

iSolarCloud™

English

iSolarCloud
Your photovoltaic power
plant personal butler

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iSolarCloud

Remote Monitoring and O&M Platform

O&M Management User Manual

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1 About This Manual

1.1 Target Group

This manual is intended for operators responsible for the iSolarCloudO&M management platform.

1.2 Symbol Explanation



- "NOTE" indicates additional information, emphasized contents, or tips helping you solve problems or save time.

1.3 Expression Explanation

Type	Example
Select a certain menu or option	Select "Plant Overview"
Select multiple menus or options	Select "All plants -> Plant unit"
Select a certain button	Select 【Confirm】

2 System Introduction

2.1 System Introduction

iSolarCloud is a remote monitoring system based on the web. In the system, after creating plants and binding device data,

- Display basic plant information, such as today energy, total yield, irradiance, temperature, CO₂ emission reduction, and revenue.
- Display detailed plant information, such as data curve, diagram, plant unit, inverter, and combiner box.
- View device running states including fault, alarm, and other information.
- Display system data in the chart form, for example, daily report, monthly report, and annual report, or you may customize the report format.
- Receive reports via the email, for example, running reports and fault reports.
- Display work order information of the plant.
- Locate the plants in Bing Map.
- View the monitoring videos on the devices in the system.
- Effectively evaluate the running status of the plant by using various charts and reports.
- Analyze and display performance of the plant in real time, for example, daily load curve of power plant and I-V curve.

2.2 System Requirements

Item	Recommended	Supported
Browser	chrome	IE9 or later
Resolution	1920*1080	1366*768

3 Login

In this chapter, the method of logging into the iSolarCloud O&M platform is described.

Step 1 Enter the website, for example, www.isolarcloud.com, to enter the login interface shown in the figure below.



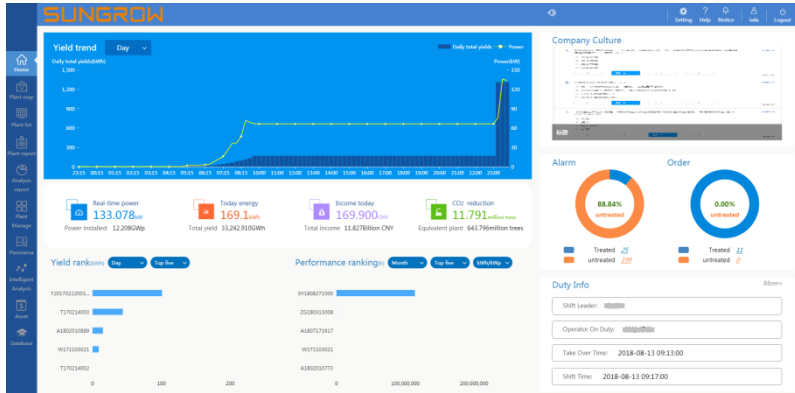
Step 2 Enter the username and password in the login dialog box, and click **【Login】** .



For the convenience of subsequent login, the user may select "Remember user name".

Login successfully

After login, the home page is shown in the figure below.



The platform has two themes: the blue one and the orange one. Users with the modification permission can change the theme in "Personalization" - "Theme". Reference can be made to chapter "15 User Center".

4 Page Description

The iSolarCloud platform interface includes two parts: navigation bar and displaying area

Navigation Bar

Menu	Description
Home	Displays the overall information on the plant of the user.
Plant map	Positions the plants of the user and displays overall information on the selected plant.
Plant list	Lists all plants of the user, and displays detailed information on specific plants.
Plant report	Displays running reports of the plants of a user.
Plant manage	Used to manage plants of the user.
Panorama	Used to perform global management on the meter, inverter, and combiner box of the user.
Intelligent Analysis	Analyzes and displays performance of the plants of the user.
Asset	Used to manage devices of the user.
Database	Used to upload or manage processed faults or other information.
Service center	Used to view the communication module status and perform renewal reminder setting.
User center	Used to set user information

Displaying Area

After clicking a menu in the navigation bar, the corresponding information is displayed in the displaying area.

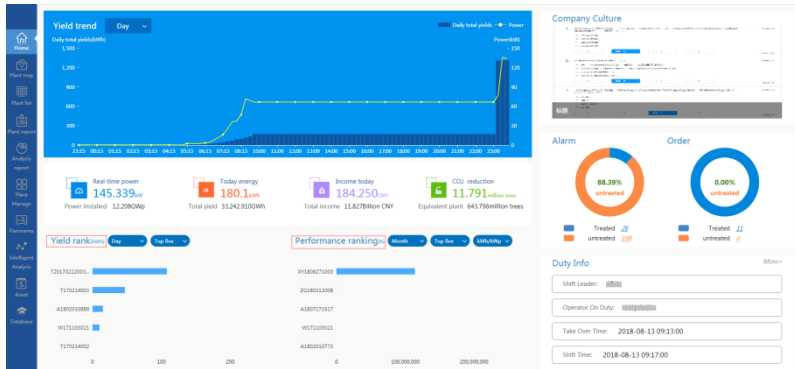
5 Home

On this interface, information such as plant power, power generation, revenue, CO₂ emission reduction, yield trend, yield rank, and performance rank can be viewed.

Step 1 Log into the system.

Step 2 Select the "Home" on the navigation bar to enter the home page.

Step 3 Select data displaying conditions (day, month, year, and top five/last five) to display different data.



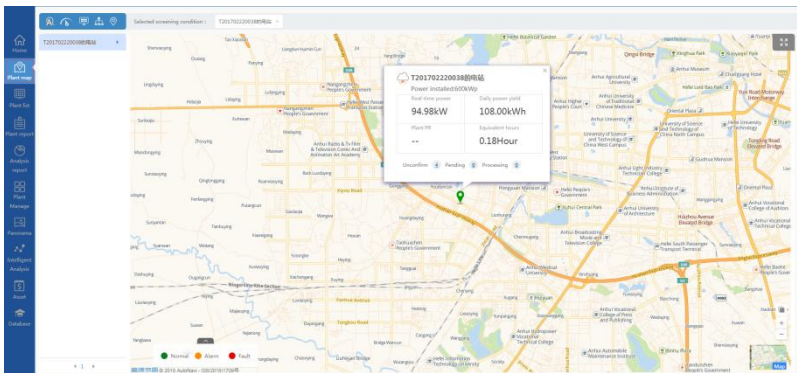
6 Plant Map





On this interface, plants can be positioned on the map, and overall plant information can be displayed.

Step 1 Log into the system.

Step 2 Select the "Plant map" menu on the navigation bar to enter the "Plant map" interface.

Step 3 Select a plant to view its information on the map.



- After clicking the icon  on the map, a box of plant information pops up, and the basic plant information can be viewed. Alternatively, you may click the plant name in the left plant list to switch to corresponding plant on the map.
- Unfold  Normal  Alarm  Fault on the lower left of the map to display the information on the selected power plant.

7 Plant List

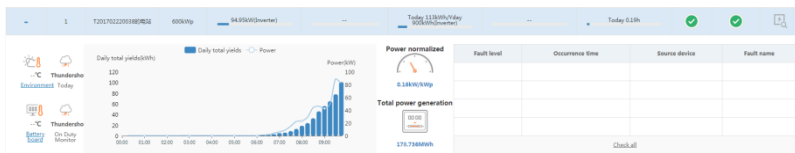
On the plant list interface, detailed information of a selected plant can be viewed, for example, the chart, diagram, plant unit, inverter, combiner box, and alarm information.

Step 1 Log into the system.

Step 2 Select the "Plant list" menu on the navigation bar to enter the "Plant list" interface.

ID	Plant name	Power	Real-time power	Radiation	Daily power yield	PR	Equipment hours	Alarm	commissioning	View unit
1	T201702220018878E04	600kWhp	64.976kWh(overnet)	---	Today 11.50kWh/Today 90.63kWh(overnet)	---	Today 0.13h	✓	✓	🔍
2	T1701240340787E04	190kWhp	44.540kWh(overnet)	---	Today 19.00kWh/Today 17.00kWh(overnet)	---	Today 0.20h	✗	✓	🔍
3	W1712100124787E04	20kWhp	8.798kWh(overnet)	---	Today 1.00kWh/Today 7.00kWh(overnet)	---	Today 0.35h	✓	✓	🔍
4	A1801010089787E04	39kWhp	1.840kWh(overnet)	---	Today 13.00kWh/Today 12.00kWh(overnet)	---	Today 0.42h	✓	⚙️	🔍
5	Z01428111001878E04	1.3kWhp	0.000kWh(overnet)	---	Today 0.00kWh/Today 0.00kWh(overnet)	---	Today 0.00h	✓	✓	🔍
6	E0146666604787E04	1.3kWhp	0.000kWh(overnet)	---	Today 0.00kWh/Today 0.00kWh(overnet)	---	Today 0.00h	✗	✓	🔍
7	Z01481111001878E04	9kWhp	0.000kWh(overnet)	---	Today 0.00kWh/Today 0.00kWh(overnet)	---	Today 0.00h	✗	✓	🔍
8	E018006004787E04	9kWhp	0.000kWh(overnet)	---	Today 0.00kWh/Today 0.00kWh(overnet)	---	Today 0.00h	✓	✓	🔍
9	Z01481111001878E04	9kWhp	0.000kWh(overnet)	---	Today 0.00kWh/Today 0.00kWh(overnet)	---	Today 0.00h	✗	✓	🔍
10	Z01481111001878E04	1.3kWhp	0.000kWh(overnet)	---	Today 0.00kWh/Today 0.00kWh(overnet)	---	Today 0.00h	✓	✓	🔍

Step 3 Click the button + on the left of the plant name to view detailed information on the plant.

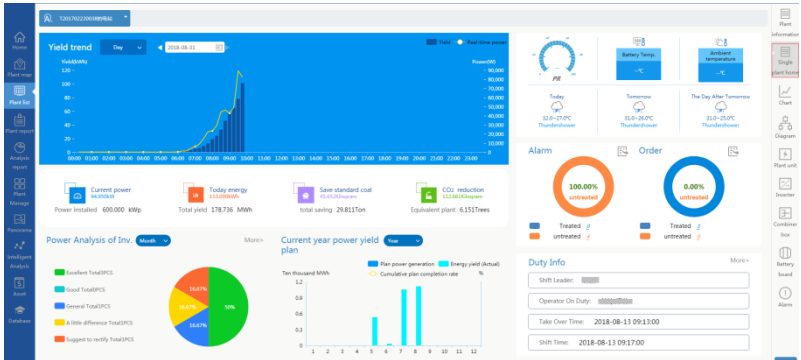


Step 4 Click the "View unit" to jump to the "View unit" interface.

7.1 Single Plant Home

Step 1 Enter the "Plant list" interface.

Step 2 Select the "Single plant home" on the right function navigation bar to enter the "Single plant home" interface.

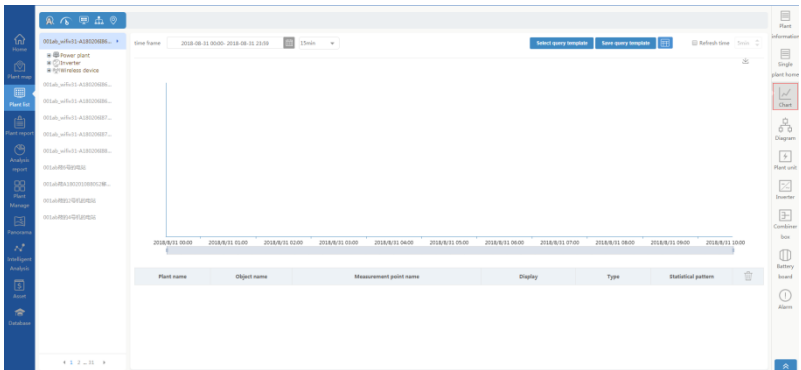


Step 3 Select a plant name in the plant list to display the detailed plant information.

7.2 Chart

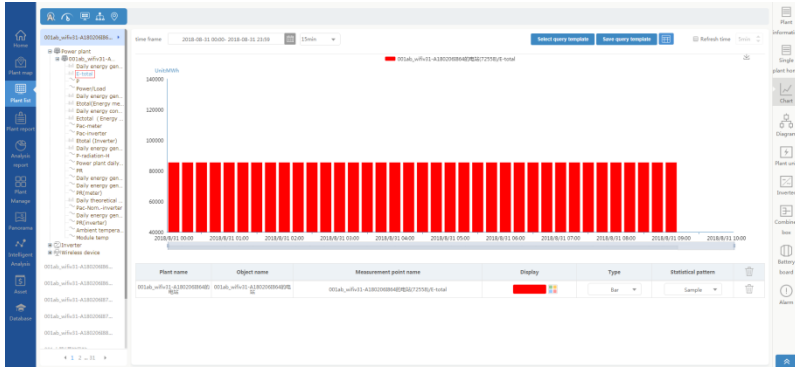
Step 1 Enter the "Plant list" interface.

Step 2 Select the "Chart" on the right function navigation bar to enter the "Chart" interface.



Step 3 Select parameters of a corresponding device in the plant list to add a parameter curve.

Click "Plant" to add the parameter curve.



Similarly, you may click "Grid-connected point", "Unit", "Energy meter", "Inverter", "Combiner box", "Weather station", and "Line protection device" to add their corresponding parameter curves.

Save query template

This function is used to save the current query condition as a template for the convenience of future query. The method is as follows:

- Step 1** Select a corresponding plant/device from the plant/device list on the left.
- Step 2** Click the to-be-queried measurement point (parameter type), for example, "Total yield".
- Step 3** Click "Save query template", so that the current queried chart can be save as a query template.

Select query template

- Prerequisite

There have been query templates in the system.


- Operation method

Click "Select query template".



- Change the "time frame", "display interval", and "Refresh time" on the top of this page to have the curve displayed according to requirements.
- Click the option on the bottom of the page to change the colour of the curve.
- Click the option on the bottom of the page to change the display form.
- Click the "Statistical pattern bar" on the bottom of

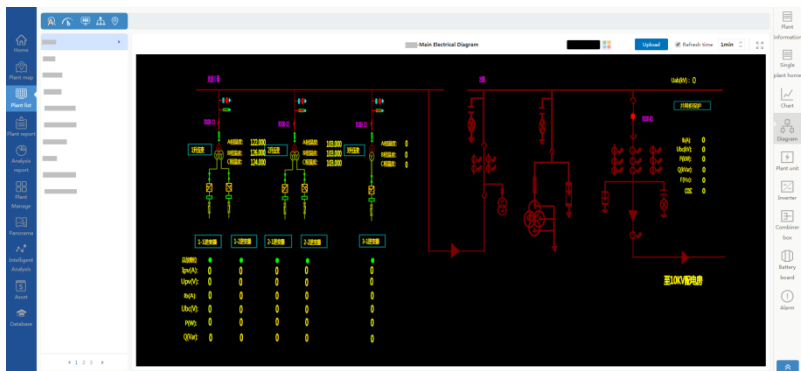
the page to select the statistical pattern.



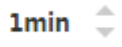
- Click the "Operation bar"  on the bottom of the page to remove the added curve.

7.3 Diagram

Step 1 Enter the "Plant list" interface.

Step 2 Select the "Diagram" on the right function navigation bar to enter the "Diagram" interface.

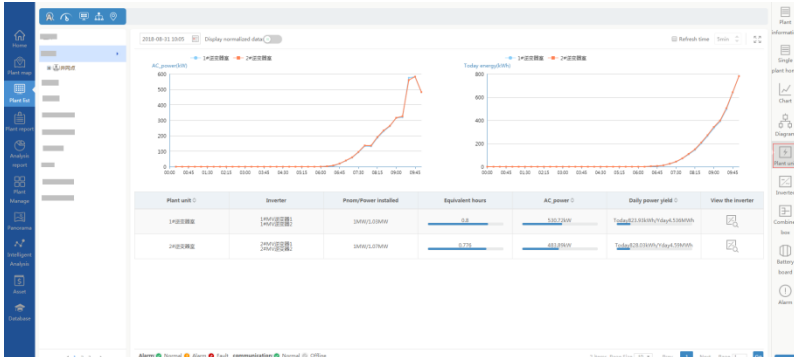


- Click  on the top of the page to change the background colour of the wiring diagram.
- Click the icon  on the upper right to display the wiring diagram maximally.
- Click Refresh time  on the upper right to refresh the page according to the selected time interval.

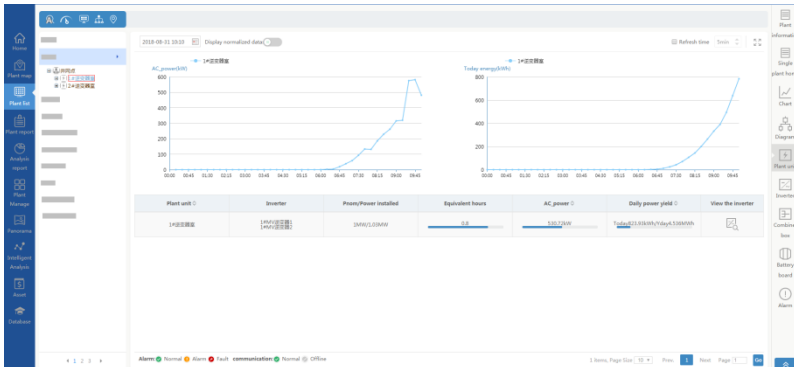
7.4 Plant Unit

Step 1 Enter the "Plant list" interface.

Step 2 Select the "Plant unit" on the right function navigation bar to enter the "Plant unit" interface.



Step 3 A specific unit can be selected from theselection tree on the left of plant unit.



Step 4 Data of the plant unit may be displayed as normalized data, so thatthe power curve is changed to normalized power, and daily yield curve is changed to equivalent hour curve.

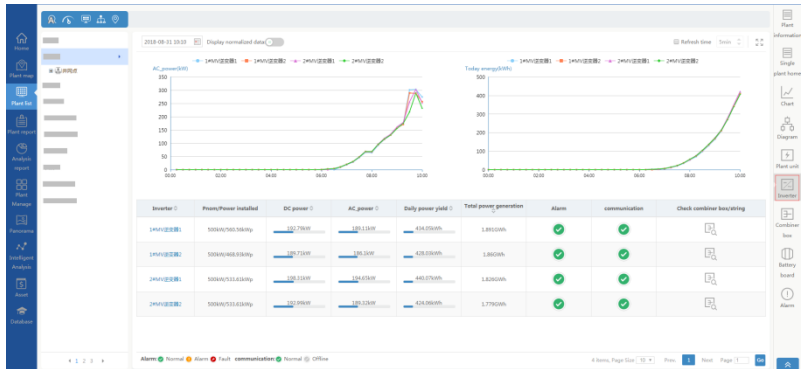
- Select the time on the top display history data.
- Click the icon on the upper right to display the curve maximally.
- Click Refresh time on the upper right to refresh the page according to the selected time interval.

7.5 Inverter

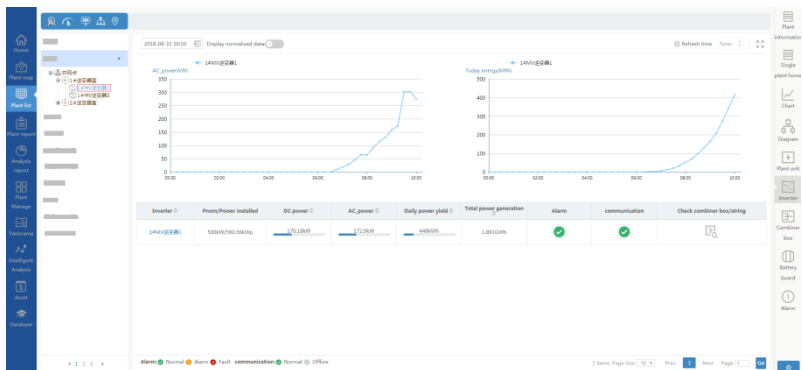
Step 1 Enter the "Plant list" interface.

Step 2 Select the "Inverter" on the right function navigation bar to enter the "Inverter" interface.

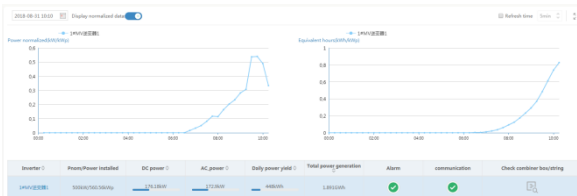
Step 3 Select a plant name from the plant list.



Step 4 A specific inverter can be selected from the selection tree on the left of the inverter.




Step 5 Click **Display normalized data:** on the top of this page to display normalized data, so that the power curve is changed to normalized power, and daily yield curve is changed to equivalent hour curve.



Select the time on the top display history data.


Click the icon  on the upper right to display the curve maximally.



Click  on the upper right to refresh the page according to the selected time interval.

Step 6 Click an inverter name, and the device page pops up.

1#MV逆变器1

Chart 

Device Basic Info | Device alarm(open) | Device alarm(close) | Device operation | Device order records

Measuring point parameter Data update time: 2018-09-11 13:13

Total active power: 187.28kW	Daily energy generation: 464kWh	Total energy generation: 1.89150kWh	Total DC power: 195.58kW
Uab: 323.8V	Ubc: 323.3V	Uba: 323.8V	Ia: 335.4A
Ib: 334.8A	Ic: 335A	Reverse power: -5.28kW	Internal air temperature: 49°C
Uab-1: 528.8V	Ua-1: 361.5A	Uab-2: -V	Ia-2: -A
Uab-3: -V	Ia-3: -A	Uab-4: -V	Ia-4: -A
Module A1 temperature: 69.4°C	Module A2 temperature: 74.3°C	Temp-MB1: 74.3°C	Temp-MB2: 76.4°C
Temp-MC1: 69.9°C	Temp-MC2: 74.6°C	I-rling1: -A	I-rling2: -A
I-rling3: -A	I-rling4: -A	I-rling5: -A	I-rling6: -A
I-rling7: -A	Daily energy generation equipment hours: 6.8h	Grid frequency: 49.9Hz	Ac-cable earth impedance: 1.000kΩ
Rigid: 1.000kΩ			

Device Info


Current state: Online	Device name: 1#MV逆变器1	Device coding: 1	Operation time: 2017-09-08 14:29:00
Device model: S0200MX	Manufacturer: SUNGROW	Specification: --	Delivery Date: --

Step 7 Click the "Chart" on the upper right corner to view the curve.

Area Name: 2018-09-11 00:00-2018-09-11 23:59 Refresh time 

Plant name	Measurement point name	Display	Type	Statistical pattern	Operation
08	1#MV逆变器1(120kV)total active power		Line	Sample	
08	1#MV逆变器1(120kV)daily energy generation		Bar	Sample	
08	1#MV逆变器1(120kV)total DC power		Line	Sample	
08	1#MV逆变器1(120kV)Uab		Line	Sample	



- Select the time on the top display history data.
- Click the icon  on the upper right to display the data in the table form.

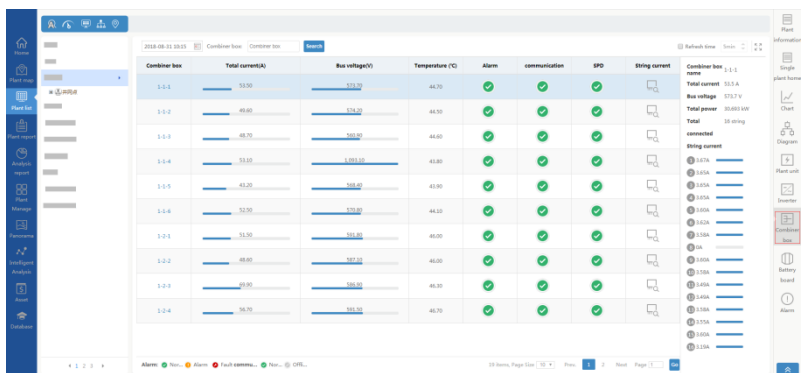
- Click  on the upper right to refresh the page according to the selected time interval.



7.6 Combiner Box

Step 1 Enter the "Plant list" interface.

Step 2 Select the "Combiner box" on the right function navigation bar to enter the "Combiner box" interface.

Step 3 Select a plant name in the plant list to display the information on the combiner box of the selected plant.



- Select the time on the top display history data.
- Click the icon  on the upper right to display the curve maximally.
- Click  on the upper right to refresh the page according to the selected time interval.

Step 4 Click a combiner box name to display detailed combiner box information.

1-1-1

Chart

Plant name: Device space: Device alarm(close): Device model:

Device Basic info Device alarm(open) Device alarm(close) Device operation Device order records



Measuring point parameter Data update time: 2020-08-31 09:15

Communication status	--	Total current	52.7A	DC bus voltage	587.5V	Total power	30.96kW
Internal temperature	45.7°C	Ipr-1	3.67A	Ipr-2	3.05A	Ipr-3	3.06A
		Ipr-4	3.04A	Ipr-5	3.06A	Ipr-6	3.05A
		Ipr-8	3A	Ipr-9	3.51A	Ipr-10	3.51A
		Ipr-12	3.4A	Ipr-13	3.48A	Ipr-14	3.46A
		Ipr-16	3.54A			Ipr-17	3.55A

Device info

Current state	Online	Device name	1-1-1	Device coding	3	Operation time	--
Device model	--	Manufacturer	--	Specification	--	Delivery Date	--

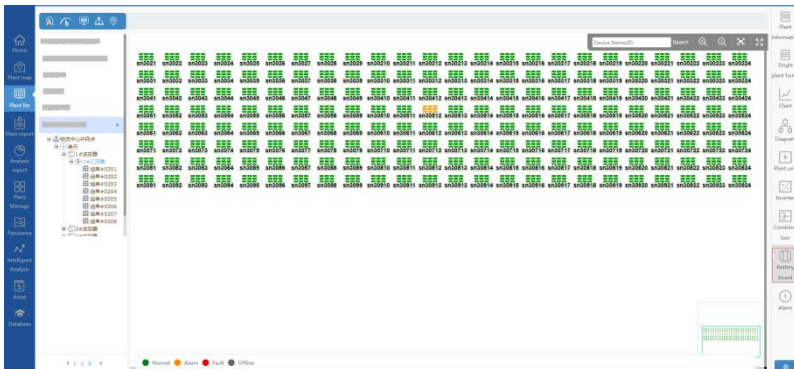


- Select the time on the top display history data.
- Click the icon  on the upper right to display the data in the table form.
- Click Refresh time 5min  on the upper right to refresh the page according to the selected time interval.

7.7 Battery Board

Step 1 Enter the "Plant list" interface.

Step 2 Select the "Battery board" on the right function navigation bar to enter the battery board information interface.



7.8 Alarm

Step 1 Enter the "Plant list" interface.

Step 2 Select the "Alarm" on the right function navigation bar to enter the "Alarm" interface.


The screenshot shows the 'Alarm' management interface. At the top, there are tabs for 'Open' and 'Closed'. Below the tabs, there are filters for 'Time' (2017-08-31 to 2018-08-31), 'Alarm name', and 'Alarm name' with a search button. On the right, there are buttons for 'Refresh time', 'Switch', and 'Export'. Below the filters, there are summary statistics: 'Alarm type: Fault: 18, Alarm: 82, Prompt: 745, Advice: 28', 'Alarm level: Important: 0, Secondary: 0, General: 0', and 'Alarm processing state: Unconfirm: 0, Pending: 0, Processing: 0, Settled: 0'. There are also buttons for 'Transfer defect elimination ticket', 'Batch close', 'Report fault', and 'Export'. The main area contains a table with columns: Plant name, Alarm type, Alarm level, Alarm name, Device space, Device name, State, Occurrence time, and Operation. The table lists several alarm events, including 'Warm run', 'Fan flt', 'Open Circuit', and 'Temperature abnormal al'. The right-hand sidebar shows a 'Reporter' section with a list of status options: Unconfirm, Pending, Processing, Settled, and Closed.

Plant name	Alarm type	Alarm level	Alarm name	Device space	Device name	State	Occurrence time	Operation
梅达楼一期	Alarm	General	Warm run	冰库_2_A1507210958	8301	Unconfirm	2018-08-31 09:59:42	
梅达楼一期	Alarm	General	Fan flt	冰库_2_A1507210958	8301	Unconfirm	2018-08-31 09:59:42	
国研	Alarm	Secondary	Open Circuit	井坑_1#柜_1#MVA 送电柜	H426	Unconfirm	2018-08-31 09:53:45	
梅达楼一期	Alarm	General	Warm run	冰库_1_A1507210902	D107	Unconfirm	2018-08-31 09:52:44	
梅达楼一期	Alarm	General	Fan flt	冰库_1_A1507210902	D107	Unconfirm	2018-08-31 09:52:44	
TCL一期	Alarm	General	Warm run	电站分室_1_电柜子柜4	#MVA送电柜1	Unconfirm	2018-08-31 09:44:31	
TCL一期	Alarm	General	Temperature abnormal al	电站分室_1_电柜子柜4	#MVA送电柜1	Unconfirm	2018-08-31 09:44:29	
TCL一期	Alarm	General	Warm run	电站分室_1_电柜子柜3	#MVA送电柜1	Unconfirm	2018-08-31 09:42:27	
TCL一期	Alarm	General	Temperature abnormal al	电站分室_1_电柜子柜3	#MVA送电柜1	Unconfirm	2018-08-31 09:42:25	

Step 3 After select a plant, click **[Report fault]** on the upper right, and the "Report fault" box pops up.

Report fault
✕

Plant name*	<input type="text" value="Please select"/>	Device type*	<input type="text" value="Please select"/>
Fault name*	<input type="text" value="Please select"/>	Fault device*	<input type="text" value="Please select"/>
Fault type*	<input type="text"/>	Fault level*	<input type="text"/>
Source*	<input type="text" value="Please select"/>	Processing time*	<input type="text" value="Please select"/>
Fault details			
Fault picture	<input type="button" value="click to choose pictures"/>		

Step 4 Select an unconfirmed fault, click the button  **【Transfer defect elimination ticket】** on the "Operation" bar to open the "Transfer defect elimination ticket" page.

Transfer defect elimination ticket
✕


Fault name Warn run

Repair time Emergency ▼

Remind person

Remind method PC SMS Mail

Processing opinion

Step 5 Select a fault in the open state, click the button  **【Close】** on the "Operation" bar to open the "Close fault" page.



Close fault ×

Fault name Warn run

Processing opinion

Close fault



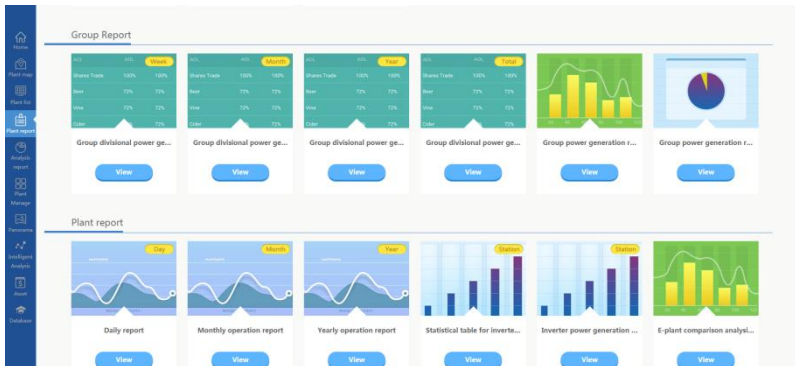
- The operator can select the notification manner for fault confirmation, for example, via the PC, SMS, or email, and the fault changes as per the processing status.
- Select a fault on the fault list page, and the detailed information and processing status are displayed on the right.
- The assigned person can log into the system to close the fault on the working order processing page.
- Select the time on the top display history data.
- Click the icon  on the upper right to display the curve maximally.
- Click Refresh time 5min  on the upper left to refresh the page according to the selected time interval.

8 Plant Report

On the plant report page, group reports, plant reports (daily report, monthly report, annual report, and custom report), and report library can be viewed and exported. In addition, the user can create customized reports according to needs.

Step 1 Log into the system.

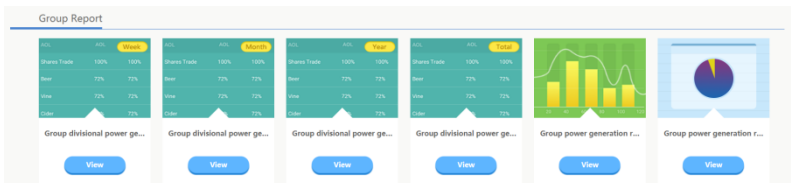
Step 2 Select the "Plant report" on the navigation bar to enter the "Plant report" interface.



Step 3 Select the desired report type according to requirements, for example, group report, plant report, and report library.

Report type	Description
Group report	Displays running information reports of all plants, for example, group power generation statistical report.
Plant report	Displays running information report of a single plant, for example, daily report, monthly report, and annual report.
Custom report	Users can create self-defined report formats according to needs.

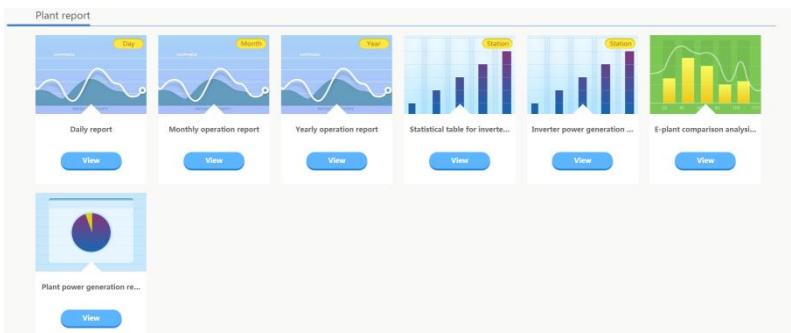
Group report



- Group power generation compensation report

Power generation data includes power generation and compensation power generation. The power generation is data collected in real time, and the compensation power generation is data calculated in later phase according to specific algorithm due to data loss caused by communication interruption or other reasons. Currently, daily, monthly, annual, and total compensation power generations can be viewed.

Plant report



- Plant compensation power generation report

This kind of report supports power generation statistics based on a day, month, and year. The power generation is data collected in real time, and the compensation power generation is data calculated in later phase according to specific algorithm due to data loss caused by communication interruption or other reasons.

Report library

Report library

Plant time-shared power g...

View

Grid-connected point time...

View

Inverter time-shared powe...

View

Plant time-shared power g...

View



- Click the button 2015-09-01 on the upper left to view history data.
- Click the button on the upper right of the page to export the report, and the report is exported in the .xls format.

- Grid-connected point time-shared power generation report

Month: Year: Total: 2018-08 Search Export

Grid-connected point time sharing power generation Monthly operation report 2018-08(over install(kWh))

Time	Grid connected point	Yield(kWh)					Four-grid energy(kWh)					Power consumption(kWh)				
		Tip	Peak	Flat	Valley	Total	Tip	Peak	Flat	Valley	Total	Tip	Peak	Flat	Valley	Total
1	并网点	--	--	6,205.6	--	6,205.6	--	--	6,205.6	--	6,205.6	--	--	--	--	--
2	并网点	--	--	7,050.2	--	7,050.2	--	--	7,050.2	--	7,050.2	--	--	--	--	--
3	并网点	--	--	4,380.2	--	4,380.2	--	--	4,380.2	--	4,380.2	--	--	--	--	--
4	并网点	--	--	4,305.8	--	4,305.8	--	--	4,305.8	--	4,305.8	--	--	--	--	--
5	并网点	--	--	5,610	--	5,610	--	--	5,610	--	5,610	--	--	--	--	--
6	并网点	--	--	7,200.2	--	7,200.2	--	--	7,200.2	--	7,200.2	--	--	--	--	--
7	并网点	--	--	6,779.9	--	6,779.9	--	--	6,779.9	--	6,779.9	--	--	--	--	--
8	并网点	--	--	7,049.8	--	7,049.8	--	--	7,049.8	--	7,049.8	--	--	--	--	--
9	并网点	--	--	6,660.1	--	6,660.1	--	--	6,660.1	--	6,660.1	--	--	--	--	--
10	并网点	--	--	6,370	--	6,370	--	--	6,370	--	6,370	--	--	--	--	--
11	并网点	--	--	5,518.8	--	5,518.8	--	--	5,518.8	--	5,518.8	--	--	--	--	--
12	并网点	--	--	5,910	--	5,910	--	--	5,910	--	5,910	--	--	--	--	--
13	并网点	--	--	2,430	--	2,430	--	--	2,430	--	2,430	--	--	--	--	--
14	并网点	--	--	6,870	--	6,870	--	--	6,870	--	6,870	--	--	--	--	--
15	并网点	--	--	6,660.1	--	6,660.1	--	--	6,660.1	--	6,660.1	--	--	--	--	--
16	并网点	--	--	2,639.9	--	2,639.9	--	--	2,639.9	--	2,639.9	--	--	--	--	--
17	并网点	--	--	1,370.4	--	1,370.4	--	--	1,370.4	--	1,370.4	--	--	--	--	--
18	并网点	--	--	3,026.6	--	3,026.6	--	--	3,026.6	--	3,026.6	--	--	--	--	--
19	并网点	--	--	5,760.7	--	5,760.7	--	--	5,760.7	--	5,760.7	--	--	--	--	--

- Inverter time-shared power generation report

Month Year Total 2018-08 Search Report

Plant internal power generation/monthly operation report 2018-08(Power installed:1.5MW)

Time	Tip(kWh)	Peak(kWh)	Flat(kWh)	Valley(kWh)	Total(kWh)
1	--	--	2,041.08	--	2,041.08
2	--	--	2,328.98	--	2,328.98
3	--	--	1,441.82	--	1,441.82
4	--	--	1,864.07	--	1,864.07
5	--	--	2,242.05	--	2,242.05
6	--	--	2,544	--	2,544
7	--	--	2,233.98	--	2,233.98
8	--	--	2,120	--	2,120
9	--	--	2,473.98	--	2,473.98
10	--	--	2,311.94	--	2,311.94
11	--	--	1,730.08	--	1,730.08
12	--	--	2,087.92	--	2,087.92
13	--	--	856	--	856
14	--	--	2,332.03	--	2,332.03
15	--	--	2,201.99	--	2,201.99
16	--	--	962.04	--	962.04
17	--	--	368	--	368
18	--	--	1,200	--	1,200
19	--	--	1,837.92	--	1,837.92
...

• Plant time-shared power generation revenue report

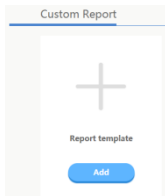
Day Month Year Total 2018-08-11 Search Details Report

Plant internal charge revenue Daily operation report 2018-08-11(Power installed:1.5MW)

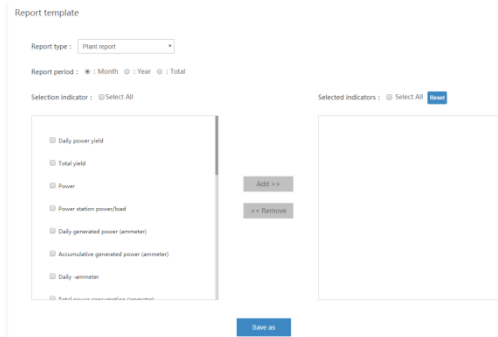
Time	Grid-connected point	Yield(kWh)	Subsidy revenue(CNY)	East grid energy(kWh)	East grid revenue(CNY)	Power consumption(kWh)	EC revenue(CNY)	Balance(Electricity income(CNY))	Balance(Total revenue(CNY))
	Tip	--	--	Tip	--	Tip	--	--	--
	Peak	--	--	Peak	--	Peak	--	--	--
2018-08-11	Flat	1,020.4	--	Flat	1,020.4	Flat	--	--	--
	Valley	--	--	Valley	--	Valley	--	--	--
	Total	1,020.4	--	Total	1,020.4	Total	--	--	--
total		1,020.4	--		1,020.4		--	--	--

Create self-defined report

On this page, the user can create customized reports according to needs.

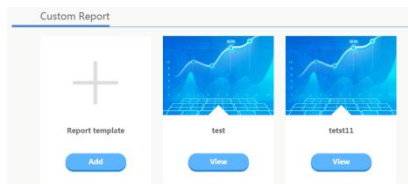


Step 1 Select a report type, period, and the indicators that need to be displayed.



Step 2 Click **【Add】** to add parameters to the self-defined report.

Step 3 Click **【Save as】**, and the report can be added to the "Plant report"- "Custom report" after it is named.



9 Plant Manage

9.1 Introduction

The Plant Manage interface includes "Work order process", "Alarm", "Duty Info", and "onduty log".

9.2 Defect Elimination Management

Defect elimination management is managing common faults and alarms in the plant and performing corresponding operations.

The basic procedure is as follows:

Step	Operation
1. Report the fault	Refer to chapter "10.2.1 Report the Fault".
2. Transfer the defect elimination ticket	Refer to chapter "10.2.2 Transfer the defect elimination ticket".
3. Confirm repair	Refer to chapter "10.2.3 Confirm Repair".
4. Close Job Order	Refer to chapter "10.2.4 Close Job Order".
5. Evaluation	Refer to chapter "10.2.5 Evaluation".

9.2.1 Report the Fault

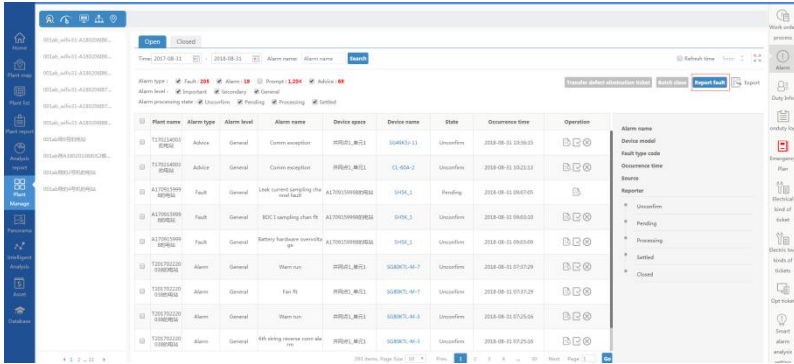
Auto report

The system detects the fault, and displays the fault on the interface.

Manual report

Step 1 Click "Plant Manage -> Alarm".

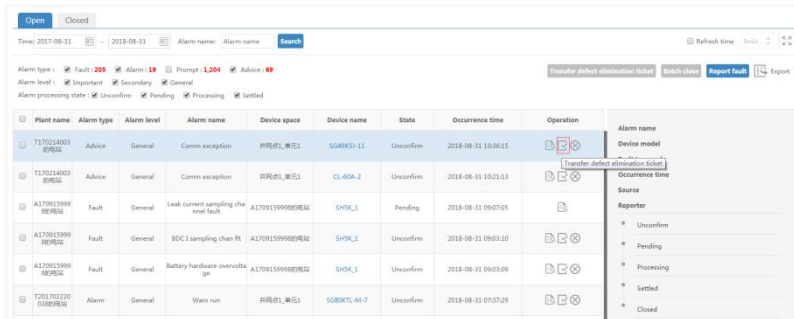
Step 2 Click "Report fault", fill the table, and submit it, to report the fault.



9.2.2 Transfer Defect Elimination Ticket

Step 1 Click "Plant Manage -> Alarm".

Step 2 Select a fault, and click "Transfer defect elimination ticket" on the operation bar, to transfer the fault information to the monitor on duty/operator.



Step 3 Select the maintenance time, remind person, and remind method.

Transfer defect elimination ticket

Fault name Comm exception

Repair time Emergency

Remind person [Select people](#)

Remind method PC SMS Mail

Processing opinion

[Confirm](#)

9.2.3 Confirm Repair

Step 1 Click "Plant Manage -> Work order process".

Step 2 Select a fault, view detailed job order information on the operation bar, and if the information is correct, click "Confirm repair".

Step 3 Select the processing method according to actual situation. Click "Back" to ignore the fault, and click "Confirm repair" to fill in the maintenance steps.

Step 4 Click "Confirm" to finish the maintenance.

9.2.4 Close Job Order

Step 1 Click "Plant Manage -> Work order process".

Step 2 "Repair complete" is displayed on the operation bar corresponding to the fault. Select a close user, evaluate the job order, and close the job order.

9.2.5 Evaluation

Step 1 Click "Plant Manage -> Work order process".

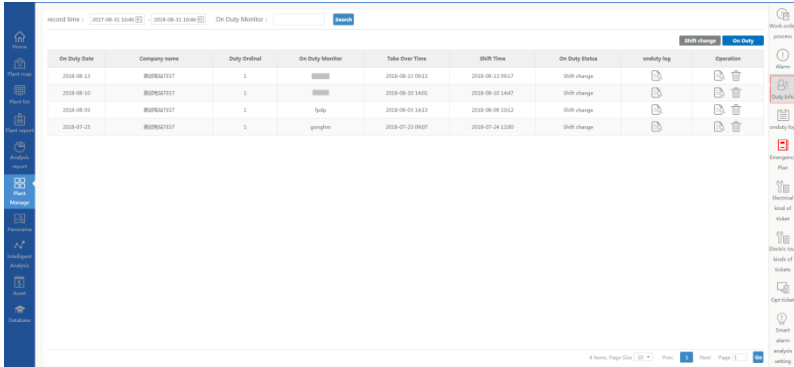
Step 2 Select a reviewer on the operation bar corresponding to the fault to fill in the evaluation opinion.

9.3 Alarm

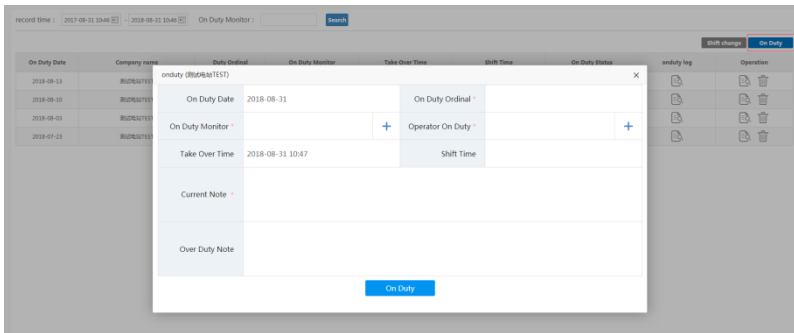
Click "Plant Manage" -> "Alarm" to enter the alarm interface. For the operations, refer to chapter 7.7.

9.4 Duty Information

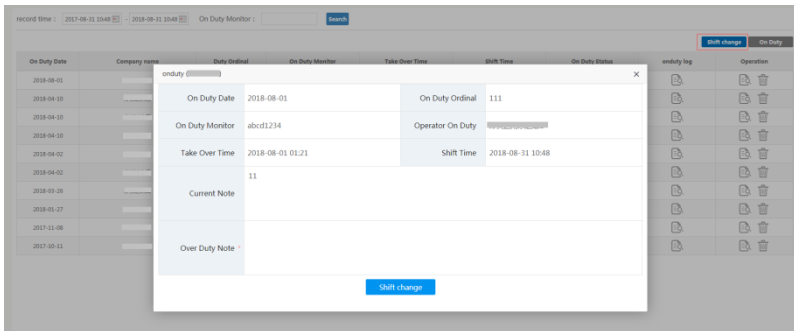
Step 1 Click "Plant Manage -> Duty Info".



Step 2 Click "On Duty" to add on duty information.

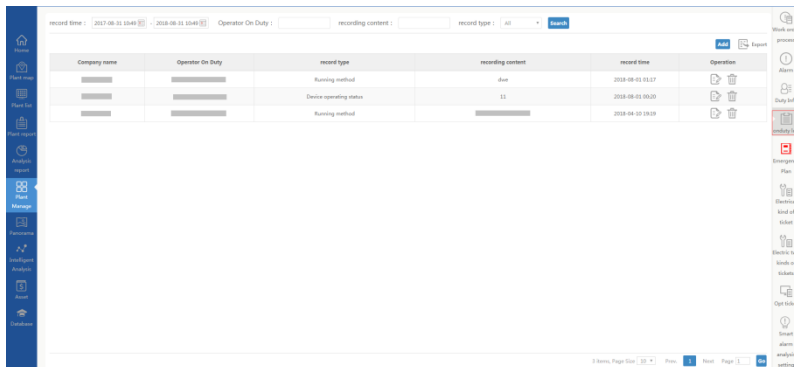


Step 3 Click "Shift change" to add shift information.

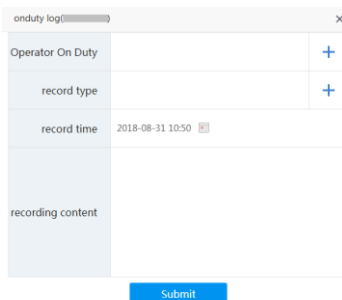


9.5 Onduty Log

Step 1 Click "Plant Manage -> onduty log" to enter the corresponding interface.



Step 2 Click "Add" to add logs.



9.6 First ElectricalTicket

Manage work ticket

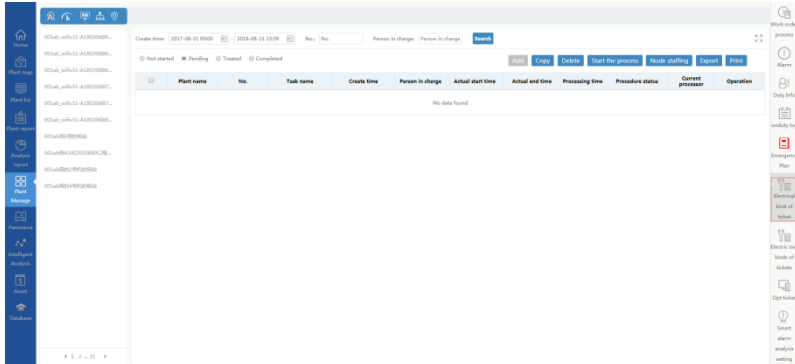
To ensure personal safety and prevent misoperations, the operation ticket or work ticket needs to be used during electrical operation such as maintenance, troubleshooting, and commissioning.

The "two tickets" needs to be used and managed in a standard, correct, and procedural manner. Therefore, it is necessary to create standard operation ticket and work ticket library.

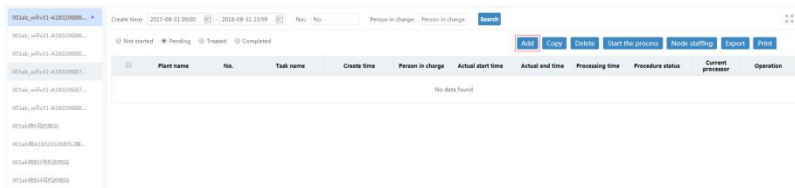
First electrical ticket (the first kind of ticket)

Step 1: Click "Plant Manage" on the navigation bar to enter the corresponding interface.

Step 2: Click "Electrical kind of ticket", to enter the corresponding interface.



Step 3 Select the corresponding plant on the left, and click **【Add】** to add the first electrical ticket.



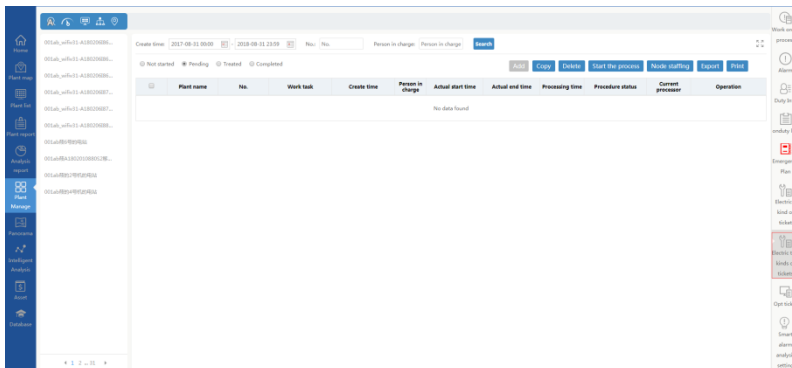
Operations including "Copy", "Delete", "Start the process", "Node staffing", "Export", and "Print" can be performed on the selected electrical ticket.

9.7 Second Electrical Ticket

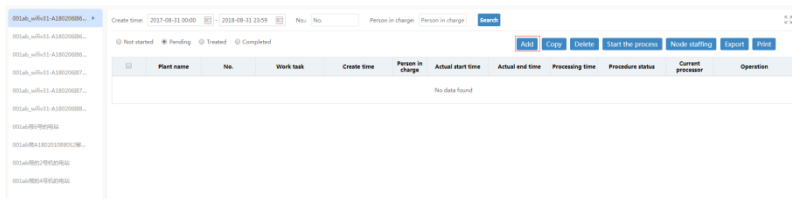
Second electrical ticket (the second kind of ticket)

Step 1: Click "Plant Manage" on the navigation bar to enter the corresponding interface.

Step 2: Click "Electric two kinds of tickets", to enter the corresponding interface.



Step 3 Select the corresponding plant on the left, and click **【Add】** to add the second electrical ticket.

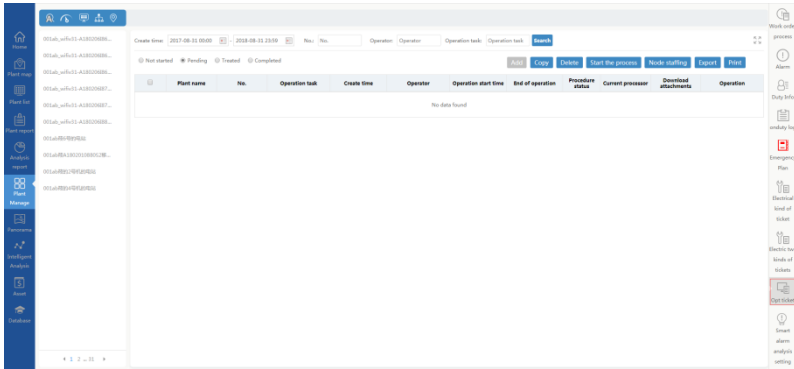


Operations including "Copy", "Delete", "Start the process", "Node staffing", "Export", and "Print" can be performed on the selected electrical ticket.

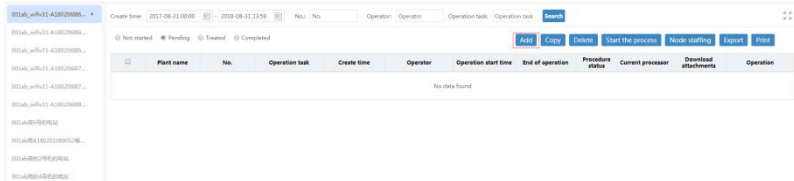
9.8 Operation Ticket

Step 1: Click "Plant Manage" on the navigation bar to enter the corresponding interface.

Step 2 Click "Opt ticket" to enter the corresponding interface.



Step 3 Select the corresponding plant on the left, and click **【Add】** to add the operation ticket.

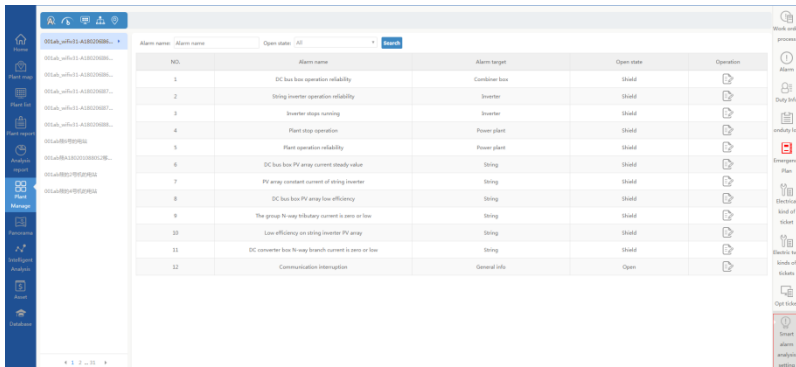


Operations including "Copy", "Delete", "Start the process", "Node staffing", "Export", and "Print" can be performed on the selected operation ticket.

9.9 Smart Alarm

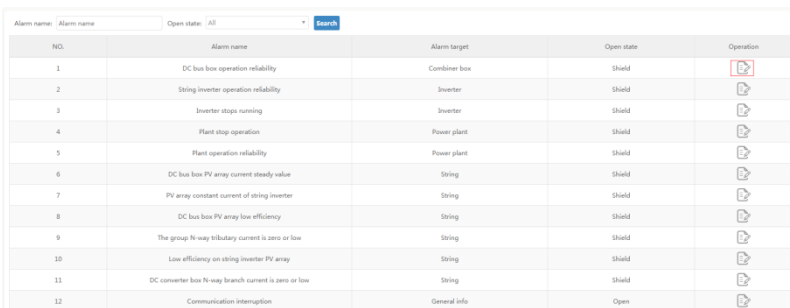
Step 1: Click "Plant Manage" on the navigation bar to enter the corresponding interface.

Step 2 Click "Smart alarm analysis setting" to enter the corresponding interface.



Step 3 Select a plant from the left plant tree and enter the alarm name to view the alarm information, where when "Open state" is selected, alarms of different states can be viewed.

Step 4 Click the editing button on the operation bar to enter the parameter editing page.



Different alarms have different settable parameters, and execution frequencies are different.

✕

Country (region) selection :

Grid type :

On / Off :

Send down instruction

After selecting the county and grid type, click **【Send down instruction】** , and a prompt dialog box pops up.

✕

Country selection :

Grid type :

On / Off :

Send down instruction

✕

Please enter the password

Confirm

Enter the correct login password. Then a parameter setting interface pops up.

✕

Task name :

Timeout period :

Declaration: Please confirm in advance whether setting information is accurate for the platform delivers data based on the received device attribute information updated latest.

Confirm and delivery Cancel

Task name and timeout time can be set. The timeout time can be 0.5h, 1h, and 72h, and the user can select the time according to operation time and parameter setting time of the inverter. After setting, click **【Confirm and**

delivery】 , and the system generate the parameter delivery task. In addition, history tasks can be viewed.

View history tasks

2017-08-31 2018-08-31 Task name: Search

NO.	Task name	Operating Time	Complete time	Operator	Task status	Operation
1	2018-08-31 13:48:06 remote parameter setting	2018-08-31 13:47:53	2018-08-31 13:47:56	testapp	Success/Failure/Timeout/Offline/Cancel/Failure	View
2		2018-08-31 13:45:07	2018-08-31 13:45:19	testapp	Success/Failure/Timeout/Offline/Cancel/Failure	View
3		2018-08-31 13:44:23	2018-08-31 13:44:26	testapp	Success/Failure/Timeout/Offline/Cancel/Failure	View
4		2018-08-31 13:43:34	2018-08-31 13:43:37	testapp	Success/Failure/Timeout/Offline/Cancel/Failure	View
5		2018-08-31 13:43:15	2018-08-31 13:43:18	testapp	Success/Failure/Timeout/Offline/Cancel/Failure	View
6		2018-08-31 12:09:02	2018-08-31 12:09:04	testapp	Success/Failure/Timeout/Offline/Cancel/Failure	View
7		2018-08-31 12:07:41	2018-08-31 12:08:10	testapp	Success/Failure/Timeout/Offline/Cancel/Failure	View
8		2018-08-31 11:44:58	2018-08-31 11:45:14	testapp	Success/Failure/Timeout/Offline/Cancel/Failure	View
9		2018-08-31 11:39:04	2018-08-31 11:39:09	testapp	Success/Failure/Timeout/Offline/Cancel/Failure	View
10		2018-08-31 11:36:26	2018-08-31 11:36:23	testapp	Success/Failure/Timeout/Offline/Cancel/Failure	View

2457 items, Page Size (10 *), Prev. 1 2 3 4 ... 246 Next Page 1

Click "View" to view the current task. Click "Cancel the task" to cancel the task that can be cancelled.

Step 4 After setting the country and grid type, click 【Parameter set】 , and the parameter setting page pop up on which system parameters/protection parameters/running parameters can be set.

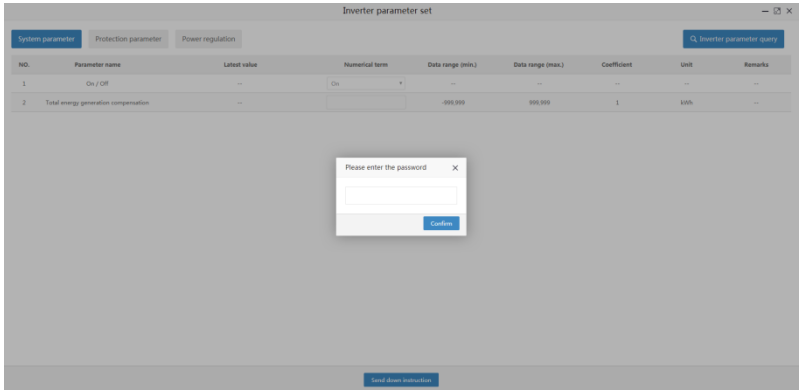
Inverter parameter set

System parameter Protection parameter Power regulation Inverter parameter query

NO.	Parameter name	Latest value	Numerical term	Data range (min.)	Data range (max.)	Coefficient	Unit	Remarks
1	On / Off	--	Please select	--	--	--	--	--
2	Total average generation compensation	--		-999,999	999,999	1	10%	--

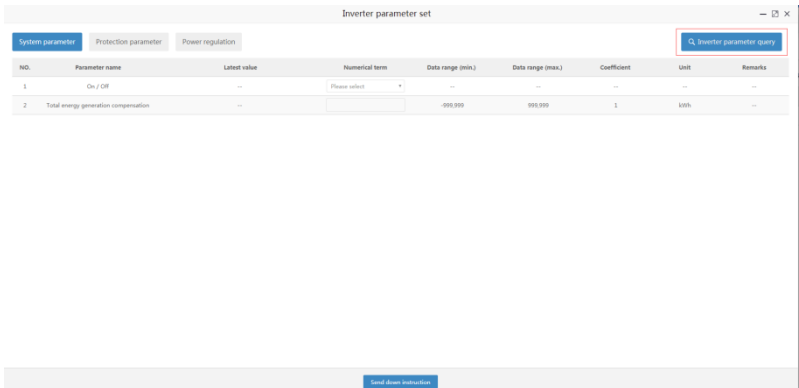
Send down instruction

After parameter setting, click 【Send down instruction】 , then a dialog box pops up, and enter the login password into it.



When the password is verified, a parameter setting page pops up. Edit task and timeout time, and click **【Confirm and delivery】**. The history tasks can be viewed.

Return to the parameter setting interface, click **【Parameter set】** to enter the parameter setting interface again, and click **【Inverter parameter query】** to view the set parameters.



Step 5 Return to the parameter setting interface, and click **【View history tasks】** to view the history parameter delivery tasks.

9.11 String Verification

Step 1: Click "Plant Manage" on the navigation bar to enter the corresponding interface.

Step 2 Click "String verification" to enter the string verification interface.

Step 3 Click **【Set verification rules】**. Default settings are displayed during the first visit, and then the latest settings are displayed during subsequent visit.

String verification configuration	
Judgment condition :	Power station power/load <input type="text"/> %
Access string exception rules :	String is enabled but string current < <input type="text"/> A
Missing rules :	String not enabled but string current >= <input type="text"/> A
No access rules :	String is not enabled and string current < <input type="text"/> A

Confirm	Confirm and copy to other plants
----------------	----------------------------------

Step 4 Configure verification rules. Values of the data of no access rules and data of missing rules are the same. Click **【Confirm】** to save the setting.

Click **【Confirm and copy to other plants】** to copy the same rule for the selected plant.

Step 5 Return to the string verification interface. The page displays the latest verification records when you enter the interface for the first time, and if there is no latest data, "No data, after clicking the check button the system will process string verification and display the verification results." is displayed.

Device type: String inverter **Verification** Batch enable Batch disabled Set verification rules Export

Total 2 Station equipment.Participate in verification 2 Station, Communication interruption 0 PCS Check time: 2017-11-22 16:40:33 Verification status: Not connected Access string exception Missing To be rechecked

Device name	Device space	String	Verification status	Enable or not
No data, after clicking the check button the system will process string verification and display the verification results.				

1734 Items, Page Size | 10 | Prev 1 2 3 4 ... 174 Next Page 1 2 3 4

Remark: The state to be re-checked is the temporary status of the system record after the user adjusts the "enable" status. Confirm whether the string problem is repaired and click the "Verify" button again to verify. After the string problem is solved, the record disappears.
Abnormal communication equipment does not participate in string verification. Click on Plant List - Inverter/Combiner Box to view it.

Step 6 Click **【Verification】** to display the verification result.

- If there is abnormal data, it will be displayed on the interface.

Device type: String inverter **Verification** Batch enable Batch disabled Set verification rules Export

Total 2 Station equipment.Participate in verification 2 Station, Communication interruption 0 PCS Check time: 2017-11-22 16:40:33 Verification status: Not connected Access string exception Missing To be rechecked

Device name	Device space	String	Verification status	Enable or not
SG13KTL-MF1(柜)	非阵区_A1307140413(柜)	String7	Access string exception	<input checked="" type="checkbox"/>
SG13KTL-MF1(柜)	非阵区_A1307140413(柜)	String6	Access string exception	<input checked="" type="checkbox"/>
SG13KTL-MF1(柜)	非阵区_A1307140413(柜)	String7	Access string exception	<input checked="" type="checkbox"/>
SG13KTL-MF1(柜)	非阵区_A1307140413(柜)	String8	Access string exception	<input checked="" type="checkbox"/>
SG13KTL-MF1(柜)	非阵区_A1307140413(柜)	String8	Access string exception	<input checked="" type="checkbox"/>
SG10KTL-MF3(柜)	非阵区_A1307140413(柜)	String8	Access string exception	<input checked="" type="checkbox"/>
SG10KTL-MF3(柜)	非阵区_A1307140413(柜)	String6	Access string exception	<input checked="" type="checkbox"/>
SG10KTL-MF3(柜)	非阵区_A1307140413(柜)	String4	Access string exception	<input checked="" type="checkbox"/>
SG10KTL-MF3(柜)	非阵区_A1307140413(柜)	String1	Access string exception	<input checked="" type="checkbox"/>
SG10KTL-MF3(柜)	非阵区_A1307140413(柜)	String2	Access string exception	<input checked="" type="checkbox"/>

11 Items, Page Size | 10 | Prev 1 2 Next Page 1 2 3 4

Remark: The state to be re-checked is the temporary status of the system record after the user adjusts the "enable" status. Confirm whether the string problem is repaired and click the "Verify" button again to verify. After the string problem is solved, the record disappears.
Abnormal communication equipment does not participate in string verification. Click on Plant List - Inverter/Combiner Box to view it.

- If there is no abnormal data, "No abnormal string was found in your power station string verification." is displayed.



On the string verification interface, only data of the string inverter and the combiner box can be queried.

Step 7 Select **【Enable or not】** to enable or disable a single string.

Device type: String inverter * Verification

Total 2 Station equipment Participate in verification 2 Station, Communication Interruption 0 PCS Check time: 2017-11-22 16:40:33 Verification status: Not connected Access string exception Missing To be rechecked

Device name	Device space	String	Verification status	Enable or not
SG33KTL-MM3(串)	群晖柜_A11607140413(串)	String3	Access string exception	<input checked="" type="checkbox"/>
SG33KTL-MM3(串)	群晖柜_A11607140413(串)	String6	Access string exception	<input type="checkbox"/>
SG33KTL-MM3(串)	群晖柜_A11607140413(串)	String7	Access string exception	<input type="checkbox"/>
SG33KTL-MM3(串)	群晖柜_A11607140413(串)	String8	Access string exception	<input type="checkbox"/>
SG33KTL-MM3(串)	群晖柜_A11607140413(串)	String9	Access string exception	<input type="checkbox"/>
SG50KTL-MM3(串)	群晖柜_A11607140413(串)	String6	Access string exception	<input type="checkbox"/>
SG50KTL-MM3(串)	群晖柜_A11607140413(串)	String4	Access string exception	<input type="checkbox"/>
SG50KTL-MM3(串)	群晖柜_A11607140413(串)	String3	Access string exception	<input type="checkbox"/>
SG50KTL-MM3(串)	群晖柜_A11607140413(串)	String2	Access string exception	<input type="checkbox"/>

Step 8 Select the string data and click **【Batch enable/Batch disabled】** to perform operations in batch.

Device type: String inverter * Verification

Total 2 Station equipment Participate in verification 2 Station, Communication Interruption 0 PCS Check time: 2017-11-22 16:40:33 Verification status: Not connected Access string exception Missing To be rechecked

Device name	Device space	String	Verification status	Enable or not
SG33KTL-MM3(串)	群晖柜_A11607140413(串)	String3	Access string exception	<input checked="" type="checkbox"/>
SG33KTL-MM3(串)	群晖柜_A11607140413(串)	String6	Access string exception	<input type="checkbox"/>
SG33KTL-MM3(串)	群晖柜_A11607140413(串)	String7	Access string exception	<input type="checkbox"/>
SG33KTL-MM3(串)	群晖柜_A11607140413(串)	String8	Access string exception	<input type="checkbox"/>
SG33KTL-MM3(串)	群晖柜_A11607140413(串)	String9	Access string exception	<input type="checkbox"/>
SG50KTL-MM3(串)	群晖柜_A11607140413(串)	String6	Access string exception	<input type="checkbox"/>
SG50KTL-MM3(串)	群晖柜_A11607140413(串)	String4	Access string exception	<input type="checkbox"/>
SG50KTL-MM3(串)	群晖柜_A11607140413(串)	String3	Access string exception	<input type="checkbox"/>
SG50KTL-MM3(串)	群晖柜_A11607140413(串)	String2	Access string exception	<input type="checkbox"/>

Step 9 Click the button "Export" to export the verification data.

9.12 Device Upgrade

On this interface, the version of the software associated with the device in the plant system can be upgraded remotely. The steps are as follows:

Step 1 Click "Plant Manage -> Device upgrade" to enter the device upgrade interface.

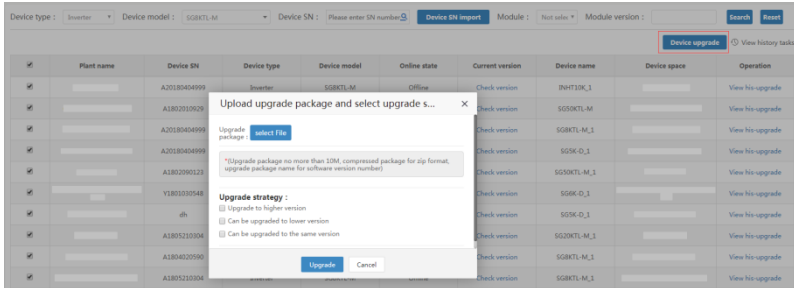
Step 2 Select, from the device list bar on the left, the plant whose device needs to be upgraded. (Batch operation is feasible).

Step 3 Select "Device type" and "Device model" and import the device serial number. Currently, the following two importing methods are available:

- Fill in the device serial number.
- Click "Device SN import" to import SNs in batch.

Step 4 Select a device internal module, for example, ARM, BAT, and BOOT. Enter the version corresponding to the module.

Step 5 Select a device and click "Device upgrade".



Step 6 Select an "Upgrade file", select an "Upgrade strategy" according to requirements, and click "Upgrade".

View history upgrade records

Click "View his-upgrade" to view history information.

Equipment upgrade history -- [X]

Device type: Inverter Device model: SGBKTL-M Device SN: A20180404999
 Device name: INHT13K_1 Device space: Plant name:

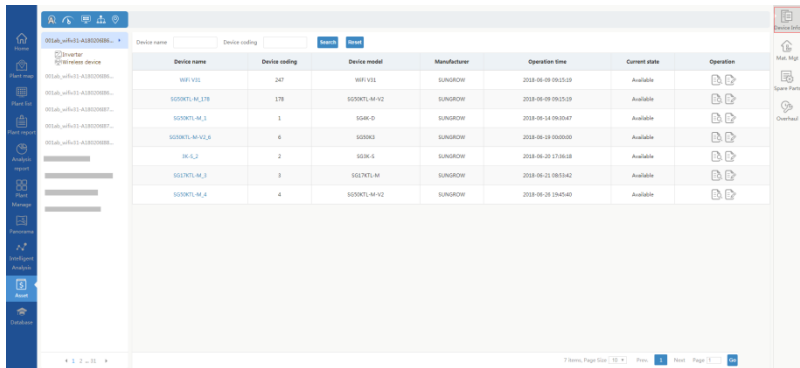
NO.	Upgrade start time	Upgrade end time	Upgrade status	Reason for failure	Executor	Operation
1	2018-07-23 11:10:50	2018-07-23 11:10:51	Timeout	--	ghm	Upgrade details
2	2018-05-14 14:07:54	2018-05-14 14:08:13	Timeout	--	test123	Upgrade details

10 Asset















The asset interface includes submenus like "Device Info", "Mat. Mgt", and "Spare parts".

10.1 Device Information

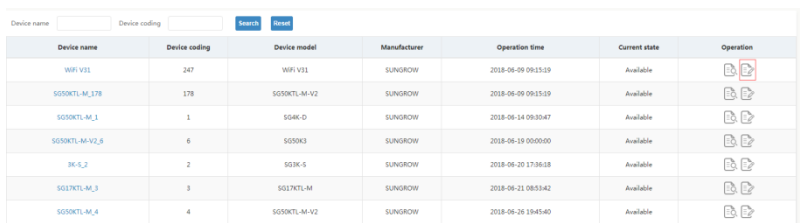
Step 1 Select "Asset -> Device Info".

















The screenshot shows the 'Device Info' page in the asset management system. It features a search bar at the top with 'Device name' and 'Device coding' filters, and 'Search' and 'Reset' buttons. Below the search bar is a table listing various devices. The table has columns for Device name, Device coding, Device model, Manufacturer, Operation time, Current state, and Operation. The devices listed include WFI-V11, SGGKTL-M-178, SGGKTL-M-1, SGGKTL-M-V2-8, 9K-S-2, SGGKTL-M-3, and SGGKTL-M-4. Each row includes icons for edit and delete actions. A sidebar on the left contains navigation options like Home, Asset, Spare Parts, and Reports. The bottom of the page shows pagination information: '7 items, Page Size: 10, Page 1 of 1'.

Device name	Device coding	Device model	Manufacturer	Operation time	Current state	Operation
WFI-V11	247	WFI-V11	SUNGROW	2018-08-09 09:15:19	Available	 
SGGKTL-M-178	178	SGGKTL-M-V2	SUNGROW	2018-08-09 09:15:19	Available	 
SGGKTL-M-1	1	SGK-D	SUNGROW	2018-08-14 09:30:47	Available	 
SGGKTL-M-V2-8	6	SGSK3	SUNGROW	2018-08-19 00:00:00	Available	 
9K-S-2	2	SGK-S	SUNGROW	2018-08-20 17:36:18	Available	 
SGGKTL-M-3	3	SGGKTL-M	SUNGROW	2018-08-21 08:53:42	Available	 
SGGKTL-M-4	4	SGGKTL-M-V2	SUNGROW	2018-08-26 19:45:40	Available	 

Step 2 Click the **[Edit]** button to edit the device information.



This screenshot is similar to the previous one but highlights the 'edit' icon in the 'Operation' column for the first device, WFI-V11, with a red box. The rest of the table and interface elements are identical to the previous screenshot.

Device name	Device coding	Device model	Manufacturer	Operation time	Current state	Operation
WFI-V11	247	WFI-V11	SUNGROW	2018-08-09 09:15:19	Available	 
SGGKTL-M-178	178	SGGKTL-M-V2	SUNGROW	2018-08-09 09:15:19	Available	 
SGGKTL-M-1	1	SGK-D	SUNGROW	2018-08-14 09:30:47	Available	 
SGGKTL-M-V2-8	6	SGSK3	SUNGROW	2018-08-19 00:00:00	Available	 
9K-S-2	2	SGK-S	SUNGROW	2018-08-20 17:36:18	Available	 
SGGKTL-M-3	3	SGGKTL-M	SUNGROW	2018-08-21 08:53:42	Available	 
SGGKTL-M-4	4	SGGKTL-M-V2	SUNGROW	2018-08-26 19:45:40	Available	 

Step 3 Modify the device information according to requirements, and click **[Save]** after modification.

Device Info
✕

Device name	WiFi V31	Purchase Date	<input type="text"/>
Device coding	247	Operation time	2018-06-09
Device model	WiFi V31	Supplier	<input type="text"/>
Device Location		Device Price(CNY)	--
Manufacturer	SUNGROW	Depreciation rate(%)	--
Longitude	--	Warranty expiration date	<input type="text"/>
Latitude	--	Scrapped due time	<input type="text"/>
Specification	A1802061864	Delivery Date	<input type="text"/>

Save

Step 4 Click the **【View】** button to view the device information.

Device name
Device coding

Search
Reset

Device name	Device coding	Device model	Manufacturer	Operation time	Current state	Operation
WiFi V31	247	WiFi V31	SUNGROW	2018-06-09 09:13:59	Available	
SG39CTL-M3-38				09:09:13:59	Available	
SG39CTL-M3-1				04:09:10:47	Available	
SG39CTL-M3-V2-A				05:00:50:00	Available	
M3-2				02:17:16:28	Available	
SG39CTL-M3-3				02:08:53:42	Available	
SG39CTL-M3-4				02:13:43:40	Available	

Device Detail Info
✕

Device name	WiFi V31	Purchase Date	<input type="text"/>
Device coding	247	Operation time	2018-06-09
Device model	WiFi V31	Supplier	<input type="text"/>
Device Location		Device Price(CNY)	--
Manufacturer	SUNGROW	Depreciation rate(%)	--
Longitude	--	Warranty expiration date	<input type="text"/>
Latitude	--	Scrapped due time	<input type="text"/>
Specification	A1802061864	Delivery Date	<input type="text"/>

Step 5 Click the device name to view basic device information, device alarm (open), device alarm (closed), device operation record, and device order records.

Device name
Device coding

Search
Reset

Device name	Device coding	Device model	Manufacturer	Operation time	Current state	Operation
SG39CTL-MNB08	20	SG39CTL-V211	SUNGROW		Available	
SG39CTL-MNB16	28	SG39CTL-V211	SUNGROW		Available	
SG39CTL-MNB20	10	SG39CTL-V211	SUNGROW		Available	
SG39CTL-MNB25	27	SG39CTL-V211	SUNGROW		Available	
SG39CTL-MNB16	6	SG39CTL-V211	SUNGROW		Available	
SG39CTL-MNB26	18	SG39CTL-V211	SUNGROW		Available	
SG39CTL-MNB17	7	SG39CTL-V211	SUNGROW		Available	
SG39CTL-MNB19	9	SG39CTL-V211	SUNGROW		Available	
SG39CTL-MNB08	19	SG39CTL-V211	SUNGROW		Available	
SG39CTL-MNB12	24	SG39CTL-V211	SUNGROW		Available	

- Click the "Device Basic Info" to view measurement point parameters and device information.

SG30KTL#NB09

Plant name: Device space: Device model: SG30KTL-V211

Device Basic info | Device alarm(open) | Device alarm(closed) | Device operation | Device order records

Measuring point parameter Date update time: 2018-07-21 20:05

Total active power	0W	Daily energy generation	1458kWh	Total energy generation	114.888MWh	Total DC power	0W
Uab	228.8V	Ubc	230.3V	Uca	230.3V	Ia	0.8A
Ib	0.8A	Ic	0.8A	Reactive power	0.43kVar	Grid frequency	50Hz
Internal air temperature	47°C	Ud0-1	288.9V	Ud0-2	330.3V	Ia0-1	0A
Ia0-2	0A	Daily theoretical energy generation	200.054kWh	Daily energy generation equivalent hours	4.6%	Par./Hours	0h/1kWhp
Vp-theory	5.5%						

Device Info

Current state	Offline	Device name	SG30KTL#NB09	Device coding	20	Operation time	--
Device model	SG30KTL-V211	Manufacturer	SUNGROW	Specification	--	Delivery Date	--

- Click "Device alarm (open)" to view device alarm information that is not closed, and select a time range to view the fault record within the specified time range.

SG30KTL#NB09

Plant name: Device space: Device model: SG30KTL-V211

Device Basic info | Device alarm(open) | Device alarm(closed) | Device operation | Device order records

Time frame: 2017-08-31 - 2018-08-31 Fault name: Search

Alarm level: Important Secondary General

Alarm processing state: Unconfirm Pending Processing Solved

Device name	Device coding	Fault type	Alarm level	State	Fault name	Reporter	Occurrence time
SG30KTL#NB09	20	Prompt	General	Unconfirm	Running state	system	2018-07-21 05:54:54
SG30KTL#NB09	20	Prompt	General	Unconfirm	Operation	system	2018-07-21 05:58:54

- Click "Device alarm (closed)" to view device alarm information that is closed, and select a time range to view the fault record within the specified time range.

SG30KTL#NB09

Plant name: Device space: Device model: SG30KTL-V211




Device Basic info | Device alarm(open) | Device alarm(closed) | Device operation | Device order records

Time frame: 2018-07 Search

Alarm level: Important Secondary General




Device name	Device coding	Fault type	Alarm level	State	Fault name	Reporter	Occurrence time
SG30KTL#NB09	20	Prompt	General	Closed	Startup	system	2018-07-21 05:17:56
SG30KTL#NB09	20	Prompt	General	Closed	Standby	system	2018-07-21 05:56:40
SG30KTL#NB09	20	Prompt	General	Closed	Startup	system	2018-07-21 05:53:22
SG30KTL#NB09	20	Prompt	General	Closed	Standby	system	2018-07-21 05:54:44
SG30KTL#NB09	20	Prompt	General	Closed	Startup	system	2018-07-21 05:12:40
SG30KTL#NB09	20	Prompt	General	Closed	Standby	system	2018-07-21 05:12:03
SG30KTL#NB09	20	Prompt	General	Closed	Running state	system	2018-07-20 05:58:50
SG30KTL#NB09	20	Prompt	General	Closed	Operation	system	2018-07-20 05:53:50
SG30KTL#NB09	20	Prompt	General	Closed	Startup	system	2018-07-20 05:58:34
SG30KTL#NB09	20	Prompt	General	Closed	Standby	system	2018-07-20 05:17:55

- Click "Device operation record" to view device operation information, and select a time range to view the device operation information within the specified time range.


Materials Name	Material coding	Material category	Mat. subcategory	Materials warehouse	Material unit	Manufacturer	Materials Price (CNY)	Specifications/Type	Material Status	Operation
	02-01-167	Induction Transformer	Current transformer		meter		4	14	Not used	  

Step 3 Save the edition.

Step 4 Click the **【View】** button to view the material information.

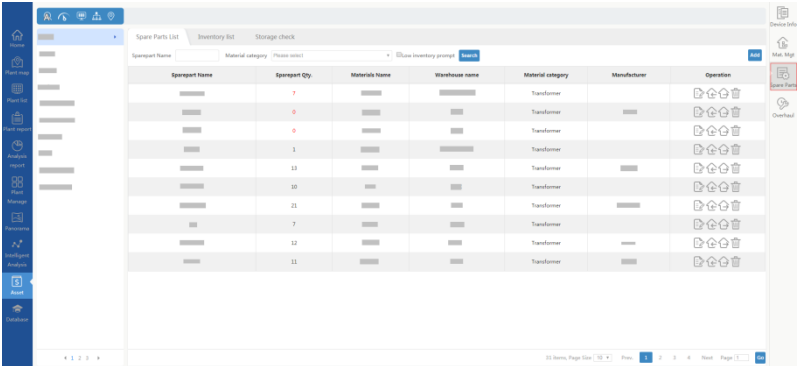
Materials Name	Material coding	Material category	Mat. subcategory	Materials warehouse	Material unit	Manufacturer	Materials Price (CNY)	Specifications/Type	Material Status	Operation
	02-01-167	Induction Transformer	Current transformer		meter		4	14	Not used	  









































Step 5 Click the **【Delete】** button to delete the material information.





Materials Name	Material coding	Material category	Mat. subcategory	Materials warehouse	Material unit	Manufacturer	Materials Price (CNY)	Specifications/Type	Material Status	Operation
	02-01-167	Induction Transformer	Current transformer		meter		4	14	Not used	 

10.3 Spare Parts

Step 1 Select "Asset -> Spare Parts".



Sparepart Name	Sparepart Qty	Materials Name	Warehouse name	Material category	Manufacturer	Operation
	7			Transformer		   
	0			Transformer		   
	0			Transformer		   
	1			Transformer		   
	14			Transformer		   
	10			Transformer		   
	21			Transformer		   
	7			Transformer		   
	12			Transformer		   
	11			Transformer		   

Step 2 Click     to edit spare part information, inbound information, and outbound information, and delete spare part information respectively.

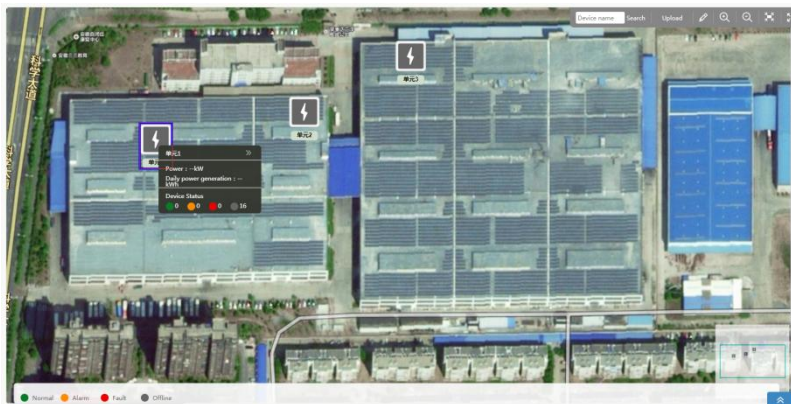
11 Panorama

The demonstration levels vary with power station types. Unit-level demonstration is for the utility plant and commercial plant, and the device-level demonstration is for the residential plant by default.

The highest fault alarm status of the device of a unit is in the colour of the unit.

The current fault alarm status of a device is in the colour of the device.

For the panorama displayed at the unit level, click the unit and then the "»" in the pop-up box, to enter the device-level panorama.



Click the device icon in the panorama and the "»" in the pop-up box, to view the device information interface.

3#MV逆变器1

Plant name: [REDACTED] Device space: [REDACTED] Device model: S0000M1

Chat X

Device Basic Info [Device alarm/open] [Device alarm/closed] [Device operation] [Device order records]

Measuring point parameter Data update time: 2018-08-31 14:45

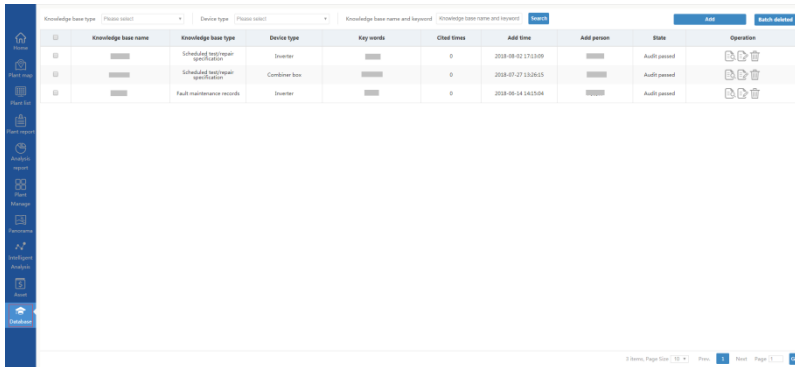
Total active power	139.33kW	Daily energy generation	1.18kWh	Total energy generation	1.89kWh	Total DC power	142.33kW
Uab	330.5V	Ubc	330.8V	Uca	330.8V	Ia	331.4A
Ib	326.6A	Ic	326.4A	Reactive power	1.28kWhVar	Internal air temperature	50°C
Ua0-1	517.8V	Ub-1	274.5A	Ua-1	--V	Ia-1	--A
Ua0-2	--V	Ub-2	--A	Ua-2	--V	Ia-2	--A
Module A1 temperature	74.3°C	Module A2 temperature	-30.1°C	Temp-MB1	75.9°C	Temp-MB2	-30.1°C
Temp-MC1	75.3°C	Temp-MC2	-30.1°C	I-string1	--A	I-string2	--A
I-string1	--A	I-string1	--A	I-string3	--A	I-string1	--A
I-string2	--A	Daily energy generation equivalent hours	2.7h	Grid frequency	50Hz	Anode earth impedance	1.00kΩ
I-string3	--A						
I-string4	--A						
I-string5	--A						
I-string6	--A						
I-string7	--A						
I-string8	--A						
I-string9	--A						
I-string10	--A						
I-string11	--A						
I-string12	--A						
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I-string95	--A						
I-string96	--A						
I-string97	--A						
I-string98	--A						
I-string99	--A						
I-string100	--A						

Device Info

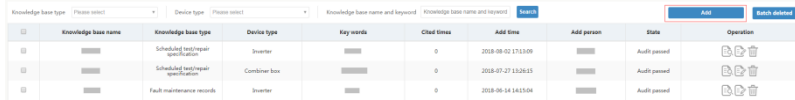
Current state	Online	Device name	[REDACTED]	Device coding	1	Operation time	--
Device model	S0000M1	Manufacturer	SUNGROW	Specification	--	Delivery Date	--

12 Database

Step 1 Select "Database" to enter the corresponding interface.



Step 2 Click the **【Add】** button to add the database information.



New Knowledge base

Knowledge base type	--Please select--	Knowledge	Knowledge
Device type	--Please select--	Repair Type	--Please select--
Safety influence degree	--Please select--	Effects	--Please select--
Maintenance cycle	- Hour *		
Step 1: (enter steps and names) + -			
<div style="border: 1px solid #ccc; width: 100%; height: 100%;"></div> <p style="text-align: center; margin: 0;">click to choose pictures</p>			
Precautions			

Save

Step 3 Select database records that need to be deleted and click **【Batch】**

deleted] to delete the database information in batch.

Knowledge base type	Device type	Knowledge base name and keyword	Knowledge base name and keyword	Search	Add	Batch deleted		
Knowledge base name	Knowledge base type	Device type	Key words	Chid times	Add time	Add person	State	Operation
	Scheduled maintenance	Inverter		0	2018-08-02 17:15:09		Audit passed	
	Scheduled maintenance	Combiner box		0	2018-07-27 13:26:15		Audit passed	
	Fault maintenance records	Inverter		0	2018-06-14 14:53:04		Audit passed	

Step 4 Click the **View** button to view the database information.

Knowledge base type	Device type	Knowledge base name and keyword	Knowledge base name and keyword	Search	Add	Batch deleted		
Knowledge base name	Knowledge base type	Device type	Key words	Chid times	Add time	Add person	State	Operation
	Scheduled maintenance	Inverter		0	2018-08-02 17:15:09		Audit passed	
	Scheduled maintenance	Combiner box		0	2018-07-27 13:26:15		Audit passed	
	Fault maintenance records	Inverter		0	2018-06-14 14:53:04		Audit passed	

Step 5 Click the **Edit** button to edit the database information.

Knowledge base type	Device type	Knowledge base name and keyword	Knowledge base name and keyword	Search	Add	Batch deleted		
Knowledge base name	Knowledge base type	Device type	Key words	Chid times	Add time	Add person	State	Operation
	Scheduled maintenance	Inverter		0	2018-08-02 17:15:09		Audit passed	
	Scheduled maintenance	Combiner box		0	2018-07-27 13:26:15		Audit passed	
	Fault maintenance records	Inverter		0	2018-06-14 14:53:04		Audit passed	

Step 6 Click the **Audit** button to review the database information.

Knowledge base type	Device type	Knowledge base name and keyword	Knowledge base name and keyword	Search	Add	Batch deleted		
Knowledge base name	Knowledge base type	Device type	Key words	Chid times	Add time	Add person	State	Operation
	Fault maintenance records	Inverter		0	2018-05-31 18:58:05		Audit not passed	

Step 7 Click the **Delete** button to delete the database information.

Knowledge base type	Device type	Knowledge base name and keyword	Knowledge base name and keyword	Search	Add	Batch deleted		
Knowledge base name	Knowledge base type	Device type	Key words	Chid times	Add time	Add person	State	Operation
	Fault maintenance records	Inverter		0	2018-05-31 18:58:05		Audit not passed	

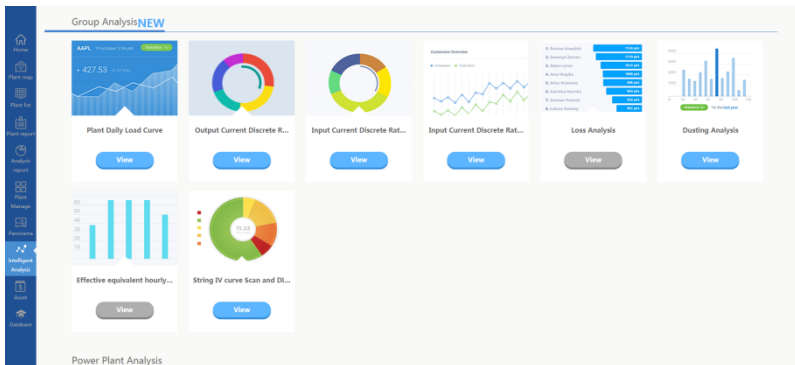
13 Intelligent Analysis

Intelligent analysis is analyzing and displaying various performance of the plant in real time, and users can view the detailed analysis results.

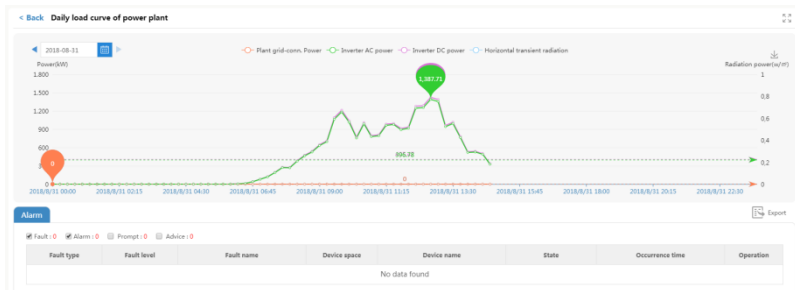
13.1 Daily Load Curve of Power Plant

Step1 Log into the system.

Step2 Click "Intelligent Analysis" on the navigation bar to enter the corresponding interface.



Step 3 Click "View" to view the daily plant load curve.



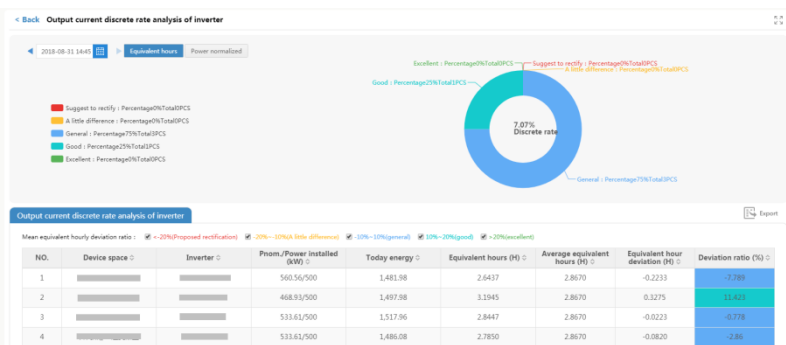
Step 4 Click the "Export" button on the right to export the device alarm records.

13.2 Output Current Discrete Rate Analysis of the Inverter

Step1 Log into the system.

Step2 Click "Intelligent Analysis" on the navigation bar to enter the corresponding interface.

Step3 Click "View" to view the analysis on the output discrete rate of the inverter.



Step 4 Click the export button on the right to export the analysis data of the DC output discrete rate of the inverter.

13.3 Input Current Discrete Rate Analysis

Step1 Log into the system.

Step2 Click "Intelligent Analysis" on the navigation bar to enter the corresponding interface.

Step3 Click "View" to view the analysis on the input discrete rate of the inverter.



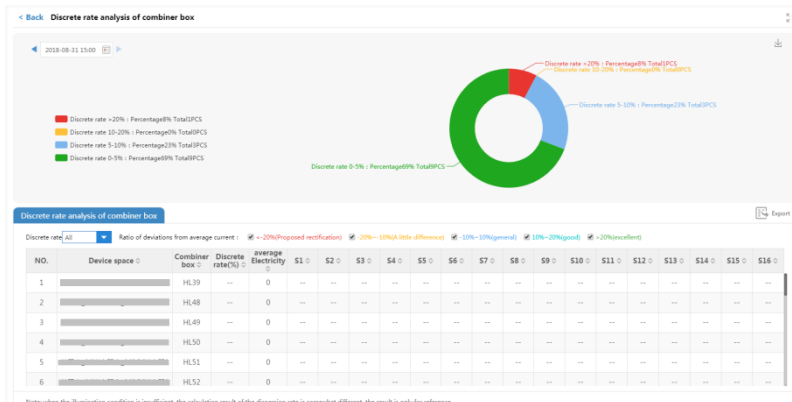
Step 4 Click the export button on the right to export the analysis data of the DC input discrete rate of the inverter.

13.4 Input Current Discrete Rate Analysis of the Combiner Box

Step 1 Log into the system.

Step2 Click "Intelligent Analysis" on the navigation bar to enter the corresponding interface.

Step3 Click "View" to view the analysis on the input discrete rate of the combiner box.



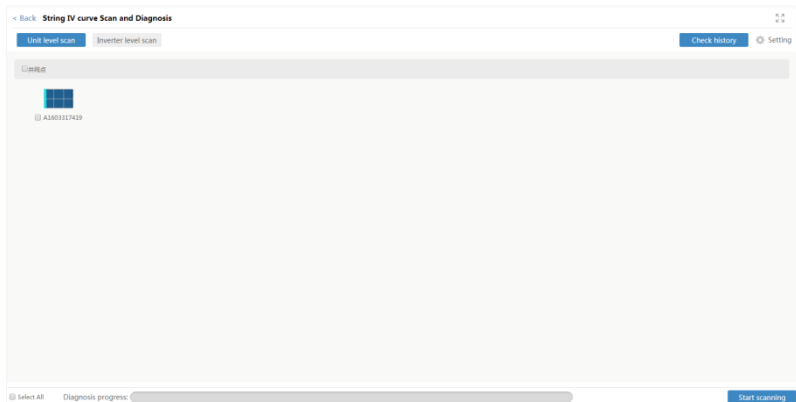
Step 4 Click the "Export" button on the right to export the analysis data of the input discrete rate of the combiner box.

13.5 String IV curve Scan and Diagnosis

Step 1 Log into the system.

Step2 Click "Intelligent Analysis" on the navigation bar to enter the corresponding interface.

Click the button **【View】** under the IV curve intelligent diagnosis and analysis, to view the intelligent diagnosis and analysis.



On the top of the interface display **【Unit level scan】**, **【Inverter level scan】**, **【Check history】**, **【Setting】**, and full screen button.

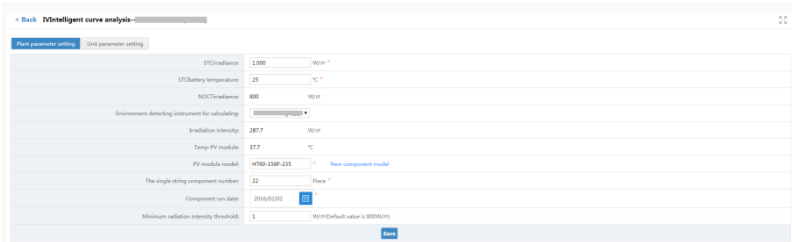
At the lower part display all grid-connected points of the plant and unit graph list.

On the bottom display "Select All", "Diagnosis progress", and "Start scanning".

Step 4 Select a plant from the tree diagram on the left.

Click **【Setting】** to enter the parameter setting interface and set the parameters.

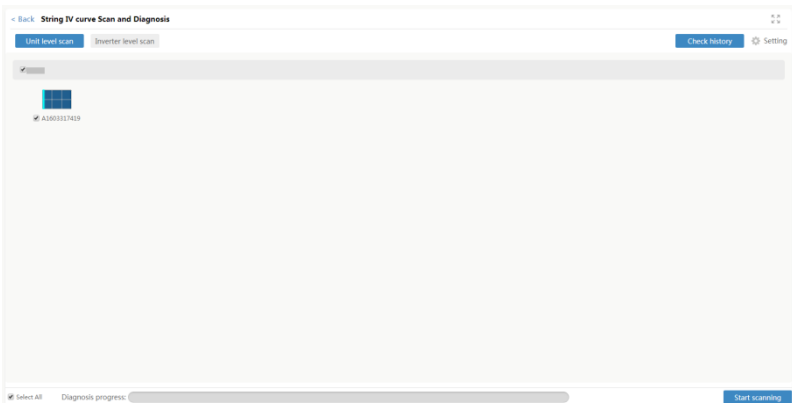
Enter the "Plant parameter setting" interface by default. The settings are applicable to global module parameters of the plant.



Click **Unit parameter setting** to select the specific inverter, click **Parameter setting** to set parameters, and click **Batch settings** to set parameters of multiple inverters at the same time.

ID	NO	Inverter	Grid connected point	Unit	Operation
01	1	SG6KTL-M42	<input type="checkbox"/>	A1803131410	Parameter set
02	2	SG5KTL-M43	<input type="checkbox"/>	A1803131410	Parameter set
03	3	SG5KTL-M44	<input type="checkbox"/>	A1803131410	Parameter set
04	4	SG5KTL-D45	<input type="checkbox"/>	A1803131410	Parameter set
05	5	SG3K4L	<input type="checkbox"/>	A1803131410	Parameter set
06	6	SG6KTL	<input type="checkbox"/>	A1803131410	Parameter set

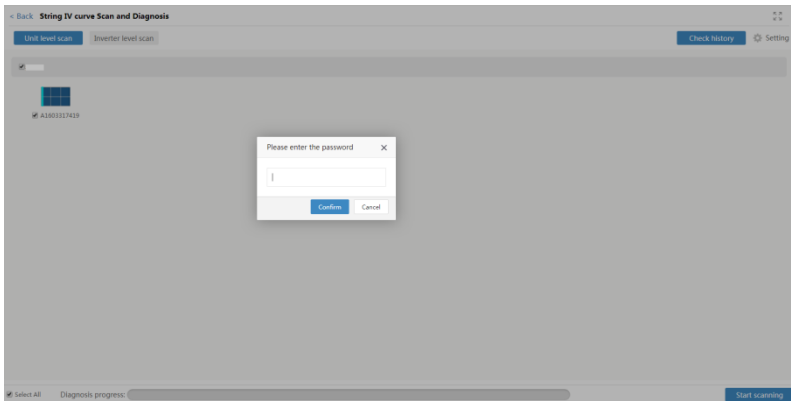
Step 5 Click **Return** to return the scanning interface. Click **Unit level scan**, select a device, and click the button **Start scanning**.



After the scanning starts, whether the parameters are configured is determined first. If no, the parameter configuration page is linked to, or users can click **Setting** to enter the module parameter setting interface. Specifically, refer to step 4.

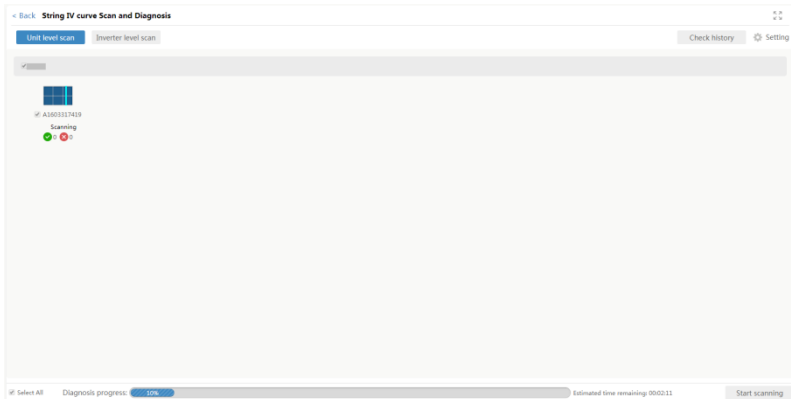
Enter the login password to pass the password verification when clicking the **Start scanning** for the first time.

After passing password verification, confirm the scanning task. The default display name is "XX plant date", and the scanning name can be set, after which click **【Confirm】** to save it.



After the instruction is delivered successfully, the page status will be refreshed in real time, and scanning results and progress are displayed.

The unit statue is updated to "Scanning".



After scanning, click **【Confirm】** to view the scanning result.

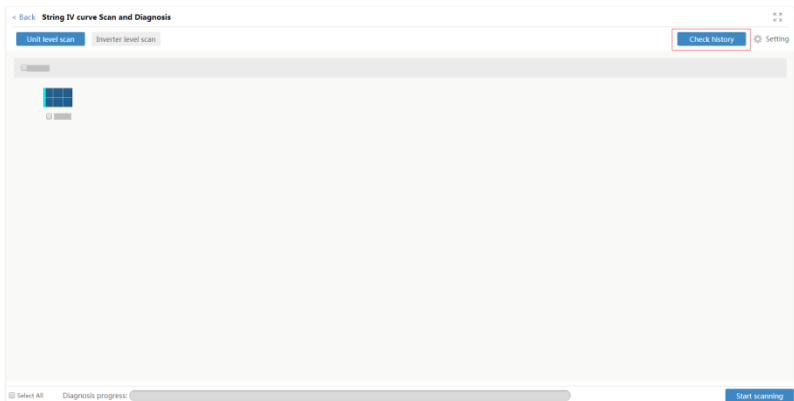
The "Intelligent IV curve analysis" interface is entered by default, and information on the abnormal string is displayed. Click **【View】** to enter the "String diagnosis analysis" interface.

Close the "String diagnosis analysis" interface, and click **【IV Curve】** so that IV

curve of the abnormal string is displayed by default.

Step 6 Return to the "Intelligent IV curve analysis" interface, click the button **【Inverter level scan】**, select a device, and click the button **【Start scanning】**, the same as step 5.

Step 7 Return to the "Intelligent IV curve analysis" interface and click **【Check history】**, to view the history scanning results.



Check history

NO.	Task name	Task type	Start Time	End Time	Sweep time	String number	Abnormal string	State	Details
1	T201804212401-000017	Unit level scan	2018-06-27 10:40:58	2018-06-27 10:42:11	0:00:03	0	0	Failed	View
2	T201804212401-000023	Unit level scan	2018-06-21 16:56:58	2018-06-21 16:59:02	0:00:04	0	0	Failed	View
3	T201804212401-000031	Unit level scan	2018-06-21 15:11:04	2018-06-21 15:13:09	0:00:05	0	0	Failed	View
4	T201804212401-000038	Unit level scan	2018-06-21 14:38:29	2018-06-21 14:40:36	0:00:07	0	0	Failed	View
5	T201804212401-000040	Unit level scan	2018-06-21 14:18:01	2018-06-21 14:20:06	0:00:05	0	0	Failed	View
6	T201804212401-000056	Inverter level scan	2018-06-21 12:03:58	2018-06-21 12:06:02	0:00:04	0	0	Failed	View
7	T201804212401-000074	Inverter level scan	2018-06-21 11:48:03	2018-06-21 11:48:15	0:00:12	0	0	Failed	View
8	T201804212401-000079	Inverter level scan	2018-06-20 15:57:52	2018-06-20 15:59:18	0:00:06	0	0	Failed	View
9	T201804212401-000083	Inverter level scan	2018-06-20 15:22:56	2018-06-20 15:24:22	0:00:06	0	0	Failed	View
10	T201804212401-000089	Inverter level scan	2018-06-20 15:13:30	2018-06-20 15:15:04	0:00:04	0	0	Failed	View

20 items, Page Size: 10, Page: 1/2

14 Service Center

14.1 Introduction

The service center interface includes two submenus: "Comm. module monitor" and "Renewal reminder".

14.2 Communication Module Monitoring

Select the "Service Center" - > "Comm. module monitor" to enter the corresponding interface. On this interface can display SN states of all bound devices.

On this interface, the user can perform the following operations:

- Query device SN status, for example, device SN number, opening date, and expiration date.
- Import SN information.
- Set module status.

Query device SN status

Step 1 Enter the communication module monitoring interface.

Step 2 Enter query conditions into the condition screen bar, for example, card number, customer code, client name, and expiration date.

Step 3 Click Search, to view the SN states that meets the conditions.

Import device SN

Step 1 Enter the communication module monitoring interface.

Step 2 Enter the device SN into the input box and click "Device SN import", to import the SN into the system.

Set module status.

If Renewal fee is paid after the SN expires, the SN status needs to be changed via this function. The method is as follows:

Step 1 Enter the communication module monitoring interface.

Step 2 Select the SN of a device and click "Module status settings", to change the status of this module.

14.3 Renewal Reminder

An SMS or email is sent to the personnel with related permissions to remind them to pay for the service within 90 days before the SIM card of the communication device expires, so as to ensure that the communication can be used normally.

14.3.1 Reminder Selection

Prerequisites

- The person who performs the operation has the permission to visit the WEB background management system.
- The operator has obtained the website of the corresponding background management system from Sungrow.
- The operator had had the corresponding account and password.

Background setting method

Step 1 Enter the WEB background management system.

Step 2 Click "Renewal prompt management" - > "Customer information maintenance" successively.

Step 3 Click "Add" to add the customer information to the system. (If the customer information already exists, skip this step).

Step 4 Click "Modify" on the operation bar to select a reminder way, for example, SMS and email.

14.3.2 Renewal Operation

Select "Service Center" - > "Renewal reminder" to enter the corresponding interface. On this interface displays the status of the communication module that will expire in 90 days from the current day.

If the "valid date" is a negative number, for example, "-403", it indicates that the device has expired for 403 days.

Renewal Method

Select the SN of a device and click "renewal fee".

											设备维护记录	详情
#	设备SN	安装状态	型号	所属设备群组	开始日期	结束日期	保修天数	客户名称	客户地址	设备维护状态	操作	
✖	A1712072270	已过期	--	--	2018-06-01	2017-06-30	-411	--	--	进行中	续费	
✖	A1712071898	已过期	--	--	2018-06-28	2017-06-28	-412	--	--	进行中	续费	
✖	A1712072484	已过期	--	--	2018-06-26	2014-07-01	-1305	--	--	已过期	续费	
✖	A1712072485	已过期	--	--	2018-06-27	2014-09-31	-1597	--	--	已过期	续费	
✖	A1712071797	--	--	12145078	2018-03-30	2014-03-30	-1586	--	--	已过期	续费	
✖	A1712073046	已过期	--	--	2018-06-28	2014-02-28	-1628	--	--	已过期	续费	

15 User centre

15.1 Function Description

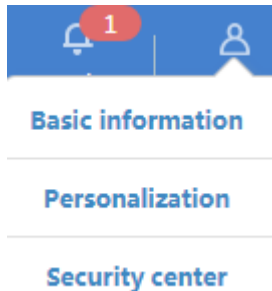
On this interface, the user can perform the following operations:

- Modify user information, for example, username, account, permissions, and contacts.
- Personalized setting, for example, set the theme colour, time zone, language, and alarm manner.
- Account and safety setting, for example, modify the bound mobile number, email address, and account password.

15.2 Operation Method

Step 1 Log into the system.

Step 2 Click the user centre icon in the upper right corner to enter the user centre interface.



Step 3 Select a desired function button to enter the corresponding interface and perform operations.

16 Supplementary Description

- Description of login

Only one account can log into the iSolarCloud system on the same browser. If multiple accounts need to be used at the same time, log into the system via different browsers.

- Description of SMS verification

One SMS is sent to a mobile phone in a minute, five SMSs in an hour, and ten SMSs in a day (24 hours from the current time).

- Description of total energy yield

- The total energy yield of the device in iSolarCloud system complies with the increasing rule. For example, if the total power generation falls, the system still displays the maximum data before falling until the uploaded total energy yield is greater than it.

- The increase in the total energy yield in the iSolarCloud system should be logical. Otherwise, the increment will not be counted into the system.

If the compensation value of the total energy yield is set to an excessively large value, adjust the installed power of the inverter. In addition, the installed power of the device needs to be adjusted to the original value in the next day.

- Description of time zone

Set the time zone correctly when creating a plant. If the time zone is adjusted when the plant has been put into operation, data overwrite or data loss may occur, or anomaly may even occur to telesignalisation and telemetering data during the adjustment. If the adjustment is requirement, it is recommended to perform the operation at night to lower the possibility of abnormal data.

- Resolution description

- The browser should be Chrome55 or later.

- The resolution of the used display should be 1080P or higher.

17 Disclaimer

If you have any question in using the software, contact us.

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