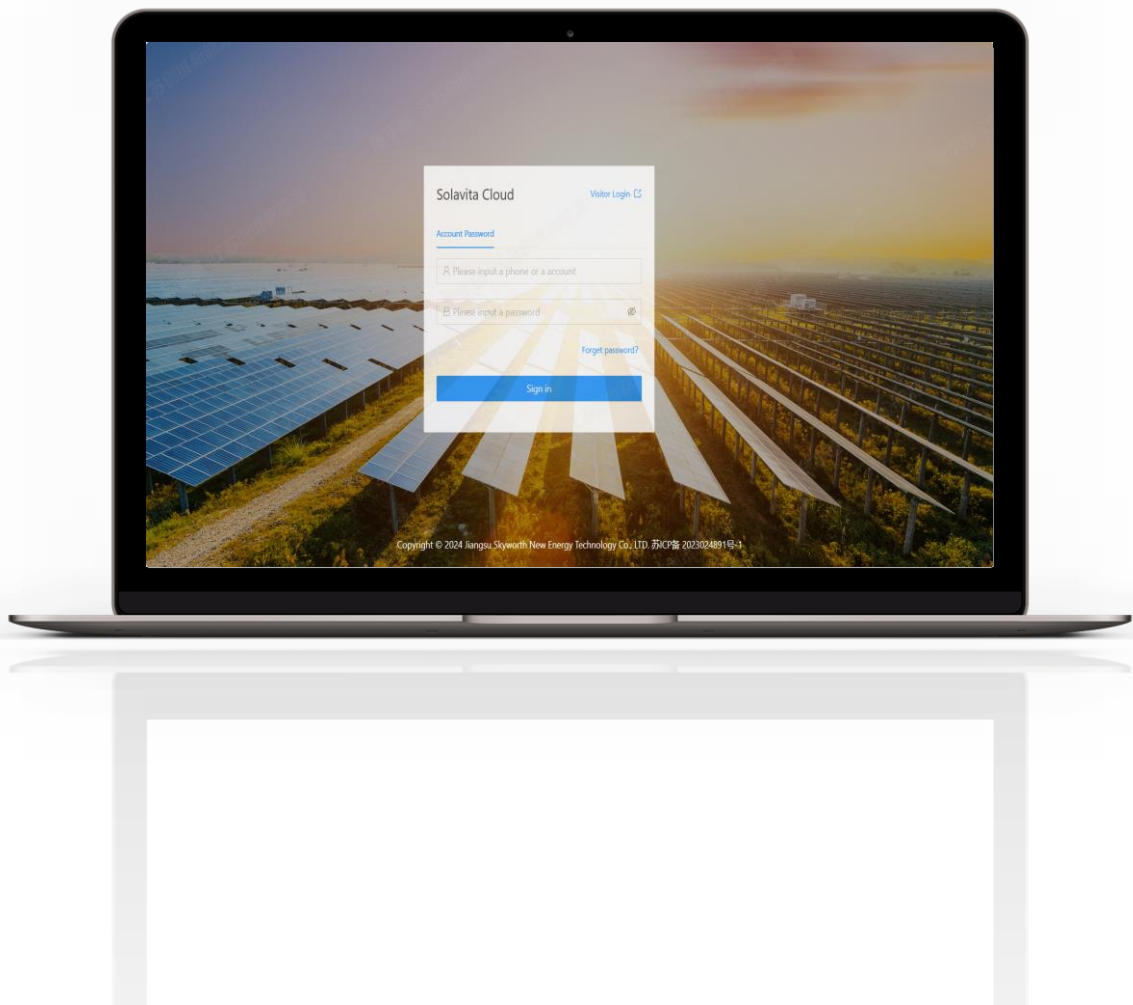


Solavita



Solavita Cloud(Web)

User Manual

CATALOGUE

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1. Product Description

1.1 Background

Based on the rapid development of the photovoltaic power generation industry and the increasing demand for monitoring and management of photovoltaic power stations. Through automated data collection, real-time monitoring, data analysis, and Revenue prediction functions, the photovoltaic data monitoring and operation platform can help improve the reliability, power generation efficiency, and safety of photovoltaic power plants.

1.2 Platform overview

The intelligent energy management system independently developed by Jiangsu Skyworth New Energy Technology Co., Ltd. Mainly used for distributed household grid connection and distributed household energy storage systems. Real time monitoring of power generation, power, current, voltage, and other data of grid connected systems and energy storage systems; Through data analysis and intelligent algorithms, intelligent management of photovoltaic energy storage systems can be achieved, including revenue prediction, fault identification, and parameter optimization. A software system based on advanced network interconnection, utilizing the latest information technology to achieve efficient monitoring and status information analysis.

1.3 Platform features

● Diversified platforms

The system is based on a network platform, easy to operate, suitable for Intranet/Internet applications, and not limited by geography. Mobile terminals can seamlessly connect with various systems.

● High Efficiency

It can effectively locate a certain equipment in a power station in a certain area through

observation and analysis in a short period of time, and quickly inform management personnel for maintenance

- **Safe and reliable**

Based on distributed data storage, provide backup tools, improve password and login verification mechanisms, and enhance system security.

2. Interface

2.1 Home page

Quickly obtain summary statistics of power station equipment and monitor the conversion status of the power station in real time. Summarize information, distribution addresses, power generation status, etc., effectively promote the improvement of power generation efficiency and data analysis in power stations.

2.2 Plants List

Power plant monitoring: Real time monitoring of power plants and equipment, refined management of different types of equipment.

Information viewing: facilitates the viewing of power station and equipment information, enabling collaborative management and maintenance.

2.3 Device Management

The device management interface is an important component of the photovoltaic data monitoring and operation platform, which provides functions for managing and configuring photovoltaic power station equipment.

2.4 Alarm Management

Alarm classification: Real time alarm, historical alarm, and summary display of power plant equipment alarm data information.

Alarm processing: Quickly obtain information based on the alarm status and arrange for processing.

Alarm function: supports alarm query, notification setting, refresh setting, details, and data export.

2.5 Chart Management

Display the operational status, performance indicators, and real-time equipment data of the power plant to assist users in data analysis and decision-making.

2.6 Warranty Information

Warranty management displays equipment quality assurance information, including device name, warranty period, warranty status, etc.

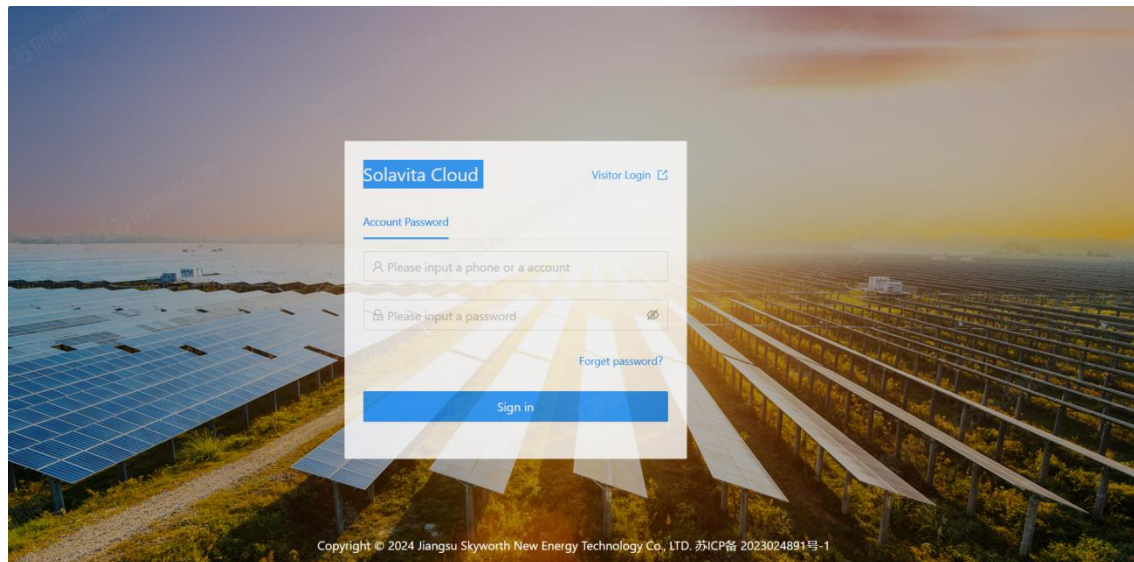
2.7 System Management

The system management interface is used to manage the owner's power plant or needs to be transferred to a new installation company for further maintenance.

3. Function Description

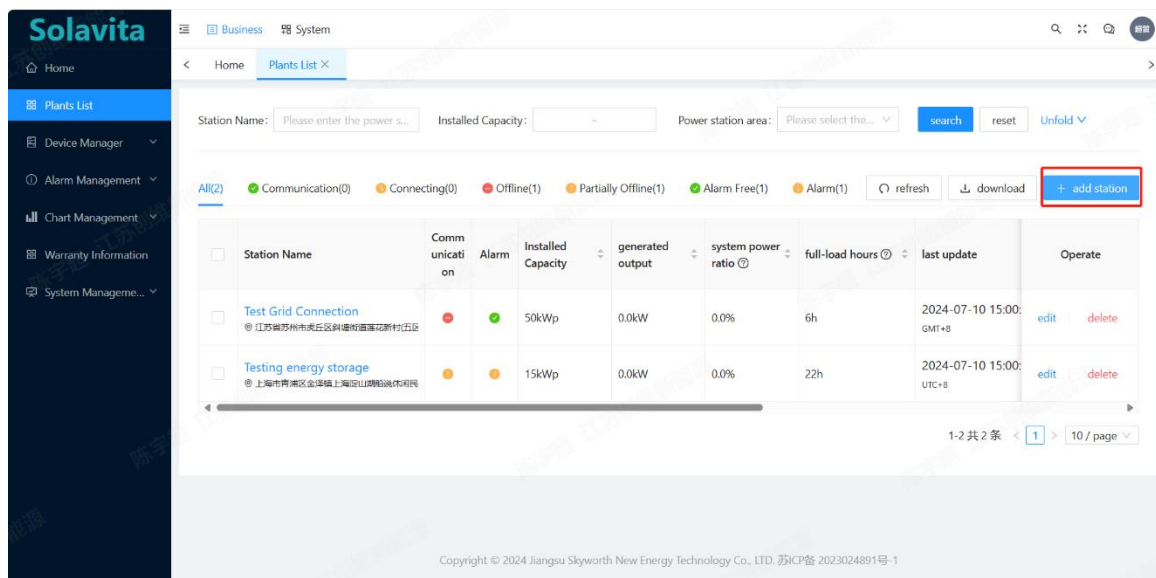
3.1 Login

Enter the website address(<http://solavita.skyworthne.com/>) in the browser, and you can enter the Solavita Cloud Management Platform.



3.2 Adding Power Station

Click on **【Plants list】** - **【add station】** :



1) Add power station information:

Please follow the prompts to complete the basic information of the power station:

station name, power station location, area, location, latitude and longitude, plant time zone, creation time, and installer. The asterisk indicates mandatory fields, while the more complete the other information is, the more conducive it is for you to manage the power station.

The screenshot shows a web form titled "Add" with a close button (X) in the top right corner. The form is organized into sections:

- basic information**:
 - * Station Name:** A text input field with the placeholder "Please enter the power station name".
 - Upload pictures of Plant:** A dashed box containing a "+" icon and the text "upload".
- * power station location:** A map of China with a red line indicating a location. The map shows major cities like Beijing, Tianjin, Jinan, Zhengzhou, Xi'an, Lanzhou, and others.
- area:** A text input field with a "/" placeholder.
- location:** A text input field.
- * longitude and latitude:** Two text input fields labeled "longitude:" and "latitude:".
- plant time zone:** A dropdown menu.
- * creation date:** A date picker with the text "Select date".
- * installer:** A dropdown menu with the placeholder "Please select the installer".
- remark:** A text input field.

2) System information:

Please complete the power station system information according to the actual situation of the power station to be created: type of power station, system type (fully power connect to the grid, self-consumption, energy storage system), station installed capacity, and grid connection date.

Note: Choosing different system types will display different data dashboards. Please choose the correct system type according to the actual situation.

system information

* Type of power station:

* system type:

* station.installedCapacityKwp:

grid connection date:

3) Device information:

Please add the inverter SN number according to the nameplate on the on-site inverter.

The 'Add' dialog box contains the following fields:

- Device SN:
- Device Name:
- Equipment Model:
- Device Type:
- Equipment Brand:
- Rated Power:
- Single/Three Phase:
- MPPT Way:
- Device Location:
- Safe Country:
- Safety Standar:
- Battery Voltage Type:
- Battery Type:
- Battery Mode:

Buttons: Closed, OK

4) income information:

Please improve the remaining information according to the actual situation. The more complete the information you enter, the better it will be able to manage the power plant, including the currency unit in the revenue information.

income information

* monetary unit:

kilowatt-hour income(unit/kWh):

subsidy income(unit/kWh):

total cos(unit):

daily payment(unit):

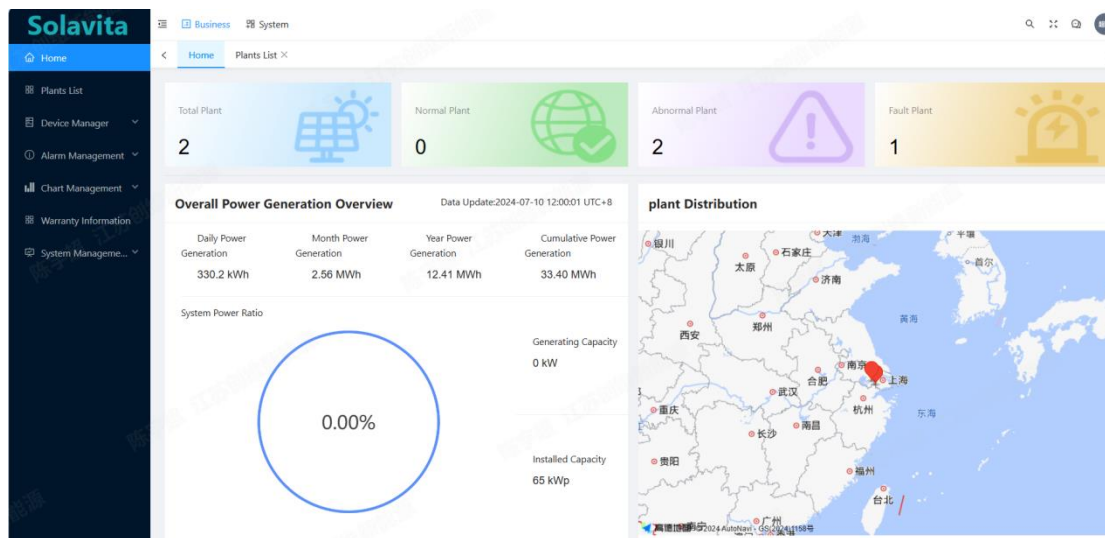
5) Complete creation:

After completing the power station information, please click the OK button in the

bottom right corner of the page to complete the creation.

3.3 Home page

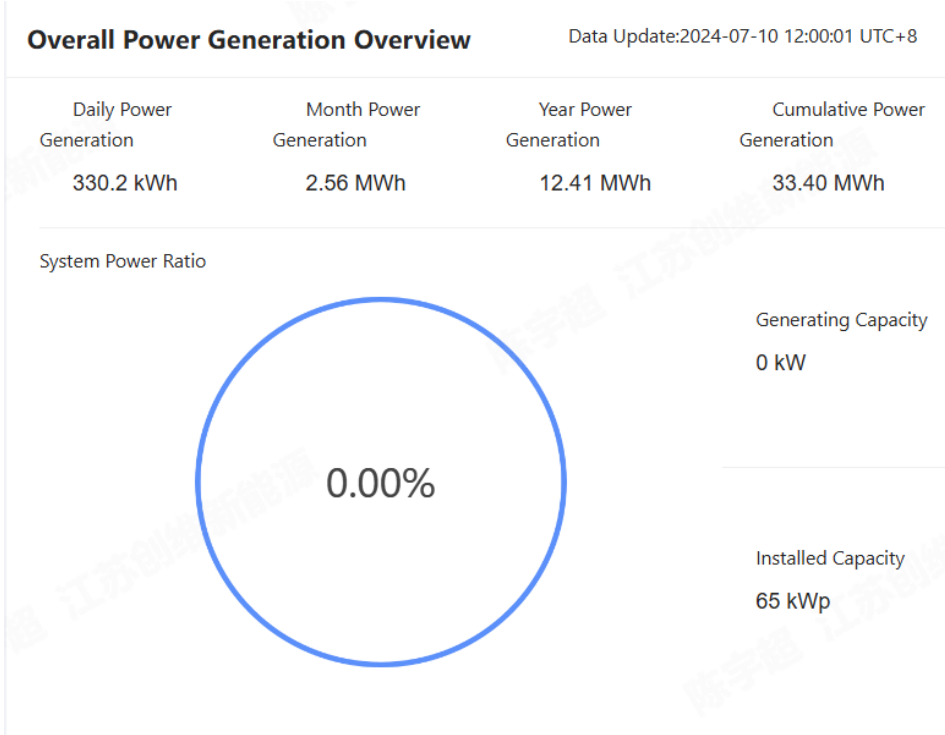
[Home] - Summarize the relevant data during the monitoring and operation process of the corresponding power station based on the login account type, making it easy for you to quickly understand and use data charts to meet your global monitoring and analysis of the power station.



The status of the power station includes displays of the total number of power stations, normal power stations, abnormal power stations and faulty power station.



1) Overall power generation overview:



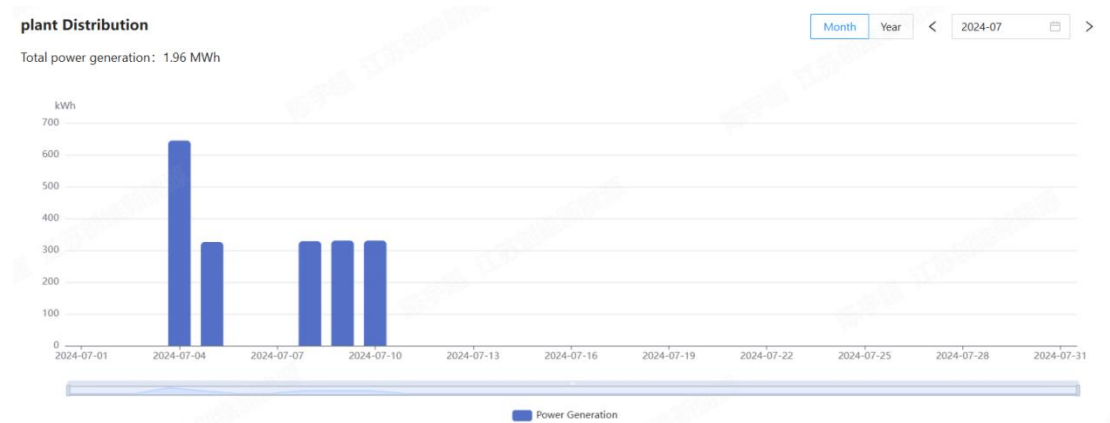
The overall power generation overview is a summary of all completed added power generation data in the system.

2) Power station distribution:



The distribution of power stations mainly displays the current location of the added power stations in a regional manner. By accurately positioning the power station position through longitude and latitude, it can support map zooming to view the status of the power station or clicking to obtain the status of the power station.

3) Overall power generation history:



The overall power generation history is recorded based on the historical data of the power station's power generation in the current month or year. It is presented in the form of data charts for your quick understanding. It supports filtering specific power generation data history records by month/year dates.

Year/Month Filtering: Select the date filtering function in the upper right corner, which allows you to view historical power generation data from different dimensions based on the month/year. If you need to query specific months or years, you can click on the date option box to select specific months or years to view data variables.

3.4 Plants list

In the **【Power Station List】** module, the completed added power station data information can be summarized and displayed for management. It supports functions such as power station query, adding power stations, viewing power station details, editing power stations, deleting power stations, and download/refreshing power station data to meet your management and data viewing needs.

You can accurately query the power station by entering its name, installed capacity, selecting power station area, grid connection status, power station type, system type, installer, etc.

Station Name	Communication	Alarm	Installed Capacity	generated output	system power ratio	full-load hours	last update	creation date	Operate
Test Grid Connection 江苏省苏州市虎丘区斜塘街道莲花新村社区	Offline(1)	Alarm Free(1)	50kWp	0.0kW	0.0%	6h	2024-07-10 15:30:59 GMT+8	2024-07-01 GMT+8	edit delete
Testing energy storage 上海市青浦区金泽镇上海崑崙山湖船坞休闲园	Partially Offline(1)	Alarm(1)	15kWp	0.0kW	0.0%	22h	2024-07-10 15:30:59 UTC+8	2024-07-01 UTC+8	edit delete

All: All refers to the number of all power stations that have been added under the current login user's data permission

Normal communication: Normal communication refers to the status of the power station in which there are no offline devices present

offline: offline refers to all devices in the power station being offline

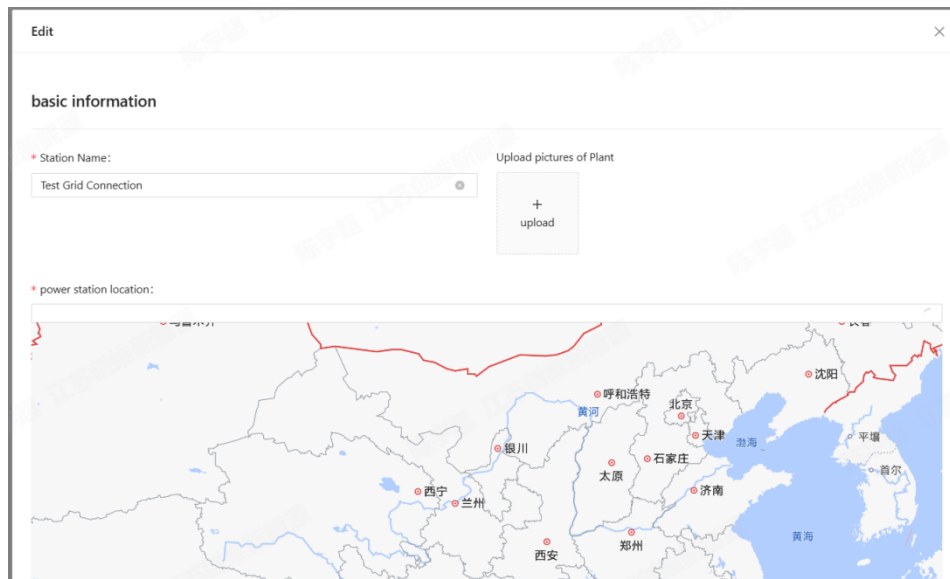
Partial offline: Partial offline refers to some devices under the power station being offline

Alarm free: Alarm free refers to the status of a power station in which there are no alarm devices present

Alarm: Alarm refers to currently some equipment in the power station being in an alarm state

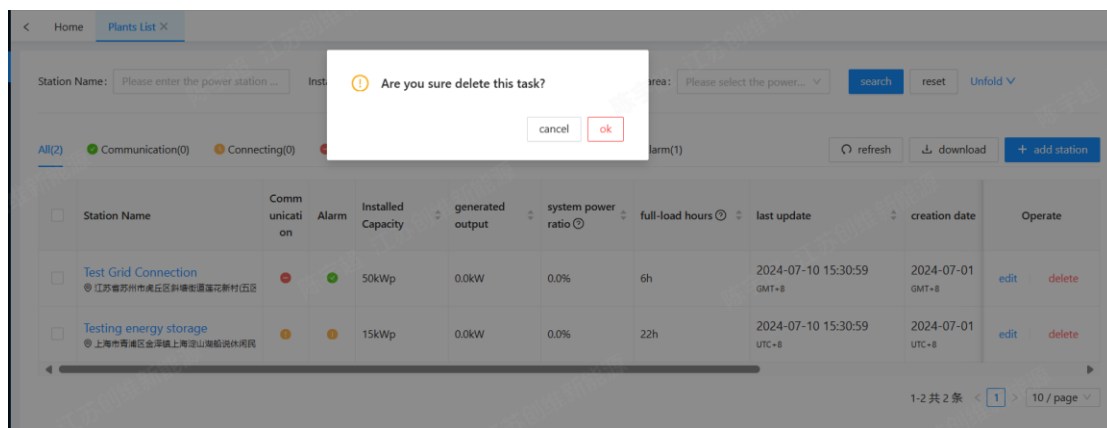
download/refresh: When you need to export power station data information, you can check the corresponding power station data download or default download all data. After selecting according to your needs, click the **download** button to export the data field consistent with the data list field. Click the **refresh** button to refresh the current power plant data list, making it easier to handle some latency caching issues.

Edit: In the data operation column of the power station that has been added to the data list, an **Edit** button will be displayed. Click the **Edit** button can modify the information of the power station for easy maintenance, as shown in the figure:



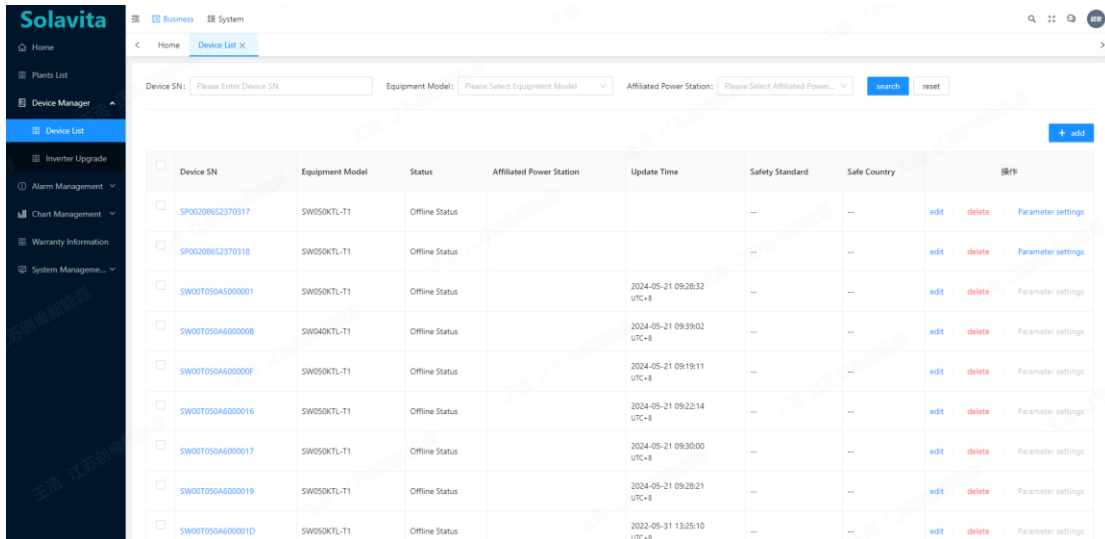
delete:

In the operation column of the power station data that has been added to the data list, a **delete** button will be displayed. Clicking the **delete** button can delete the power station for easy maintenance, as shown in the figure:



3.5 Equipment Management

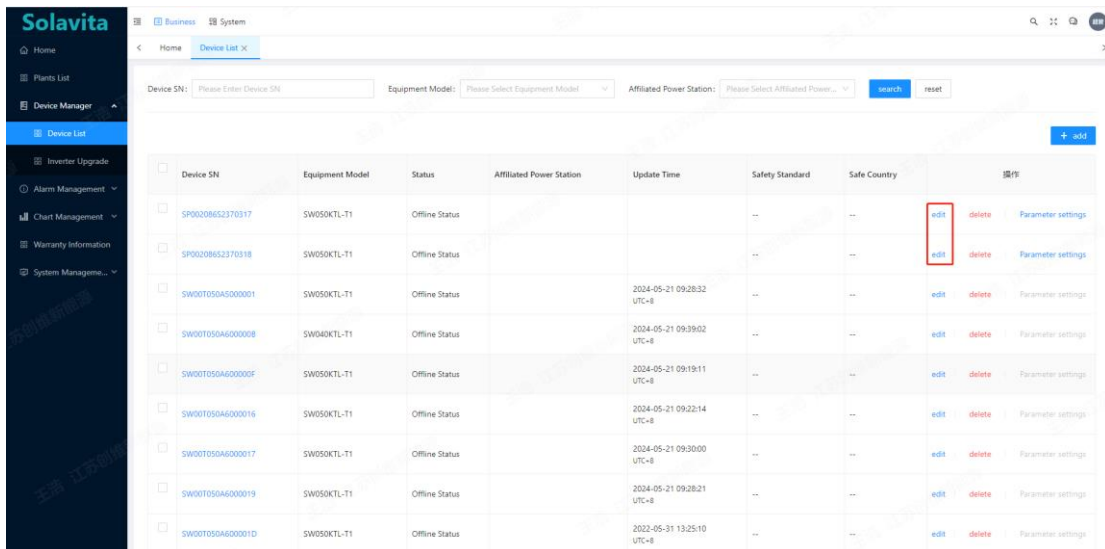
In the **【Device Management】** - **【Device List】** module, the completed device data information can be summarized and displayed for management. It supports device queries, adding devices, viewing device details, editing devices, deleting devices, and parameter settings, meeting your needs for device management and data viewing.



Accurate or ambiguous query equipment can be selected by filling in the inverter SN number, selecting the power station it belongs to, and selecting the equipment model.

Edit:

The **Edit** button will be displayed in the data operation column of the device that has been added to the data list. The **Edit** button can modify the device information for easy maintenance, as shown in the figure:



delete: Delete the device information

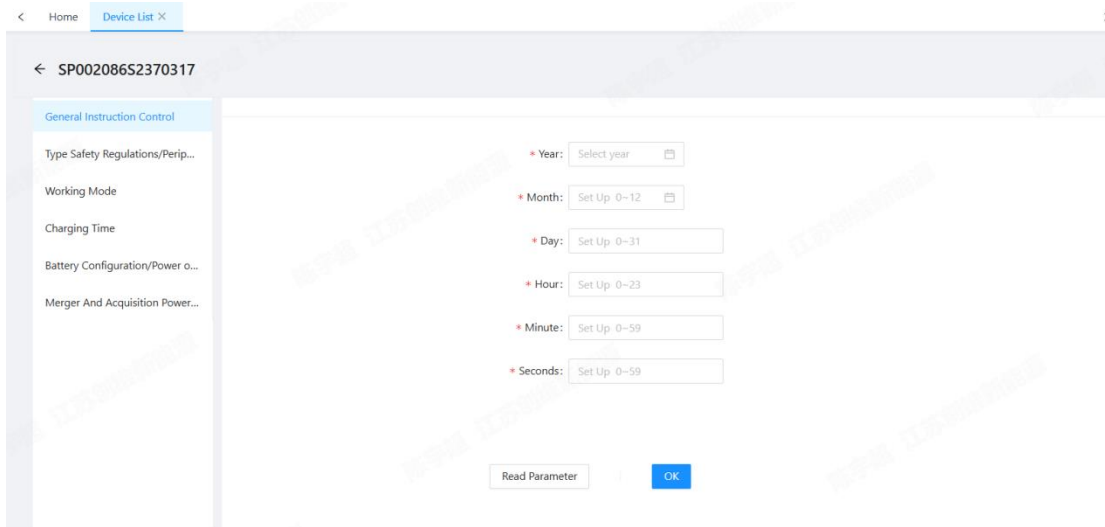
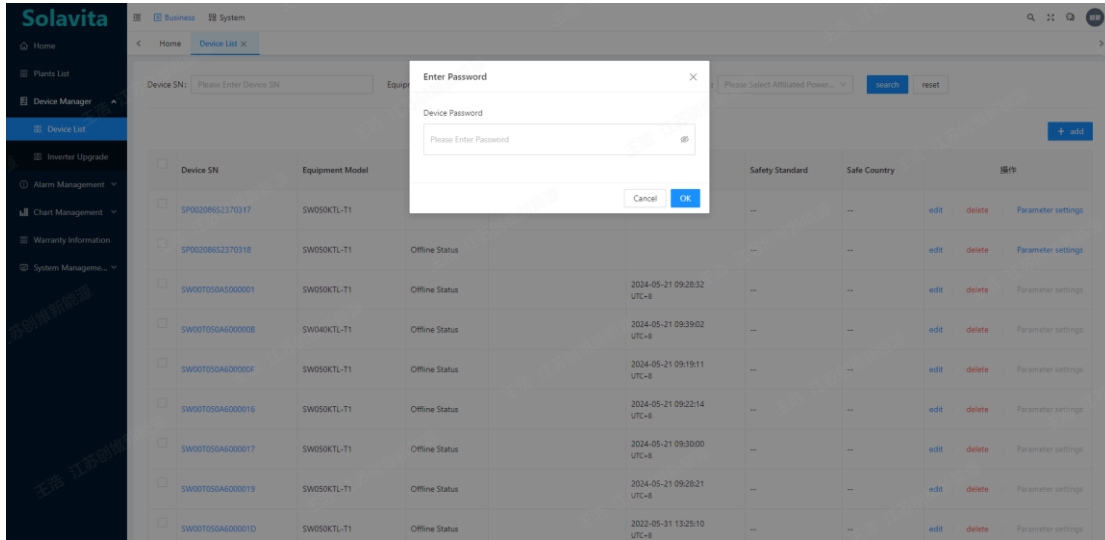
The screenshot shows the 'Device List' page in the Solavita system. At the top, there are search filters for 'Device SN', 'Equipment Model', and 'Affiliated Power Station'. Below these is a table with the following columns: Device SN, Equipment Model, Status, Affiliated Power Station, Update Time, Safety Standard, Safe Country, and 操作 (Operations). The '操作' column contains 'edit', 'delete', and 'Parameter settings' links. In the first two rows, the 'delete' links are highlighted with a red box.

Device SN	Equipment Model	Status	Affiliated Power Station	Update Time	Safety Standard	Safe Country	操作
SP00208652370317	SW05OKTL-T1	Offline Status			--	--	edit delete Parameter settings
SP00208652370318	SW05OKTL-T1	Offline Status			--	--	edit delete Parameter settings
SW007050A6000001	SW05OKTL-T1	Offline Status		2024-05-21 09:28:32 UTC+8	--	--	edit delete Parameter settings
SW007050A6000008	SW04OKTL-T1	Offline Status		2024-05-21 09:39:02 UTC+8	--	--	edit delete Parameter settings
SW007050A600000F	SW05OKTL-T1	Offline Status		2024-05-21 09:19:11 UTC+8	--	--	edit delete Parameter settings
SW007050A6000016	SW05OKTL-T1	Offline Status		2024-05-21 09:22:14 UTC+8	--	--	edit delete Parameter settings
SW007050A6000017	SW05OKTL-T1	Offline Status		2024-05-21 09:30:00 UTC+8	--	--	edit delete Parameter settings
SW007050A6000019	SW05OKTL-T1	Offline Status		2024-05-21 09:28:21 UTC+8	--	--	edit delete Parameter settings
SW007050A600001D	SW05OKTL-T1	Offline Status		2022-05-31 13:25:10 UTC+8	--	--	edit delete Parameter settings

Parameter settings:

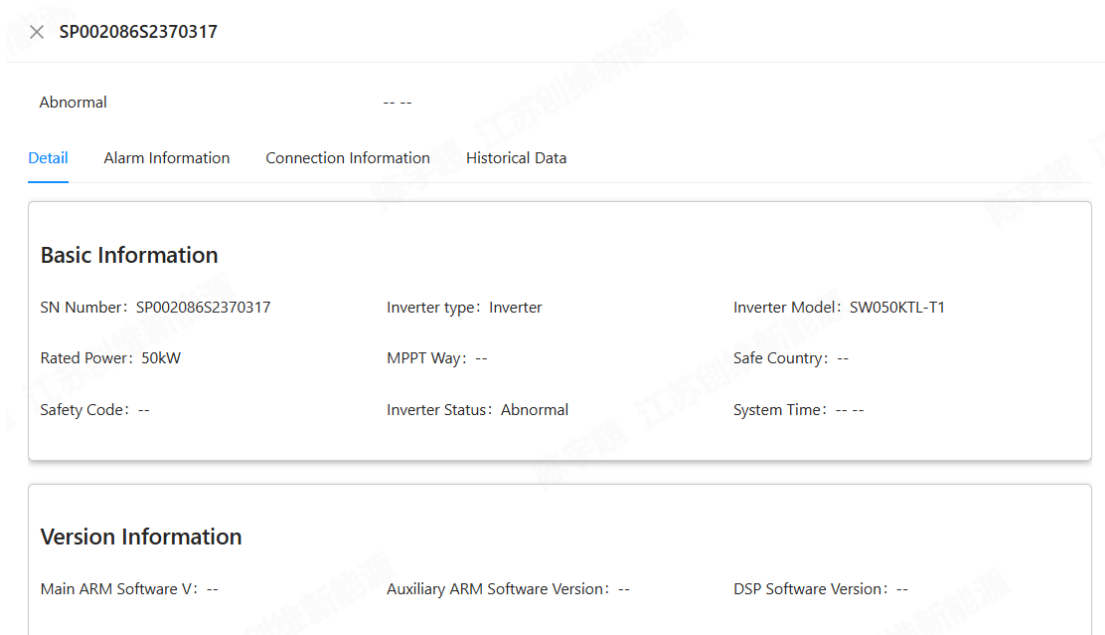
In the data operation column of the device that has been added to the data list, a **Parameter Settings** button will be displayed. **Parameter Settings** requires entering the device password and completing verification before parameter changes can be made to the device. Modify the working status of the device by modifying parameters.

This screenshot is identical to the one above, showing the 'Device List' page. In this view, the 'Parameter settings' links in the '操作' column of the first two rows are highlighted with a red box.




Equipment details:

Click on the device SN number to display device details



Power Generation Information

DC	Voltage	Current	Power					Exchange	Voltage	Current	Frequency
								R	--V	--A	--Hz
								S	--V	--A	--Hz
								T	--V	--A	--Hz

Total DC Input Power: NaN kW Total AC Output Power: NaN kW Daily Power Generation: NaN kWh

Cumulative Power Generation: NaN kWh Total Tunning Time: --h

Temperature Information

Inverter Temperature: --°C

Display alarm information, view all alarm information, query occurring alarm information and restored alarm information, and query alarm information by starting and ending alarm date.


× SW00T050A600000B

Abnormal 2024-05-21 09:39:02 --

Detail Alarm Information Connection Information Historical Data

Whole Occurring Restored

Level: Prompt Alarm Alarm Start Time: Start date → End date

Alarm Name	Status	Level	Plant	Alarm Start Time	Restore Time
 No data					

To view device association information:

Business System

< Home Device List ×

<input type="checkbox"/>	SW00T050A6000042	SW050KTL-T1	Offline Status
<input type="checkbox"/>	SW00T050A6000043	SW050KTL-T1	Offline Status
<input type="checkbox"/>	SW00T050A6000044	SW050KTL-T1	Offline Status
<input type="checkbox"/>	SW00T050A6000054	SW050KTL-T1	Offline Status
<input type="checkbox"/>	SW00T050A6000057	SW050KTL-T1	Offline Status

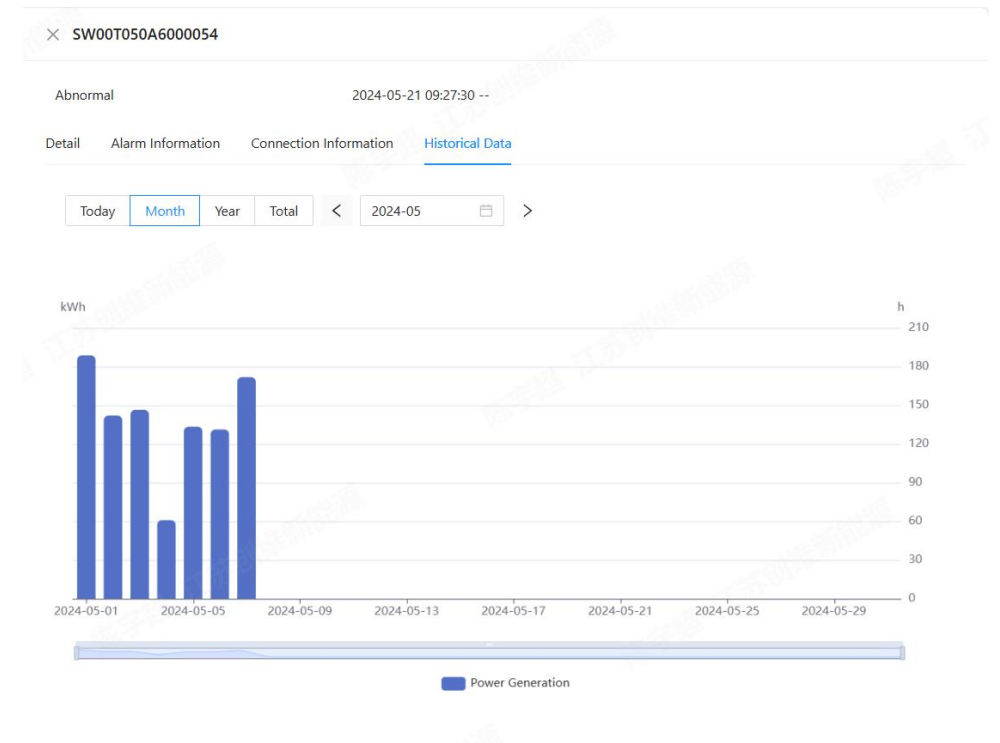
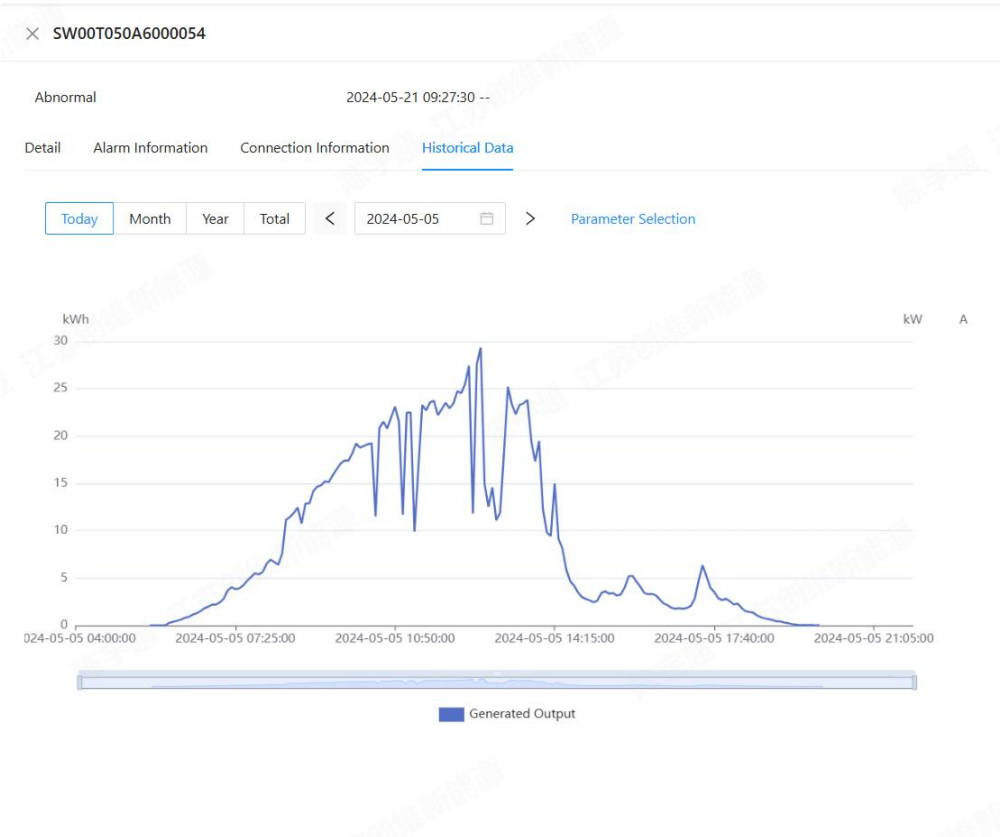
× SW0HT012B6D00002

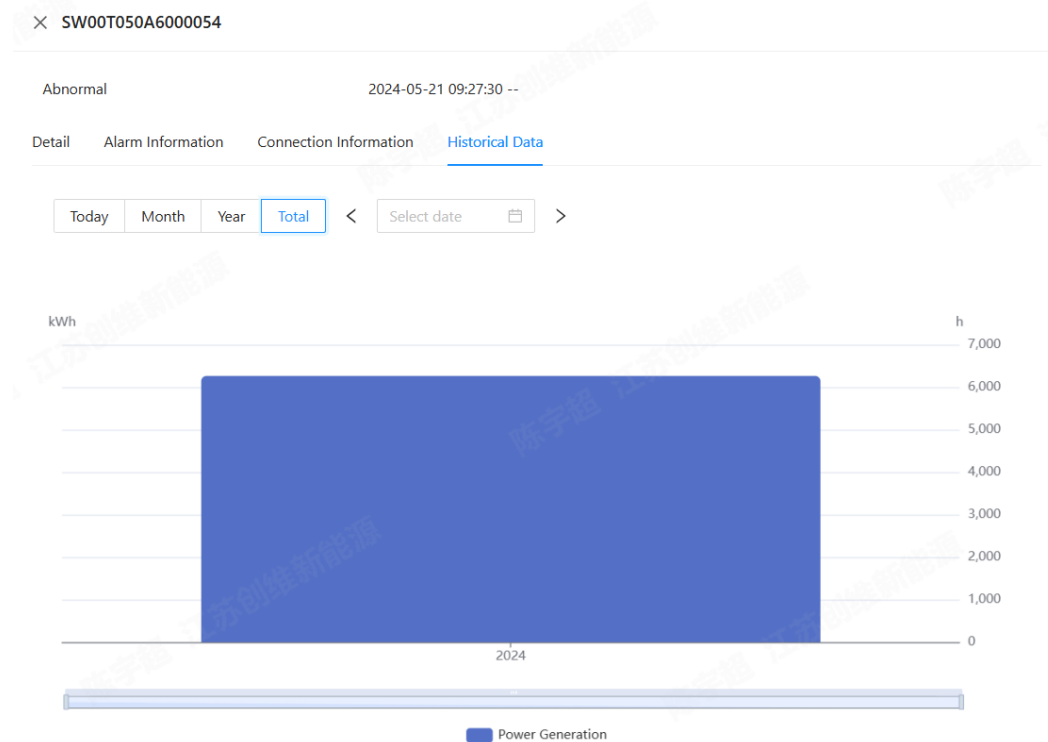
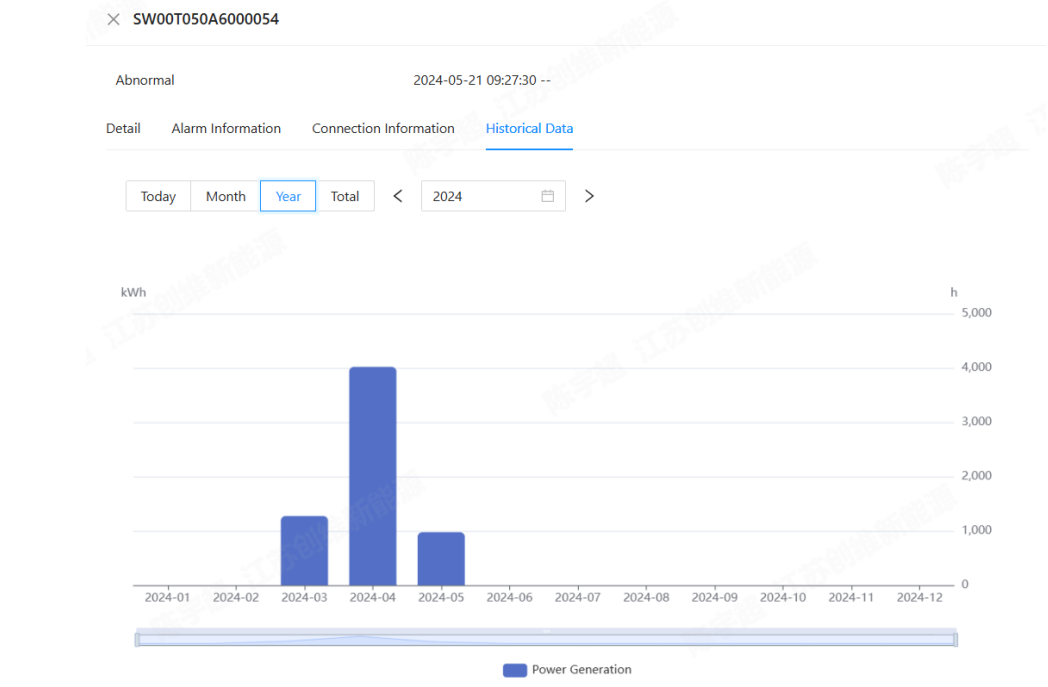
Abnormal 2024-07-10 09:42:36 UTC+8

Detail Alarm information Connection Information Historical Data

Type/SN	Status	Data Update Time
<input type="checkbox"/> Data collector / SW1B633333	Abnormal	2024-07-10 09:40:00
<input type="checkbox"/> Hybrid inverter / SW0HT012B6D00002	Abnormal	2024-07-10 09:40:00

View historical power generation data, daily-line chart, month/year-bar chart



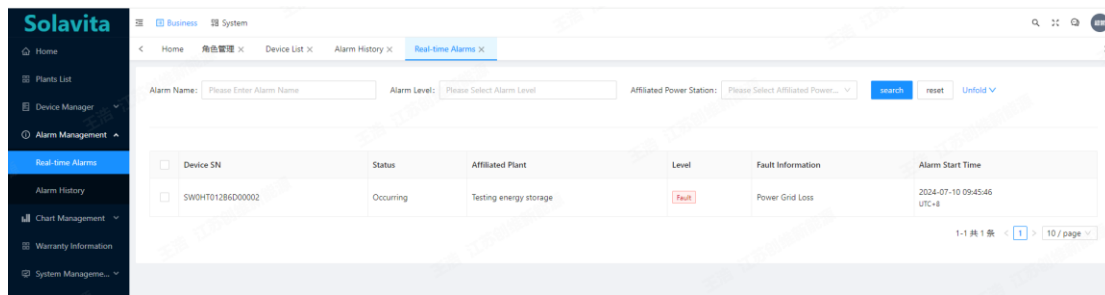


3.6

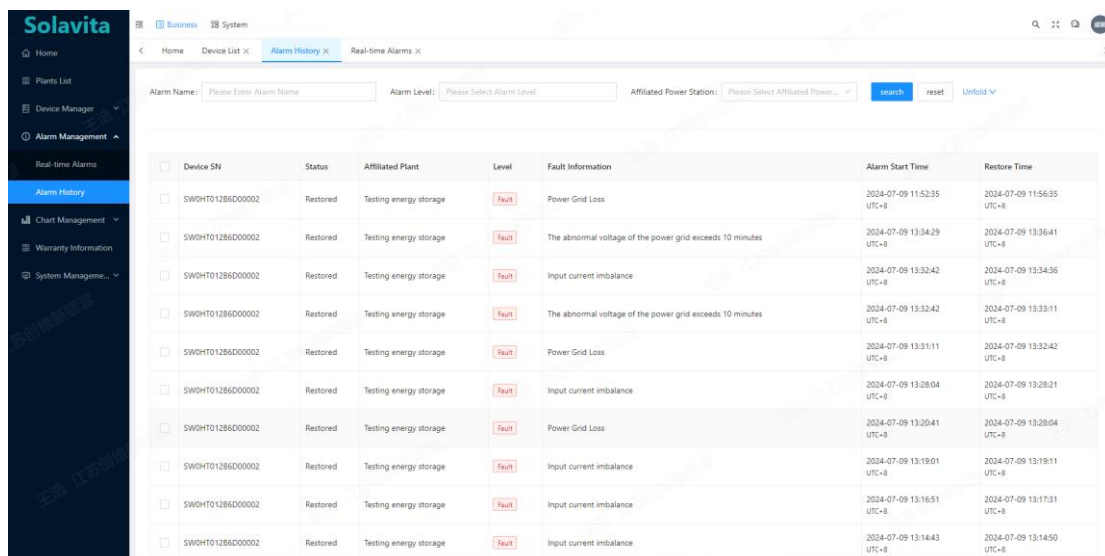
Alarm Management

In the **【Alarm Management】** - **【Real-time Alarms】** module, the unrecovered alarm data information of the added power station equipment can be summarized and

displayed, and the alarm information, alarm level, and belonging power station can be quickly obtained for maintenance and processing.



In the **【Alarm Management】** - **【 Alarm History】** module, the restored alarm data information of the equipment added to the power station can be summarized and displayed, and the alarm information, alarm level, and belonging power station can be quickly obtained for maintenance and processing.



3.7 Chart Management

The **【Chart Management】** includes two sub menus: **【Plant Charts】** and **【Device Charts】** .

1. Plant Charts:

The plant chart mainly refers to the data display of all equipment under a single power plant. You can search for the power station through the dropdown query of the plant name. It can display information such as DC power generation, AC power generation, daily power generation/full power generation hours, monthly power

generation/full power generation hours, cumulative power generation, etc.

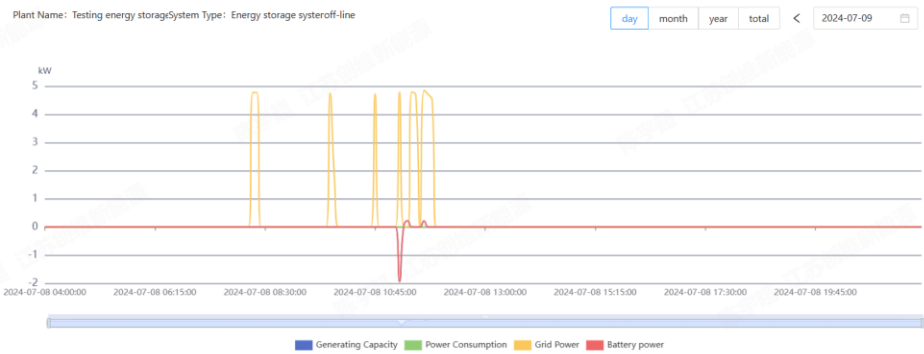
DC Generating Power 18.79 kW	AC Generating Power 24.75 MW	Daily Power Generation/ Number of Hours with Full Generation 267.2 kWh/6h	Current Month Power Generation/ Number of Hours with Full Generation 0 kWh/0h	Cumulative Power Generation 33.07 MWh
---------------------------------	---------------------------------	--	--	--

1) Daily curve chart:

(On-grid system)

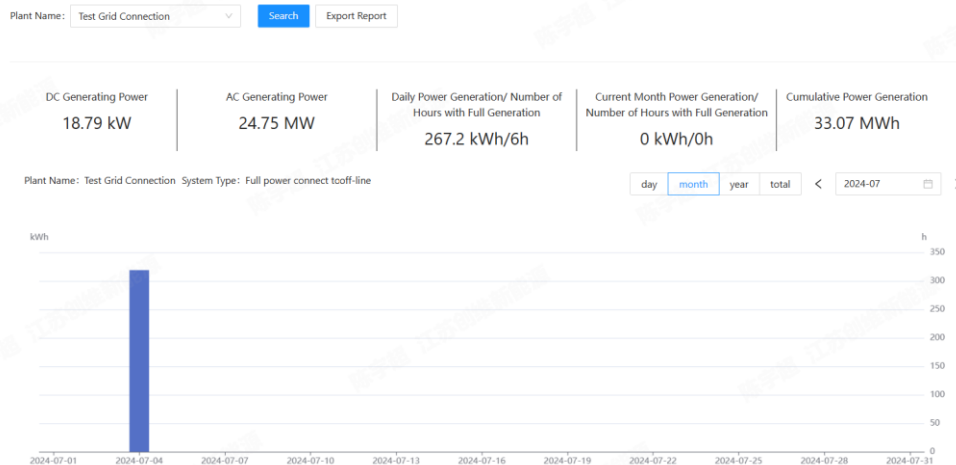


(energy storage system)

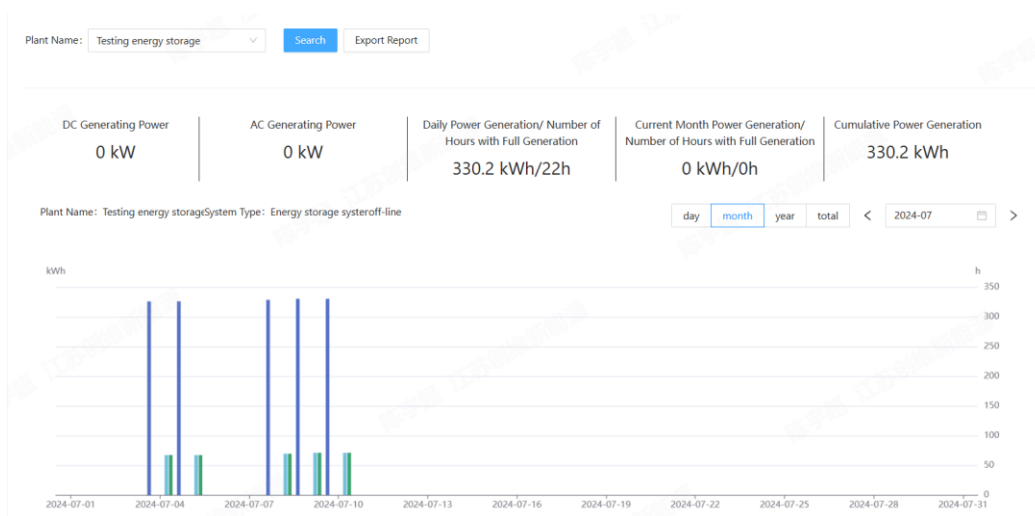


2) Monthly statistical chart:

(On-grid system)

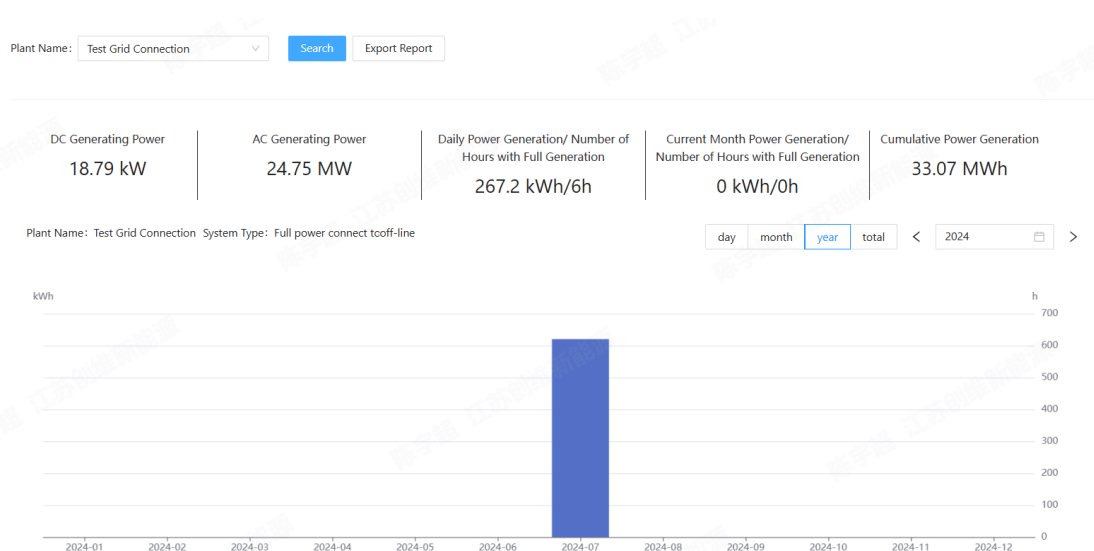


(energy storage system)



3) Annual statistical chart:

(On-grid system)



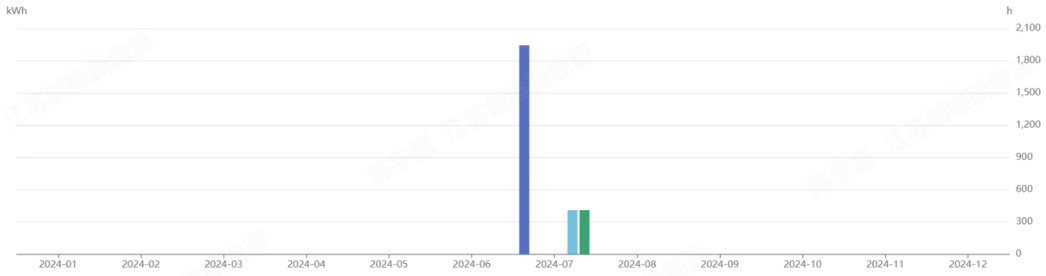
(energy storage system)

Plant Name:

DC Generating Power 0 kW	AC Generating Power 0 kW	Daily Power Generation/ Number of Hours with Full Generation 330.2 kWh/22h	Current Month Power Generation/ Number of Hours with Full Generation 0 kWh/0h	Cumulative Power Generation 330.2 kWh
-----------------------------	-----------------------------	---	--	--

Plant Name: Testing energy storage System Type: Energy storage system off-line

day month **year** total < 2024 >



4) Total:

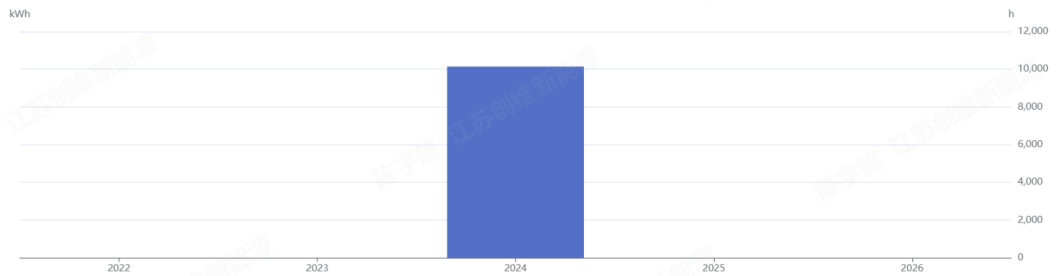
(On-grid system)

Plant Name:

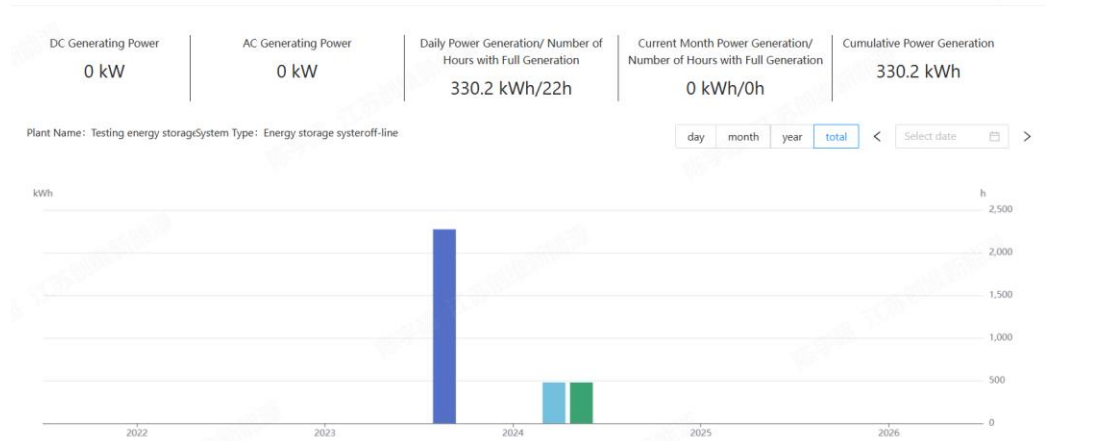
DC Generating Power 18.79 kW	AC Generating Power 24.75 MW	Daily Power Generation/ Number of Hours with Full Generation 267.2 kWh/6h	Current Month Power Generation/ Number of Hours with Full Generation 0 kWh/0h	Cumulative Power Generation 33.07 MWh
---------------------------------	---------------------------------	--	--	--

Plant Name: Test Grid Connection System Type: Full power connect to off-line

day month year **total** < Select date >

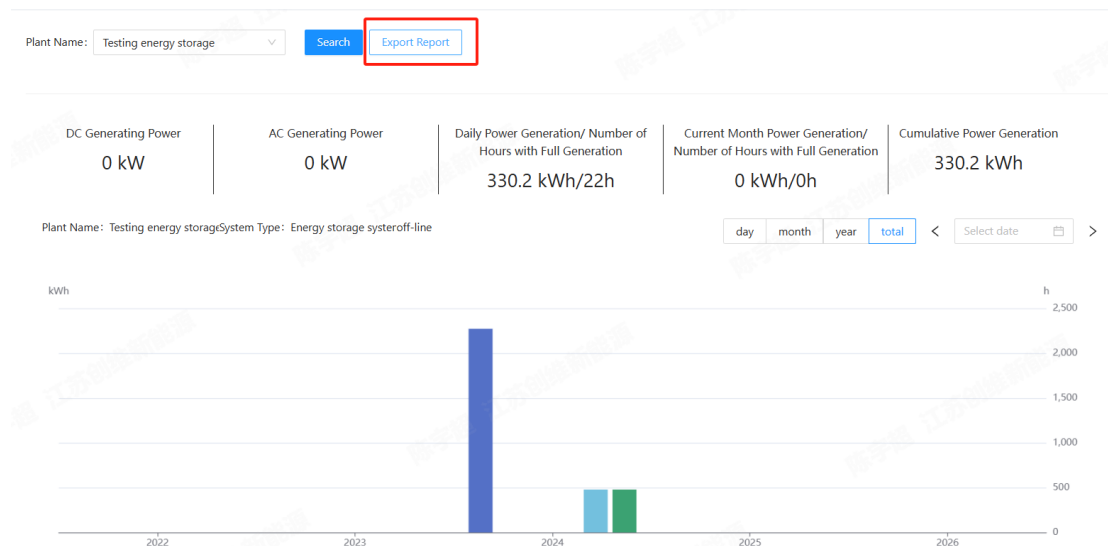


(energy storage system)



Day/month/year/total filtering: Select the date filtering function in the upper right corner, which allows you to view historical power generation data of different dimensions based on day/month/year. If you need to query specific months or years, you can click on the date option box to select specific day/month/year to view data variables, or you can view the total power generation of the power station by total.

After the user queries the chart data, they can export the power station information. There is an export report button in the lower right corner of the chart. After clicking the export report button, the file will be saved in xls format.

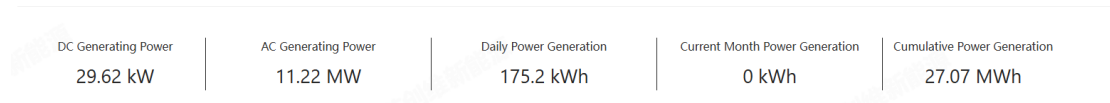


2. Device Charts

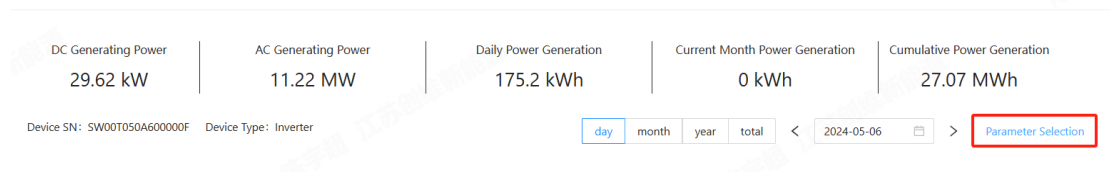
In the device charts module, inverter information can be queried through the device SN dropdown box.

It can display information such as DC power generation, AC power generation,

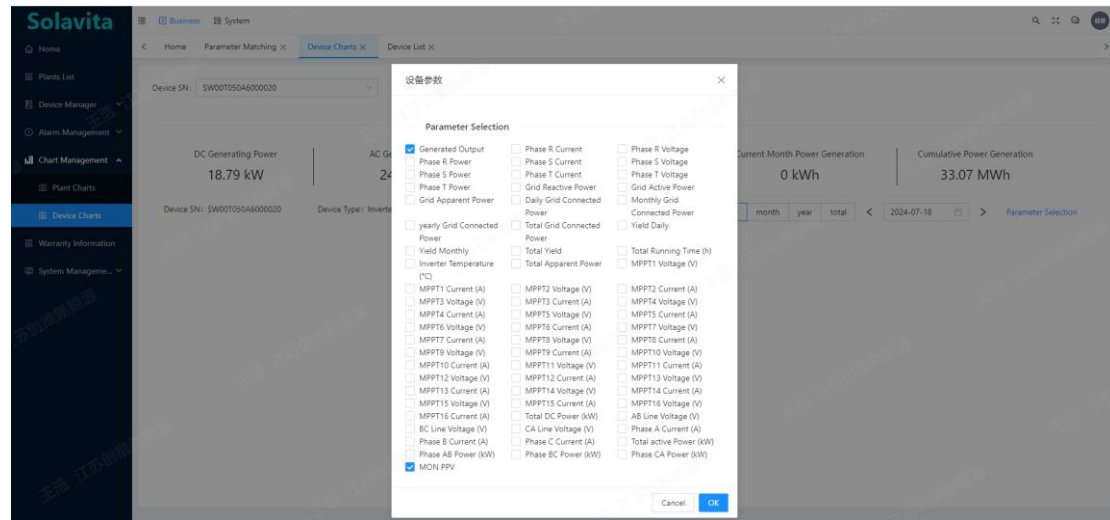
daily power generation, monthly power generation, and cumulative power generation of the power station.



The curve displayed on the device chart interface after selecting the device is based on the system template selected by the user. System template customers can choose and name the displayed data based on the type of parameter data they want to see.

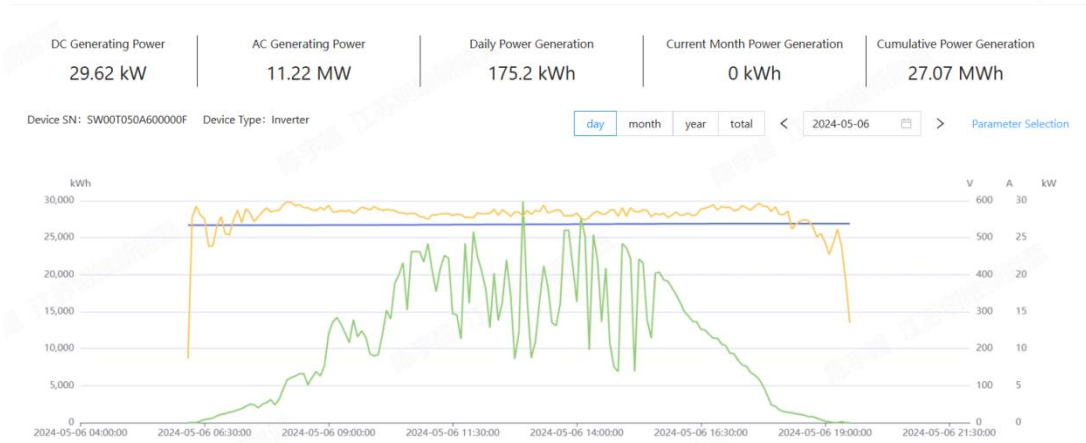


1) Parameter selection:



There are four types of time to choose from, including day, month, year, and total. The specific date control will change with the change of time type. Select a time type query other than day, and display the chart as a bar chart.

2) Export: (Similar to power plant charts)



3.8 Warranty Information

The warranty management module is mainly used for equipment warranty queries. Equipment warranty responsibility refers to the responsibility provided by equipment manufacturers or suppliers for repairing, replacing, or refunding equipment faults during the warranty period. Depending on the specific situation, equipment manufacturers or suppliers may provide solutions such as free maintenance, replacement of parts, reinstallation of equipment, or refund of purchase fees. The specific terms and conditions of equipment warranty can be detailed in the equipment purchase contract or warranty agreement.

In the warranty management interface, precise queries can be made through the device SN number, or through conditions such as device type, equipment model, then you can find the delivery date, warranty period, warranty duration, and expiration status of this device.

Business System

Home Alarm History × Plant Charts × Device Charts × Warranty Information ×

Device SN: Device Type: Equipment Model:

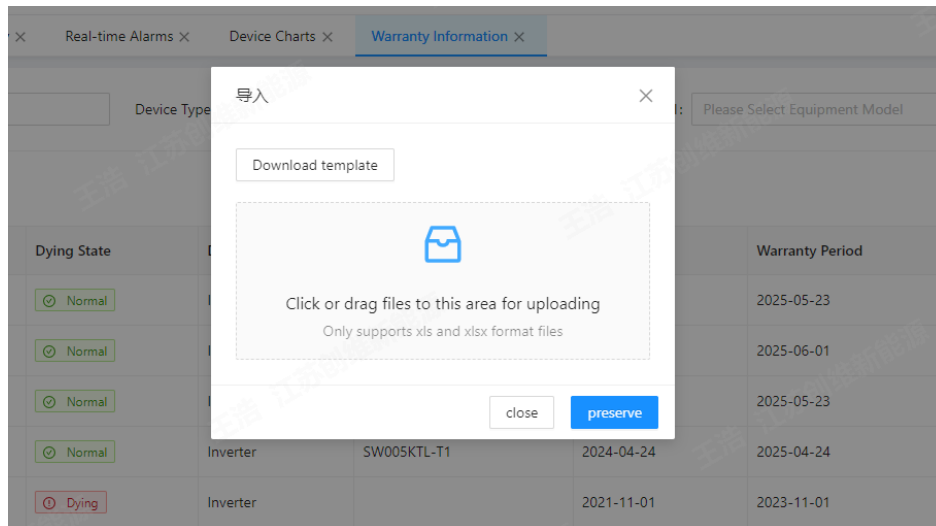
<input type="checkbox"/>	Device SN	Dying State	Device Type	Equipment Model	Date Issuance	Warranty Period	Warranty Duration (Year)	Operate
<input type="checkbox"/>	SR1CS6N5P45013	Normal	Inverter	SW005KTL-T1	2024-05-23	2025-05-23	1.5	edit delete
<input type="checkbox"/>	SR1CS6N5P45007	Normal	Inverter	SW005KTL-T1	2024-06-01	2025-06-01	1.5	edit delete
<input type="checkbox"/>	1793523054216314881	Normal	Inverter	SW005KTL-T1	2024-05-23	2025-05-23	1.5	edit delete
<input type="checkbox"/>	inv2024042401	Normal	Inverter	SW005KTL-T1	2024-04-24	2025-04-24	1	edit delete
<input type="checkbox"/>	SRtest009	Normal	Inverter	SW005KTL-T1	2023-10-01	2025-10-01	2	edit delete

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Users can import or download the required device warranty information according to their actual situation.

Import: Download the template first, and users can add corresponding data based on the provided template before uploading,

Upload warranty: Drag the document into the upload area and click OK.



Download: Export warranty information.

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