Sungrow iSolarCloud – USER GUIDE

Introduction

iSolarCloud is a platform for the user to monitor and perform simple operations pertaining to the solar installation's yield. These operations pertain to smart IV curve diagnosis, channel management, device management, plant management, Security Configuration and license management.

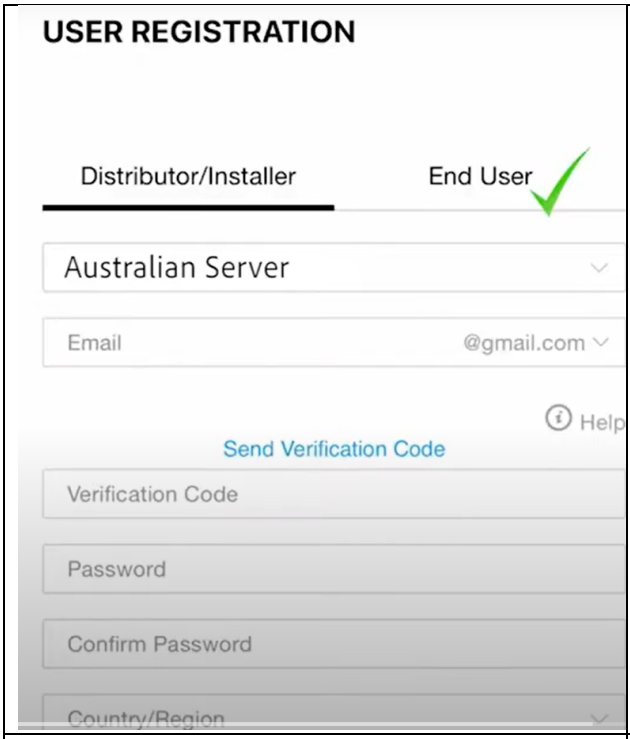
1. Register and Download App

Please go to the website isolarcloud.com, click on "Register now", select "Owner" then follow the prompts and fill out the required sections.

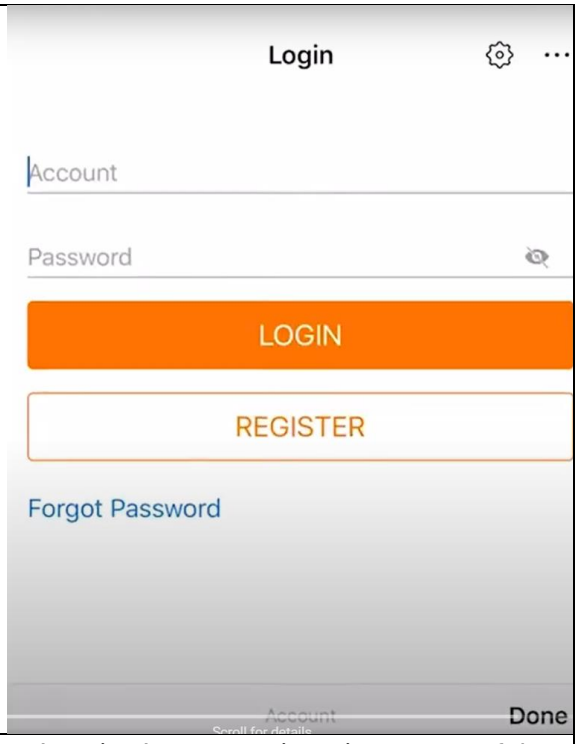
Once you have completed registration, you can go either to the apple store (if using an Apple device) or onto Google Play Store (if using an android device) and download the iSolarCloud app. You can

Login

On opening the app, on the home page, you first click the ⌄ to manually switch the server address to "Australian Server".



Registering as End User

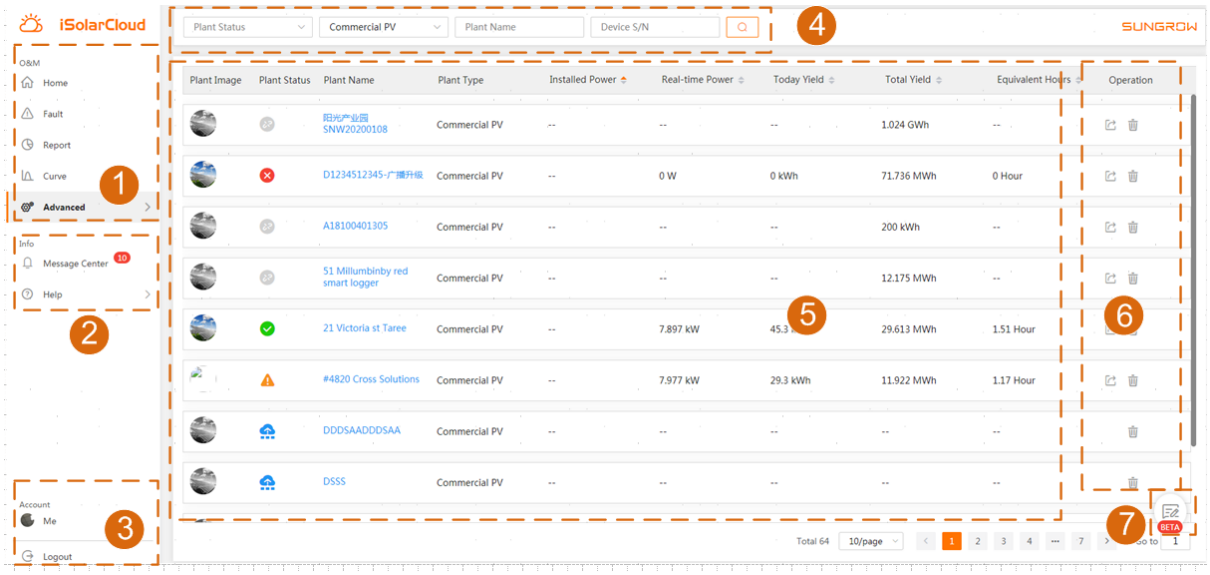


Logging In once registration successful

You can then log into the app utilising the username and password established after registering, then click "agree" and answer any questions that pop up.

Interface Description

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



1. Menu bar 2. Message Center and help 3. Personal Center 4. Plant query bar

5. Plant information list 6. Plant operation bar 7. Feedback

Menu bar

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

Function Page	Description	
Home	Display plant list View detailed plant information Share or delete plants	
Fault	View fault information of plant devices	
Report	View plant statistics reports (daily report, weekly report, monthly report, annual report and overall report); create self-destined reports.	
Curve	View plant power generation curve	
Advanced	Settings	Set initial grid connection parameters of plant devices
	Firmware update	Upgrade plant software device
	String IV curve scan and diagnosis	Scan component I-V curve, diagnose component working status, and automatically locate faulty components
	Live date	Display the measuring point interface and the curve interface, and the measuring points that the current device does not support
	Alarm subscribe	Set plant plan manner
	Energy Storage Unit View	Check the overview of the energy storage unit and monitor the real-time status of indicators

	PV unit view	Check the overview of the PV unit and monitor the real-time status of indicators
	Other unit view	Check the access status of auxiliary equipment in industrial and commercial plants
	Ground strategies	Display the control method uploaded by industrial ems to the cloud
	Cloud strategies	Adjust the control method used to issue the energy storage scheduling plan

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

2. Viewing Device Information

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

Querying Device

(a. Enter device S/N and device name and select device type and device state.

(b. Click to view the corresponding devices

Viewing Device Information

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

Viewing General Information

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

(a. Click device name, and you will enter "General Information" interface by default.

(b. Click or behind the parameters to select time segment and time interval, and click . In this way, you can view history information.

(c. Perform the following operations according to actual conditions.

- Click the icon to refresh the interface information.
- Click the icon to change the curve into report
- Click "Save table data" to export the parameter information to the local.

Viewing Active Fault

View the list of alarms not closed

(a. Click device name, and you will enter "General Information" interface by default

(b. Click "Active Fault" to enter the corresponding interface

(c. Enter time segment and fault classification, and select "Alarm processing state".

(d. Click to view the corresponding faults

Viewing Fault History

View the list of closed history alarms

(a. Click device name, and you will enter "General Information" interface by default
(b. Click "Fault History" to enter the corresponding interface
(c. Enter time segment and fault classification
(d. Click to view the corresponding faults

Viewing Chart

View power generation information displayed in the chart

(a. Click device name, and you will enter "General Information" interface by default
(b. Click "Chart" to enter the corresponding interface
(c. Select time segment and click the icon to select the time interval. The power generation statistical period can be set to 10 seconds, 5 minutes, 15 minutes, 30 minutes or 60 minutes.
(d. Click to view the corresponding curve
(e. Perform the following operations according to the actual conditions
- Click the icon to refresh the interface information
- Click the icon to change the curve into report
- Click "Save table data" to export the parameter information to the local

Viewing Remote Signaling Status

(a. Click device name, and you will enter "General Information" interface by default
(b. Click "Remote Signaling Status" to enter the corresponding interface
(c. View remote signaling status
(d. Click to refresh the interface information
(e. Click , select the time, and click , to view parameter history
(f. Click to export the table

Viewing Plant Information

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

This area displays plant state and other basic information.

Description of plant information parameters

Parameter	Description
Plant Status	Running and communication states of the power plant Normal running , fault , alarm , offline , connecting
Plant Name	User self-defined name
Plant Type	The type is determined based on application scenario and it can be set on the "Plant configuration" interface
Installed Power	The type is determined based on application scenrario and it can be set on the "Plant configuration" interface

Real-time Power	Real-time output power of the plant
Today Yield	Accumulative Power Yield of the Day
Total Yield	Accumulative Power Yield of the Plant

Plant Information Introduction

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

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

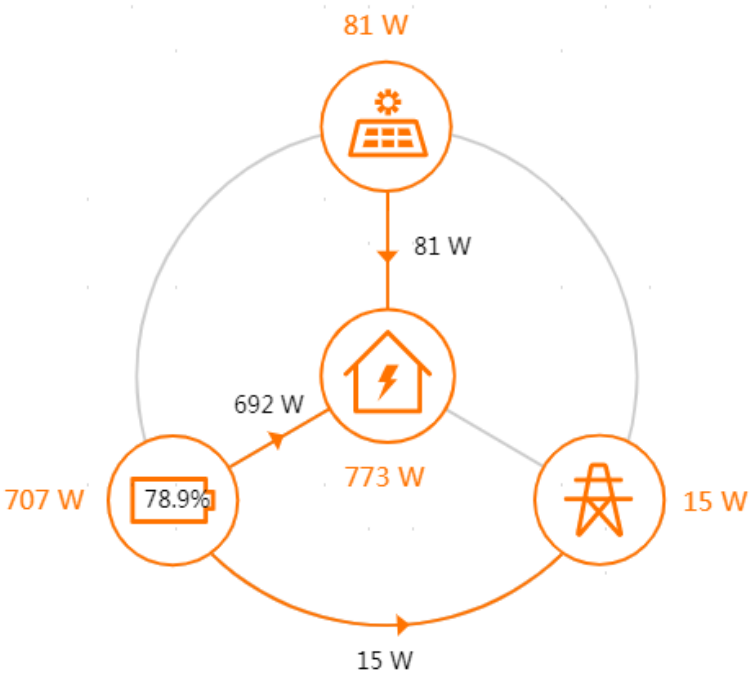
1. Click the plant name on the "Home" page to enter the corresponding plant information interface
2. Click "Overview" on the menu bar to view detailed plant information

Viewing basic plant information

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

Viewing power flow diagram

You can view information such as real-time power, feed-in power, load power, and battery charging/discharging power. The power flow diagram of the energy storage system is as follows:



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

Viewing and exporting plant data

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

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

Viewing the calculation standards

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

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

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

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

Viewing ES Information

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

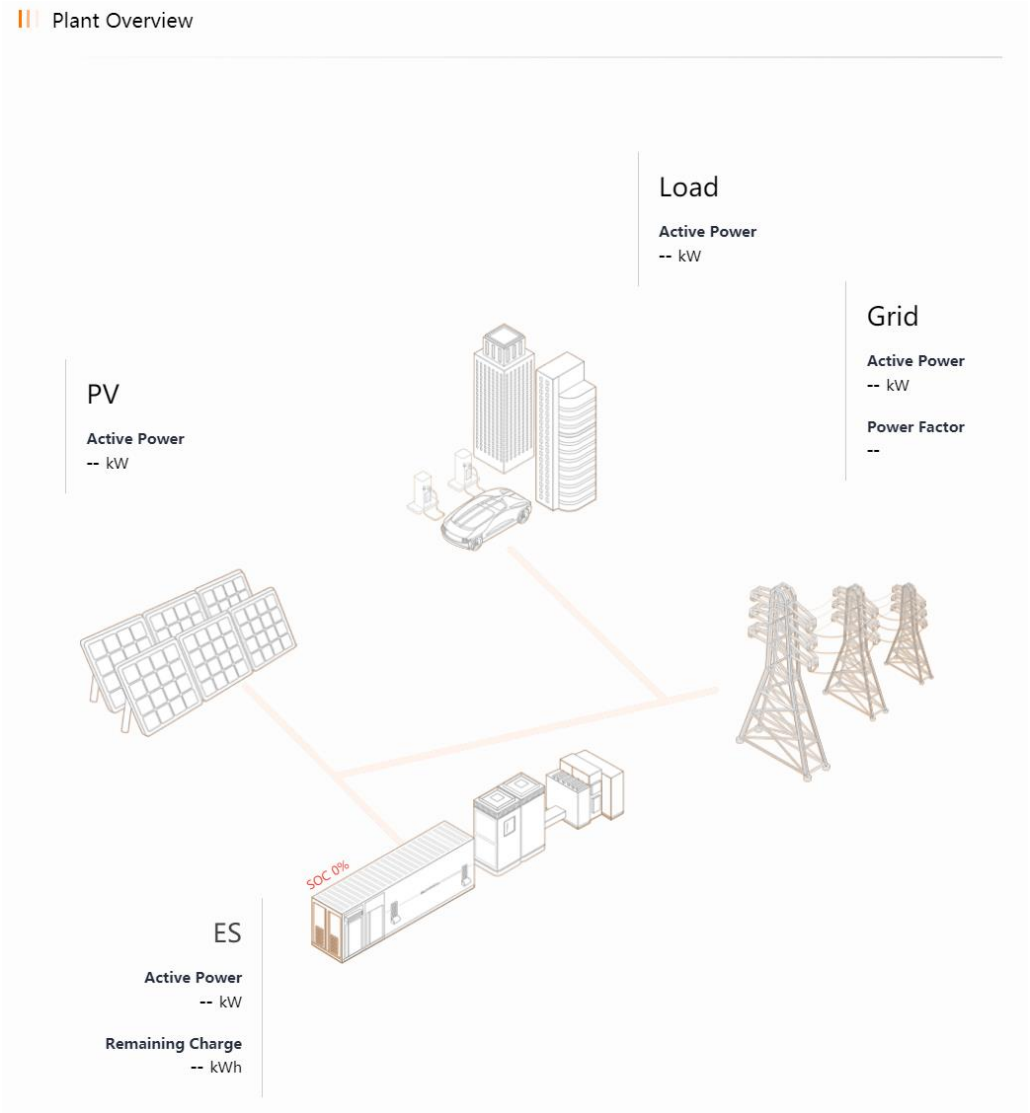
Viewing 7-Day Charge/Discharge Information

Charge/Discharge histogram for the last 7 days.

Viewing Plant Overview

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

The plant overview is shown below.



Viewing PV Information

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

Viewing 7-Day Yield Information

Yield histogram for the last seven days.

Plant Configuration

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

Modifying Plant Information

This section describes how to edit basic plant information

Prerequisites

It is strongly recommended you get in touch with DS Energy customer support, to facilitate the changes mentioned below, especially pertaining to the Time of Use and Tariff.

Procedure

(a. Click "Plant configuration" ->"Tariff" to enter the corresponding interface
(b. Fill in the basic plant information

Parameter	Description
Plant Name	User self-defined name
Owner's email	The email address of the end user, used for receiving fault and alarm notification messages
Power installed	Plant installed power Click "Setting" and a setting window pops up Click to enter the power value, in kWp. Click "Confirm"
Plant type	It can be set to "100% feed-in" "Self-consumption", "Zero Export" or "Off-grid"
Location	The system automatically obtains the longitude, latitude and detailed address of the plant. Users can manually modify longitude, latitude, and detailed address of the plant
Image	Click "image upload" to select a local image and upload it
Country (Region)	Country (region) where the plant is located at
Time zone	Time zone of the plant
Time of connection	Time at which iSolarCloud commences to monitor the plant
Grid-connected date	It is the time of creating the plant by default. Click the icon to modify the grid-connection time
Plant delivery address and zip	Delivery address and zip code for spare parts

Notes: * indicates fields that must be filled in.

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

Tariff

The tariff is used to calculate revenue.

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

Prerequisites

It is strongly recommended you get in touch with DS Energy customer support, to facilitate the changes mentioned below, especially pertaining to the Time of Use

Procedure

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

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

(i. Select a charging unit
(ii. Enter the tariff
(iii. Click "Save"

(d. Setting TOU tariff

TOU tariff: the tariff is different at different time segment

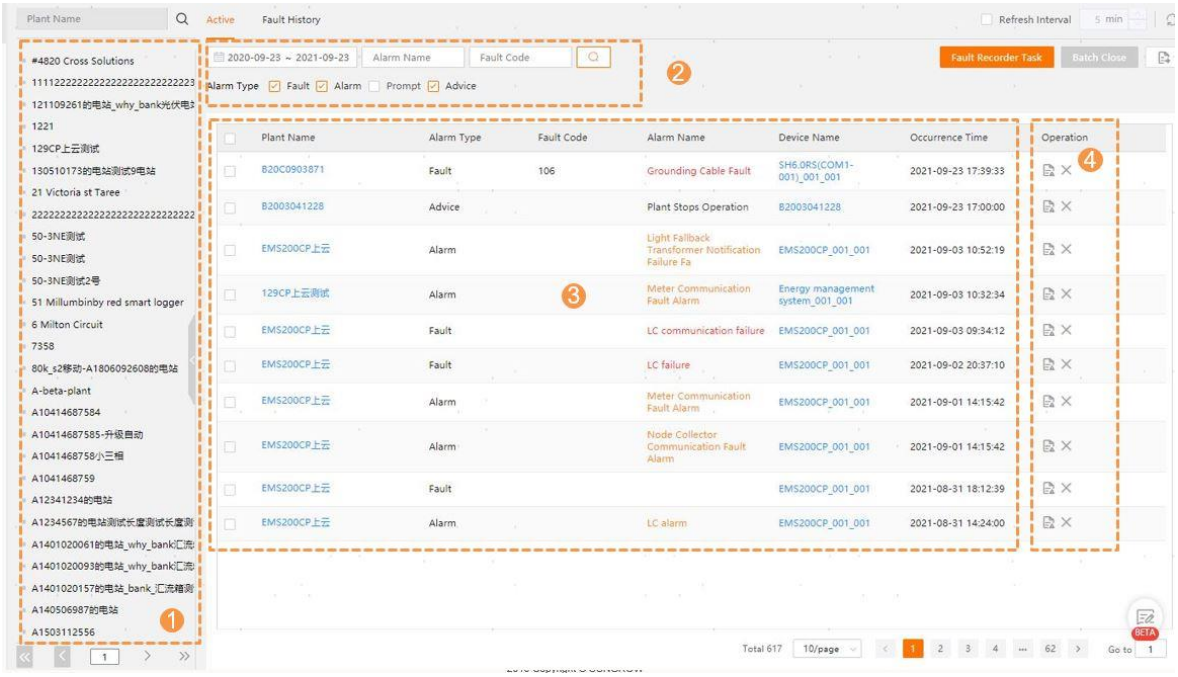
(i. Select a charging unit
(ii. Enable "TOU tariff".
(iii. Fill in start time, end time, and price
(iv. Optionally, click "Add" to set time segment and tariff
(v. Optionally, repeat the foregoing step to set TOU tariff for multiple time segments within a day
(vi. Fill in "Price in other time period".
(vii. Click "Save"

Click ✕ to delete the corresponding setting item

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

Fault

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



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

Plant List

Display information on the plants, devices, and measuring points

Querying Faults

Procedure

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

Fault Query Bar

Users can search corresponding faults by setting corresponding conditions

Other Functions

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

Fault Information List

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

Plant Operation Bar

1. Click  to view fault details
2. Click  to close faults
3. Click  to deliver the fault recording task.

Closing Fault

Procedure

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

Repair

The section describes how to repair devices

Procedure

(a. Click device name, and you will enter "General Information" interface by default
(b. Click "Repair" at the bottom of the interface to enter the corresponding interface
(c. Please get in touch with DS Energy on the following number
(07) 3051 2051
Who will arrange for a customer support engineer to investigate and attempt to repair the fault remotely. If this is not possible, then
(d. DS Energy will aid you in filling out the fault information, instruct on how you can upload a fault picture, and ultimately coordinate a site assessment.

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

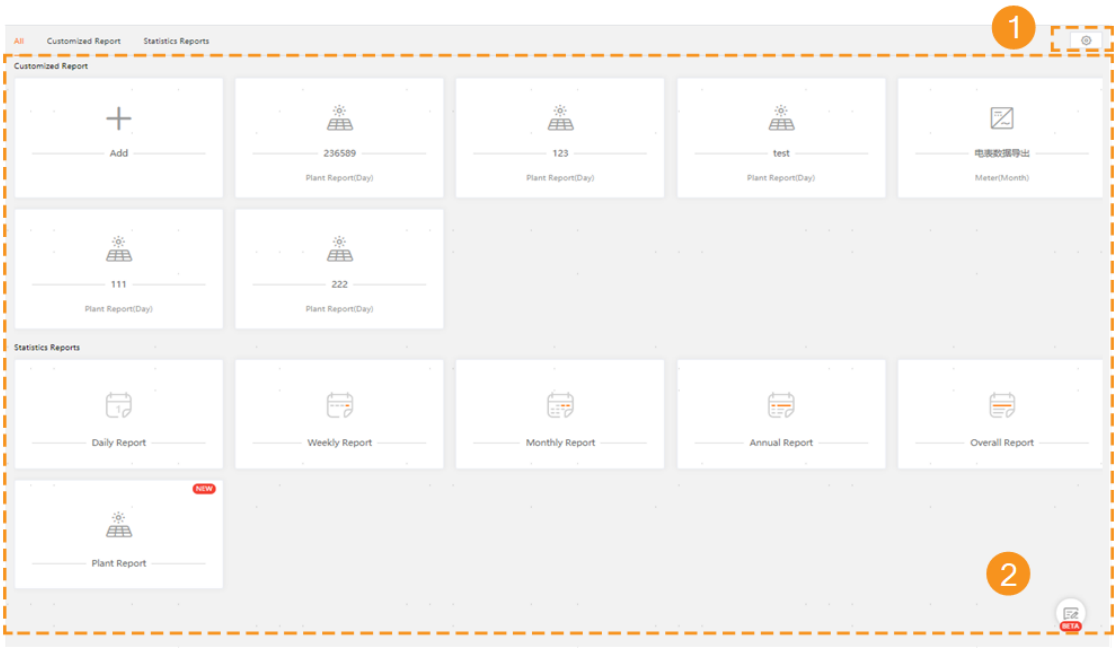
(e. If the remote repair method is successful, you will be able to view the repair information on the fault interface.

Report

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

Interface Description

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



1. Display area 2. Report push configuration

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

Display Area

Content displayed in the area varies with function interfaces.

Report push configuration

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

Custom Report

Users can create self-defined reports according to demands

Procedure

1. Click the menu “Report” to enter the “All” tab by default
2. Click “Custom report” to enter the corresponding interface.
3. Click “Add” and enter the Page Report interface by default.
    - Select the report type, report period, and the parameter indicators to be displayed
    - Click “Save”, enter the report name, and click “Confirm” to add the new report to the custom report.
4. Click “Add” and then click “EXCEL Report”.

- Select the report type, report period, plant (multiple choices supported) and the parameter indicators to be displayed (Multiple choices supported)
- Click "Generate Comparison Excel" or "Generate Statistics Excel" to generate the corresponding EXCEL report according to your needs
- Click "Task List" in the upper right corner to view the operation time and status of historical custom reports.

View Custom Report

Procedure

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

Statistics Report

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

The procedure of viewing daily report, weekly report, monthly report, annual report, and overall report are the same, and description is given by using the steps of viewing dailt report as an example. The procedure of viewing plant report is different from others, refer to "view plant report" for more details.

View daily Report

Procedure

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

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

   Click "Export" to export the report locally.

View Plant Report

Procedure

1. Click the "Report" on the menu bar to enter the "All" tab by default

2. Click “Statistics report” -> Plant Report” to enter the corresponding interface.
3. Tick the pant in the plant list on the left (Multiple options available) to view the plant report. By default, the interface will display the daily statistics of the plant, such as daily yield, total yield, daily purchased yield energy, daily feed-in energy, daily equivalent hours, etc.
4. According to the actual situation, perform the following operations.
5. Click “Day”, “Month”, “Year”, “Total” to view the daily, monthly, yearly, or the total report of the plant
6. Click and select the date to view the plant report data for the corresponding date.
7. Click to switch the report data interval time.
8. Click “Switch Table” to switch the table format
9. Click “Screening Column” to filter the data displayed in the report
10. Click “Task List” to view the history of downloaded reports
11. Exporting Report
    Click “Export” to export the plant report locally
    Click behind “Export” and select “Export All Plants” to export all plant reports locally.

Plant Sharing

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

Prerequisites

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

Procedure

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

   Description of sharing permission

Parameter	Description
Read - only	Users can only view data of the plant
Management	Users can manage the plant but cannot delete the plant

4. Click “Confirm” to finish the sharing operation

Plants can be shared to at most 6 users who have the management permission, but the number of users who can view plant information is not limited. The user cannot share the plants shared to him by the end user to other users.

Subsequent Procedure

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

- The end user cancels the sharing
  (i. Click the icon on the operation bar, to enter the sharing interface
  (ii. Click the icon on the operation bar, to cancel the sharing
- The user to who a plant is shared cancels the sharing
  (i. Click the icon in the plant operation area, and a window pops up.
  (ii. Click "Confirm"

Plant Publicity

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

Prerequisites

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

The user has plants

Procedure

(i. Click the icon on the operation bar, to enter the sharing interface
(ii. Turn on the "Publish plant" switch, so that visitors can view the plant data.

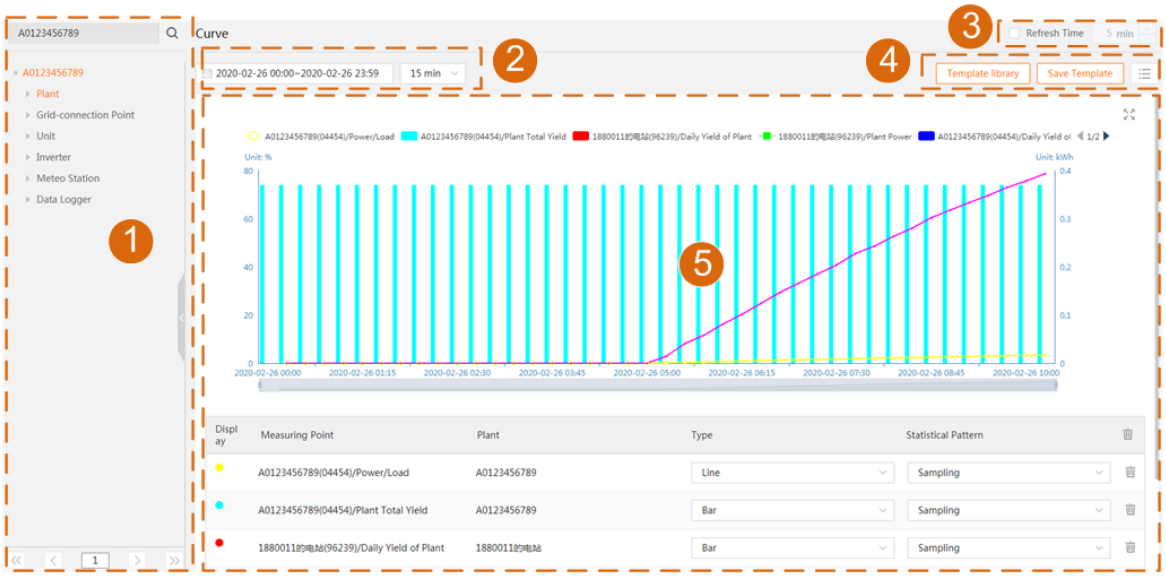
Subsequent Procedure

The end user cancels plant publicity

(i. Click the icon on the operation bar, to enter the sharing interface
(ii. Turn off the "Publish plant" switch, so that visitors can view the plant data.
(iii. Click the icon in the plant operation area, and a window pops up.
(iv. Click "Confirm"

Curve

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



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

Plant list

Display information on the plants, devices and measuring points

Time range

Set the time range and time interval

Refresh time

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

Query template

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

Template library: use the existing templates.

Display area

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

Viewing Curve

Procedure

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

Subsequent Processing

- Deleting a single curve
  Click the icon in the parameter list area, to delete the corresponding curve
- Deleting all curves
  Click the icon in the title bar of the parameter list area to delete all the curves

Alarm Search.

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

Feedback.

Submit feedback

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

My feedback

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

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

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

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

It is advisable to get in touch with your installer, DS Energy, at the following if you have questions about your monitoring.

Email: solartech@dsenergy.com.au

Phone: 07 3051 2061