iSolarCloud

Remote Monitoring and O&M Platform

O&M Management User Manual

iSolarCloud-V141-(O&M)-UEN-Ver14-201808

Contents

1 About This Manual

1.1 Target Group

This manual is intended for operators responsible for the iSolarCloud O&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, co_2 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.

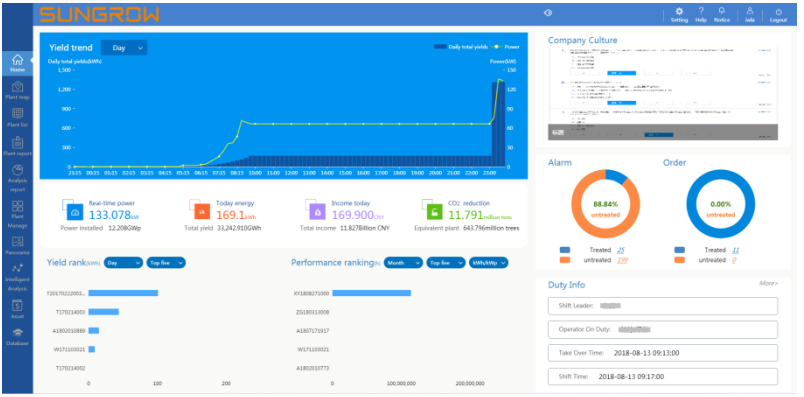
Step 1 Enter the website, for example, www.isolarcloud.com, to enter the login interface shown in the figure below.

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 "**1 5 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.

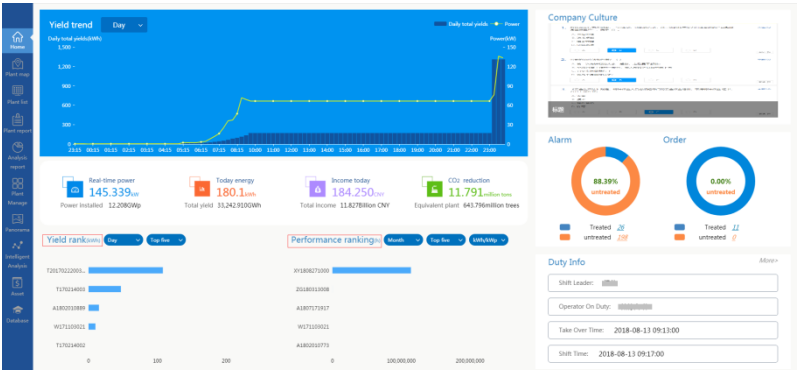
5 Home

On this interface, information such as plant power, power generation, revenue, co_2 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.



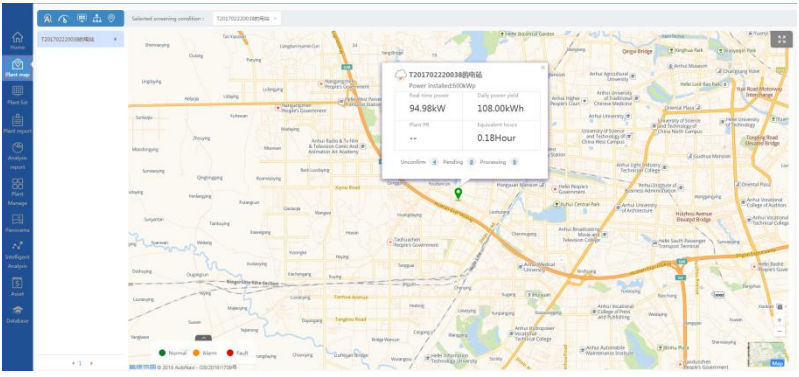
6 Plant Map

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 "Plat map" menu on the navigation bar to enter the "Plat map" interface.

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



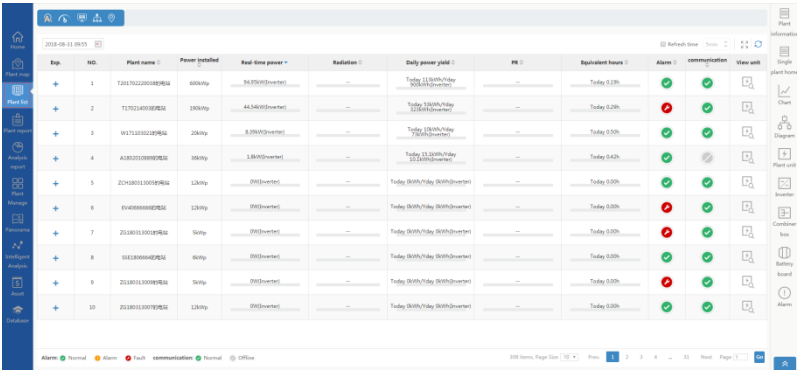
- After clicking the icon on the map, a box of plant information pops up, and the basic plant information can be viewed. Alternatively, you may click the plant name in the left plant list to switch to corresponding plant on the map.
- Unfold Normal Alarm Fault on the lower left of the map to display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

7 Plant List

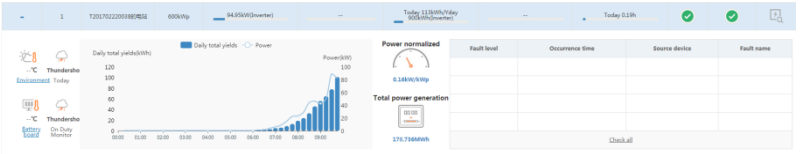
On the plant list interface, detailed information of a selected plant can be viewed, for example, the chart, diagram, plant unit, inverter, combiner box, and alarm information.

Step 1 Log into the system.

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



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

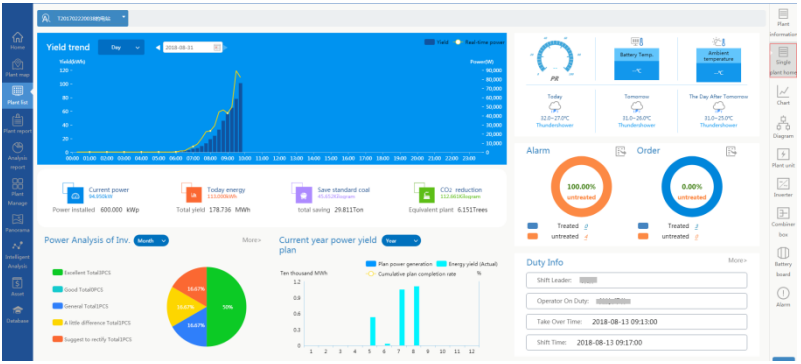


Step 4 Click the "View unit" to jump to the " View unit" interface.

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.

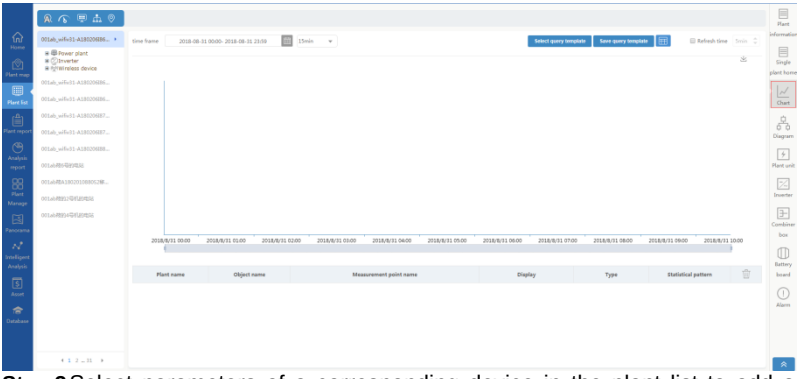


Step 3 Select a plant name in the plant list to display the detailed plant information.

7.2 Chart

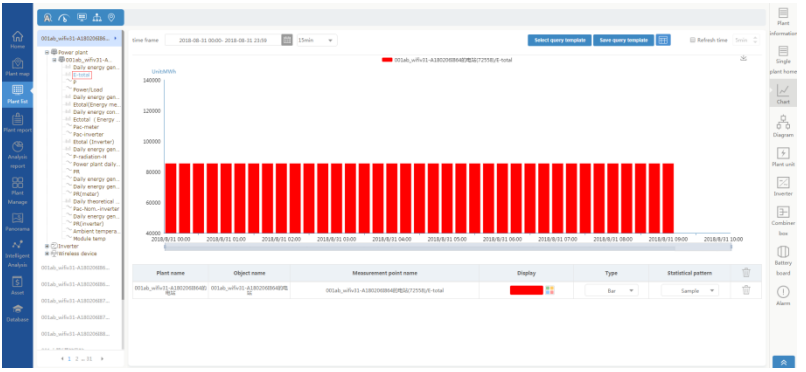
Step 1 Enter the "Plant list" interface.

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 Bar on the bottom of the page to change the display form.
- Click the "Statistical pattern bar" Sample on the bottom of

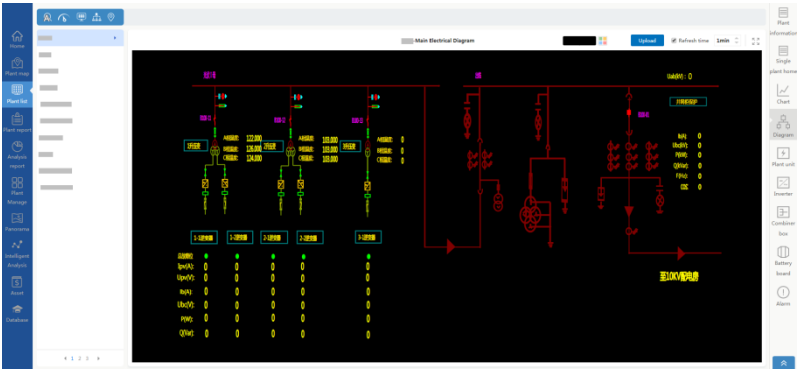
the page to select the statistical pattern.

- 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.

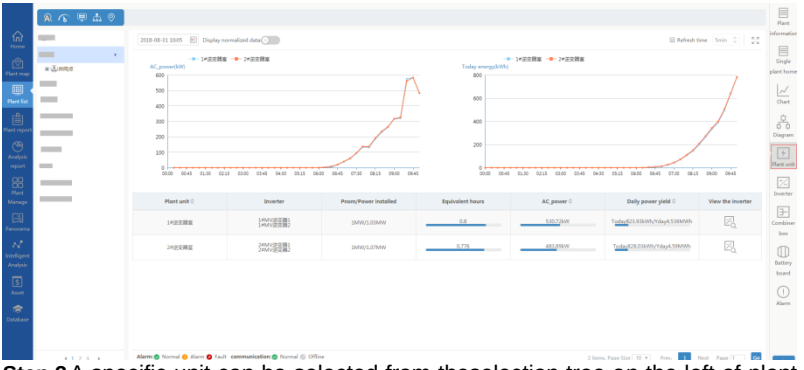


- Click on the top of the page to change the background colour of the wiring diagram.
- Click the icon on the upper right to display the wiring diagram maximally.
- Click Refresh time 1min on the upper right to refresh the page according to the selected time interval.

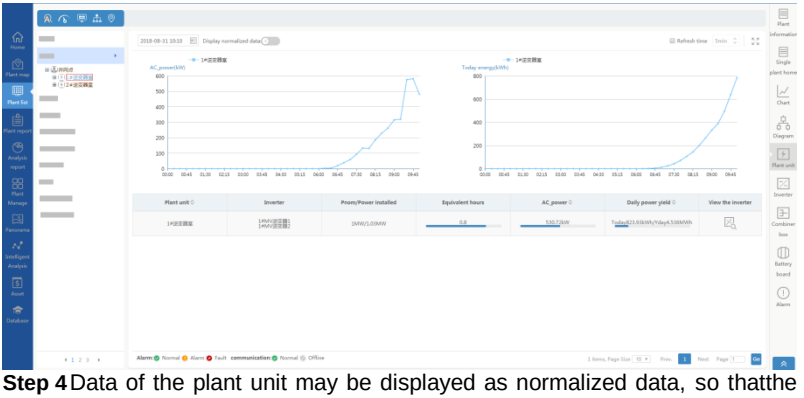
7.4 Plant Unit

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.

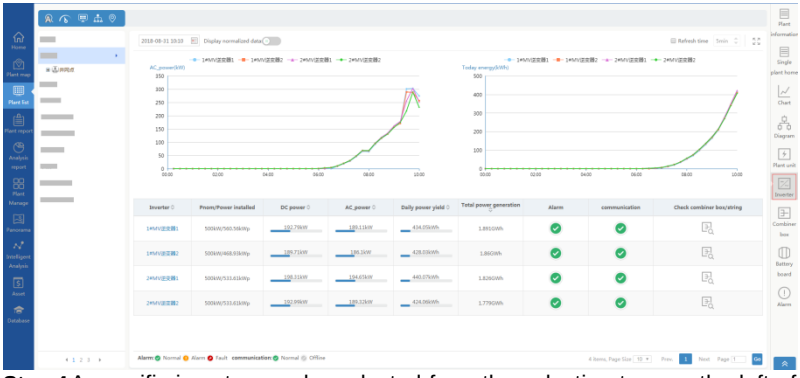
- Select the time on the top display history data.
- Click the icon on the upper right to display the curve maximally.
- Click Refresh time 5min on the upper right to refresh the page according to the selected time interval.

7.5 Inverter

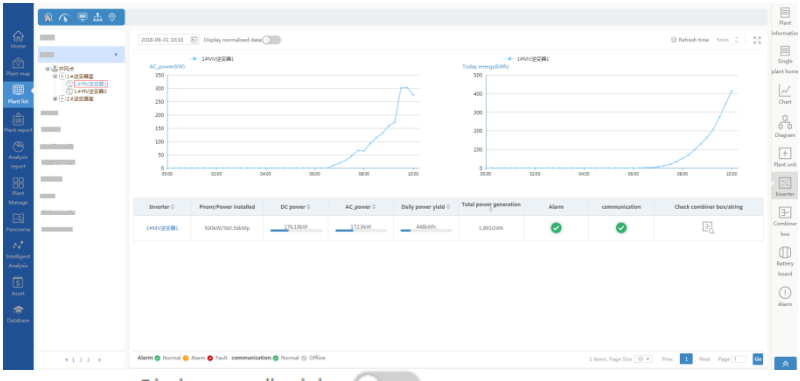
Step 1 Enter the "Plant list" interface.

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.

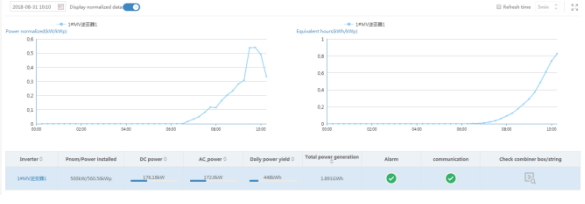


Step 4 A specific inverter can be selected from the selection tree on the left of the inverter.



Step 5 Click 

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.

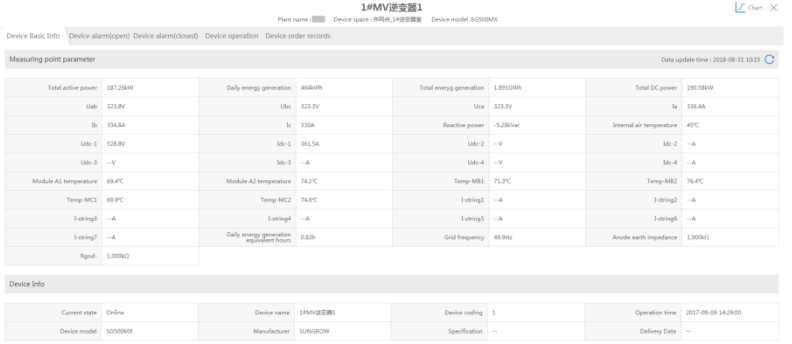


Select the time on the top display history data.

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.



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

- 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 

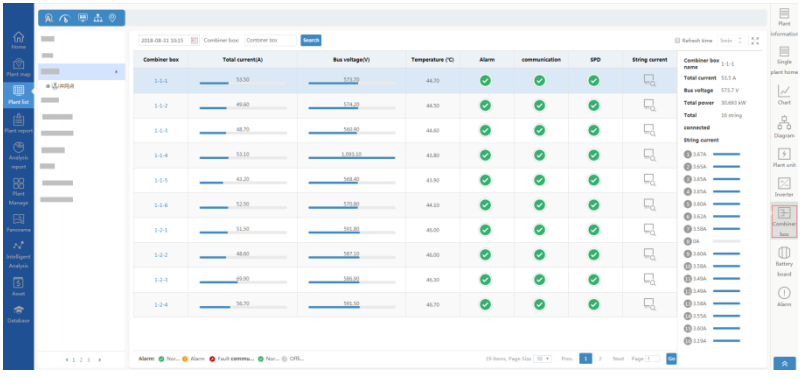
on the upper right to refresh the page according to the selected time interval.

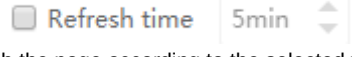
7.6 Combiner Box

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.

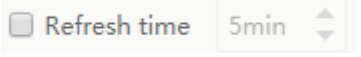
Step 3 Select a plant name in the plant list to display the information on the combiner box of the selected plant.



- 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.

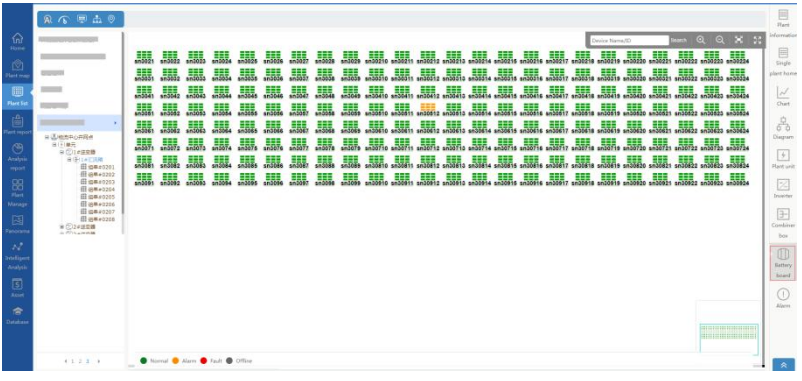
- Select the time on the top display history data.
- Click the icon  on the upper right to display the data in the table form.
- Click 

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

7.7 Battery Board

Step 1 Enter the "Plant list" interface.

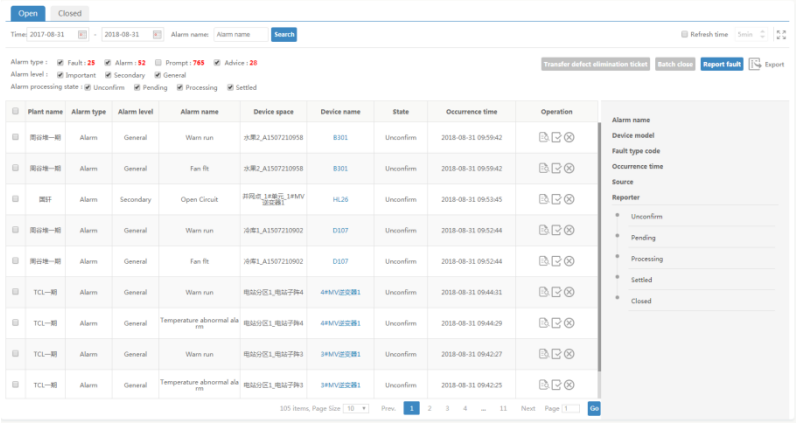
Step 2 Select the "Battery board" on the right function navigation bar to enter the battery board information interface.



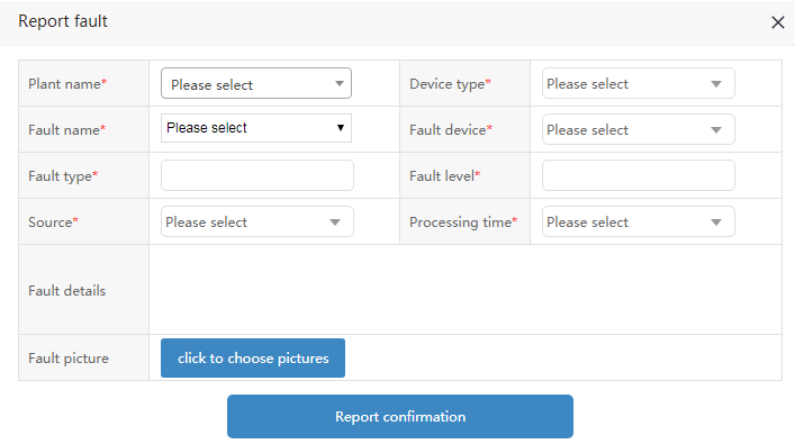
7.8 Alarm

Step 1 Enter the "Plant list" interface.

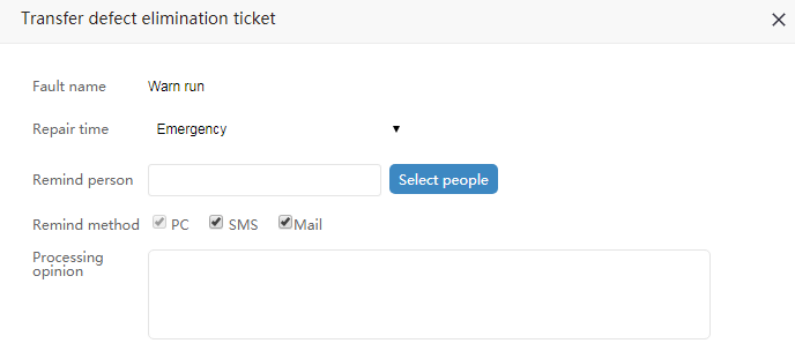
Step 2 Select the "Alarm" on the right function navigation bar to enter the "Alarm" interface.



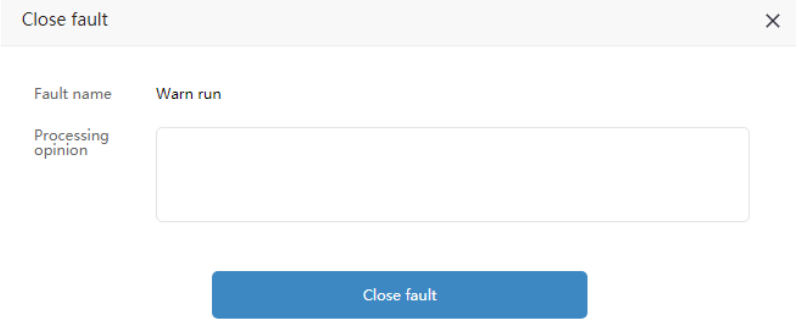
Step 3 After select a plant, click 【Report fault】on the upper right, and the "Report fault" box pops up.



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.



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



- 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 

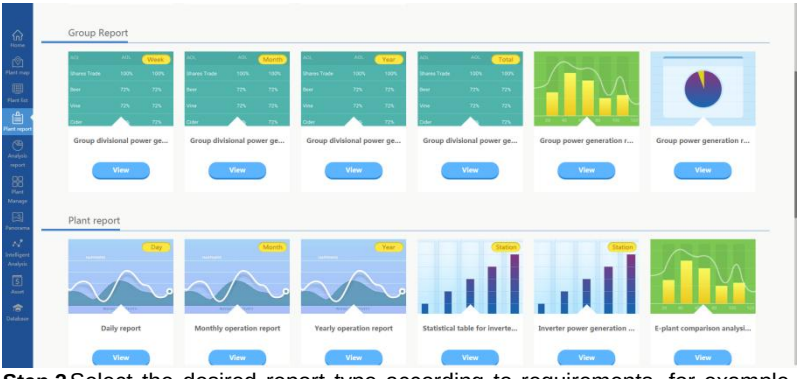
on the upper left to refresh the page according to the selected time interval.

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.

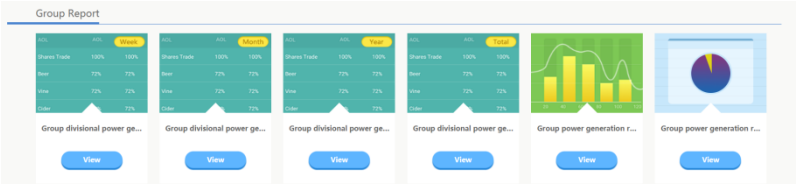
Step 2 Select the "Plat report" on the navigation bar to enter the "Plat report" interface.



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.

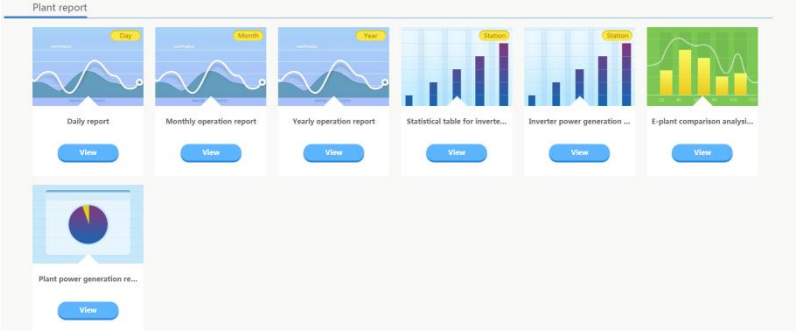
Group report



- 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.

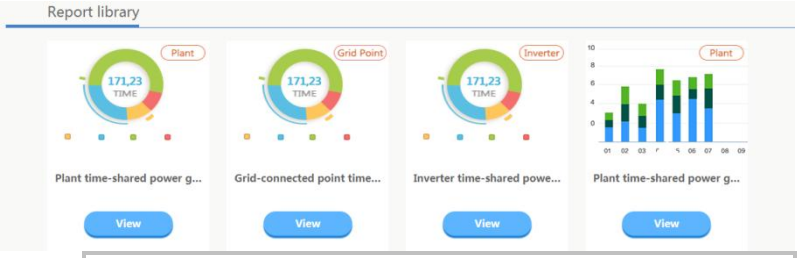
Plant report



- Plant compensation power generation report

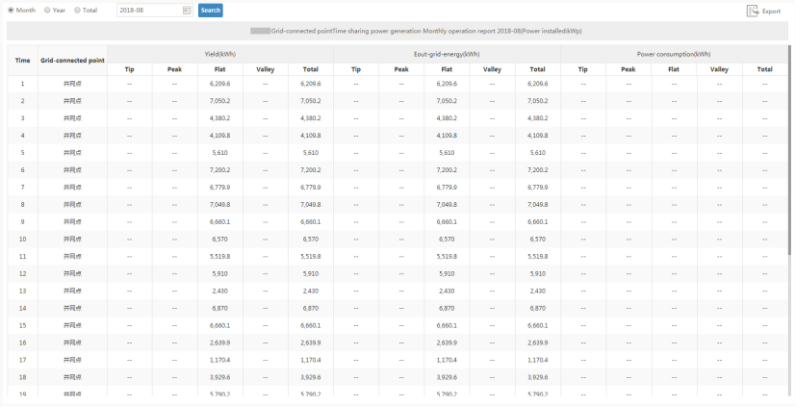
This kind of report supports power generation statistics based on a day, month, and year. The power generation is data collected in real time, and the compensation power generation is data calculated in later phase according to specific algorithm due to data loss caused by communication interruption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

Report library

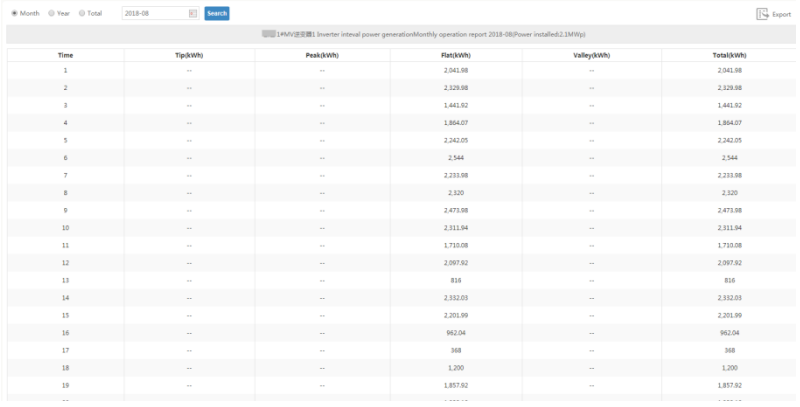


- Click the button 2015-09-01 on the upper left to view history data.
- Click the button on the upper right of the page to export the report, and the report is exported in the .xls format.

- Grid-connected point time-shared power generation report

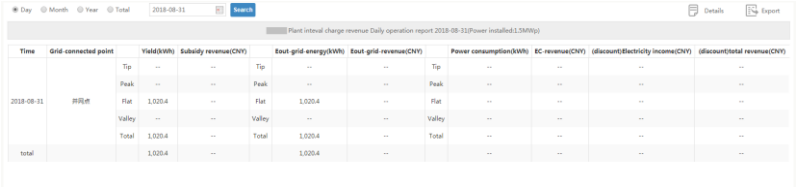


- Inverter time-shared power generation report



Time	Tip(kWh)	Peak(kWh)	Flat(kWh)	Valley(kWh)	Total(kWh)
1	--	--	2,041.98	--	2,041.98
2	--	--	2,329.98	--	2,329.98
3	--	--	1,441.92	--	1,441.92
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	--	--	2,320	--	2,320
9	--	--	2,473.98	--	2,473.98
10	--	--	2,311.94	--	2,311.94
11	--	--	1,710.08	--	1,710.08
12	--	--	2,097.92	--	2,097.92
13	--	--	816	--	816
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	--	--	1,857.92	--	1,857.92

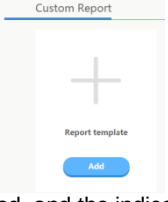
- Plant time-shared power generation revenue report



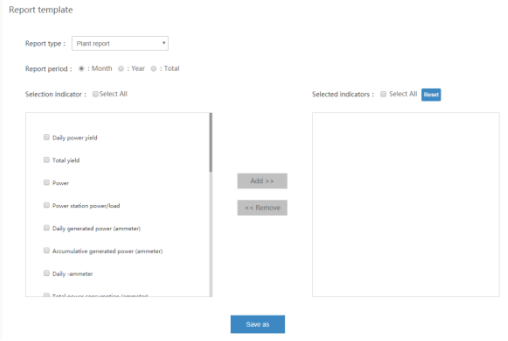
Time	Grid-connected point		Yield(kWh)	Subsidy revenue(CNY)		Eout-grid-energy(kWh)	Eout-grid-revenue(CNY)		Power consumption(kWh)	EC-revenue(CNY)	(discount)Electricity income(CNY)	(discount)total revenue(CNY)
2018-08-31	并网点	Tip	--	--	Tip	--	--	Tip	--	--	--	--
		Peak	--	--	Peak	--	--	Peak	--	--	--	--
		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.

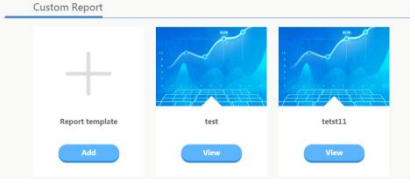


Step 1 Select a report type, period, and the indicators that need to be displayed.



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

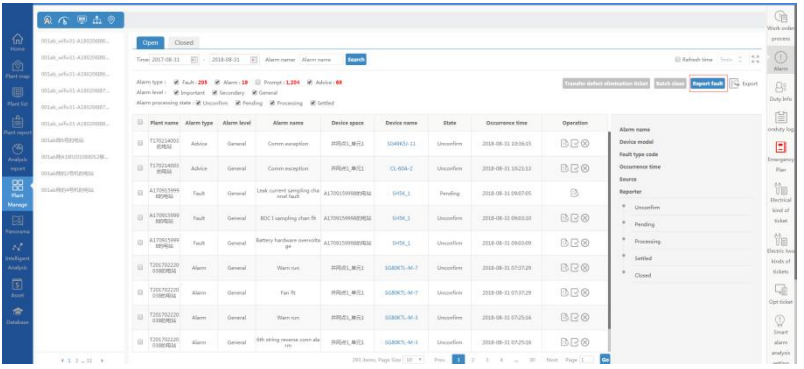
Auto report

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

Manual report

Step 1 Click "Plant Manage -> Alarm".

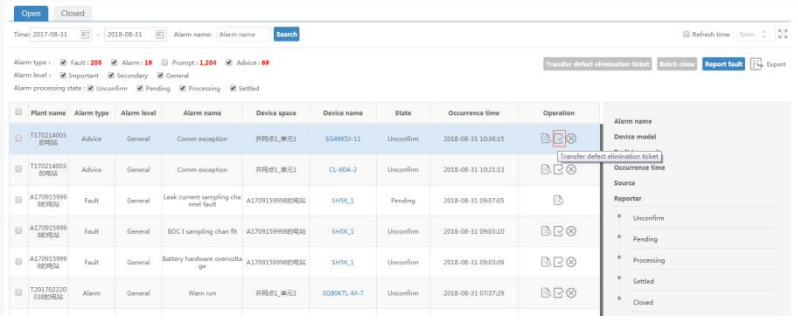
Step 2 Click "Report fault", fill the table, and submit it, to report the fault.



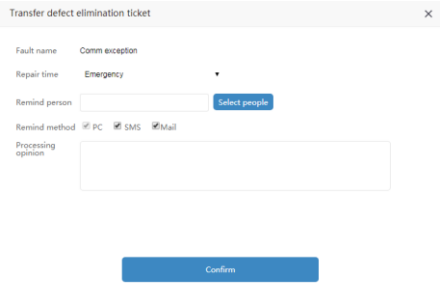
9.2.2 Transfer Defect Elimination Ticket

Step 1 Click "Plant Manage -> Alarm".

Step 2 Select a fault, and click "Transfer defect elimination tick" 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.



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".

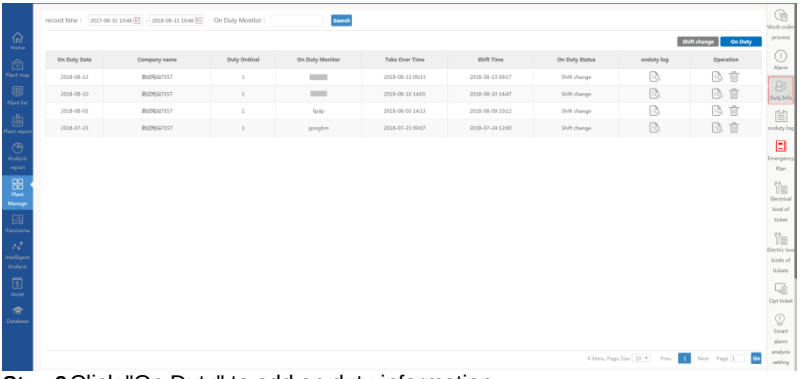
Step 2 Select a reviewer on the operation bar corresponding to the fault to fill in the evaluation opinion.

9.3 Alarm

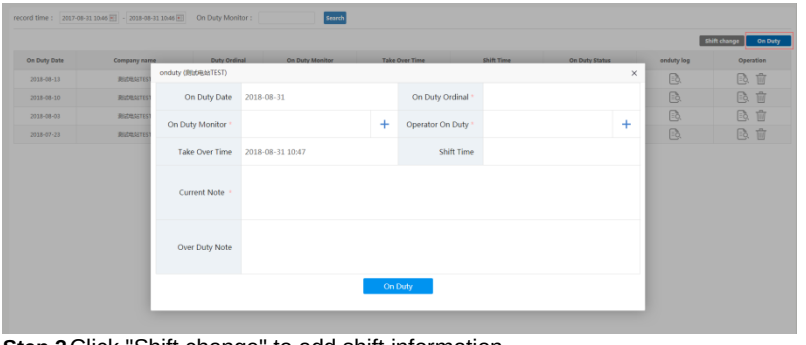
Click "Plant Manage" -> "Alarm" to enter the alarm interface. For the operations, refer to chapter 7.7.

9.4 Duty Information

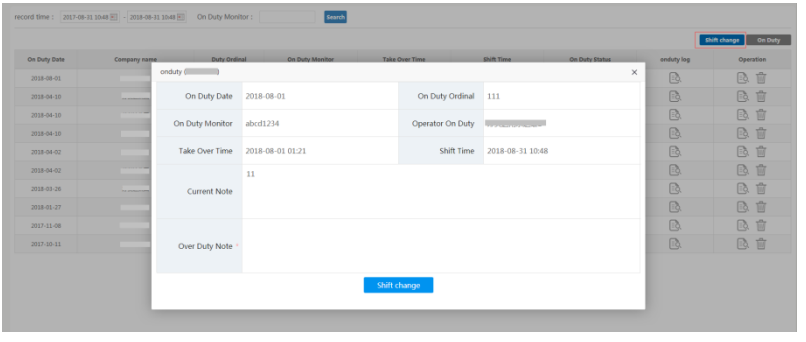
Step 1 Click "Plant Manage -> Duty Info".



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

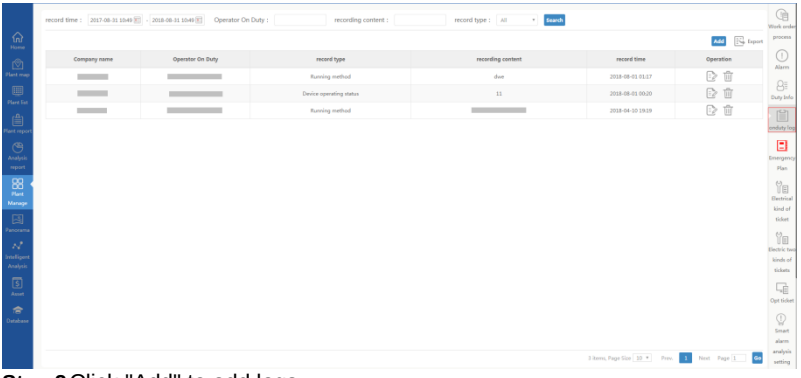


Step 3 Click "Shift change" to add shift information.

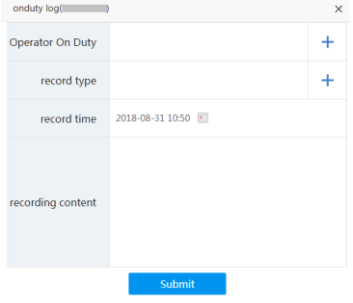


9.5 Onduty Log

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

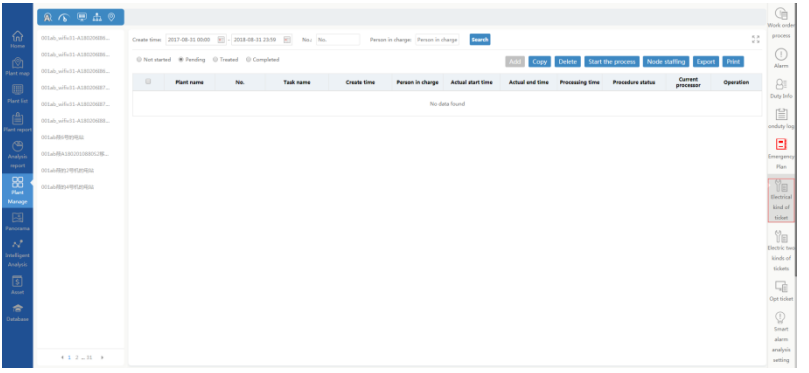
To ensure personal safety and prevent misoperations, the operation ticket or work ticket needs to be used during electrical operation such as maintenance, troubleshooting, and commissioning.

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.

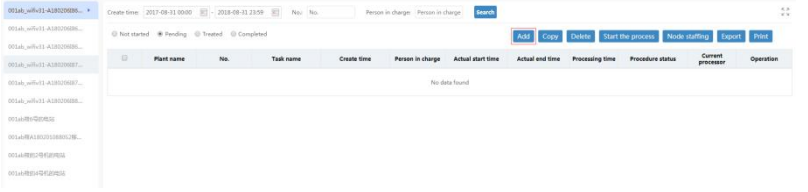
First electrical ticket (the first kind of ticket)

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.



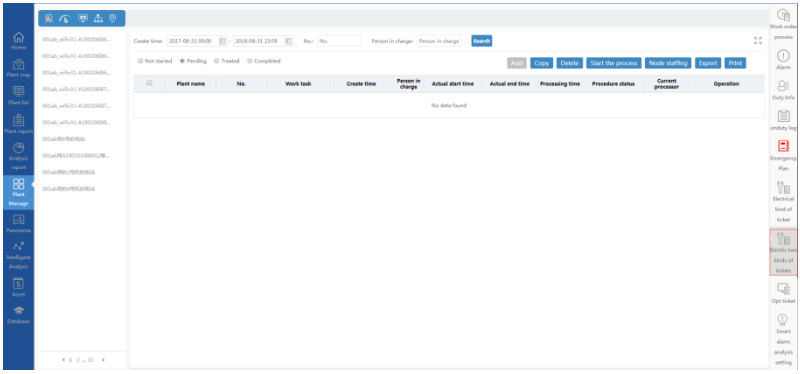
Operations including "Copy", "Delete", "Start the process", "Node staffing", "Export", and "Print" can be performed on the selected electrical ticket.

9.7 Second Electrical Ticket

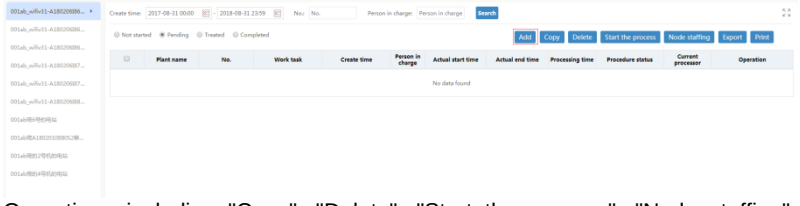
Second electrical ticket (the second kind of ticket)

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.

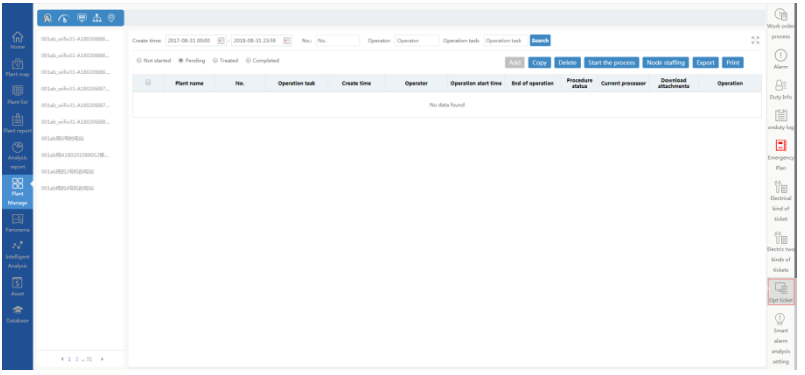


Operations including "Copy", "Delete", "Start the process", "Node staffing", "Export", and "Print" can be performed on the selected electrical ticket.

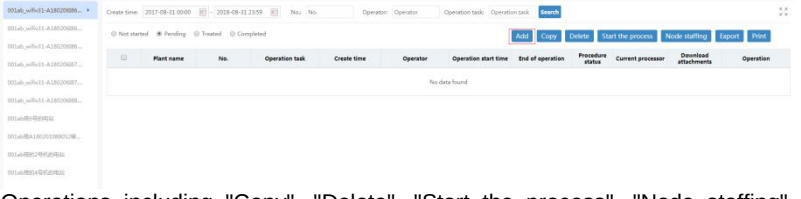
9.8 Operation Ticket

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.

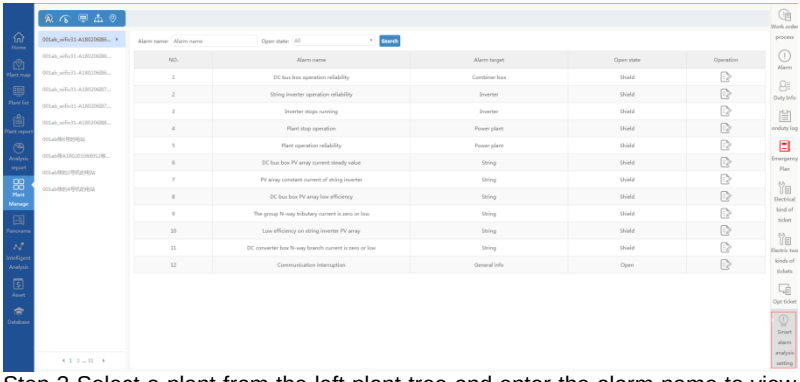


Operations including "Copy", "Delete", "Start the process", "Node staffing", "Export", and "Print" can be performed on the selected operation ticket.

9.9 Smart Alarm

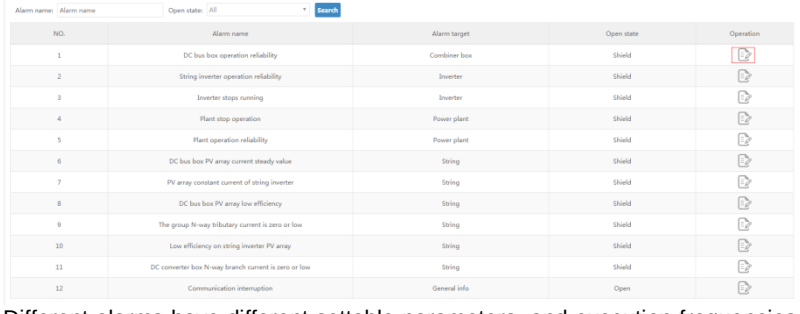
Step 1: Click "Plant Manage" on the navigation bar to enter the corresponding interface.

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



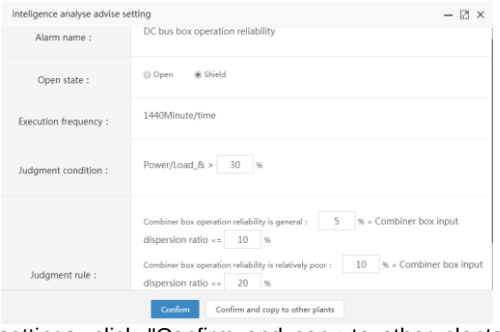
Step 3 Select a plant from the left plant tree and enter the alarm name to view the alarm information, where when "Open state" is selected, alarms of different states can be viewed.

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



NO.	Alarm name	Alarm target	Open state	Operation
1	DC bus box operation reliability	Combiner box	Shield	
2	String inverter operation reliability	Inverter	Shield	
3	Inverter stops running	Inverter	Shield	
4	Plant stop operation	Power plant	Shield	
5	Plant operation reliability	Power plant	Shield	
6	DC bus box PV array current steady value	String	Shield	
7	PV array constant current of string inverter	String	Shield	
8	DC bus box PV array low efficiency	String	Shield	
9	The group N-way tributary current is zero or low	String	Shield	
10	Low efficiency on string inverter PV array	String	Shield	
11	DC converter box N-way branch current is zero or low	String	Shield	
12	Communication interruption	General info	Open	

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



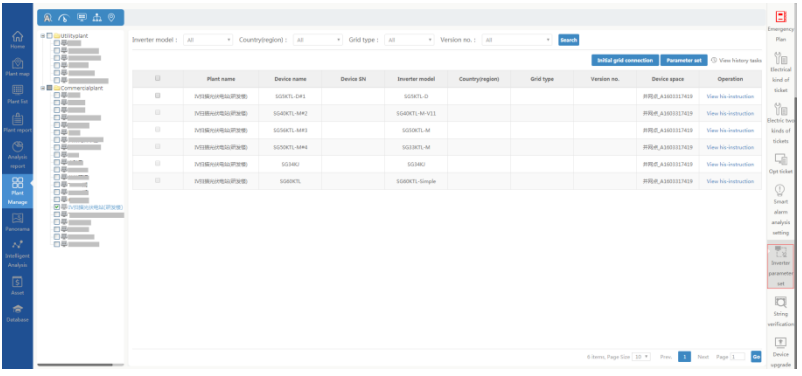
Step 5 After settings, click "Confirm and copy to other plants", so that the settings can be copied and used for other plants.

Step 6 Smart alarm analysis setting is completed, and the reported alarm information can be found in "Alarm".

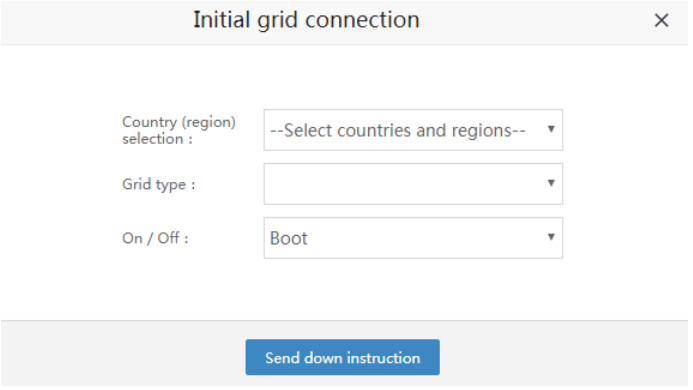
9.10 Parameter Setting

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

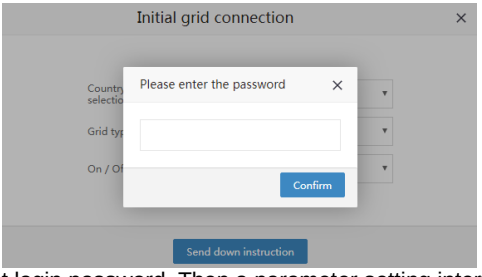
Step 2 Click "Inverter parameter set" to enter the corresponding interface.



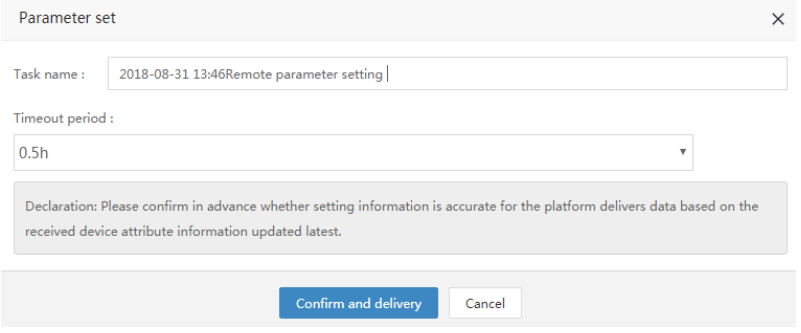
Step 3 Select a plant device from the plants on the left, and click 【Initial grid connection】, and the dialog box of country and grid type pops up.



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

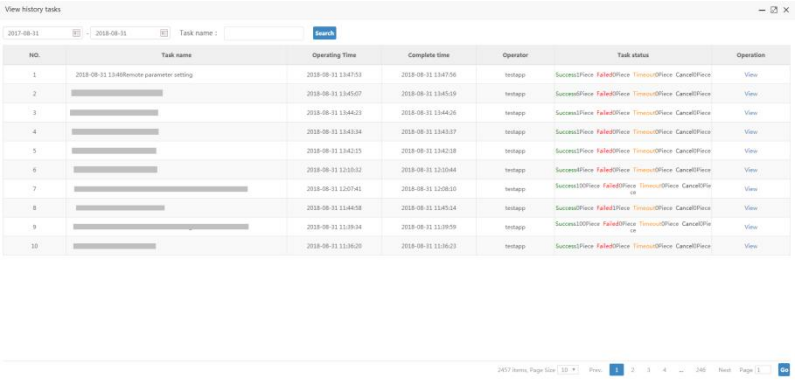


Enter the correct login password. Then a parameter setting interface pops up.



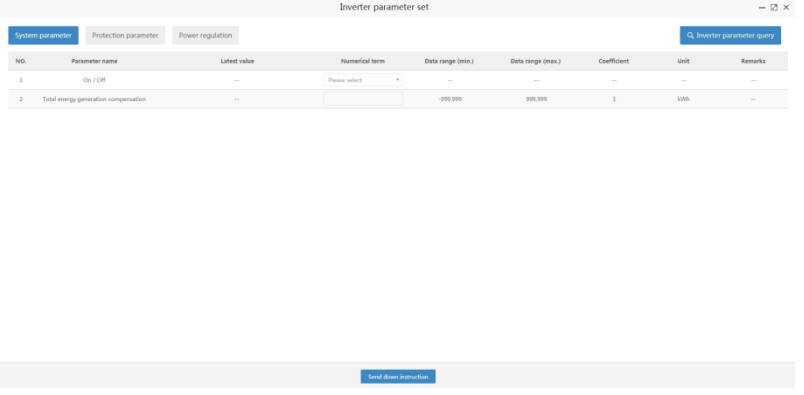
Task name and timeout time can be set. The timeout time can be 0.5h, 1h, and 72h, and the user can select the time according to operation time and parameter setting time of the inverter. After setting, click 【Confirm and

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

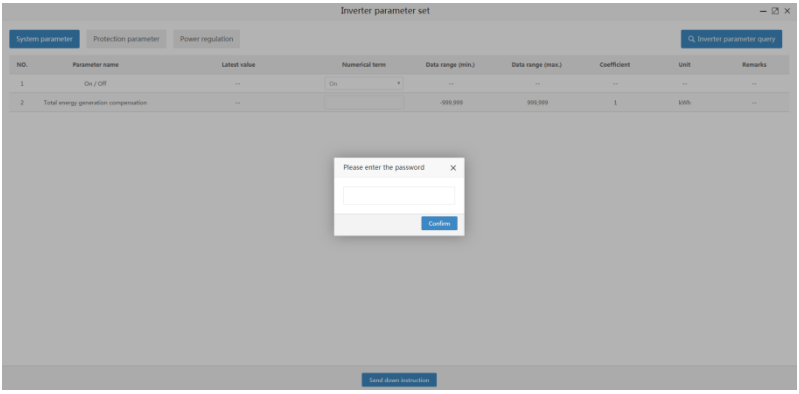


Click "View" to view the current task. Click "Cancel the task" to cancel the task that can be cancelled.

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.

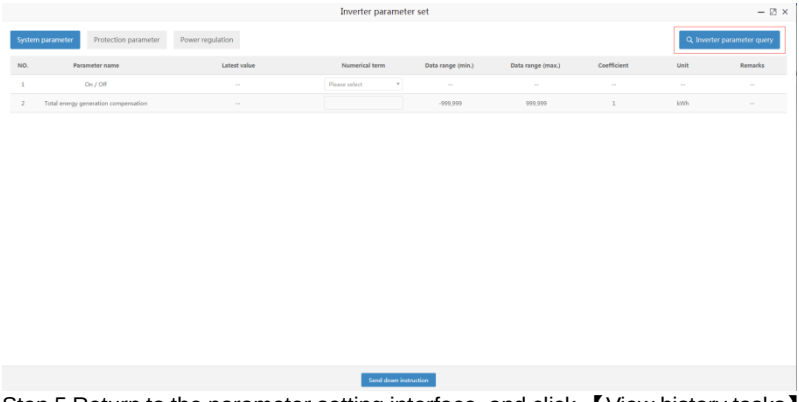


After parameter setting, click 【Send down instruction】, then a dialog box pops up, and enter the login password into it.

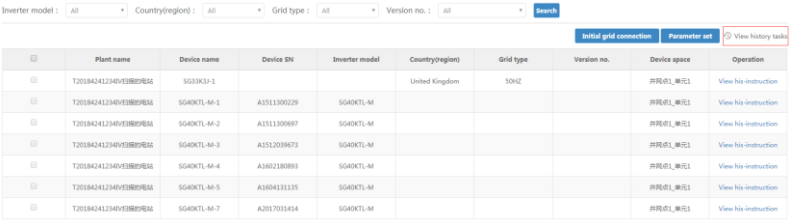


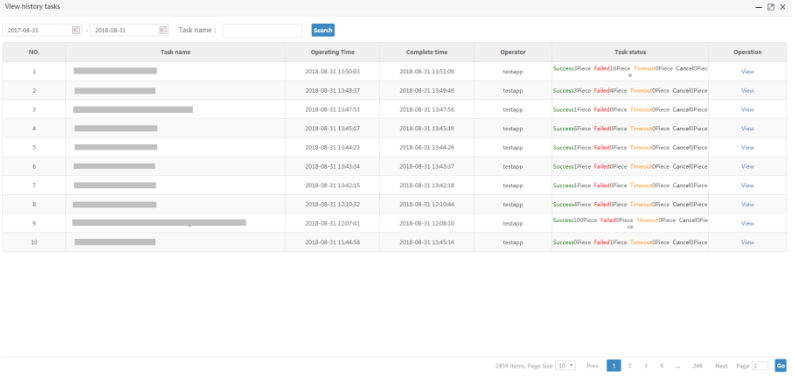
When the password is verified, a parameter setting page pops up. Edit task and timeout time, and click 【Confirm and delivery】. The history tasks can be viewed.

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.



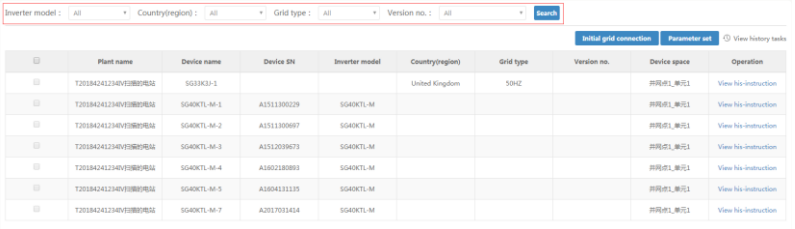
Step 5 Return to the parameter setting interface, and click 【View history tasks】 to view the history parameter delivery tasks.





Select a time range to view history tasks during the corresponding time period.

Step 6 Return to the parameter setting interface, and select an inverter model, country, grid type, and version to view the corresponding devices.



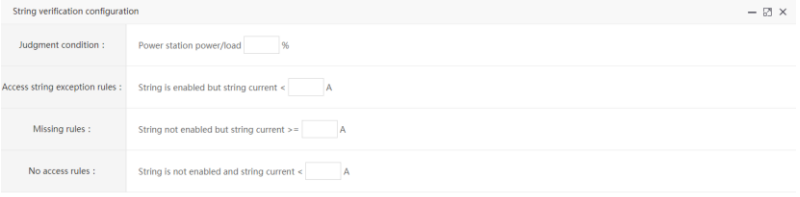
After parameter setting, "msgPrompt" on the right corner displays the number of messages.

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.

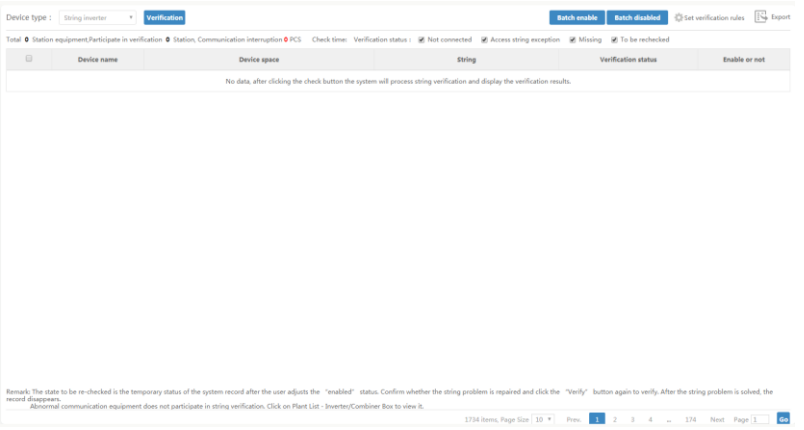
Step 3 Click 【Set verification rules】. Default settings are displayed during the first visit, and then the latest settings are displayed during subsequent visit.



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.

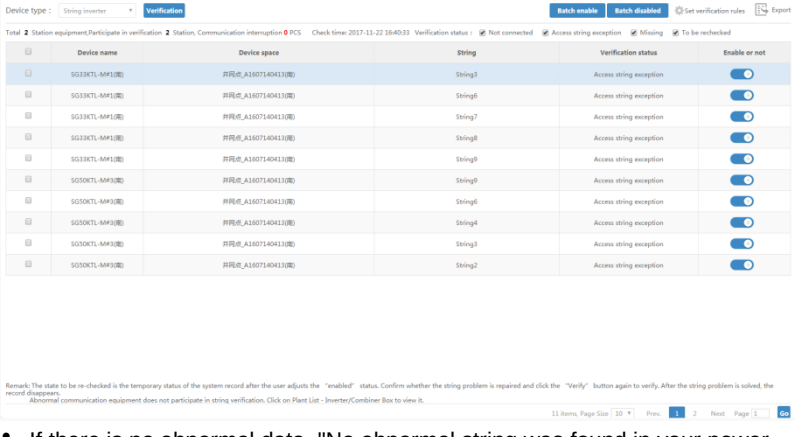
Click【Confirm and copy to other plants】to copy the same rule for the selected plant.

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.



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

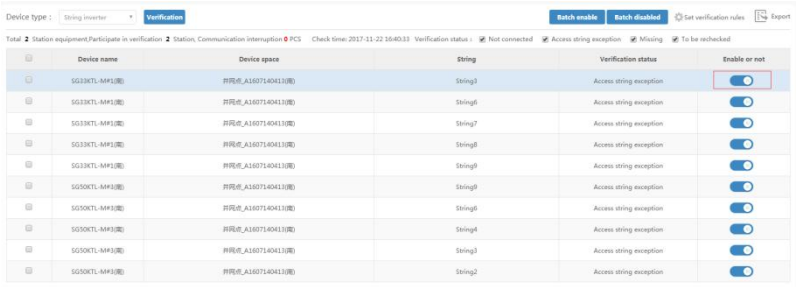
- If there is abnormal data, it will be displayed on the interface.



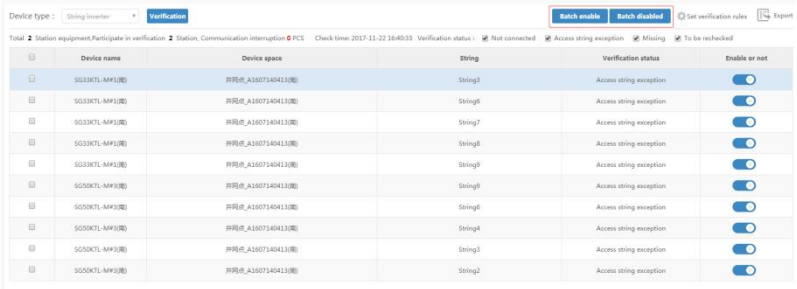
- If there is no abnormal data, "No abnormal string was found in your power station string verification." is displayed.

> 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.



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



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.

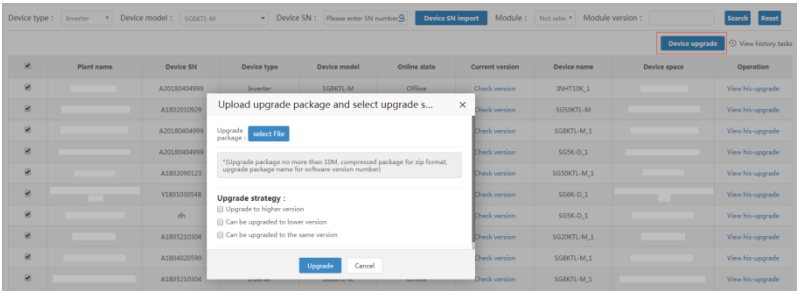
Step 2 Select, from the device list bar on the left, the plant whose device needs to be upgraded. (Batch operation is feasible).

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.

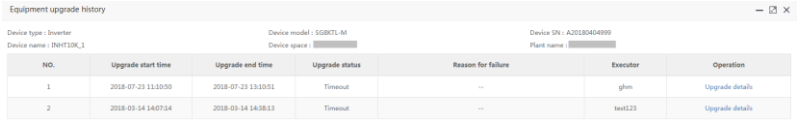
Step 5 Select a device and click "Device upgrade".



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.

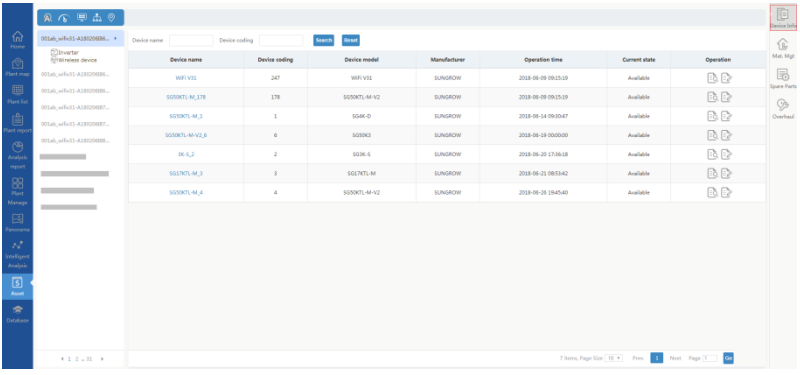


10 Asset

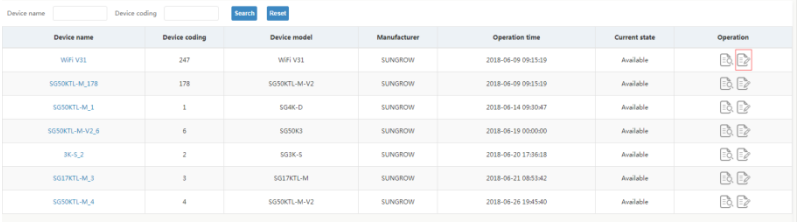
The asset interface includes submenus like "Device Info", "Mat. Mgt", and "Spare parts".

10.1 Device Information

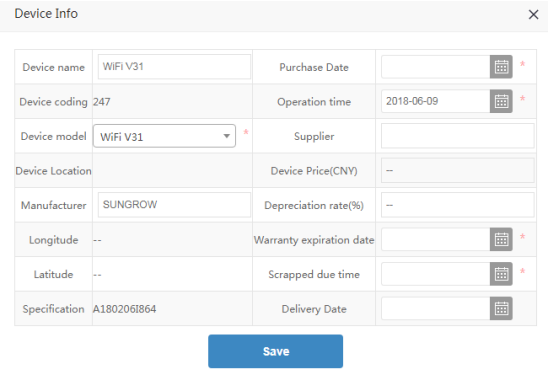
Step 1 Select "Asset -> Device Info".



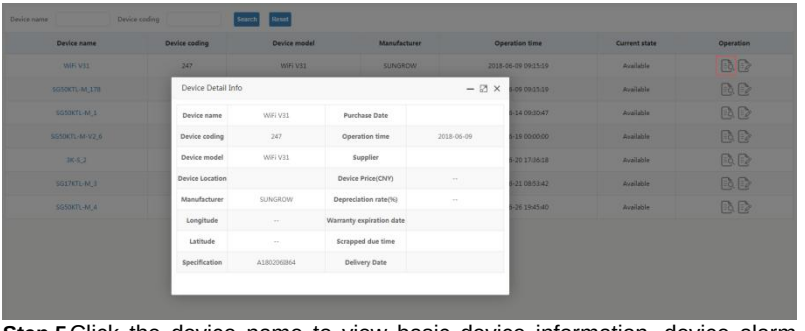
Step 2 Click the 【Edit】 button to edit the device information.



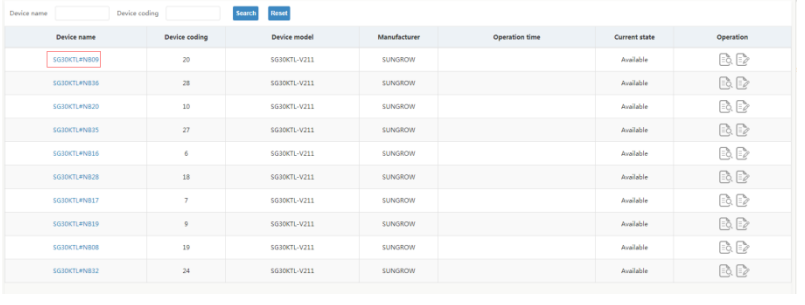
Step 3 Modify the device information according to requirements, and click 【Save】 after modification.



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

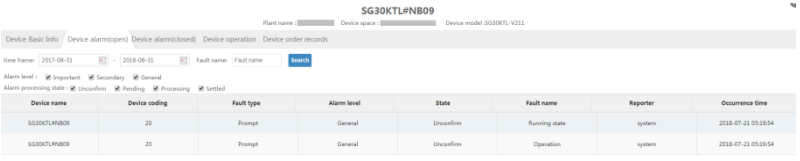


Step 5 Click the device name to view basic device information, device alarm (open), device alarm (closed), device operation record, and device order records.

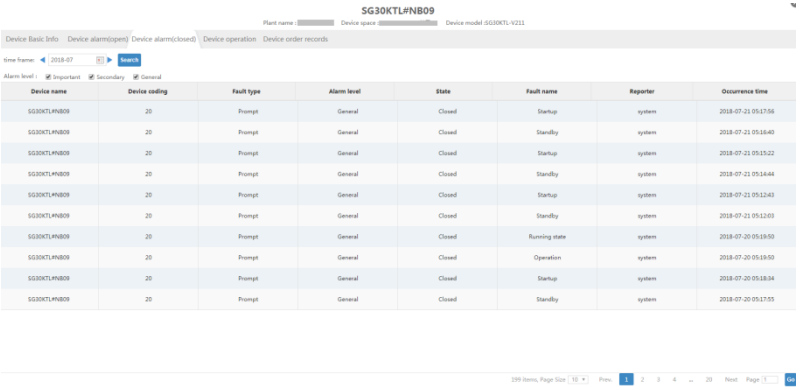


- Click the "Device Basic Info" to view measurement point parameters and device information.

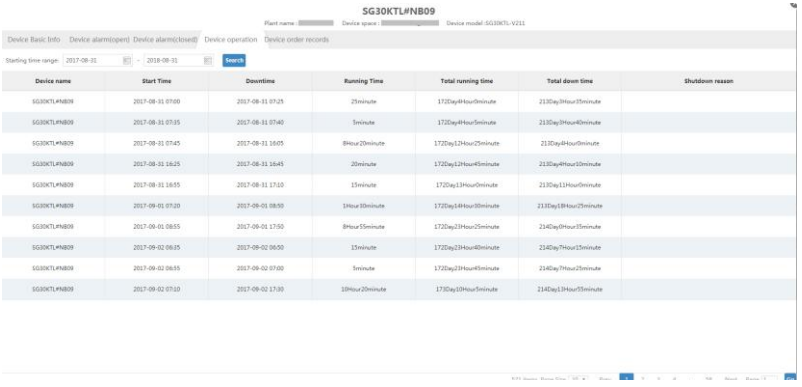
- Click "Device alarm (open)" to view device alarm information that is not closed, and select a time range to view the fault record within the specified time range.



- 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.



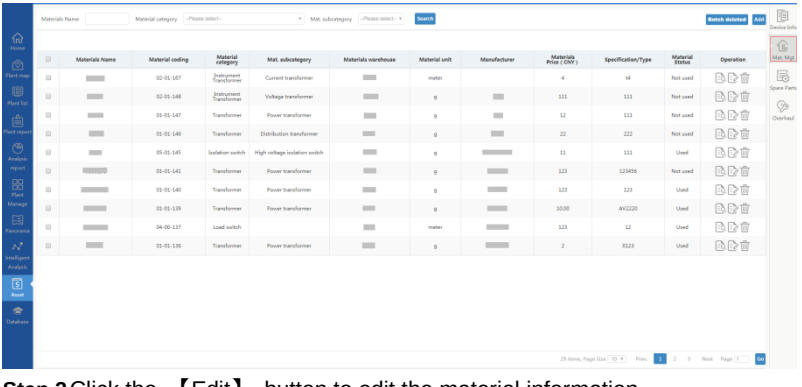
- Click "Device operation record" to view device operation information, and select a time range to view the device operation information within the specified time range.



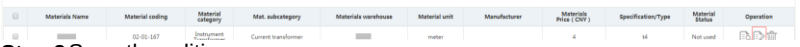
- Click "Device order records" to view work order information, and select a time range to view the work order information within the specified time range.

10.2 Material Management

Step 1 Select "Asset -> Mat. Mgt".

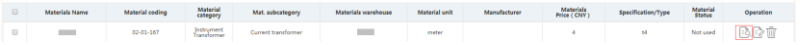


Step 2 Click the 【Edit】 button to edit the material information.

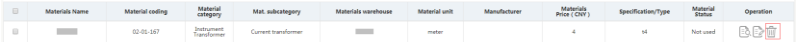


Step 3 Save the edition.

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

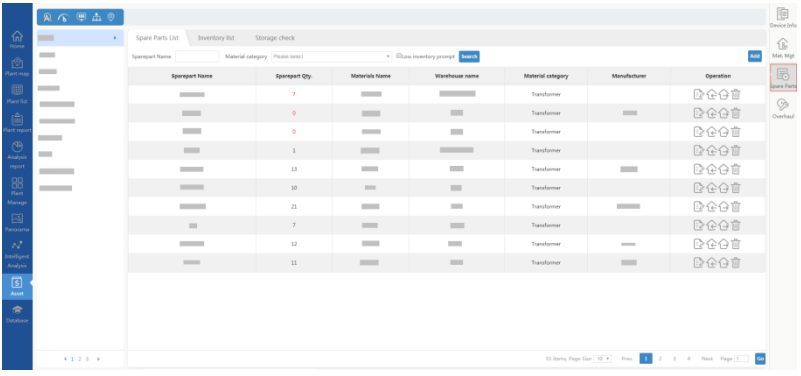


Step 5 Click the 【Delete】 button to delete the material information.



10.3 Spare Parts

Step 1 Select "Asset -> Spare Parts".



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

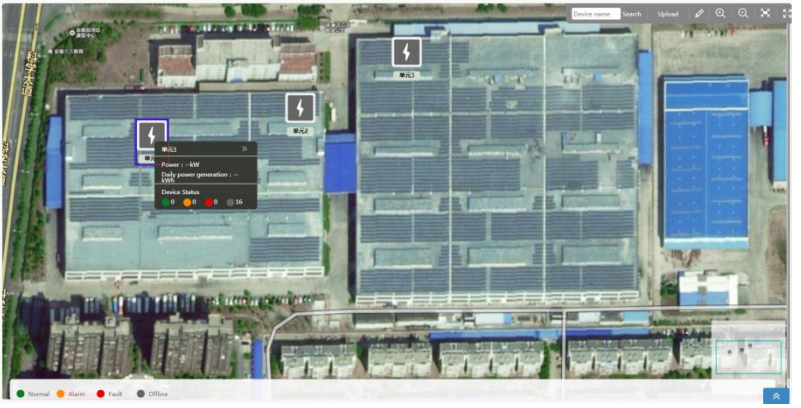
11 Panorama

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.

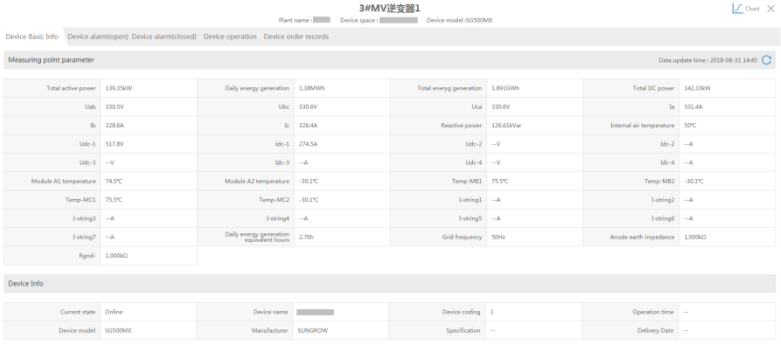
The highest fault alarm status of the device of a unit is in the colour of the unit.

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.

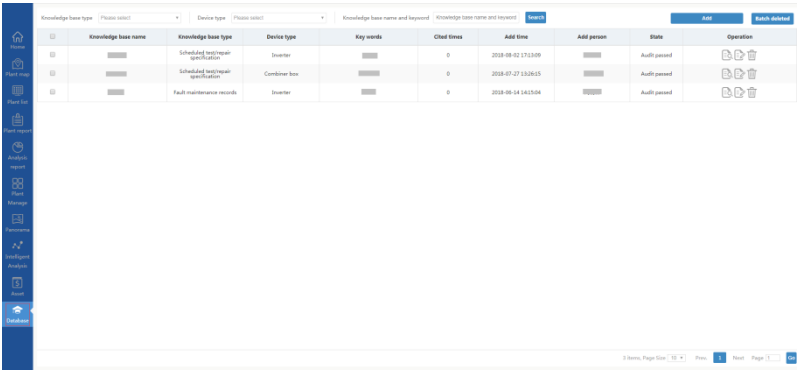


Click the device icon in the panorama and the "》" in the pop-up box, to view the device information interface.

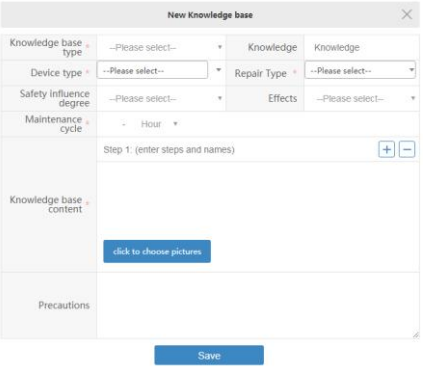

3#MV逆变器1
Chart
Plant name :
Device space :
Device model :SG500MX
Device Basic Info
Device alarm(open)
Device alarm(closed)
Device operation
Device order records
Measuring point parameter
Data update time : 2018-08-31 14:45
Total active power 139.35kW
Daily energy generation 1.38MWh
Total energy generation 1.891GWh
Total DC power 142.33kW
Uab 330.5V
Ubc 330.6V
Uca 330.6V
Ia 331.4A
Ib 328.6A
Ic 326.4A
Reactive power 126.61kVar
Internal air temperature 50℃
Udc-1 517.8V
Idc-1 274.5A
Udc-2 --V
Idc-2 --A
Udc-3 --V
Idc-3 --A
Udc-4 --V
Idc-4 --A
Module A1 temperature 74.5℃
Module A2 temperature -30.1℃
Temp-MB1 75.5℃
Temp-MB2 -30.1℃
Temp-MC1 75.5℃
Temp-MC2 -30.1℃
I-string1 --A
I-string2 --A
I-string3 --A
I-string4 --A
I-string5 --A
I-string6 --A
I-string7 --A
Daily energy generation equivalent hours 2.76h
Grid frequency 50Hz
Anode earth impedance 1,000kΩ
Rgnd- 1,000kΩ
Device Info
Current state Online
Device name
Device coding 1
Operation time --
Device model SG500MX
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.



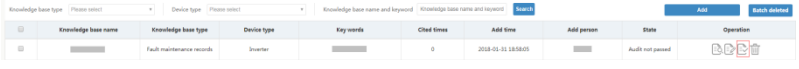
Step 3 Select database records that need to be deleted and click 【Batch

deleted】 to delete the database information in batch.

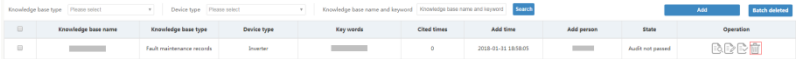
Step 4 Click the 【View】 button to view the database information.

Step 5 Click the 【Edit】 button to edit the database information.

Step 6 Click the 【Audit】 button to review the database information.



Step 7 Click the 【Delete】 button to delete the database information.



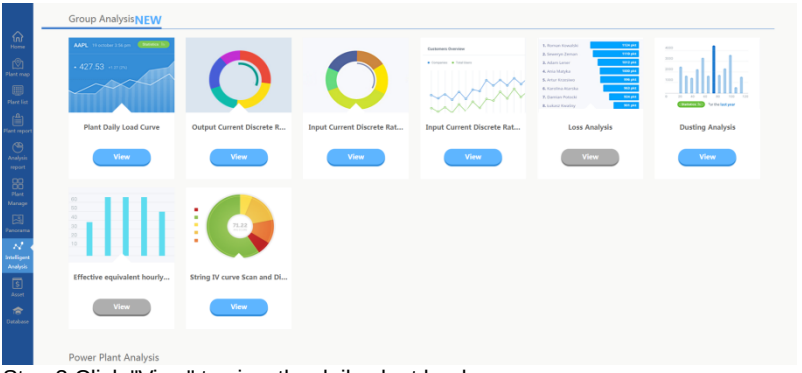
13 Intelligent Analysis

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.

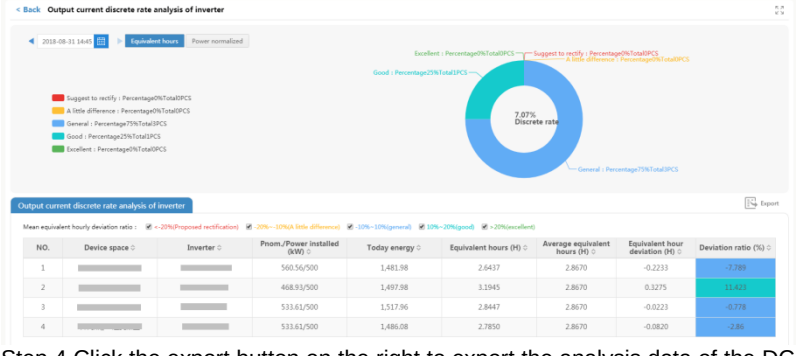
Step 4 Click the "Export" button on the right to export the device alarm records.

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.



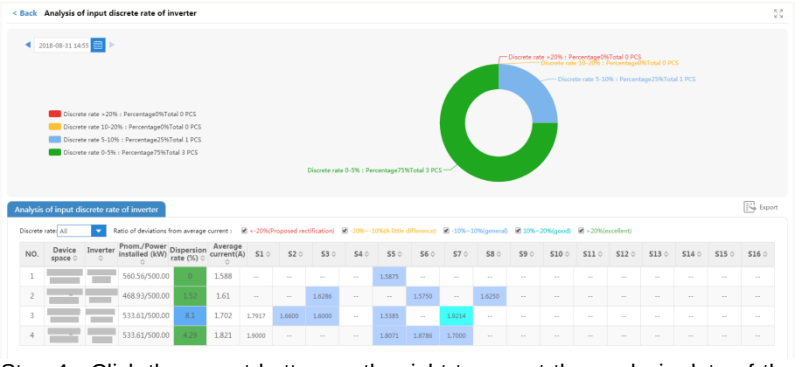
Step 4 Click the export button on the right to export the analysis data of the DC output discrete rate of the inverter.

13.3 Input Current Discrete Rate Analysis

Step1 Log into the system.

Step2Click "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.



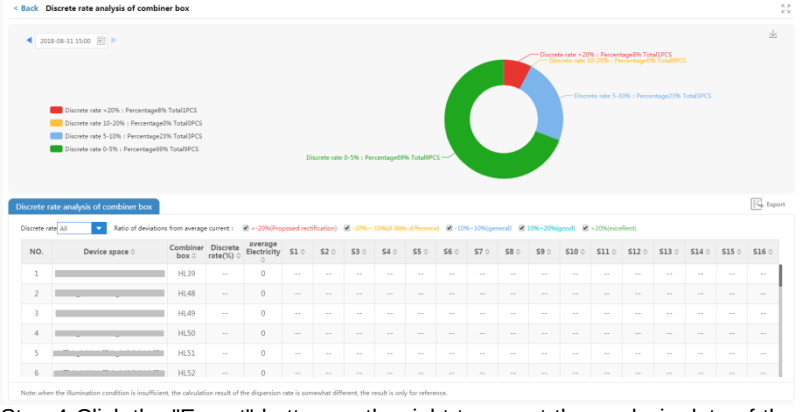
Step 4 Click the export button on the right to export the analysis data of the DC input discrete rate of the inverter.

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.



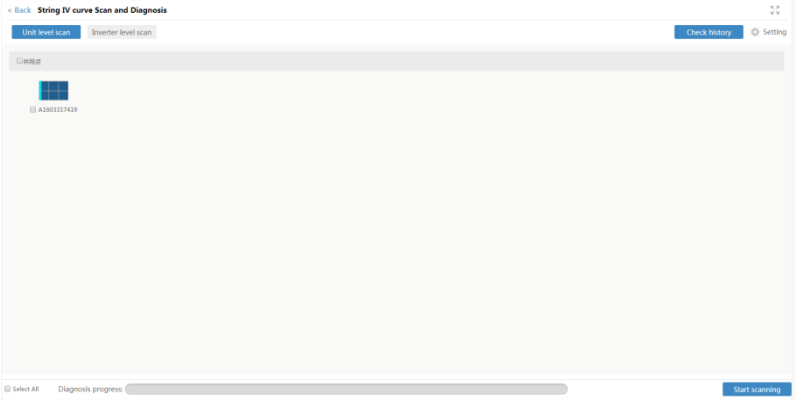
Step 4 Click the "Export" button on the right to export the analysis data of the input discrete rate of the combiner box.

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.

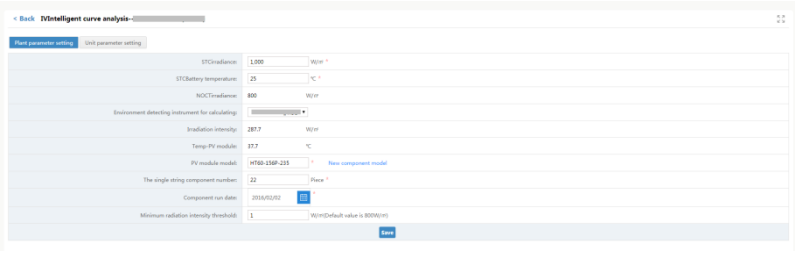
At the lower part display all grid-connected points of the plant and unit graph list.

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

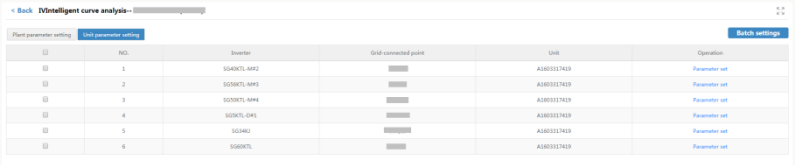
Step 4 Select a plant from the tree diagram on the left.

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

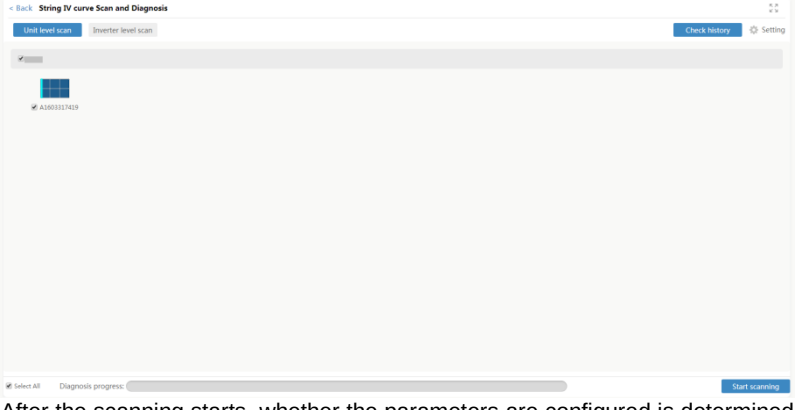
Enter the "Plant parameter setting" interface by default. The settings are applicable to global module parameters of the plant.



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.



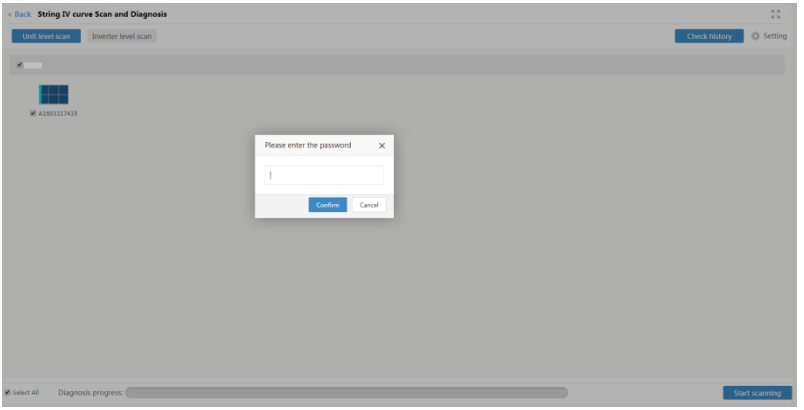
Step 5 Click 【Return】 to return the scanning interface. Click 【Unit level scan】, select a device, and click the button 【Start scanning】.



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.

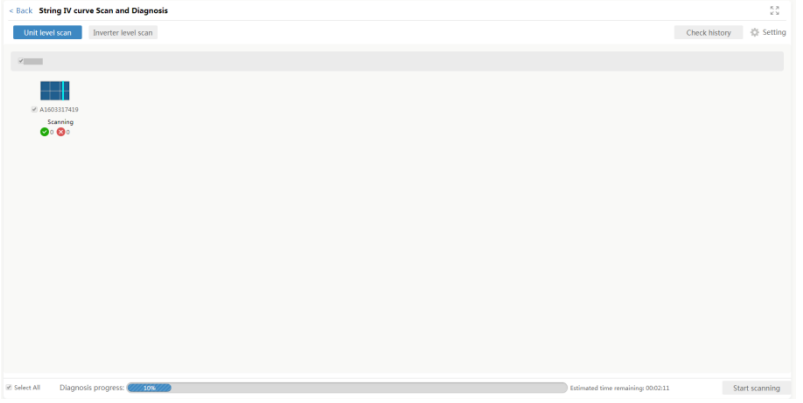
Enter the login password to pass the password verification when clicking the【Start scanning】 for the first time.

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.

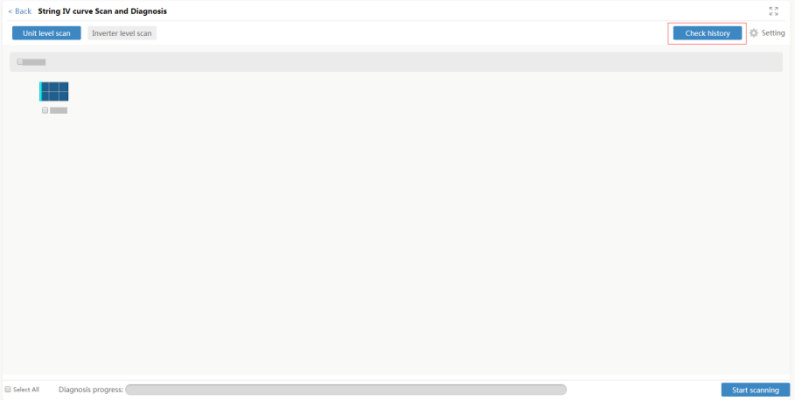
The "Intelligent IV curve analysis" interface is entered by default, and information on the abnormal string is displayed. Click 【View】 to enter the "String diagnosis analysis" interface.

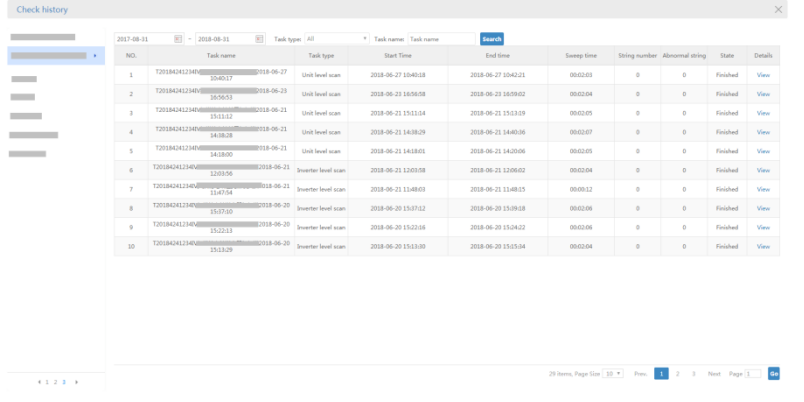
Close the "String diagnosis analysis" interface, and click 【IV Curve】 so that IV

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.





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SN	发货状态	卡号	通讯设备密码	开卡日期	失效日期	有效天数	客户编码	客户名称	通讯模块状态	操作
☑	A1711072270	已过期	--	--	2018-06-01	2017-06-29	-411	--	--	运行中	查看
☑	A1711071868	已过期	--	--	2018-06-24	2017-06-28	-412	--	--	运行中	查看
☑	A1711072434	已过期	--	--	2018-06-26	2014-07-01	-1505	--	--	已过期	查看
☑	A1711072445	已过期	--	--	2018-06-27	2014-03-31	-1597	--	--	已过期	查看
☑	A1711071797	--	--	12345678	2018-03-30	2014-03-30	-1598	--	--	已过期	查看
☑	A1711073046	已过期	--	--	2018-06-28	2014-02-28	-1628	--	--	已过期	查看

15 User centre

15.1 Function Description

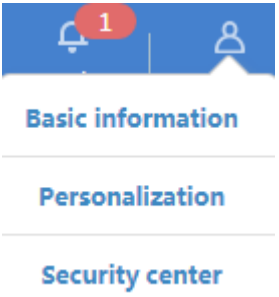
On this interface, the user can perform the following operations:

- 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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Manual Description

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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.