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Energy Efficiency Management System User Manual

(Internal use only)



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Content

Chapter 1 Introduction of EEMS.....	9
1、 System composition.....	9
2、 System login.....	10
3、 Modify the password.....	11
4、 Exit safely.....	11
Chapter 2 System Management Module.....	12
1、 Main functions.....	12
2、 Administrator List.....	13
2.1 Query.....	13
2.2 Add.....	14
2.3 Delete.....	15
2.4 Batch Delete.....	15
2.5 Modify.....	16
3、 Role Management.....	17
3.1 Query.....	17
3.2 Add.....	17
3.3 Modify.....	18
3.4 Delete.....	18
3.5 Batch Delete.....	19
4、 System Log.....	20
4.1 Query.....	20
Chapter 3 Overview Module.....	21
1、 Main functions.....	21
2、 Substation Status.....	23
2.1 Statistical query.....	23
3、 Monthly Report.....	24
3.1 Monthly report list.....	24
3.2 Statistics and Query.....	24
3.3 Export.....	24
4、 Transformer Status.....	25
4.1 Query.....	25
5、 GIS.....	26
5.1 Substation positioning.....	26
5.2 Presentation of Statistical data.....	26
Chapter 4 Power monitoring module.....	27
1、 Main functions.....	27
2、 Power data.....	28
2.1 Daily Raw Data.....	28
2.1.1 Query.....	28
2.1.2 Last day.....	28
2.1.3 Next day.....	29

2.1.4 Table.....	29
2.1.5 Export.....	30
2.2 Daily Extremum Data.....	30
2.2.1 Query.....	30
2.2.2 Table.....	31
2.2.3 Export.....	32
3、Transformer Monitoring.....	32
3.1 Transformer Monitoring.....	32
3.1.1 Query.....	32
3.1.2 Last day.....	32
3.1.3 Next day.....	33
4、Power Operation Report.....	33
4.1 Power operation report.....	33
4.1.1 Query.....	33
4.1.2 Last day.....	34
4.1.3 Next day.....	34
4.1.4 Export.....	35
5、Distribution Diagram.....	35
5.1 Loading icons and topology diagrams.....	35
5.2 Editing the topology.....	36
5.3 Binding Device.....	37
5.4 Saving topology diagram.....	39
6、Power Extremum Report.....	39
6.1 Daily report.....	39
6.1.1 Query.....	39
6.1.2 Last day.....	39
6.1.3 Next day.....	40
6.1.4 Export.....	40
6.2 Monthly report.....	41
6.2.1 Query.....	41
6.2.2 Last month.....	41
6.2.3 Next month.....	42
6.2.4 Export.....	42
7、Daily Report.....	43
7.1 Daily report.....	43
7.1.1 Query.....	43
7.1.2 Last day.....	43
7.1.3 Next day.....	43
7.1.4 Export.....	44
8、Average Power Factor.....	44
8.1 Monthly report.....	44
8.1.1 Query.....	44
8.1.2 Last month.....	45

8.1.3	Next month.....	45
8.2	Annual report.....	46
8.2.1	Query.....	46
8.2.2	Last year.....	46
8.2.3	Next year.....	46
Chapter 5	Power Analysis Module.....	48
1、	Main functions.....	48
2、	Consumption Report.....	49
2.1	Daily report.....	49
2.1.1	Query.....	49
2.1.2	Last day.....	50
2.1.3	Next day.....	50
2.1.4	Chart.....	50
2.1.5	Export.....	51
2.2	Monthly report.....	51
2.2.1	Query.....	51
2.2.2	Last month.....	52
2.2.3	Next month.....	52
2.2.4	Chart.....	53
2.2.5	Export.....	53
2.3	Annual report.....	54
2.3.1	Query.....	54
2.3.2	Last year.....	54
2.3.3	Next year.....	55
2.3.4	Chart.....	55
2.3.5	Export.....	56
3、	Analysis of year-on-year.....	56
4、	Analysis of link relative ratio.....	57
4.1	Daily.....	57
4.1.1	Query.....	57
4.1.2	Export.....	57
4.2	Weekly.....	58
4.2.1	Query.....	58
4.2.2	Export.....	58
4.3	Monthly.....	59
4.3.1	Query.....	59
4.3.2	Export.....	59
5、	Power record.....	59
5.1	Query.....	59
5.2	Export.....	60
6、	Metering and line loss.....	61
6.1	Query.....	61
6.2	Export.....	61

7、Power consumption of time division.....	62
7.1 Query.....	62
7.2 Export.....	62
8、Custom power report.....	63
8.1 Daily report.....	63
8.1.1 Query.....	63
8.1.2 Last day.....	63
8.1.3 Next day.....	64
8.1.4 Chart.....	64
8.1.5 Export.....	65
8.2 Monthly report.....	65
8.2.1 Query.....	65
8.2.2 Last month.....	66
8.2.3 Next month.....	66
8.2.4 Chart.....	67
8.2.5 Export.....	67
8.3 Annual report.....	68
8.3.1 Query.....	68
8.3.2 Last year.....	68
8.3.3 Next year.....	69
8.3.4 Chart.....	69
8.3.5 Export.....	70
Chapter 6 Event Record Module.....	71
1、Main functions.....	71
2、Teleindication.....	71
3、Threshold-crossing Events.....	72
4、SMS Log.....	72
5、Platform Operation Log.....	73
Chapter 7 Device Management Module.....	74
1、Main functions.....	74
2、Group line management.....	74
2.1 Group List.....	74
2.2 Add.....	75
2.3 Modify.....	75
2.4 Delete group line information.....	76
3、Gateway management.....	77
3.1 Gateway list.....	77
3.2 Add.....	77
3.3 Modify.....	77
3.4 Delete gateway information.....	78
3.5 Batch delete.....	79
4、Device management.....	79
4.1 Device list.....	79

4.2 Add.....	79
4.3 Set data No.....	80
4.4 Set alarm threshold.....	81
4.5 Set custom subentry.....	81
4.6 Batch delete.....	82
5、Device template.....	83
5.1 List of device template.....	83
5.2 Add.....	83
5.3 Modify.....	83
5.4 Delete.....	84
5.5 Batch delete.....	85
6、Video management.....	85
6.1 List of video management.....	85
6.2 Add.....	85
6.3 Modify.....	86
6.4 Delete.....	87
6.5 Batch delete.....	87
7、Topology icon management.....	88
7.1 List of topology icon management.....	88
7.2 Add.....	88
7.3 Modify.....	89
7.4 Delete.....	90
7.5 Batch delete.....	90

Chapter 1 Introduction of EEMS

1、System composition

EEMS (Energy efficiency management system) consists of communication center, data center, management platform and user interaction layer. Database supports MySql which is the mainstream relational database. At present, web management platform mainly includes 6 functional modules : Overview, Power Monitoring, Power Analysis, Event Record, Device management and System Management.

Overview module: It mainly displays the status of substation, monthly reports of energy data of each substation, status of transformers and each substation on the map.

Power monitoring module: It not only make statistics about power data, transformers data, operation data, power extremum data and daily electricity operation reports data , but also display the distribution diagram of distribution station and query average power factor of each electric meter.

Power analysis module: It has seven parts all. Consumption report, analysis of year-on-year, analysis of link relative ratio,power record, metering and line loss, power details record and custom power report. Through these parts the user can query relevant data of each meter.

Event record module:It can make statistics and query about teleindication events, threshold-crossing events, SMS logs and platform operation logs.

Device management module: the user can manage group line, gateway, device, device template, video and topology icon by the module.

System management module: Users, roles, menus, departments, and operation logs in the system can be managed in the module.

2、System login

EEMS can be logged in by browser, for example : //192.168.8.239:8001/, the user can input relevant login information , after clicking log in , it will display corresponding permission function interface that according to the access the user they have, showing as below:



(1-2-1 User login)

When the user inputs the wrong information, such as: account password error, user is disabled, role is not assigned, etc., the corresponding error message will be displayed, with account password error as an example, showing as below:



(1-2-2 Login prompt)

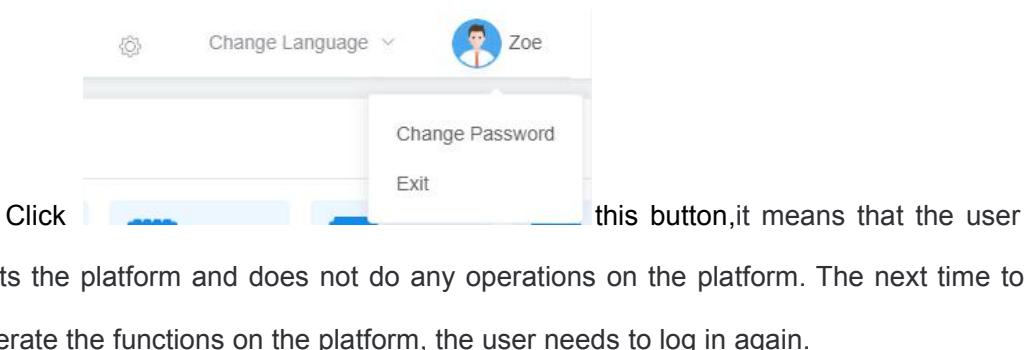
3、Modify the password

After the user logging in, in addition to the operation on the platform, they can also maintain and modify their own passwords. The changed passwords can be used in the next login, showing as below:



(1-3-1 Password modification)

4、Exit safely

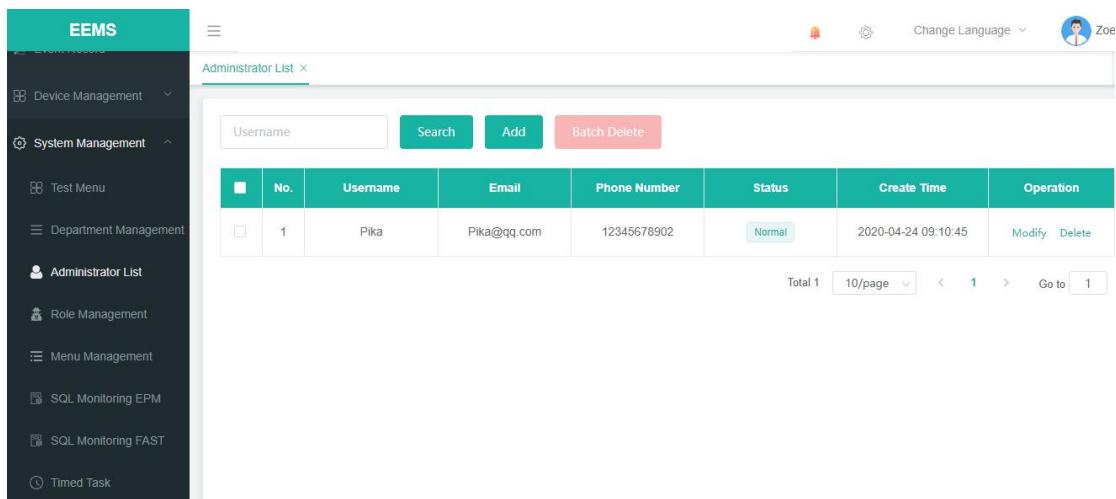


Chapter 2 System Management Module

1、Main functions

It includes three main parts: Administrator List, Role Management and System Log .

- Administrator List :It displays users list, the user can add, edit, delete and query them, among them , “add” and “edit” must be associated with the role.
- Role Management : It displays a list of roles for adding, deleting, searching, editing, and permission configuration.
- System Log : It displays a list of system operation logs that can be queried.



The screenshot shows the 'Administrator List' page of the EEMS system. The left sidebar has a 'System Management' section with 'Administrator List' selected. The main area has a search bar with 'Username' input, 'Search' button, 'Add' button, and 'Batch Delete' button. A table lists one user: No. 1, Username Pika, Email Pika@qq.com, Phone Number 12345678902, Status Normal, Create Time 2020-04-24 09:10:45, and Operation buttons for Modify and Delete. Page navigation at the bottom shows Total 1, 10/page, page 1, and Go to 1.

No.	Username	Email	Phone Number	Status	Create Time	Operation
1	Pika	Pika@qq.com	12345678902	Normal	2020-04-24 09:10:45	Modify Delete

(2-1-1 Administrator List)



No.	Role Name	Remarks	Create Time	Operation
1	Pika	Pika	2020-04-24 09:12:50	Modify Delete

(2-1-2 Role Management)

ID	Username	Operation	Request Method	Request Parameter	Latency(ms)	IP Address	Create Time
1661	admin	Save user	com.fourfaith.mo...	[{"userId":44,"us...]	12	100.100.100.18	2020-04-23 10:21:41
1662	Zoe	Delete menu	com.fourfaith.mo...	[95]	2	100.100.100.18	2020-04-23 10:27:26
1663	Zoe	Delete menu	com.fourfaith.mo...	[95]	2	100.100.100.18	2020-04-23 10:28:11
1664	admin	Modify role	com.fourfaith.mo...	[{"roleId":1,"role...]	160	100.100.100.18	2020-04-23 10:30:55
1665	Zoe	Save user	com.fourfaith.mo...	[{"userId":46,"us...]	7	100.100.100.18	2020-04-24 09:10:45
1666	Zoe	Save role	com.fourfaith.mo...	[{"roleId":31,"role...]	161	100.100.100.18	2020-04-24 09:12:50

(2-1-3 System Log)

2、Administrator List

2.1 Query

Clicking [Query] to do query operation after inputting users' information.

The screenshot shows the 'Administrator List' section of the EEMS system. On the left is a sidebar with various management options. The main area has a search bar with 'Username' and 'Search' buttons, and buttons for 'Add' and 'Batch Delete'. Below is a table with columns: No., Username, Email, Phone Number, Status, Create Time, and Operation. One row is shown with details: No. 1, Username Pika, Email Pika@qq.com, Phone Number 12345678902, Status Normal, Create Time 2020-04-24 09:10:45, and buttons for Modify and Delete.

(2-2-1-1 Query users)

2.2 Add

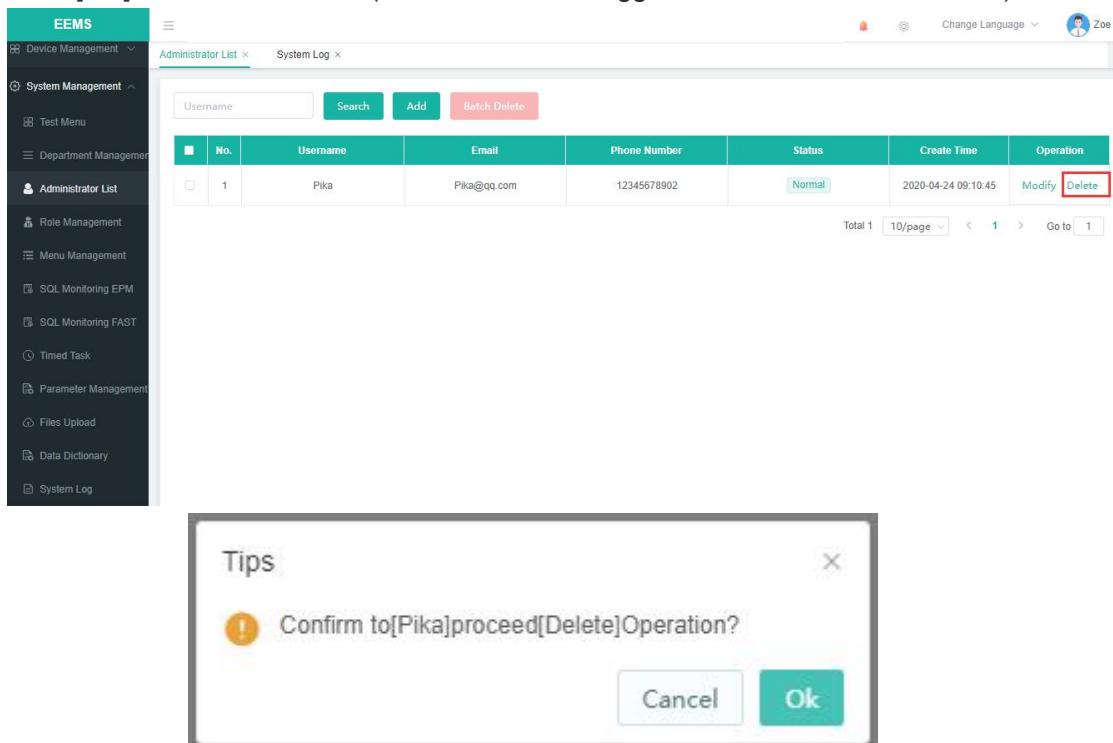
Add
Add administrator information, associate with role information, select visible group bar and department.

The 'Add' dialog box contains fields for: * Username (Zoe), * Password (redacted), * Confirm Password (Confirm Password), Visible Group (Please click to select belonged group, highlighted with a red box), Belonged Department (Please click to select belonged department, highlighted with a red box), * Email (Email), * Phone Number (Phone Number), Role (Role Pika), Status (Disable, Normal selected). At the bottom are Cancel and Ok buttons.

(2-2-2-2 Add users)

2.3 Delete

Select the user to be deleted, click the [Delete] button to delete the user information, then click [OK] to delete the user. (Note: the current logged-in user cannot be deleted).



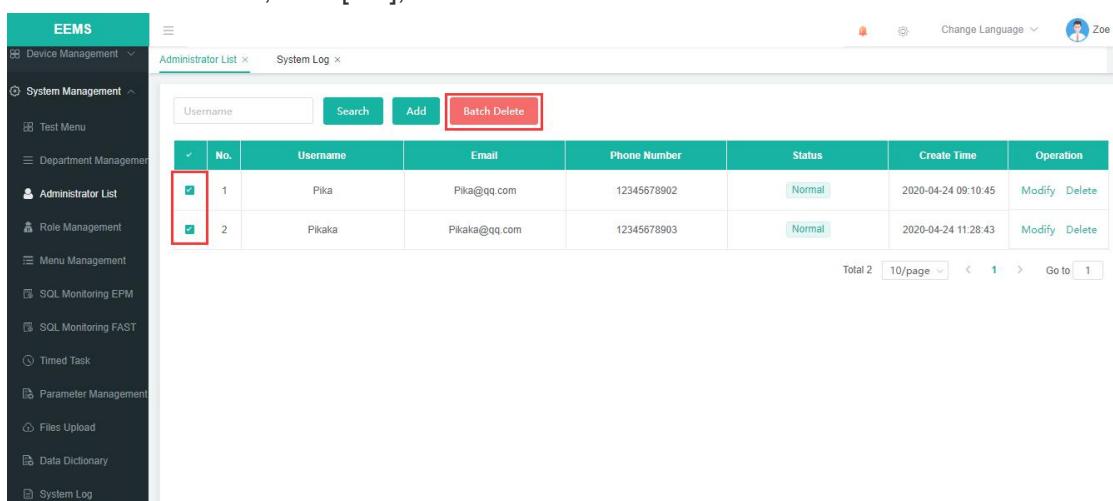
Tips

! Confirm to[Pika]proceed[Delete]Operation?

(2-2-3-1 Delete users)

2.4 Batch Delete

Batch select the user to be deleted, click the "Batch Delete" button, delete the selected user information, click [OK], delete the user.



(2-2-4-1 Batch delete users)

2.5 Modify

Select the user to be modified, click the [Modify] button to modify the user information, then click [OK].

Modify

* Username	<input type="text" value="Pika"/>
Password	<input type="password" value="Password"/>
Confirm Password	<input type="password" value="Confirm Password"/>
* Visible Group	<input type="text" value="厦门四信智慧电力有限公司,一楼楼梯下配电箱,一楼厂房"/>
Belonged Department	<input type="text" value="研发部"/>
* Email	<input type="text" value="Pika@qq.com"/>
* Phone Number	<input type="text" value="12345678902"/>
Role	<input type="checkbox"/> Pika
Status	<input type="radio"/> Disable <input checked="" type="radio"/> Normal
Cancel Ok	

(2-2-5-1 Modify users)

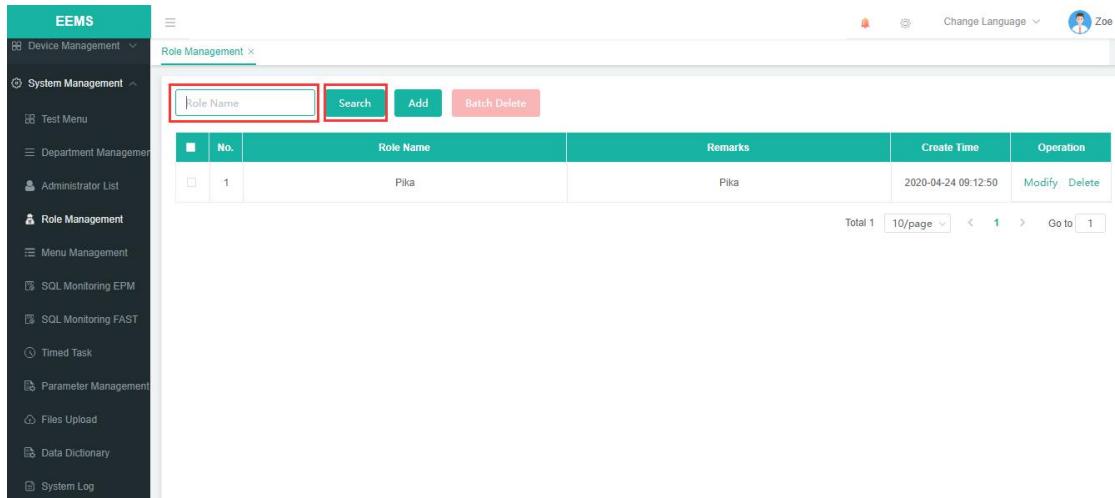
16 / 90

Add:Floor 11, Area A06, No 370, chengyi street, Jimei, Xiamen.China
<https://en.four-faith.net/> Hotline:400-8838-199 Fax:0592-5912735

3、Role Management

3.1 Query

After inputting the role name, click the [Query] button to query.

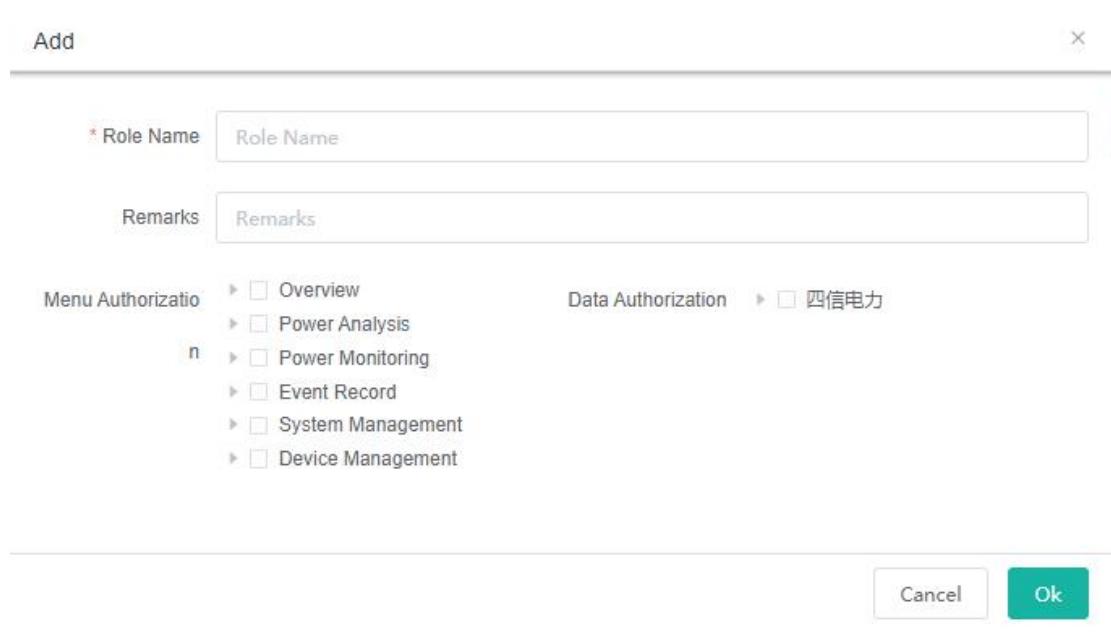


No.	Role Name	Remarks	Create Time	Operation
1	Pika	Pika	2020-04-24 09:12:50	Modify Delete

(2-3-1-1 Query role)

3.2 Add

Click [Add] button, Click [OK] after inputting related role information.

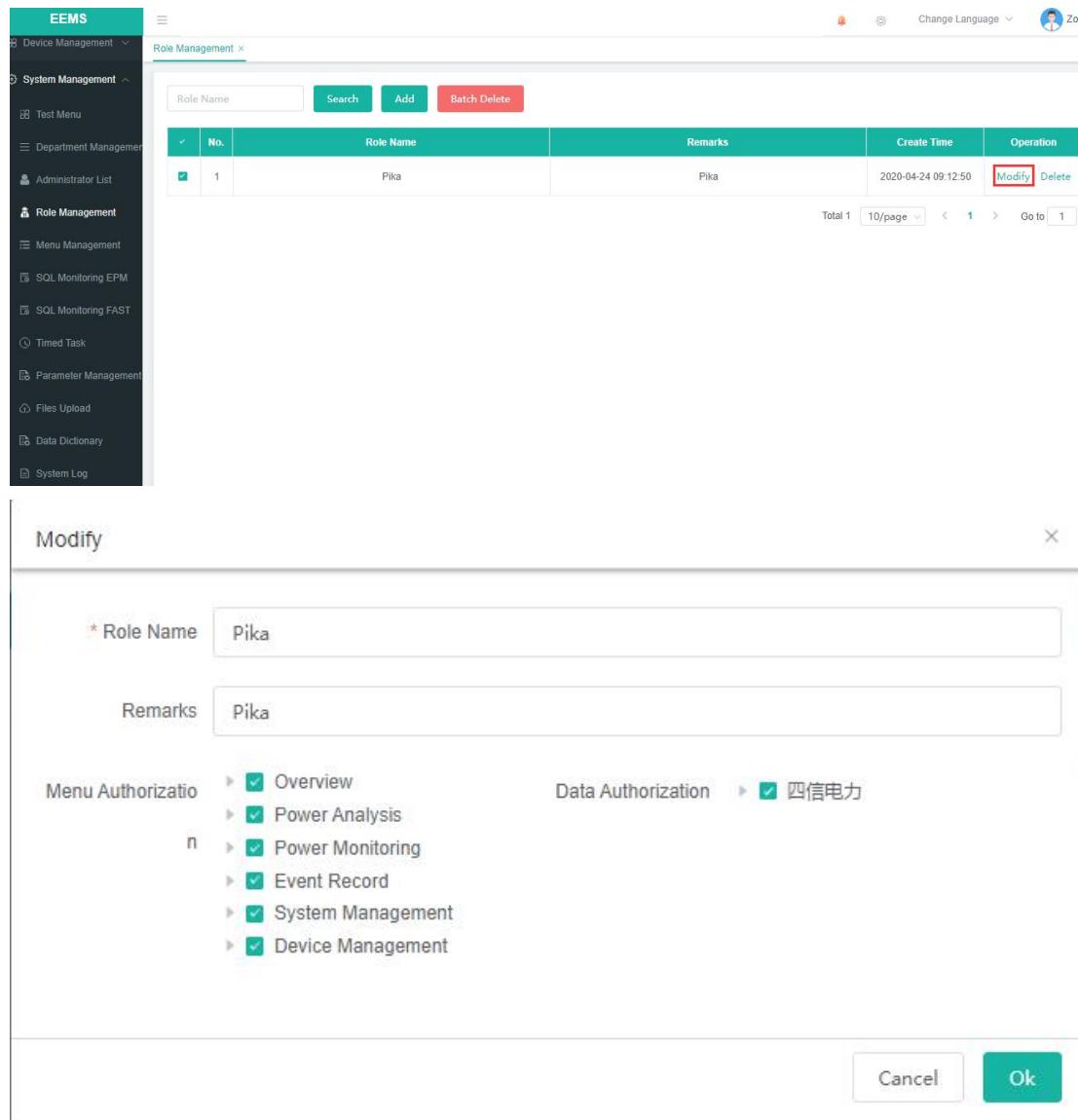


* Role Name	Role Name
Remarks	Remarks
Menu Authorization	<input type="checkbox"/> Overview <input type="checkbox"/> Power Analysis <input type="checkbox"/> Power Monitoring <input type="checkbox"/> Event Record <input type="checkbox"/> System Management <input type="checkbox"/> Device Management
Data Authorization	<input type="checkbox"/> 四信电力

(2-3-2-1 Add roles)

3.3 Modify

Select the role information to be modified and click the [Modify] button.



The screenshot shows the 'Role Management' page of the EMS system. On the left is a sidebar with various management options like Device Management, System Management, and Role Management. The main area shows a table with one row for 'Pika'. The 'Operation' column contains 'Modify' and 'Delete' buttons, with 'Modify' being highlighted with a red box. A modal window titled 'Modify' is open, containing fields for 'Role Name' (set to 'Pika') and 'Remarks' (set to 'Pika'). Under 'Menu Authorization', there are two expandable sections: one for Overview and Power Analysis, and another for Power Monitoring, Event Record, System Management, and Device Management, both of which have all checkboxes checked. Under 'Data Authorization', there is a single section for '四信电力' (Four-Faith Power) with a checked checkbox. At the bottom of the modal are 'Cancel' and 'Ok' buttons.

(2-3-3-1 Modify roles)

3.4 Delete

Select the role to be deleted, click the [Delete] button to delete the user information, then click [OK] to delete the role.

The screenshot shows the 'Role Management' section of the EEMS system. On the left is a navigation sidebar with various management options like Device Management, System Management, Department Management, and Role Management. The main area displays a table with one row for 'Pika'. The table columns are No., Role Name, Remarks, Create Time, and Operation. The 'Operation' column contains 'Modify' and 'Delete' buttons, with 'Delete' highlighted with a red box. Below the table is a pagination bar showing 'Total 1' and '10/page'.

No.	Role Name	Remarks	Create Time	Operation
1	Pika	Pika	2020-04-24 09:12:50	Modify Delete

Tips

! Confirm to[Pika]proceed[Delete]Operation?

Cancel

Ok

(2-3-4-1 Delete roles)

3.5 Batch Delete

Batch select the role to be deleted, click the [Batch Delete] button, delete the selected record.

The screenshot shows the 'Role Management' section of the EEMS system. The left sidebar includes 'System Management' and 'Role Management'. The main area lists two roles: 'Pika' and 'Pikaka', both with their checkboxes checked. The 'Batch Delete' button at the top right of the table is highlighted with a red box. Below the table is a pagination bar showing 'Total 2' and '10/page'.

No.	Role Name	Remarks	Create Time	Operation
1	Pika	Pika	2020-04-24 09:12:50	Modify Delete
2	Pikaka	Pikaka	2020-04-24 11:51:43	Modify Delete

(2-3-5-1 Search roles)

4、System Log

4.1 Query

Input the user name, then click the [Query] button for query operation

ID	用户名	用户操作	请求方法	请求参数	执行时长(毫秒)	IP地址	创建时间
1	admin	暂停定时任务	io.renren.modules...	[{"id":1}]	79	0.0.0.0.0.1	2019-07-01 15:02:59
2	admin	修改菜单	com.fourfaith.mod...	[{"menuid":5,"par...	51	0.0.0.0.0.1	2019-07-02 11:47:08
3	admin	保存菜单	com.fourfaith.mod...	[{"menuid":31,"par...	63	0.0.0.0.0.1	2019-07-04 09:43:33
4	admin	删除菜单	com.fourfaith.mod...	[{"id":31}]	0	0.0.0.0.0.1	2019-07-04 09:43:58
5	admin	保存菜单	com.fourfaith.mod...	[{"menuid":32,"par...	63	0.0.0.0.0.1	2019-07-04 10:55:21
6	admin	修改用户	com.fourfaith.mod...	[{"userId":1,"usem...	211	0.0.0.0.0.1	2019-07-12 15:37:40
7	admin	修改用户	com.fourfaith.mod...	[{"userId":1,"usem...	43	0.0.0.0.0.1	2019-07-12 15:37:53
8	admin	修改菜单	com.fourfaith.mod...	[{"menuid":33,"par...	65	0.0.0.0.0.1	2019-07-12 17:17:42
9	admin	修改菜单	com.fourfaith.mod...	[{"menuid":33,"par...	40	0.0.0.0.0.1	2019-07-12 17:18:15
10	admin	删除菜单	com.fourfaith.mod...	[{"id":33}]	0	0.0.0.0.0.1	2019-07-12 17:18:15

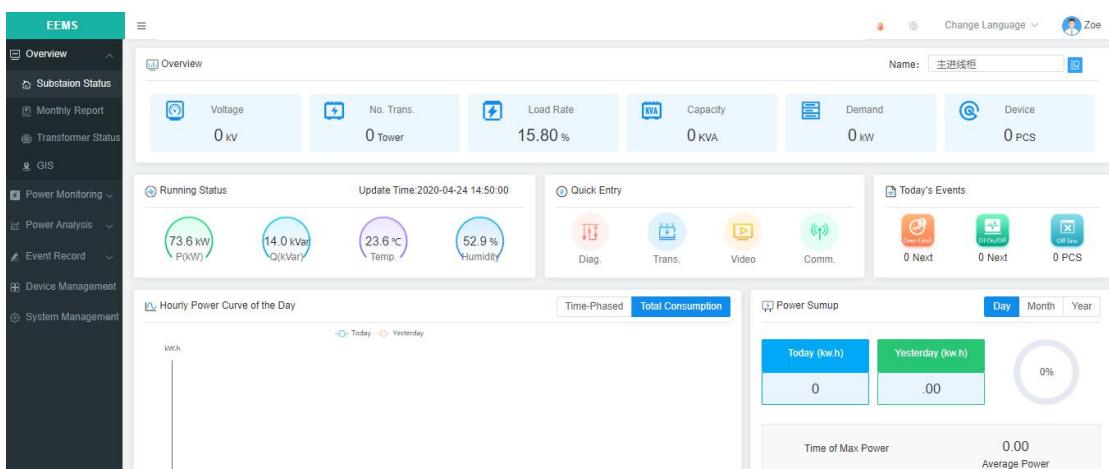
(2-4-1-1 Query system logs)

Chapter 3 Overview Module

1、Main functions

Overview module includes four parts: Substation Status, Monthly Report, Transformer Status and GIS.

- Substation Status: It mainly make statistics and query about overview of transformers, running status of substation, daily alarm events, hourly power curve of the day and power consumption, it also has quick entry.
- Monthly Report : Users can query and make statistics about the list of daily electricity consumption of each substation, related data can be derived from the list.
- Transformer Status: This part can display list of operation information of each substation's transformer, users can query related information according to the substation's name.
- GIS: This part displays the location of each substation on the map, users can query the number of substations, the total capacity of transformers, the current total power, the total consumption of the day, the number of gateways, the number of meters and the number of alarm events.



Name	4.18	4.19	4.20	4.21	4.22	4.23	4.24	Total
一楼楼梯下配电箱	1671.22	1558.29	1725.27	1638.34	1091.96	0.00	0.00	7685.08
一楼厂房	1765.67	1525.71	1503.37	1513.31	1018.68	0.00	0.00	7326.74
南安市配电站	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
南安市配电站2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
合计	3436.89	3084.00	3228.64	3151.65	2110.64	0.00	0.00	15011.82

(3-1-2 Monthly Report)

Name	Trans.	RatedS(kVA)	P(kW)	PF	S(kVA)	Load Rate	Temperature(°C)		
							A	B	C
南安市配电站	厂房变压器	135	-	-	-	-	-	-	
一楼楼梯下配电箱	一楼变压器	200	40.45	0.95	42.74	8.55%	40.18	41.79	
一楼厂房	厂房变压器	100	33.16	0.91	36.27	7.25%	41.71	40.9	

(3-1-3 Transformer Status)

Map showing the distribution of power equipment in Xiamen, including substations, distribution boxes, and other electrical infrastructure across the city's districts.

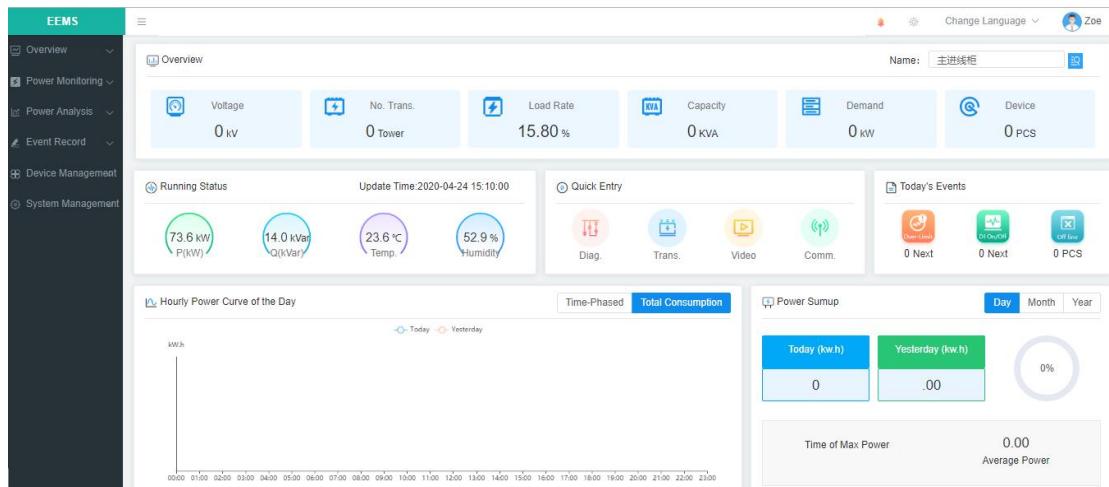
Key data displayed at the bottom:

- Quantity of 4PCS
- Total Capacity of 435kVA
- Current Total 73.61kw
- 0.00kWh
- Quantity of 20PCS
- Quantity of 10PCS
- Alarm of Telemetry on 0PCS
- Alarm of Teleindication 0PCS

(3-1-4 GIS)

2、Substation Status

This module can be used for statistical inquiry of transformer general situation, operation status, shortcut entrance, daily events record, hourly power curve of the day and power consumption general situation, showing as below:



(3-2-1Substation Status)

2.1 Statistical query

Name: Click this button, the window of the substation query list will pop up, then double-click the selected substation for statistical query.

Search for Substation	
Name	Address
南安市配电站	高煌源桌上
一楼楼梯下配电箱	福建省厦门市集美区孙坂南路86-~88
南安市配电站2	福建省泉州市南安市新村街
一楼厂房	福建省厦门市集美区孙坂南路86-~88

(3-2-1-1 Select substation for statistical inquiry)

3、Monthly Report

3.1 Monthly report list

(3-3-1-1 Monthly report list)

3.2 Statistics and Query

Start and End Time Sort Field Sort Order

According to the starting and ending time, sorting field and sorting method, the daily electricity consumption information of each substation can be seen.

(3-3-2-1 Information list)

3.3 Export



Click this button , users can export Excel of daily electricity usage information of each substation.

The screenshot shows the EEMS software interface. On the left is a navigation sidebar with 'EEMS' at the top, followed by 'Overview', 'Substation Status', 'Monthly Report' (which is selected), 'Transformer Status', 'GIS', 'Power Monitoring', 'Power Analysis', 'Event Record', 'Device Management', and 'System Management'. The main area is titled 'Monthly Report' and contains a table with data. At the top of the table area are filters: 'Start and End Time' (set to 2020-04-18 to 2020-04-24), 'Sort Field' (No. Subst), 'Sort Order' (Positive), 'Search', and a red-bordered 'Export' button. Below the table is a file icon and the text 'Monthly Report....xlsx'. At the bottom right are '全部显示' and a close button.

(3-3-3-1 Export data)

4、Transformer Status

4.1 Query

The screenshot shows the 'Transformer Status' query interface. On the left is a navigation sidebar with 'EEMS' at the top, followed by 'Overview', 'Substation Status', 'Monthly Report', 'Transformer Status' (selected), 'GIS', 'Power Monitoring', 'Power Analysis', 'Event Record', 'Device Management', and 'System Management'. The main area has a search bar with 'Name' and a 'Search' button. Below the search bar is a table with transformer status data. A red border highlights the table. To the right of the table is the text: 'The transformer status of each substation is inquired according to the name of the substation.'

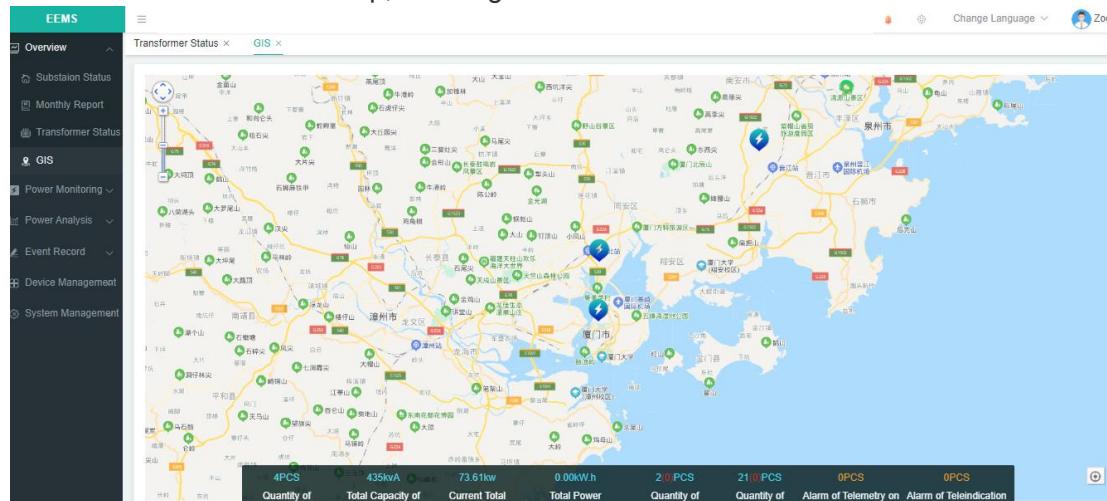
The screenshot shows the 'Transformer Status' query interface with detailed data. On the left is a navigation sidebar with 'EEMS' at the top, followed by 'Overview', 'Substation Status', 'Monthly Report', 'Transformer Status' (selected), 'GIS', 'Power Monitoring', 'Power Analysis', 'Event Record', 'Device Management', and 'System Management'. The main area has a search bar with 'Name' and a 'Search' button. Below the search bar is a table with transformer status data. A red border highlights the table. The table columns include Name, Trans., RatedS(kVA), P(kW), PF, S(kVA), Load Rate, and Temperature(°C) with sub-columns A, B, and C.

(3-4-1-1 Transformer status query)

5、GIS

5.1 Substation positioning

According to the longitude and latitude provided by the substation, the location markers are made on the map, showing as below :



(3-5-1-1 Substation positioning)

5.2 Presentation of Statistical data

This part displays the location of each substation on the map, users can query the number of substations, the total capacity of transformers, the current total power, the total consumption of the day, the number of gateways, the number of meters and the number of alarm events, showing as below:

4PCS	435kVA	73.61kw	0.00kWh	2(0)PCS	21(0)PCS	0PCS	0PCS
Quantity of Substations	Total Capacity of Transformers	Current Total Power	Total Power Consumption of Day	Quantity of Gateways	Quantity of Devices	Alarm of Telemetry on the	Alarm of Teleindication on

(3-5-2-1 Priority)

Chapter 4 Power monitoring module

1、Main functions

It includes seven parts: Power data, transformer monitoring, power operation report, distribution diagram, power extremum report, daily report and average power factor.

- Power Data: Displaying all the data of meters of the substation, there are daily raw data, daily extremum data and related line analysis chart. It also supports export function.
 - 1、Daily raw data: Displaying power data for each power category on a specific date , the power data of the day is displayed by default.
 - 2、Daily etremum data: It displays power data for each power category on a specific date, it displays power data for 30 days prior to the date of the day by default.
- Transformer Monitoring: Showing the parameters of all transformers in substation and presenting the data with a corresponding line chart.
- Power Operation Report: Showing power data for each power category (Phase voltage, line voltage) on a specific date, data queries can be conducted at intervals of five minutes, ten minutes, half an hour, and one hour
- Distribution Diagram: Showing the circuit structure diagram of substation.
- Power Extremum Report: Showing the maximum value, minimum value and corresponding occurrence time of each meter equipment in the power distribution room.
 - 1、Daily report: The maximum and minimum values and occurrence time of each meter are displayed with a day.
 - 2、Monthly report: The maximum and minimum values and occurrence time of each meter are displayed with a month.
- Daily report: Showing the power data values of each meter in the distribution room of each time on a specific date.

- Average Power Factor: Showing the electrical parameters and average power factors of each power equipment on a specific date in the substation.

1、Daily report: Positive active power, reverse active power, positive reactive power, reverse reactive power and average power factor of the meter equipment are displayed with a day.

2、Monthly report: Positive active power, reverse active power, positive reactive power, reverse reactive power and average power factor of the meter equipment are displayed with a month.

2、Power data

2.1 Daily Raw Data

2.1.1 Query

Select the substation and corresponding equipment to be inquired, select the date to be inquired, and click the [Search] button to search the corresponding data.

Circuit	Acquisition Time				
1F波峰焊	2020-04-18 23:55	2.41	2.68	2.10	7.19
1F波峰焊	2020-04-18 23:50	2.44	2.69	2.10	7.23
1F波峰焊	2020-04-18 23:45	2.42	2.62	2.09	7.13
1F波峰焊	2020-04-18 23:40	2.38	2.61	2.09	7.08

(4-2-1-1 Daily raw data)

2.1.2 Last day

Clicking the [Last Day] button, users can view the data for the previous day of the selected date.

The screenshot shows the EEMS software interface. On the left, there's a sidebar with various monitoring and reporting options. The main area is titled 'Power Data' and displays a table of daily raw data. The table has columns for Circuit, Acquisition Time, and several numerical values. A red box highlights the 'Next Day' button at the top of the table area.

Circuit	Acquisition Time				
1F波峰焊	2020-04-17 23:55	3.29	3.16	2.50	8.95
1F波峰焊	2020-04-17 23:50	3.13	3.16	2.48	8.77
1F波峰焊	2020-04-17 23:45	3.33	3.08	2.50	8.91
1F波峰焊	2020-04-17 23:40	3.29	3.10	2.49	8.89

(4-2-1-2 Daily raw data)

2.1.3 Next day

Click the [Next day] button, users can view the data for the next day of the selected date.

This screenshot is similar to the previous one but shows the data for the next day. The 'Next Day' button is highlighted with a red box. The table data is identical to the previous screenshot.

Circuit	Acquisition Time				
1F波峰焊	2020-04-17 23:55	3.29	3.16	2.50	8.95
1F波峰焊	2020-04-17 23:50	3.13	3.16	2.48	8.77
1F波峰焊	2020-04-17 23:45	3.33	3.08	2.50	8.91
1F波峰焊	2020-04-17 23:40	3.29	3.10	2.49	8.89

(4-2-1-3 Daily raw data)

2.1.4 Table

Click the [Table] button or the [Chart] button to switch between charts and tables.

This screenshot shows a chart view for the '1F波峰焊' circuit on April 17, 2020. The chart displays active power fluctuations over time. The 'Table' button is highlighted with a red box. The chart title is '2020-04-17 1F波峰焊 Active Power'.

The screenshot shows the EEMS software interface. On the left is a sidebar with various monitoring and reporting options. The main area is titled 'Power Data' and displays a table of daily raw data. The table has columns for Circuit, Acquisition Time, and several numerical values. At the bottom right of the table, the 'Export' button is highlighted with a red box.

Circuit	Acquisition Time				
1F波峰焊	2020-04-17 23:55	3.29	3.16	2.50	8.95
1F波峰焊	2020-04-17 23:50	3.13	3.16	2.48	8.77
1F波峰焊	2020-04-17 23:45	3.33	3.08	2.50	8.91
1F波峰焊	2020-04-17 23:40	3.29	3.10	2.49	8.89
1F波峰焊	2020-04-17 23:35	3.30	3.08	2.49	8.87

(4-2-1-4 Table and chart of daily raw data)

2.1.5 Export

Click the [Export] button, export the current data.

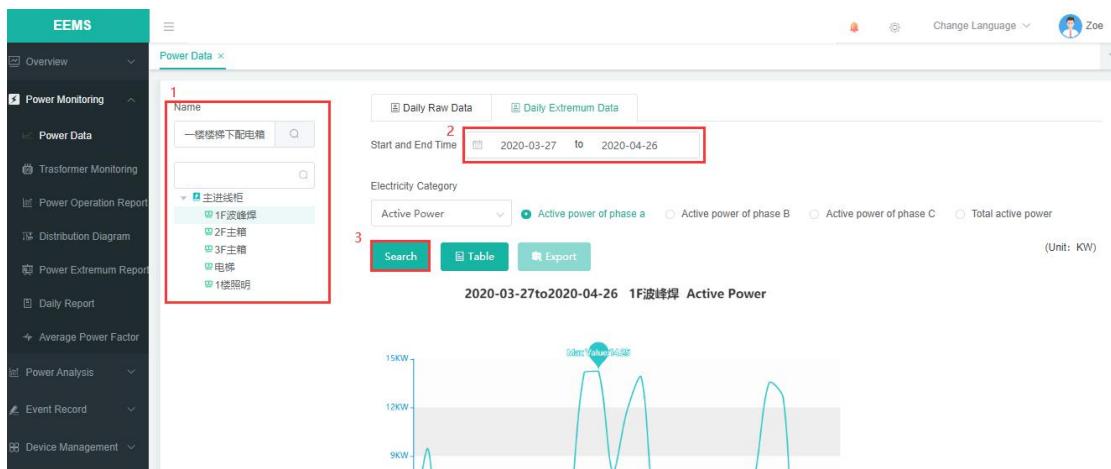
The screenshot shows the EEMS software interface with the 'Export' button highlighted with a red box. At the bottom left, there is a download progress bar for a file named '2020-04-17Daily...xlsx'.

(4-2-1-5 Export daily raw data)

2.2 Daily Extremum Data

2.2.1 Query

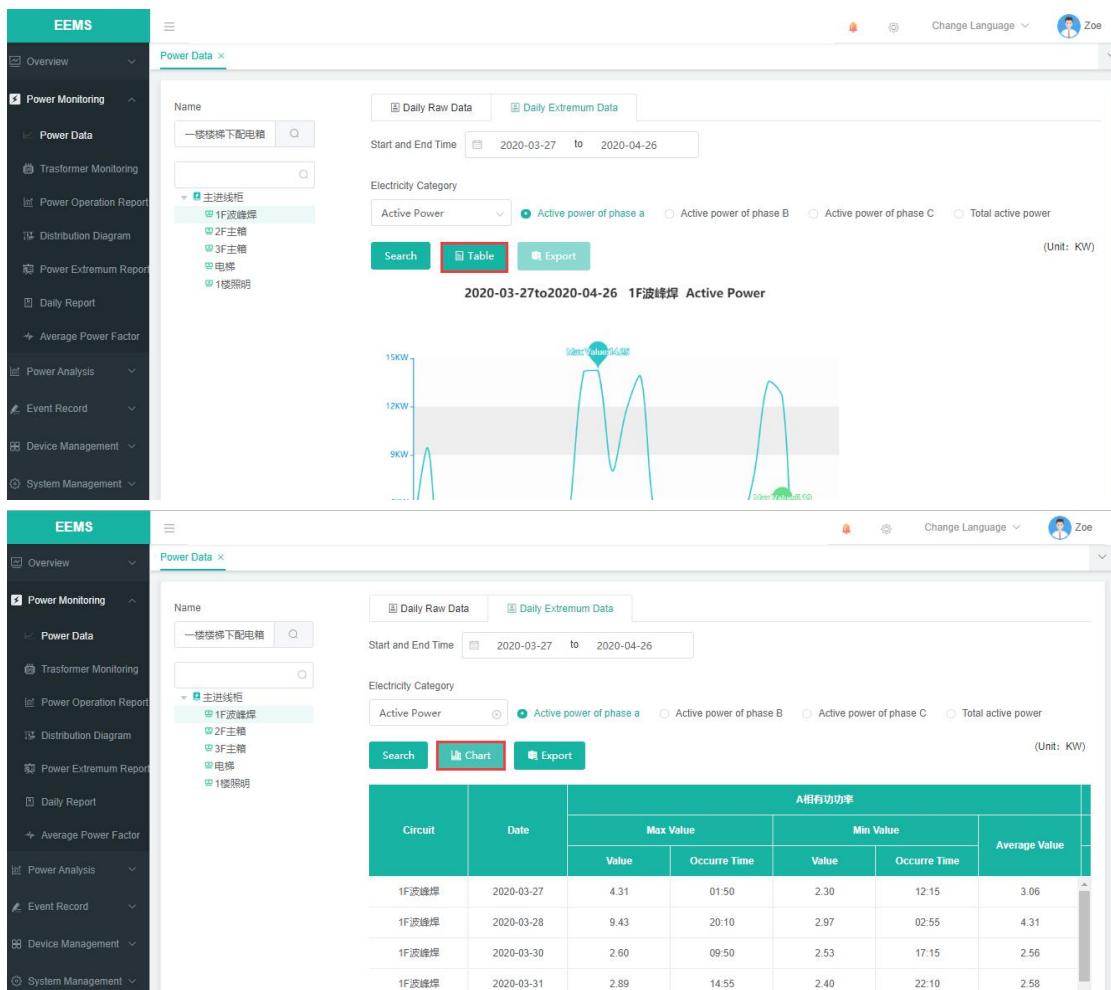
Select the substation and corresponding equipment to be inquired, select the date range to be inquired, and click the [Search] button to search the corresponding data.



(4-2-2-1 Daily extremum data)

2.2.2 Table

Click the [Table] button or the [Chart] button to switch between charts and tables.



(4-2-2-2 Table and chart of daily extremum data)

2.2.3 Export

Click the [Export] button to export the current data.

Circuit	Date	A相有功功率				Average Value
		Max Value		Min Value		
		Value	Occur Time	Value	Occur Time	
1F波峰焊	2020-03-27	4.31	01:50	2.30	12:15	3.06
1F波峰焊	2020-03-28	9.43	20:10	2.97	02:55	4.31
1F波峰焊	2020-03-30	2.60	09:50	2.53	17:15	2.56

(4-2-2-5 Export daily extremum data)

3、Transformer Monitoring

3.1 Transformer Monitoring

3.1.1 Query

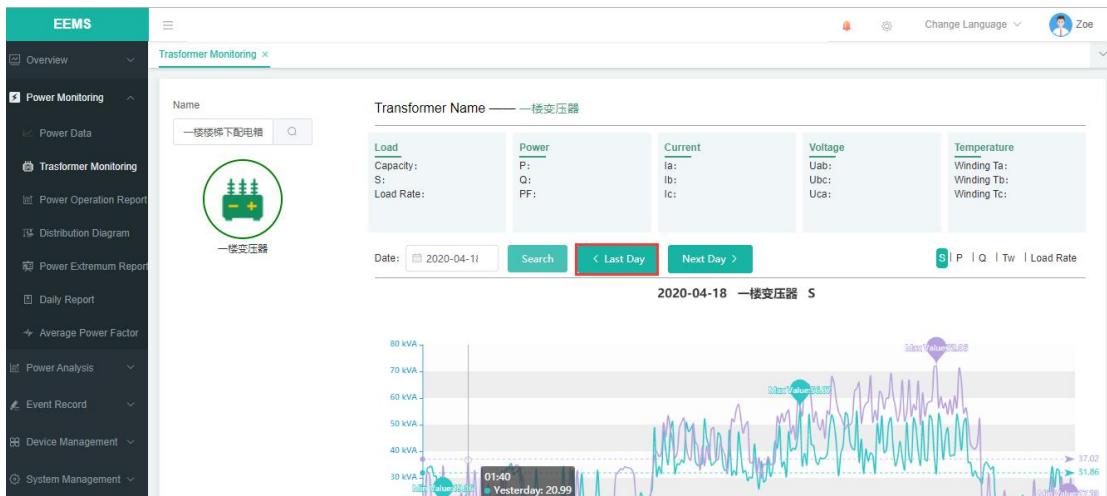
Select the substation and corresponding equipment to be inquired, select the date to be inquired, and click the [Search] button to search the corresponding data.

Transformer Name	—一楼变压器
Load Capacity:	S: 1000kVA
Power	P: 800kW Q: 600kvar PF: 0.85
Current	Ia: 100A Ib: 100A Ic: 100A
Voltage	Uab: 380V Ubc: 380V Uca: 380V
Temperature	Winding Ta: 40°C Winding Tb: 40°C Winding Tc: 40°C

(4-3-1-1 Transformer parameters)

3.1.2 Last day

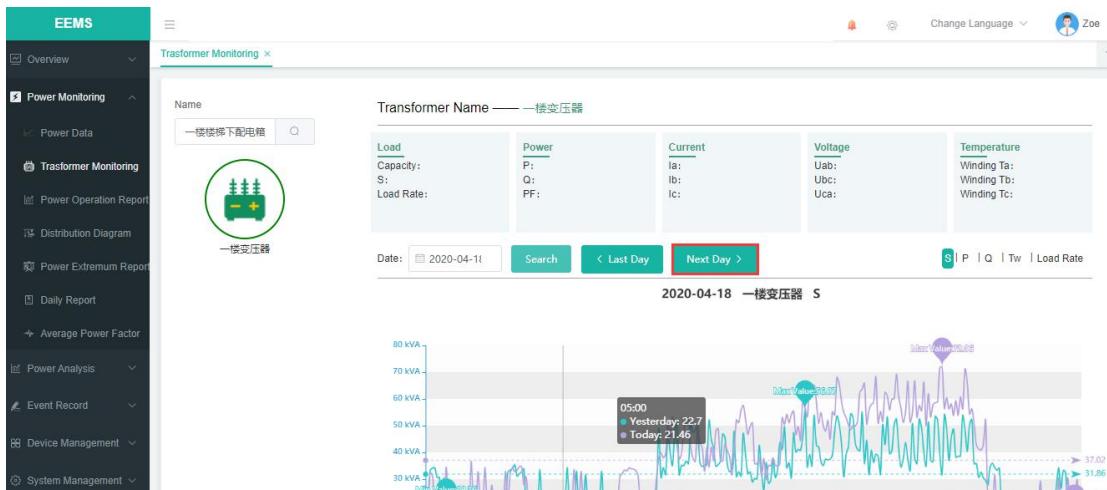
Clicking the [Last Day] button, users can view the data for the previous day of the selected date.



(4-3-1-2 Transformer parameters)

3.1.3 Next day

Click the [Next day] button, users can view the data for the next day of the selected date.



(4-3-1-3 Transformer parameters)

4、Power Operation Report

4.1 Power operation report

4.1.1 Query

Select the substation and corresponding equipment to be inquired, select the date, power category and interval to be inquired , and click the [Search] button to search the

corresponding data.

The screenshot shows the EEMS Power Operation Report interface. On the left, a sidebar lists various monitoring and reporting options. In the center, a search bar is at the top, followed by a table of power data. The table has columns for Circuit, Acquisition Time, A相电压 (Phase A Voltage), B相电压 (Phase B Voltage), C相电压 (Phase C Voltage), A相电流 (Phase A Current), and B相电流 (Phase B Current). The data for April 26, 2020, shows all values as 0.

Circuit	Acquisition Time	A相电压	B相电压	C相电压	A相电流	B相电流
Max Value	-	0	0	0	0	0
Min Value	-	0	0	0	0	0
Average Value	-	0	0	0	0	0

(4-4-1-1 Power operation report)

4.1.2 Last day

Clicking the [Last Day] button, users can view the data for the previous day of the selected date.

This screenshot is identical to the one above, showing the Power Operation Report for April 26, 2020. The only difference is that the 'Last Day' button in the top right of the interface is highlighted with a red box, indicating it was recently clicked.

(4-4-1-2 Power operation report)

4.1.3 Next day

Click the [Next day] button, users can view the data for the next day of the selected date.

The screenshot shows the EEMS (Energy Efficiency Management System) interface. On the left, there's a navigation sidebar with various options like Overview, Power Monitoring, Transformer Monitoring, Power Operation Report, Distribution Diagram, Power Extremum Report, Daily Report, Average Power Factor, Power Analysis, Event Record, Device Management, and System Management. The main area is titled "Power Operation Report". It has a search bar with a date range from "2020-04-25" to "2020-04-26", a time interval of "Five Min", and buttons for "Search", "Last Day", "Next Day", and "Export". Below this is a table with columns: Circuit, Acquisition Time, A相电压, B相电压, C相电压, A相电流, and B相电流. The table shows three rows: Max Value, Min Value, and Average Value, all with values of 0.

(4-4-1-3 Power operation report)

4.1.4 Export

Click the [Export] button, export the current data.

This screenshot is identical to the one above, but the "Export" button in the top right corner of the report area is highlighted with a red box.

(4-4-1-5 Export power operation report)

5、Distribution Diagram

5.1 Loading icons and topology diagrams

After entering the distribution diagram interface, select the corresponding substation name and load the corresponding icon and topology diagram. If there is no icon and topology diagram, it is necessary to add the icon from the topology icon management of equipment management, and then return to the interface for topology diagram design. Showing as below:



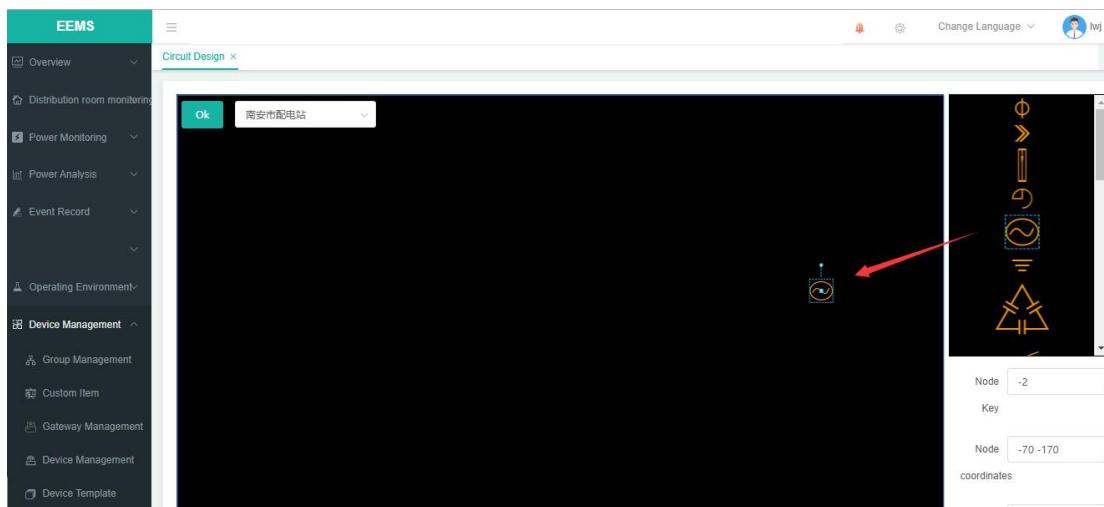
(5-1-1 Selects the substation name)



(5-1-2 Load icons and topology diagrams)

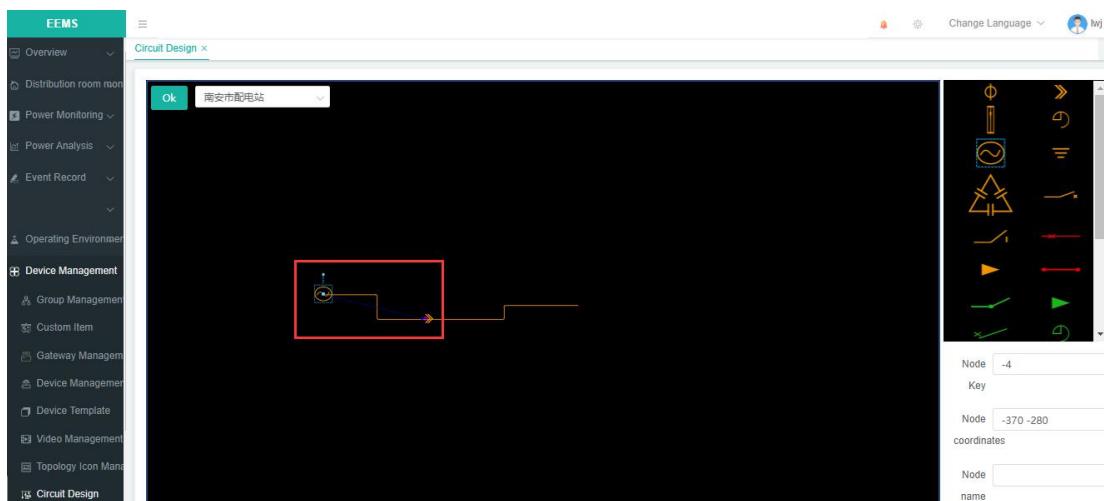
5.2 Editing the topology

Topology can be added, deleted, connected and cancel, showing as below:



(5-2-1 Add icon)

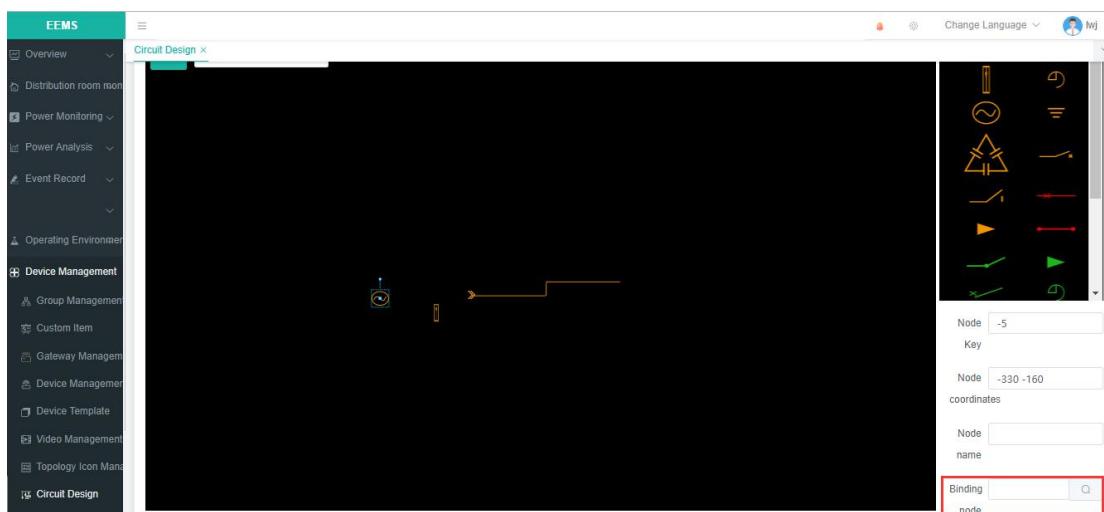
Select the icon , hold down the mouse, drag to the icon to connect, showing as below:



(5-2-2 Icon connection)

5.3 Binding Device

Click the button that on the right of the page to bind device, showing as below:



(5-3-1 Binding device)

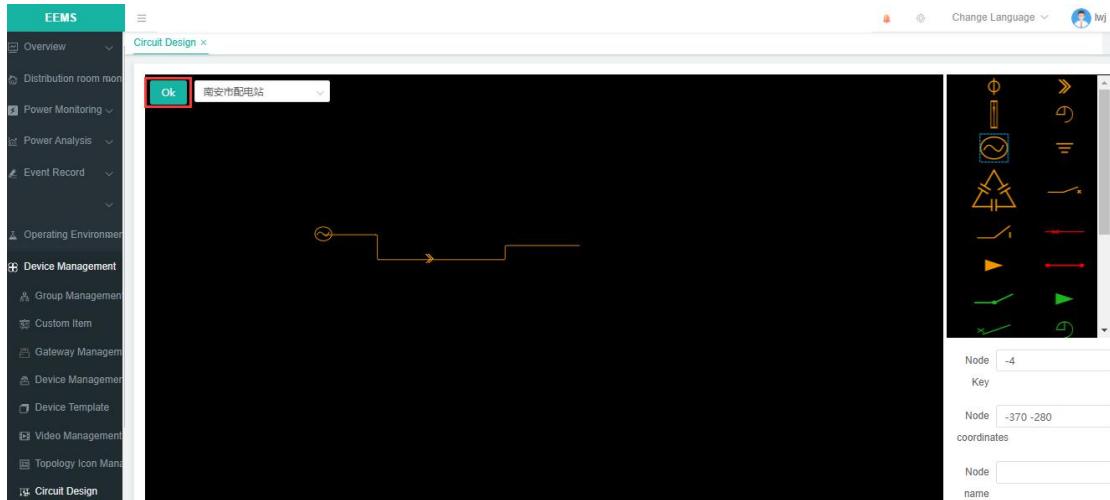
Entering the device binding list, select the device to bind, and then click the [Binding] button to bind the device, showing as below:

Device	Whether bound	Operation
楼梯进线柜电表	Has not bound	Binding

(5-3-2 Binding operation)

5.4 Saving topology diagram

Click [OK] button to save the diagram, showing as below:



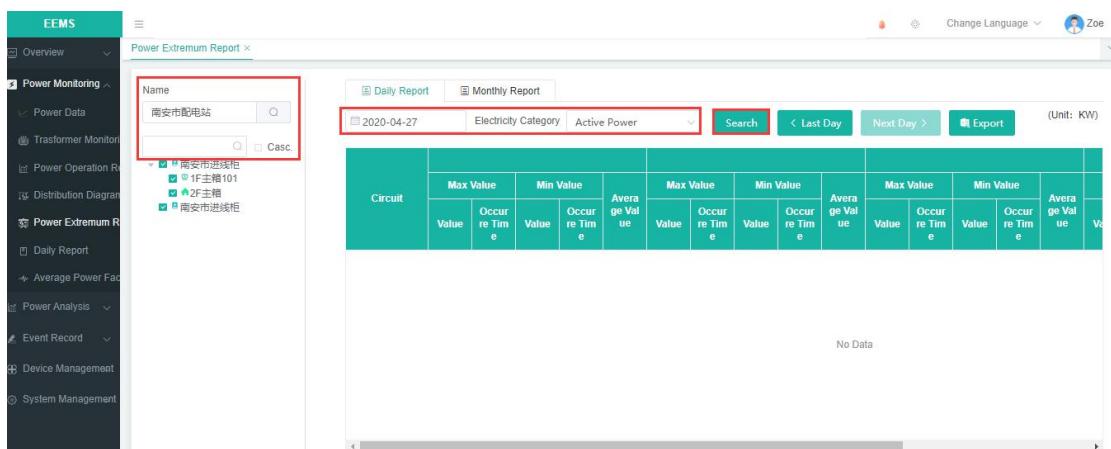
(5-4-1 Save topology diagram)

6、Power Extremum Report

6.1 Daily report

6.1.1 Query

Select the substation and corresponding equipment to be inquired, select the date to be inquired, and click the [Search] button to query the corresponding data.



(4-6-1-1 Power extremum report)

6.1.2 Last day

Click the [Last Day] button, users can view the data for the previous day of the

selected date.

The screenshot shows the EEMS software interface. On the left, there's a sidebar with various menu items under 'Power Monitoring'. In the main area, a report titled 'Power Extremum Report' is displayed. The report has a header with 'Daily Report' and 'Monthly Report' tabs, a date selector set to '2020-04-27', and a dropdown for 'Electricity Category' set to 'Active Power'. Below this is a search bar and a 'Last Day' button, which is highlighted with a red box. There are also 'Next Day', 'Export', and 'Search' buttons. The main table area is titled 'Circuit' and has columns for 'Max Value', 'Min Value', and 'Average Value' across four rows. The table is currently empty, displaying 'No Data'.

(4-6-1-2 Power extremum report)

6.1.3 Next day

Click the [Next day] button, users can view the data for the next day of the selected date.

This screenshot is identical to the one above, showing the 'Power Extremum Report' page in the EEMS software. The 'Next Day' button is again highlighted with a red box, indicating its function to switch to the next day's data.

(4-6-1-3 Power extremum report)

6.1.4 Export

Click the [Export] button to export the current data.

(4-6-1-4 Export power extremum report)

6.2 Monthly report

6.2.1 Query

Select the substation and corresponding equipment to be inquired, select the date to be inquired, and click the [Search] button to query the corresponding data.

(4-6-2-1 Monthly report)

6.2.2 Last month

Clicking the [Last Month] button, users can view the data for the previous month of the selected date.

The screenshot shows the EEMS software interface for a power monitoring system. On the left, there's a sidebar with various menu items like Overview, Power Monitoring, Transformer Monitoring, Power Operation Record, Distribution Diagram, Power Extremum Report, Daily Report, Average Power Factor, Power Analysis, Event Record, Device Management, and System Management. The main area is titled 'Power Extremum Report' and shows a table for the month of April 2020. The table has columns for Circuit, Max Value, Min Value, Average Value, and so on. At the top of the report area, there are buttons for Daily Report, Monthly Report, Search, and several navigation buttons including '< Last Month', 'Next Month >', and 'Export'. The 'Next Month >' button is specifically highlighted with a red box.

(4-6-2-2 Monthly report)

6.2.3 Next month

Click the [Next month] button, users can view the data for the next month of the selected date.

This screenshot is similar to the one above, showing the Power Extremum Report for April 2020. However, the 'Next Month' button at the top of the report area is now highlighted with a red box, indicating it has been clicked. The rest of the interface and data table remain the same.

(4-6-2-3 Monthly report)

6.2.4 Export

Click the [Export] button to export the current data.

This screenshot shows the Power Extremum Report for April 2020. The 'Export' button at the top right of the report area is highlighted with a red box. The rest of the interface, including the sidebar and the data table, remains consistent with the previous screenshots.

(4-6-2-4 Export monthly report)

7、Daily Report

7.1 Daily report

7.1.1 Query

Select the substation and corresponding equipment to be inquired, select the date and power category to be inquired, and click the [Search] button to query the corresponding data.

(4-7-1-1 Query for daily report)

7.1.2 Last day

Clicking the [Last day] button, users can view the data for the previous day of the selected date.

(4-7-1-2 Query for daily report)

7.1.3 Next day

Click the [Next day] button, users can view the data for the next day of the selected date.

The screenshot shows the 'Power Extremum Report' section under the 'Daily Report' tab. On the left, there's a sidebar with navigation options like Overview, Power Monitoring, Transformer Monitor, Power Operation Record, Distribution Diagram, Power Extremum Report, and Daily Report. The Daily Report section is expanded, showing a tree view of substations: '一楼楼下配电机房' with '主进线柜', '1#波峰焊', '2#主柜', '3#主柜', '电表', and '1楼照明'. The main area displays a table of power data from April 18, 2020. The table has columns for Circuit, Parameter (Param.), and time intervals from 00Hou to 13H. A red box highlights the 'Next Day >' button at the top right of the table area.

(4-7-1-3 Query for daily report)

7.1.4 Export

Click the [Export] button to export the current data.

This screenshot is identical to the one above, showing the 'Power Extremum Report' section under the 'Daily Report' tab. The sidebar and tree view are the same. The main area shows the same power data table. However, the 'Export' button at the top right of the table is now highlighted with a red box.

(4-7-1-4 Export daily report)

8、Average Power Factor

8.1 Monthly report

8.1.1 Query

Select the substation and corresponding equipment to be inquired, select the date to be inquired, and click the [Search] button to query the corresponding data.

(4-8-1-1 Query for monthly report)

8.1.2 Last month

Click the [Last month] button, users can view the data for the previous month of the selected date.

(4-8-1-2 Query for monthly report)

8.1.3 Next month

Click the [Next month] button, users can view the data for the next month of the selected date.

(4-8-1-3 Query for monthly report)

8.2 Annual report

8.2.1 Query

Select the substation and corresponding equipment to be inquired, select the year to be inquired, and click the [Search] button to query the corresponding data.

(4-8-2-1 Query for annual report)

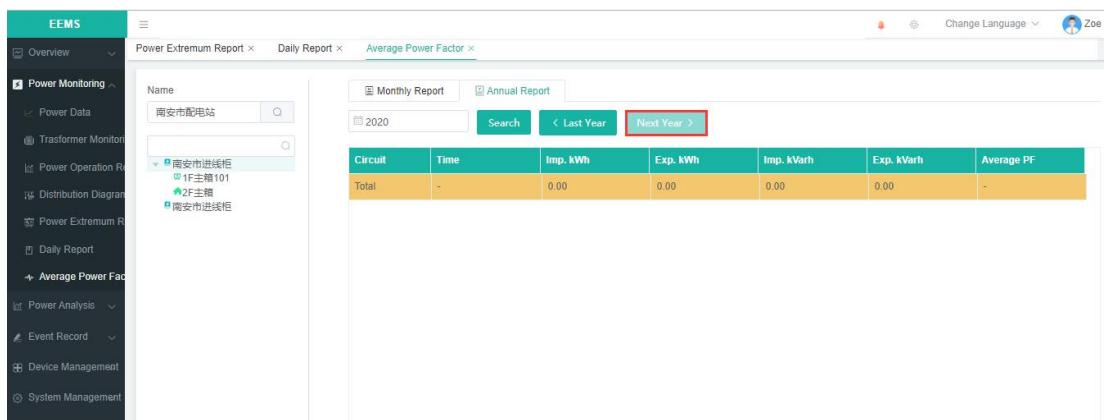
8.2.2 Last year

Click the [Last Year] button, users can view the data for the previous year of the selected date.

(4-8-2-2 Query for annual report)

6.2.3 Next year

Click the [Next Year] button, users can view the data for the next year of the selected date.



The screenshot shows the EEMS interface with a sidebar containing navigation links like Overview, Power Monitoring, Daily Report, Average Power Factor, Power Analysis, Event Record, Device Management, and System Management. The main area displays a report for 'Average Power Factor' with a search bar and a date range from 2020. A table shows power consumption data for various circuits, with a row for 'Total' showing values of 0.00 for all metrics. The 'Next Year' button at the bottom of the date range is highlighted with a red box.

(4-8-2-3 Query for annual report)

Chapter 5 Power Analysis Module

1、Main functions

This module includes seven parts: Consumption Report, Year-on-Year, Link Relative Ratio, Power Record, Metering and Line Loss, Power Details Record and Custom Power Report.

- Consumption report: Showing the electricity consumption of all the equipment in the substation, there are daily report, monthly report, annual report and corresponding histogram, it also has export function.

1、Daily report : Taking 1 hour as one node for statistics, there are 24 nodes in total.

Reports require horizontal summing and vertical summing.

2、Monthly report : Taking 1 day as one node for statistics. Reports require horizontal summing and vertical summing.

3、Annual report : Taking 1 month as one node for statistics, there are 12 nodes in total. Reports require horizontal summing and vertical summing.

- Year-on-Year : It mainly analyzes power consumption of this year's month compare with the corresponding month of last year and display them by data mode and histogram.

- Link Relative Ratio: It mainly analyzes power consumption of the current day compare with the previous day, this week compare with last week, this month compare with last month. And calculate the link relative ratio percentage. Contents of the list: Name of the loop, consumption of current day/ week/ month, consumption of last day/ week/ month, added value, link relative ratio, mark (Up/ Down)

Added value = Consumption of the current day/ week/ month - consumption of last day/ week/ month

$$\text{Link relative ratio} = \text{Added value} / (\text{consumption of last day/ week/ month}) * 100\%$$

Mark: When the Link relative ratio is negative, the green arrow is marked down, when the Link relative ratio is positive, marked by an upward red arrow.

- Power record: Meters' data of a certain period can be queried.
- Metering and line loss: Calculate the incoming and outgoing values of each transformer, and the difference between the two values, so as to know the power consumption.

Parameters of transformer : Electrical value of incoming line and outgoing line, sum of outgoing lines, difference value, power consumption.

Transformer values need to be summarized, the summary includes : Summation of incoming lines and outgoing lines, the cumulative differentials, accumulative consumption.

- Power Details Record : This part displays the peak, normal and valley electricity consumption of the equipment in a certain period and the amount of the bill
- Custom Power Report : It can set the classification type of electricity consumption statistics accord to the user's demand.

2、Consumption Report

2.1 Daily report

2.1.1 Query

Users can select the substation on the left, view the equipment to be inquired, and select [Casc.] to select the equipment group line, then select the date to be inquired, click the [Search] button to query.

Circuit	00Hour	01Hour	02Hour	03Hour	04Hour	05Hour	06Hour	07Hour	08Hour	09Hour	10Hour	11Hour	12Hour	13Hour	14Hour
1F走廊灯	10.87	10.92	11.05	10.95	10.90	11.02	11.06	10.94	12.56	13.55	13.52	13.37	11.84	11.08	11.18
2F主箱	0.20	0.12	0.12	0.16	0.12	0.16	0.20	0.16	0.32	0.32	0.16	0.28	0.16	0.28	0.24
3F主箱	2.40	2.68	2.32	2.56	2.24	2.44	2.32	2.52	6.15	7.97	8.24	7.96	6.48	9.31	13.81

(5-2-1-1 Query for daily report)

2.1.2 Last day

Click the [Last Day] button, users can view the data for the previous day of the selected date.

	Circuit	00Hour	01Hour	02Hour	03Hour	04Hour	05Hour	06Hour	07Hour	08Hour	09Hour	10Hour	11Hour	12Hour	13Hour	14Hour
1F波峰焊	10.87	10.92	11.05	10.95	10.90	11.02	11.06	10.94	12.56	13.55	13.52	13.37	11.84	11.08	11.18	
2F主箱	0.20	0.12	0.12	0.16	0.12	0.16	0.20	0.16	0.32	0.32	0.16	0.28	0.16	0.28	0.24	
3F主箱	2.40	2.68	2.32	2.56	2.24	2.44	2.32	2.52	6.15	7.97	8.24	7.96	6.48	9.31	13.86	

(5-2-1-2 Query for daily report)

2.1.3 Next day

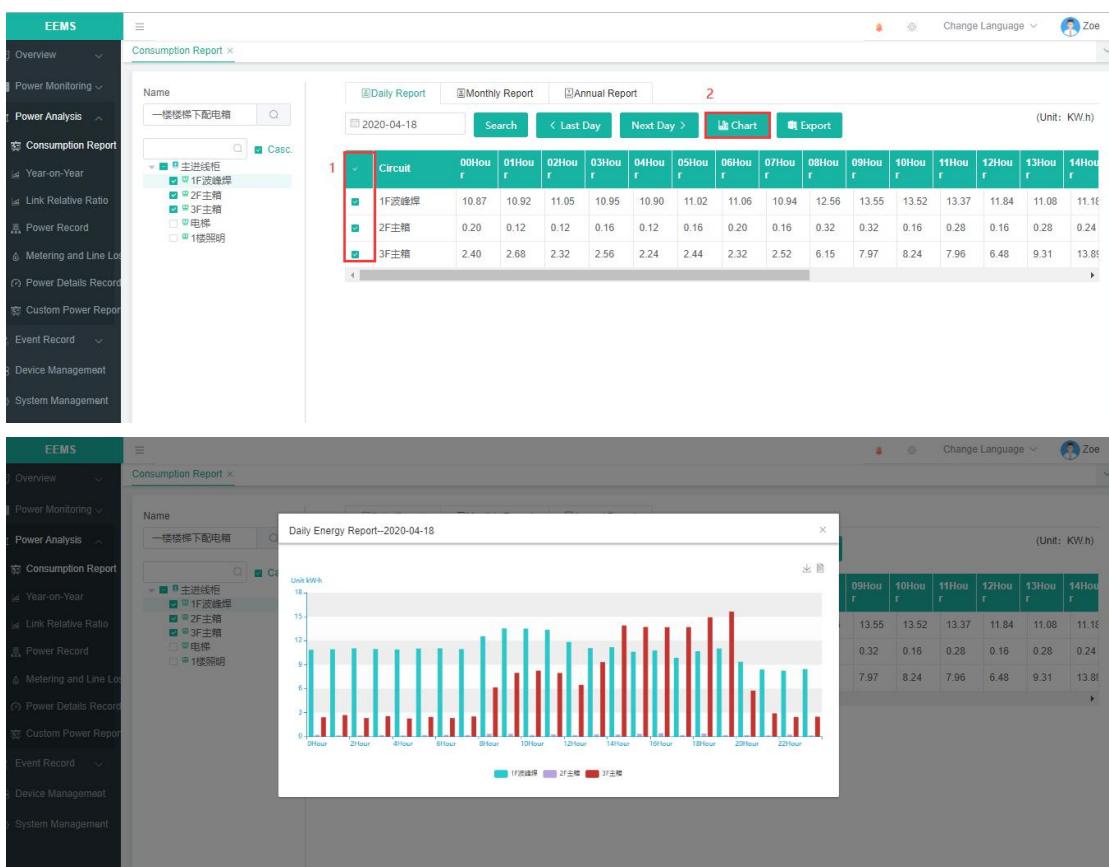
Click the [Next Day] button, users can view the data for the next day of the selected date.

	Circuit	00Hour	01Hour	02Hour	03Hour	04Hour	05Hour	06Hour	07Hour	08Hour	09Hour	10Hour	11Hour	12Hour	13Hour	14Hour
1F波峰焊	10.87	10.92	11.05	10.95	10.90	11.02	11.06	10.94	12.56	13.55	13.52	13.37	11.84	11.08	11.18	
2F主箱	0.20	0.12	0.12	0.16	0.12	0.16	0.20	0.16	0.32	0.32	0.16	0.28	0.16	0.28	0.24	
3F主箱	2.40	2.68	2.32	2.56	2.24	2.44	2.32	2.52	6.15	7.97	8.24	7.96	6.48	9.31	13.86	

(5-2-1-3 Query for daily report)

2.1.4 Chart

Click the [Chart] button after selecting the record to be viewed, then view the histogram.



(5-2-1-4 Chart of daily report)

2.1.5 Export

Click the [Export] button to export the current data.

The screenshot shows an Excel spreadsheet titled '一楼楼梯下配电箱Daily Energy Report'.

一楼楼梯下配电箱Daily Energy Report															
2 Report Date: 2020-04-18	Unit:kw.h														
3 Circuit	00Hour	01Hour	02Hour	03Hour	04Hour	05Hour	06Hour	07Hour	08Hour	09Hour	10Hour	11Hour	12Hour	13Hour	14Hour
4 1F波峰焊	10.87	10.92	11.05	10.95	10.9	11.02	11.06	10.94	12.56	13.55	13.52	13.37	11.84	11.08	11.18
5 2F主箱	0.2	0.12	0.12	0.16	0.12	0.16	0.2	0.16	0.32	0.32	0.16	0.28	0.16	0.28	0.24
6 3F主箱	2.4	2.68	2.32	2.56	2.24	2.44	2.32	2.52	6.15	7.97	8.24	7.96	6.48	9.31	13.89

(5-2-1-5 Export daily report)

2.2 Monthly report

2.2.1 Query

Users can select the substation on the left, view the equipment to be inquired, and select [Casc.] to select the equipment group line, then select the date to be inquired, click the [Search] button to query.

The screenshot shows the Consumption Report section of the EEMS system. On the left, a sidebar lists various reports like Overview, Power Monitoring, Power Analysis, Consumption Report, and Device Management. In the main area, a search bar is used to filter results for '一楼楼梯下配电箱'. Below it, a table displays power consumption data for different circuits over a 24-day period in April 2020. The table includes columns for Circuit, 13Day, 14Day, 15Day, 16Day, 17Day, 18Day, 19Day, 20Day, 21Day, 22Day, 23Day, and 24Day. The data shows consumption values for 1F波峰焊, 2F主箱, 3F主箱, 电梯, and 1楼照明.

Circuit	13Day	14Day	15Day	16Day	17Day	18Day	19Day	20Day	21Day	22Day	23Day	24Day
1F波峰焊	239.00	265.43	231.85	260.46	294.71	262.23	241.28	269.08	416.80	291.76	0.00	0.00
2F主箱	5.24	5.36	5.24	5.04	5.24	5.04	4.36	4.64	5.08	3.52	0.00	0.00
3F主箱	98.97	98.75	107.24	114.20	133.40	164.72	145.76	165.28	153.24	85.04	0.00	0.00
电梯												
1楼照明												

(5-2-2-1 Query for monthly report)

2.2.2 Last month

Click the [Last Month] button, users can view the data for the previous month of the selected date.

This screenshot is identical to the one above, but the date in the search bar is changed to '2020-03'. The table data reflects the power consumption for March 2020 across the same five categories: 1F波峰焊, 2F主箱, 3F主箱, 电梯, and 1楼照明.

Circuit	13Day	14Day	15Day	16Day	17Day	18Day	19Day	20Day	21Day	22Day	23Day	24Day
1F波峰焊	239.00	265.43	231.85	260.46	294.71	262.23	241.28	269.08	416.80	291.76	0.00	0.00
2F主箱	5.24	5.36	5.24	5.04	5.24	5.04	4.36	4.64	5.08	3.52	0.00	0.00
3F主箱	98.97	98.75	107.24	114.20	133.40	164.72	145.76	165.28	153.24	85.04	0.00	0.00
电梯												
1楼照明												

(5-2-2-2 Query for monthly report)

2.2.3 Next month

Click the [Next Month] button, users can view the data for the next month of the selected date.

The screenshot shows the Consumption Report section of the EEMS system. On the left, a sidebar lists various reports like Year-on-Year, Link Relative Ratio, Power Record, etc. The main area displays a table of power consumption data for different circuits over a month. The table has columns for Circuit, 30Day, 14Day, 15Day, 16Day, 17Day, 18Day, 19Day, 20Day, 21Day, 22Day, 23Day, and 24Day. The 'Chart' button is highlighted in red at the top of the table.

Circuit	30Day	14Day	15Day	16Day	17Day	18Day	19Day	20Day	21Day	22Day	23Day	24Day
1F波峰焊	239.00	265.43	231.85	260.46	294.71	262.23	241.28	269.08	416.80	291.76	0.00	0.00
2F主箱	5.24	5.36	5.24	5.04	5.24	5.04	4.36	4.64	5.08	3.52	0.00	0.00
3F主箱	98.97	98.75	107.24	114.20	133.40	164.72	145.76	165.28	153.24	85.04	0.00	0.00

(5-2-2-3 Query for monthly report)

2.2.4 Chart

Click the [Chart] button after selecting the record to be viewed, then view the histogram.

The screenshot shows the Consumption Report section of the EEMS system. The 'Chart' button is highlighted in red at the top of the table. A histogram titled 'Monthly Energy Report--2020-04' is overlaid on the table, showing energy consumption by day for three circuits: 1F波峰焊 (red bars), 2F主箱 (purple bars), and 3F主箱 (blue bars). The x-axis represents days from 01Day to 31Day, and the y-axis represents energy in kWh from 0 to 500.

(5-2-2-4 Query for monthly report)

2.2.5 Export

Click the [Export] button to export the current data.

The screenshot shows the Consumption Report interface. On the left, a sidebar lists categories like Overview, Power Monitoring, Power Analysis, Consumption Report, and System Management. In the main area, a tree view under 'Consumption Report' shows a hierarchy of substations: '一楼楼梯下配电箱' (Level 1 Staircase Substation) with branches for '主进线柜', '1F波峰焊', '2F主箱', '3F主箱', '电梯', and '1楼照明'. Below this, there's a search bar and a date range selector set to '2020-04'. A toolbar at the top right includes Daily Report, Monthly Report, Annual Report, Search, Last Month, Next Month, Chart, Export (which is highlighted in red), and a unit indicator '(Unit: KW.h)'. The main data table displays energy consumption for each circuit over a 24-day period.

Circuit	1Day	14Day	150Day	16Day	17Day	18Day	19Day	200Day	21Day	22Day	23Day	24Day
1F波峰焊	239.00	265.43	231.85	260.46	294.71	262.23	241.28	269.08	416.80	291.76	0.00	0.00
2F主箱	5.24	5.36	5.24	5.04	5.24	5.04	4.36	4.64	5.08	3.52	0.00	0.00
3F主箱	98.97	98.75	107.24	114.20	133.40	164.72	145.76	165.28	153.24	85.04	0.00	0.00

(5-2-2-5 Export monthly report)

2.3 Annual report

2.3.1 Query

Users can select the substation on the left, view the equipment to be inquired, and select [Casc.] to select the equipment group line, then select the date to be inquired, click the [Search] button to query.

This screenshot is similar to the previous one but focuses on annual data. The date range is set to '2020'. The 'Search' button is highlighted in red. The main data table shows energy consumption for each circuit from January to April.

Circuit	January	February	March	April	Total
1F波峰焊	0.00	0.00	4866.00	4908.07	9774.07
2F主箱	0.00	0.00	114.28	92.68	206.96
3F主箱	0.00	0.00	2234.88	2131.92	4366.80

(5-2-3-1 Query for annual report)

2.3.2 Last year

Click the [Last Year] button, users can view the data for the previous year of the selected date.

The screenshot shows the Consumption Report section of the EEMS system. On the left, a sidebar lists various reports like Power Monitoring, Power Analysis, and Consumption Report. In the main area, a tree view shows a hierarchy of power distribution units. A table displays monthly consumption data for January, February, March, April, and Total. The 'Last Year' button is highlighted with a red box.

Circuit	January	February	March	April	Total
1F波峰焊	0.00	0.00	4866.00	4908.07	9774.07
2F主箱	0.00	0.00	114.28	92.68	206.96
3F主箱	0.00	0.00	2234.88	2131.92	4366.80

(5-2-3-2 Query for annual report)

2.3.3 Next year

Click the [Next Year] button, users can view the data for the next year of the selected date.

The screenshot shows the Consumption Report interface for the year 2019. The sidebar and tree view are similar to the previous screenshot. The table shows monthly consumption data for 2019. The 'Next Year' button is highlighted with a red box.

回路名称	01月	02月	03月	04月	05月	06月	07月	08月	09月	10月	合计
主进线柜1	0	0	0	0	0	0	0	0	0	0	116498.4900 0000002
西区	0	0	0	0	0	0	0	0	0	0	116498.4900 0000002
空调总表	0	0	0	0	0	0	0	0	0	0	0
动力总表	0	0	0	0	0	0	0	0	0	0	0
北区	0	0	0	0	0	0	0	0	0	0	0
一层	0	0	0	0	0	0	0	0	0	0	0
二层	0	0	0	0	0	0	0	0	0	0	0
主进线柜2	0	0	0	0	0	0	0	0	0	0	0
合计	0	0	0	0	0	0	0	0	0	0	232996.980 00000004

(5-2-3-3 Query for annual report)

2.3.4 Chart

Click the [Chart] button after selecting the record to be viewed, then view the histogram.

The screenshot shows two views of the EEMS software. The left view displays a consumption report for March 2020, showing energy usage by circuit. The right view shows an annual energy report for 2020, featuring a bar chart of monthly energy consumption.

Circuit	January	February	March	April	Total
1F波峰焊	0.00	0.00	4866.00	4908.07	9774.07
2F主箱	0.00	0.00	114.28	92.68	206.96
3F主箱	0.00	0.00	2234.88	2131.92	4366.80

Month	Total
January	4908.07
February	9774.07
March	206.96
April	2131.92
Total	4366.80

(5-2-3-4 Chart of annual report)

2.3.5 Export

Click the [Export] button to export the current data.

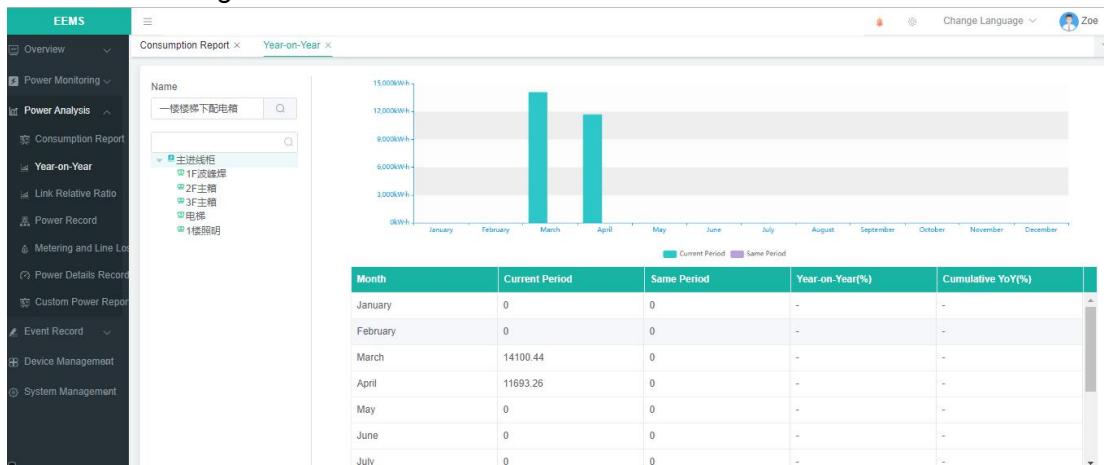
The screenshot shows the consumption report interface with the 'Export' button highlighted in red. This indicates the user can click it to download the current data.

(5-2-3-5 Export annual report)

3、Analysis of year-on-year

Select the equipment on the left of the list, the corresponding equipment consumption information for the corresponding period and current period will be presented in the form

of a list and histogram.



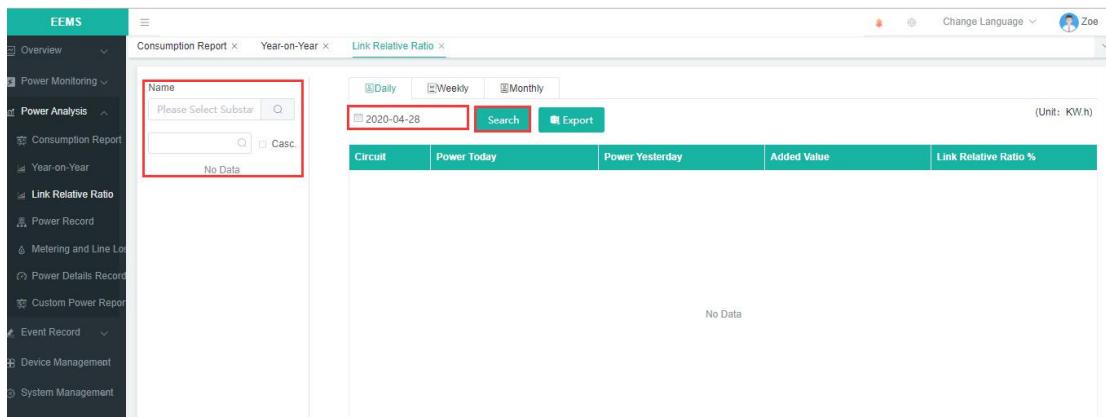
(5-3 Analysis of year-on-year)

4、Analysis of link relative ratio

4.1 Daily

4.1.1 Query

Users can select the substation on the left, view the equipment to be inquired, and select [Casc.] to select the equipment group line, then select the date to be inquired, click the [Search] button to query.



(5-4-1-1 Daily query)

4.1.2 Export

Click the [Export] button to export the current data.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Circuit	Power	Total Power	Year Added	Va	Link Rela											
2	主进线柜	861.52	759.15	102.37	13%												
3	1F波峰焊	262.23	294.71	-32.48	-1%												
4	2F主箱	5.04	5.24	-0.20	-4%												
5	3F主箱	164.72	133.40	31.32	23%												
6	电梯	412.40	312.53	99.87	32%												
7	1楼照明	0.00	0.00	0.00	0%												

(5-4-1-2 Export daily data)

4.2 Weekly

4.2.1 Query

Users can select the substation on the left, view the equipment to be inquired, and select [Casc.] to select the equipment group line, then select the date to be inquired, click the [Search] button to query.

Circuit	Power This Week	Power Last Week	Added Value	Link Relative Ratio %
主进线柜	4823.04	2850.10	1972.94	69%
1F波峰焊	1794.96	1462.24	332.72	23%
2F主箱	35.52	27.72	7.80	28%
3F主箱	863.04	518.94	344.10	66%
电梯	2052.04	815.24	1236.80	152%
1楼照明	0.00	0.00	0.00	0%

(5-4-2-1 Weekly query)

4.2.2 Export

Click the [Export] button to export the current data.

Circuit	Power This Week	Power Last Week	Added Value	Link Relative Ratio %
主进线柜	4823.04	2850.10	1972.94	69%
1F波峰焊	1794.96	1462.24	332.72	23%
2F主箱	35.52	27.72	7.80	28%
3F主箱	863.04	518.94	344.10	66%
电梯	2052.04	815.24	1236.80	152%
1楼照明	0.00	0.00	0.00	0%

(5-4-2-2 Export weekly data)

4.3 Monthly

4.3.1 Query

Users can select the substation on the left, view the equipment to be inquired, and select [Casc.] to select the equipment group line, then select the date to be inquired, click the [Search] button to query.

Circuit	Power This Month	Power Last Month	Added Value	Link Relative Ratio %
主进线柜	11693.26	13509.43	-1816.17	-13%
1F波峰焊	4908.07	4644.56	263.51	6%
2F主箱	92.68	108.64	-15.96	-15%
3F主箱	2131.92	2104.70	27.22	1%
电梯	4398.00	5234.55	-836.55	-16%
1楼照明	0.00	0.00	0.00	0%

(5-4-3-1 Query for monthly report)

4.3.2 Export

Click the [Export] button to export the current data.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Circuit	Power Thi	Power Las	Added Val	Link Rela								
2	主进线柜	11693.26	13509.43	-1816.17	-13%								
3	1F波峰焊	4908.07	4644.56	263.51	6%								
4	2F主箱	92.68	108.64	-15.96	-15%								
5	3F主箱	2131.92	2104.70	27.22	1%								
6	电梯	4398.00	5234.55	-836.55	-16%								
7	1楼照明	0.00	0.00	0.00	0%								

(5-4-3-2 Query for monthly report)

5、Power record

5.1 Query

Select the substation and corresponding equipment to be inquired, select the date, and click the [Search] button .

Circuit	Start Date	End Date	Difference Value
主进线柜	45096.05	0.00	-45096.05
1F波峰焊	19752.44	0.00	-19752.44
2F主箱	502.80	0.00	-502.80
3F主箱	8977.52	0.00	-8977.52
电梯	15355.52	0.00	-15355.52
1楼照明	0.00	0.00	0.00

(5-5-1 Power record)

5.2 Export

Click the [Export] button to export the current data.

	Circuit	Start Date	End Date	Difference Value
1	主进线柜	45096.05	0.00	-45096.05
2	1F波峰焊	19752.44	0.00	-19752.44
3	2F主箱	502.80	0.00	-502.80
4	3F主箱	8977.52	0.00	-8977.52
5	电梯	15355.52	0.00	-15355.52
6	1楼照明	0.00	0.00	0.00

(5-5-2 Export the data)

6、Metering and line loss

6.1 Query

Select transformer and month according to substation, click [Last Month] to view the data of last month in the selected month, and click [Next Month] to view the data of next month in the selected month.

Incoming Line		
		11693.26
	1F波峰焊	4908.07
	2F主箱	92.68
	3F主箱	2131.92
	电梯	4398.00
	1楼照明	0.00
Total Outgoing Lines		11530.67

(5-6-1 Query for metering and line loss)

6.2 Export

Click the [Export] button to export the current data.

	B	C	D	E	F	G	H	I	J	K	L
1	Incoming Line		11693.26								
2		1F波峰焊	4908.07								
3		2F主箱	92.68								
4		3F主箱	2131.92								
5		电梯	4398.00								
6	Outgoing	1楼照明	0.00								
7		Total Outgoing Lines	11530.67								
8		Difference Value	162.59								
9	一楼变电站	Loss	1.39%								
10		Total Incoming Line	11693.26								
11		Total Outgoing Line	11530.67								
12		Cumulative Difference	162.59								
13	Transformer Summary	Total Loss	1.39%								

(5-6-2 Export the data)

7、Power consumption of time division

7.1 Query

Select the distribution room ,the equipment and the date, click the [Search] button to view the peak, normal and valley electricity consumption of the equipment in a certain period and the amount of the bill .

Circuit	Peak(07:00-12:00,17:00-21:00)			Flat(12:00-17:00,21:00-24:00)			Valley(00:00-07:00)			Total	
	Energy	Price	Amount	Energy	Price	Amount	Energy	Price	Amount	Energy (k W.h)	Amount (U SD)
主进线柜	5451.38	1.09	5,942.01	4447.16	0.72	3,201.96	1966.93	0.36	708.10	11865.48	9,852.07
1F波峰焊	2242.70	1.09	2,444.55	6184.69	0.72	4,452.98	970.82	0.36	349.50	9398.22	7,247.03
2F主箱	41.31	1.09	45.04	195.71	0.72	140.92	19.27	0.36	6.94	256.31	192.90
3F主箱	1046.86	1.09	1,141.09	6144.63	0.72	4,424.14	275.12	0.36	99.05	7466.62	5,664.27
电梯	2024.35	1.09	2,206.54	16080.91	0.72	11,578.26	702.14	0.36	252.77	18807.41	14,037.57
1楼照明	0.00	1.09	0.00	0.00	0.72	0.00	0.00	0.36	0.00	0.00	0.00

(5-7-1 Power consumption of time division)

7.2 Export

Click the [Export] button to export data.

Circuit	Peak(07:00-12:00,17:00-21:00)			Flat(12:00-17:00,21:00-24:00)			Valley(00:00-07:00)			Total	
	Energy	Price	Amount	Energy	Price	Amount	Energy	Price	Amount	Energy (k W.h)	Amount (U SD)
主进线柜	5451.38	1.09	5,942.01	4447.16	0.72	3,201.96	1966.93	0.36	708.10	11865.48	9,852.07
1F波峰焊	2242.70	1.09	2,444.55	6184.69	0.72	4,452.98	970.82	0.36	349.50	9398.22	7,247.03
2F主箱	41.31	1.09	45.04	195.71	0.72	140.92	19.27	0.36	6.94	256.31	192.90
3F主箱	1046.86	1.09	1,141.09	6144.63	0.72	4,424.14	275.12	0.36	99.05	7466.62	5,664.27
电梯	2024.35	1.09	2,206.54	16080.91	0.72	11,578.26	702.14	0.36	252.77	18807.41	14,037.57
1楼照明	0.00	1.09	0.00	0.00	0.72	0.00	0.00	0.36	0.00	0.00	0.00

	A1	Peak(07:00-12:00, 17:00-21:00)Flat(12:00-17:00, 21:00-24:00)Valley(00:00-07:00)	Total						
1	Circuit	Energy	Price	Amount	Energy	Price	Amount	Energy	Amount
2	主进线柜	5451.38	1.09	5,942.01	4447.16	0.72	3,201.96	1966.93	0.36
3	1F波峰焊	2242.70	1.09	2,444.55	6184.69	0.72	4,452.98	970.82	0.36
4	2F主箱	41.31	1.09	45.04	195.71	0.72	140.92	19.27	0.36
5	3F主箱	1046.86	1.09	1,141.09	6144.63	0.72	4,424.14	275.12	0.36
6	电梯	2024.35	1.09	2,206.54	16080.91	0.72	11,578.26	702.14	0.36
7	1楼照明	0.00	1.09	0.00	0.00	0.72	0.00	0.00	0.36
8							0.00	0.00	0.00
9							0.00	0.00	0.00

(5-7-2 Export the data)

8、Custom power report

8.1 Daily report

8.1.1 Query

Users can select the substation on the left, view the equipment to be inquired, and select [Casc.] to select the equipment group line, then select the date to be inquired, click the [Search] button to query.

Item	00Hour	01Hour	02Hour	03Hour	04Hour	05Hour	06Hour	07Hour	08Hour	09Hour	10Hour	Total
test1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
gaa1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
test2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
gaa2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

(5-8-1-1 Query for daily report)

8.1.2 Last day

Click the [Last Day] button, users can view the data for the previous day of the selected date.



The screenshot shows the EEMS software interface. On the left is a sidebar with various menu items like Overview, Power Monitoring, Power Analysis, Consumption Report, and Custom Power Report. The main area is titled 'Custom Power Report' and shows a table of data for April 29, 2020. The table has columns for Item, 00Hour, 01Hour, 02Hour, 03Hour, 04Hour, 05Hour, 06Hour, 07Hour, 08Hour, 09Hour, 10Hour, and Total. Data rows include test1, gaa1, test2, and gaa2. At the bottom of the table are buttons for Daily Report, Monthly Report, Annual Report, Search, < Last Day, Next Day >, Chart, and Export. The 'Next Day >' button is highlighted with a red box.

(5-8-1-2 Query for daily report)

8.1.3 Next day

Click the [Next Day] button, users can view the data for the next day of the selected date.

This screenshot is identical to the one above, showing the EEMS software interface with the 'Custom Power Report' screen. The 'Next Day >' button at the bottom of the table is highlighted with a red box.

(5-8-1-3 Query for daily report)

8.1.4 Chart

Click the [Chart] button after selecting the record to be viewed, then view the histogram.

The screenshot shows the EEMS software interface. On the left is a navigation sidebar with various menu items like Overview, Power Monitoring, Power Analysis, Consumption Report, Year-on-Year, Link Relative Ratio, Power Record, Metering and Line Loss, Power Details Report, Custom Power Report, Event Record, Device Management, and System Management. The main area is titled 'Custom Power Report' and displays a table of data for '2020-04-18'. The table has columns for Item and hours from 00Hou to 14Hou. It also includes buttons for Daily Report, Monthly Report, Annual Report, Search, Last Day, Next Day, Chart, and Export. A red box highlights the 'Chart' button. Below the table is a bar chart titled 'Daily Energy Report--2020-04-18' showing energy consumption in kWh per hour for three items: sdf, test1, and gas1.

Item	00Hou	01Hou	02Hou	03Hou	04Hou	05Hou	06Hou	07Hou	08Hou	09Hou	10Hou	11Hou	12Hou	13Hou	14Hou
sdf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
test1	8.08	7.72	8.08	9.36	9.36	7.72	8.88	9.08	14.98	21.02	20.92	18.68	16.70	25.53	30.51
gas1	35.34	35.50	35.48	37.11	36.18	35.37	36.27	36.70	53.83	65.84	65.74	62.95	54.48	67.99	82.21

(5-8-1-4 Chart of daily report)

8.1.5 Export

Click the [Export] data to export the current data.

This screenshot is similar to the one above, showing the 'Custom Power Report' for April 18, 2020. The 'Export' button is highlighted with a red box. The table below shows the same data as the first screenshot.

Item	00Hou	01Hou	02Hou	03Hou	04Hou	05Hou	06Hou	07Hou	08Hou	09Hou	10Hou	11Hou	12Hou	13Hou	14Hou
sdf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
test1	8.08	7.72	8.08	9.36	9.36	7.72	8.88	9.08	14.98	21.02	20.92	18.68	16.70	25.53	30.51
gas1	35.34	35.50	35.48	37.11	36.18	35.37	36.27	36.70	53.83	65.84	65.74	62.95	54.48	67.99	82.21

(5-8-1-5 Export the daily report data)

8.2 Monthly report

8.2.1 Query

Users can select the substation on the left, view the equipment to be inquired, and select [Casc.] to select the equipment group line, then select the date to be inquired, click the [Search] button to query.

	Item	01Day	02Day	03Day	04Day	05Day	06Day	07Day	08Day	09Day	10Day	11Day	12Day	13D
1	sdf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2	test1	210.08	223.32	231.56	11.24	0.00	0.00	119.88	158.68	138.64	146.00	127.47	124.57	1
3	gas1	539.80	583.08	589.02	28.24	0.00	0.00	325.26	583.04	524.68	437.16	537.60	442.36	5

(5-8-2-1 Query for monthly report)

8.2.2 Last month

Click the [Last Month] button, users can view the data for the previous month of the selected date.

	Item	01Day	02Day	03Day	04Day	05Day	06Day	07Day	08Day	09Day	10Day	11Day	12Day	13D
1	sdf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2	test1	210.08	223.32	231.56	11.24	0.00	0.00	119.88	158.68	138.64	146.00	127.47	124.57	1
3	gas1	539.80	583.08	589.02	28.24	0.00	0.00	325.26	583.04	524.68	437.16	537.60	442.36	5

(5-8-2-2 Query for monthly report)

8.2.3 Next month

Click the [Next Month] button, users can view the data for the next month of the selected date.

	Item	01Day	02Day	03Day	04Day	05Day	06Day	07Day	08Day	09Day	10Day	11Day	12Day	13D
1	sdf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2	test1	210.08	223.32	231.56	11.24	0.00	0.00	119.88	158.68	138.64	146.00	127.47	124.57	1
3	gas1	539.80	583.08	589.02	28.24	0.00	0.00	325.26	583.04	524.68	437.16	537.60	442.36	5

(5-8-2-3 Query for monthly report)

8.2.4 Chart

Click the [Chart] button after selecting the record to be viewed, then view the histogram.

	Item	01Day	02Day	03Day	04Day	05Day	06Day	07Day	08Day	09Day	10Day	11Day	12Day	13D
1	sdf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2	test1	210.08	223.32	231.56	11.24	0.00	0.00	119.88	158.68	138.64	146.00	127.47	124.57	1
3	gas1	539.80	583.08	589.02	28.24	0.00	0.00	325.26	583.04	524.68	437.16	537.60	442.36	5

(5-8-2-4 Chart of monthly report)

8.2.5 Export

Click the [Export] data to export the current data.

The screenshot shows the 'Custom Power Report' section of the EEMS software. On the left, there's a sidebar with various menu items like Overview, Power Monitoring, Power Analysis, Consumption Report, Year-on-Year, Link Relative Ratio, Power Record, Metering and Line Loss, Power Details Record, Custom Power Report, Event Record, Device Management, and System Management. In the main area, there's a search bar for 'Name' containing '一楼楼梯下配电箱'. Below it, there's a dropdown for 'Custom report' set to 'Statistics by Subentry', with a tree view showing nodes like 'Casc.', 'sdf', 'test1', and 'gas1'. At the top right, there are buttons for Daily Report, Monthly Report, Annual Report, and a date selector showing '2020-04'. Below these are buttons for Search, Last Month, Next Month, Chart, and Export (which is highlighted with a red box). A table below shows power consumption data for these nodes over 13 days in April. The table has columns for Item, 01Day, 02Day, 03Day, 04Day, 05Day, 06Day, 07Day, 08Day, 09Day, 10Day, 11Day, 12Day, and 13Day. The data includes values like 210.08 for test1 on Day 01.

Item	01Day	02Day	03Day	04Day	05Day	06Day	07Day	08Day	09Day	10Day	11Day	12Day	13Day
sdf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
test1	210.08	223.32	231.56	11.24	0.00	0.00	119.88	158.68	138.64	146.00	127.47	124.57	1
gas1	539.80	583.08	589.02	28.24	0.00	0.00	325.26	583.04	524.68	437.16	537.60	442.36	5

(5-8-2-5 Export the monthly data)

8.3 Annual report

8.3.1 Query

Users can select the substation on the left, view the equipment to be inquired, and select [Casc.] to select the equipment group line, then select the date to be inquired, click the [Search] button to query.

This screenshot shows the same 'Custom Power Report' interface as the previous one, but for the year 2019. The date selector at the top shows '2019'. The 'Search' button is highlighted with a red box. The rest of the interface, including the sidebar and report details, remains the same.

(5-8-3-1 Query for annual report)

8.3.2 Last year

Click the [Last Year] button, users can view the data for the previous year of the selected date.

	Item	January	February	March	April	Total
<input type="checkbox"/>	sdf	0.00	0.00	0.00	0.00	0.00
<input type="checkbox"/>	test1	0.00	0.00	5458.55	4398.00	9856.55
<input type="checkbox"/>	gas1	0.00	0.00	14100.44	11693.26	40141.53

(5-8-3-2 Query for annual report)

8.3.3 Next year

Click the [Next Year] button, users can view the data for the next year of the selected date.

	Item	January	February	March	April	Total
<input type="checkbox"/>	sdf	0.00	0.00	0.00	0.00	0.00
<input type="checkbox"/>	test1	0.00	0.00	5458.55	4398.00	9856.55
<input type="checkbox"/>	gas1	0.00	0.00	14100.44	11693.26	40141.53

5-8-3-3 Query for annual report)

8.3.4 Chart

Click the [Chart] button after selecting the record to be viewed, then view the histogram.

The screenshot shows the 'Custom Power Report' interface. On the left, there's a navigation sidebar with various menu items like Overview, Power Monitoring, Power Analysis, Consumption Report, Year-on-Year, Link Relative Ratio, Power Record, Metering and Line Loss, Power Details Report, Custom Power Report, Event Record, Device Management, and System Management. The 'Custom Power Report' tab is selected.

In the main area, there are two sections: a table and a chart. The table has columns for Item, January, February, March, April, and Total. The chart is titled 'Annual Energy Report - 2019' and shows energy consumption in kWh for three categories: sdf (purple), test1 (blue), and gas1 (red) across the months of January, March, April, May, July, September, and November. The legend indicates: sdf (purple), test1 (blue), and gas1 (red).

Item	January	February	March	April	Total
sdf	0.00	0.00	0.00	0.00	0.00
test1	0.00	0.00	5458.55	4398.00	9856.55
gas1	0.00	0.00	14100.44	11693.26	40141.53

(5-8-3-4 Chart of annual report)

8.3.5 Export

Click the [Export] data to export the current data.

This screenshot is similar to the previous one but focuses on the 'Export' feature. The 'Export' button in the top right of the table section is highlighted. The table data remains the same as in the previous screenshot.

Item	January	February	March	April	Total
sdf	0.00	0.00	0.00	0.00	0.00
test1	0.00	0.00	5458.55	4398.00	9856.55
gas1	0.00	0.00	14100.44	11693.26	40141.53

(5-8-3-5 Export the annual data)

Chapter 6 Event Record Module

1、Main functions

Four major blocks: Teleindication, Threshold-crossing Events, SMS Logs and Platform Operation Logs.

- Teleindication: Display and record the changes of remote signaling information of all devices and export the information.
- Threshold-crossing Events: Display and record the remote signaling alarm information of all devices and export the information.
- SMS Logs : Display all device alarm information SMS sending record query.
- Platform Operation Logs : Display information records of all devices offline.

2、Teleindication

Name Start and End Time Device Parameter

According to the name of the substation, starting and ending time, meters name and parameter to inquire the remote signaling changing information of the meters, and the data can be exported , showing as below:

No.	Group No.	Name	Time	Param. No.	Parameter	Number	Device	Value	Type	Describe
1	201	一楼楼梯下配电箱	2020-04-16 01:36:38	smoke	烟感	1001	烟感	状态变化	正常	01 标签: 烟感类型: 状态变化 当前值: 0
2	201	一楼楼梯下配电箱	2020-04-16 01:36:38	DOOR	门禁	10012	门磁传感器	状态变化	关门	01 标签: 门磁传感器类型: 状态变化 当前值: 0
3	202	一楼厂房	2020-04-15 14:58:59	smoke	烟感	10021	烟感	状态变化	正常	01 标签: 烟感类型: 状态变化 当前值: 0
4	202	一楼厂房	2020-04-15 14:58:59	DOOR	门禁	10022	门磁	状态变化	关门	01 标签: 门磁类型: 状态变化 当前值: 0
5	201	一楼楼梯下配电箱	2020-04-03 16:28:05	smoke	烟感	1001	烟感	状态变化	正常	01 标签: 烟感类型: 状态变化 当前值: 0
6	201	一楼楼梯下配电箱	2020-04-03 16:28:05	DOOR	门禁	10012	门磁传感器	状态变化	关门	01 标签: 门磁传感器类型: 状态变化 当前值: 0

(6-2-1 Teleindication)

3、Threshold-crossing Events

Name All Start and End Time Start Date End Date Type Select Device Parameter

According to the name of the substation, starting and ending time, type,meters name and parameter to inquire the remote signaling changing information of the meters, and the data can be exported , showing as below:

No.	Type	Number	Device	Param. No.	Parameter	Alarm Value	LimitValue	Describe	Time
1	Upper Limit Alarm	10	温度	1040	温度	170	60.0	温度超标:温度类型:高限报警 当前值:170.36 设定值:60.0	2020-03-30 17:36:42
2	Upper Limit Alarm	10	温度	1040	温度	170	60.0	温度超标:温度类型:高限报警 当前值:170.36 设定值:60.0	2020-03-30 17:36:42
3	Upper Limit Alarm	10	温度	1040	温度	170	60.0	温度超标:温度类型:高限报警 当前值:170.36 设定值:60.0	2020-03-30 17:36:42

(6-3-1 Threshold-crossing Events)

4、SMS Log

Name All Start and End Time Start Date End Date Send Result Select Phone Number Search

According to the name of the substation, starting and ending time, the result of sending and mobile phone number to inquire SMS information. showing as below:

No.	Name	Send Time	Phone Number	Send Result	Send Contents	Reply Message
1	一楼楼梯下配电箱	2020-03-16 16:25:10	13275002738	Success	事件时间:2020-03-16 16:25:00 监测设备(温度传感器) 参数设置 类型(高限报警) 当前值[59.93],设定值[55.0]	522318584347110213^0
2	一楼楼梯下配电箱	2020-03-16 16:25:10	13331321231	Success	事件时间:2020-03-16 16:25:00 监测设备(温度传感器) 参数设置 类型(高限报警) 当前值[59.93],设定值[55.0]	701619684347110509^0
3	一楼楼梯下配电箱	2020-03-16 16:25:10	13275002564	Success	事件时间:2020-03-16 16:25:00 监测设备(温度传感器) 参数设置 类型(高限报警) 当前值[59.93],设定值[55.0]	185607984347110613^0
4	一楼楼梯下配电箱	2020-03-16 16:25:10	13275002583	Success	事件时间:2020-03-16 16:25:00 监测设备(温度传感器) 参数设置 类型(高限报警) 当前值[59.93],设定值[55.0]	723608684347110714^0

(6-4-1 SMS log)

5、Platform Operation Log

Name Event Type Number Start and End Time Start Date End Date

According to the name of the distribution station, event type, device number and starting and ending time to inquire device off-line information, showing as below:

	N.o.	Name	Event Type	Occur Time	Number	Device	Event Description
	1	一楼厂房	Meter Offline	2020-03-11 16:27:51	104	进线柜2电表	仪表[104]发生通信中断
	2	一楼楼下配电箱	Meter Offline	2020-03-11 16:27:51	101	楼梯进线柜电表	仪表[101]发生通信中断
	3	一楼楼下配电箱	Meter Offline	2020-03-11 16:27:52	1022	3F主箱 (102第二路)	仪表[1022]发生通信中断
	4	一楼楼下配电箱	Meter Offline	2020-03-11 16:27:53	107	1F波峰电表	仪表[107]发生通信中断
	5	一楼厂房	Meter Offline	2020-03-11 16:27:53	1051	分1 (BTU) 电表 (第一路)	仪表[1051]发生通信中断
	6	一楼厂房	Meter Offline	2020-03-11 16:27:53	1052	分2 (JT) 电表 (第二路)	仪表[1052]发生通信中断

(6-5-1 Platform operation log)

Chapter 7 Device Management Module

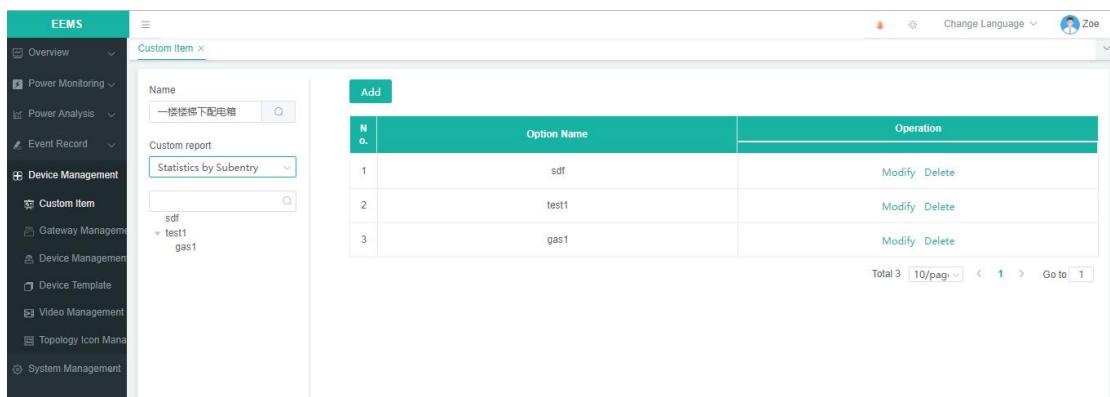
1、Main functions

Six major blocks: Group Line Management,gateway management, device management, device template, video management and topology icon management.

- Group line management: It is used to manage the group lines of each substation.
- Gateway management: It is used to manage the gateway of each power distribution room.
- Device management: It is used to manage the equipment in each power distribution room.
- Device template: It is used to manage the data template of each equipment.
- Video management: It is used to manage the video in each power distribution room.
- Topology icon management: It is used to manage the electrical components in the distribution diagram.

2、Group line management

2.1 Group List

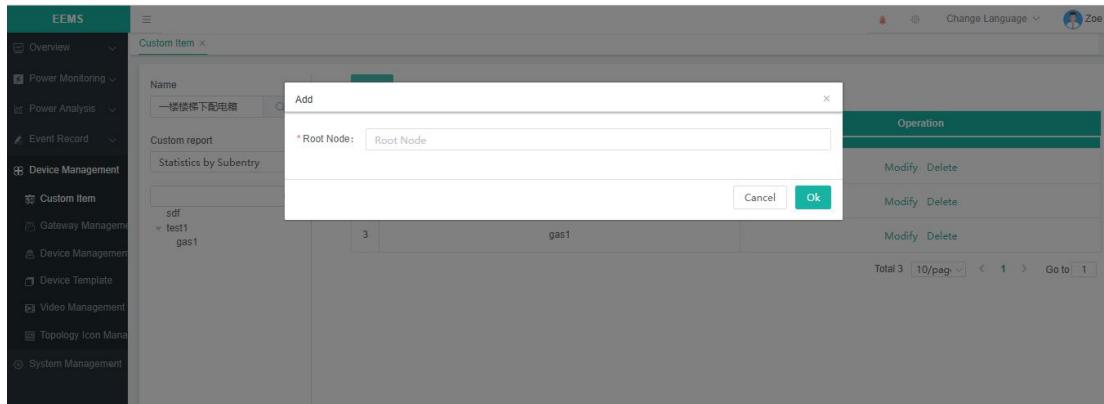


N.o.	Option Name	Operation
1	sdf	Modify Delete
2	test1	Modify Delete
3	gas1	Modify Delete

(7-2-1-1 Group List)

2.2 Add

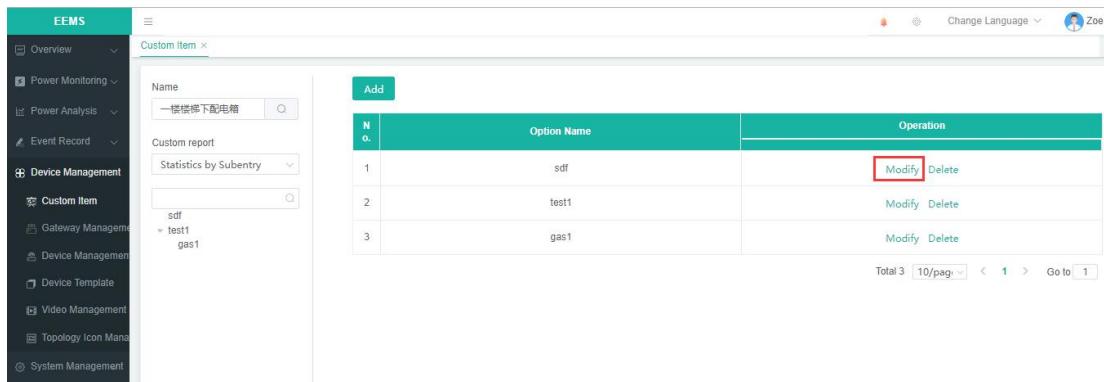
Select the associated group tree on the left and click **Add** button, fill in the corresponding group line information to add the group line.

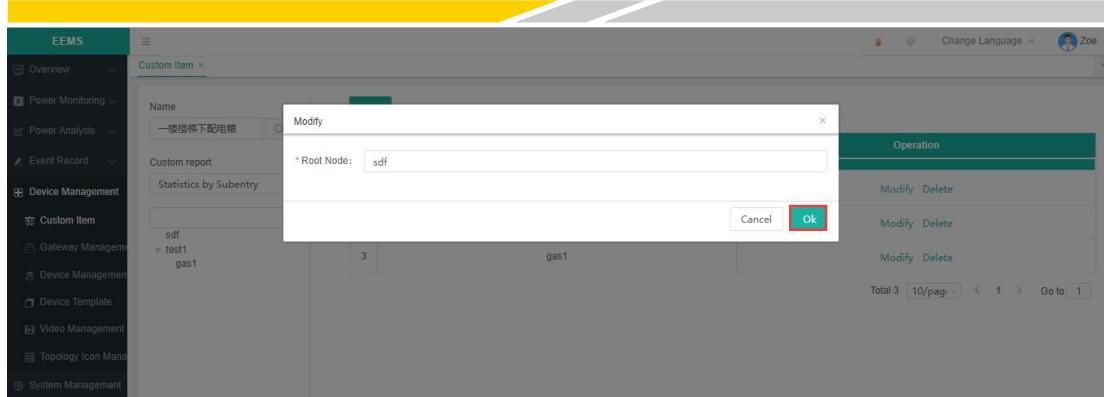


(7-2-2-1 Add a list of group lines)

2.3 Modify

Click the modify button in the operation line of the group line information to be modified in the list, modify the corresponding information in the corresponding form to modify the group line information.

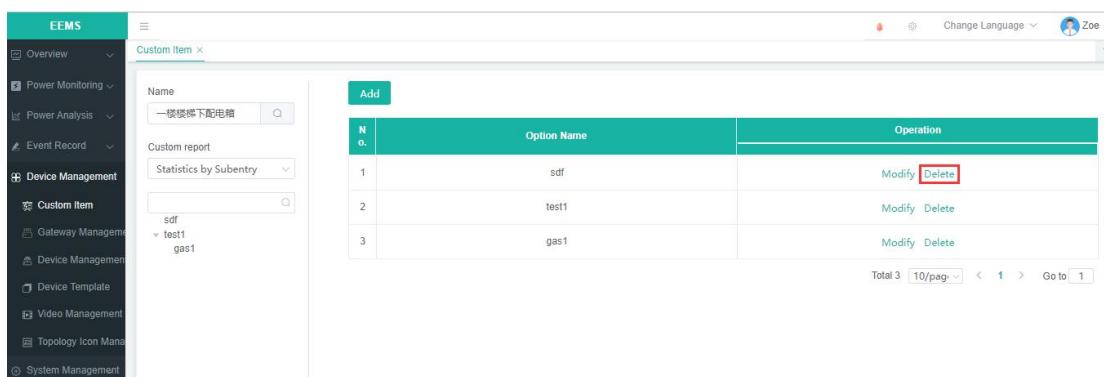




(7-2-3-1 Modify group line information)

2.4 Delete group line information

Click the delete button in the operation line of the group line information to be deleted in the list to delete the corresponding information in the corresponding form.



(7-2-4-1Delete group line information)

3、Gateway management

3.1 Gateway list

	N. o.	Name	Gateway	GW Port	GW No.	GW Model	Latest	Latest Data	Is it offline?	Operation
	1	一楼楼梯下配电箱	通信管理机1	80001	1001	DPU-100	2020-04-21 23:16:2	2020-04-21 23:27:5 5	()	Modify Delete
	2	一楼厂房	通信管理机2	80001	1002	DPU-100	2020-04-22 00:53:1	2020-04-22 01:09:4 7	()	Modify Delete

(7-4-1-1 Gateway list)

3.2 Add

Click button to fill in corresponding new gateway information.

(7-4-2-1 New gateway list)

3.3 Modify

Click the modify button in the operation line of gateway information to be modified in the list, modify the corresponding information in the corresponding form to modify the group line information.

N.o.	Name	Gateway	GW Port	GW No.	GW Model	Latest	Latest Data	Is it offline?	Operation
1	一楼楼梯下配电箱	通信管理机1	80001	1001	DPU-100	2020-04-21 23:16:25	2020-04-21 23:27:59	(•)	Modify Delete
2	一楼厂房	通信管理机2	80001	1002	DPU-100	2020-04-22 00:53:17	2020-04-22 01:09:42	(•)	Modify Delete

(7-4-3-1 Modify gateway list)

3.4 Delete gateway information

Click the delete button in the operation line of gateway information to be deleted in the list to delete the corresponding information in the corresponding form.

(7-4-4-1 Delete gateway list)

3.5 Batch delete

Select the gateway information to be deleted from the list and click the [Batch Delete] button to delete the gateway information.

Name	Search	Add	Batch Delete						
N.o.	Name	Gateway	GW Port	GW No.	GW Model	Latest	Latest Data	Is it offline?	Operation
1	一楼楼梯下配电箱	通信管理机1	80001	1001	DPU-100	2020-04-21 23:16:25	2020-04-21 23:27:59		Modify Delete
2	一楼厂房	通信管理机2	80001	1002	DPU-100	2020-04-22 00:53:17	2020-04-22 01:09:42		Modify Delete

(7-4-5-1 Batch delete)

4、Device management

4.1 Device list

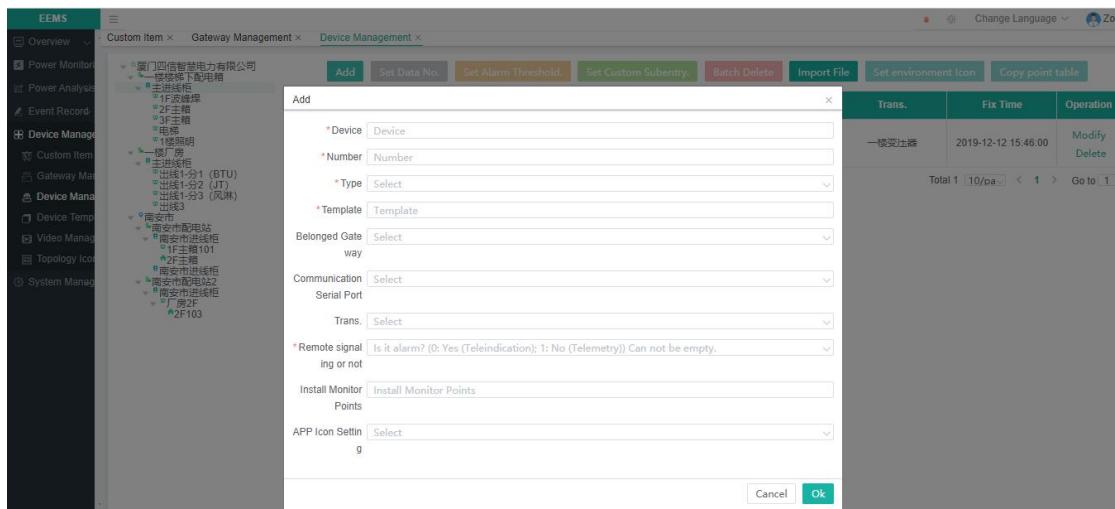
Device	Number	Type	Template	Device Status	Trans.	Fix Time	Operation
一楼进线柜电表	101	Three phase intelligent meter	SXDB	Normal	一楼变压器	2019-12-12 15:46:00	Modify Delete

(7-5-1-1 Device list)

4.2 Add

First select the associated organization on the left and click button to add corresponding information to add device.

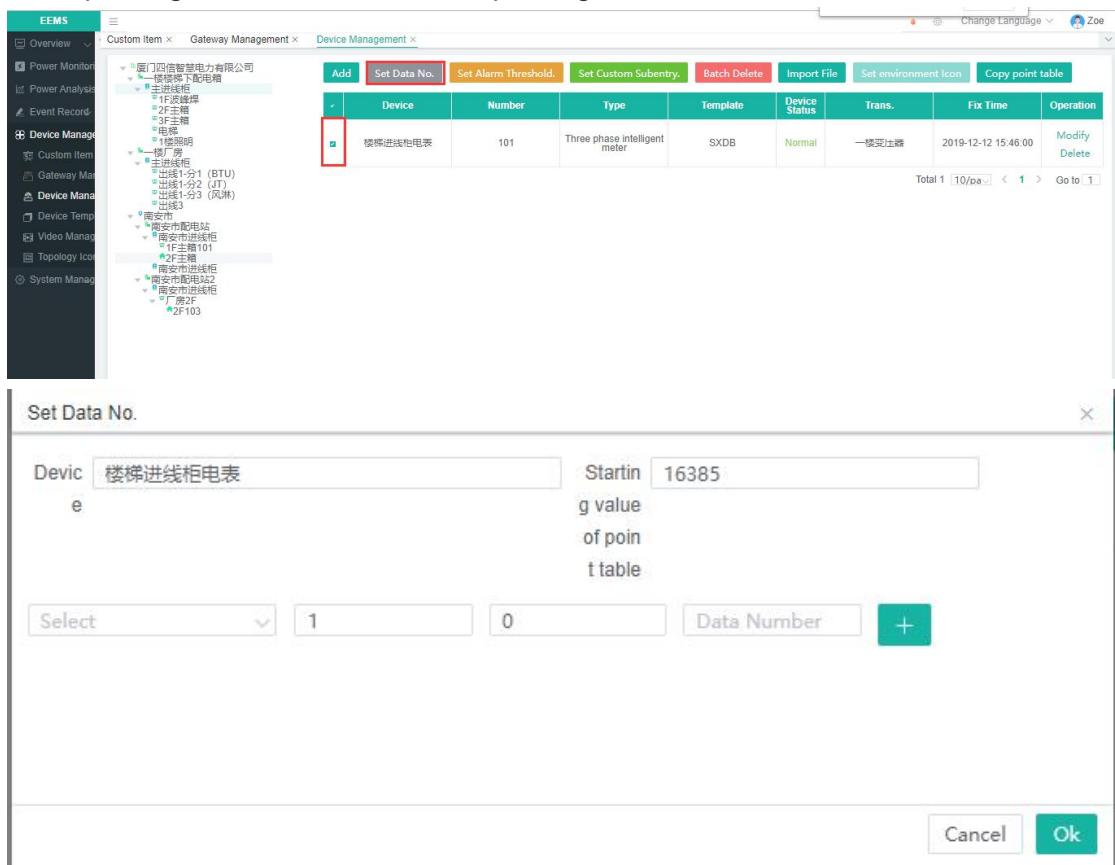




(7-5-2-1 Add device list)

4.3 Set data No.

Select the device in the list to set number, click **Set Data No.** button, fill in the corresponding information in the corresponding form to set the data number.



(7-5-3-1 Set device No.)

4.4 Set alarm threshold

Select the device in the list to set an alarm and click **Set Alarm Threshold.** button, in the popover, click [OK] to set alarm or cancel alarm.

(7-5-4-1 Set alarm threshold)

4.5 Set custom subentry

Select the device which was to add a custom report subentry,click **Set Custom Subentry.** button, add or remove other custom report devices from the popover list.

(7-5-5-1 Set custom subentry)

4.6 Batch delete

Select the device to delete from the list, click **Batch Delete** button, in the popover, click [OK] to delete the device in batches.

(7-5-6-1 Batch delete)

5、Device template

5.1 List of device template

#	Template Name	Type	Operation
1	SXDB	Three phase intelligent meter	Modify Delete
2	Transformer	Transformer	Modify Delete
3	MJ	Access control template	Modify Delete
4	WSD	Temperature and humidity	Modify Delete
5	SJ	Water immersion	Modify Delete

(7-6-1-1 List of device template)

5.2 Add

Select the corresponding distribution room, click **Add**, fill in the corresponding device template information to add the device template.

(7-6-2-1 Add list of device template)

5.3 Modify

Click the modify button in the action bar of the template information to be modified in the

list, modify the corresponding information in the corresponding form to modify the template information.

The screenshot shows two views of the EEMS Device Template management interface. The top view displays a list of device templates with columns: #, Template Name, Type, and Operation. The 'Operation' column contains 'Modify' and 'Delete' buttons. The bottom view shows a 'Modify' dialog box with fields for Type (Select), Template Name (device.deviceTemplateNameEn), and Device Type (Select). The dialog has 'Cancel' and 'Ok' buttons.

(7-6-3-1 Modify the list of device template)

5.4 Delete

Click the delete button in the action bar of the template information to delete the corresponding information in the corresponding form.

The screenshot shows the EEMS Device Template management interface. It displays a list of templates and a detailed configuration table for one of the templates. The configuration table includes columns for Type, Data, Data Identity, Unit, Teleindication Value, and Whether it is alarm. The 'Delete' button in the template list is highlighted with a red box.

(7-6-4-1 Delete the list of device template)

5.5 Batch delete

Select the template information to be deleted in the list and click the batch delete button to delete the template information.

#	Template Name	Type	Operation	Type	Data	Data Identity	Unit	Telemetry Value	Whether it is alarm
1	SXDB	Three phase intelligent meter	Modify Delete	Phase Voltage	Phase a voltage	Ua	Voltage		Yes
2	Transformer	Transformer	Modify Delete	Phase Voltage	Phase B voltage	Ub	Voltage		Yes
3	MJ	Access control template	Modify Delete	Phase Voltage	Phase C voltage	Uc	Voltage		Yes
4	WSD	Temperature and humidity	Modify Delete	Current	A phase current	Ia	Current		Yes
5	SJ	Water immersion	Modify Delete	Current	B phase current	Ib	Current		Yes
				Current	C phase current	Ic	Current		Yes
				Frequency	Zero sequence current	Io	Current		No
					frequency	F	Frequency		No

(7-6-5-1 Batch delete the list of device template)

6、Video management

6.1 List of video management

N.	Group No.	Video No.	Video Name	Video Source Address	Create Time	Operation
1	201	1125	一摄	rtmp://192.168.9.55:1935/liv erome	2020-03-30 10:30:31	Modify Delete

(7-7-1-1 List of video management)

6.2 Add

Select the corresponding distribution room, click **Add** button, fill in the corresponding

information to add the video.

The screenshot shows the 'Video Management' section of the EEMS system. On the left is a navigation sidebar with various management options like Overview, Power Monitoring, Power Analysis, Event Record, Device Management, Video Management, and System Management. The 'Video Management' option is selected. The main area displays a table of existing video entries. At the top right of the table is a red-bordered 'Add' button. Below the table, there's a search bar and pagination controls. A modal window titled 'Add' is open, prompting for 'Video No.', 'Video Name', 'Video Source Address', and a 'Describe' field. The 'Ok' button in the modal is also highlighted in red.

(7-7-2-1 Add list of video)

6.3 Modify

Click the modify button in the operation bar of the video information information to be modified in the list, and modify the corresponding information in the corresponding form to modify the video information.

This screenshot shows the same 'Video Management' interface as the previous one, but with a different row selected in the table. The 'Modify' button in the operation column of the selected row is highlighted with a red border. The rest of the interface, including the sidebar, table, and modal window, appears identical to the previous screenshot.

(7-7-3-1 Modify the list of video information)

6.4 Delete

Click the delete button in the action bar of the video information to be deleted in the list and delete the corresponding information in the corresponding form.

(7-7-4-1 Delete the list of video information)

6.5 Batch delete

Select the video information to be deleted from the list and click the batch delete button to delete the video information.



The screenshot shows the 'Video Management' section of the EEMS system. On the left is a navigation sidebar with various management options like Power Monitoring, Power Analysis, Event Record, Device Management, etc. The main area displays a tree view of locations: 厦门四信智电有限公司, 南安市, and 南安市配电站. Below this is a table with columns: Video Name, Group No., Video No., Video Name, Video Source Address, Create Time, and Operation. A single row is shown with values: 201, 1125, 一楼, rtmp://192.168.9.55:1935/liv/home, 2020-03-30 10:30:31, and Modify/Delete. At the bottom of the table, there are pagination controls: Total 1 | 10/pa | < 1 > Go to 1.

(8-8-5-1 Batch delete the list of video information)

7、Topology icon management

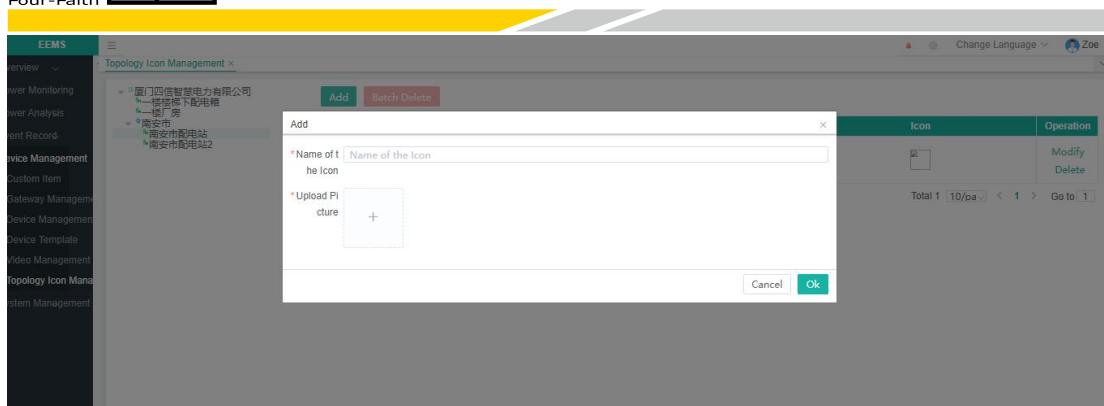
7.1 List of topology icon management

The screenshot shows the 'Topology Icon Management' section. The left sidebar includes options like Video Management, Topology Icon Management, etc. The main part shows a tree view of locations. Below is a table with columns: Group No., Name of the Icon, Icon, and Operation. One row is listed with values: 216, 123, and a placeholder icon. At the bottom, there are pagination controls: Total 1 | 10/pa | < 1 > Go to 1.

(8-8-1-1 List of topology icon management)

7.2 Add

Select the corresponding distribution room, click **Add** button, fill in the corresponding topological icon information to add the topological icon.



(8-8-2-1 Add list of topology icon)

7.3 Modify

Click the modify button in the operation bar of the topological information information to be modified in the list, and modify the corresponding information in the corresponding form to modify the topology information.

(8-8-3-1 Modify the list of topology information)

7.4 Delete

Click the delete button in the action bar of the topology information to be deleted in the list and delete the corresponding information in the corresponding form.

Group No.	Name of the Icon	Icon	Operation
216	123		Modify Delete

(8-8-4-1 Delete the list of topology information)

7.5 Batch delete

Select the topology information to be deleted from the list and click the batch delete button to delete the topology information.

Group No.	Name of the Icon	Icon	Operation
216	123		Modify Delete

(8-8-5-1 Batch delete the list of topology information)