



Acrel IoT EMS Platform Manual

Acrel Co., Ltd.

Revision History

Version	Date	Author	Remark
1.0.0	2022-01-20	Heather	
1.7.0	2022-12-14	Heather	

Content

1. Overview	1
2. Login	1
3. Home	1
4. Power Monitoring	3
4.1.Data Monitoring	3
4.2.Transformer Monitoring	3
4.3.Distribution Diagram	4
4.4.Parameters Report	6
4.5.Average power factor	7
5. Prepaid Management	7
5.1.Prepaid Welcome	7
5.2.Room Monitoring	8
5.3.. Account Opening Management	9
5.4.Recharge Payment	16
5.5.Account cancellation Record Query	17
5.6.Batch Operation	18
5.7.Comprehensive report	23
5.8.Return Record Query	24
6. Lighting	25
6.1.Lighting Dashbord	25
6.2.Lighting monitoring	25
6.3.Policy Management	26
6.4.Policy Setting	27
7. Energy Quality	29
7.1.Harmonic Monitoring	29
7.2.Three Phase Unbalance	29
8. Demand Analysis	30
8.1.Maximum Demand Report	30
8.2.Demand Monitoring	31
9. Energy Analysis	31
9.1.Energy Overview	31
9.2.YoY Analysis	32
9.3.MoM Analysis	33
9.4.Energy Trend	33
9.5.Energy Report	34
9.6.Collecting Report	35
9.7.Multiple Rate Report	36
9.8.Energy Rank	37
9.9.Loss Analysis	37
9.10.Energy Flow	38
10.Alarm Management	38
10.1.Alarm Information	38

10.2.Alarm Dispatch	39
10.3.Alarm Handling	40
11.Operation Management	41
11.1.Inspection Plan	41
11.2.Inspection Record	42
11.3.Gateway Status	43
11.4.Meter Status	43
12.wireless Temperature Measurement	45
12.1.Cabinet temperature	45
12.2.Cable temperature	45
13. User Report	46
13.1.User Report	46
13.2. User Report Template	46
14. Basic Data Management	47
14.1.User Management	47
14.2.Project Management	49
14.3.Gateway Management	52
14.4.Meter Management	54
14.5.Charge Plan	56
14.6.Region Management	58
14.7.Device Model Management	58
14.8.Street Light Management	59
14.9.Electrical Parameter Management	60
14.10.Project Topology	61
14.11.Energy Topology	63
14.12.Meter Alarm Rules	64
14.13.Alarm Reminder Template	65
14.14.Hierarchical Alarm Settings	66
14.15.Picture Management	67
14.16.Electric Parameter Alias Management	68
14.17.Transformer Management	69
15.System Setting	70
15.1.Menu Management	70
15.2.Role Management	71
15.3.Platform Management	71
16.Log Management	72
16.1.Login Log	72
16.2.Operation Log	72
16.3.Control Log	73

1. Overview

Acrel IoT EMS Cloud Platform is a platform based on the Internet of Things data center, which establishes uplink and downlink data standards, and provides Internet users with energy IoT data services. Users only need to purchase Acrel IoT sensors, install them and scan the QR code to obtain the required industry data services using mobile phones and computers.

Acrel IoT EMS combines the Internet business model of online sales to provide PAAS platform services for widely distributed small and medium-sized customers. Users can choose the required functional modules by themselves. Use the gateway to upload, you can use the mobile phone to scan the code to get the corresponding industry data service, and you don't need to pay attention to the debugging process and platform operation process.

2. Login

Users can open the IoT website with a browser (Google Chrome, Firefox, 360 Extreme Browser are recommended), the URL is : <http://iot.acrel-eem.com>



Fig. 2- 1 Login Interface

3. Home

The home page shows users project overview information, equipment status information, alarm information, energy consumption statistics, energy trend information including electricity,

water, comprehensive energy consumption and carbon emissions information, and the middle map of the home page shows project information. The upper right corner of the website will display the alarm data and classification, and can also display the user's local weather information. The user can also click on the APP to download the app through the QR code. As shown in Figure 3-1, 3-2, and 3-3.

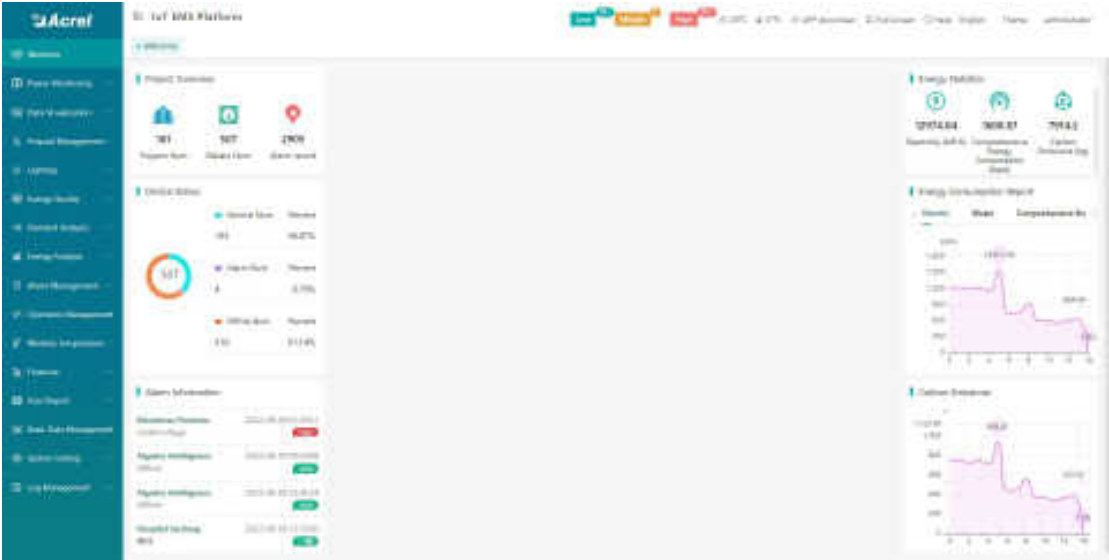


Fig. 3- 1 Home Interface

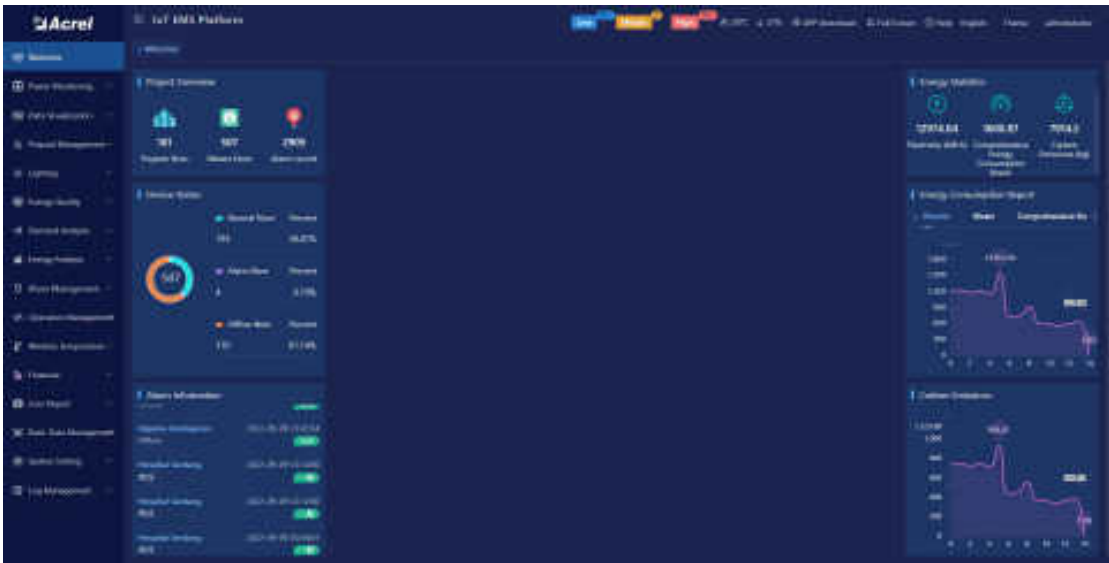


Figure 3-2 Dark Theme

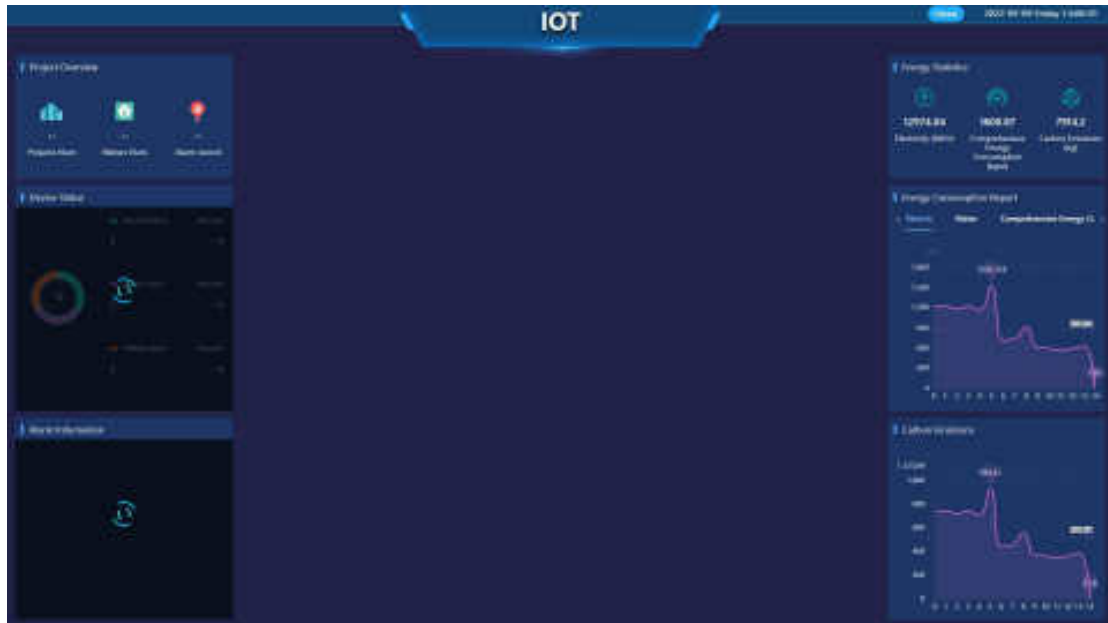


Figure 3-3 Full Screen Display

4. Power Monitoring

4.1.Data Monitoring

Data monitoring displays project information and all equipment information under the project, and you can see the communication status, circuit name, etc. of each equipment.

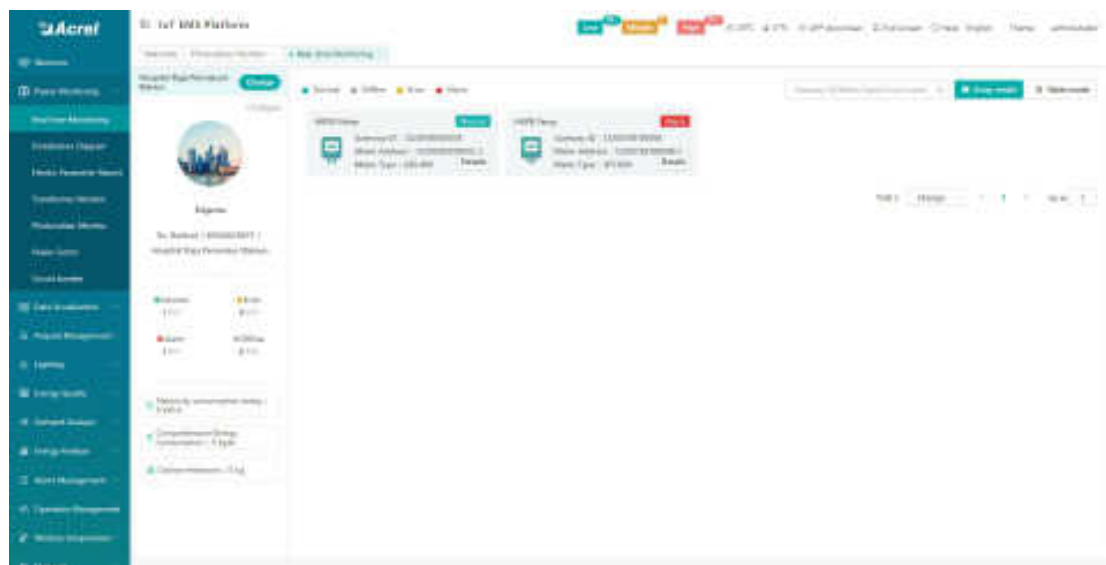


Figure 4-1 Data monitoring

4.2.Transformer Monitoring

Display the load conditions of each transformer, so that scientific and reasonable planning can be made for the allocation of transformers. Through the comparative analysis of power consumption efficiency under various operating parameter states, find out the best operating

mode. The load is adjusted according to the optimal operation mode, thereby reducing the unit consumption of electricity and minimizing the loss of electric energy. As shown in Figure 4-2

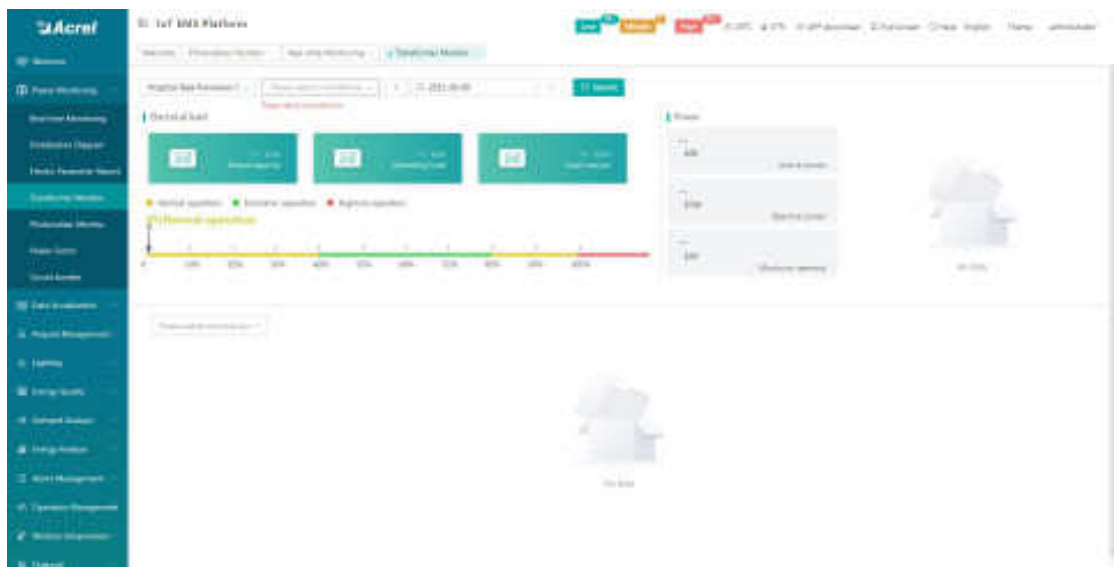


Figure 4-2 Transformer Monitoring

4.3.Distribution Diagram

Power distribution monitoring mainly displays the customer's primary power distribution map. Select the name of the project to be viewed to view the primary power distribution diagram. As shown in Figure 4-3.

Note: You need to draw a primary power distribution diagram first, complete the binding of the diagram, and then you can view the primary diagram of power distribution.

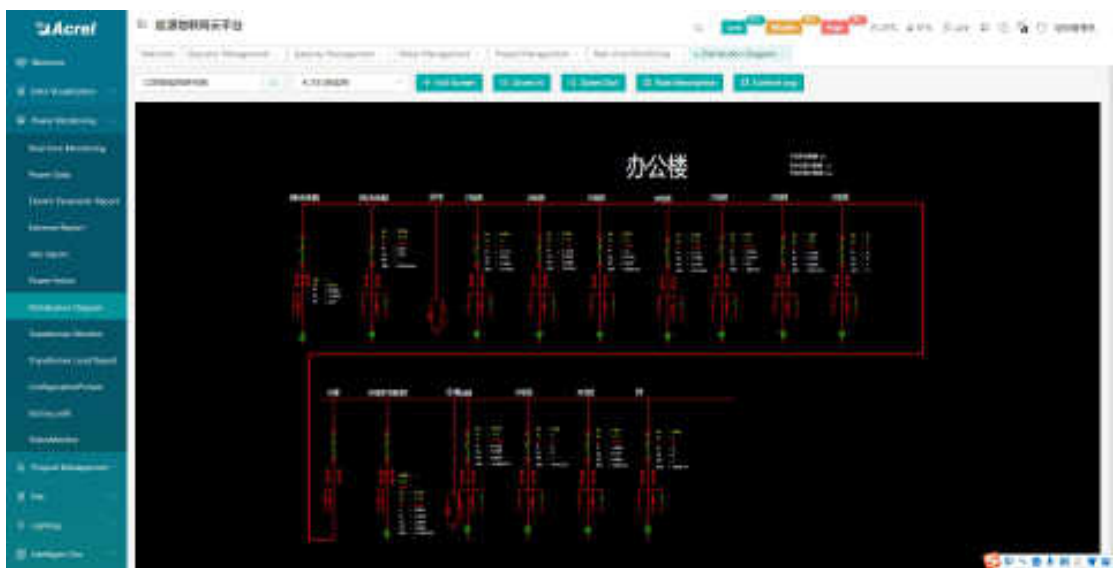


Figure 4-3 Power distribution diagram

Click the data in the figure to call up the control box and view real-time data, such as phase

voltage, active power, reactive power, active energy, phase current, and reactive energy, as shown in Figure 4-4.

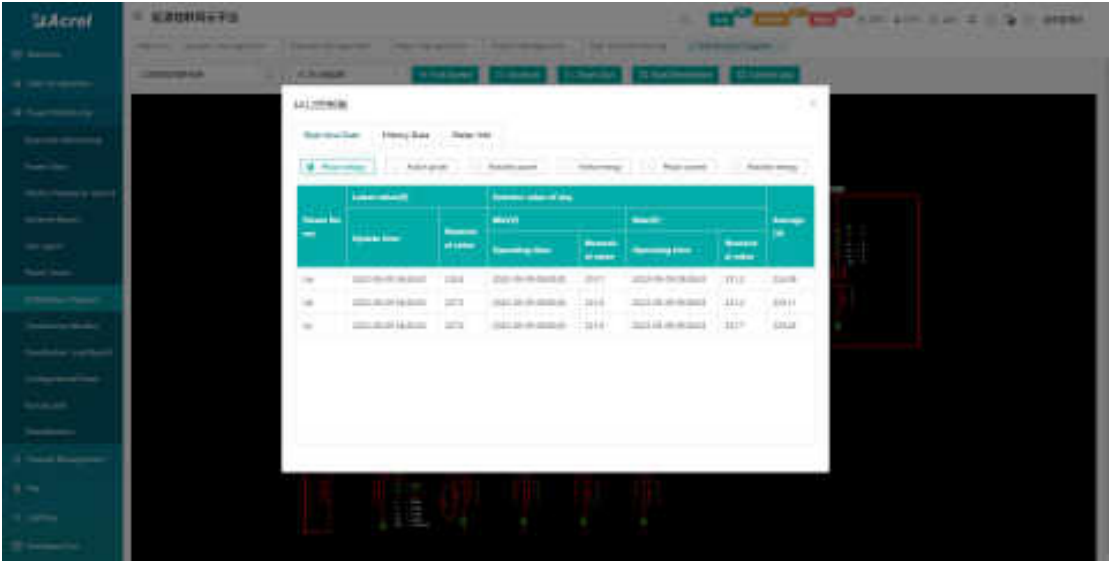


Figure 4-4 Real-time data

Switch to historical data, and query the charts and data you want to see by selecting the date and power category, as shown in Figure 4-5 and 4-6.

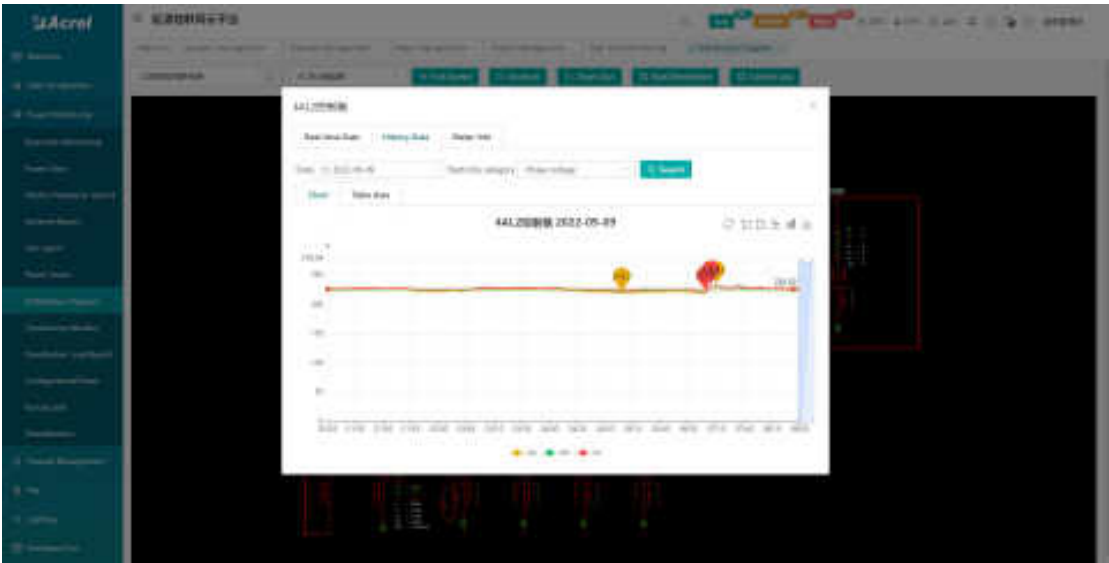


Figure 4-5 Chart

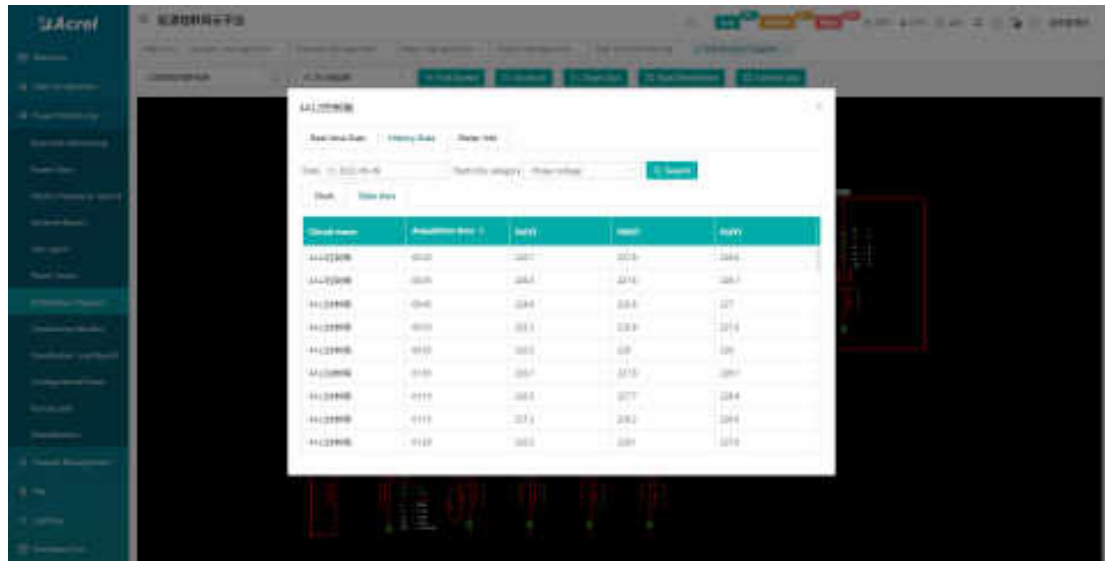


Figure 4-6 Data

Switch to the Meter information to view the relevant information of the instrument, as shown in Figure 4-7.

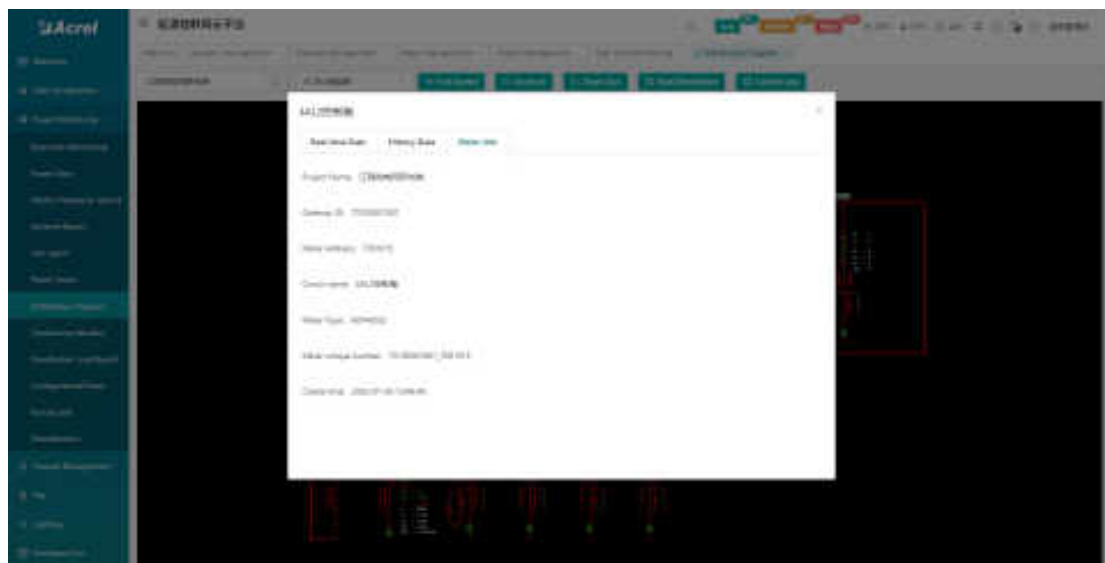


Figure 4-7 Meter information

4.4.Parameters Report

The parameters report page displays the electrical parameter report of the project. Users can view the electrical parameter report of the equipment in each area, and can view the corresponding data by switching the time and adjusting the electrical parameter display, as shown in Fig. 4-8. This page supports excel export by clicking the export button.

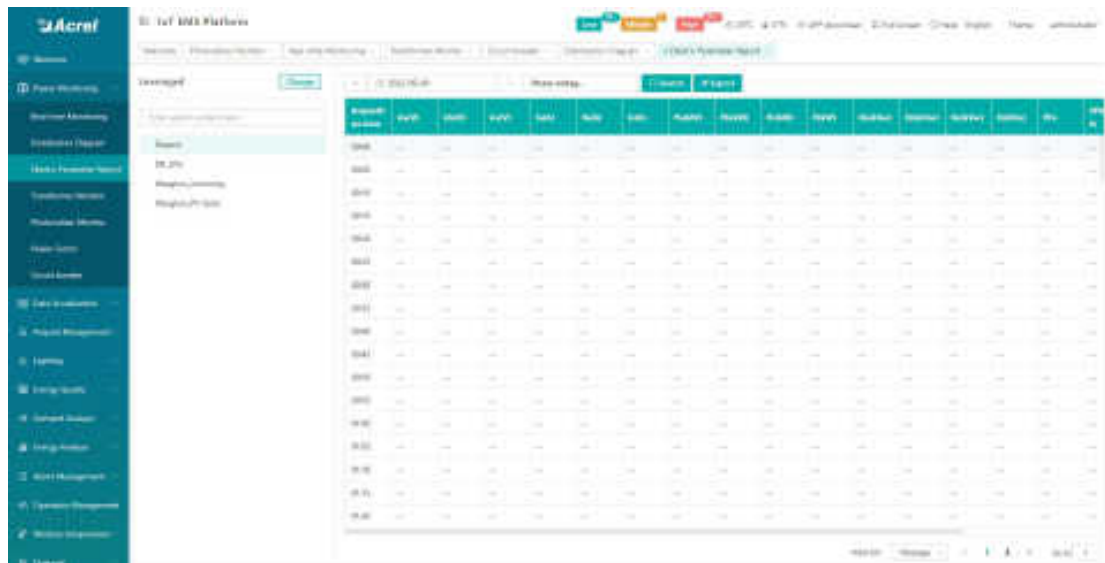


Figure 4-8 Parameter report

4.5.Average power factor

This page shows the forward total active energy, reverse total active energy, forward total reactive energy, reverse total reactive energy, and average power factor of a certain circuit in a month within a month. and data tables, as shown in Figure 4-9.

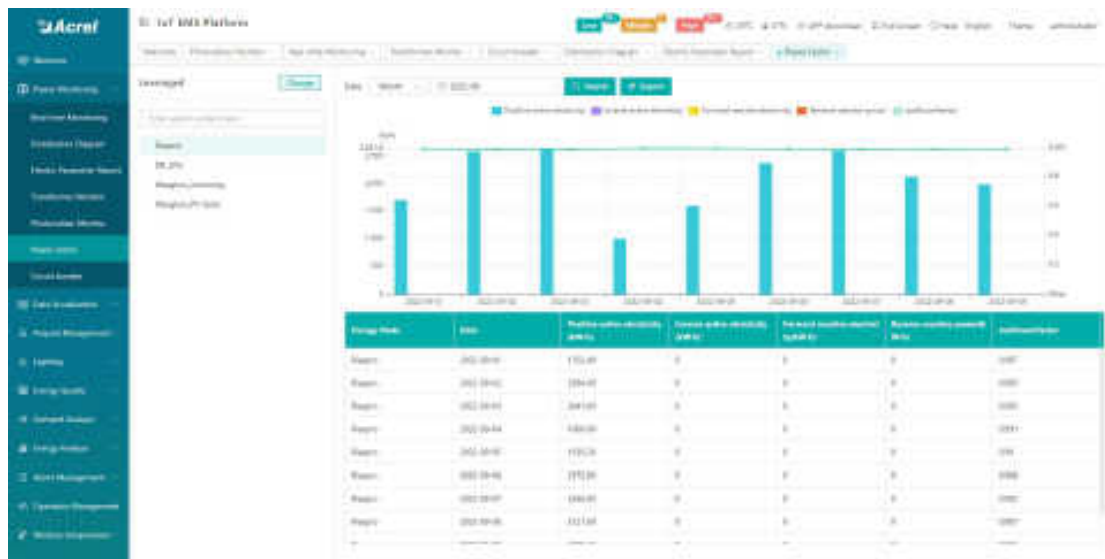


Figure 4-9 Average power factor

5. Prepaid Management

5.1.Prepaid Welcome

This page shows the energy consumption of all meters in the project, as well as the amount

used this month and the amount recharged in each payment method. This page also has quick access to various functions, such as new account opening, recharge and payment , batch operation of electric meters, real-time monitoring, batch operation of water meters, energy consumption analysis, etc., as shown in Figure 5-1.

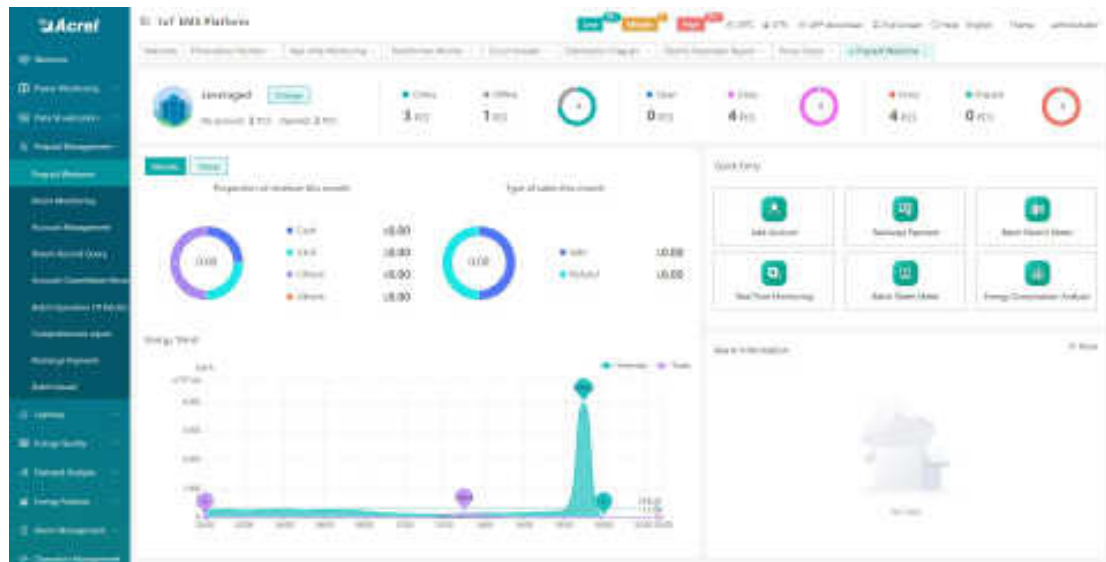


Figure 5-1 Prepaid welcome

5.2.Room Monitoring

Room monitoring displays all meter room numbers, bound user names, today's power consumption, remaining balance, and real-time status information under the corresponding topology. Users can enter the monitoring details page by selecting the room corresponding to the meter, as shown in Figure 5-2. Real-time monitoring of a single meter, as shown in Figure 5-3.

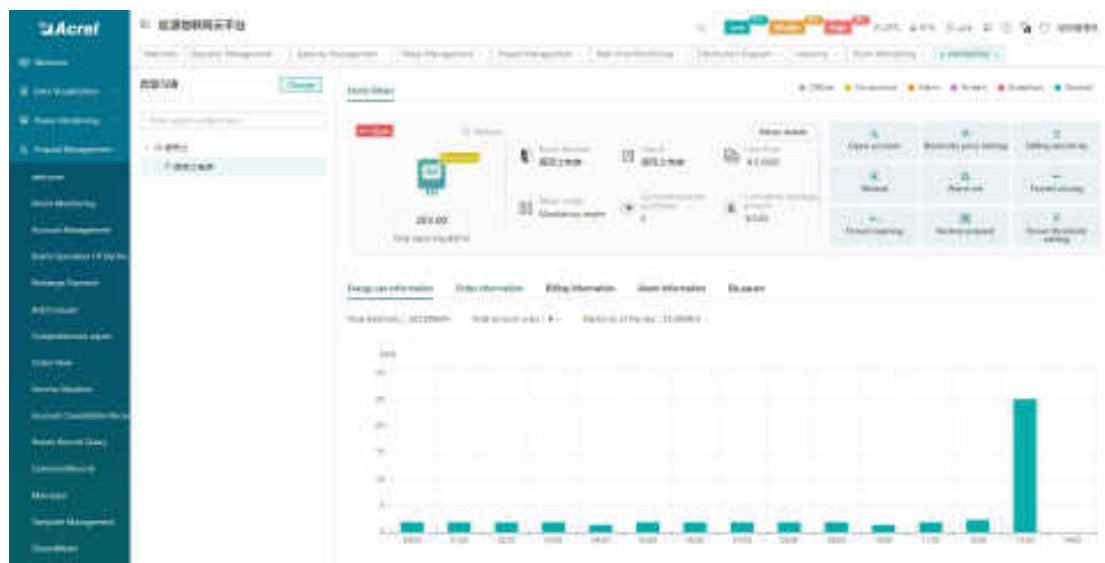


Figure 5-2 Monitoring details

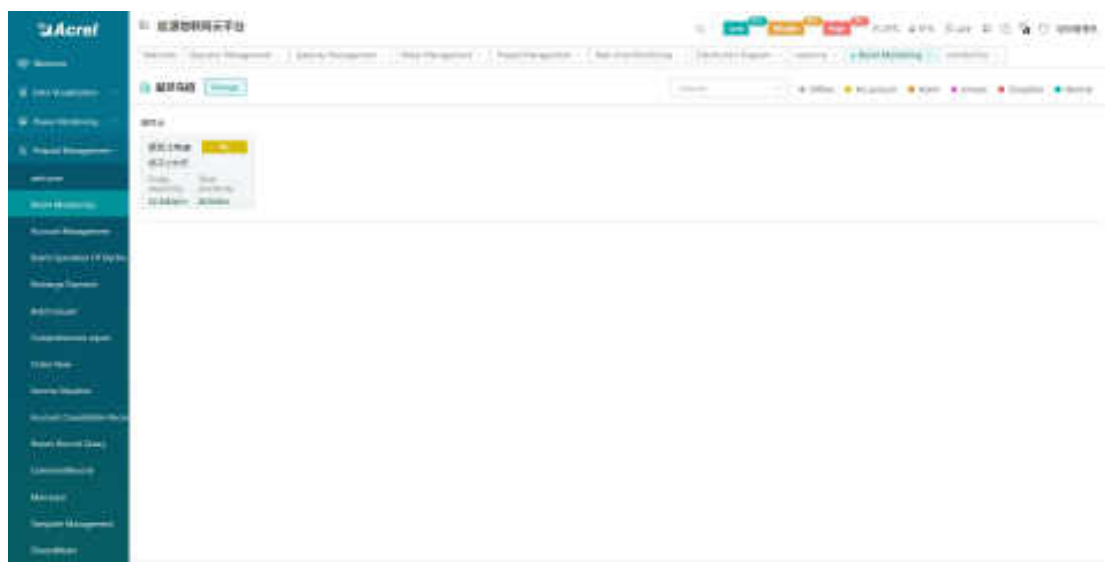


Figure 5-3 Real-time monitoring

5.3.. Account Opening Management

Account opening management provides users with the ability to query the room information corresponding to the meter, user information, electricity meter information, and property fee setting information. At the same time, the user can perform "binding of the meter to the room", "binding of the room to the user", "opening an account of the meter", and "setting of the property fee collection scheme".

Room information is used for "device and room binding", displaying room number, user

name, meter serial number, room area and other information. Users can add, edit, delete, query and other operations, as shown in Figure 5-4.

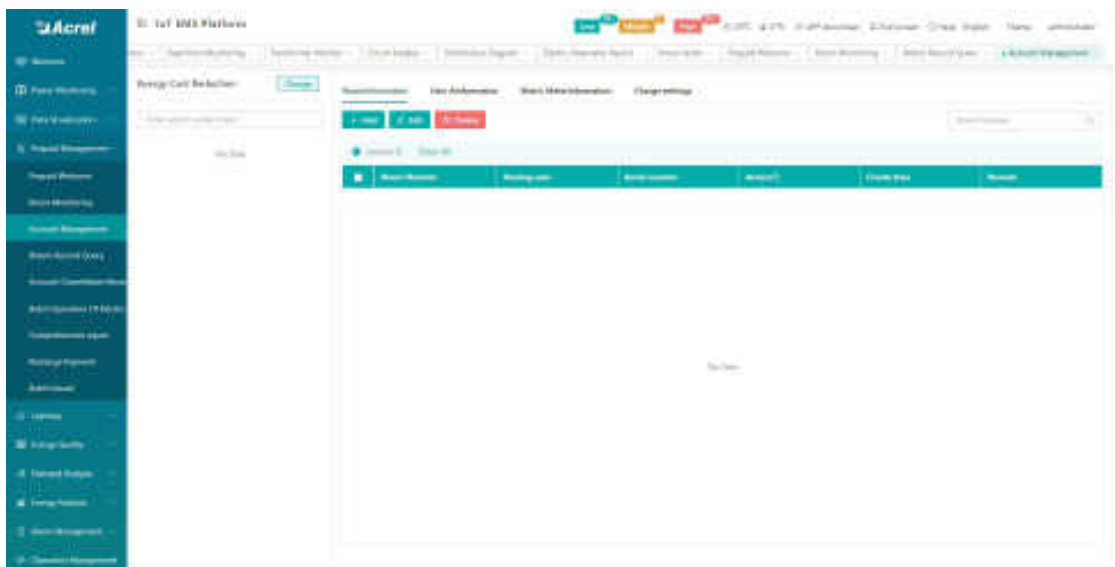


Figure 5-4 Room information

Add a room: Enter the room number, area, select the meter, belong to the topology, and click OK, as shown in Figure 5-5; the edit and add operations are the same.

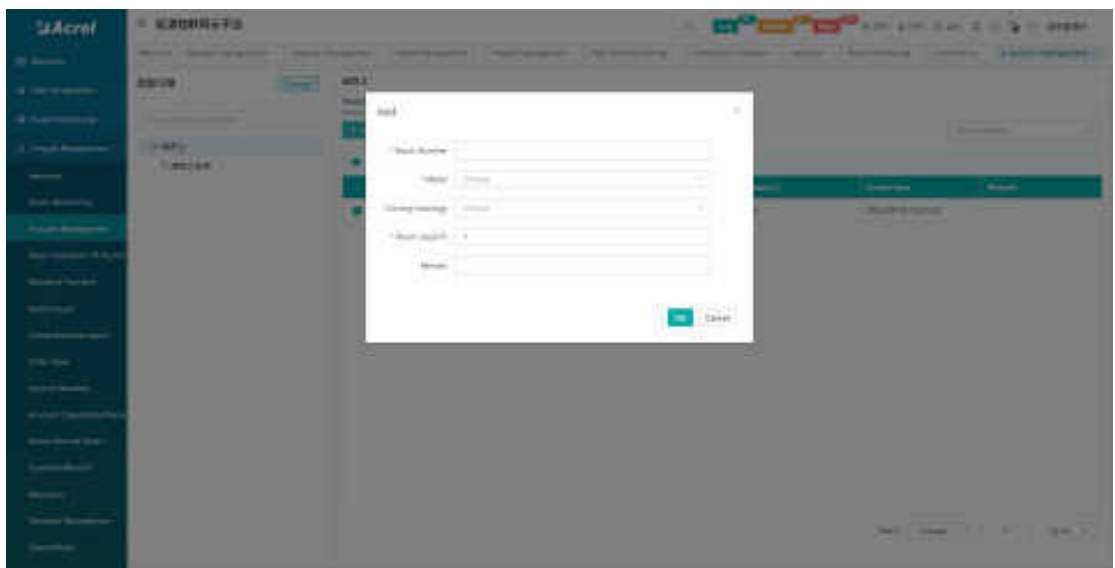


Figure 5-5 Room addition

User information is used for "room and user binding", showing all users' name, room number, contact number, address, whether to combine metering and other information, users can add, edit, cancel, query, export and other operations, such as As shown in Figure 5-6.

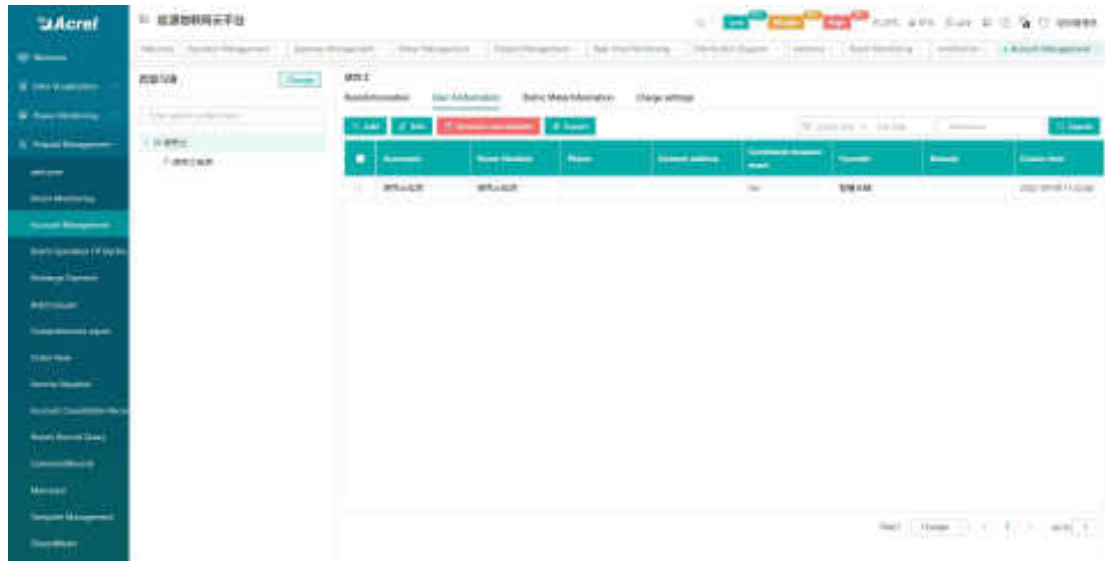


Figure 5-6 User information

Add user: Click the add button to enter the create user account interface. Enter the user name, password, contact number, address, choose whether to combine metering, whether to open an account immediately, and click OK, as shown in Figure 5-7; the editing and adding operations are the same.

Add meter: Click Add meter, select the room number, the electricity price plan, enter the alarm amount, whether to check the prepayment mode, etc., as shown in Figure 5-8; if you choose to open an account immediately, you need to enter the initial value in the newly added electric meter. Amount and select the processing method of electricity consumption amount, click OK.

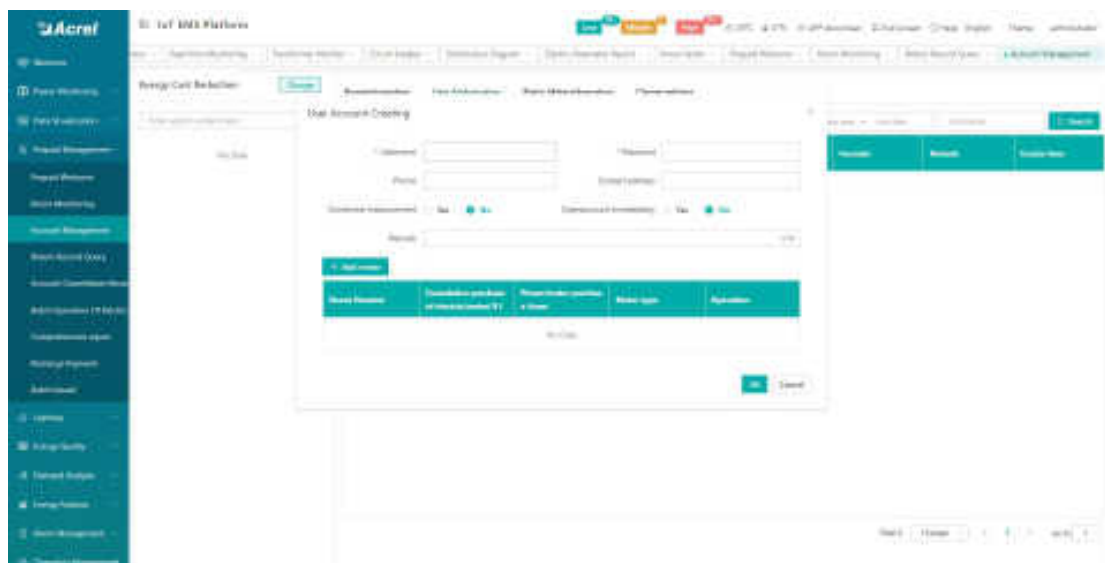


Figure 5-7 Create User Account

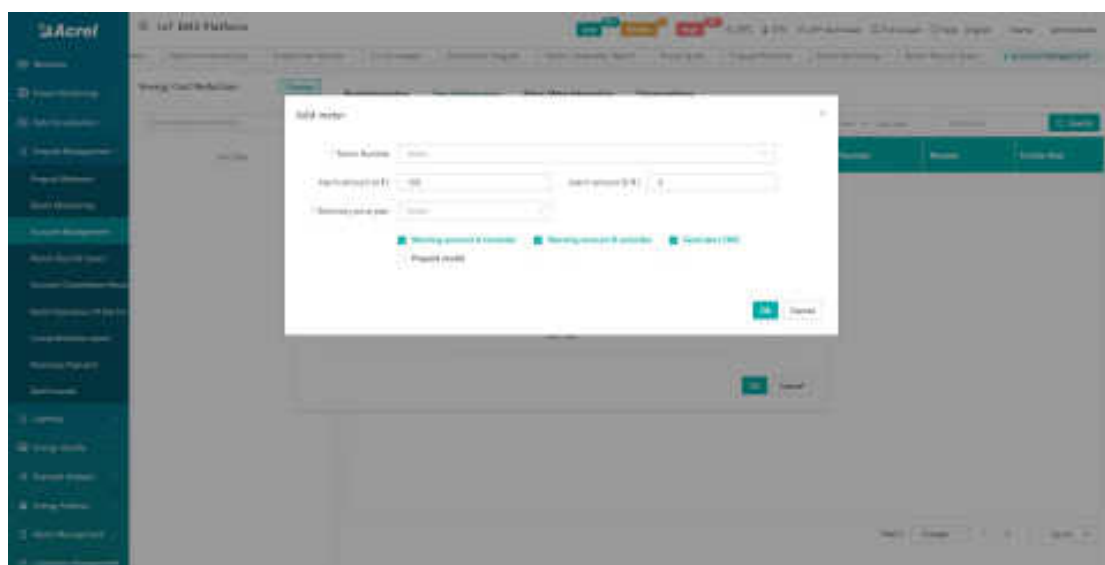


Fig. 5-8 Add Meter

Meter unbundling: Select a user record, click Edit, click Delete in the meter operation column, and the meter unbinding page will pop up, select whether the amount is cleared to 0, and click OK, as shown in Figure 5-9.

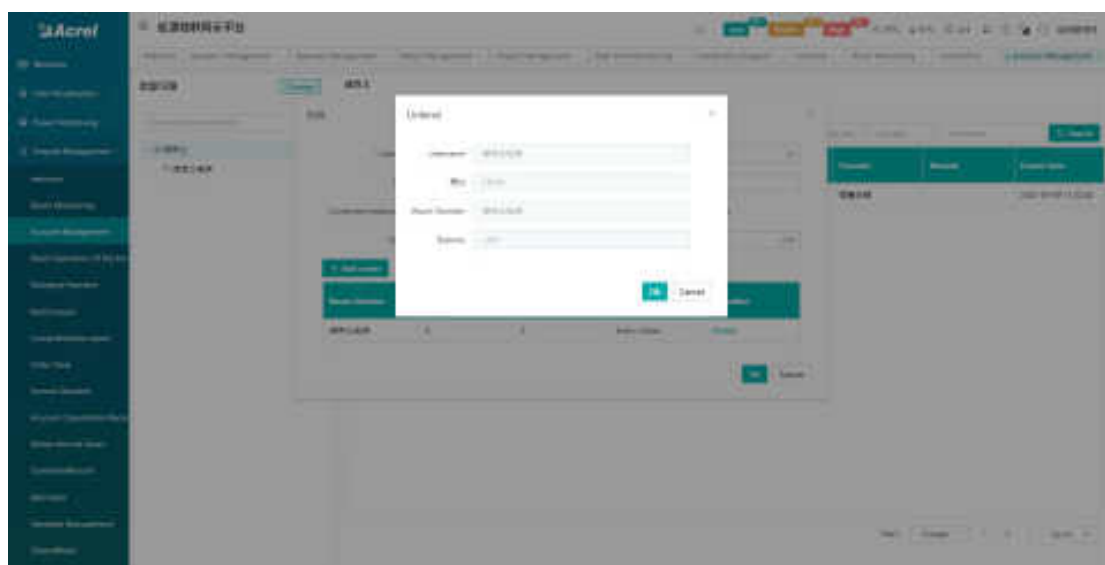


Figure 5-9 Unbundling meter

Account opening details: For a room that has already opened an account, select a user record, click Edit, and click Details in the meter operation column to view the account opening details of the room, as shown in Figure 5-10.

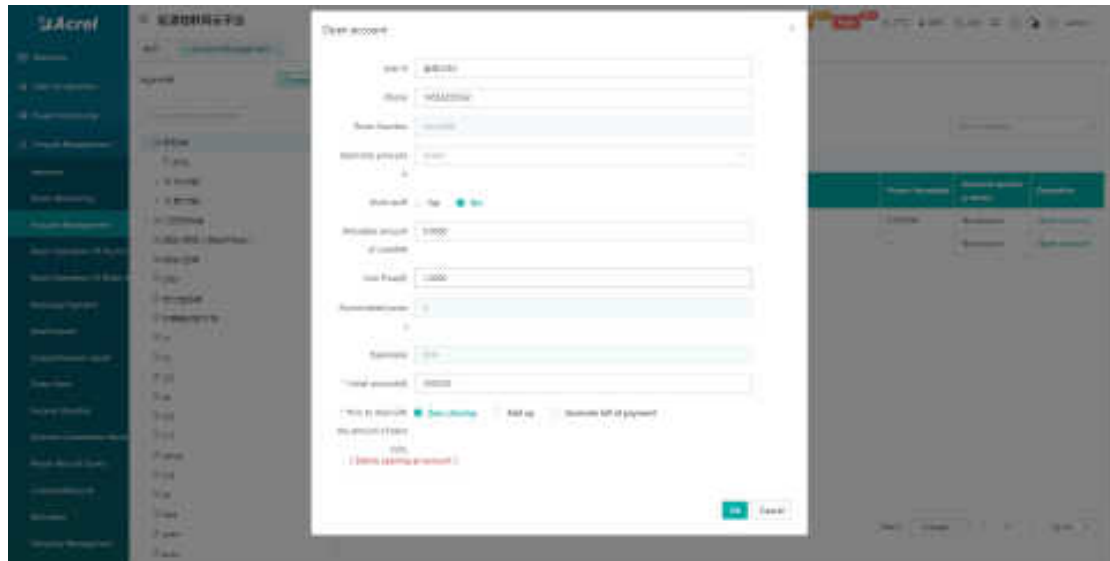


Figure 5-10 Account Opening Details

Cancel account: select a user record, click cancel account, after confirming the information, click OK, and the prompt is successful, as shown in Figure 5-11.

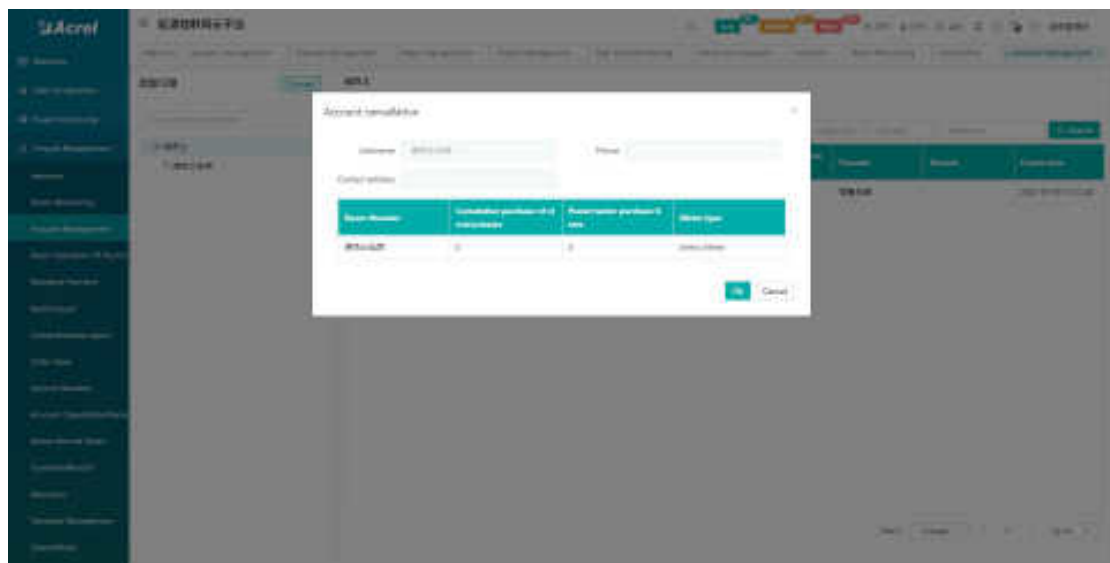


Figure 5-11 Cancel Account

Meter information is used for "meter account opening", displaying all meter room numbers, user names, electricity consumption, balance, alarm amount, unit price, power threshold, account opening status and other information. Users can perform "single meter account opening" and "batch account opening" " and other operations, as shown in Figure 5-12.

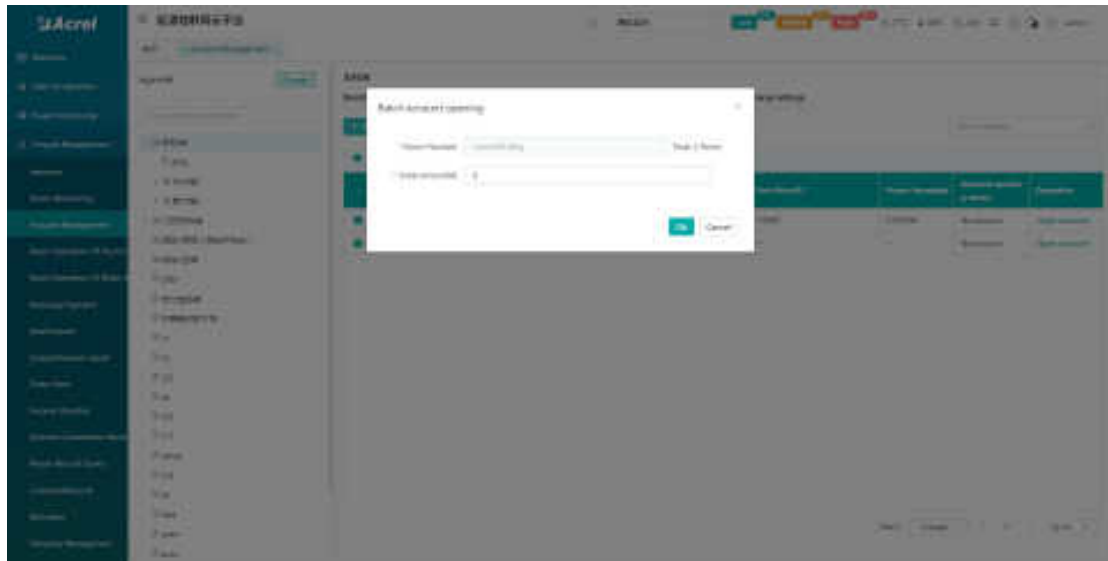


Figure 5-14 Batch account opening

Charging setting provides users with the function of "property fee collection scheme setting", which can query the room number, charging scheme, single collection amount, execution time, operator and other information that need to be deducted. Users can add, delete, and query Operation, as shown in Figure 5-15.

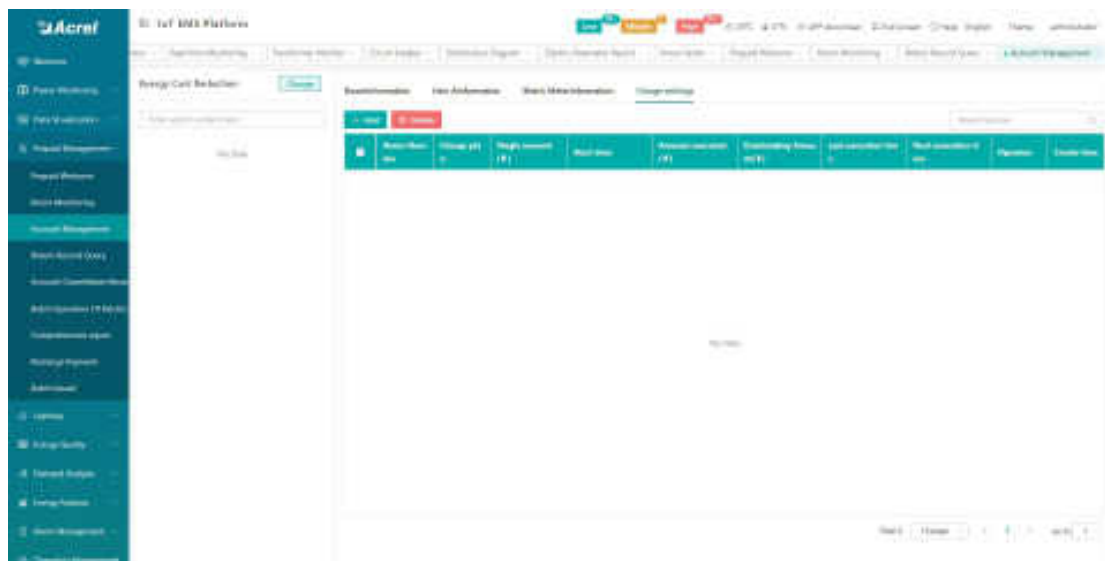


Figure 5-15 Charge Settings

Add: Select the room number, plan name, deduction method, charge type, time, charge interval, charge date, charge calculation method, unit price, and click OK, as shown in Figure 5-16;

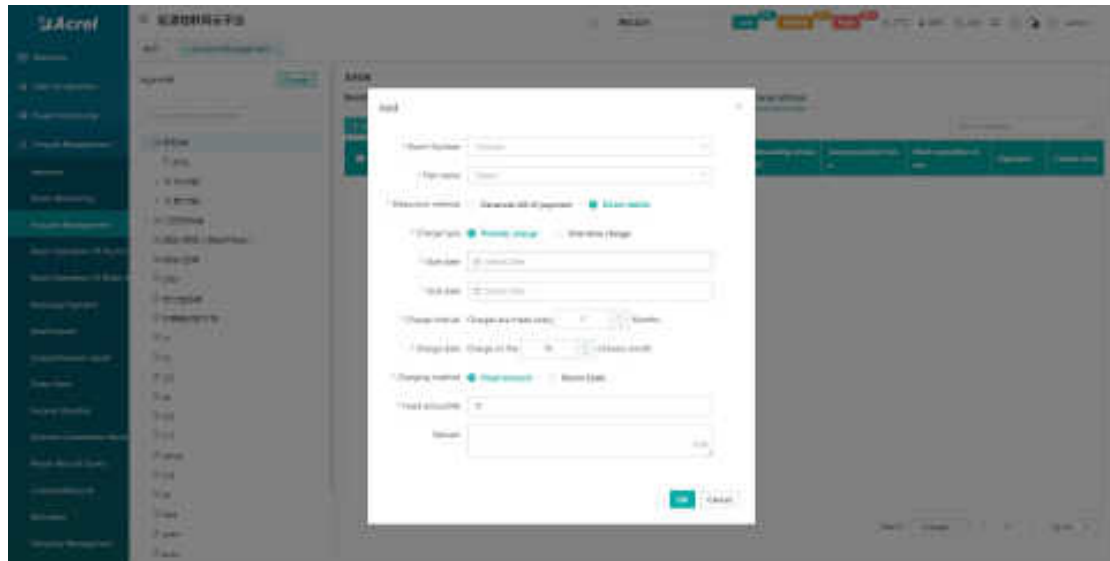


Figure 5-16 Add charging settings

5.4.Recharge Payment

The recharge payment page displays relevant information about a certain room account, such as: account balance, accumulated electricity purchase times, accumulated electricity purchase amount, status, etc. Users can recharge and refund the selected room. As shown in Figure 5-17.

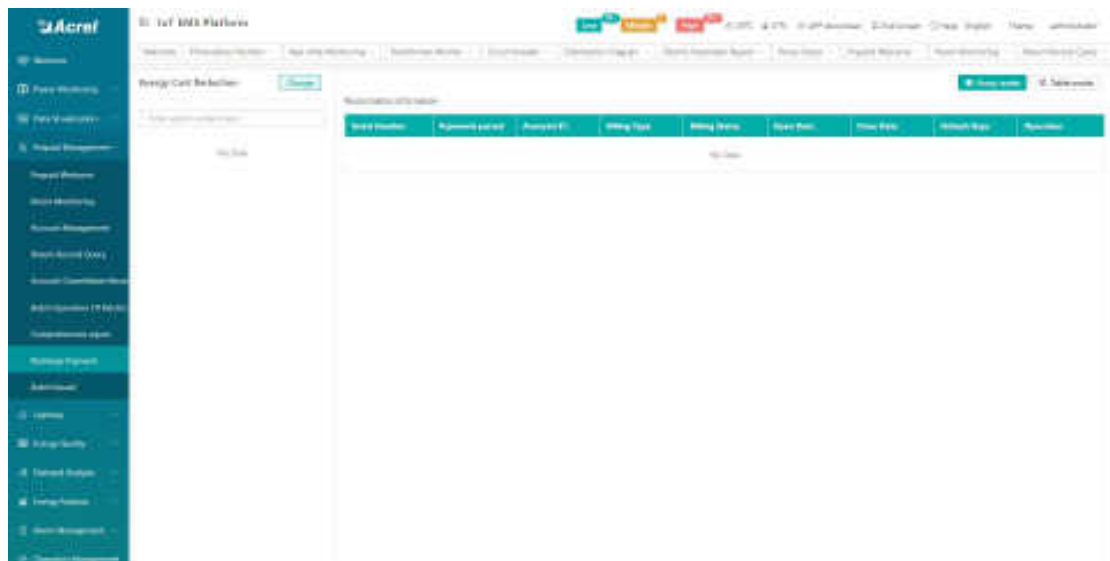


Figure 5-17 Recharge Payment

Click recharge to display the recharge page, enter the amount, payment method, and remarks, as shown in Figure 5-18.

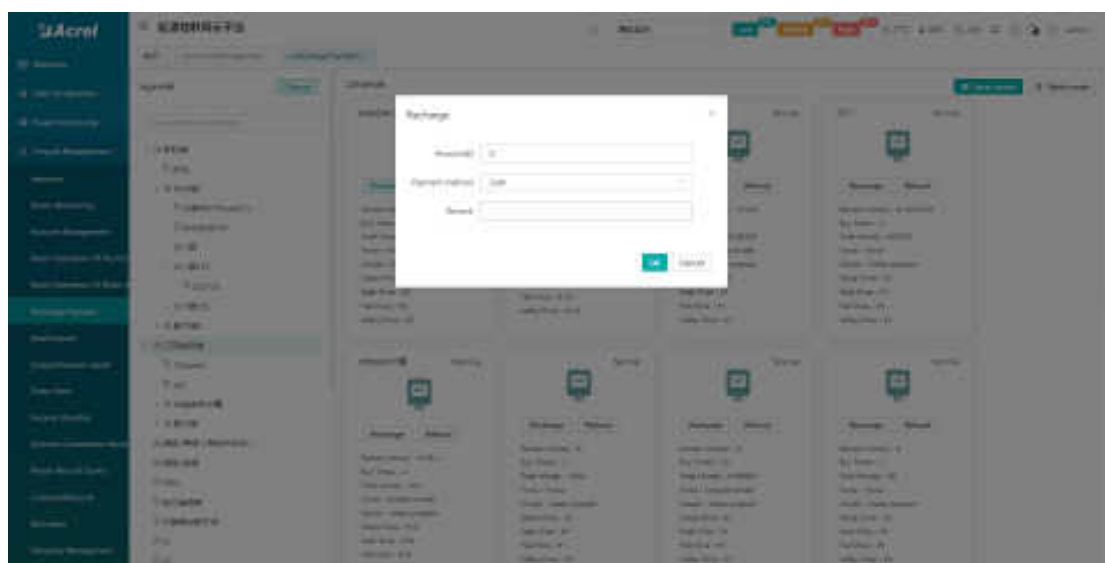


Figure 5-18 Recharge

Click Refund to display the recharge page, enter the amount, payment method, and remarks, as shown in Figure 5-19.

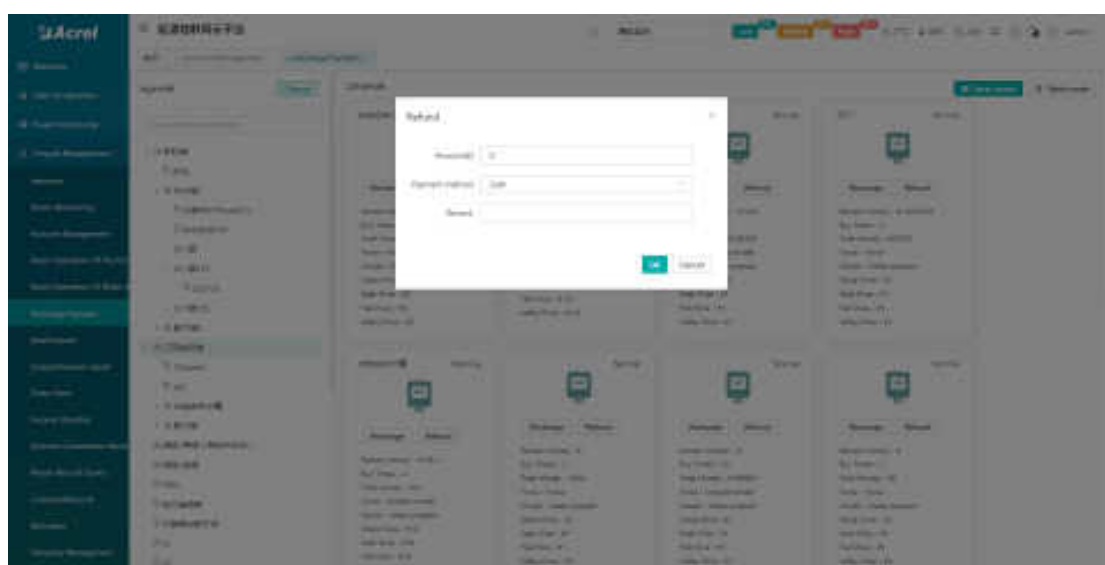


Figure 5-19 Refund

5.5.Account cancellation Record Query

The account cancellation record query page displays all user information records of canceled accounts, including user name, room number, phone number, contact address, operator and other information. Users can query by user name, as shown in Figure 5-20.

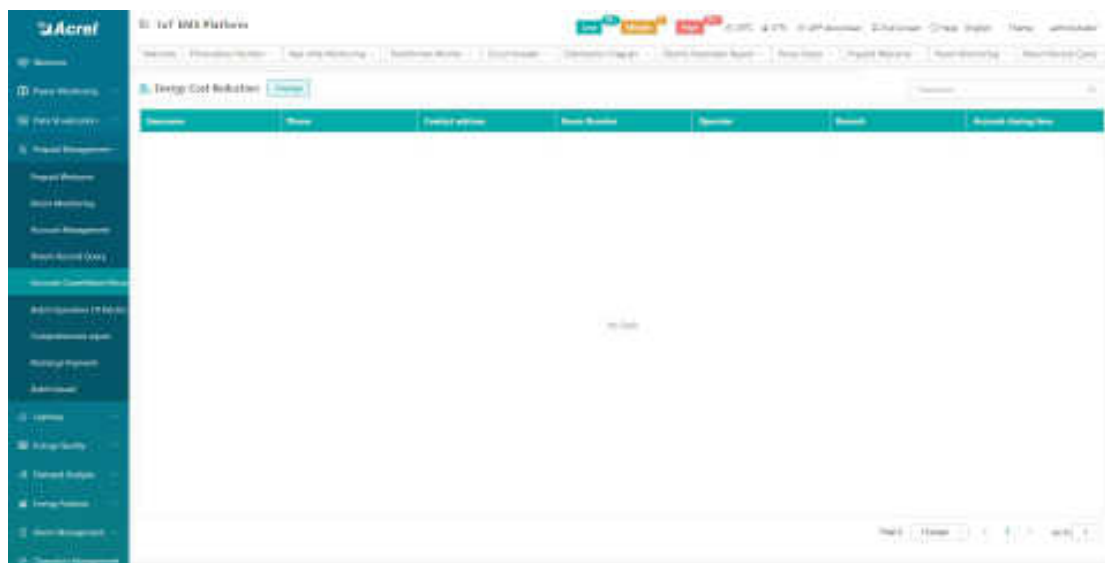


Figure 5-20 Account cancellation record query

5.6.Batch Operation

The meter batch operation page provides functions such as power on and off in batches, settings delivery, status screening, query, and export. Simultaneously perform "electricity price setting", "alarm setting", "forced closing", "forced closing", "recovering prepayment", "power threshold setting", "alarm setting", " " Operations such as selling electricity, recharging, withdrawing power, refreshing meter status, viewing historical meter reading records, setting credit amount, and allowing tripping time period, as shown in Figure 5-21 .

Noun Note

Forced closing: that is to turn on the battery protection mode for the meter, and it will not trip after arrears, and continue to measure in a negative amount state;

Forced switch-on: The switch-on operation is performed on the meter immediately, and is not affected by other states, and the power supply cannot be restored until the meter receives a switch-on command or a command to restore prepayment;

Restore prepayment: restore the meter to the prepayment mode, and at the same time force the mode to be closed. If the meter amount is positive at this time, the meter will immediately resume the normal power supply state. If it is in the open state, it will be closed immediately; if the meter amount is negative, it will Trip immediately.

Power threshold setting: modify the power threshold of the meter, the maximum does not exceed 65.535KW, setting it to 0 means no limit, you can set the threshold through this function,

and the meter will switch off if the power threshold is exceeded;

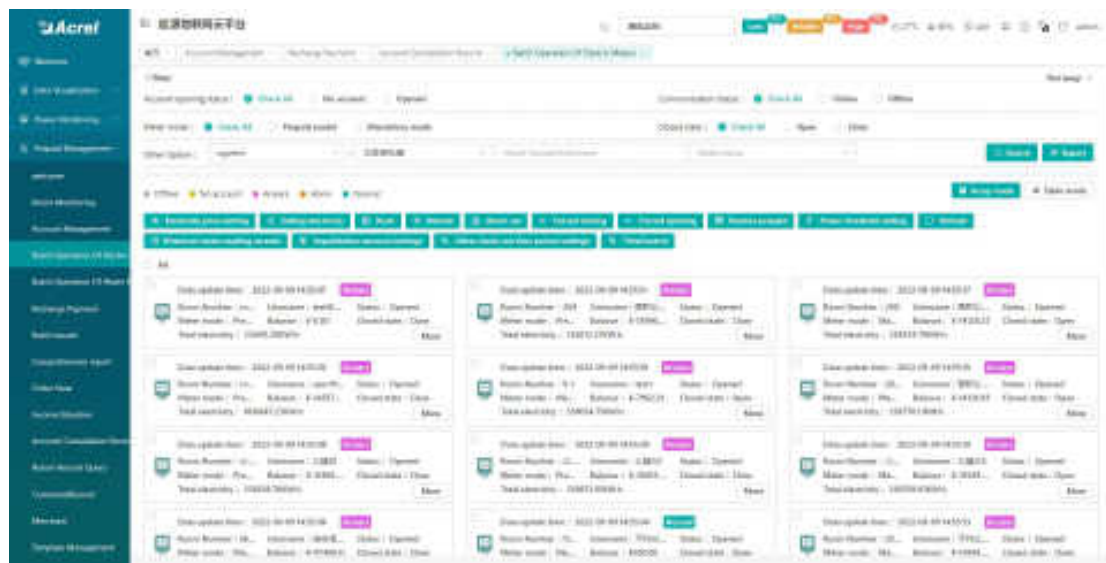


Figure 5-21 Batch operation of meters

Electricity price setting: select one or more electricity meters, click electricity price setting, and display the electricity price setting page, select a plan and click confirm, and the command sending page will appear, click confirm, there will be a prompt whether the operation is successful, as shown in Figure 5-22;

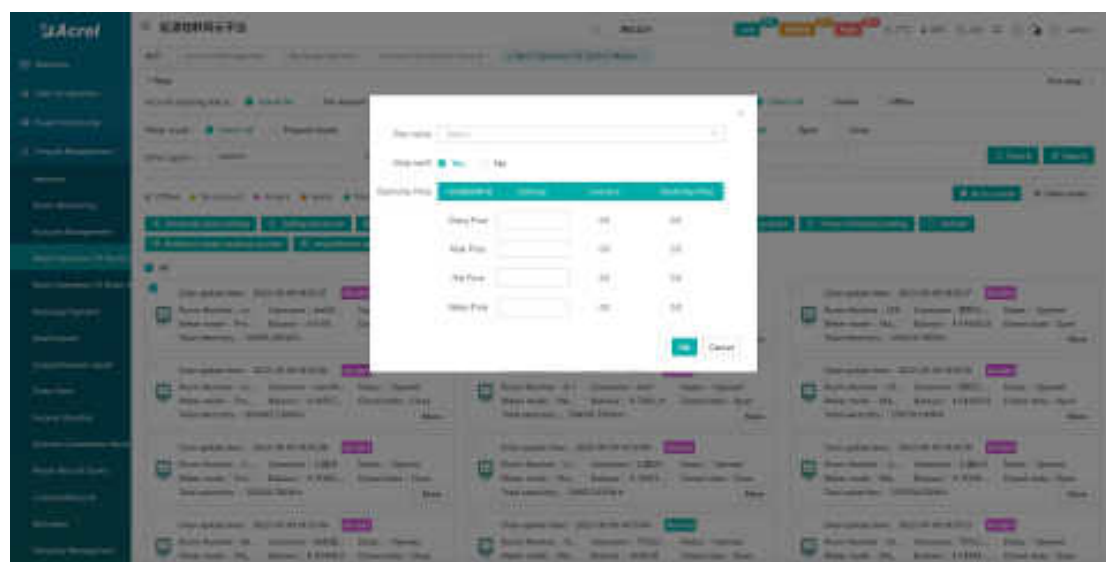


Figure 5-22 Electricity price setting

Electricity sale: select one or more electricity meters, click on selling electricity , display the selling electricity page, enter the amount, select the payment method, click OK, and the order issuing page will appear, click OK, there will be a prompt that the operation is successful, as shown in Figure 5-23 display; resetting and withdrawing operations are consistent with electricity

sales;

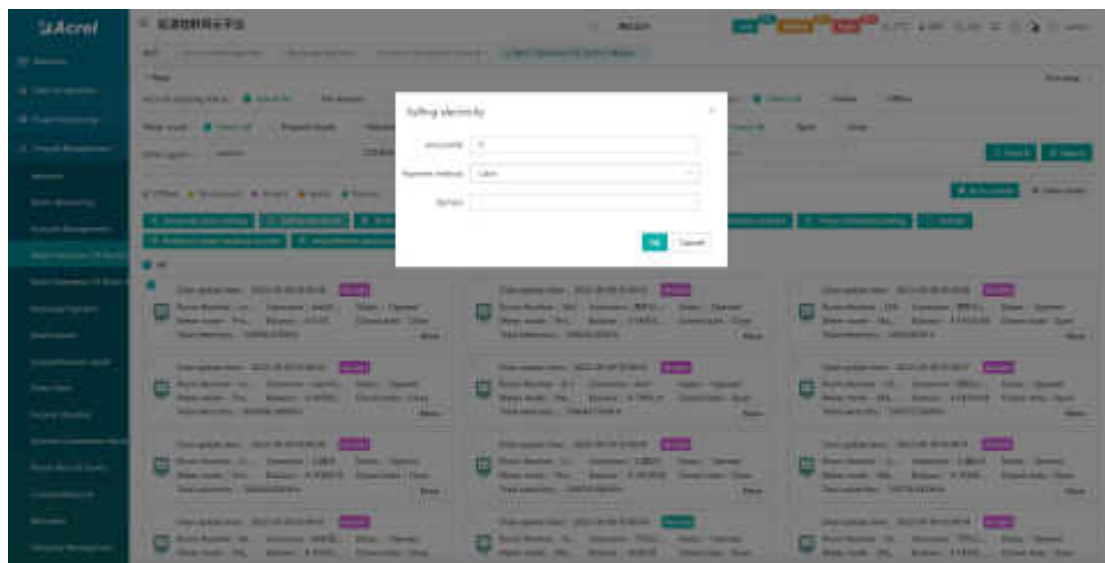


Figure 5-23 Electricity sales

Alarm setting: select one or more electric meters, click on the alarm setting to display the alarm setting page, enter the value of the alarm amount 1, enter the value of the alarm amount 2, choose whether to enable the prompt of the alarm amount A and B, click OK, and the command will appear page, click OK, there will be a prompt whether the operation is successful, as shown in Figure 5-24;

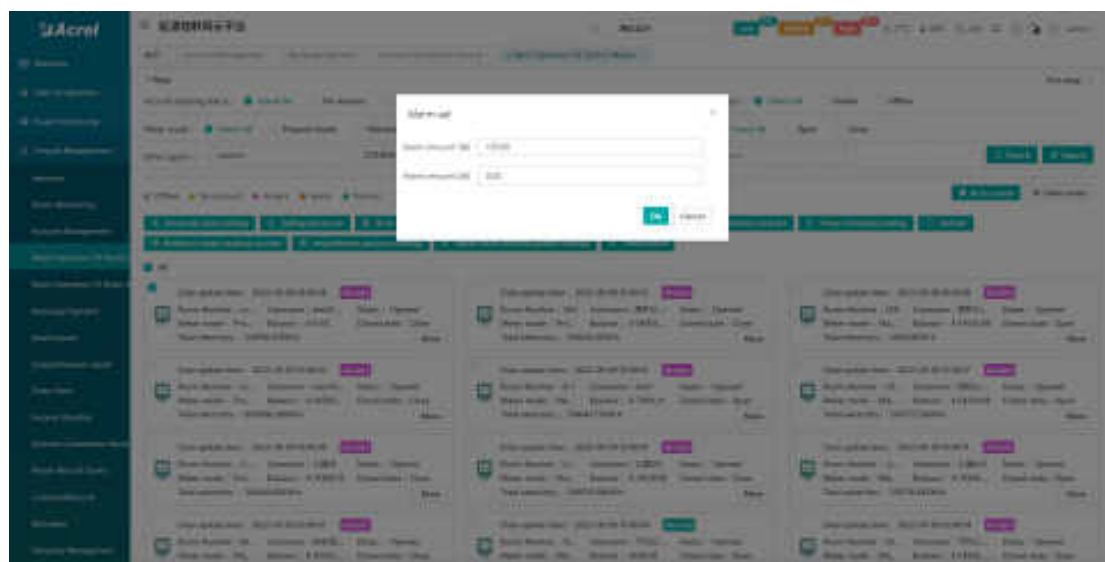


Figure 5-24 Alarm settings

Forced closing: Select one or more meters, click Forced switch-on, the information of the meters that need to be forced to switch-on will be displayed, click OK, it will prompt whether the operation is successful, as shown in Figure 5-25; Forced switch-on and restore prepayment The

operation is consistent with the forced closing;

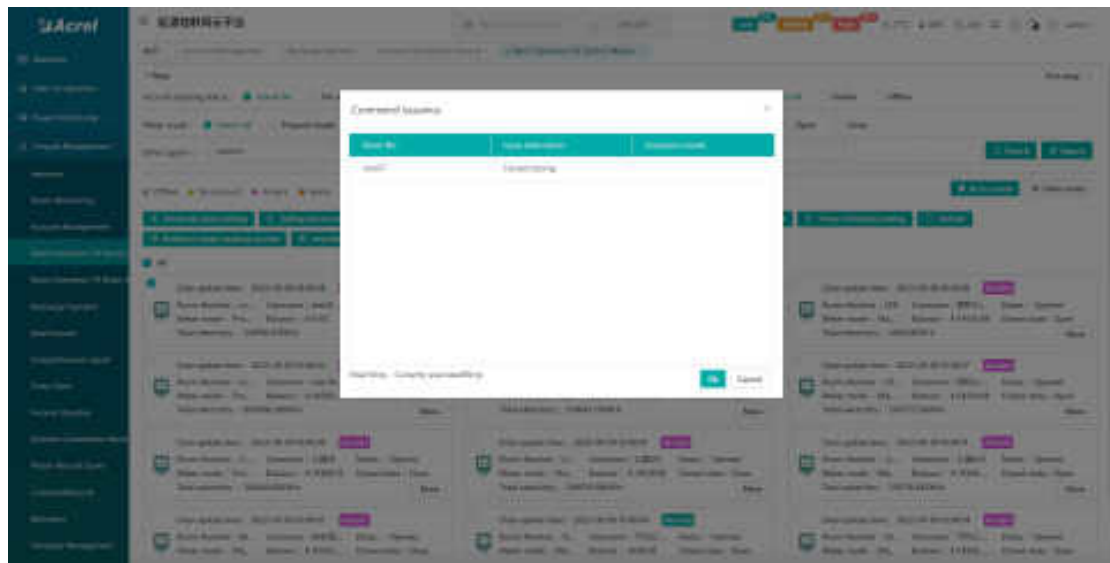


Figure 5-25 Forced closing

Power threshold setting: select one or more electric meters, click Power Threshold Setting, enter the threshold to be set, click OK, and the command sending page will appear, click OK, it will prompt whether the operation is successful, as shown in Figure 5-26;

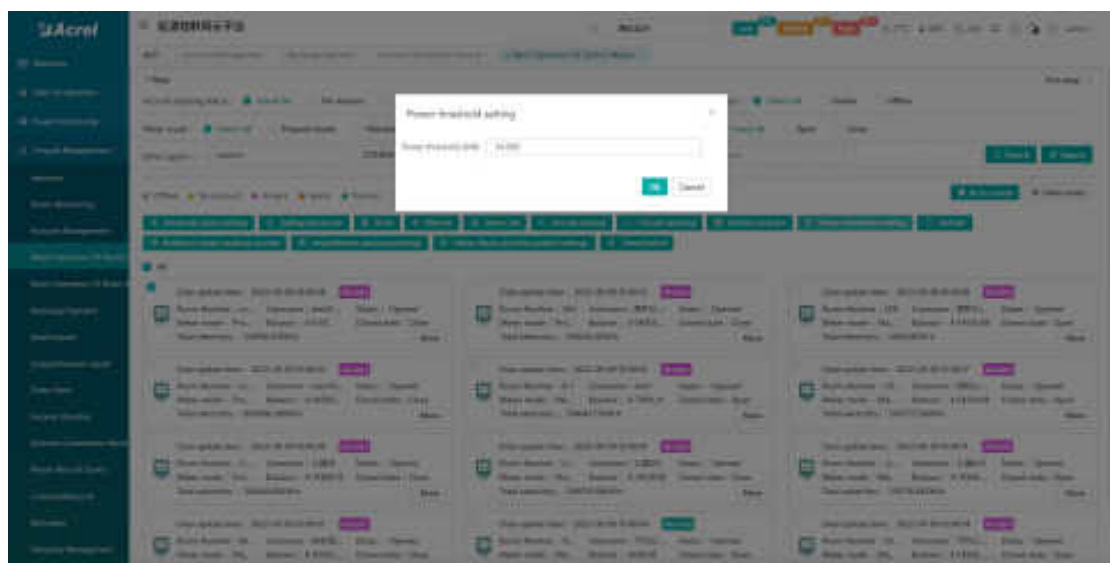


Figure 5-26 Power threshold setting

Restore prepayment: click Restore prepayment, it will prompt that the operation is successful, as shown in Figure 5-27;

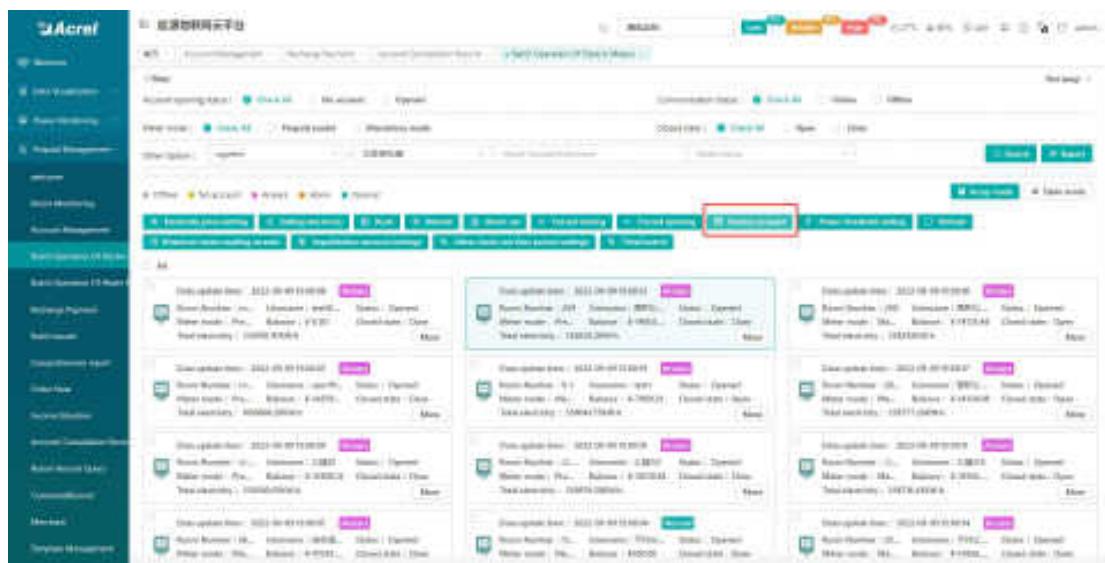


Figure 5-27 Restoring prepaid

Historical meter reading records: Select a room, click the historical meter reading records, you can view the historical remaining amount, electricity consumption, electricity price, deducted amount and other information, as shown in Figure 5-28.

 The screenshot shows a pop-up window titled 'Historical meter reading records'. It contains a table with the following columns: Room No., Acquisition time, Phase, Meter name, Meter code, Balance (元), Balance (kWh), Energy (kWh), Prepaid (元), Prepaid (kWh), Prepaid (元/kWh), and Total Pre. The table lists multiple rows of data for different rooms and acquisition times.

Room No.	Acquisition time	Phase	Meter name	Meter code	Balance (元)	Balance (kWh)	Energy (kWh)	Prepaid (元)	Prepaid (kWh)	Prepaid (元/kWh)	Total Pre
1001	2022-09-09 13:00:00	Three	Prepaid	1001001000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1001	2022-09-09 14:00:00	Three	Prepaid	1001001000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1001	2022-09-09 15:00:00	Three	Prepaid	1001001000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1001	2022-09-09 16:00:00	Three	Prepaid	1001001000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1001	2022-09-09 17:00:00	Three	Prepaid	1001001000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1001	2022-09-09 18:00:00	Three	Prepaid	1001001000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1001	2022-09-09 19:00:00	Three	Prepaid	1001001000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1001	2022-09-09 20:00:00	Three	Prepaid	1001001000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1001	2022-09-09 21:00:00	Three	Prepaid	1001001000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1001	2022-09-09 22:00:00	Three	Prepaid	1001001000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1001	2022-09-09 23:00:00	Three	Prepaid	1001001000000	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Figure 5-28 Historical meter reading records

Credit amount setting: select one or more rooms, click credit amount setting, enter the credit amount, click OK, jump to the command issuing page, click OK, as shown in Figure 5-29.

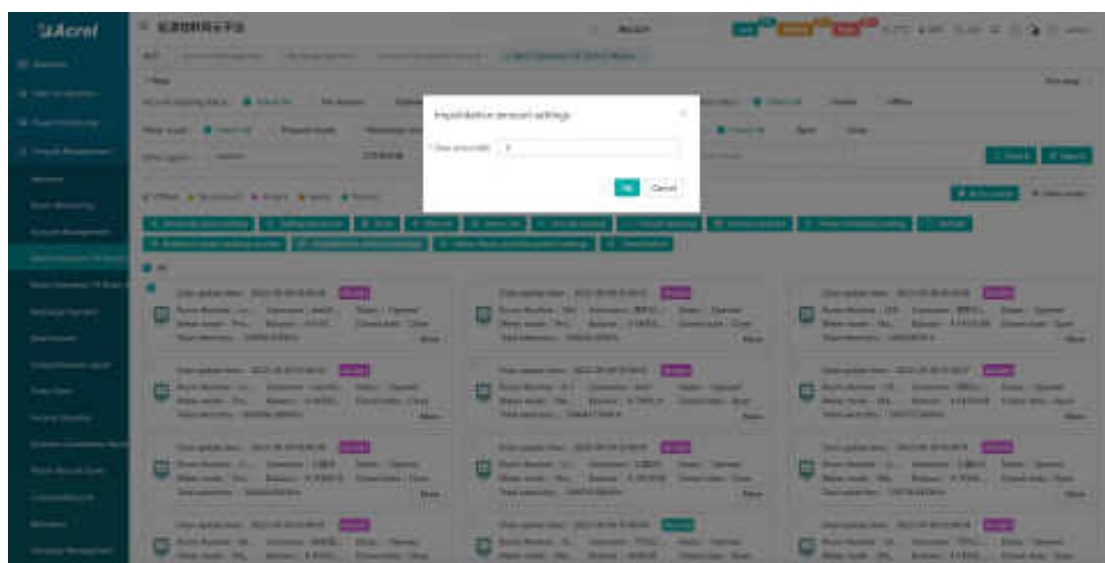


Figure 5-29 Credit amount setting

Allow tripping time period setting: select one or more rooms, click Allow tripping time zone setting, select the time zone, click OK, jump to the command issuing page, click OK, as shown in Figure 5-30. After setting, if the amount is lower than the credit balance, it will not trip if it is not within this time period.

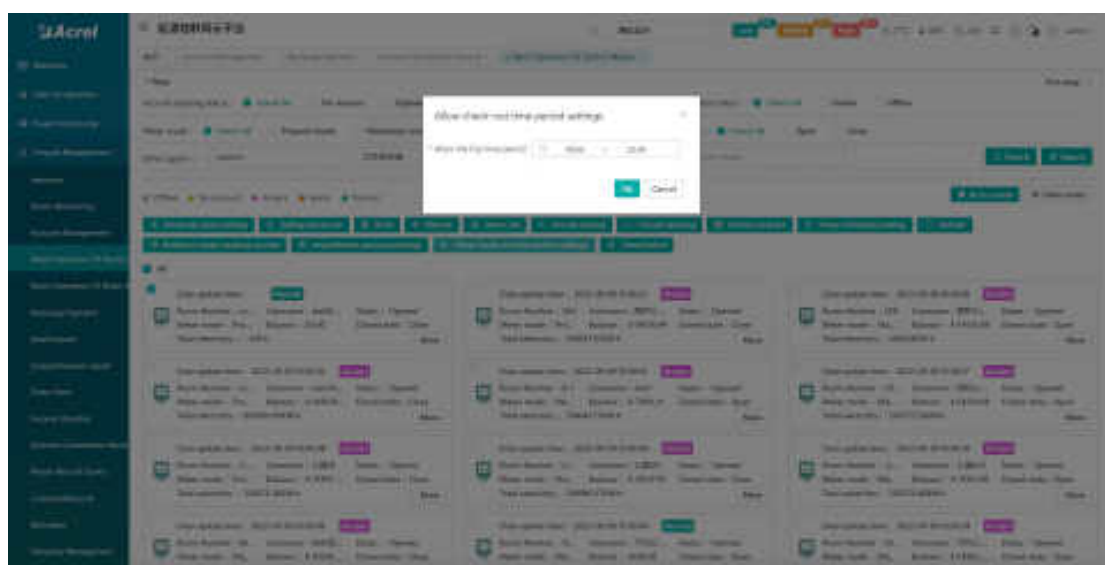


Figure 5-30 Allow tripping time period setting

5.7.Comprehensive report

The comprehensive report provides users with the ability to query the electricity consumption and electricity usage in the time period according to the time period and room, including the meter reading power consumption at the start time and end time of the room, and the peak, peak, flat,

and valley meter reading power consumption. Amount, peak, peak, flat, valley power consumption within the time period, last balance, current balance, electricity cost, transformer ratio and other information, and provide the function of "export report", as shown in Figure 5-31.

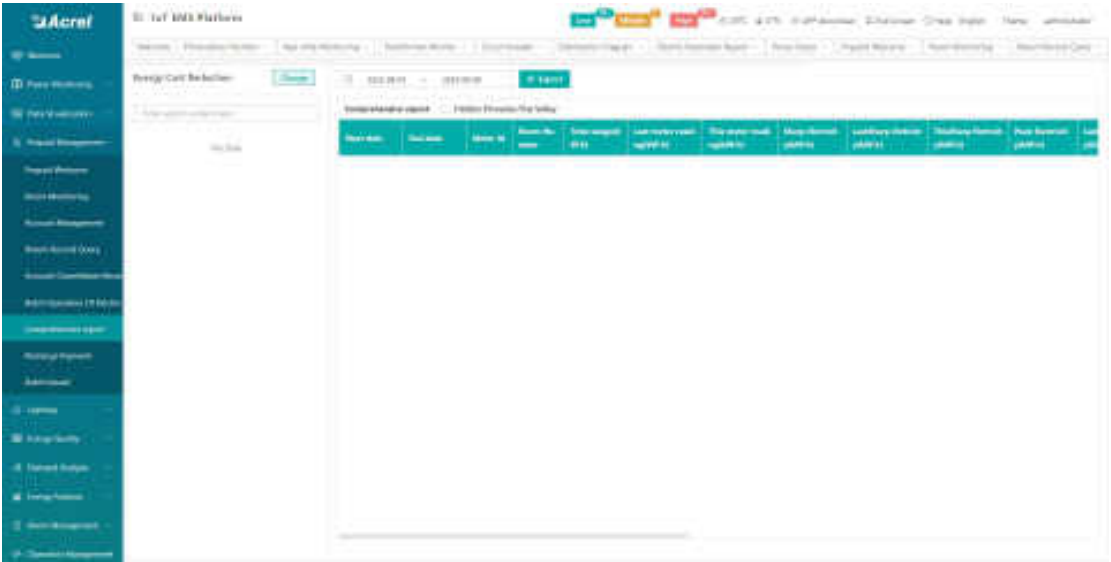


Figure 5-31 Comprehensive report

5.8.Return Record Query

The Return Record Query is used to query the meter unbinding record after the user cancels the account or deletes the user's meter, including the user name, room number, meter type, account balance, whether the meter amount is cleared to 0, etc., according to the date, room number , user name query, as shown in Figure 5-32.

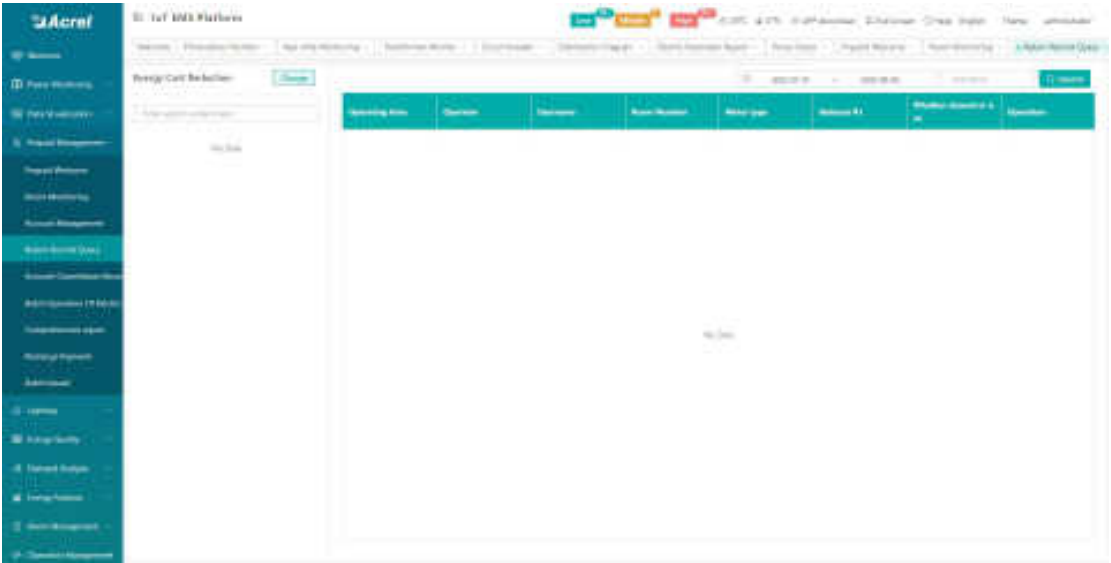


Figure 5-32 Return record query

6. Lighting

6.1.Lighting Dashbord

This page shows an overview of all items in the lighting project, as well as equipment status, item list information and alarm classification, power consumption trend, lighting rate, and the page also shows the point information of the equipment on the map, as shown in Figure 6- 1.

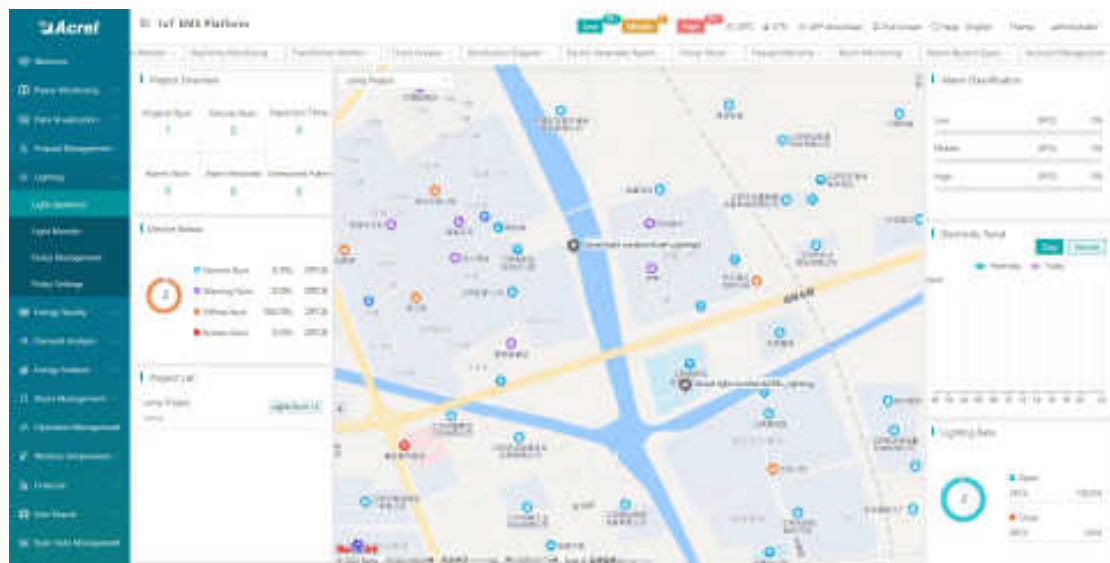


Figure 6-1 Lighting Dashbord

6.2.Lighting monitoring

This page shows the relevant information of all meter under the lighting project. Users can issue various commands in batches through this page, such as switching lights and adjusting the brightness of lights, as shown in Figure 6-2. Click the details to view real-time electricity Parameters, and can view the current strategy, historical curve, alarm information, switch log, strategy log. As shown in Figure 6-3.

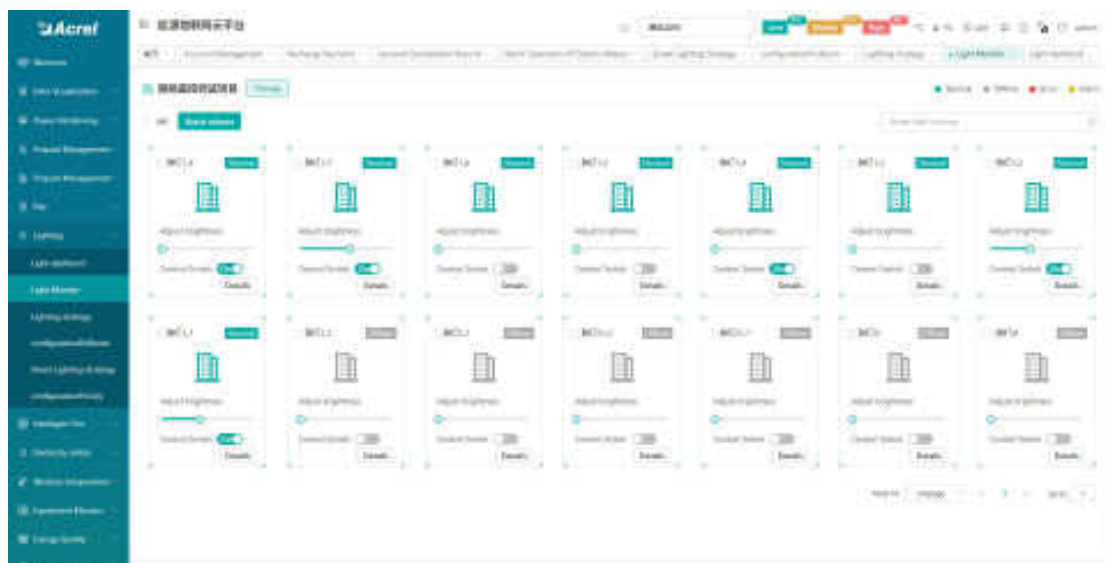


Figure 6-2 Lighting monitoring

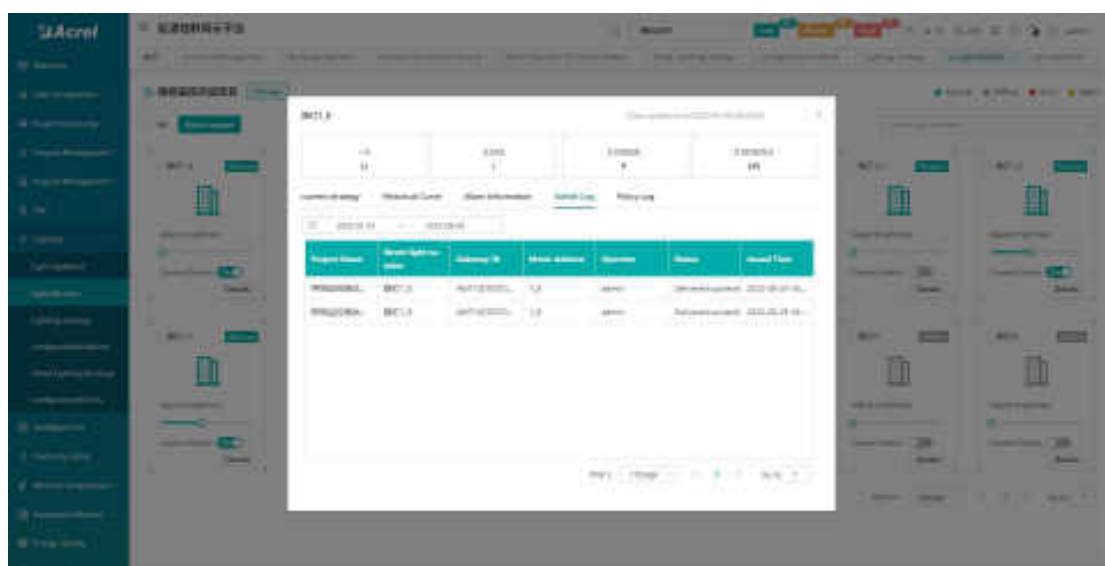


Figure 6-3 Lighting monitoring details

6.3. Policy Management

On this page, you can view the delivered policy details by selecting the project name and delivery mode, as shown in Figure 6-4.

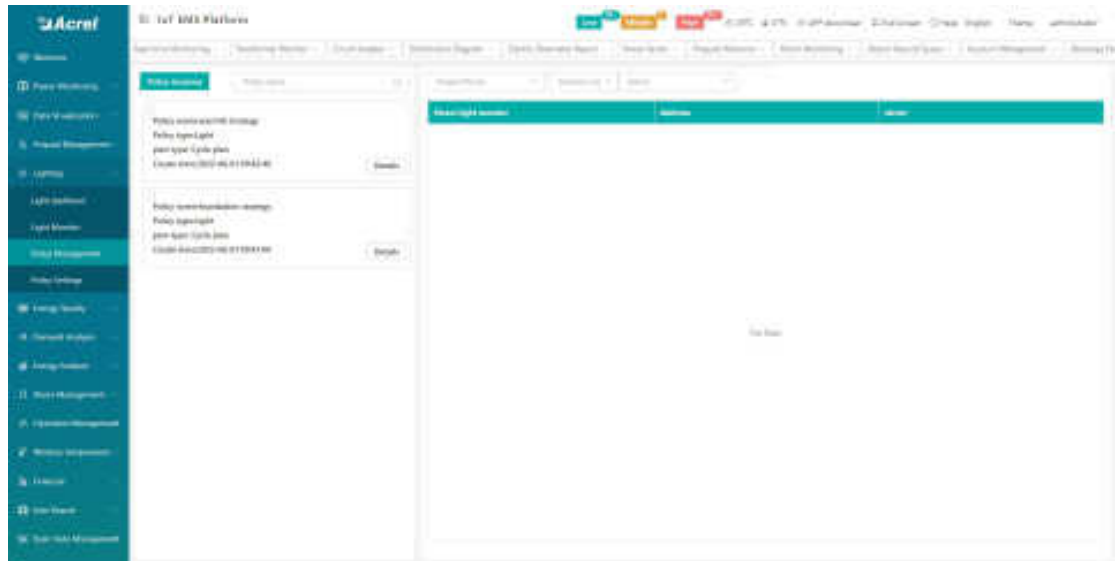


Figure 6-4 Policy Management

6.4. Policy Setting

This page can display existing policies, as shown in Figure 7-5, click Add to add a new policy, as shown in Figure 6-6, select an existing policy, and click Edit to edit an existing policy, as shown in Figure 7 As shown in -7, click Delete to delete the existing policy, as shown in Figure 6-8.

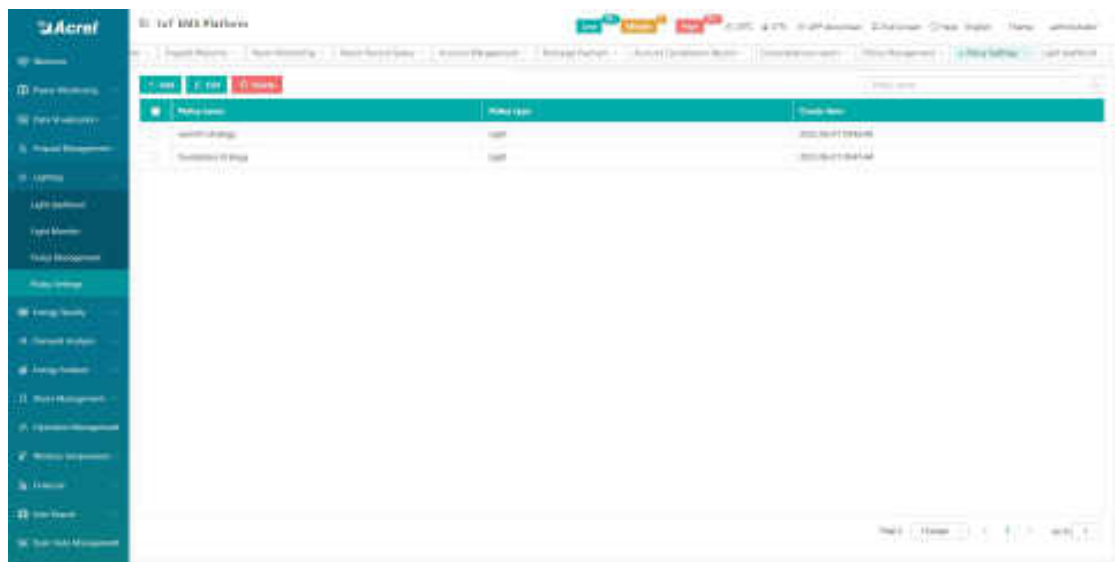


Figure 6-6 Policy settings

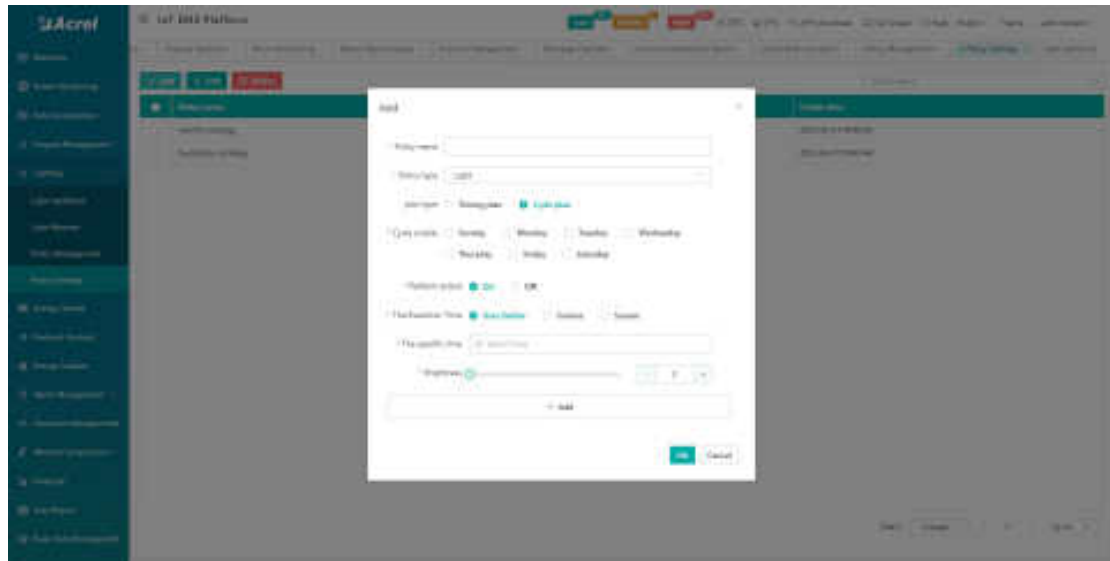


Figure 6-7 Policy addition

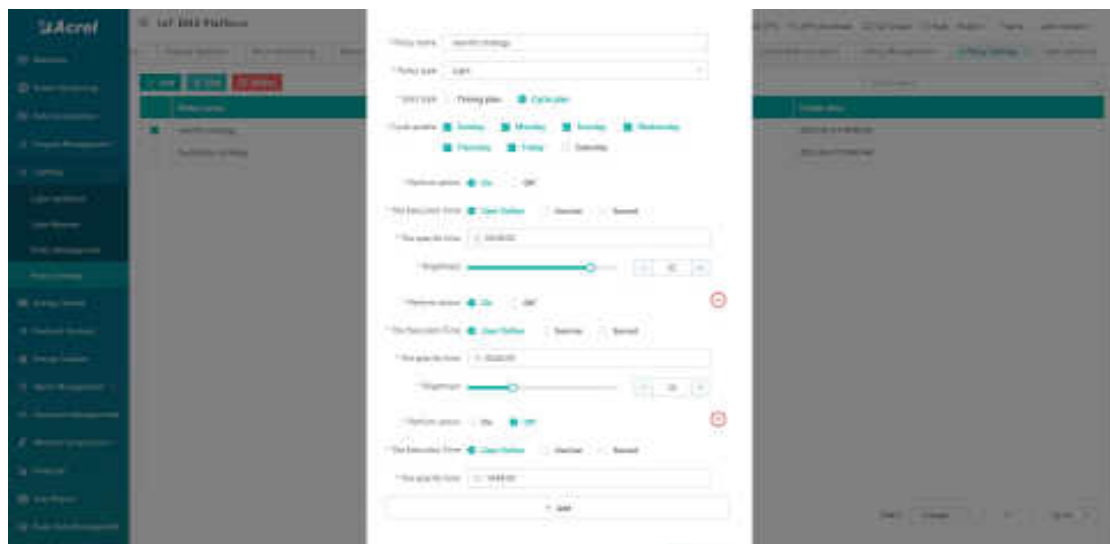


Figure 6-8 Edit policy

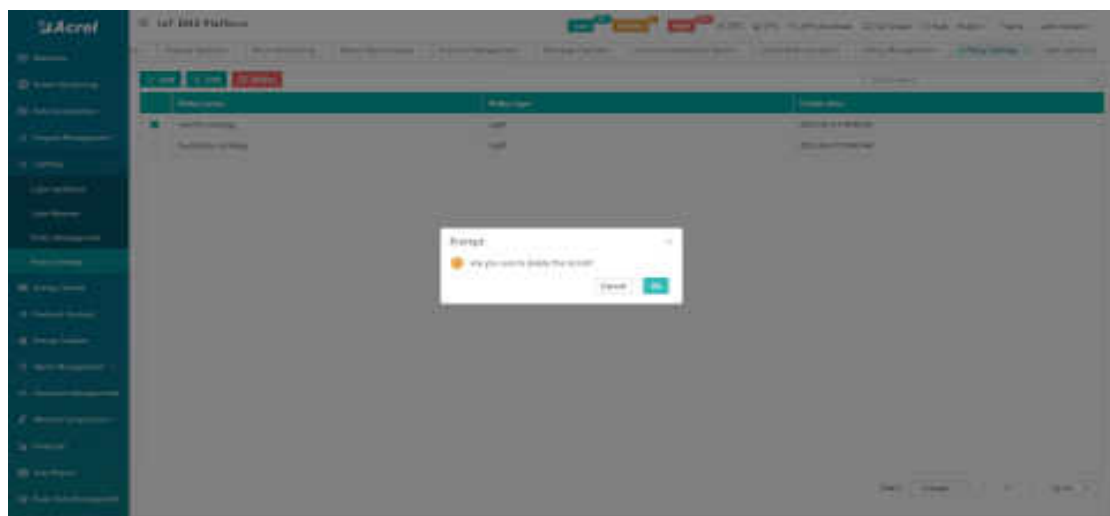
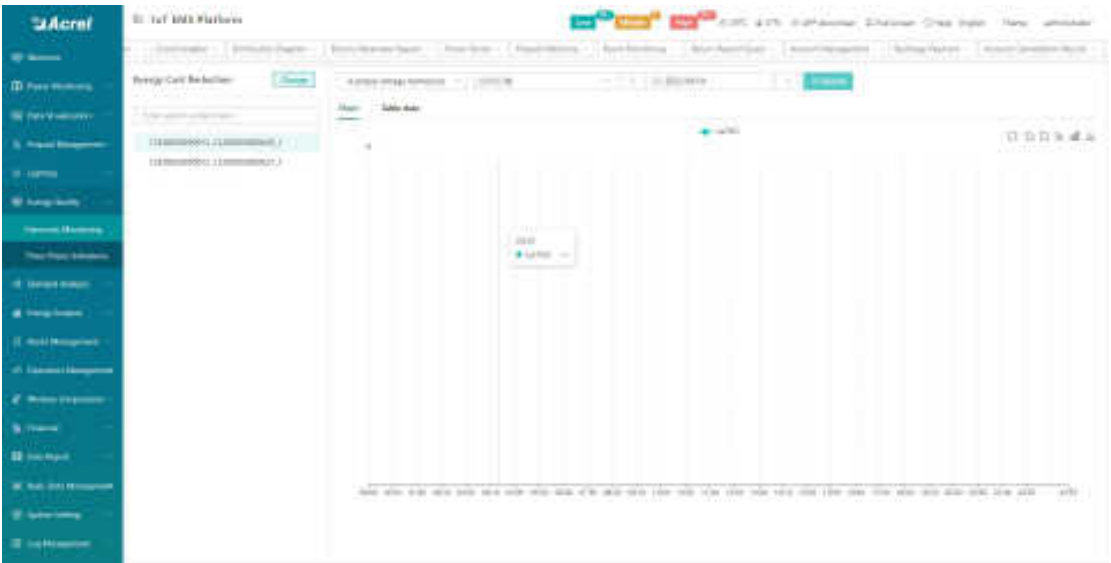


Figure 6-9 Delete policy

7. Energy Quality

7.1.Harmonic Monitoring

The harmonic monitoring page displays the harmonic monitoring data in chart form and data form respectively, and you can choose A-phase voltage harmonics, B-phase voltage harmonics, C-phase voltage harmonics, A-phase current harmonics, B-phase current harmonics, Phase C current harmonics are displayed in graphs or data lists, as shown in Figures 7-1 and 7-2.



7-1 Harmonic Monitoring - Chart

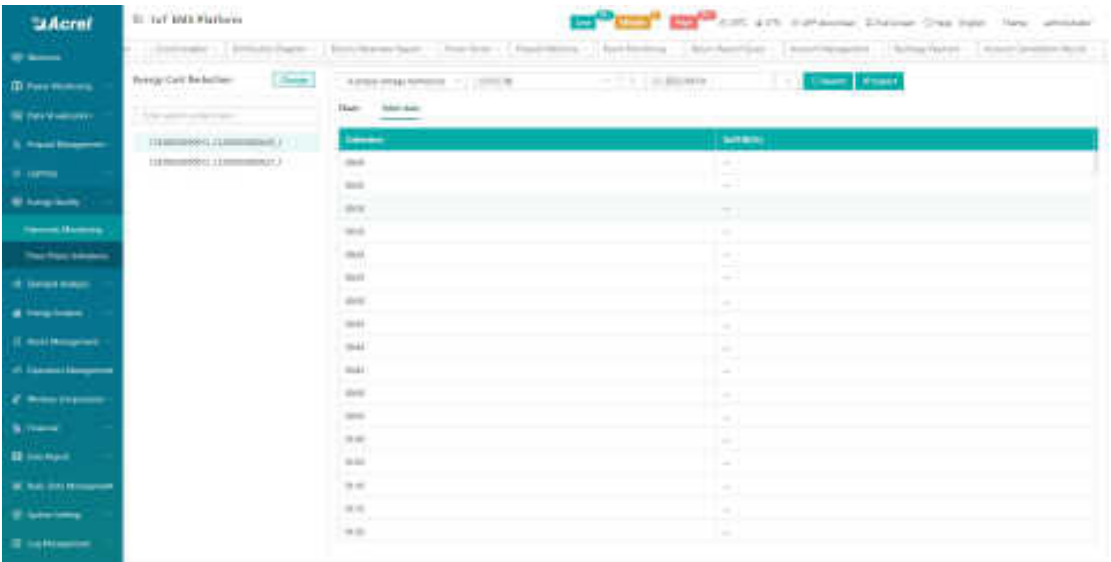


Figure 7-2 Harmonic Monitoring - Table

7.2.Three Phase Unbalance

The three phase unbalance degree includes the three phase voltage unbalance degree and the

The screenshot displays the Acrel IoT Hubview interface. The left sidebar contains navigation links: Overview, Power Monitoring, Data Visualization, Asset Management, Settings, Alarm Setting, Alarm History, Alarm Management, Real-time Monitoring, Power Grid Analysis (highlighted), Energy Analysis, Energy System, Asset Management, Equipment Management, Monitor Management, System, Data Report, Real-time Management, System Setting, and Log Management.

The main content area is titled 'Power Grid Analysis'. It features a radar chart showing five data series (A, B, C, D, E) plotted on a circular grid. To the right of the chart is a 'Real-time Data' table:

	Phase A	Phase B	Phase C
Current (A)	10.5	10.5	10.5
Voltage (V)	220V	220V	220V
Power (W)	1.1kW	1.1kW	1.1kW
Power Factor	0.95	0.95	0.95

Below the radar chart is a table with 10 columns and 10 rows of data, likely representing historical or detailed real-time measurements. The columns are labeled with various power quality parameters and their units.

8. Demand Analysis

8.1.Maximum Demand Report

Figure 8-1 Maximum demand report

8.2.Demand Monitoring

The demand monitoring page shows the daily demand of the detector, which can be switched between charts and data, as shown in Figure 8-2 and 8-3.

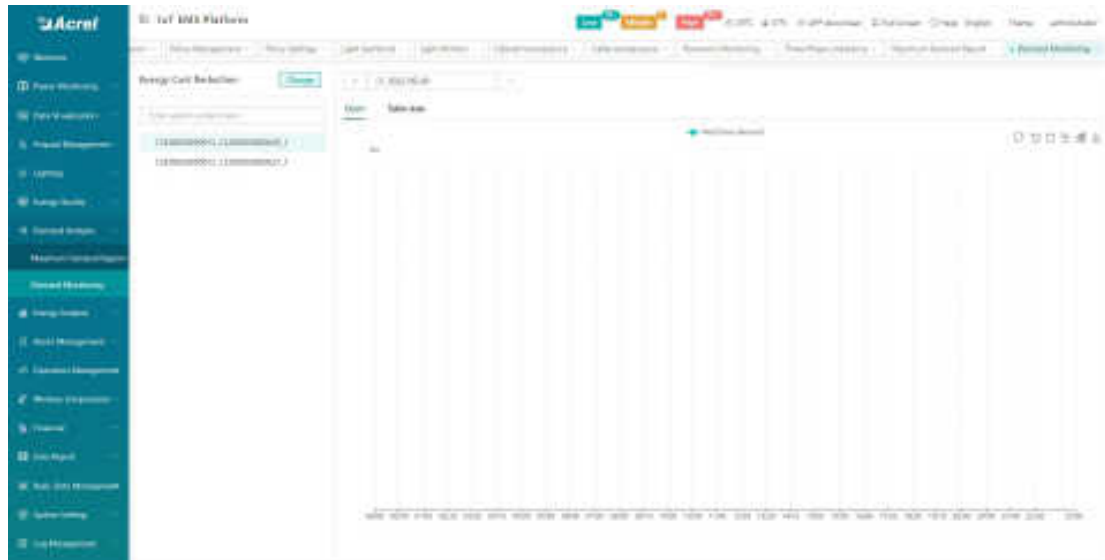


Figure 8-2 Demand Monitoring - Chart

Time	Demand Data
00:00	10
01:00	10
02:00	10
03:00	10
04:00	10
05:00	10
06:00	10
07:00	10
08:00	10
09:00	10
10:00	10
11:00	10
12:00	10
13:00	10
14:00	10
15:00	10
16:00	10
17:00	10
18:00	10
19:00	10
20:00	10
21:00	10
22:00	10
23:00	10

Figure 8-3 Demand Monitoring - Table

9. Energy Analysis

9.1.Energy Overview

The energy overview is to display the month on month Analysis, energy consumption trend,

daily electric power curve, and power peak value on the same interface. According to viewing a certain project, select the corresponding building node and classified energy consumption, you can view the project, month on month Analysis, energy consumption trend, and some can also view the daily power curve and power peak value. At the same time, you can switch the current day, current month, and current year to view energy consumption trends in different time periods. As shown in Figure 9-1.

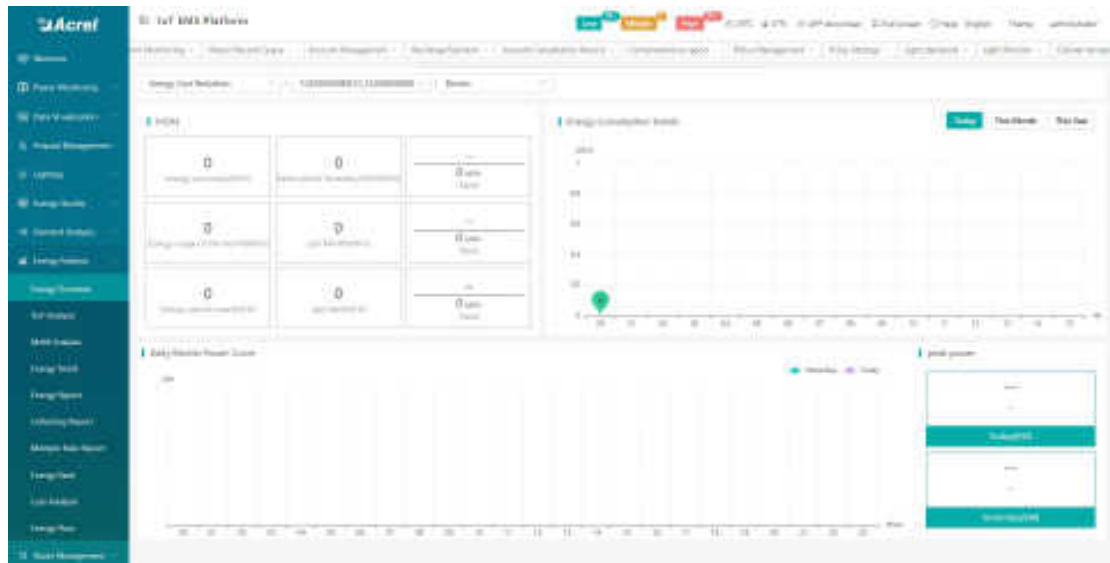


Figure 9-1 Energy Overview

9.2.YoY Analysis

The year-on-year analysis mainly counts the comparative analysis of the classified energy consumption under the energy consumption node of a certain project and the same period last year. Select the energy consumption node of the project to be viewed, classify the energy consumption and date, and select "Year" to view the energy consumption data and charts of the project. As shown in Figure 9-2.

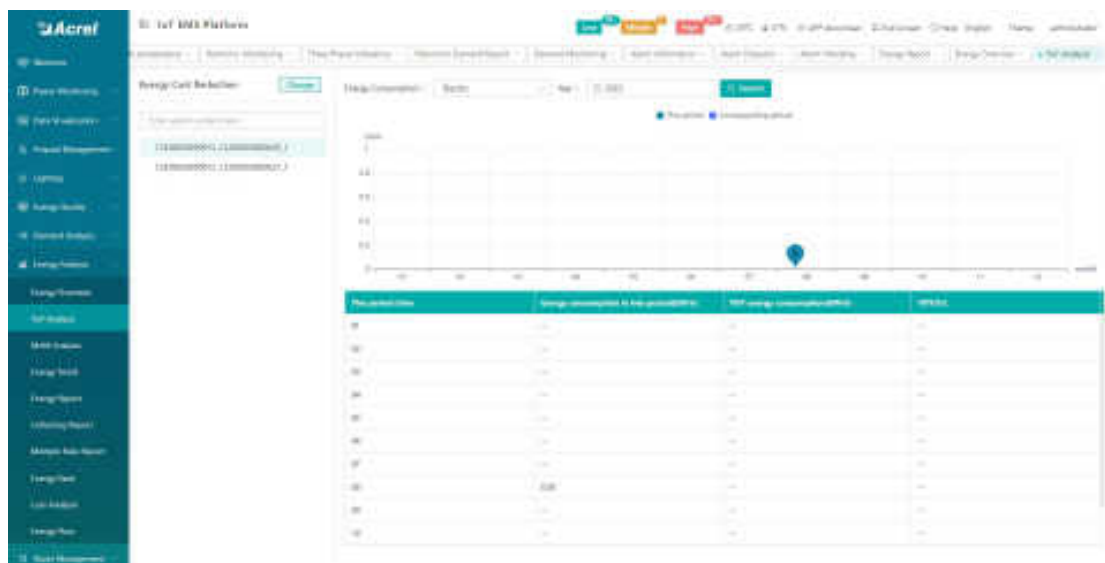


Figure 9-2 YoY Analysis

9.3.MoM Analysis

On the month on month analysis page, you can query the classified energy consumption of energy consumption nodes under the project on a daily and monthly basis, compare and analyze it with the energy consumption of the same period yesterday or last month, and get the ring ratio, which can be exported to excel, as shown in Figure 9-3.

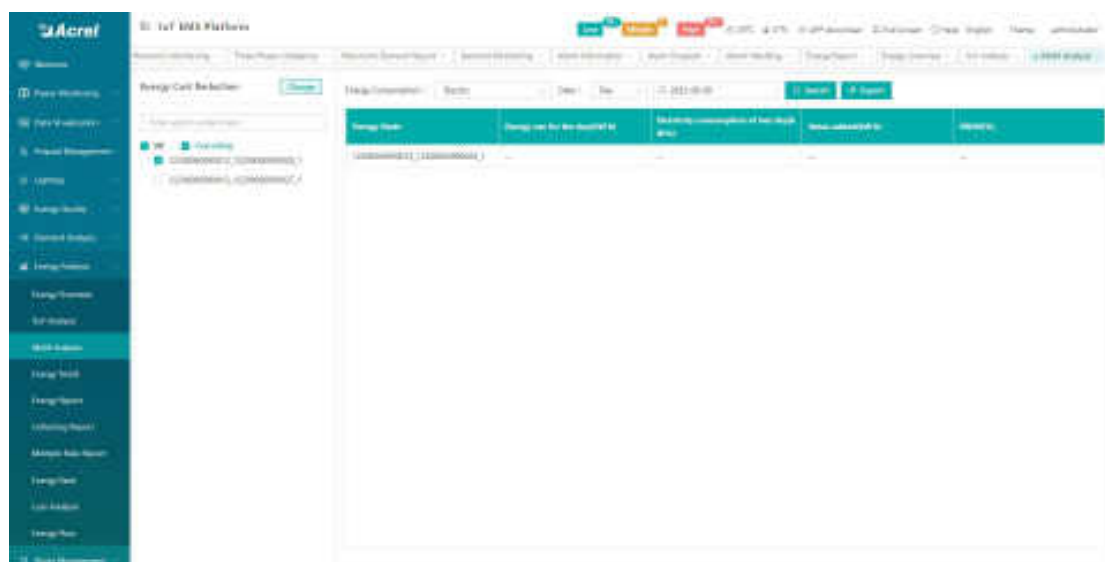


Figure 9-3 MoM analysis

9.4.Energy Trend

On the energy trend interface, you can view the daily, monthly and annual energy consumption trend of classified energy consumption under the building energy consumption node

of the project, as shown in Figure 9-4.

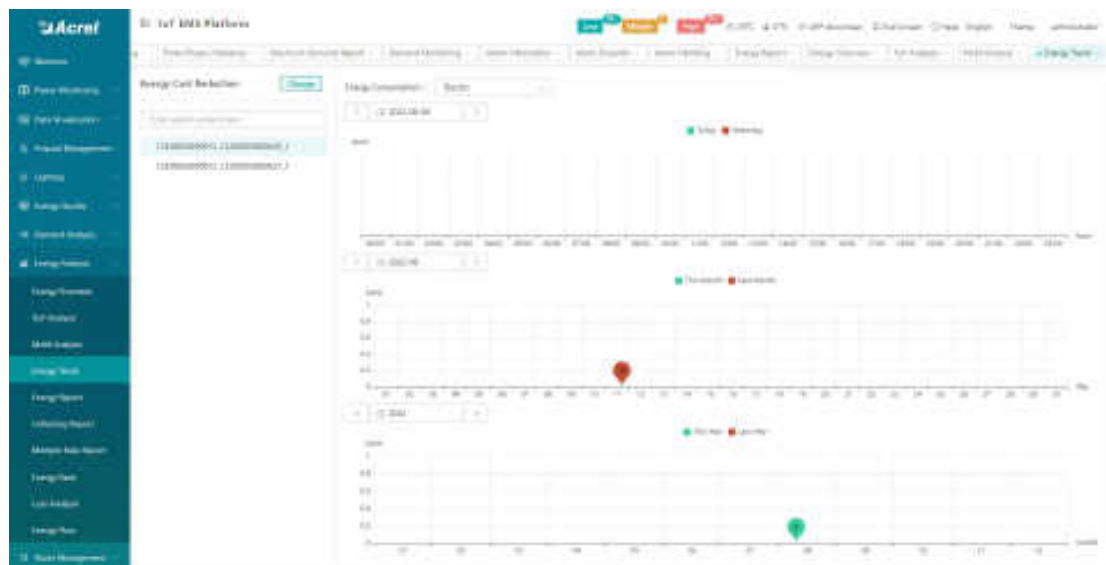


Figure 9-4 Energy trend

9.5. Energy Report

The energy report mainly counts the daily, monthly and annual reports of building energy consumption, comprehensive energy consumption, and carbon dioxide emissions managed by the currently logged-in user. According to different categories of energy consumption statistics, you can select building energy consumption, comprehensive energy consumption, and carbon dioxide emissions daily, monthly, and annual reports, and export the tables. Select the energy consumption, the classified energy consumption to be viewed and the date, and select one of the report types of "Day", "Month" and "Year". Click "Query" to view each building energy consumption node of this category. Click "Export" to export the table. As shown in Figure 9-5.

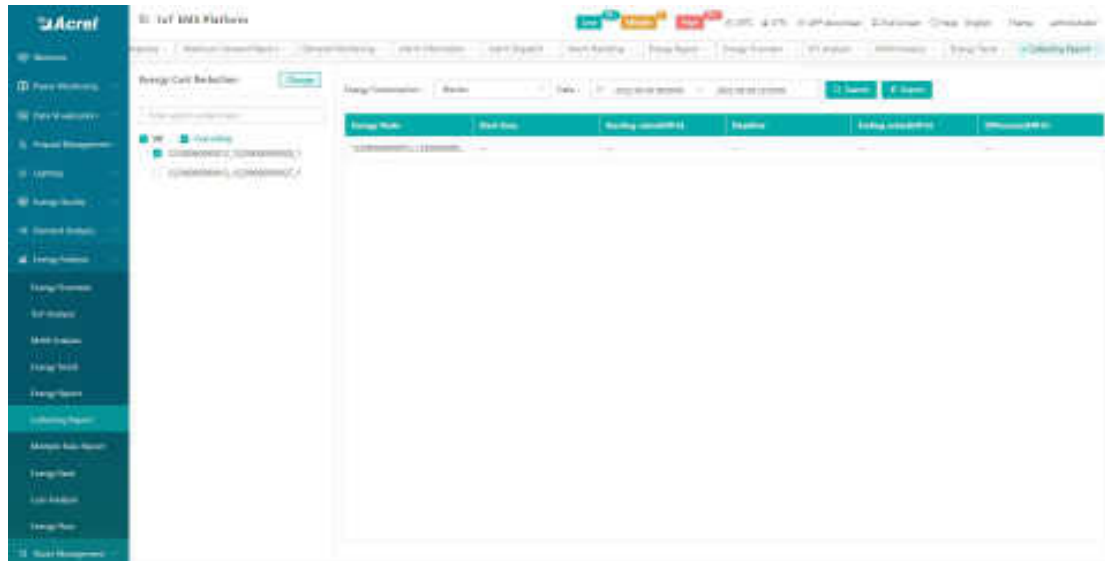


Figure 9-7 Collection report

9.7. Multiple Rate Report

The multi-rate report mainly counts the peak, peak, flat, valley power and electricity charges of the energy consumption nodes of the project. Select the project to be viewed, energy consumption node and date, and select one of the report types of "Day", "Month" and "Year". Click "Query" to view the multi-rate report of the energy consumption node; click "Export" to export the table. As shown in Figure 9-8.

Note: This report requires the metering device to support the statistical function by time period.

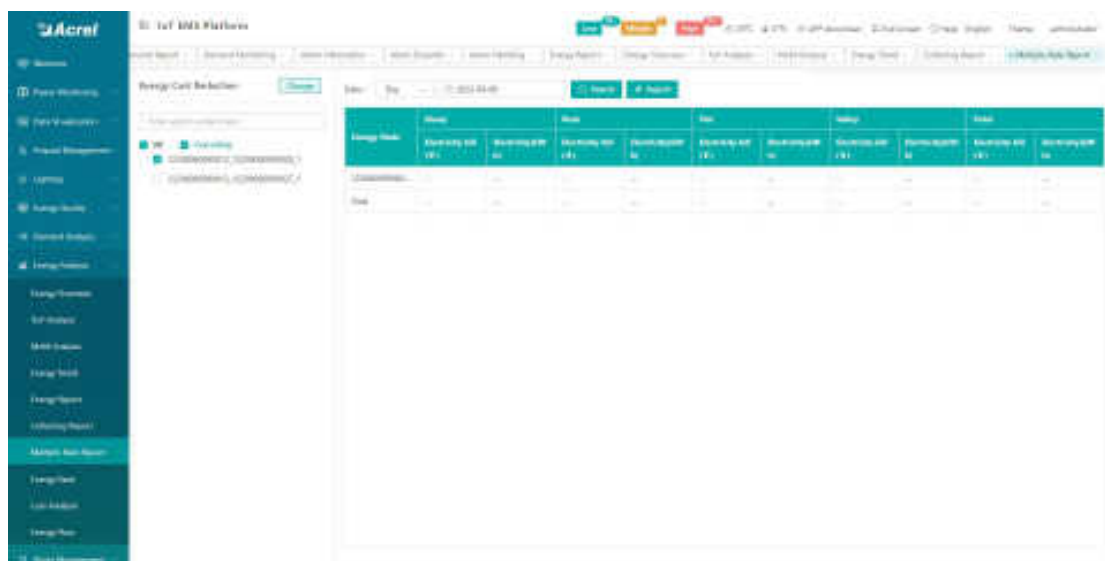


Figure 9-8 Multiple Rate Report

9.8. Energy Rank

The energy consumption ranking can rank the energy consumption, comprehensive energy consumption, and carbon dioxide emissions of each energy consumption node of the project, and the consumed energy consumption, comprehensive energy consumption, and carbon dioxide emissions are displayed in the form of a report. As shown in Figure 9-9.

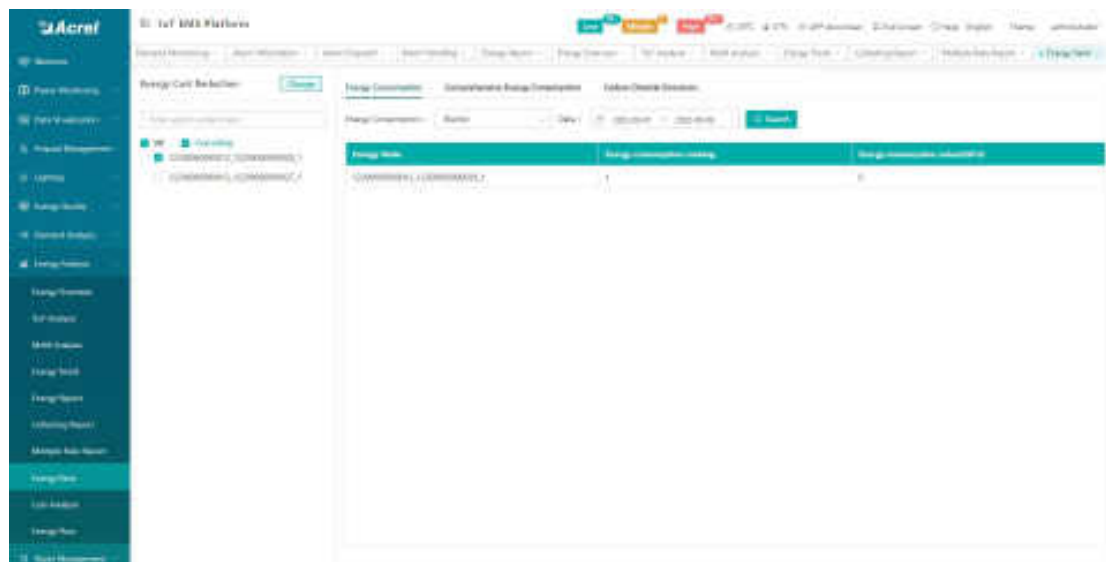


Figure 9-9 Ranking of energy consumption

9.9. Loss Analysis

Loss analysis can check the line loss between various power consumption branches, and also supports the export of reports. As shown in Figure 9-10.

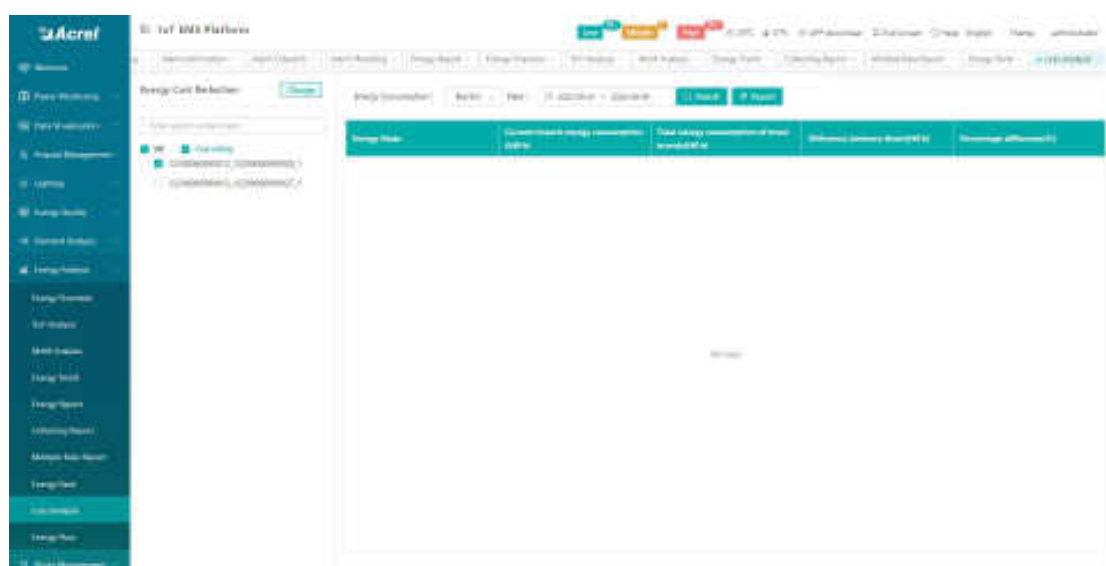


Figure 9-10 Loss analysis

9.10. Energy Flow

The energy flow diagram mainly shows the flow diagram of the energy consumption of each category of a single project. Select the project to be viewed, classified energy consumption, start date and deadline, and you can view the energy flow of the project. At the same time, you can see the energy consumption of each node by placing the mouse on the graph. As shown in Figure 9-11.

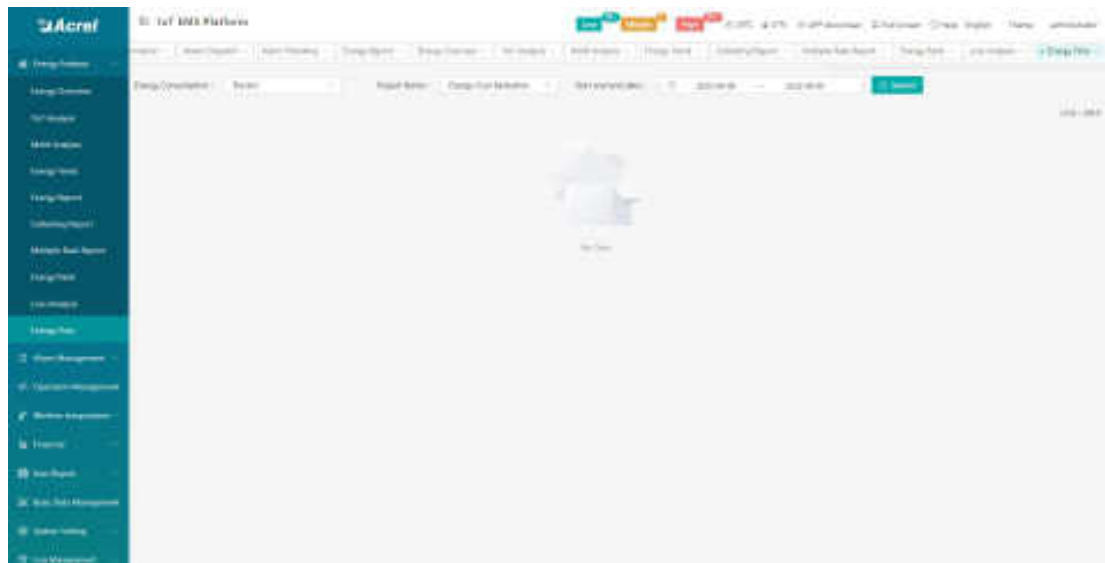


Figure 9-11 Energy flow direction

10. Alarm Management

There will be some faults and alarms during the use of the equipment. For these faults and alarms, relevant personnel can check the hidden danger information in time and take corresponding measures.

10.1. Alarm Information

The alarm query page displays the hidden danger information of all devices under the associated project, and the corresponding alarm records can be searched according to the alarm type, work order status, project name, area location, and time, as shown in Figure 10-1.

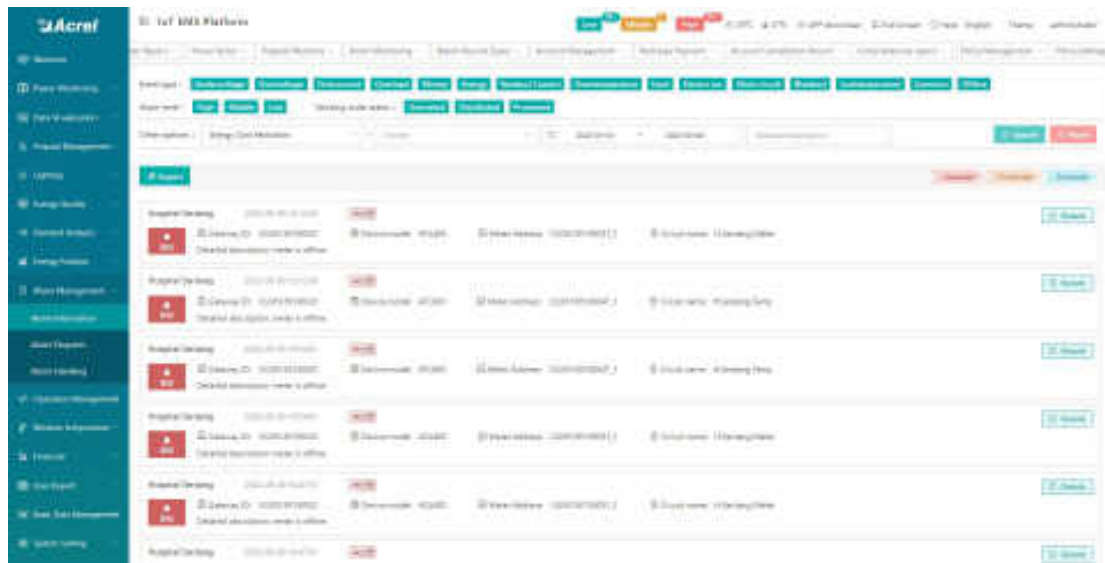


Figure 10-1 Alarm information

10.2. Alarm Dispatch

The alarm distribution page displays undistributed hidden danger records, and the corresponding alarm records can be searched according to the alarm type, project name, area location, and time, as shown in Figure 10-2.

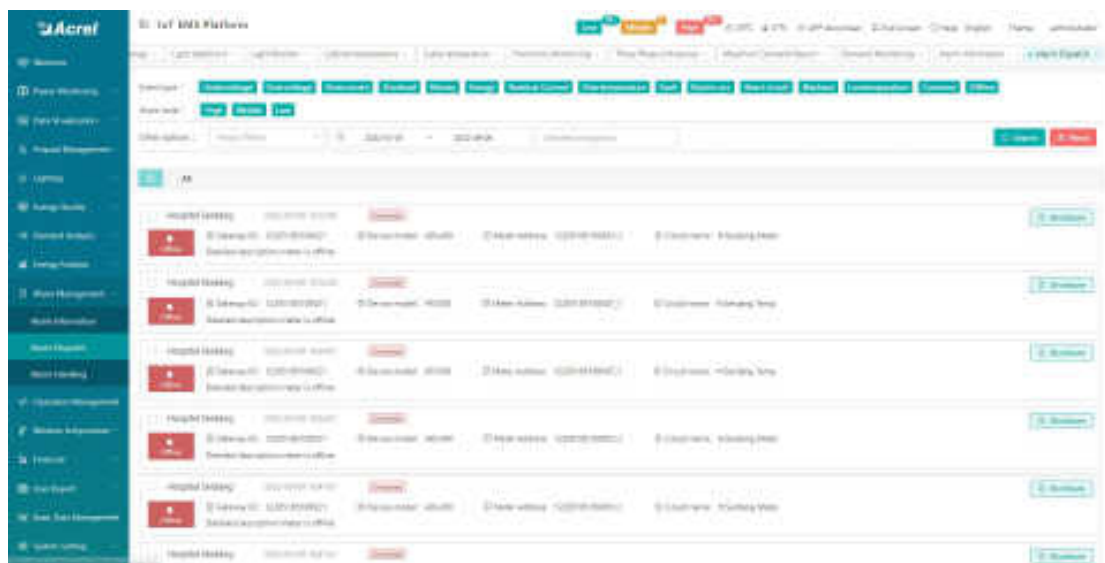


Figure 10-2 Alarm dispatch

Click the alarm information distribution button to enter the alarm distribution page, select the executor and the rectification period, if you need to fill in the work order task, you can fill in the work order task, and the system will send the work order information to the executor after submission. As shown in Figure 10-3.

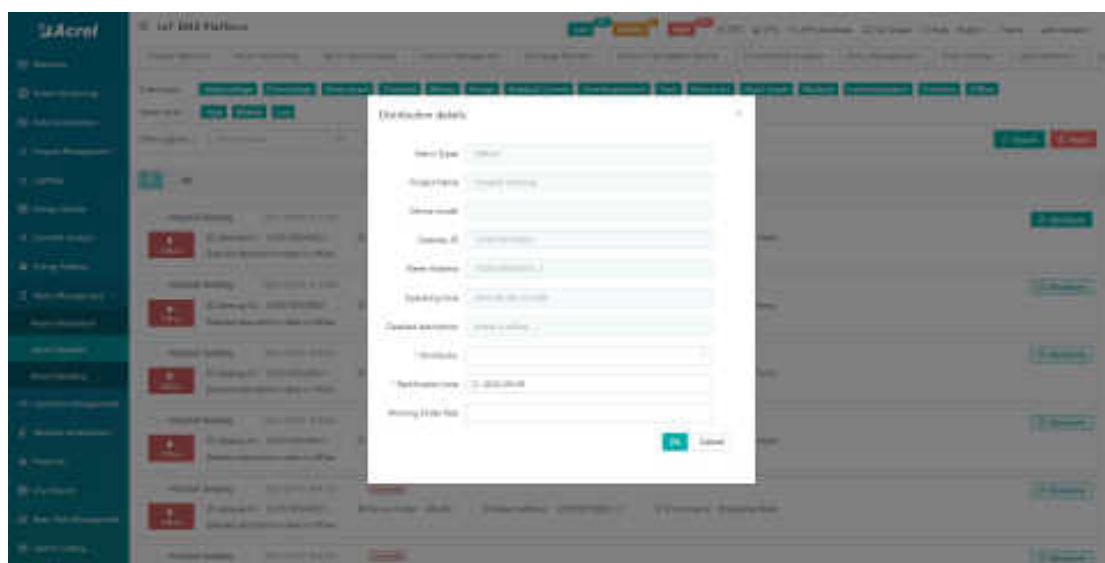


Figure 10-3 Alarm distribution details

10.3.Alarm Handling

The alarm handling page displays the alarms dispatched to the user that need to be processed, and the corresponding alarm records can be searched according to the alarm type, project name, area location, and time, as shown in Figure 10-4.

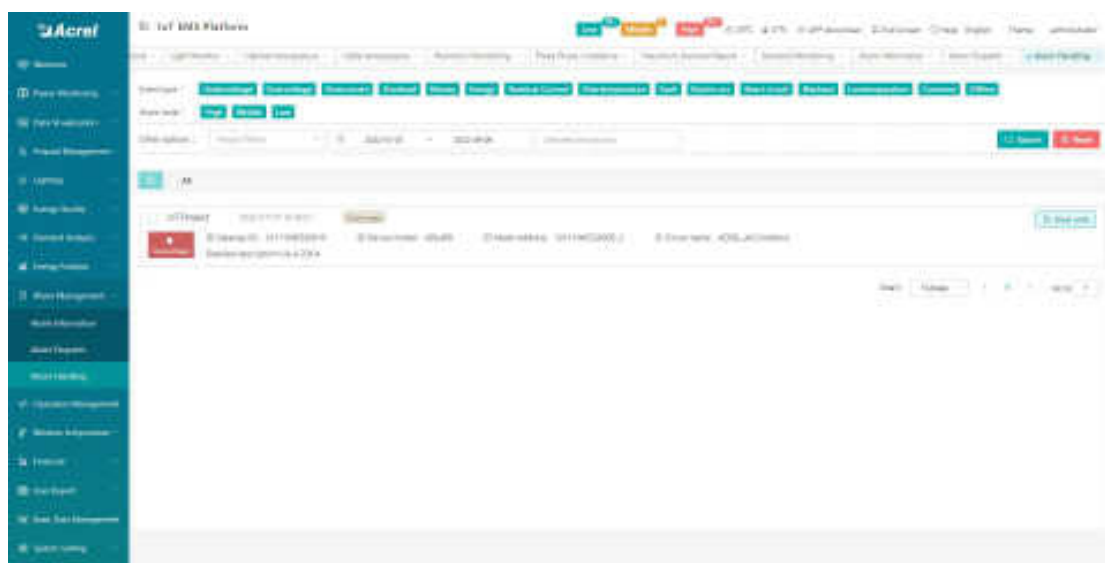


Figure 10-4 Alarm handling

Click the alarm information processing button to pop up the alarm processing page. The handler can fill in the abnormal reason and processing instructions, and upload the on-site processing picture. Click Save to complete the work order, as shown in Figure 10-5.

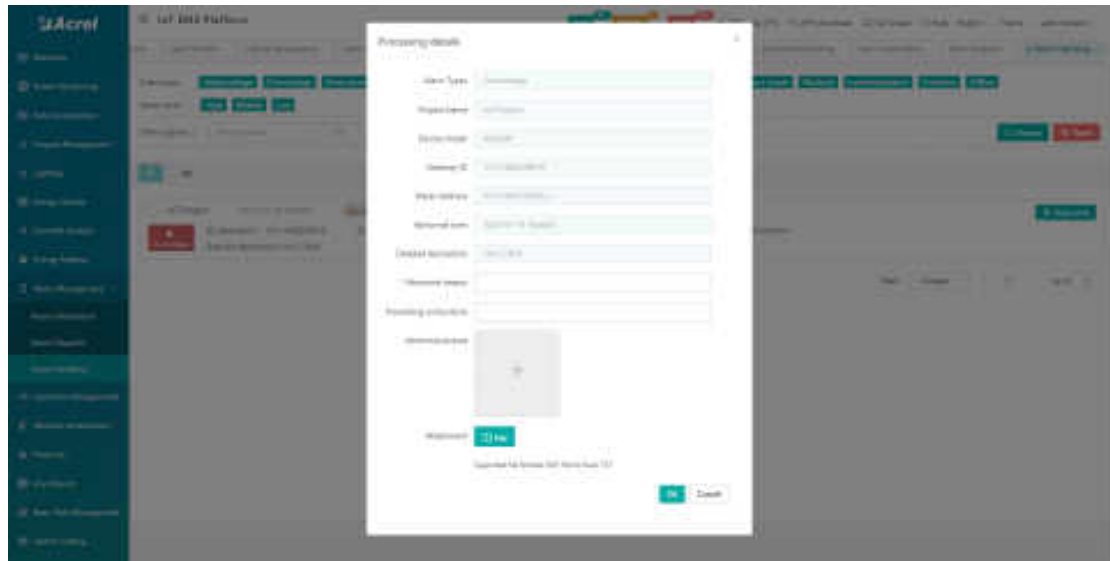


Figure 10-5 Alarm processing details

11.Operation Management

11.1. Inspection Plan

The inspection plan page shows the created inspection plan. The default is to display the inspection plan of the current month. You can query the data of other times by switching the date. It supports setting building nodes, plan name/plan content as filter conditions to filter eligible ones. The inspection plan also supports adding, modifying and deleting the inspection plan, as shown in Figure 11-1.

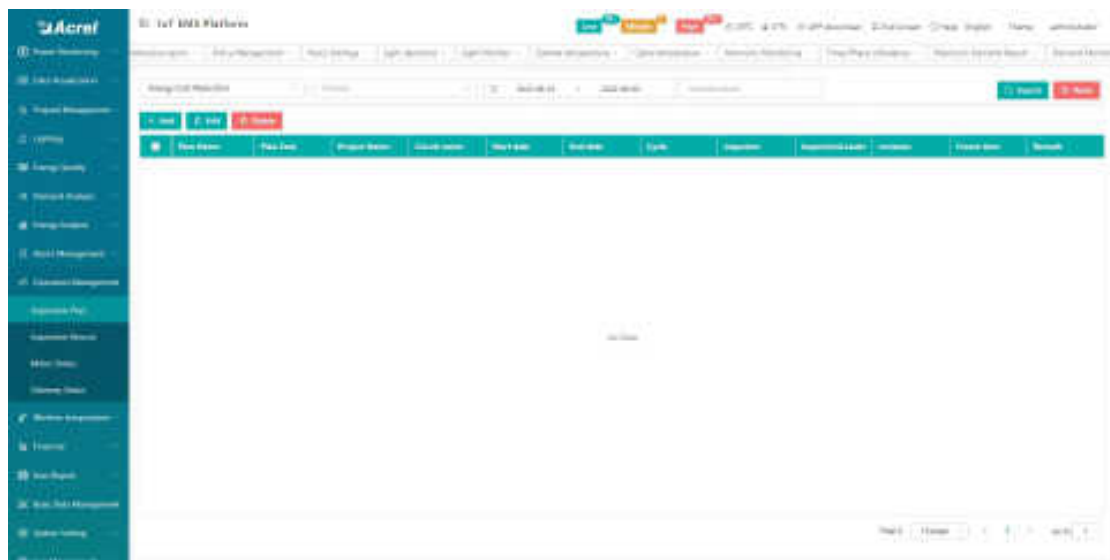


Figure 11-1 Inspection plan

Click the Add button to pop up the new plan page, select the plan name, enter the plan

content, select the circuit name, inspection cycle, start date and end date, time period and inspection person, inspection item content, inspection item team leader, Reviewer, Remarks, after clicking OK, the system will automatically generate inspection plan records for each area in the corresponding time period. As shown in Figure 11-2. Click the edit button to pop up the edit plan page, and the operation method is the same as that of creating. After the inspection plan is deleted, the corresponding inspection record page will be deleted. (The name of the loop refers to the location of the area that needs to be inspected, and the content of the inspection is the work that needs to be done during the inspection. The day of the inspection cycle represents the daily inspection in days, and the week of the inspection cycle represents the weekly inspection in weeks. inspection on a certain day, and the inspection cycle month represents the inspection on a certain day of each month in units of months).

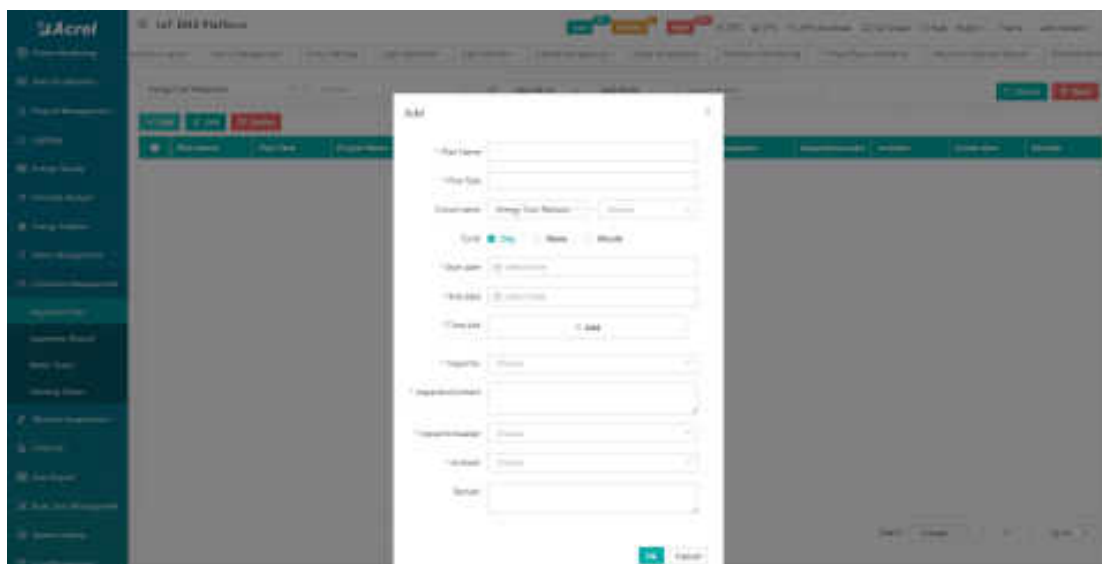


Figure 11-2 Add inspection plan

11.2.Inspection Record

The inspection record page displays all inspection records. Users can query data according to three states: uninspected, normal inspection, and reported defects. They can also use building nodes, switching dates, and plan name/plan content as filter conditions To query data, at the same time, this page also supports output. As shown in Figure 11-3. (Reporting the defect status refers to finding defects during the inspection process and reporting the defects to the platform)

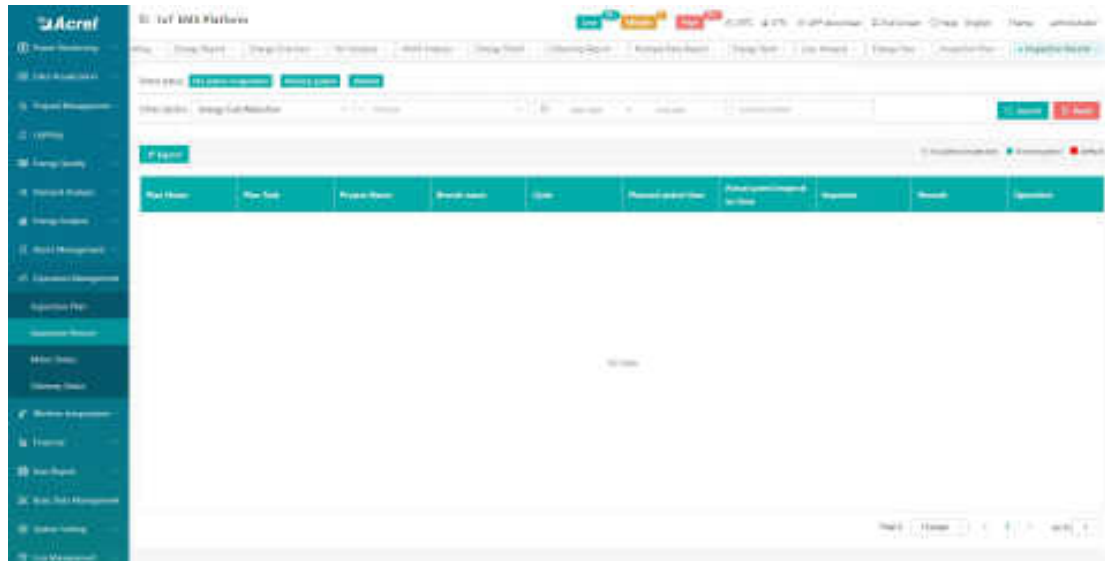


Figure 11-3 Inspection records

11.3. Gateway Status

By querying the project, gateway identification number, and whether it is online, the communication status data of the gateway under the existing project is summarized and displayed, including the current communication status of the device, etc., as shown in Figure 11-4.

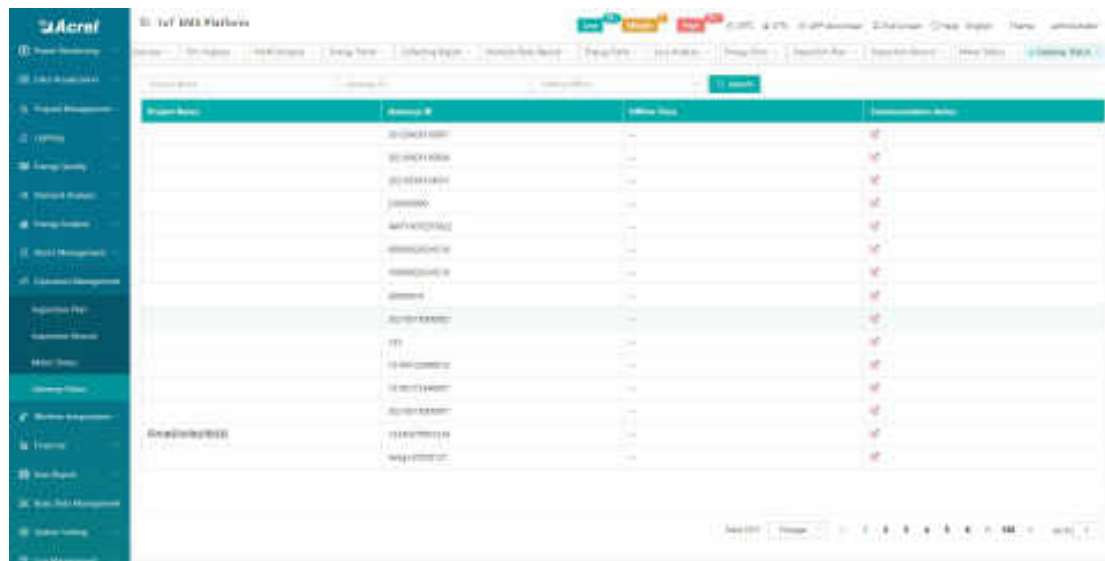


Figure 11-4 Gateway status

11.4. Meter Status

By querying the project, gateway identification number, instrument address, circuit name, and whether it is online, it summarizes and displays the communication status data of the equipment under the existing project, including displaying the current communication status of the

equipment, etc., as shown in Figure 11-5 shown.

Figure 11-5 Meter status

Model setting is used to set the model in batches for devices that do not have a matching model after uploading the device. Select one or more meters, click Model Setting, select the corresponding model, and click OK, as shown in Figure 11-6.

Figure 11-6 Model Settings

13. User Report

13.1. User Report

The user report can filter and generate project overview, energy consumption analysis, energy consumption ranking, financial report and financial details according to the project and time period specified by the user, and supports the printing function, as shown in Figure 13-1.

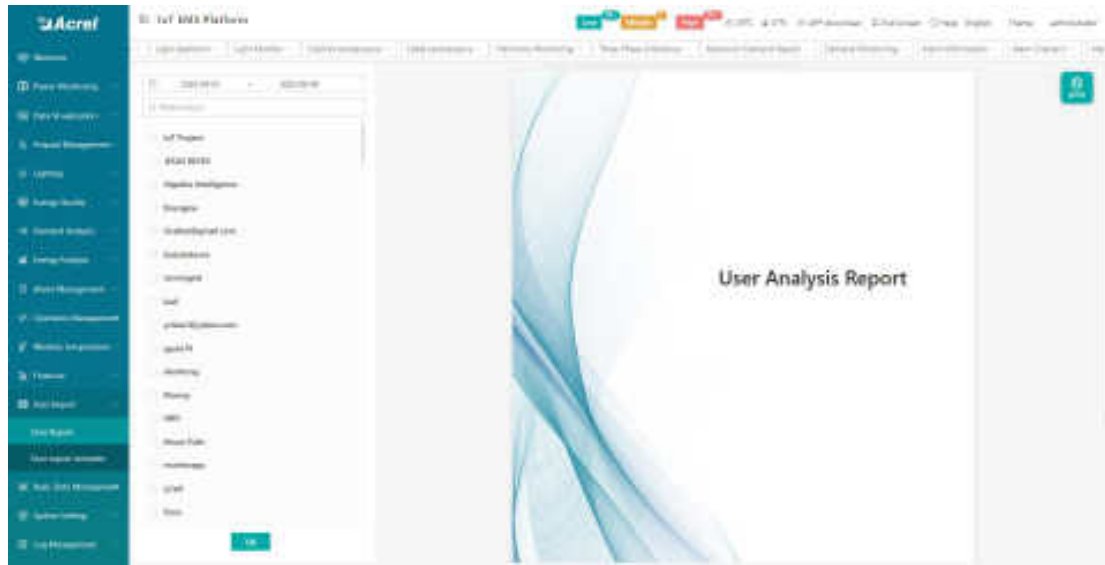


Figure 13-1 User report

13.2. User Report Template

Users can select the report information they need to view in the user report template according to their needs, and bind it to the project. The corresponding information can be seen in the user report, and batch binding is supported, as shown in Figure 13-2.

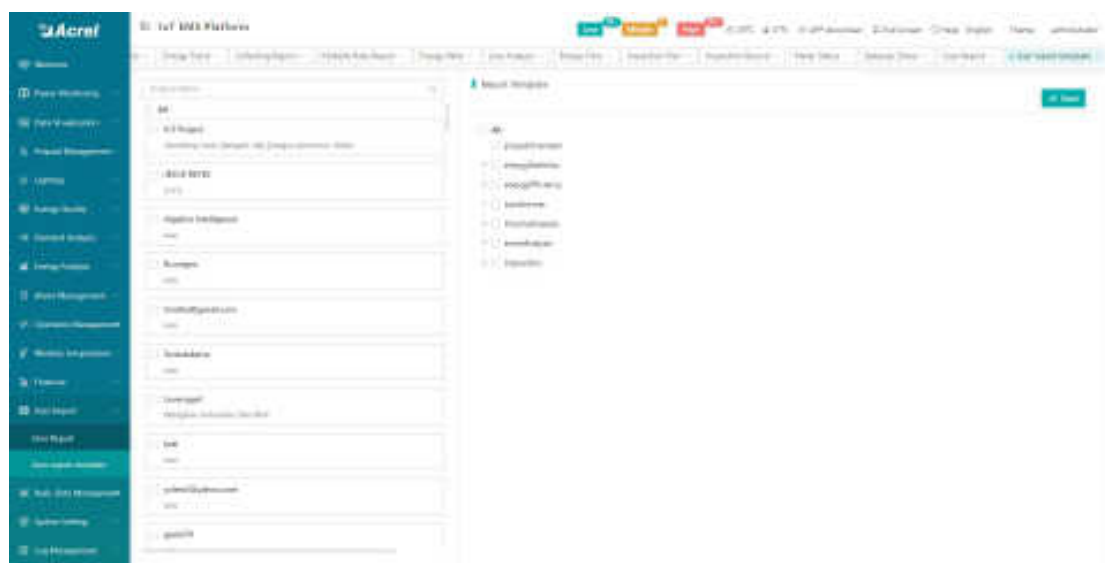


Figure 13-2 User report template

14. Basic Data Management

14.1. User Management

User management can add, modify, delete, and reset passwords for user information, and can also associate items with operators, as shown in Figure 14-1.。

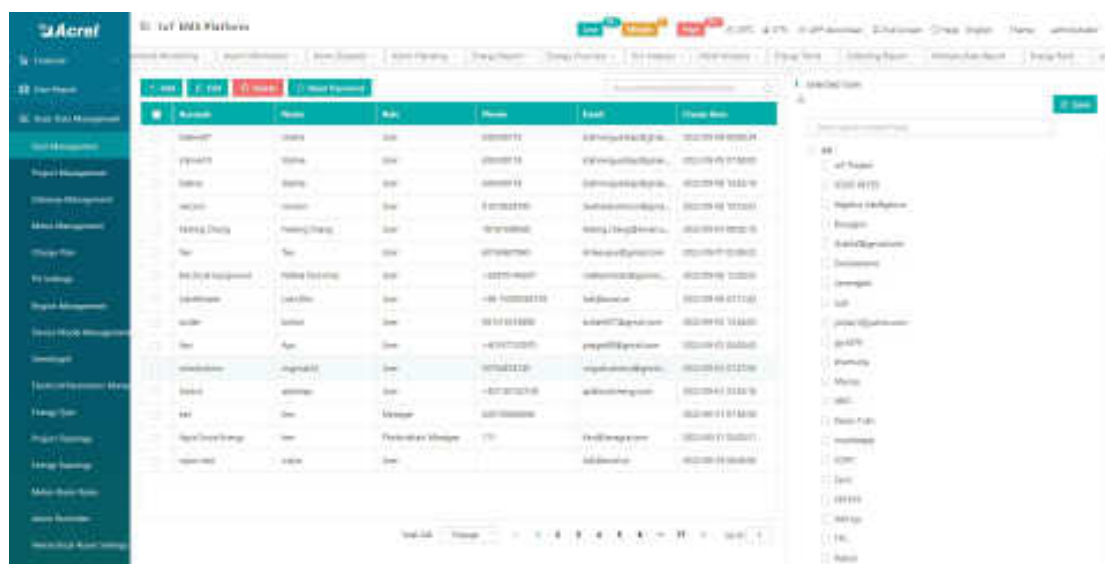


Figure 14-1 User Management

Click Add to pop up a new user box, enter the login account, password, name, platform name, role, account validity period, and effective date, etc., and click OK to create a new user, as shown in Figure 14-2. Editing a user is the same as creating a user.

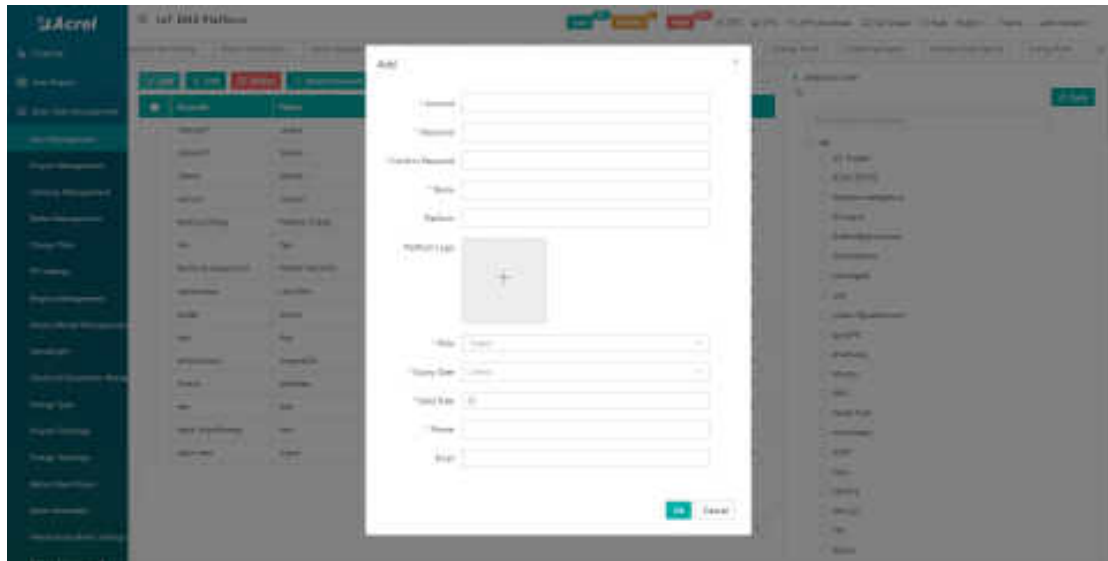


Figure 14-2 Adding an user

Select a user, click Delete, and a confirmation prompt box will pop up, click Confirm to delete the checked operator, as shown in Figure 14-3. Select a user, click Reset Password, a reset password box will pop up, enter a new password and confirm the password, and click Confirm to modify the operator login password, as shown in Figure 14-4.

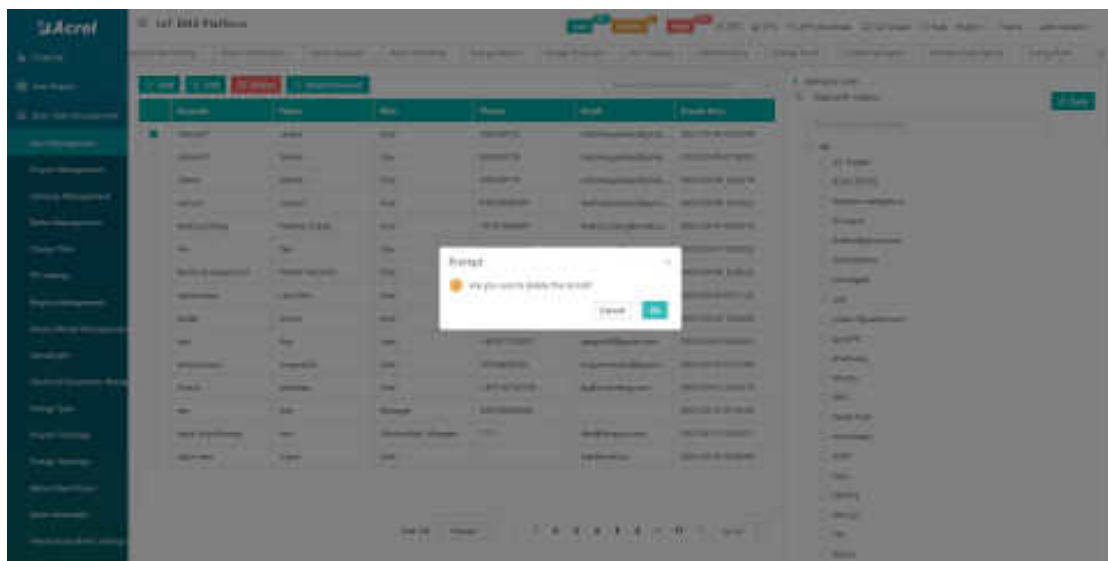


Figure 14-3 Delete user

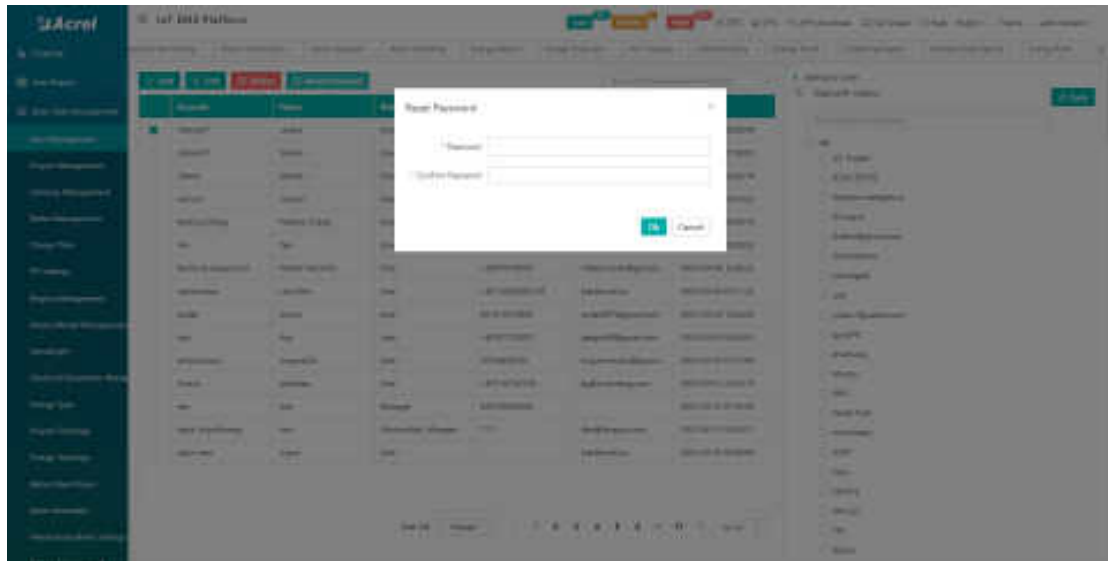


Figure 14-4 Reset Password

14.2. Project Management

The project management page displays all projects associated with the current user. Users can add, edit, and delete project information, and can also import project information according to the template. Click the export button to export the project information to an Excel table, and also support checked projects Set electricity prices. As shown in Figure 14-5.

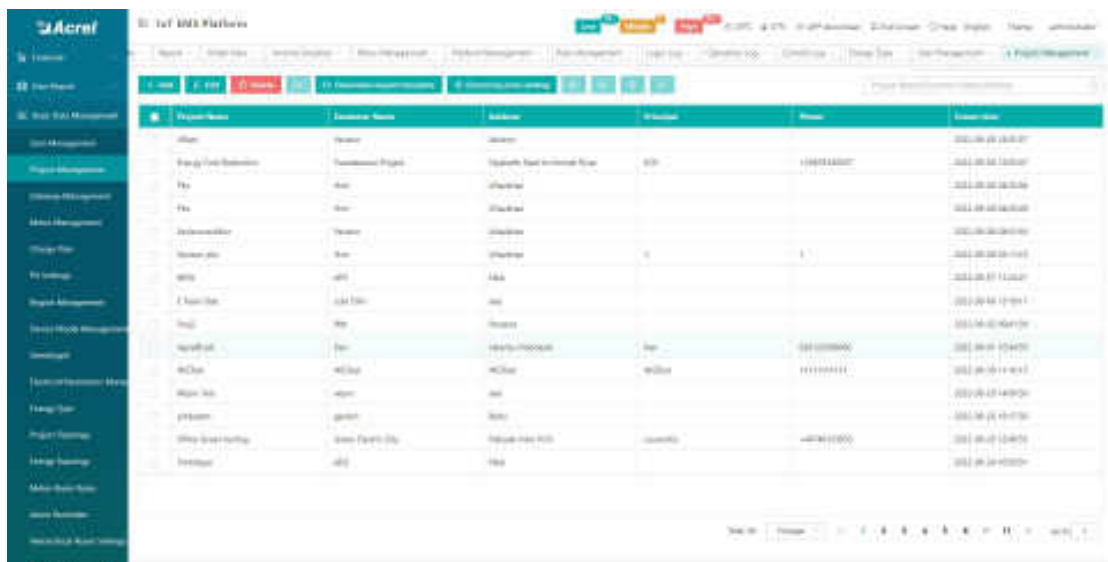


Figure 14-5 Project Management

Click the Add button to enter the new project page. The project name, customer name, region, and detailed address are required. Click Save to create the project. The camera can be associated on the right, and the power distribution diagram, pipe network diagram, and equipment

management model diagram can be uploaded. , the save button of each module only saves the data of the corresponding module, as shown in Figure 14-6.

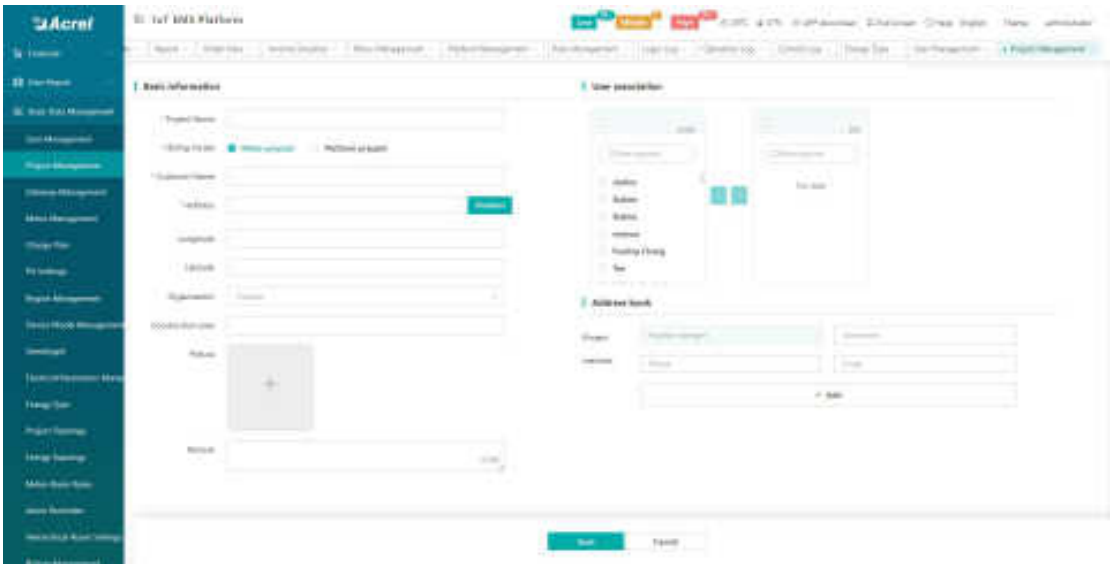


Figure 14-6 Added project

After the project information is saved, you can check the corresponding user in the user association below to associate with the project. After clicking Save, the associated user will have the permission to view the project. As shown in Figure 14-7.

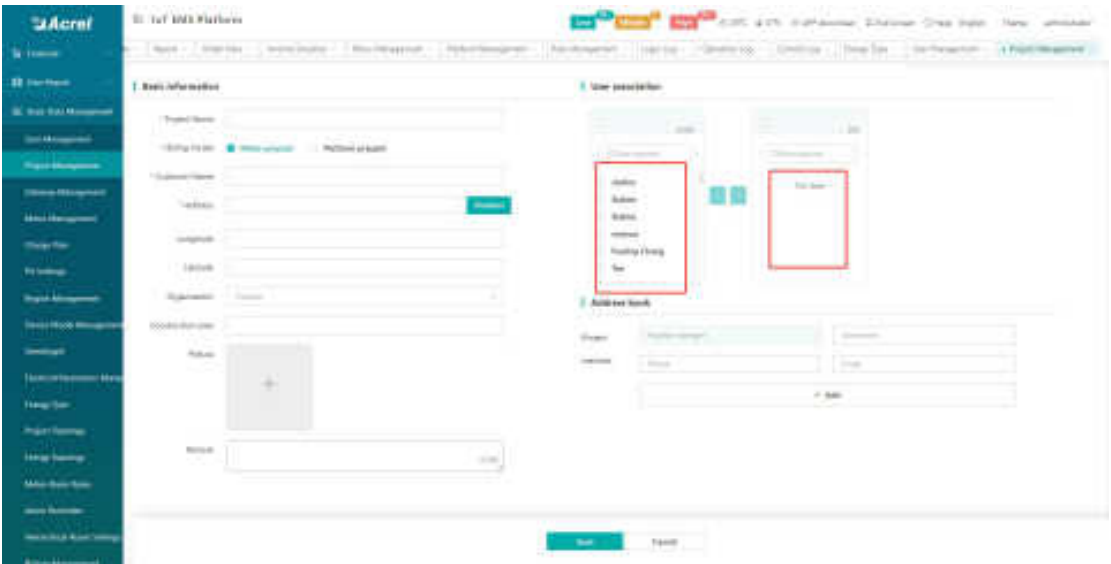


Figure 14-7

Contact information can be added to the address book below the host association, which can be displayed in the project information and is also convenient for exception subscription management to add alarm recipients, as shown in Figure 14-8. The operation method of modifying an item is the same as that of adding an item.

Click Import and select the file, as shown in Figure 14-10, the platform will prompt that the import is successful.

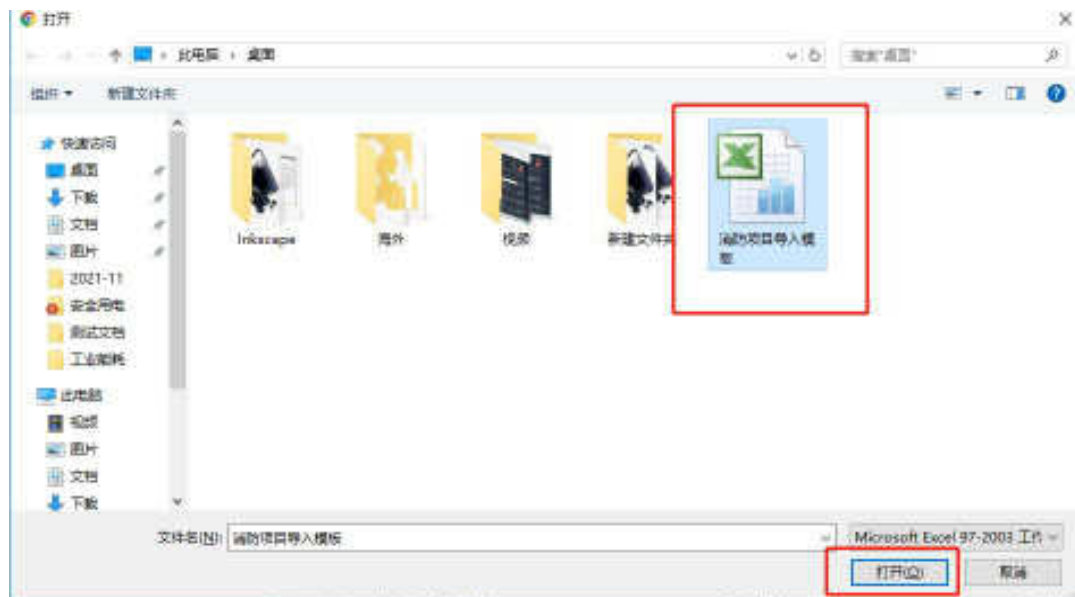


Figure 14-10

Check the selected items and click "Price Setting", which supports multiple rate and single rate settings. After setting, click OK. As shown in Figure 14-11.

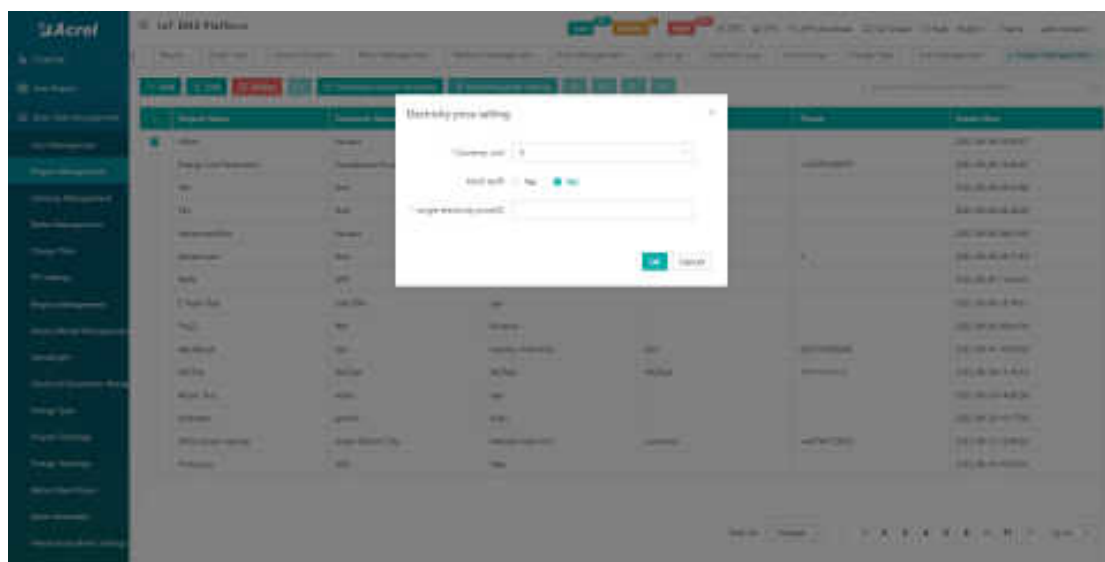


Figure 14-11

14.3.Gateway Management

The gateway management page displays all meter information under the associated project. The information includes project name, gateway identification number, time zone, creation time, remarks, etc. You can find the corresponding gateway according to the gateway identification

number and project name.

You can add, edit, delete, reset the gateway, and set the time zone on the gateway information, as shown in Figure 14-12.

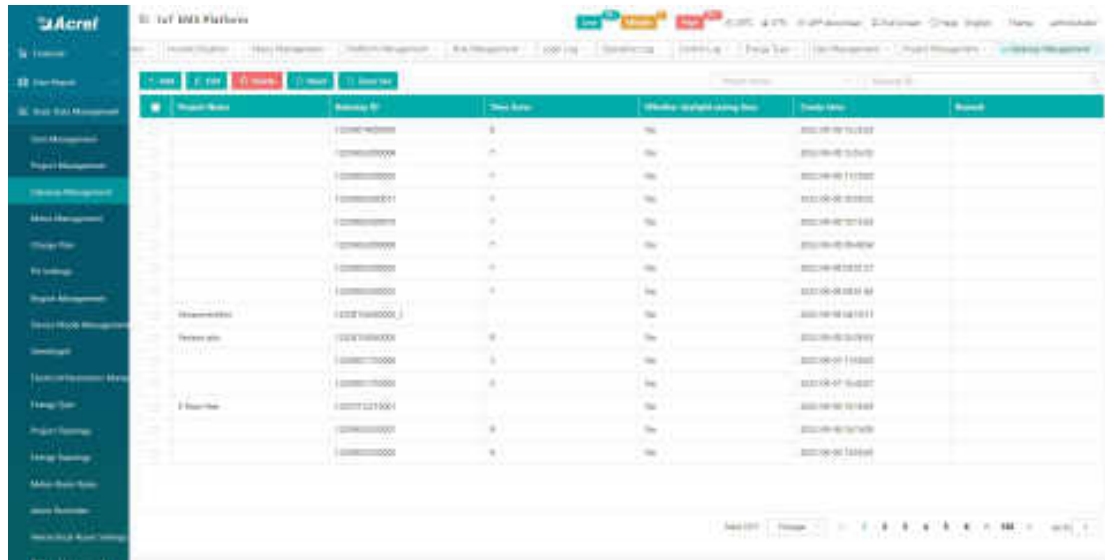


Figure 14-12 Gateway Management

Create a new gateway, click Add, and a pop-up box will pop up to create a new gateway. The project name, gateway identification number, and heartbeat interval are required. As shown in Figure 14-13. The operation method of editing a gateway is the same as that of creating a new one.

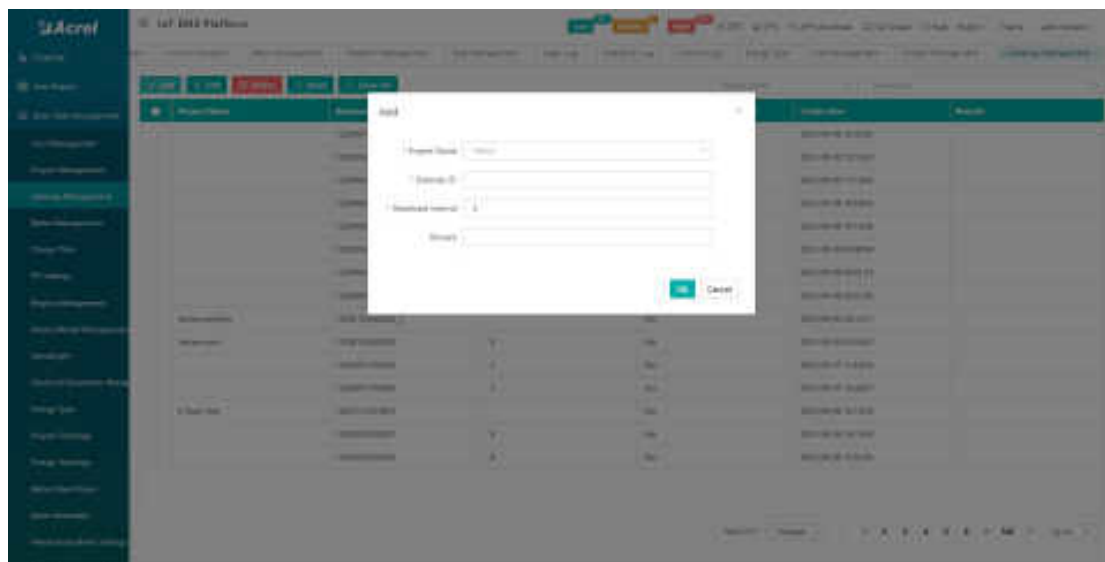


Figure 14-13 Adding a gateway

Check an project, click the "Time Zone Reset" button, and a box for entering a password will pop up. The password is the password when the platform is set. Set the numeric value for the time zone. The reset operation method is the same as setting the time zone. As shown in Figure 14-14.

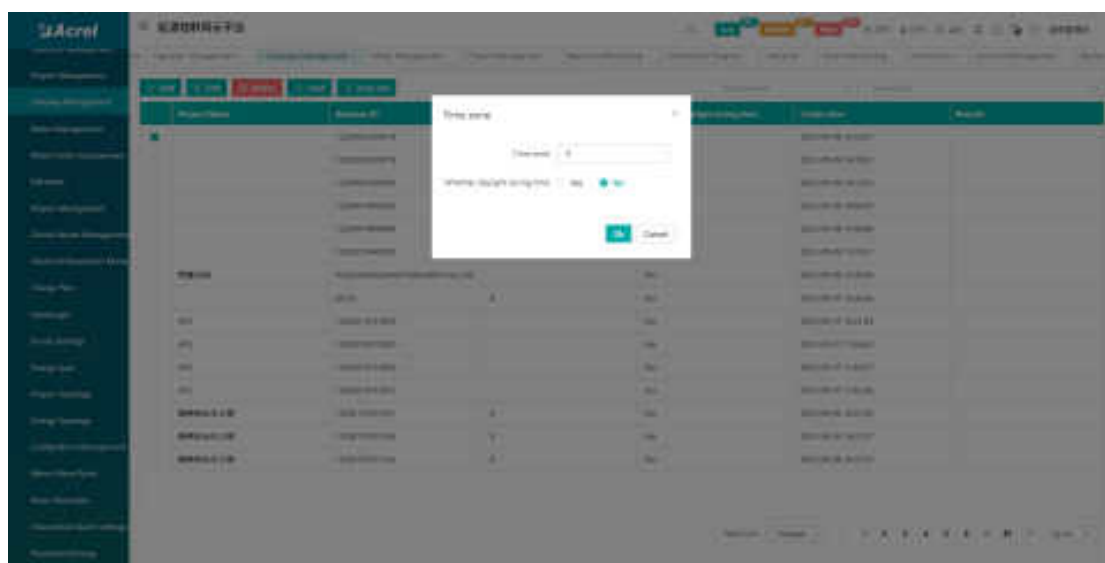


Figure 14-14 Time zone setting

14.4.Meter Management

The meter management page displays all meter information under the associated project, including project name, gateway identification number, meter address, circuit name, meter model, meter unique number, creation time, notes, etc. According to the project name/gateway identification number/meter address/circuit name, the corresponding meter can be queried.

Operations such as adding, editing, deleting, importing, exporting, and downloading import templates can be performed on meter information, as shown in Figure 14-15.

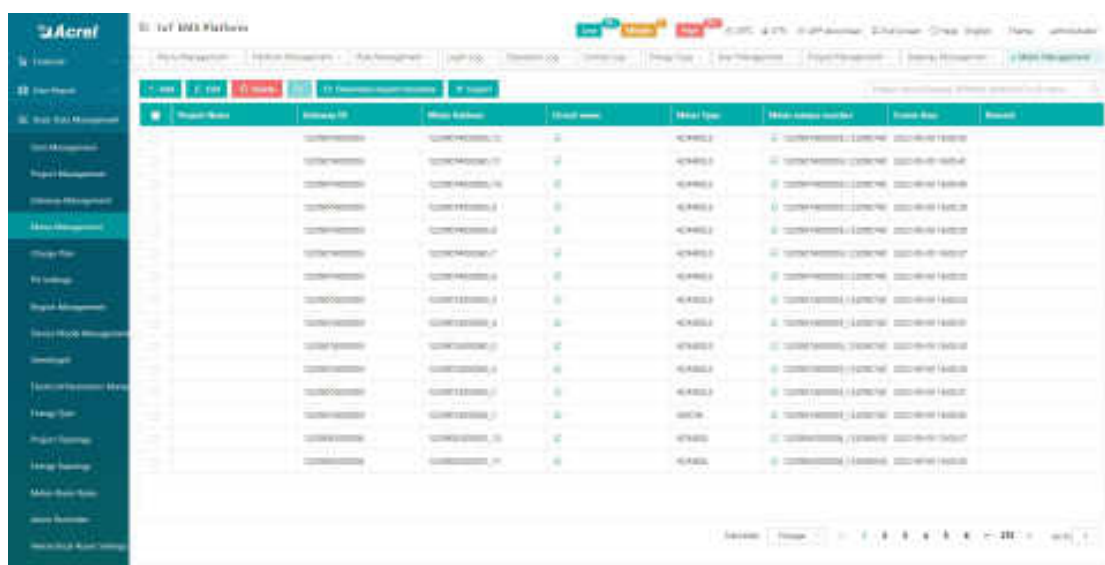


Figure 14-15 Instrument management

Create a new meter, click Add, and a new meter box will pop up. Item name, gateway

identification number, meter address, meter model, device classification, circuit name, voltage transformation ratio, current transformation ratio, and offline alarm are required. As shown in Figure 14-16. The operation method of editing an instrument is the same as that of creating a new one.

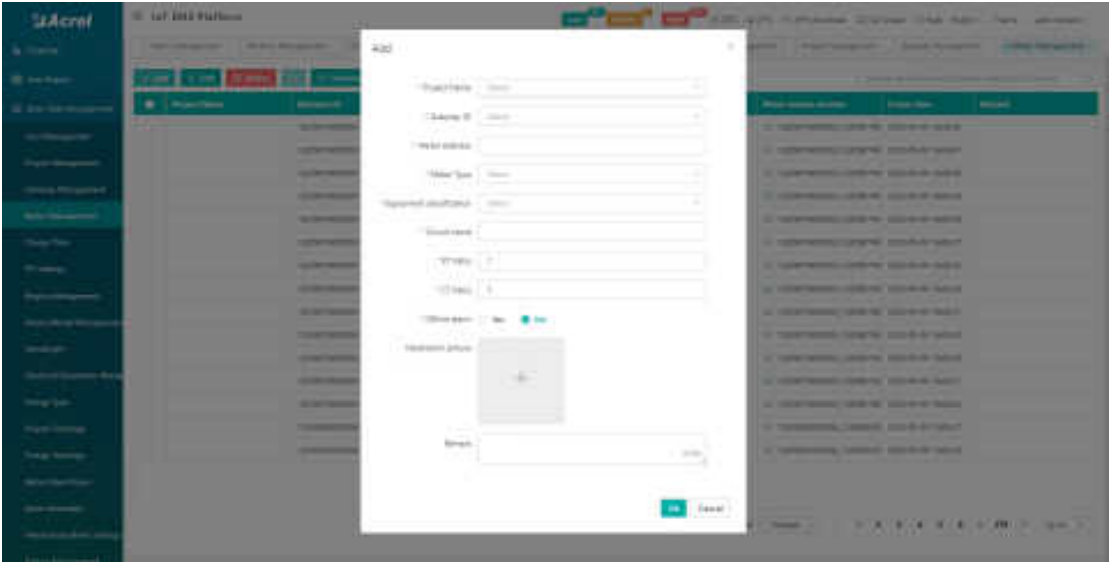


Figure 14-16 Adding a meter

Click to download the import template, and enter the parameters in the template, including project name, gateway identification number, instrument address, instrument model, circuit name, current change, voltage ratio, offline alarm, and remarks. As shown in Figure 14-17.

项目名称									
	A	B	C	D	E	F	G	H	I
1	项目名称	网关识别号	仪表地址	仪表型号	回路名称	电流变比	电压变比	离线报警	备注
2	安科瑞电气股份有限公司	TEST001	I_1	DTS1362	TEST001 仪表1		1	是	
3	安科瑞电气股份有限公司	TEST001	I_2	DTS1362	TEST001 仪表2		1	否	
4									
5									
6									

Figure 14-17

Click Import and select the file, as shown in Figure 14-18, the platform will prompt that the import is successful.

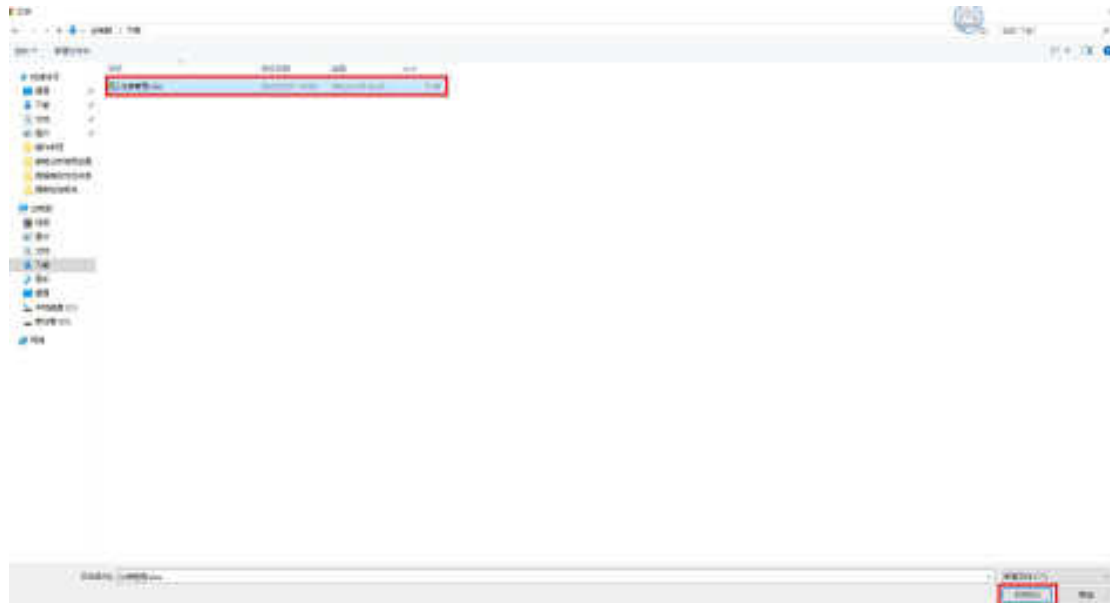


Figure 14-18 import

14.5.Charge Plan

The charging plan management page displays all charging plan information, and users can add, delete, and enable charging plan information, as shown in Figure 14-19.

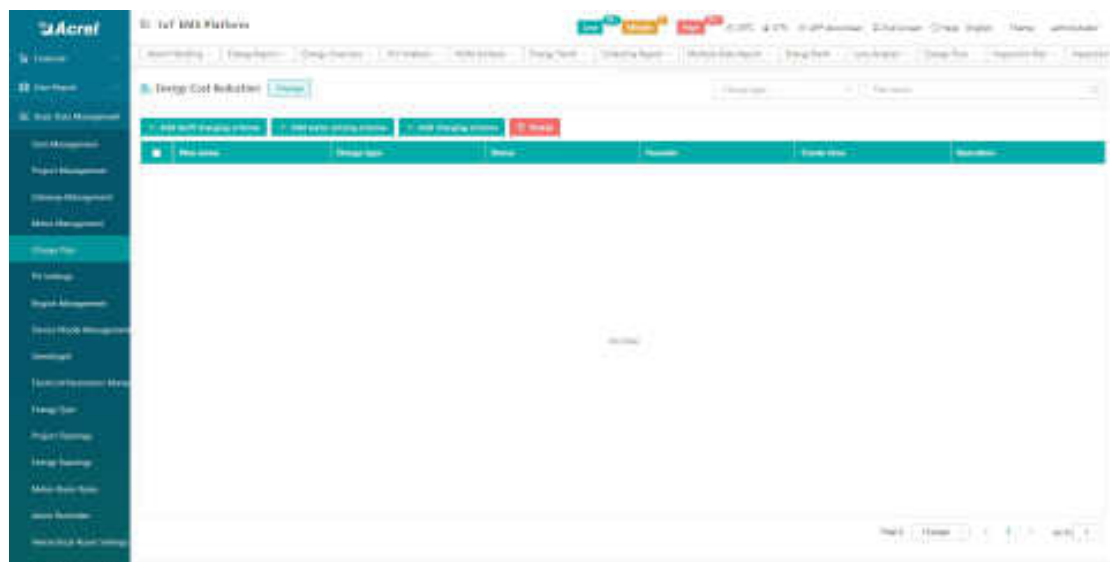


Figure 14-19 Charge Management

Click Add Electricity Price Plan, enter the name of the plan, allowable credit amount, whether to pay rate, whether to step electricity price, and unit price. As shown in Figure 14-20. The operation method of editing a plan is the same as that of creating a new one.

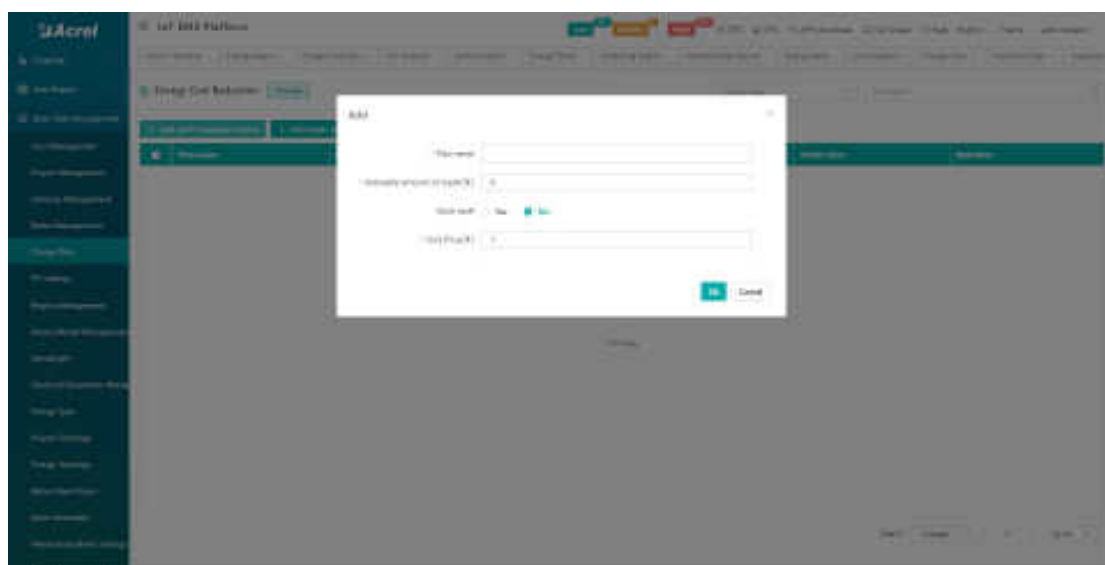


图 14-20 Figure 14-20 Add electricity price plan

Click Add Water Price Plan, enter the name of the plan, allowable credit amount, step-level electricity price or not, and unit price. As shown in Figure 14-21. The operation method of editing a plan is the same as that of creating a new one.

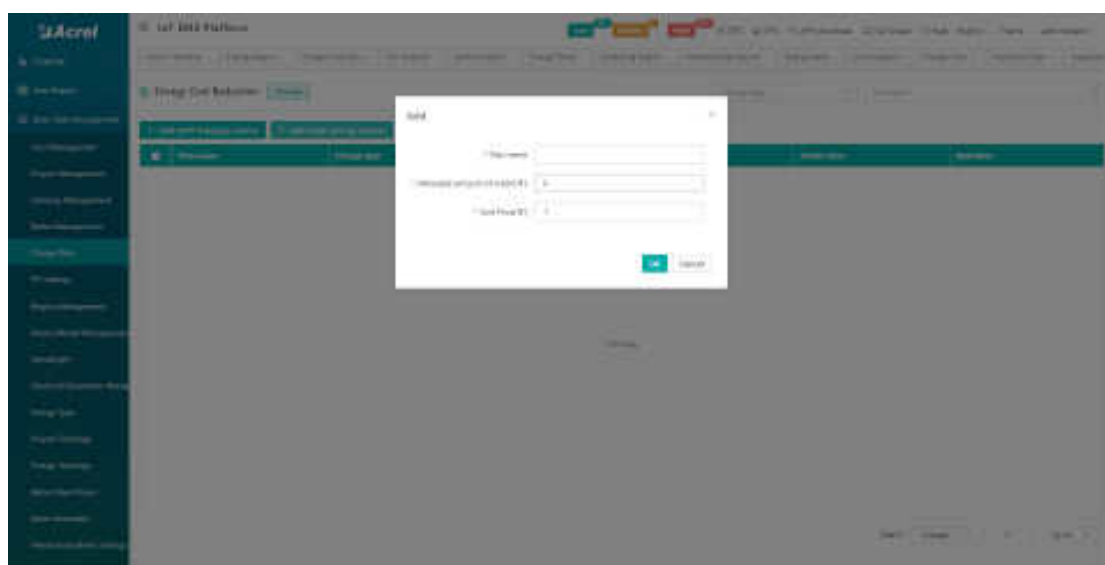


Figure 14-21 Add water price plan

Click Add Charging Plan, and enter the plan name, deduction method, charging type, charging interval, charging calculation method, fixed amount, and remarks. As shown in Figure 14-22. The operation method of editing a scheme is the same as that of creating a new one.

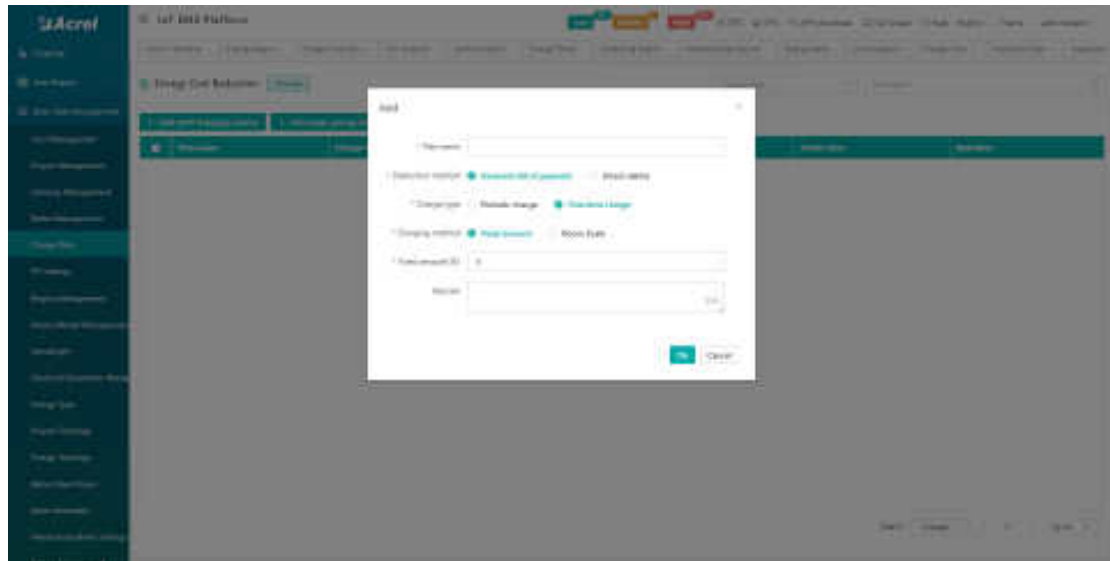


Figure 14-22 Adding a charging plan

14.6.Region Management

The Region management page displays all project organization information, and users can add and delete project organization information, as shown in Figure 14-23.

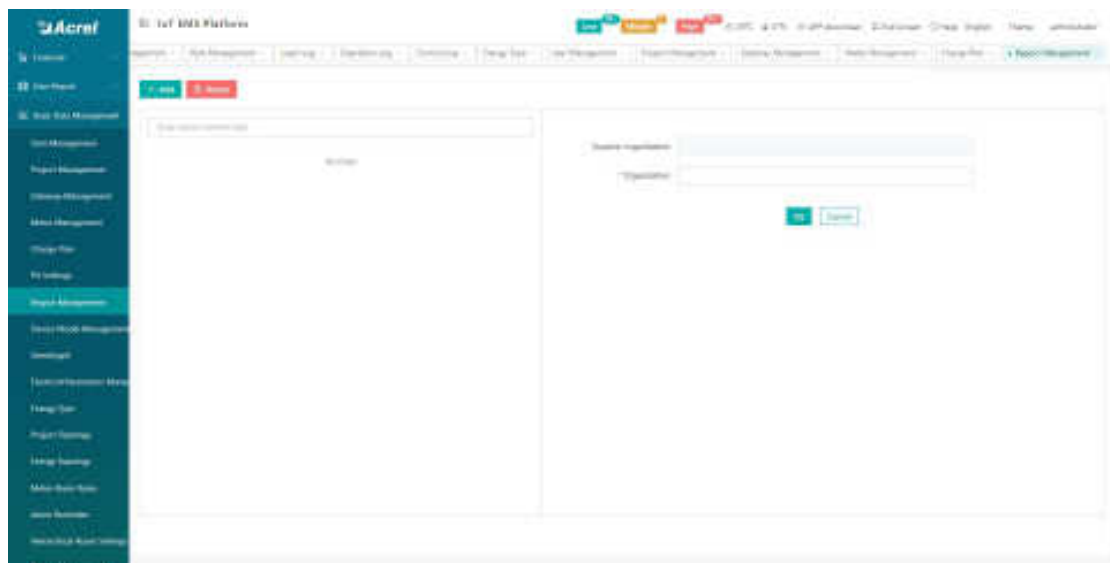


Figure 14-23 Region Management

14.7.Device Model Management

The device model management page displays all device model information under the associated project. The information includes actual model, display model, energy breakdown, creation time, etc. You can find the corresponding device based on the actual model and display model. As shown in Figure 14-24.

Actual model	Display model	Settings	Create time
485-111	485-111	485-111	2022-09-01 10:00:00
485-112	485-112	485-112	2022-09-01 10:00:00
485-113	485-113	485-113	2022-09-01 10:00:00
485-114	485-114	485-114	2022-09-01 10:00:00
485-115	485-115	485-115	2022-09-01 10:00:00
485-116	485-116	485-116	2022-09-01 10:00:00
485-117	485-117	485-117	2022-09-01 10:00:00
485-118	485-118	485-118	2022-09-01 10:00:00
485-119	485-119	485-119	2022-09-01 10:00:00
485-120	485-120	485-120	2022-09-01 10:00:00
485-121	485-121	485-121	2022-09-01 10:00:00
485-122	485-122	485-122	2022-09-01 10:00:00
485-123	485-123	485-123	2022-09-01 10:00:00
485-124	485-124	485-124	2022-09-01 10:00:00
485-125	485-125	485-125	2022-09-01 10:00:00
485-126	485-126	485-126	2022-09-01 10:00:00
485-127	485-127	485-127	2022-09-01 10:00:00
485-128	485-128	485-128	2022-09-01 10:00:00
485-129	485-129	485-129	2022-09-01 10:00:00
485-130	485-130	485-130	2022-09-01 10:00:00

Figure 14-24 Device model management

Create a new device model, click Add, and the Add Device Model box will pop up. The actual model and display model are required. As shown in Figure 14-25. The operation method of editing the device model is the same as that of editing.

Actual model

Display model

Settings

Create time

Add

Cancel

Figure 14-25 Add device model management

14.8.Street Light Management

The street light management page displays all street light information under the associated project. The information includes project name, street light code, meter address, detailed address, longitude, latitude, creation time, etc. You can find the corresponding street light according to the street light number. As shown in Figure 14-26.

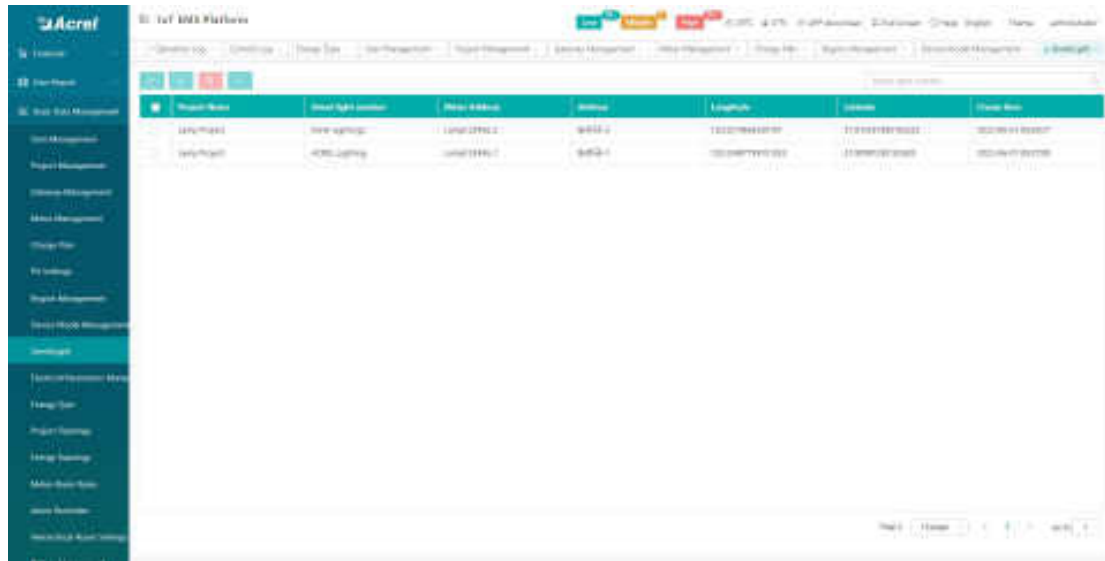


Figure 14-26 Street light management

Create a new street light, click Add, and the add street light box will pop up. Item name, instrument number, street light number, lighting type, detailed address, longitude, and latitude are required. As shown in Figure 14-27. The operation method of editing street lights is the same as that of adding.

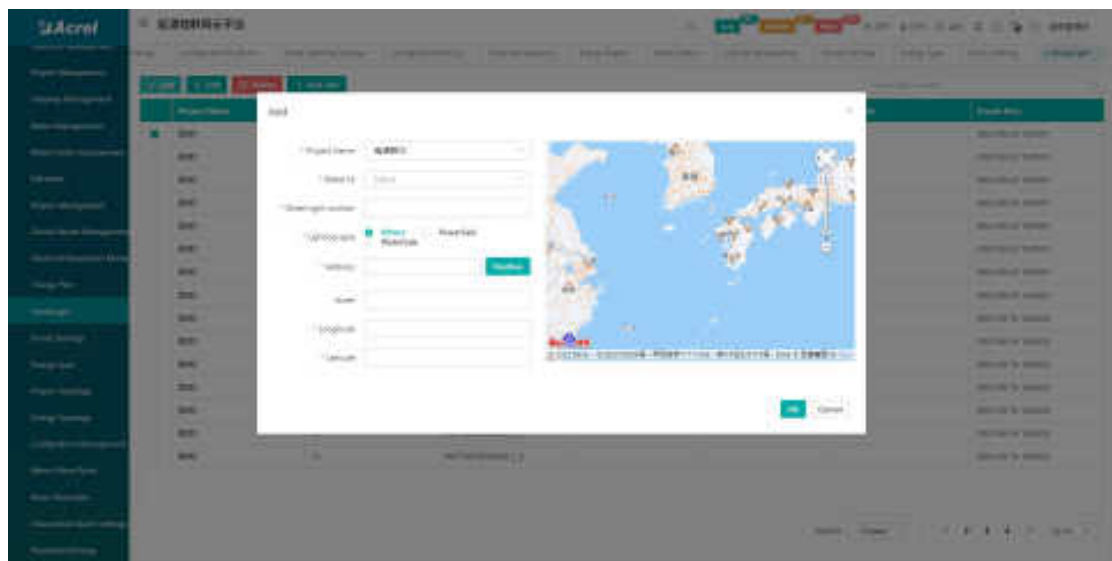


Figure 14-27 Add

14.9. Electrical Parameter Management

The electrical parameter management page displays all the electrical parameter information under the associated project. The information includes module type, parameter code, parameter name, parameter type, unit, whether to multiply PT, whether to multiply CT, creation time, etc.,

which can be selected according to parameter type and parameter code , parameter name to find the corresponding electrical parameter. As shown in Figure 14-28.

Module Type	Module Code	Module Name	Module Code	Unit	IP	Port	Device Name
101	101	101	101	1	101	101	2019-01-01 00:00:00
102	102	102	102	1	102	102	2019-01-01 00:00:00
103	103	103	103	1	103	103	2019-01-01 00:00:00
104	104	104	104	1	104	104	2019-01-01 00:00:00
105	105	105	105	1	105	105	2019-01-01 00:00:00
106	106	106	106	1	106	106	2019-01-01 00:00:00
107	107	107	107	1	107	107	2019-01-01 00:00:00
108	108	108	108	1	108	108	2019-01-01 00:00:00
109	109	109	109	1	109	109	2019-01-01 00:00:00
110	110	110	110	1	110	110	2019-01-01 00:00:00
111	111	111	111	1	111	111	2019-01-01 00:00:00
112	112	112	112	1	112	112	2019-01-01 00:00:00
113	113	113	113	1	113	113	2019-01-01 00:00:00
114	114	114	114	1	114	114	2019-01-01 00:00:00
115	115	115	115	1	115	115	2019-01-01 00:00:00
116	116	116	116	1	116	116	2019-01-01 00:00:00
117	117	117	117	1	117	117	2019-01-01 00:00:00
118	118	118	118	1	118	118	2019-01-01 00:00:00
119	119	119	119	1	119	119	2019-01-01 00:00:00
120	120	120	120	1	120	120	2019-01-01 00:00:00

Figure 14-28 Electrical parameter management

Create a new electrical parameter, click Add, and the Add Electrical Parameter box will pop up. The parameter code, parameter name, parameter type, and module type are required. As shown in Figure 14-29. The operation method of editing electrical parameters is the same as that of adding.

Parameter Code

Parameter Name

Parameter Type

Module Type

IP

Port

OK Cancel

Figure 14-29 Add

14.10. Project Topology

The project topology display is the general node topology of the building under a certain

project, and you can clearly see which general nodes and multi-level general nodes are under the project. As shown in Figure 14-30.

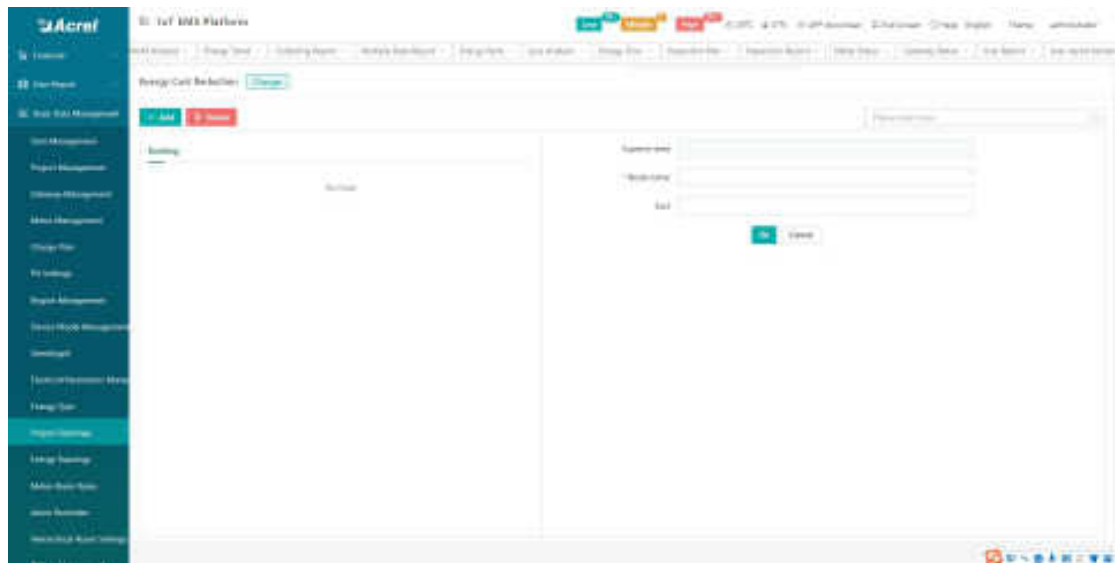


Figure 14-30 Project topology

Add a building node under the project. First switch the corresponding project, select the node that needs to be under the project, click the "Add" button, and add a node on the right side of the interface, fill in the node name and sort. As shown in Figure 14-31.

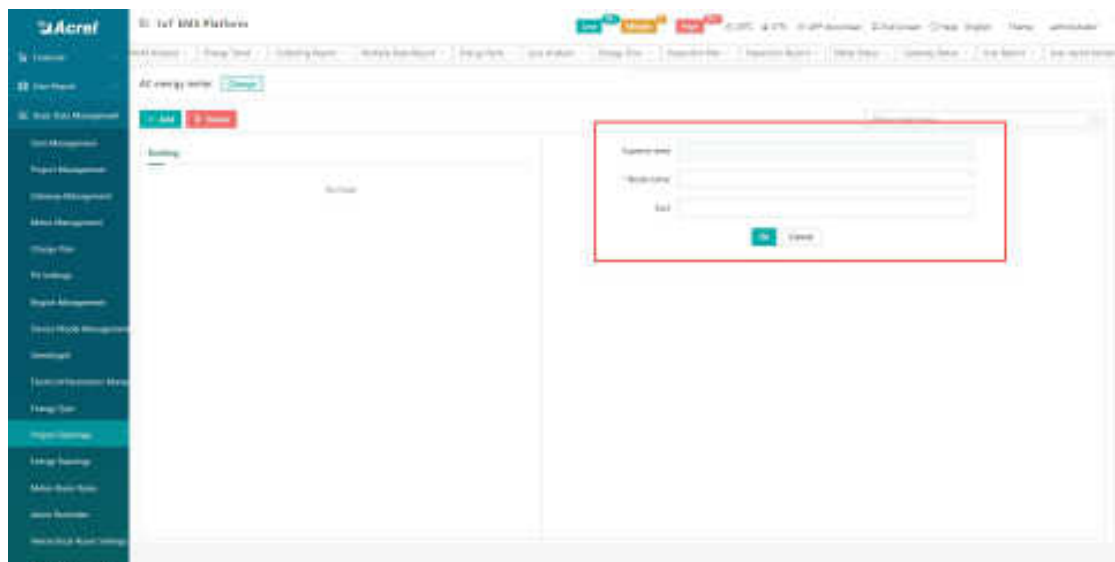


Figure 14-31 Adding building nodes

To delete a building node, first select the deleted building node, click the "Delete" button, a pop-up "Prompt" will appear, and click "Confirm". As shown in Figure 14-32.

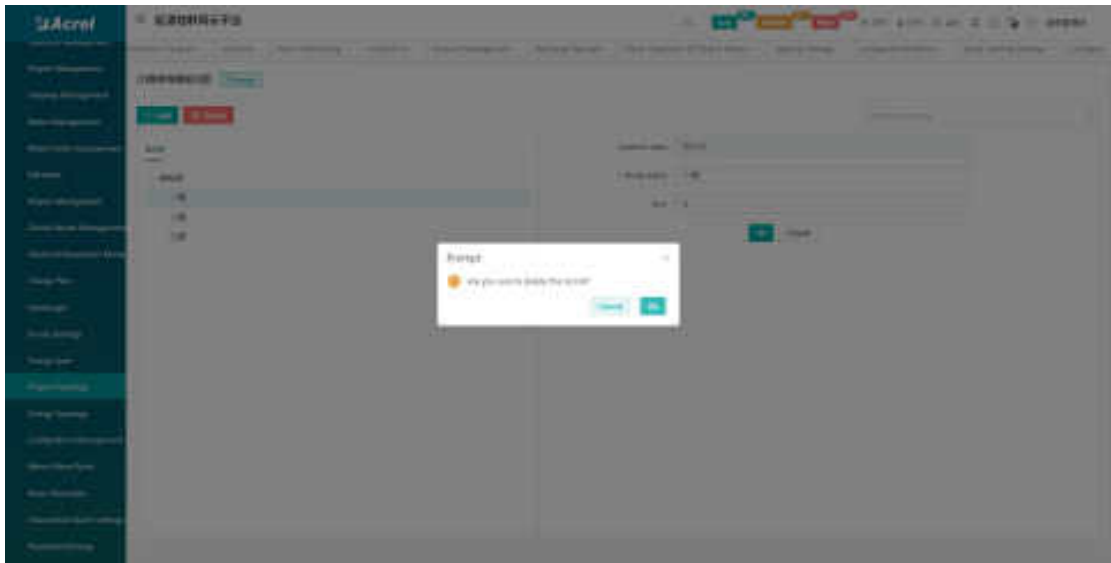


Figure 14-33 Delete the building node

14.11. Energy Topology

The energy topology display is the topology of the general building node under a certain project and each sub-node under the general building node. You can clearly see which general nodes and meters tied to the sub-nodes are under the project. As shown in Figure 14-34.

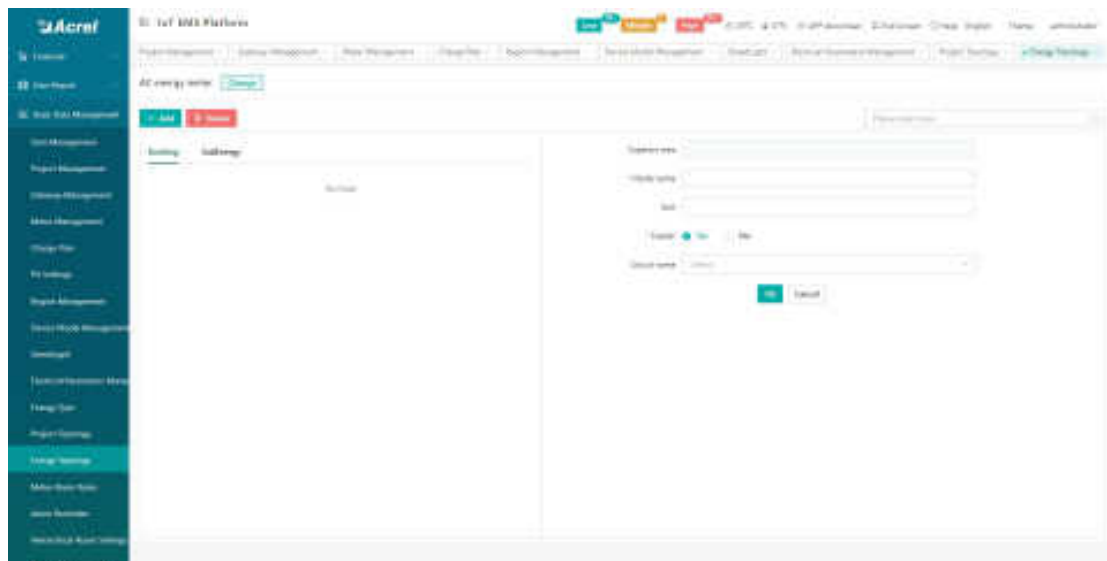


图 14-34Figure 14-34 Energy topology

Add a building subnode under the project. First switch the corresponding project, select the general node that needs to be under the project, click the "Add" button, add a node on the right side of the interface, fill in the "node name", "sort", "incoming line", and select "circuit name". As shown in Figure 14-35.

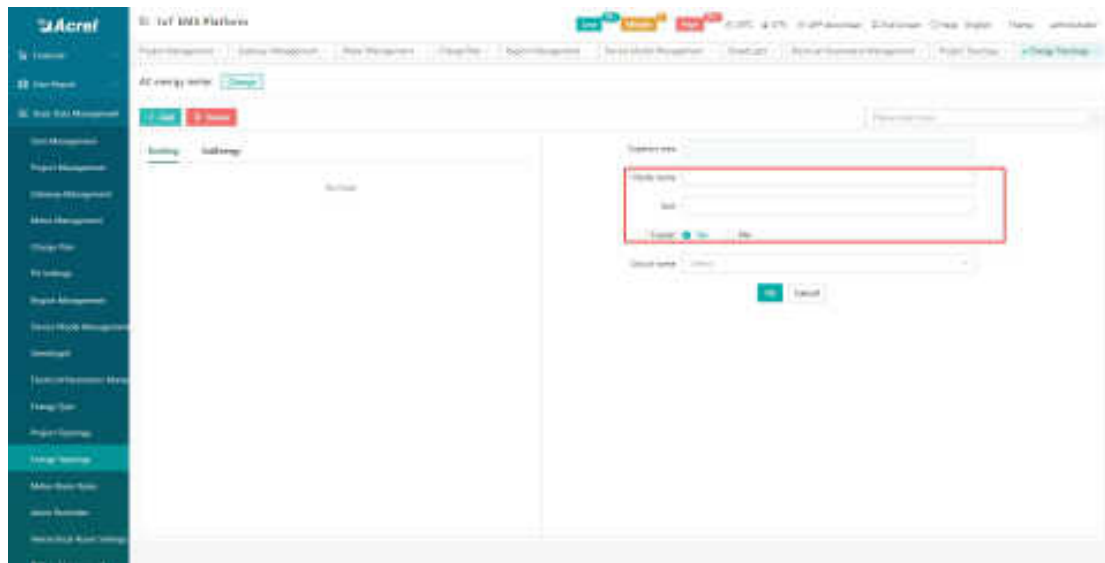


Figure 14-35 Adding a building child node

To delete a building energy consumption node, first select the deleted energy consumption sub-node, click the "Delete" button, a pop-up "Prompt" will appear, and click "Confirm". As shown in Figure 14-36.

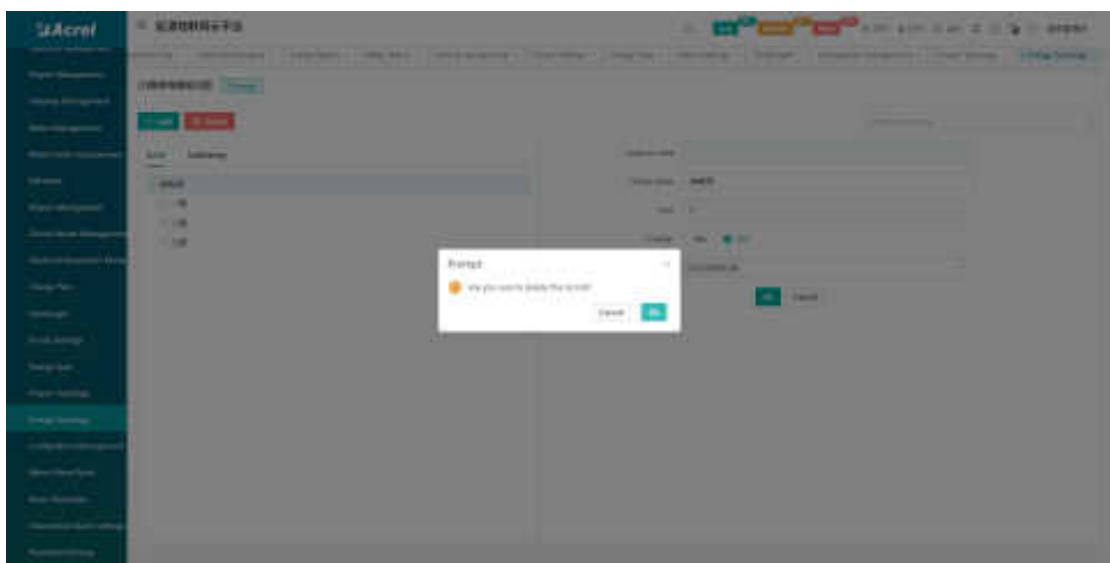


Figure 14-36 Deleting energy consumption child nodes

14.12.Meter Alarm Rules

The meter alarm rule page displays all alarm rule information, and users can add, edit, and delete alarm rule information, as shown in Figure 14-37.

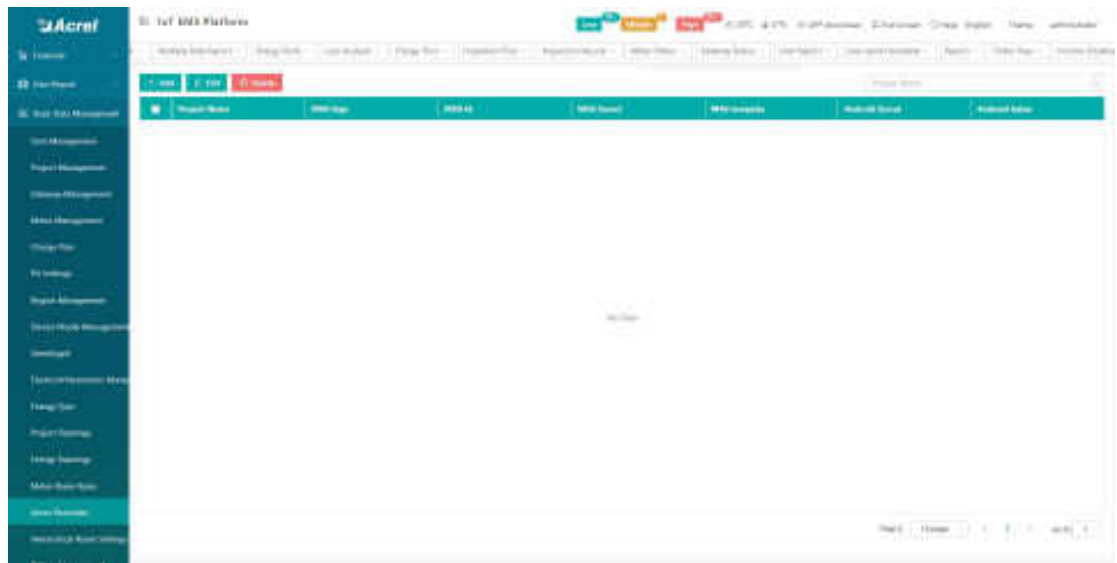


Figure 14-39 Alarm reminder template

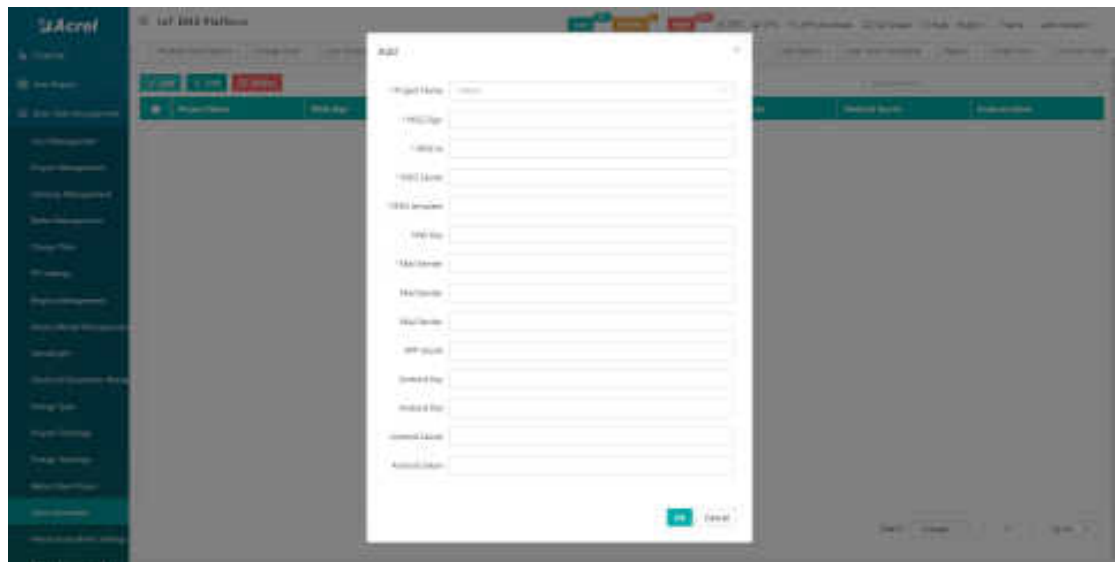


Figure 14-40 Adding an alarm reminder template

14.14.Hierarchical Alarm Settings

Hierarchical alarm settings can perform hierarchical management of abnormal alarm push, as shown in Figure 14-41.

Project Name	Alarm Type	Alarm Level	Alarm Name	Alarm Time
01 Project	Temperature	High	01-01-2023 10:10:10	01-01-2023 10:10:10
02 Project	Pressure	High	02-01-2023 10:10:10	02-01-2023 10:10:10
03 Project	Flow	High	03-01-2023 10:10:10	03-01-2023 10:10:10
04 Project	Level	High	04-01-2023 10:10:10	04-01-2023 10:10:10
05 Project	Power	High	05-01-2023 10:10:10	05-01-2023 10:10:10
06 Project	Speed	High	06-01-2023 10:10:10	06-01-2023 10:10:10
07 Project	Position	High	07-01-2023 10:10:10	07-01-2023 10:10:10
08 Project	Direction	High	08-01-2023 10:10:10	08-01-2023 10:10:10
09 Project	Acceleration	High	09-01-2023 10:10:10	09-01-2023 10:10:10
10 Project	Angular Velocity	High	10-01-2023 10:10:10	10-01-2023 10:10:10

Figure 14-41 Hierarchical alarm settings

14.15. Picture Management

Picture management can perform operations such as adding, editing, deleting, and downloading all relevant picture materials in the project, as shown in Figure 14-42.

Project Name	Image Name	Image Type	Image Path
01 Project	01-01-2023	Temperature	01-01-2023 10:10:10
02 Project	02-01-2023	Pressure	02-01-2023 10:10:10
03 Project	03-01-2023	Flow	03-01-2023 10:10:10
04 Project	04-01-2023	Level	04-01-2023 10:10:10
05 Project	05-01-2023	Power	05-01-2023 10:10:10
06 Project	06-01-2023	Speed	06-01-2023 10:10:10
07 Project	07-01-2023	Position	07-01-2023 10:10:10
08 Project	08-01-2023	Direction	08-01-2023 10:10:10
09 Project	09-01-2023	Acceleration	09-01-2023 10:10:10
10 Project	10-01-2023	Angular Velocity	10-01-2023 10:10:10

Figure 14-42 Image management

Click Add, enter relevant information, and upload a picture. As shown in Figure 14-43

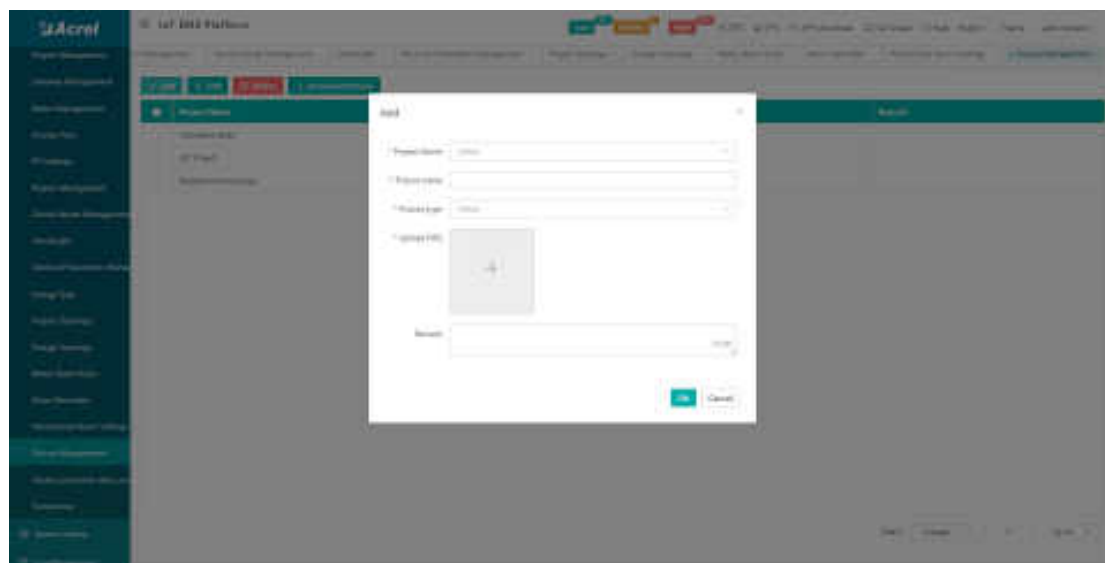


Figure 14-43 Add picture

14.16.Electric Parameter Alias Management

The electrical parameter alias management page displays all the electrical parameter alias information under the associated project. The information includes project name, gateway identification number, meter address, circuit name, meter type, meter unique number, create time, etc., which can be identified according to the project name/gateway Number/meter address/circuit name to find the alias of the electrical parameter. As shown in Figure 14-44.

[illegible]

Figure 14-44 Electrical parameter alias management

Set the electrical parameter alias, click "Set", a pop-up box "Set electrical parameter alias", edit the electrical parameter alias, "Temperature 1", "Temperature 2", "Temperature 3",

"Temperature 4", different items, power The parameters are different. As shown in Figure 14-45.

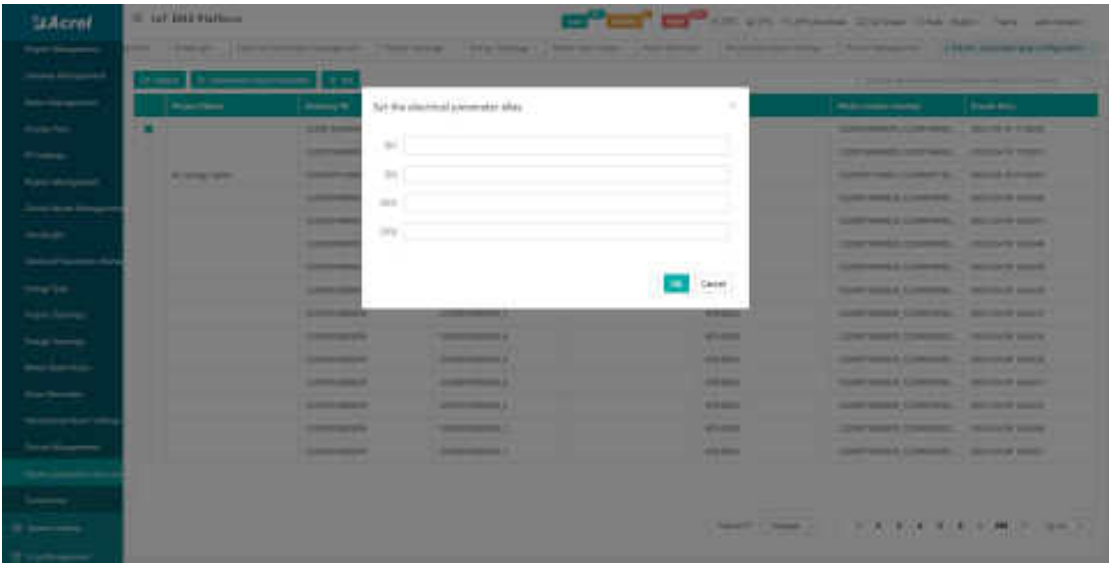


Figure 14-45 Setting the electrical parameter alias

14.17. Transformer Management

The transformer management page displays all transformer information under the associated project. The information includes transformer name, meter, rated capacity, project name, remarks, creation time, etc. You can find the corresponding transformer according to the project name/transformer name. As shown in Figure 14-46.

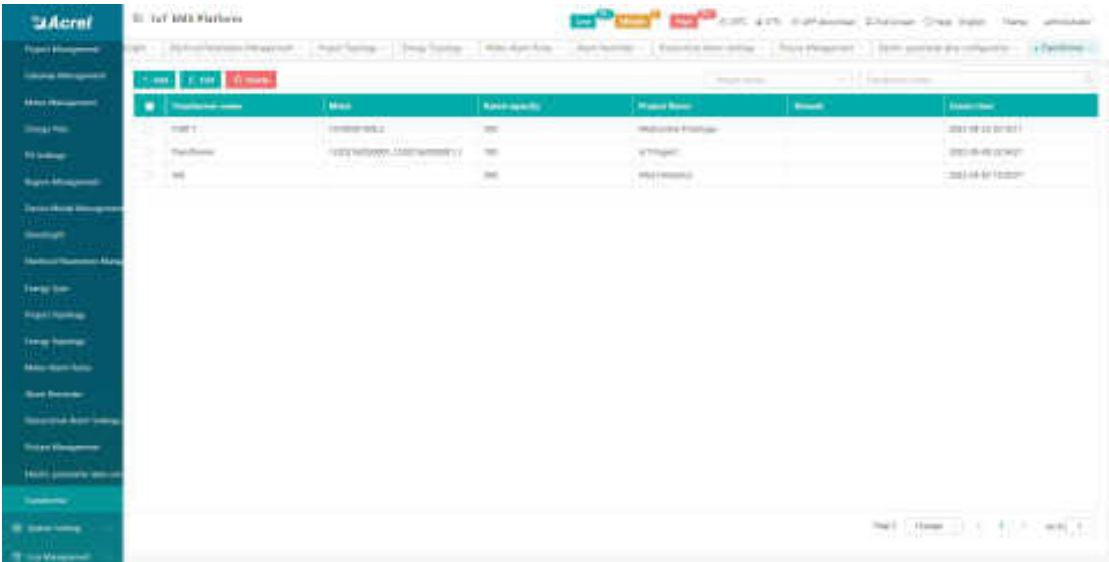


Figure 14-46 Transformer management

Create a new transformer, click Add, and the Add Transformer box will pop up. The transformer name, project name, instrument, and rated capacity are required items. The operation

method of editing transformer is the same as that of adding. As shown in Figure 14-47.

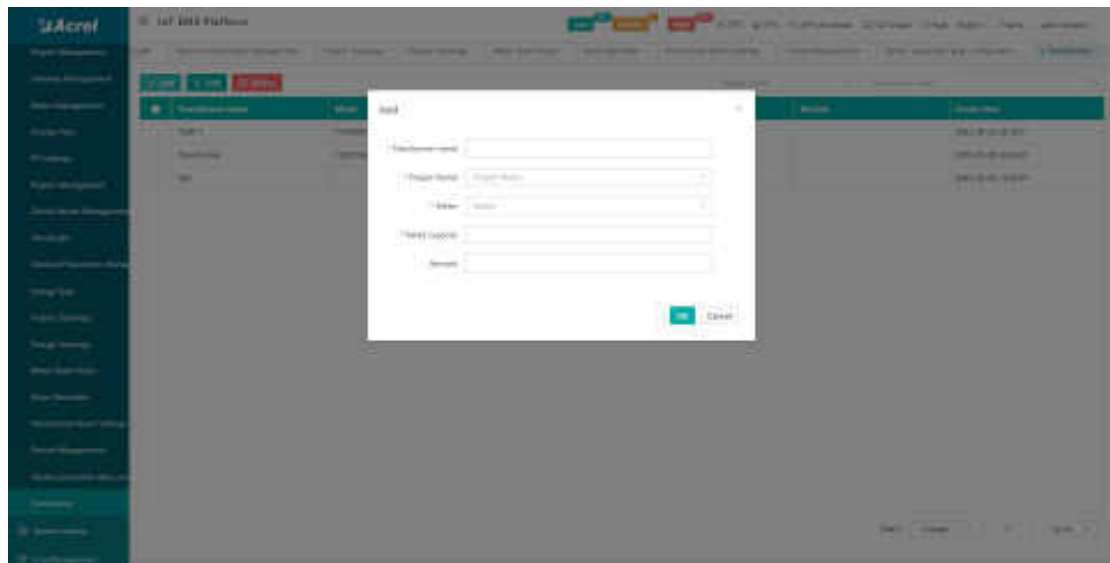


Figure 14-47 Adding a transformer

15.System Setting

15.1.Menu Management

Menu management allows configurable settings for the menu to flexibly display the required menus. Generally, the default is sufficient, as shown in Figure 15-1.

Note: Menu management does not recommend customers to modify operations by themselves to prevent mistakes.

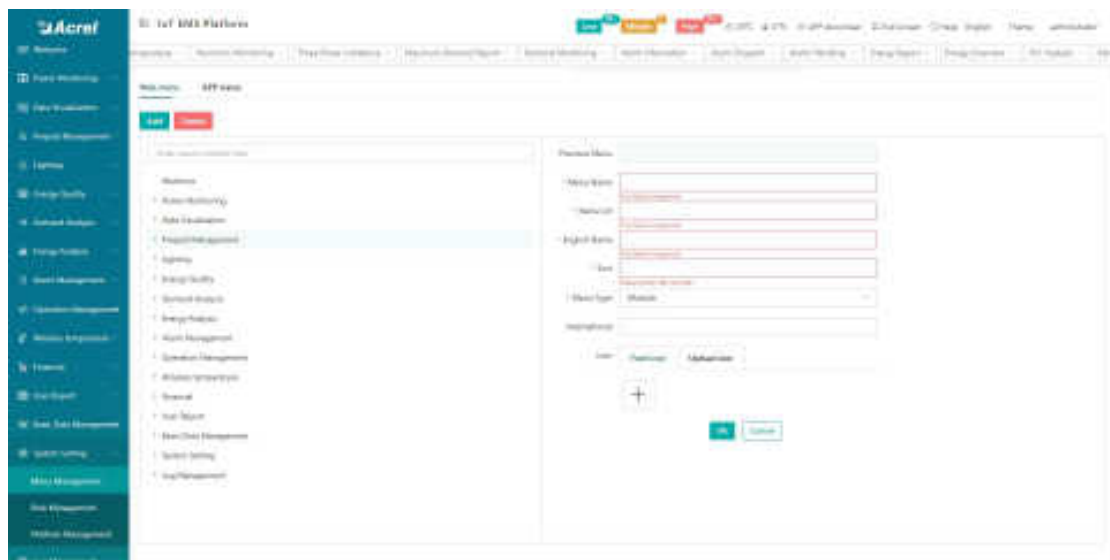


Figure 15-1 Menu Management

15.2.Role Management

Role management can set page menu permissions for users of different levels, and generally use the default, as shown in Figure 15-2.

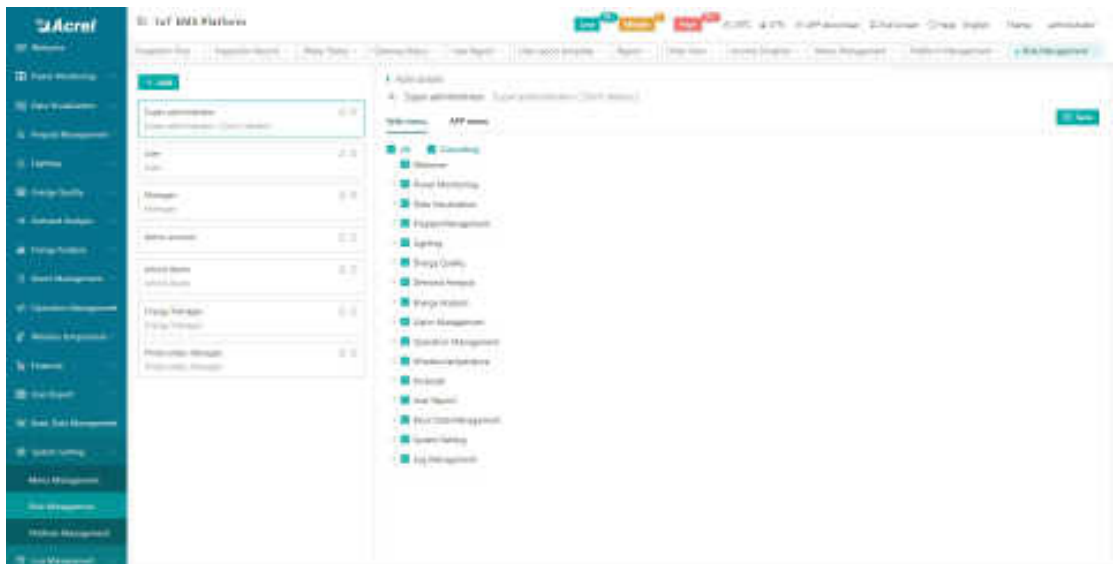


Figure 15-2 Role management

15.3.Platform Management

Platform management can modify the platform name, platform logo, operation password and help information, as shown in Figure 15-3.

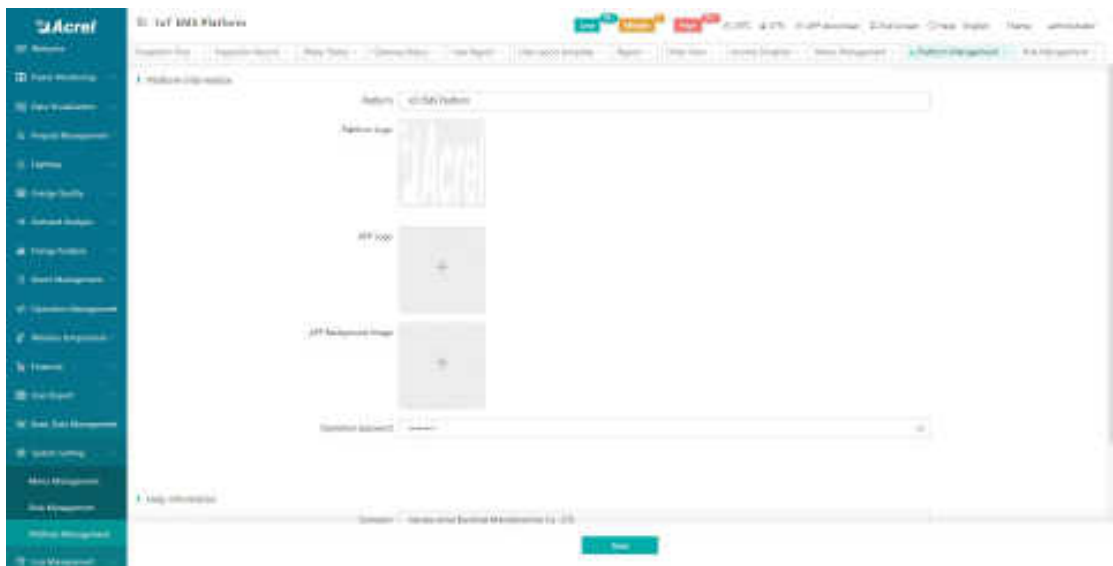


Figure 15-3 Platform Management

16. Log Management

16.1.Login Log

On the login log page, you can view the login log of platform users, including login account, IP address and occurrence time. You can query the corresponding data through login account, user name, and IP address, as shown in Figure 16-1.

[illegible]

Figure 16-1 Login log

16.2.Operation Log

On the login log page, you can view the platform user operation log, including user name, IP address, operation content and occurrence time, and you can query the corresponding data through login account, user name, IP address, and operation content, as shown in Figure 16-2.

[illegible]

Figure 16-2 Operation log

16.3.Control Log

On the control log page, you can view the platform user operation log, including control type, project name, device model, gateway identification number, instrument address, platform, operator and occurrence time, and you can query the correspondence through the gateway identification number, instrument address, model, and operator Data, as shown in Figure 16-3.

Project Name	Gateway ID	Device Address	Device Model	Device State	Record Time	Record Detail
101 Project	1010011000001	1.1	1010011000001	Normal	2023-09-17 10:00:00	Control success
101 Project	1010011000001	1.2	1010011000001	Normal	2023-09-17 10:00:01	Control success
101 Project	1010011000001	1.3	1010011000001	Normal	2023-09-17 10:00:02	Control success
101 Project	1010011000001	1.4	1010011000001	Normal	2023-09-17 10:00:03	Control success
101 Project	1010011000001	1.5	1010011000001	Normal	2023-09-17 10:00:04	Control success
101 Project	1010011000001	1.6	1010011000001	Normal	2023-09-17 10:00:05	Control success
101 Project	1010011000001	1.7	1010011000001	Normal	2023-09-17 10:00:06	Control success
101 Project	1010011000001	1.8	1010011000001	Normal	2023-09-17 10:00:07	Control success
101 Project	1010011000001	1.9	1010011000001	Normal	2023-09-17 10:00:08	Control success
101 Project	1010011000001	1.10	1010011000001	Normal	2023-09-17 10:00:09	Control success
101 Project	1010011000001	1.11	1010011000001	Normal	2023-09-17 10:00:10	Control success
101 Project	1010011000001	1.12	1010011000001	Normal	2023-09-17 10:00:11	Control success
101 Project	1010011000001	1.13	1010011000001	Normal	2023-09-17 10:00:12	Control success
101 Project	1010011000001	1.14	1010011000001	Normal	2023-09-17 10:00:13	Control success
101 Project	1010011000001	1.15	1010011000001	Normal	2023-09-17 10:00:14	Control success

Figure 16-3 Control log