status, and click **Search**. The offline notifications that meet the search criteria will then be shown on the screen.
- Send notifications

1. In the list of offline notifications, click  to send an offline email notification to the Owner's email address.
2. Click **Confirm**.

8.3 Help Center

After logging in to the iSolarCloud system, choose **Support > Help Center**.



Here you can find the user manual and the answers to frequently asked questions.

9 Message Center

Click  in the upper right corner of the page. Here you can check the historical tasks related to plant creation, plant sharing, device update, and change of the installer.

Procedure

- Check messages
On the **Message Center** page, click **View** to check all messages in this group.
- Edit message status
Click **Edit** in the upper right corner of the page. You can delete messages, or set unread messages to “read”.

10 Account Management

Click the avatar in the upper right corner of the page to manage the settings and information related to the account.

10.1 Profile

Click the avatar and choose **Profile**.

You can click **Modify**, and edit information such as the nickname and user ID, country/region, and time zone.

10.2 Account and Security

Click the avatar and choose **Account and Security**.

You can associate your account with a phone number or email address, so that you can use it to reset your password if needed. You can also change your account password or delete your account.

10.3 Notifications

Click the avatar and choose **Notifications**.

Procedure

1. Turn on **Notifications** by selecting its checkbox.
2. Turn on **Smart Notification** by selecting its checkbox. You can set the frequency, content, and method of notification as you want.

Table 10-1 Smart Notification

Function	Description
Frequency of Notification	Once a day, once every 3 days, or once every 7 days.
Content	Abnormal Plant: Number of plants with faults or alarms. Offline for More Than 3 Days: Number of plants that have been put into power generation before yet stay offline for more than 3 days.
Method	Message Center

Function	Description
	App Email: If you add an email address here, the system will send a confirmation email to this address. After confirmation, you can receive reports through email.

10.4 General Settings

Click the avatar and choose **General Settings**.

- Set the default system language.
- Set the units of **Radiation** and **Temperature**.
- Turn on **Novice Guide** to allow for in-system guidance prompts.

10.5 Manufacturer Information

Click the avatar and choose **Manufacturer Information**. Here you can check the name, telephone number, email, and address of the manufacturer.

10.6 About

Click the avatar and choose **About**. Here you can check the current version of the system, Privacy Policy, and Declaration.

10.7 Back to Old Version

Click the avatar, and choose **Back to Old Version** to switch to the old version of the iSolarCloud system.

10.8 Logout

Click the avatar and choose **Logout**. You will then log out of the current account and go back to the login page.

11 Feedback

Click  at the bottom right of the page to open the feedback panel. You can fill in the form by referring to the table below.

Item	Description
Product Type (Required)	Hardware: Feedback on the device used in the plant. iSolarCloud: Feedback on the iSolarCloud O&M system. Others: Other feedbacks. iSolarDesign: Feedback on the plant design tool iSolarDesign.
Plant	Choose the plant about which you want to report a problem.
Device Type	Select a device that has been added in the plant.
Device S/N	Enter the S/N of the abnormal device.
Contact Information	Provide your phone number or email address, to get better assistance.
Problem Description (Required)	Describe your problem in at least 10 words, to get better assistance.
Screenshot	Click Screenshot to capture an image of the problem you want to report.
Upload	Upload a local image.

My Feedback

1. Click **My Feedback**. You will see the **All** tab by default. You can choose **Pending**, **Processing**, or **Closed** to check feedbacks in different states.
2. Click on a feedback to view its detailed information. You can click **Close Problem** if your problem has been resolved. If the problem has not been resolved, you may click **Reply** to provide more feedback on this problem.

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Sungrow Power Supply Co., Ltd.

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