

目 录

About This Manual

Common Operations

Homepage

Map

Plant Map

Panorama

Plant

Plant List

Single Plant Home

Primary Wiring Diagram

Plant Unit

Inverter

Combiner Box

Alarm Management

Cleaning Plant

Cleaning View

Chart

Interface Description

View the Chart

Save Template

Template Library

Report

Custom Report

Statistical Report

Management

Work Order Process

Duty Information

Onduty Log

Electrical Kind of Ticket

Smart Alarm Analysis Setting

Inverter Parameter Setting

Interface Description

- Initial Grid Connection Setting
- General Parameter Setting
- Advanced Parameter Setting
- Command Line Parameter Setup
- View History Tasks
- String Verification
- Firmware Update
 - Interface Description
 - Firmware Update
 - Viewing Task History
- Intelligent Analysis
 - Input Value Dispersion Ration Analysis
 - Analysis of Output Discrete Rate of Inverter
 - Smart IV Curve Diagnosis
 - Power Plant Analysis
- Asset
 - Device Information
 - Material Management
- Database
- Appendix
 - Manual Description
 - Contact Information

About This Manual

About This Manual

Target Group

This manual is intended for operators of the iSolarCloud O&M platform.

Symbols

"Note" indicates additional information, emphasized contents or tips that may be helpful, e.g. to help you solve problems or save time.

System Requirements

Item	Requirement
Browser	Chrome 60 or later (recommended), Safari 10 or later, Firefox 60 or later, and IE11 or later
Resolution	1920 * 1080 (recommended)/1366 * 768 (supported)

Expression Explanation

Type	Example
Select certain element or menu	Click "Plant Management"
Select several elements or menus	Click "Plant Management" -> Channel Management"

Intended Use

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

This manual is prepared based on the version V1.4.6.20200520. Screenshots are for reference only, and actual interfaces may differ.

Common Operations

Common Operations

Login

This section describes how to log into the iSolarCloud management system.

Prerequisites

You have got the account and password.

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

Procedure

1. Enter the specified URL <https://www.isolarcloud.com> in the browser address bar.
2. Click the icon  in the upper right corner to switch languages.
3. The system automatically switches to the corresponding server address according to the user IP; or users can click the button  to manually switch the server address. Mainland China users select “Chinese server”, European and African users select “European server”, the other users select “International server”.
4. Enter the username and password and click “Login”.

For the convenience of subsequent login, you can tick “Remember me”.

Logout

This section describes how to log out of the iSolarCloud management system.

Prerequisites

You have logged into the iSolarCloud management system.

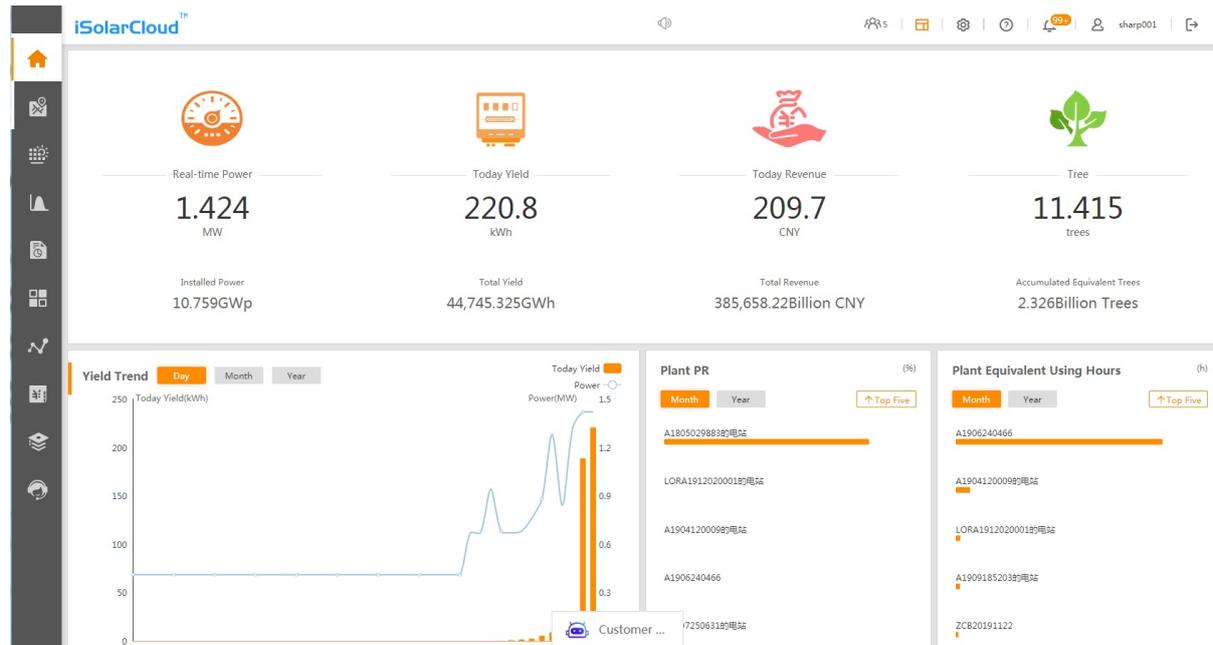
Procedure

Click the button  in the upper right corner of the home page to log out of the iSolarCloud management system.

Homepage

Homepage

This chapter describes the home page of the iSolarCloud management system and corresponding functions.



Menu Bar

The menu bar displays main function categories of the iSolarCloud management system. Users can switch to the corresponding function interfaces and perform related operations.

Menu	Description
Home	View information such as yield trend, power, yields, revenue, equivalent tree planting, plant PR, and plant equivalent using hours.
Map	Locate the plant and view general plant information.
Plant	View detailed information of a single plant, such as plant list, single plant home, diagram, plant unit, inverter, combiner box, and alarm.
Chart	View power generation curve of the plant.
Report	View plant reports (daily report, weekly report, monthly report, annual report and total report); or create self-defined reports.
Management	View job order status, upgrade devices, etc.

Intelligent Analysis	View analysis information on devices and plants, such as yield analysis and power predication.
Asset	View detailed information on devices and materials.
Database	View fault information of plant devices.

Setting

Designation	Description
Online Users	Click the icon  to view detailed information on online users.
Home Configuration	Click the icon  to select items to be displayed on the homepage.
Background Management	Click the icon  to enter the background management system.
Help	Click “  ” -> Guide Page” and perform operation according to instructions. Click “  ” -> User Manual” to view, download, or print the user manual.
Notice	Click the icon  to view reminder information on job order, parameter setting, etc.
Personal Setting	Click “Personal Setting” to set basic personal information, and switch languages, themes, radiation units, and temperatures units. Click “Account and security” to bind an e-mail address for retrieving password. In addition, you can change the password and cancel the account.
Logout	Click the icon  to log out of the iSolarCloud management system.

Information Display Area

Information such as yield trend, revenue, and plant PR is displayed in this area.

Map

Map

Map

Plant Map

Plant Map

Procedure

1. Click “Map -> Plant map” to enter the corresponding interface.
2. Select a plant from the left plant list. The system will automatically locate the plant and display plant information such as real-time power and daily yield. Click the number following fields like “Unconfirmed”, “Pending”, and “Processing” to automatically jump to the corresponding interface.
3. Perform the following operations according to actual conditions.
 - Click the icon  to enter full screen. Click the icon  to recover the window.
 - Click the icon  in the lower left corner, to view information such as real-time power, E-today, and total power installed capacity.
 - Click the icon  in the lower right corner, to zoom in the map. Click the icon  in the lower right corner to zoom out the map.

Panorama

Panorama

The demonstration levels vary with power plant types. Unit level is for ground plants and commercial plants, and the device level is for residential plants by default. Description is given by using ground plant as an example.

Procedure

1. Click “Map -> Panorama” to enter the corresponding interface.

2. Select a plant from the left plant list.

3. Click the unit icon  to view power and daily power generation of the unit.

4. Click the icon  to view devices belonging to the unit.

5. Click the device icon  to view power and daily power generation of the device.

6. Click the icon  to view basic device information and query alarm and maintenance records of the device.

7. Perform the following operations according to actual conditions.

- Enter device name and click “Search”, to view corresponding devices.
- Click “Upload” to upload a panorama. You can upload the panorama in the following two manners:
 - Click “Click to Choose Pictures” to select an image, and click “Open” view the image to be uploaded. Click “Start to Upload” to finish the uploading operation.
 - Drag the image to the window and click “Start to Upload” to finish the uploading operation.
- Click “Edit” to move device icons. Click the icon  to save the modification.
- Click the icon  to zoom in the current interface. Click the icon  to zoom out the current interface.
- Click the icon  to adapt to the page view.
- Click the icon  to enter full screen. Click the icon  to recover the window.

Plant

Plant

Plant List

Plant List

Click “Plant -> Plant list” to enter the corresponding interface, on which information such as power installed, real-time power, daily yield, alarm, and communication is displayed.

Exp.	NO.	Plant Name	Power Installed	Real-time power	Radiation	Daily Yield	PR	Equivalent Hours	Alarm	Communication	View Unit
+	1	三洋	26.4MWp	0W(Energy Meter)	--	Today 0kWh/Yday 0kWh(Energy Meter)	33%	Today 0.0h			
+	2	会通	2.4MWp	0W(Energy Meter)	--	Today 0kWh/Yday 0kWh(Energy Meter)	--	Today 0.0h			
+	3	宝凌达	1.44MWp	811.8kW(Energy Meter)	0W/m²	Today 1.44MWh/Yday 5.94MWh(Energy Meter)	--	Today 0.96h			

Plant Search Bar

Quick search: enter the plant name and click the icon to view the corresponding plant list.

Detailed search: click the icon , enter the plant name and device S/N, select power installed, type, and organization, and click “Confirm”, to view the corresponding plant list.

Refresh Time

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

Click the icon to refresh the plant list immediately.

Plant Information List

Click the icon on the left of the plant name field, to view the detailed plant information.

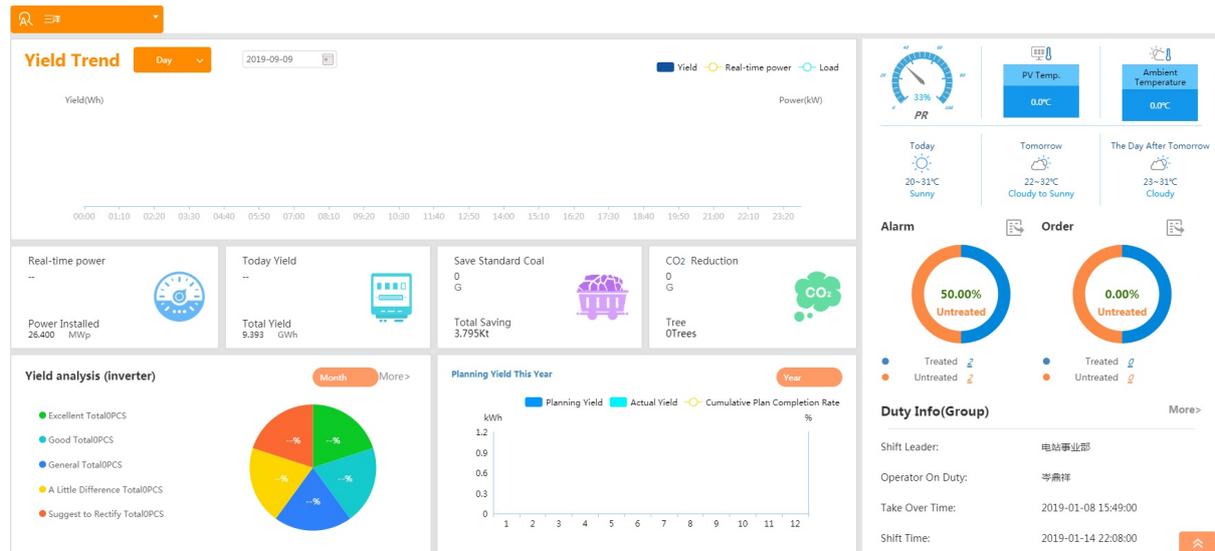
Click the alarm icon to jump to the alarm management interface.

Click the icon to jump to the “Plant Unit” interface.

Single Plant Home

Single Plant Home

Click “Plant -> Single Plant Home” to enter the corresponding interface, on which information such as yield trend, yield analysis, planning yield, alarm and order is displayed.



Yield Trend

Daily yield trend is displayed on the interface by default. Click the icon  to switch to monthly yield trend and annual yield trend. Click the icon  to select the desired date.

Yield Analysis (Inverter)

Monthly yield analysis is displayed on the interface by default. Click the icon  to switch to annual yield analysis.

Click “More” to jump to the “Intelligent Analysis” interface.

Planning Yield This Year

Yield planning of the current year is displayed on the interface by default. Click the icon

 to switch to the yield planning of the current year.

Alarm and Order

Click the icon  on the right of “Alarm” or “Order” to export alarms or orders that are not processed.

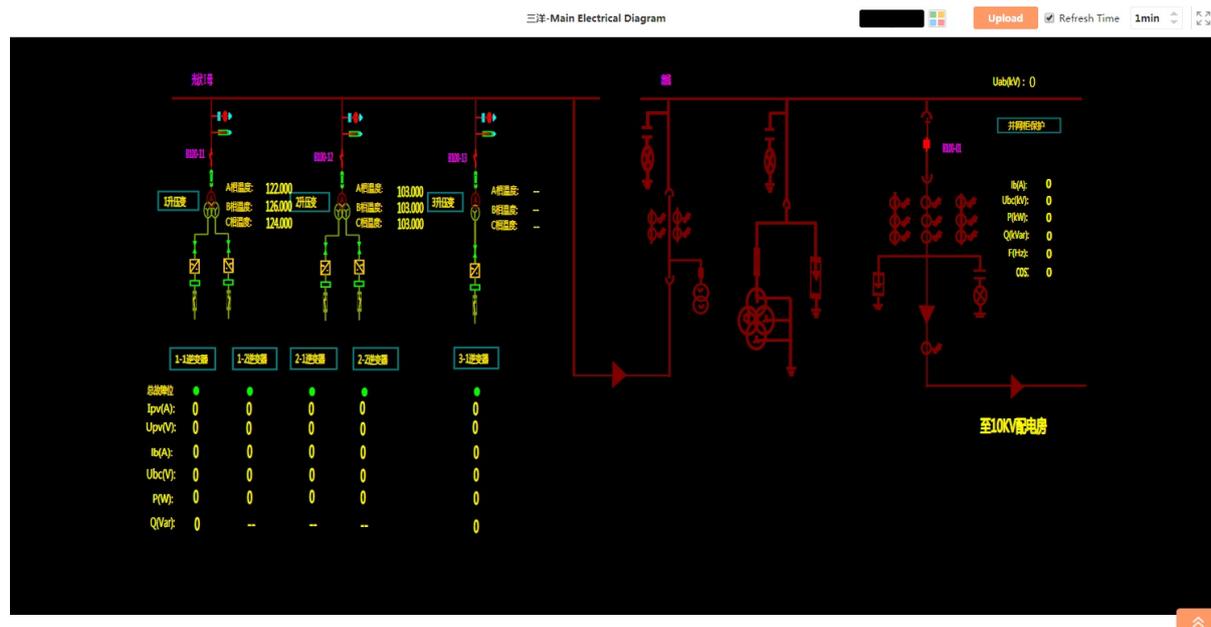
Click the number of treated alarm or untreated alarm to jump to the “Alarm” interface.

Click the number of treated order or untreated order to jump to the “Work Order Process” interface.

Primary Wiring Diagram

Primary Wiring Diagram

Click “Plant -> Diagram” to enter the corresponding interface, on which you can view and modify the primary wiring diagram of the plant.



Plant Search Bar

Quick search: enter the plant name and click the icon , to view the corresponding plant list.

Detailed search: click the icon , enter the plant name and device S/N, select power installed, type, and organization, and click “Confirm”, to view the corresponding plant list.

Refresh Time

The refresh time is 1min by default (the minimum refresh interval). Tick “Refresh Time”, and click the icon  to increase the value or click the icon  to decrease the value.

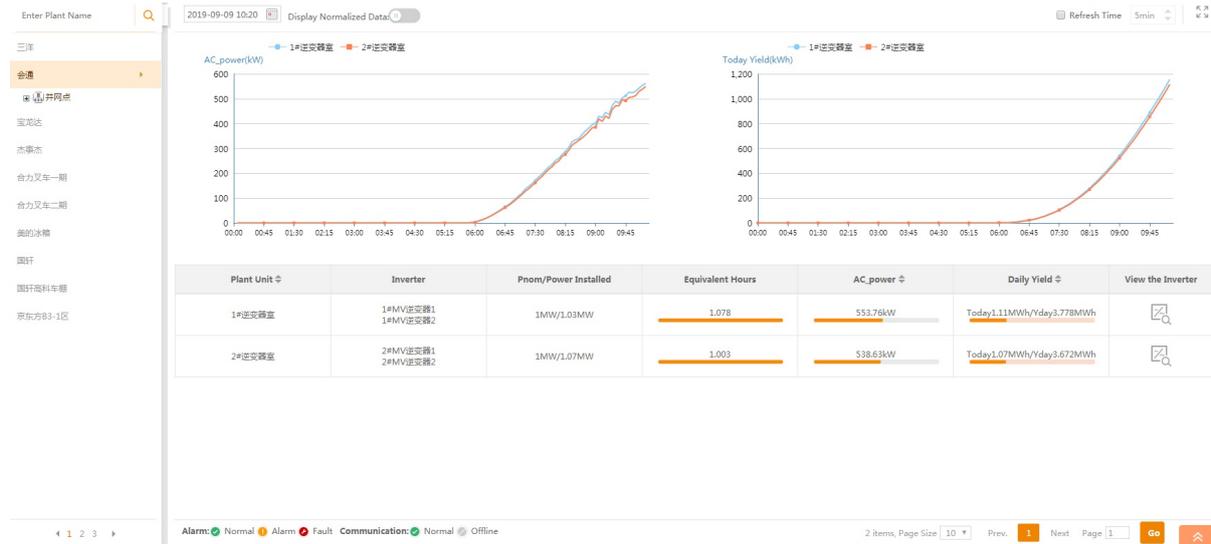
Uploading Wiring Diagram

Click “Upload”, and a window pops up. Click “Select File” to select a file, click “Open”, and then “Submit”, to finish the uploading operation.

Plant Unit

Plant Unit

Click “Plant -> Plant Unit”, to enter the corresponding interface, on which information such as AC power curve, today yield curve, and daily yield is displayed.



Plant Search Bar

Quick search: enter the plant name and click the icon , to view the corresponding plant list.

Detailed search: click the icon , enter the plant name and device S/N, select power installed, type, and organization, and click “Confirm”, to view the corresponding plant list.

Refresh Time

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

Display Normalized Data

Click the icon  to select the desired date and click “OK”. The interface displays, by default, curves of AC power at the grid-connected point and today yield.

Click the icon  following the field “Display Normalized Data:” to view the power normalized curve and equivalent hours curve.

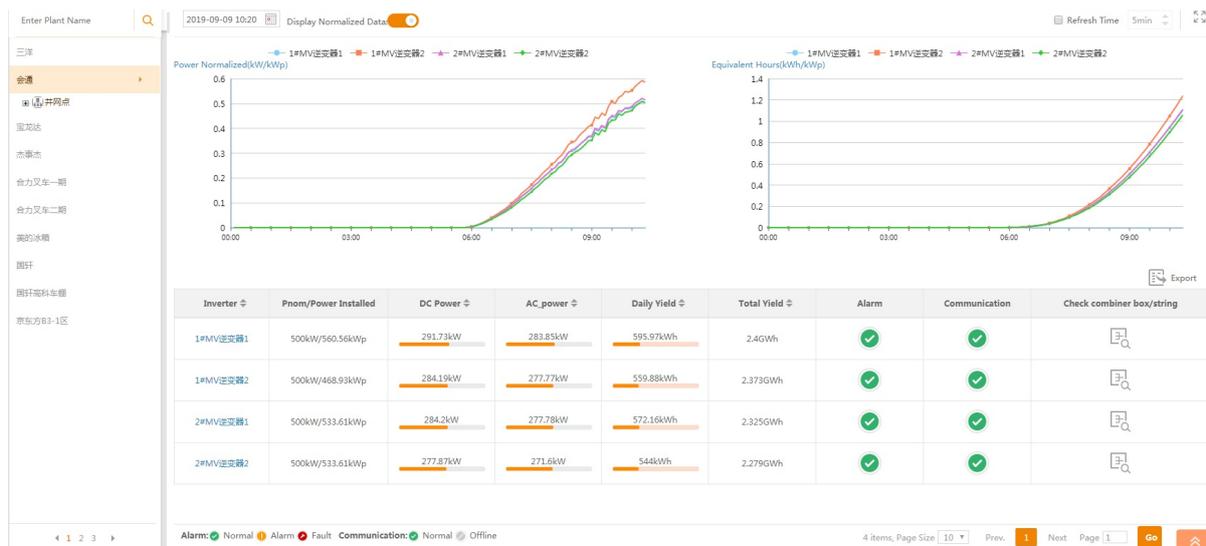
View the Inverter

Click the icon  to jump to the corresponding “Inverter” interface.

Inverter

Inverter

Click “Plant -> Inverter” to enter the corresponding interface, on which information such as inverter AC power curve, today yield curve, and daily yield is displayed.



Plant Search Bar

Quick search: enter the plant name and click the icon , to view the corresponding plant list.

Detailed search: click the icon , enter the plant name and device S/N, select power installed, type, and organization, inverter, and click “Confirm”, to view the corresponding plant list.

Refresh Time

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

Display Normalized Data

Click the icon  to select the desired date and click “OK”. The interface displays, by default, curves of AC power at the grid-connected point and today yield.

Click the icon  following the field “Display Normalized Data:” to view the power normalized curve and equivalent hours curve.

Check Combiner Box/String

Click the icon  to jump to the corresponding “Combiner Box” interface.

Export Inverter Running Information

Click “Export” to store the inverter running information in the local.

View Inverter Information

Click the inverter name to view basic device information and alarm and maintenance records. Click “Curve” to view the inverter curve.

Combiner Box

Combiner Box

Click “Plant -> Combiner box” to enter the corresponding interface, on which information such as total current, bus voltage, and alarm information of the combiner box is displayed.

Combiner Box	Total Current(A)	Bus Voltage(V)	Internal Temperature (°C)	Alarm	Communication	SPD	String Current
HL25	82.40	572.00	43.10	✓	✓	!	🔍
HL26	74.40	558.60	41.30	✓	✓	!	🔍
HL27	80.20	572.30	42.10	✓	✓	!	🔍
HL28	83.70	574.70	43.00	✓	✓	!	🔍
HL29	57.60	571.40	44.60	✓	✓	!	🔍
HL30	42.30	566.60	43.00	✓	✓	!	🔍
HL31	79.60	575.80	45.30	✓	✓	!	🔍
HL32	72.90	576.80	45.50	✓	✓	!	🔍
HL33	83.20	576.00	45.00	✓	✓	!	🔍
HL34	62.60	574.20	44.90	✓	✓	!	🔍

Plant Search Bar

Quick search: enter the plant name and click the icon , to view the corresponding plant list.

Detailed search: click the icon , enter the plant name and device S/N, select power installed, type, and organization, and click “Confirm”, to view the corresponding plant list.

Combiner Box Search Bar

Click the icon  to select the desired date and click “OK”.

Enter combiner box name and click “Search”, to view corresponding combiner box list.

Refresh Time

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

View Combiner Box Information

Click the combiner box name to view basic device information and alarm and maintenance records. Click “Curve” to view the combiner box curve.

Alarm Management

Alarm Management

Click “Plant -> Alarm”, to enter the corresponding interface, on which plant alarm information is displayed.

The screenshot displays the Alarm Management interface. At the top, there are tabs for "Active", "Already Closed", and "Quarantine Area". Below the tabs, there are search filters for "Time" (set to 2020-05-19) and "Alarm Name". A summary bar shows: Alarm Type: Fault: 5,542; Alarm: 458; Prompt: 2,065; Advice: 39. Below this is a table of alarm records with columns: Plant Name, Alarm Type, Fault Code, Alarm Name, Device Interval, Device Name, Status, Occurrence Time, and Operation. The table contains several rows of data, including faults like "Islanding" and "Grid Conflict", and alarms like "System Alarm" and "Other Fault". To the right of the table is a sidebar with a search bar and a list of alarm statuses: Unconfirmed, Pending, Processing, Resolved, and Already Closed.

Plant Search Bar

Quick search: enter the plant name and click the icon  , to view the corresponding plant list.

Detailed search: click the icon  , enter the plant name and device S/N, select power installed, type, and organization, and click “Confirm”, to view the corresponding plant list.

Alarm Search Bar

Select the tab “Active”, “Closed” or “Reject Area”. Set the time segment, enter alarm name, and select the types. Click “Search” to view the corresponding alarm list.

Refresh Time

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

Operation Bar

- View fault details

Click the icon  to enter the corresponding interface. The fault information displayed includes fault type, source, processing time, and processing opinion.

- Transfer defect elimination ticket

Click the icon  to enter the corresponding interface. Select repair time and remind person, fill in comments, and click “Confirm”.

- Close Fault

Click the icon  to enter the corresponding interface. Fill in processing opinion and click “Close Fault”.

Reject Alarm

Tick one or more faults on the “Active” interface, click “Transfer Defect Elimination Ticket > Reject”, fill in comments, and click “Confirm”. The corresponding alarm information will be removed to the “Reject Area”.

Only faults on which transferring defect elimination ticket is not performed can be rejected.

Undo Reject

Tick one or more faults on the “Reject Area” interface, click “Undo reject”, fill in comments, and click “Confirm”. The corresponding alarm information will be removed to the “Active” tab.

Close Fault in Batch

Select multiple faults in the fault list, and click “Batch Close” to close these faults in batch.

Report Fault

Click “Report Fault” to enter the corresponding interface. Select plant name, device type, fault name, fault device, source, and processing time, fill in fault details, and click “Report Confirmation”.

Export Alarm List

Click “Export” to export the alarm list within specific time segment, where the exported file is in .xlsx format by default.

Cleaning Plant

Cleaning Plant

Click “Plant -> Cleaning plant”, to access the corresponding interface, on which cleaning robot information is displayed.

Plant Image	Current Status	Plant Name	Cleaning Capacity	Installed Power	Plant Address	Operation
	● 0 ● 0 ● 0 ● 1	basetest2020025	0 Wp	10 Wp	安徽省合肥市高新区习友路	
	● 0 ● 0 ● 0 ● 1	LOGGER666666	1 Wp	0 Wp	安徽省合肥市蜀山区高新技术产业开发区习友路17...	
	● 0 ● 0 ● 0 ● 1	S1911070001	50 Wp	0 Wp	安徽省合肥市蜀山区高新技术产业开发区阳光电源...	
	● 3 ● 0 ● 0 ● 1	TEST1800415	50 Wp	0 Wp	安徽省合肥市蜀山区高新技术产业开发区阳光电源...	
	● 1 ● 0 ● 0 ● 0	蜜衡测试机器人	1 Wp	100 kWp	anhui,hefei city	

Total 5 10/page < 1 > Go to 1

Plant Search Bar

Enter plant name and device S/N, and click the icon  , to view corresponding plant list.

Plant Information List

Display information such as plant picture, current status, plant name, cleaning capacity, and installed power.

Cleaning Robot Information

Click plant name, to access the “Plant Detail” interface, on which cleaning robot information is displayed.

Plant Parameter	Description
Current Status	Display current status of the cleaning robot in the plant.
Fault	Display the number of faults and alarms related to the cleaning robot in the plant.

Alarm	Display the number of faults and alarms related to the cleaning robot in the plant.
Scheduled Tasks	Display the latest three tasks of the cleaning robot.
Availability	Display information including number of operating cleaning robots, un-operating cleaning robots, and availability in the last 30 days by default. Click time to change the time range.
Cleaning Times	Display information including number of operating cleaning robots and cleaning hours in the last 30 days by default. Click time to change the time range.
Plant	Display information such as plant picture, cleaning capacity, and installed power.

Operation Bar

Click the icon  , to access the “Cleaning View” interface. Specifically, refer to the chapter “Cleaning View”.

Cleaning View

Cleaning View

Click “Plant -> Cleaning View”, to access the corresponding interface, on which you can view cleaning robot status and start/stop the cleaning robot.

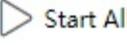


Plant Search Bar

Quick search: enter the plant name and click the icon  , to view the corresponding plant list.

Detailed search: click the icon  , enter the plant name and device S/N, select power installed, type, address, and organization, and click “Confirm”, to view the corresponding plant list.

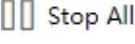
Start All Cleaning Robots

1. Click the icon  , enter the login password, and click “Confirm”, so that the “Start All” window pops up.
2. Enter task name, select instruction valid period, and click “Confirm and Issue”, so that the system will generate the parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.

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

3. After the instruction is delivered successfully, enter the “View Task History” interface automatically. Click “View” on the operation bar, to view the set value, read-back value, and execution result of the current task.

Stop All Cleaning Robots

1. Click the icon  , enter the login password, and click “Confirm”, so that the “Stop All” window pops up.
2. Enter task name, select instruction valid period, and click “Confirm and Issue”, so that the system will generate the parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.

3. After the instruction is delivered successfully, enter the “View Task History” interface automatically. Click “View” on the operation bar, to view the set value, read-back value, and execution result of the current task.

View Cleaning Robot Information

1. Select a PV array, and access the tab “Device Information” by default. Information on the robot, PV panel, and battery can be viewed

2. Click the tab “Initial Information” to view the initial information of the cleaning robot.

Start the Cleaning Robot

1. Select a PV array, click the icon  , enter the login password, and click “Confirm”, so that the “Start” window pops up.

2. Enter task name, select instruction valid period, and click “Confirm and Issue”, so that the system will generate the parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.

3. After the instruction is delivered successfully, enter the “View Task History” interface automatically. Click “View” on the operation bar, to view the set value, read-back value, and execution result of the current task.

Stop the Cleaning Robot

1. Select a PV array, click the icon  , enter the login password, and click “Confirm”, so that the “Stop” window pops up.

2. Enter task name, select instruction valid period, and click “Confirm and Issue”, so that the system will generate the parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.

3. After the instruction is delivered successfully, enter the “View Task History” interface automatically. Click “View” on the operation bar, to view the set value, read-back value, and execution result of the current task.

Reverse Cleaning Direction

1. Select a PV array, click the icon  , enter the login password, and click “Confirm”, so that the “Reverse” window pops up.

2. Enter task name, select instruction valid period, and click “Confirm and Issue”, so that the system will generate the parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.

3. After the instruction is delivered successfully, enter the “View Task History” interface automatically. Click “View” on the operation bar, to view the set value, read-back value, and execution result of the current task.

Rest the Cleaning Robot

1. Select a PV array, click the icon  , enter the login password, and click “Confirm”, so that the

“Reset” window pops up.

2. Enter task name, select instruction valid period, and click “Confirm and Issue”, so that the system will generate the parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.

3. After the instruction is delivered successfully, enter the “View Task History” interface automatically. Click “View” on the operation bar, to view the set value, read-back value, and execution result of the current task.

View Running Record

Select a PV array, and click the icon , to access the “Running Record” interface, on which device running records are displayed.

View History Tasks

1. Click “Task List” in the upper right corner, to access the “View Task History” interface.

2. Click “View” on the operation bar, to view the set value, read-back value, and execution result of the current task.

3. (Optionally,) select a time range, enter the task name, and click “Search”, to view the corresponding history tasks.

Cleaning Strategy

1. Click “Cleaning Strategy” in the upper right corner, to access the cleaning strategy interface.

2. Click the icon  in the operation bar of Policy 1, to access the “Policy 1” interface.

3. Perform the following operations if necessary.

- Temporary strategy

Execute the cleaning strategy only once in the specified time.

Select “Temporary Strategy”, to set start date and start time, and click “Confirm”.

- Fixed strategy

Execute the cleaning strategy periodically in the specified time.

Select “Fixed Strategy”, to set start date, start time, and cleaning interval (Days), and click “Confirm”.

4. (Optionally,) repeat step 2 and step 3, to add the cleaning strategy 2 to cleaning strategy 4.

5. Click “Apply Settings”, enter the login password, and click “Confirm”, to access the “Cleaning Strategy” interface.

6. Enter task name, select instruction valid period, and click “Confirm and Issue”, so that the system will generate the parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.

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

7. After the instruction is delivered successfully, enter the “View Task History” interface automatically. Click “View” on the operation bar, to view the set value, read-back value, and execution result of the current task.

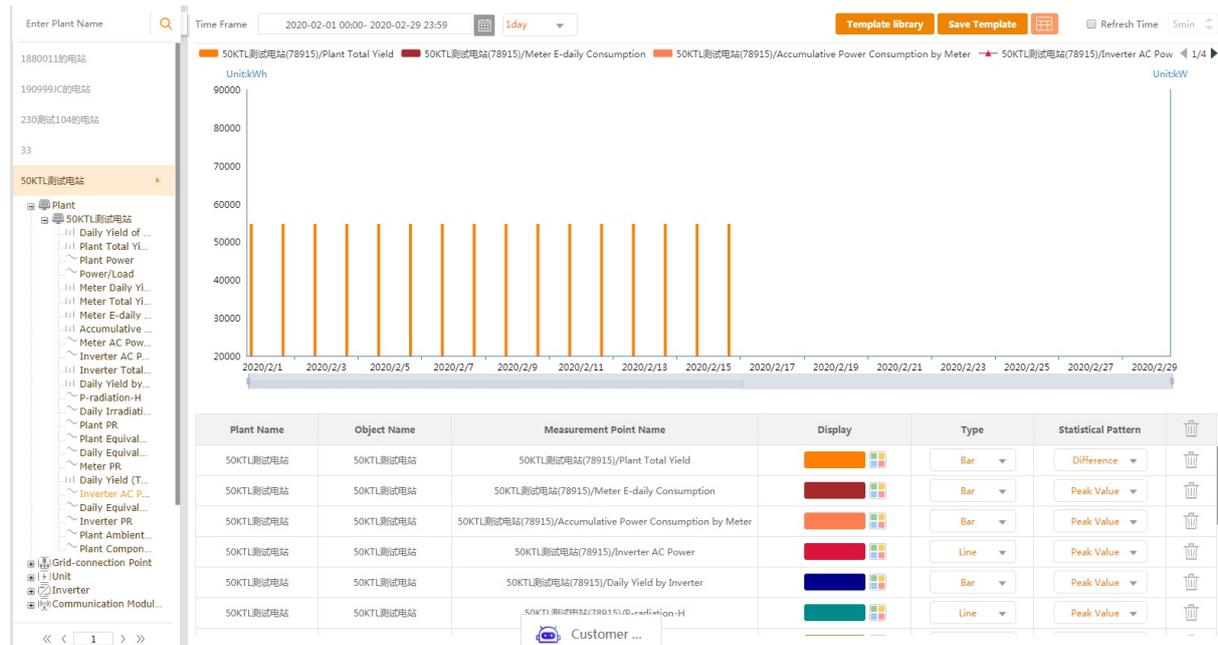
Chart

Chart

Interface Description

Interface Description

Click “Chart” to enter the corresponding interface, on which plant curve and device curve are displayed.



Plant List

View information on the plants, devices, and measuring points of the current user.

Time Frame

Set the time range and time interval.

Refresh Time

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

Query Template

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

Template library: use the existing query templates.

Information Display Area

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

View the Chart

View the Chart

Procedure

1. Click “Chart” to enter the corresponding interface.
2. Select parameters of a corresponding device in the plant list to add a parameter curve. The upper part displays curve within a day by default. The lower part displays parameter list. You can change the curve type and statistical patten.
3. Optionally, click the icon  in the upper right corner of the interface to display the parameters in the table form. Click the icon , and a “Save as” window pops up. Select a report storage location and click “Save” to save the report locally.

Further Operations

- Deleting a single curve

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

- Deleting all curves

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

Save Template

Save Template

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

Procedure

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

Template Library

Template Library

Directly use the existing query templates.

Prerequisites

The system has query templates.

Procedure

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

Report

Report

Custom Report

Custom Report

Users can create self-defined reports according to demands.

Procedure

1. Click the menu "Report" to enter the corresponding interface.
2. Click "Add" at the bottom of the custom report to enter the corresponding interface.
3. Select a report type, period, and the indicators that need to be displayed. Click "Add".
4. Click "Save as", enter the report name, and click "Confirm", to add the new report to the custom report.

Statistical Report

Statistical Report

Users can select reports of different types according to needs.

Report type	Description
Group report	View reports of all plants of the group
Plant report	View report of a single plant
Report library	View time-of-use yield reports of plant, grid-connection point, and inverter
Analysis Report	View O&M information of the plant

In the following, description is given by using viewing group area yield monthly report as an

View Report Information

1. Click the menu "Report" to enter the corresponding interface.
2. Click "Group Area Yield Monthly Report" to enter the corresponding interface. Statistics information of the plant on the current month is displayed by default, including today yield, daily equivalent hours, etc.
3. Perform the following operations according to actual conditions.

- View reports of other months

Click the icon  to select the desired date and click "OK". Click "Search" to view the corresponding statistic data.

- Export report

Click "Export", select a desired storage location, and click "save" to save the report locally.

- View group compensative yield report

Click "Details" to enter the group compensative yield report interface. Daily, monthly, yearly, and total reports can be accessed.

Management

Management

Work Order Process

Work Order Process

Click “Management -> Work Order Process” to enter the corresponding interface, on which you can manage common plant faults and alarms.

电站名称	工单	工单状态	待签事务	故障名称	故障设备	报送人	汇报时间	操作
PV-Z180313001-WIFI电站型	GD2019032115020005632317	工单关闭	工单评价	孤岛	SG12KTL-M_001_001	sharp001	2019-03-21 15:02:00	
PV-Z180313001-WIFI电站型	GD2019032209250019720577	工单关闭	工单评价	孤岛	SG12KTL-M_001_001	sharp001	2019-03-22 09:25:00	
PV-Z180313001-WIFI电站型	GD2019031617040005461092	工单审批	审批工单	孤岛	SG12KTL-M_001_001	高增柯	2019-03-16 17:04:00	
PV-Z180313001-WIFI电站型	GD2019031413260005596002	工单审批	审批工单	孤岛	SG12KTL-M_001_001	高增柯	2019-03-14 13:26:00	
PV-Z180313001-WIFI电站型	GD2019031409260005823576	工单审批	审批工单	孤岛	SG12KTL-M_001_001	高增柯	2019-03-14 09:26:00	
PV-Z180313001-WIFI电站型	GD2019031409160006515006	工单审批	审批工单	孤岛	SG12KTL-M_001_001	高增柯	2019-03-14 09:16:00	
PV-Z180313001-WIFI电站型	GD2019031108520006408588	工单审批	审批工单	故障	SG12KTL-M_001_001	高增柯	2019-03-11 08:52:00	
PV-Z180313001-WIFI电站型	GD2019030914480005268052	工单审批	审批工单	告警	SG12KTL-M_001_001	高增柯	2019-03-09 14:48:00	

Plant Search Bar

Quick search: enter the plant name and click the icon , to view the corresponding plant list.

Detailed search: click the icon , enter the plant name and device S/N, select power installed, type, and organization, and click “Confirm”, to view the corresponding plant list.

Refresh Time

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

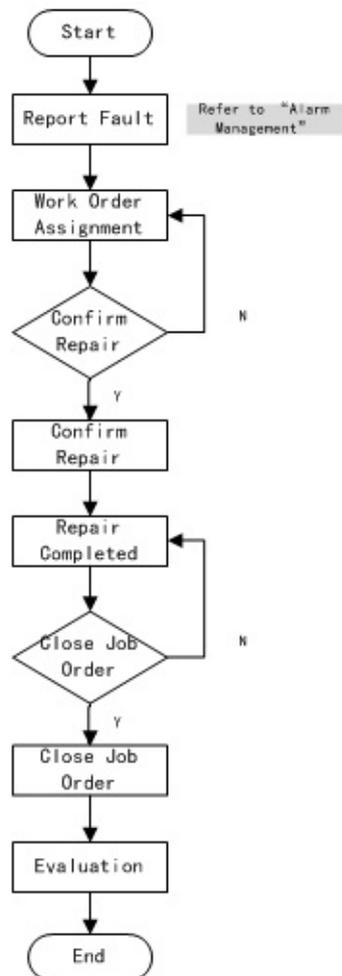
Fault Search Bar

Set time segment and enter job order No. and fault name. Click “Search” to view the corresponding fault list.

Export Fault List

Click “Export” to export the fault list within specific time segment, where the exported file is in .xlsx format by default.

Workflow



Work Order Assignment

1. Click the icon  in the operation bar, to enter the "Assign a Processor" interface.
2. Select the repair time, remind person, and remind method. Fill in comments (optional).
3. Click "Confirm".

Reallocate Job Order

1. Click the icon  in the operation bar, to enter the "Confirm Repair" interface.
2. Tick "Back" and fill in comments (optional).
3. Click "Confirm".

Confirm Repair

1. Click the icon  in the operation bar, to enter the "Confirm Repair" interface.
2. Tick "Confirm Repair", and fill in maintenance steps (image uploading is available) and comments (optional).

3. Click “Confirm”.

Repair Completed

1. Click the icon  in the operation bar, to enter the “Repair Complete” interface.
2. Select close user and remind method, and fill in completion steps (optional) and comments.
3. Click “Confirm”.

Re-confirm Repair Completed

1. Click the icon  in the operation bar, to enter the “Work Order Closed” interface.
2. Set the process conclusion to “Back”, and select a remind method. Fill in comments (optional).
3. Click “Confirm”.

Close Job Order

1. Click the icon  in the operation bar, to enter the “Work Order Closed” interface.
2. Set the process conclusion to “Close”, select a reviewer, and fill in comments (optional).
3. Click “Confirm”.

Evaluation

1. Click the icon  in the operation bar, to enter the “Maintenance Evaluation” interface.
2. Optionally, click “Application of Entering the Knowledge Base” to save the maintenance steps to the knowledge base for future application.
3. Rate the processing time, processing quality, and service attitude. Fill in electricity loss (optional) and comments (optional).
4. Click “Confirm”.

Duty Information

Duty Information

Click “Management -> Duty Info”, to enter the corresponding interface, on which you can view duty information of the group or a single plant and shift duty.

Group Plant

Record Time : 2018-09-09 00:00 - 2019-09-09 23:59 On Duty Monitor : Search

On Duty Date	Company Name	Duty Ordinal	On Duty Monitor	Take Over Time	Shift Time	On Duty Status	Onduty Log	Operation
2019-01-08	苏美达集团	5555	电站事业部	2019-01-08 15:49	2019-01-14 22:08	Shift Change		

Search Bar

Set time segment and enter the on duty monitor. Click “Search” to view the corresponding on duty list.

Operation Bar

- View duty information

Click the icon to enter the corresponding interface. Basic duty information, such as, on duty date, on duty ordinal, and on duty monitor, is displayed. Click “Close” to go back to the previous interface.

- Delete duty information

Click the icon , and a window pops up. Click “Confirm” to delete the duty information.

Shift Change

- Click “Shift Change” to enter the corresponding interface.
- View information such as on duty date, on duty ordinal, on duty monitor, and operator on duty. Upload related attachments and fill in over duty note.
- Click “Shift Change”, and the on duty status is changed to “Shift Change”.

Take over Duty

- Click “On duty” to enter the corresponding interface.
- Fill in over duty information.

Parameter	Description
Duty Date*	Date of duty shift, it is the current day by default

On Duty Ordinal	On duty times
On Duty Monitor	Monitor, clicking the icon  to select monitor
Operator On Duty	On duty staff, clicking the icon  to select on duty operator
Take Over Time*	Duty shift time, it is the start time filled in (default)
Shift Time*	Time of taking over the duty
Current Note	Fill in the note for current work
Over Duty Note*	Over duty notes filled in by over duty staff

- indicates unsettable parameters.

3. Click "On Duty", and the on duty status is changed to "on Duty".

Onduty Log

Onduty Log

Click “Management -> Onduty Log”, to enter the corresponding interface, on which you can view duty logs of the group or a single plant.

Search Bar

Set time segment, enter operator on duty and recording content, and select record type. Click “Search” to view the corresponding duty logs.

Operation Bar

- Modify onduy logs

1. Click the icon  to enter the corresponding interface.

2. Fill in related information.

Parameter	Description
Operator On Duty *	On duty staff, clicking the icon  to select on duty operator
Record Type *	Click the icon  to select record type
Record Time	Time of the record
Uploading Appendix	Upload related attachment
Recording Content *	Fill in specific content of the log

*indicates fields that must be filled in.

3. Click “Submit”.

- Delete onduy log

Click the icon  , and a window pops up. Click “Confirm” to delete the corresponding log.

Add Onduty Log

1. Click “Add” to enter the corresponding interface.
2. Fill in related information, where reference can be made to the table described in modifying onduty log
3. Click “Submit”.

Export Onduty Log

Click “Export”, select a desired storage location, and click “save” to save the log locally.

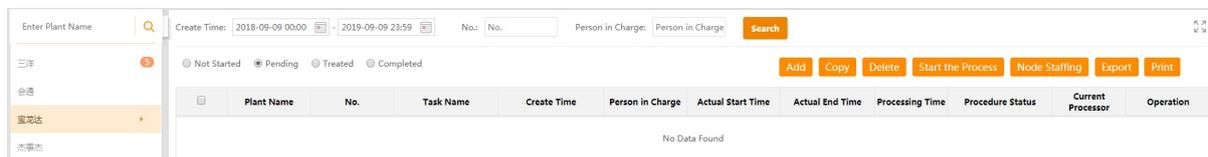
Electrical Kind of Ticket

Electrical Kind of Ticket

To ensure personal safety and avoid accidents from inadvertent operations, operators must use operation tickets and work tickets in a correct way when performing electrical operations such as maintenance, troubleshooting, and commissioning.

Description is given by using first work ticket as an example, which is similar to that of second work ticket.

Click “Management -> Electrical kind of ticket”, to enter the corresponding interface.



Search Bar

Set time segment and enter No. and person in charge. Click “Search” to view the corresponding first work tickets.

Add First Work Ticket

1. Select plants and click “Add”, to enter the corresponding interface.
2. Fill in related information.
3. Click “Save”.

Copy First Work Ticket

There is at least one work ticket.

1. Select the desired work ticket and click “Copy”.
2. Click “Confirm” on the pop-up window.

Delete First Work Ticket

1. Select desired work ticket(s) and click “Delete”.
2. Click “Confirm” on the pop-up window.

Only first work tickets in deactivation state can be deleted.

Start the Process

The first work ticket is in deactivation state.

1. Select the desired first work ticket, and click “Start the Process”.
2. Select process version, “Simplified version” or “Full version “.

Node Staffing

The first work ticket is in deactivation state.

1. Select the desired first work ticket, and click “Node Staffing”.
2. Select process version, “Simplified version” or “Full version”. The setting interface pops up.
3. Set person in charge for each node in the flowchart.
4. After finishing setting, click the icon  in the upper right corner.

Export First Work Ticket

1. Select the desired first work ticket and click “Copy”. A prompt window pops up.
2. Select a storage location and click “Save” to save the first work ticket locally.

Print First Work Ticket

1. Select the desired first work ticket and click “Print”. A window displaying detailed work ticket information pops up.
2. Click “Print” to select a printer and perform related settings.
3. Click “Print”.

Smart Alarm Analysis Setting

Smart Alarm Analysis Setting

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

NO.	Alarm Name	Alarm Target	Open Status	Operation
1	Plant Stop Operation	Plant	Shield	
2	DC Bus Box PV Array Current Steady Value	String	Shield	
3	Low Efficiency on String Inverter PV Array	String	Shield	
4	DC Bus Box PV Array Low Efficiency	String	Shield	
5	DC Converter Box N-way Branch Current Is Zero or Low	String	Shield	
6	The Group N-way Tributary Current Is Zero or Low	String	Shield	
7	Inverter Stops Running	Inverter	Shield	
8	Communication Interruption	General Information	Open	
9	Plant Operation Reliability	Plant	Shield	
10	String Inverter Operation Reliability	Inverter	Shield	
11	DC Bus Box Operation Reliability	Combiner Box	Shield	
12	PV Array Constant Current of String Inverter	String	Shield	

Search Bar

Fill in alarm name, select open status, and click “Search”, to view corresponding alarm list.

Edit Smart Alarm Analysis Setting

1. Click the icon to enter the setting interface.
2. Modify the open status, judgment condition, and judgment rule.

Item	Judgment Condition	Judgment Rule
Plant stops operation	7:00-19:00	Plan power/Load < 1% (default value)
String current constant value of DC combiner box	Plant power/Load > 30%	The Nth current keeps unchanged within $60/120$ minutes.
Low string inverter string efficiency	Plant power/Load > 30%	Average deviation of the Nth input current in the string inverter < -20%
Low DC combiner box string efficiency	Plant power/Load > 30%	Average deviation of the Nth input current in the string inverter < -20%

The PVnth current of DC combiner box is zero or low	Plant power/Load > 30%	The Nth current is zero or less than 1A.
The PVnth current of string inverter is zero or low	Plant power/Load > 30%	The Nth current is zero or less than 1A.
Inverter stops running	Plant power/Load > 30%	Output power < 1% of installed power
Communication interruption	7:00-19:00	Interruption Duration (Minute) = 60 min
Plant operation reliability	Plant power/Load > 30%	General: 5% < inverter output dispersion ratio ≤ 10% Comparatively poor: 10% < inverter output dispersion ratio ≤ 20% Poor: inverter output dispersion ratio > 20%
String inverter operation reliability	Plant power/Load > 30%	General: 5% < inverter input dispersion ratio ≤ 10% Comparatively poor: 10% < inverter input dispersion ratio ≤ 20% Poor: inverter input dispersion ratio > 20%
DC combiner box operation reliability	Plant power/Load > 30%	General: 5% < combiner box input dispersion ratio ≤ 10% Comparatively poor: 10% < combiner box input dispersion ratio ≤ 20% Poor: combiner box input dispersion ratio > 20%
String current constant value of string inverter	Plant power/Load > 30%	The Nth current keeps unchanged within $60/120$ minutes.

3. Apply the configuration to one or more plants.

- Apply it to one plant

Click “Confirm”.

- Apply it to several plants

Click “Confirm and Copy to Other Plants”, select desired plant(s), and click “Confirm”.

View Help File

Click “Help File” to view detailed description of the function.

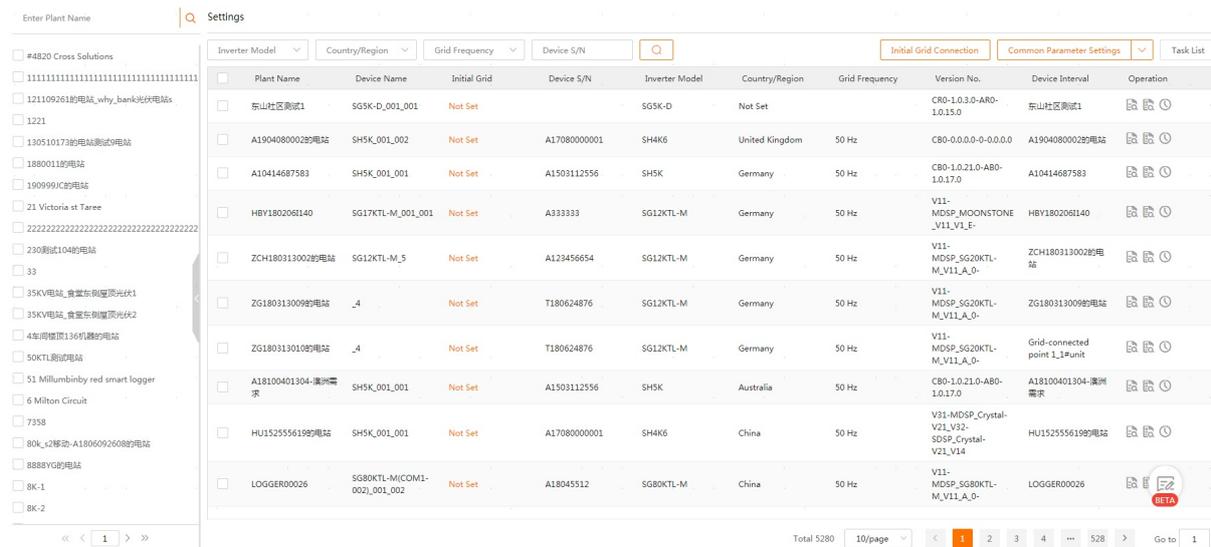
Inverter Parameter Setting

Inverter Parameter Setting

Interface Description

Interface Description

Click “Management -> Inverter Parameter Set” to enter the parameter setting interface, on which you can set device parameters.



Plant List

View information on plants, devices, and measuring points of the current user.

Device Search Bar

Users can search for desired devices by setting corresponding conditions.

Operation Bar

命令行设置、初始并网设置、常用设置、高级参数设置和任务列表操作按钮。

The operation bar includes buttons such as Command line parameters setup , Initial Grid Connection, Common parameter settings , Advanced settings, and Task List.

Device information list

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

Initial Grid Connection Setting

Initial Grid Connection Setting

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

Prerequisites

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

The device supports of initial grid-connection setting.

Procedure

1. Select a desired plant from the left plant list.
2. Select desired plant devices from the device information list.
3. Click “Initial Grid Connection” or “Unset” to enter the corresponding interface.
4. Select country, grid type, and other related parameters, and then click “Apply Settings” on the bottom of the interface.
5. Enter the login password on the pop-up window and enter the setting interface.
6. Enter the task name on the “Settings” interface, select “Instruction valid period”, and click “Confirm”, so that the system generates parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h. If the delivered instruction has not been executed within the set time, the instruction will turn to be invalid.
7. Automatically enter the “Task list” interface. Click “View” on the operation bar to view the corresponding task. Click “Cancel the task” to cancel the latest parameter setting.

General Parameter Setting

General Parameter Setting

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

Prerequisites

The user has the permission of general parameter setting.

The device supports the parameter setting.

Background information

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

Procedure

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

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

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

If the delivered instruction has not been executed within the set time, the instruction will turn to be invalid.
8. Automatically enter the “Task list” interface. Click “View” on the operation bar to view the corresponding task. Click “Cancel the task” to cancel the latest parameter setting.

Advanced Parameter Setting

Advanced Parameter Setting

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

Prerequisites

Prerequisites

The current user has the permission of advanced parameter setting.

The device supports the advanced parameter setting.

Introduction

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

Procedure

1. Select a desired plant from the left plant list.
2. Select desired plant devices from the device information list.
3. Click “ -> Advanced settings” to enter the corresponding interface.
4. If parameter settings cannot be performed on the inverter, click “One-click Update” to access the “Firmware Update” interface. Click “Confirm”, so that the inverter will be upgraded automatically. Click “Firmware Update -> View Task History” to view the upgrade progress.
5. After upgrading the inverter, click “Advanced Settings” to access the inverter parameter setting interface. In case, parameter settings still cannot be performed on the inverter, click “Customer Feedback”, to enter the “Feedback” interface, on which you can submit feedback.

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

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

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

7. Click “Apply settings”.
8. Enter the login password on the pop-up window and enter the setting interface.

9. Enter the task name on the “Settings” interface, select “Instruction valid period”, and click “Confirm”, so that the system generates parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.

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

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

Command Line Parameter Setup

Command Line Parameter Setup

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

Prerequisites

The current user has the permission of command line parameters setup.

The device supports of the parameter setting.

Procedure

1. Select a desired plant from the left plant list.
2. Select desired plant devices from the device information list.
3. Click “ -> Command line parameters setup” to enter the corresponding interface.
4. Click “Add” to fill in parameter address, data type, and set value.
5. Tick desired instructions and click “Apply settings”.
6. Enter the login password on the pop-up window and enter the setting interface.
7. Enter the task name on the “Settings” interface, select “Instruction valid period”, and click “Confirm”, so that the system generates parameter delivery task. The “Instruction valid period” can be set to 0.5h, 1h, or 72h.

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

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

View History Tasks

View History Tasks

You can view parameter setting history of a single device or several devices.

Procedure

1. Click “Task List” to enter the task list interface.
2. Select a time range, enter the task name, and click  , to view the corresponding history tasks.
3. Click the “View” button on the operation bar to view corresponding information, such as execution result, execution instruction, and read-back value.

String Verification

String Verification

Click “Management -> String Verification” to enter the corresponding interface.

Device Name	Subsystem	String	Verification Status	Enable or Not
HL1			To Be Rechecked	<input type="checkbox"/>
HL2			To Be Rechecked	<input type="checkbox"/>
HL3			To Be Rechecked	<input type="checkbox"/>
HL4			To Be Rechecked	<input type="checkbox"/>

Set Verification Rules

The current user has the permission of setting verification rules.

1. Click “Set Verification Rules” to enter the corresponding interface.
2. Fill in configuration information.

The parameters "No Access Rules" and "Missing Rules" must be the same in value.

3. Apply the setting to one or more plants.

- Apply it to one plant

Click “Confirm”.

- Apply it to several plants

Click “Confirm and Copy to Other Plants”. Select desired plant(s) and click “Confirm”.

Verification

The function supports only string inverter and the combiner box by default.

1. Select device type and click “Verification”.
2. Abnormal strings will be displayed on the interface. If there is no abnormal string, “No abnormal string was found in your plant string verification.” is displayed.

Enable Single String

Click the icon  to enable the single string.

Enable Strings in Batch

Select several strings and click “Batch Enable” to enable them.

Disable Strings in Batch

Select several strings that have been enabled and click “Batch Disable” to disable them.

Export Verification Information

Click “Export”, select a desired storage location, and click “save” to save the verification information locally.

Firmware Update

Firmware Update

Firmware Update

Firmware Update

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

Prerequisites

The current user has the permission of firmware upgrade.

The device supports remote upgrade function.

Procedure

1. Select plants from the left plant list. Devices of the selected plants are displayed in the display area.

2. Select desired devices in the device information list area. (Batch selection is supported)

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

3. Optionally, select “Device type”, “Device model”, and “Device S/N”, and click “Search”. The interface will display corresponding devices. Select the desired ones.

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

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

4. Click “Firmware update”, after which the “Upload the upgrading package” window pops up.

5. You can update device in the following two manners.

- Select “Online Upgrade Package”, click “Update”.
- Select “Local Upgrade Package”, Click “Select a Firmware File” to select the upgrade package and click “Update”.

Before select "Local Upgrade Package", the user has got the upgrade file and has saved it locally. The upgrade package is the .zip file.

6. Enter the login password and wait for the uploading. You can view history upgrade information by clicking “View Task History” after finishing upgrade.

Viewing Task History

Viewing Task History

You can view the upgrade history.

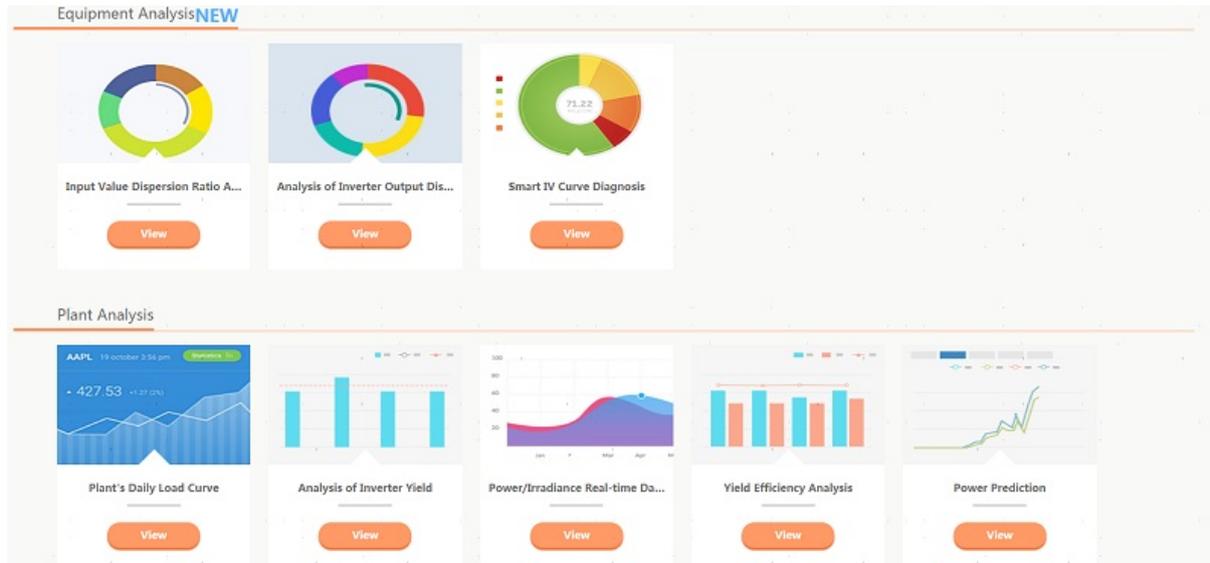
Procedure

1. Click  to enter the corresponding interface.
2. Select time range, device type, device model, and target software version, and click , to view the corresponding history tasks.

Intelligent Analysis

Intelligent Analysis

Click “Intelligent Analysis” to enter the corresponding interface, on which real-time analyses on plant or device performance are displayed.



Input Value Dispersion Ration Analysis

Input Value Dispersion Ration Analysis

Click “Input Value Dispersion Ratio Analysis” to enter the corresponding interface (“Analysis of Input Discrete Rate of Inverter” interface by default), on which discrete rate pie chart and table are displayed.

View Input Discrete Rate on Other Day

Click the icon  to select the desired date and click “OK”.

Click the icon  to view the input discrete rate on the previous day.

Click the icon  to view the input discrete rate on the next day.

Hide Input Discrete Rate Chart

Click “Hidden Chart” to hide the discrete chart. Click “Display Chart” to display the discrete chart.

Download Input Discrete Rate Chart

Click the icon , and a “Save as” window pops up. Select a storage location and click “Save”, to save the discrete rate chart locally.

Set Occlusion Time

1. Click the icon  corresponding to the string x, and the window “Set occlusion time” pops up.

2. Click “Add”, fill in start time and end time, and click the icon  to save the operation.

3. Perform the following operations if necessary.

- Click “Add” and repeat the foregoing step.
- Click the icon  to modify the setting.
- Click the icon  to delete the setting.
- Click “Close” to quit the setting.

Set Occlusion Time in Batch

1. Click the icon  corresponding to multiple strings, click the icon  above, and the window “Batch set occlusion time” pops up.

2. Click “Add”, and fill in start time and end time.

3. Perform the following operations if necessary.

- Click “Add” and repeat the foregoing step.
- Click the icon  to delete the setting.
- Click “Save” to save the operation.

Clear Occlusion Time in Batch

1. Click the icon  corresponding to multiple strings, click the icon  above, and the prompt window pops up.

2. Click “Confirm”, an information note window pops up, and click “Confirm” to finish the operation.

Export Input Discrete Rate Chart

Select discrete rate range and click “Export”. Select a storage location and click “Save”, to save the discrete rate chart locally.

Analysis of Output Discrete Rate of Inverter

Analysis of Output Discrete Rate of Inverter

Click “Analysis of Output Discrete Rate of Inverter” to enter the corresponding interface, on which discrete rate pie chart and table are displayed.

View Output Discrete Rate on Other Day

Click the icon  to select the desired date and click “OK”.

Click the icon  to view the output discrete rate on the previous day.

Click the icon  to view the output discrete rate on the next day.

Hide Output Discrete Rate Chart

Click “Hidden Chart” to hide the discrete chart. Click “Display Chart” to display the discrete chart.

Export Output Discrete Rate Chart

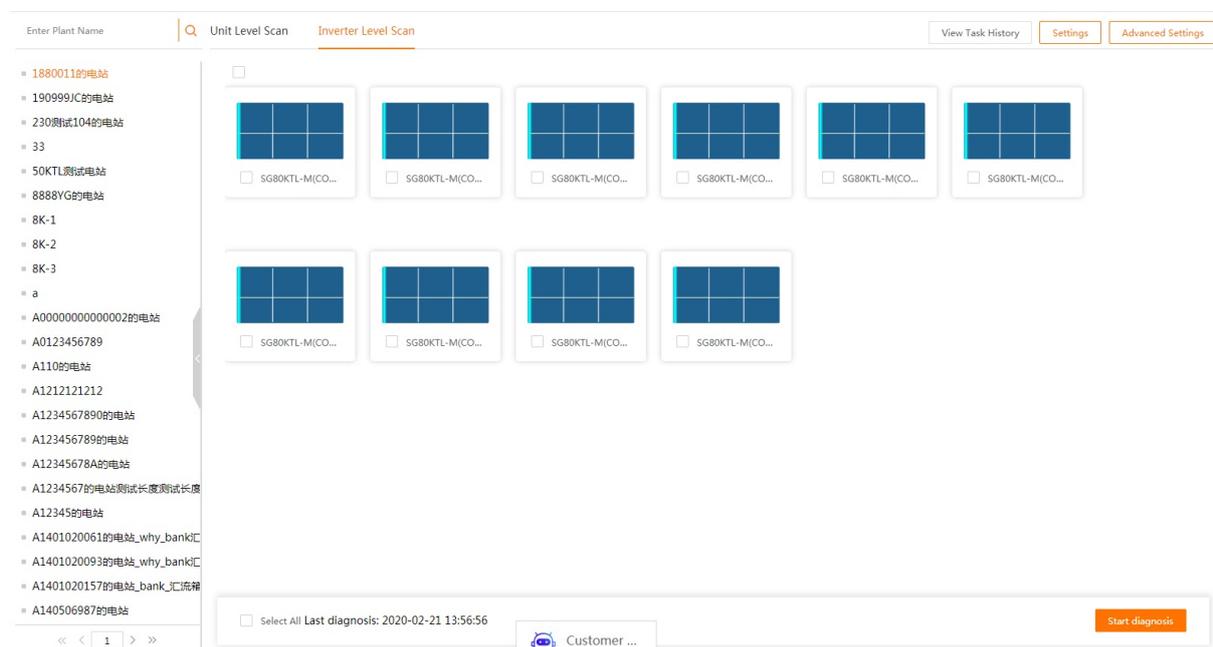
Click “Export”, select a desired storage location, and click “save” to save the discrete rate chart locally.

Smart IV Curve Diagnosis

Smart IV Curve Diagnosis

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

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



Parameter Setting

This section describes how to set plant or inverter parameters.

Prerequisites

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

Procedure

1. Select the desired plant from the left plant list.
2. Click “Settings” to enter the “IV Intelligent curve analysis” interface. Enter the “Plant parameter setting” interface by default.
3. Perform the following operations if necessary.
 - Set PV module parameters applicable to the whole plant on the “Parameter Setting” interface.

After finishing the parameter setting, click “Confirm” to save the operation.

- Click “Unit parameter setting” and select the desired inverters. Click “Settings” on the operation bar corresponding to the selected inverter, to set parameters for the single inverter. After finishing parameter setting, click “Confirm”.
- Optionally, click “Unit parameter setting” and select several desired inverters. Click “Batch settings” to set parameters for the several inverters. After finishing parameter setting, click “Confirm”.
- Click the tab “PV module management”, to add, delete, or view PV module information.
 - Query PV module: enter PV module manufacturer, select module type, and enter module model. Click the icon  to view corresponding PV modules.
 - Add PV modules: click “Add” to enter the corresponding interface. Fill in corresponding information and click “Confirm”.
 - View PV module information: click the icon  in the operation bar to enter the corresponding interface, on which you can view detailed information on the PV modules.
 - Modify PV module information: click the icon  in the operation bar to enter the corresponding interface, on which you can modify the information on the PV modules.
 - Delete PV module information: click the icon  in the operation bar, click “Confirm” on the pop-up window, and click “Confirm” on the prompt window to finish the operation.
 - Batch delete: select multiple pieces of PV module information, click “Batch Delete”, and click “Confirm” to finish the operation.

Advanced Settings

Prerequisites

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

Procedure

1. Select the desired plant from the left plant list.
2. Click “Advanced Settings”, to enter the corresponding interface.
3. Perform the following operations if necessary.
 - Query advanced parameter settings: enter parameter and parameter name, and click the icon , to view the corresponding setting list.
 - Add advanced parameter settings: click “Add” to enter the corresponding interface. Fill in parameter, parameter name, and parameter value, and click “Save”.

- Modify advanced parameter settings: click the icon  in the operation bar, to enter the add interface, on which you can modify advanced parameter settings. Click “Save” to finish the operation.
- Delete advanced parameter settings: Click the icon  in the operation bar, click “Confirm” on the pop-up window, and click “Confirm” on the prompt window to finish the operation.

IV Intelligent Curve

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

Prerequisites

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

Unit Level Scan

1. Select the desired plant from the left plant list.
2. Enter the “Unit level scan” interface by default.
3. Select unit devices and click “Start diagnosis” in the lower right corner.
4. Enter login password on the pop-up window and click “Confirm”.

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

5. After the instruction is delivered successfully, the unit state is changed to “Scanning” and you can view the scanning progress.
6. After the scanning, click “Diagnosis Report” to view the scanning results.
7. The upper part of the interface displays the examination report and the number of abnormal strings. Click the icon  to export overview report, diagnosis report, or operations and maintenance report. The lower part displays the tab “Smart IV Curve Diagnosis”, on which string information is displayed. Click “View” to enter the “String diagnosis and analysis” interface, on which detailed string information and curve are displayed.

8. Click “IV curve” to view IV curves of all strings. Export diagnosis report

Inverter Level Scan

1. Select the desired plant from the left plant list.
2. Enter the “Unit level scan” by default.
3. Click “Inverter level scan” to scan a single inverter or several inverters.

4. Select inverters and click “Start diagnosis” in the lower right corner.

5. Refer to step 4 to step 8 in unit level scanning.

View Task History

You can view the IV scanning records.

Procedure

1. Click “View Task History” to enter the corresponding interface.
2. Select time range and task type, enter task name, and click “Search”, to view the corresponding history tasks.

Power Plant Analysis

Power Plant Analysis

Plant analysis includes daily load curve of plant, yield analysis (inverter), yield efficiency analysis, etc. Description is given by using daily load curve of plant as an example.

Click “Daily Load Curve of Plant” to enter the corresponding interface, on which plant running curve and alarm information are displayed.

Query Daily Load Curve on other Day

Click the icon  to select the desired date and click “OK”.

Click the icon  to view daily load curve on the previous day.

Click the icon  to view daily load curve on the next day.

Hide Daily Load Curve

Click “Hidden Chart” to hide the daily load curve. Click “Display Chart” to display the daily load curve.

Download Daily Load Curve

Click the icon , and a “Save as” window pops up. Select a desired storage location and click “Save”, to save the daily load curve locally.

Export Alarm Information

Select alarm types and click “Export”, to save the alarm information locally.

Asset

Asset

Device Information

Device Information

Click “Asset -> Device Information”, to enter the corresponding interface.



The screenshot shows a web interface for device management. At the top, there are input fields for 'Device Name' and 'Device Address', followed by 'Search' and 'Reset' buttons. Below this is a table with columns: Device Name, Device Address, Device Model, Manufacturer, Commissioning Date, Current Status, and Operation. A left sidebar contains a tree view with categories like Inverter, Combiner Box, Meter, etc.

Device Name	Device Address	Device Model	Manufacturer	Commissioning Date	Current Status	Operation
线路保护#8002	8002	EDCS-7250	Chongqing New Century	2016-11-10 00:00:00	Available	 
电表#8004	8004	Other	Other	2015-04-02 08:19:00	Available	 
1#MV逆变器1	1	SG500KTL	SUNGROW	2015-09-18 15:06:00	Available	 

Device Search Bar

Enter the device name and device address, and click “Search”, to view corresponding devices.

View Device Information

Click the icon  in the operation bar to view device detail information.

Modify Device Information

1. Click the icon  in the operation bar to view device detail information.

2. Modify the device information.

3. Click “Save”.

Material Management

Material Management

Click “Asset -> Mat. Mgt” to enter the corresponding interface.

Materials Name	Material Category	Mat. subcategory			Search	Batch Deleted	Add			
222	01-01-146	Transformer	Distribution Transformer	仓库	G	2222	22	222	Not Used	  
11	05-01-145	Isolation Switch	High Voltage Isolation Switch	仓库	G	1111111111	11	111	Used	  
测试前期	01-01-141	Transformer	Power Transformer	仓库	G	测试之家	123	123456	Not Used	  

Search Bar

Enter material name, select material category subcategory, and click “Search”, to view corresponding material list.

Add Material Information

1. Click “Add”, and the new material window pops up.
2. Fill in material information.

Parameter	Description
Materials Warehouse *	Name of the warehouse storing the material
Material Name *	Name of the material
Material Category *	Category of the material
Mat. subcategory	Subcategory of the material
Specification/Type *	Specification of the material
Material Unit *	Unit of the material
Manufacturer	Manufacturer of the material
Material Price *	Unit price of the material
Remarks	-

*indicates fields that must be filled in.

3. Click “Save”.

View Material Information

Click the icon  in the operation bar to view material detail information.

Modify Material Information

1. Click the icon  in the operation bar to enter the material information window.
2. Modify the material information.
3. Click “Save”.

Delete Material Information

1. Click the icon  in the operation bar, and the prompt window pops up.
 1. Click “Confirm”. The information is deleted successfully.
3. Click “Confirm” on the pop-up window.

Delete Material Information in Batch

1. Select material information that needs to be deleted, and click “Batch Deleted”.
2. Click “Confirm” on the pop-up window. The information is deleted successfully.
3. Click “Confirm”.

Database

Database

Click “Database” to enter the corresponding interface.

Knowledge Base Type		Language		Knowledge Base Name and Keyword		Knowledge Base Name and Keyword		Search		Add	Batch Deleted
<input type="checkbox"/>	Knowledge Base Name	Knowledge Base Type	Device Type	Key Words	Cited Times	Add Time	Add Person	Status	Operation		
<input type="checkbox"/>	System alarm	Fault Maintenance Records	Inverter	System alarm	0	2019-07-01 10:16:47	admin	Audit Passed	  		
<input type="checkbox"/>	System fault	Fault Maintenance Records	Inverter	System fault	0	2019-07-01 10:16:47	admin	Audit Passed	  		
<input type="checkbox"/>	Battery fault	Fault Maintenance Records	Inverter	Battery fault	0	2019-07-01 10:16:47	admin	Audit Passed	  		

Search Bar

Select database type and language, enter database name and keyword, and click “Search” to view corresponding database list.

Add Database

1. Click “Add” to enter the corresponding interface.
2. Fill in database information. The information includes language, knowledge base type, knowledge base name, device type, repair type, maintenance cycle, content, and precautions.
3. Click “Save”.

Delete Databases in Batch

1. Select several databases and click “Batch Deleted”, and the prompt window pops up.
2. Click “Confirm”. The information is deleted successfully.
3. Click “Confirm”.

View Database Information

1. Click the icon  in the operation bar to enter the detail interface.
2. Click the icon  in the upper right corner to close the interface.

Delete Database

1. Click the icon  in the operation bar, and the prompt window pops up.
2. Click “Confirm”. The information is deleted successfully.
3. Click “Confirm”.

Appendix

Appendix

Manual Description

Manual Description

The information contained in this document is the property of Sungrow Power Supply Co., Ltd. (referred to as “SUNGROW” hereinafter). Publishing its content, either partially or in full, requires the written permission of SUNGROW. Any internal company copying of the document for the purposes of evaluating the product or its correct implementation is allowed and does not require permission.

All rights reserved including the pictures, symbols, and identifiers used in this manual. Any reproduction or disclosure, even partially, of the contents of this manual is strictly prohibited without prior written authorization of SUNGROW.

Contact Information

Contact Information

Should you have any question about this product, please contact us.

<p>China (HQ) Sungrow Power Supply Co., Ltd Hefei +86 551 65327834 service@sungrowpower.com</p>	<p>Australia Sungrow Australia Group Pty. Ltd. Sydney +61 2 9922 1522 service@sungrowpower.com.au</p>
<p>Brazil Sungrow Do Brasil Sao Paulo +55 11 2366 1957 latam.service@sa.sungrowpower.com</p>	<p>France Sungrow France – Siege Social Paris - service.france@sungrow.co</p>
<p>Germany Sungrow Deutschland GmbH München +49 89 324 914 761 service.germany@sungrow.co</p>	<p>Greece Service Partner – Survey Digital - +30 2106044212 service.greece@sungrow.co</p>
<p>India Sungrow (India) Private Limited Gurgaon +91 080 41201350 service@in.sungrowpower.com</p>	<p>Italy Sungrow Italy Milano - service.italy@sungrow.co</p>
<p>Japan Sungrow Japan K.K. Tokyo +81 3 6262 9917 japanservice@jp.sungrowpower.com</p>	<p>Korea Sungrow Power Korea Limited Seoul +82 70 7719 1889 service@kr.sungrowpower.com</p>
<p>Malaysia Sungrow SEA Selangor Darul Ehsan +60 19 897 3360 service@my.sungrowpower.com</p>	<p>Philippines Sungrow Power Supply Co., Ltd Mandaluyong City +63 9173022769 service@ph.sungrowpower.com</p>
<p>Thailand Sungrow Thailand Co., Ltd.</p>	<p>Spain Sungrow Ibérica S.L.U.</p>

<p>Bangkok +66 891246053 service@th.sungrowpower.com</p>	<p>Sungrow Ibérica S.L.U. Navarra service.spain@sungrow.co</p>
<p>Romania Service Partner - Elerex - +40 241762250 service.romania@sungrow.co</p>	<p>Turkey Sungrow Deutschland GmbH Turkey Istanbul Representative Bureau Istanbul +90 212 731 8883 service.turkey@sungrow.co</p>
<p>UK Sungrow Power UK Ltd. Milton Keynes +44 (0) 0908 414127 service.uk@sungrow.co</p>	<p>U.S.A , Mexico Sungrow USA Corporation Phoenix Arizona +1 833 747 6937 techsupport@sungrow-na.com</p>