Hisense

1128104

关注官方微信可查看更多内容

CERTIFICATE
合格证

检 验 员

合格
生产日期见铭牌
检01

产品名称: Hi-Dom III中央空调楼宇集控网关

型　　号: HCCS-H160H2C1YM / HCCS-H160H2C1NM

青岛海信日立空调系统有限公司

M00410Q 2020.04 V00

Hisense

H-NET III

INSTALLATION AND OPERATION MANUAL

青岛海信日立空调系统有限公司
Qingdao Hisense Hitachi Air-conditioning Systems Co.,Ltd.

FOREWORD

- Hisense H-NET III system consists of two parts: the central A/C building monitor & control gateway and the host computer software. For ease of presentation, they are referred to as the gateway and the software below.

- There are 2 kinds of gateway: one for Billing gateway, model: HCCS-H160H2C1YM, the function includes: A/C central monitor/control, Ammeter monitor, Electricity consumption allocation. The other for Non-billing gateway, model: HCCS-H160H2C1NM, the function includes: A/C central monitor/control.

- The gateway needs to work with the server (computer with host computer software installed; which needs to be purchased on site) and Ethernet or the Internet.

- Do not install the gateway in the following situations:
  ① Living environment
  ② Places where oil vapor and oil are dispersed;
  ③ Near hot spring (acid environment);
  ④ Places where flammable gas is generated, flowing, staying or leaking;
  ⑤ Near the sea (salt water environment);
  ⑥ Wet places, or places with the possibility of moisture;
  ⑦ Places with poor ventilation;
  ⑧ Acid or alkaline environment.

- Do not install the gateway and cables in 3m from electromagnetic wave transmitters, such as medical equipment. If the gateway has to been installed in a place with electromagnetic radiation, cover the gateway and cable with a steel box and run the cable through a metal conduit.

- Gateway input voltage: DC 12V, meeting SELV requirements.

- Maximum gateway input power: 6W, meeting fire protection requirements.

ENGLISH

CONTENTS

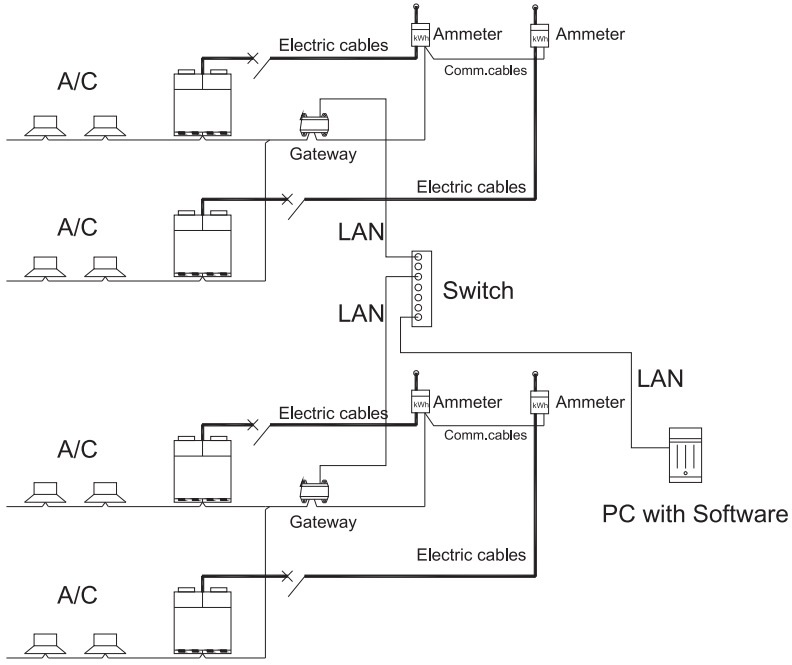
I. Description of System Functions 1
1.1 System Connection 1
1.2 Gateway Connection 2
1.3 Ammeter Connection 4
II. Gateway Installation Instructions 6
2.1 Gateway Installation Diagram 6
2.2 Gateway Installation Specifications 7
III. System Installation Instructions 9
3.1 Computer Configuration 9
3.2 Runtime Environment Configuration 10
3.3 Software Startup Instructions 19
3.4 System Initialization 22
IV. Gateway Instructions 28
4.1 Login 28
4.2 Monitor & Control 29
4.3 Timer Management 37
4.4 Device Info 38
4.5 Diagnosis Log 39
4.6 Settings 39
V. Software Instructions 42
5.1 System Login 42
5.2 Monitor & Control 42
5.3 2D Navigation 50
5.4 Timer Management 57
5.5 E.C.A. 65
5.6 Running Statistics 71
5.7 Energy-saving 74
5.8 Adv. Management 76
5.9 Reminder 79
VI. Matters Needing Attention 81
6.1 Database Backup 81
6.2 Browser Cache Cleanup 86
6.3 Electricity Consumption Allocation Instructions 86

H-NET III
INSTALLATION AND OPERATION MANUAL

ENGLISH

I. Description of System Functions

1.1 System Connection



Pic1-1

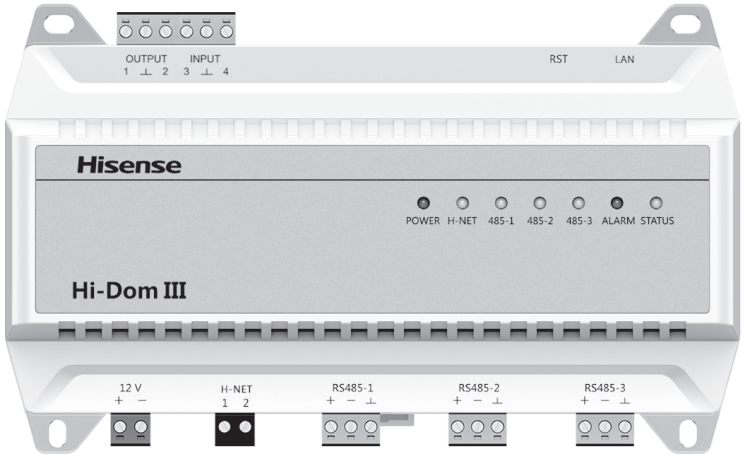
Note:

①The gateway and the computer on which the software is installed form a local area network;
②The gateway has a H-NET bus to communicate with A/C equipment: up to 64 A/C systems, 160 indoor units(1); one 485 bus communicates with the ammeters, up to 64 ammeters;
③The software can be connected to up to 32 gateways and up to 5120 indoor units.

Remarks:

(1) The two qualifications of 64 A/C systems and 160 indoor units must be met at the same time.

1.2 Gateway Connection



Pic1-2

Description of connectors and buttons:

12V	Gateway power supply, DC 12V; provided by the installer; pay attention to polarity when wiring. Connector: 2 pins, spacing 5.08mm, orange.
H-NET	H-NET bus, connected to the 12 connector of A/C system(1). Connector: 2 pins, spacing 5.08mm, black.
RS485-1	485 bus, connected to the ammeter; pay attention to the polarity when wiring: + connected to D+ or A, - connected to D- or B, ⊥connected to GND. Connector: 3 pins, spacing 5.08mm, green.
RS485-2 & RS485-3	Reserved
OUTPUT 1	All on signal output, specification: 12V DC. When the gateway detects that all indoor units are powered on, the port outputs a signal; when one or more indoor units are in the off state, the port stops outputting signals
OUTPUT 2	Alarm signal output, specification: 12V DC. When the gateway detects that one or more indoor units are in an alarm state, the port outputs a signal; when all indoor units are no longer in an alarm state, the port stops outputting signals
INPUT 3	Dry contact input: All off. When the gateway detects the dry contact from open circuit to short circuit, it sends a turn-off command to all indoor units
INPUT 4	Reserved

RST	IP address reset button, used for gateway IP address reset: Press and hold it for 3 seconds, ALARM and STATUS indicators will flash for 3 seconds at the same time and then the IP address is reset
LAN	RJ45 network cable interface

Table1-1

Description of indicators:

POWER	Power, stays on when the working is normal
H-NET	H-NET communication indicator, flashing with H-NET communication status
485-1	485-1 port communication indicator, flashing with the status of the data received by the port
485-2 & 485-3	Reserved
ALARM	Alarm
STATUS	Status

Table1-2

The combination of ALARM and STATUS indicators:

- ALARM off, STATUS slow flashing: Normal operation;
- ALARM slow flashing and STATUS slow flashing: The gateway does not have configuration.
- ALARM always on, STATUS slow flashing: The gateway battery is low;
- ALARM always on, STATUS always on: The gateway space is insufficient;
- ALARM Slow flashing, STATUS off: The gateway malfunction.

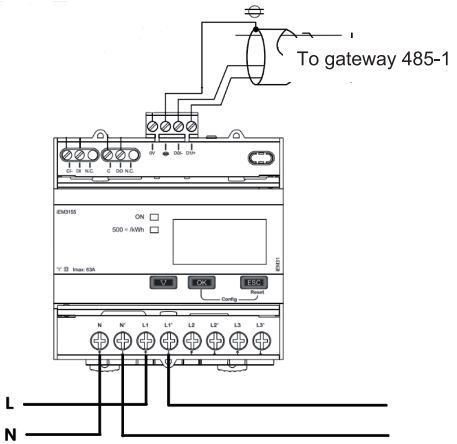
Remarks:

(1) For the connection diagram of H-NET bus, please refer to the installation instructions or technical manual of the A/C.

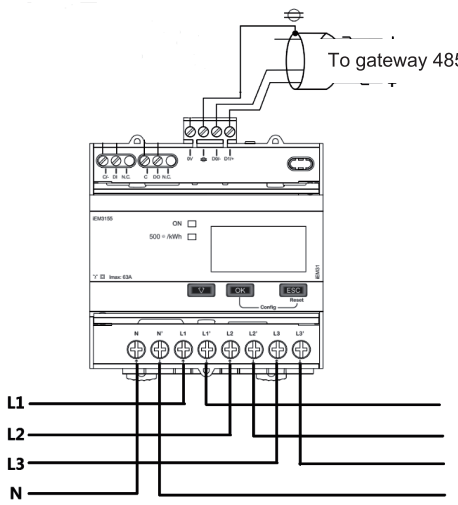
1.3 Ammeter Connection

The gateway supports one types of ammeter(1): Schneider Modbus protocol meter(2).
An ammeter is required to correspond to a A/C system (up to 4 outdoor units)(3).

1.3.1 Ammeter wiring



Pic1-3 Schneider Modbus protocol single-phase ammeter connection



Pic1-4 Schneider Modbus protocol three-phase ammeter connection

1.3.2 Ammeter communication settings

Schneider Modbus protocol ammeter requires communication parameters setting(4):
Communication setting:

Command No.	Operation (R/W)	Size	Unit	Range	Description
5000	W	1	Unit16	-	(Reserved)
	W	1	Unit16	-	(Reserved)
	W	1	Unit16	-	(Reserved)
	W	1	Unit16	-	Address
	W	1	Unit16	-	Baud rate 0=9600 1=19200 2=38400
	W	1	Unit16	-	Parity bit 0= Even 1= Odd 2= None
	W	1	Unit16	-	(Reserved)

Table1-3

In the above communication parameters, the baud rate must be set to 19200, and the check digit must be set to even, or else the gateway will not be able to communicate normally with the ammeter. Address range: 1~247. If multiple ammeters are connected to one gateway, the address of each ammeter must not be duplicated.

Remarks:

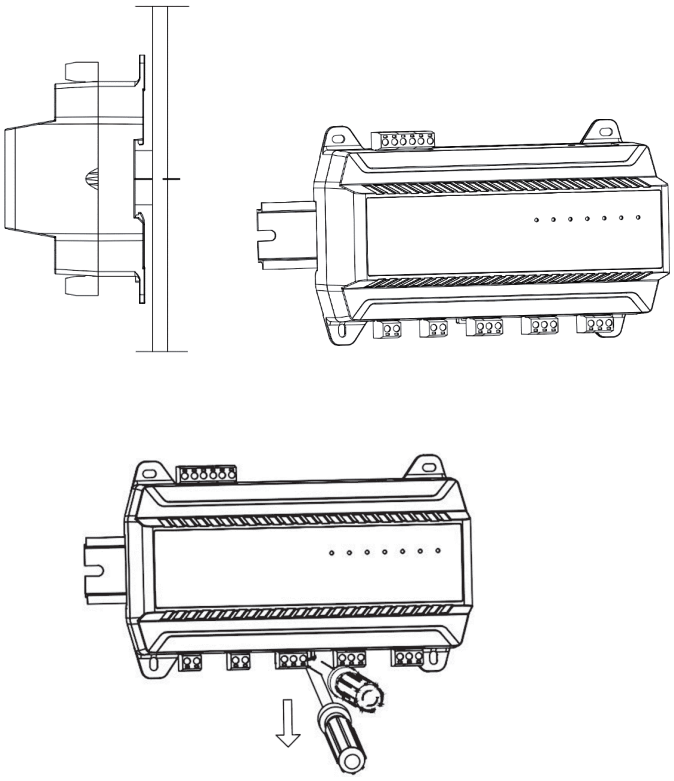
(1) The ammeters are not provided. Please purchase from the ammeter manufacturer or dealer separately;
(3) The model corresponding to Schneider Modbus protocol ammeter is the iEM3000 series(iEM3150, iEM3155; iEM3250, iEM3255);
(4) If there are multiple outdoor unit module combinations in a A/C system, the ammeter selection should be calculated according to the maximum current of each module;
(5) For detailed communication settings, please refer to the User Manual of Schneider iEM3000 Series.

II. Gateway Installation Instructions

2.1 Gateway Installation Diagram

There are two methods to install gateway:

Method 1: Use 35mm DIM rail for fixing

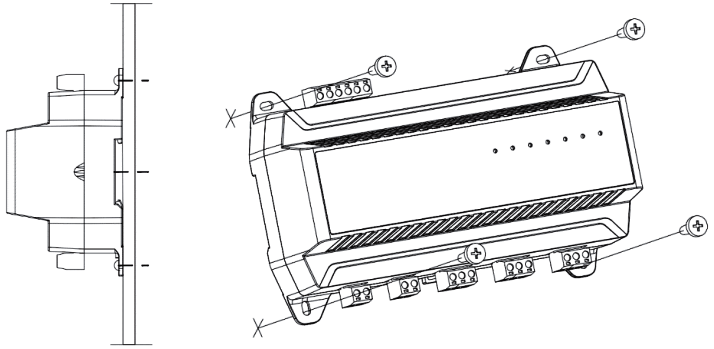


Pic2-1

H-NET III
INSTALLATION AND OPERATION MANUAL

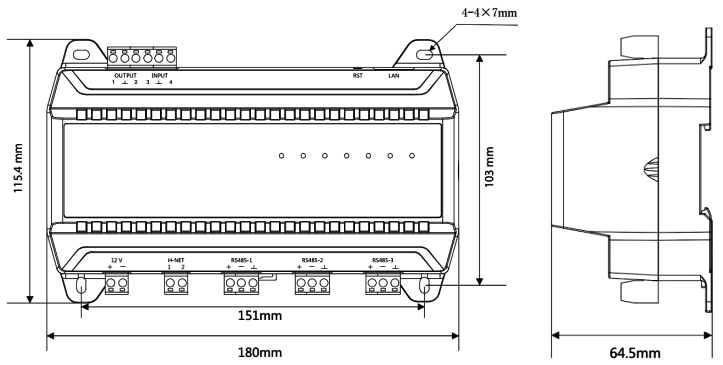
ENGLISH

Method 2: Use lifting holes for fixing



Pic2-2

2.2 Gateway Installation Specifications



Pic2-3

Gateway Specifications	
Power supply	DC 12V
Power consumption	<6W
Environmental conditions	Ambient temperature: 0～40℃
	Ambient humidity: 20～85% (no condensation)
Dimensions	Length: 180mm, Width: 115.4mm, Thickness: 64.5mm
Weight	0.57kg
Installation conditions	Indoor, weak current control box; rail or lifting hole fixed

Table2-1

H-NET Specifications	
Communication object	A/C indoor units/ outdoor units
Communication wires	2-core shield wire, No polarity
Communication distance	Max.1000m
Quantity of A/C	Max. indoor units 160

Table2-2

485-1 Specifications	
Communication object	Ammeter
Communication wires	2-core shield wire, With polarity
Communication distance	Max.1000m(Shield wire must be connect to Ground)

Table2-3

LAN Specifications	
Communication object	PC with software, Switch
Communication wires	Network Cable: Cat-5e and above
Communication distance	100m with single cable

Table2-4

Remarks:
Please refer to the ammeter manual for the installation method and dimensions.

III. System Installation Instructions

3.1 Computer Configuration

Hardware	CPU: i5-6th generation and above Memory: 8GB and above HDD: 500GB and above NIC: 1.0Gbps, RJ45 interface Display: resolution should be 1920*1080.
Software	Operating system: Win10 or Win7 64bit Browser: Google Chrome, 64bit, version 65 and above Application software: Excel 2007 and above

Table3-1

Network configuration:
Network cable: Recommended specifications: Cat-5e and above;
Switch: Recommended specifications: 1.0Gbps, the number of network ports depends on the number of gateways and computers.

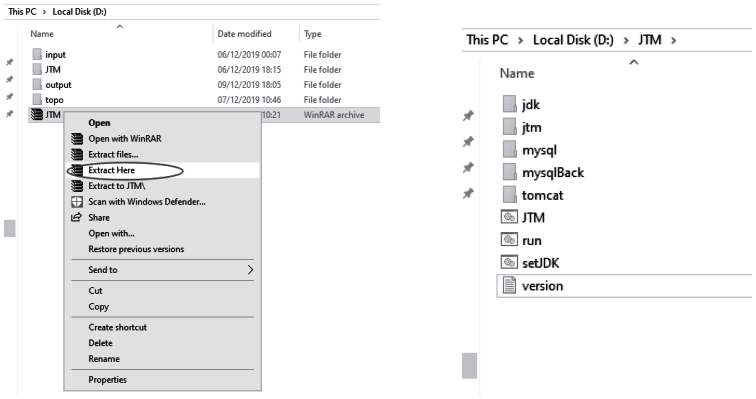
Optional configuration:
UPS: Recommended specifications: 1000VA/600W and above.

ENGLISH

3.2 Runtime Environment Configuration

3.2.1 JTM installation(1)

JTM is an integrated runtime environment for the tomcat web server and MySQL database. Only one computer is allowed to run JTM on the system LAN.
JTM is a green installation archive. Copy the JTM compression archive to D drive (2) of the computer, and then decompress:



Pic3-1

3.2.2 JTM runtime environment configuration

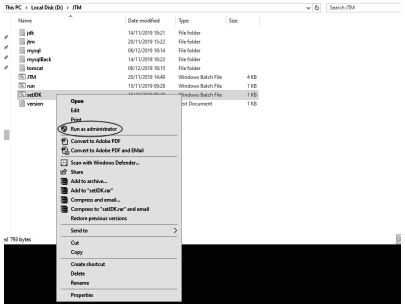
If the operating system of your computer is Win10 Professional or Enterprise, you do not need to perform this step; if it is a different version, you need to perform the runtime environment configuration.

View the operating system version of your computer:

Pic3-2

ENGLISH

Execute the runtime environment configuration: Select “setJDK”, right click and select “Run as administrator”:



Pic3-3

Select “Yes”:

Pic3-4

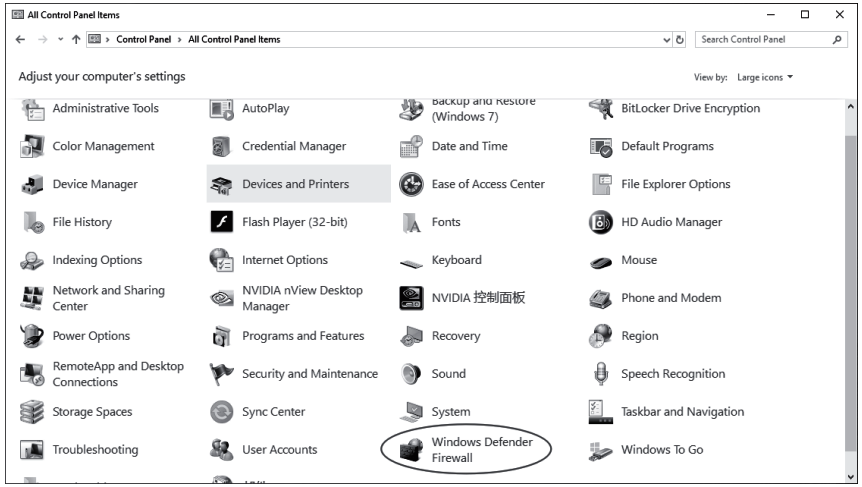
When the following prompt appears, press any key to exit and complete the configuration:

Pic3-5

3.2.3 Firewall settings

The software needs to receive the files uploaded by the gateway through the specified TCP port. The system uses the port number 30064, which must be opened in the firewall.

Select “Windows Defender Firewall” in the Control Panel:

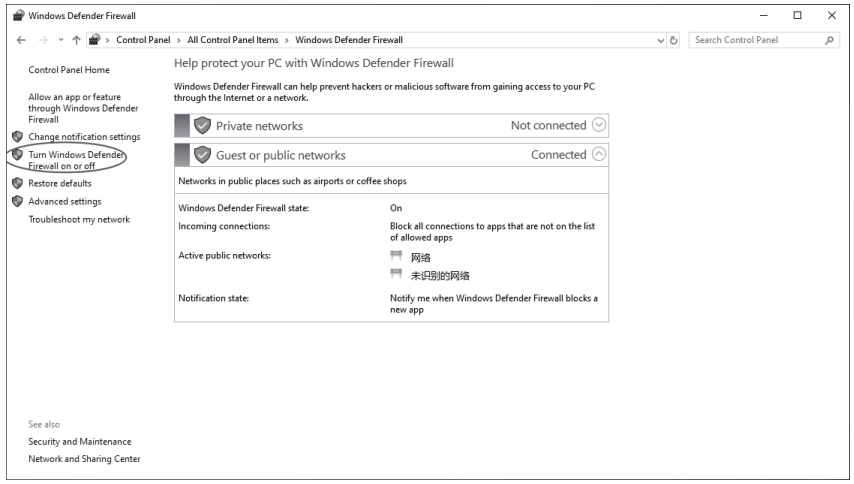


Pic3-6

Two methods are available:

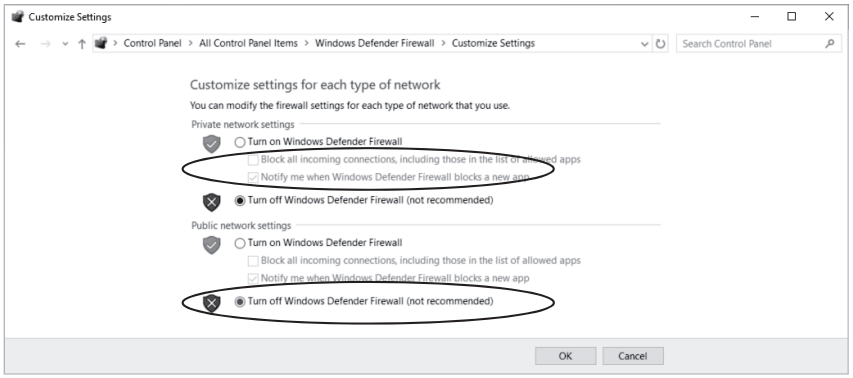
① Turn off the firewall directly.

Select “Turn Windows Defender Firewall on or off:”



Pic3-7

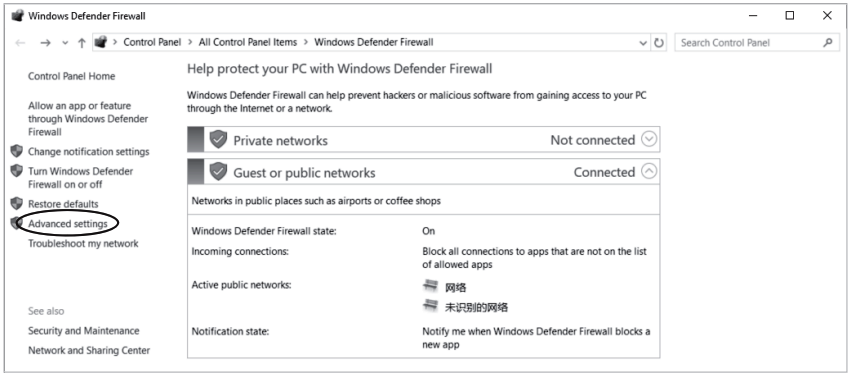
Select “Turn off Windows Defender Firewall (not recommended)”:



Pic3-8

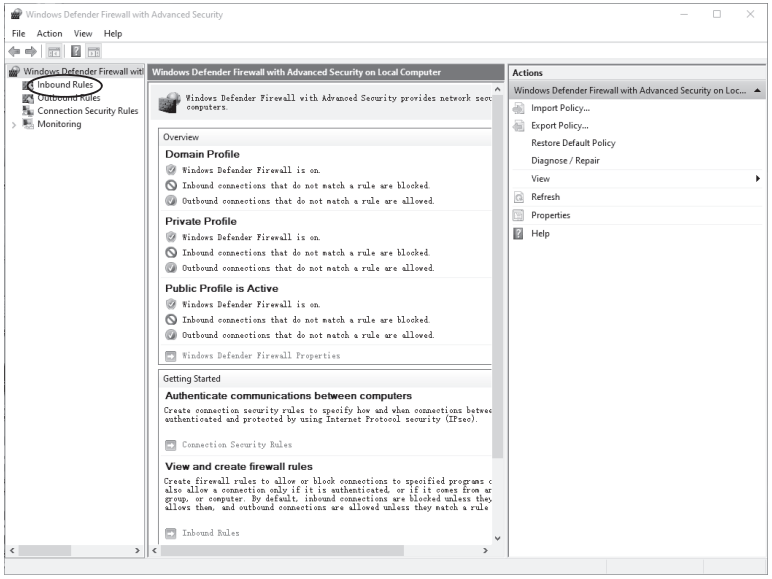
② If you do not want to turn off the firewall directly, you can do the following:

Select “Advanced settings”:



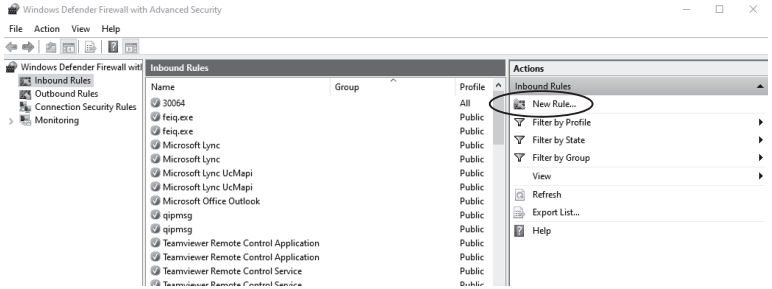
Pic3-9

Select “Inbound Rules”:



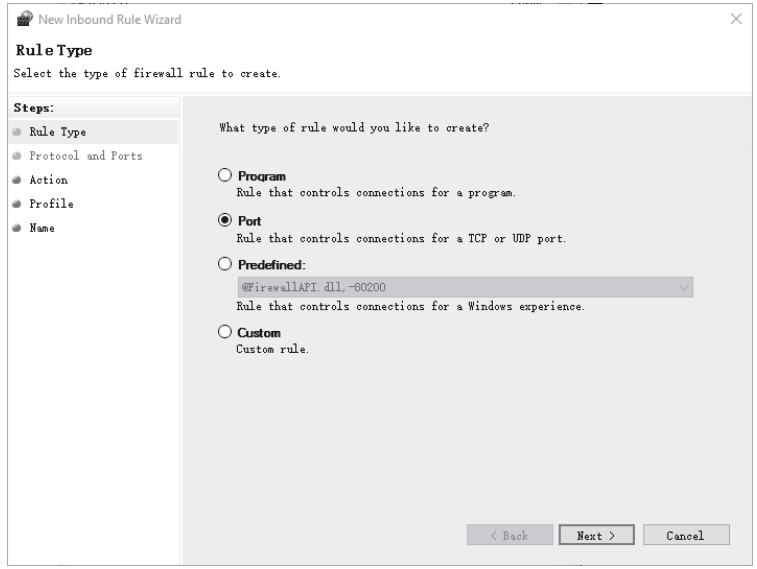
Pic3-10

Click “New Rule”:



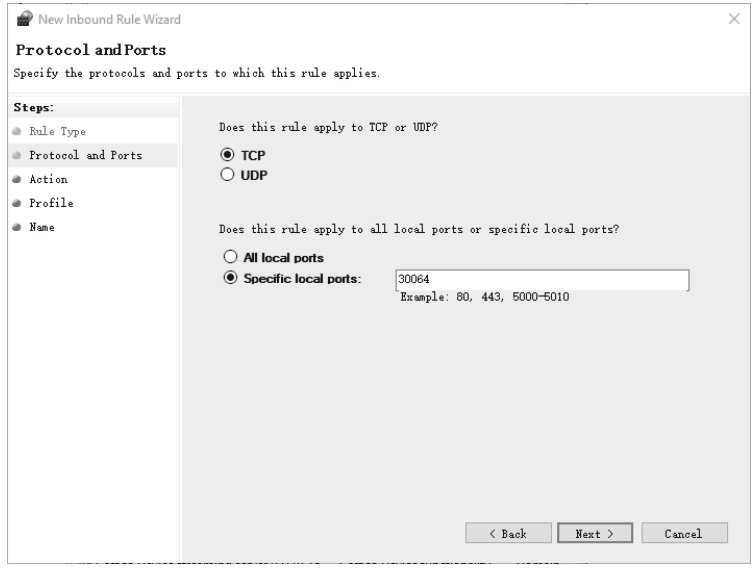
Pic3-11

Select “Port” and click “Next”:



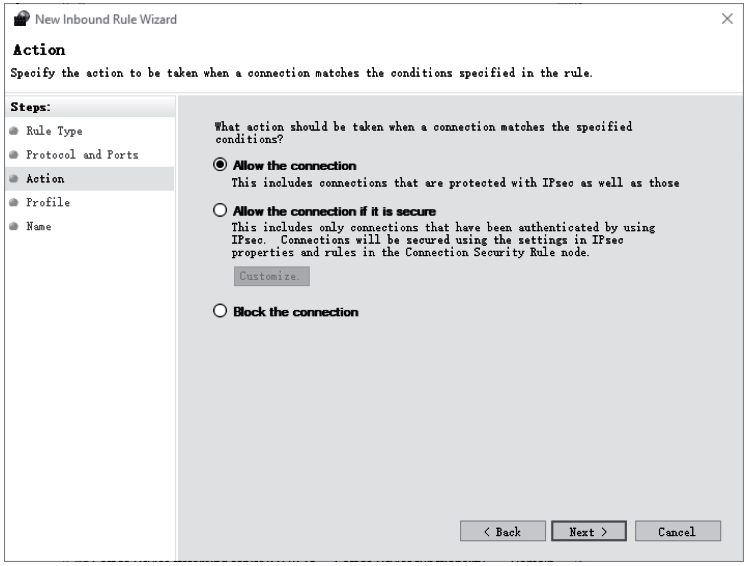
Pic3-12

Select “TCP”, then select “30064” in “Specific Local Port” and click “Next”:



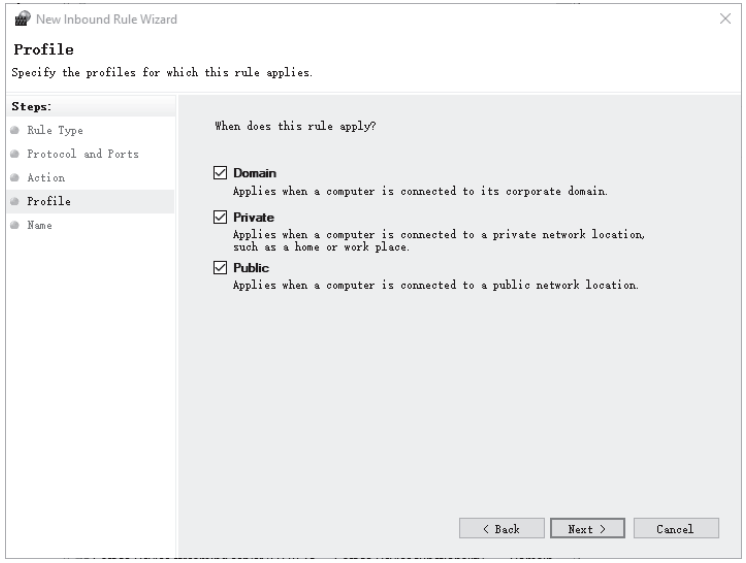
Pic3-13

Select “Allow connections” and click “Next”:



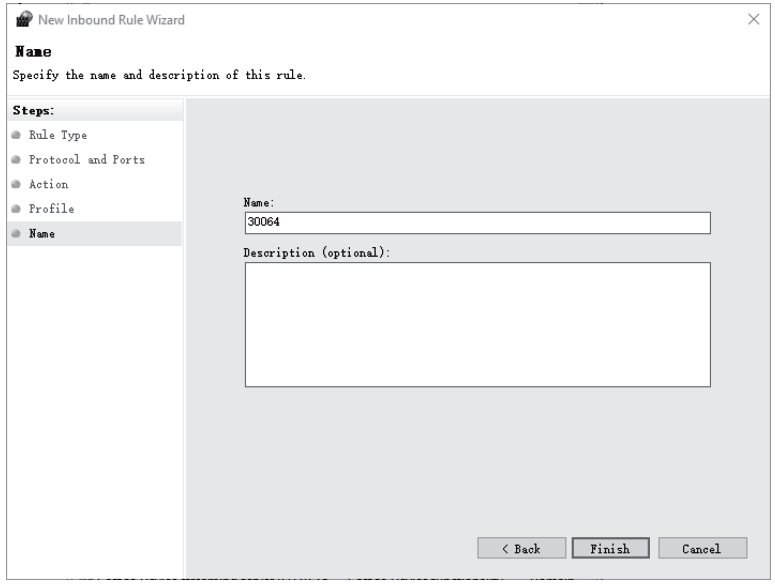
Pic3-14

Follow the default selection and click “Next”:



Pic3-15

Enter “30064” in the name and click “Finish”:



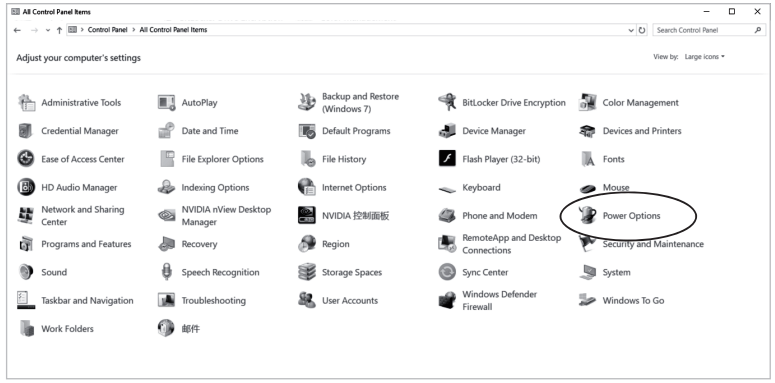
Pic3-16

3.2.4 Operating system settings

If you do not need to use the Electricity consumption allocation function, the operating system does not need additional settings.

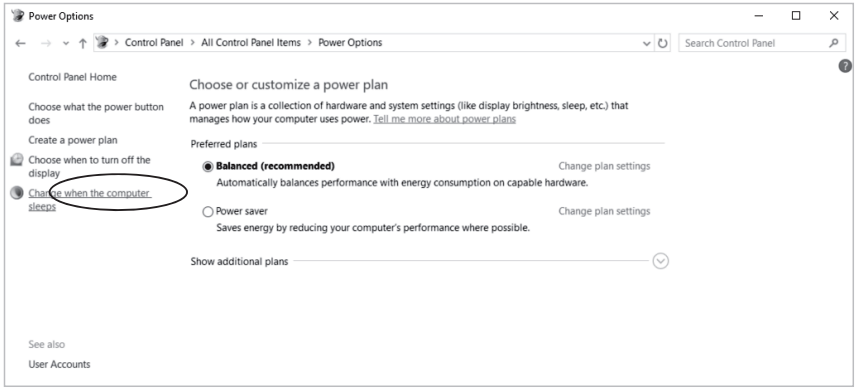
If you need to use the Electricity consumption allocation function, the computer with JTM installed mustn’t be shut down, and the operating system needs to be set as follows:

Select “Power Options” in the Control Panel:



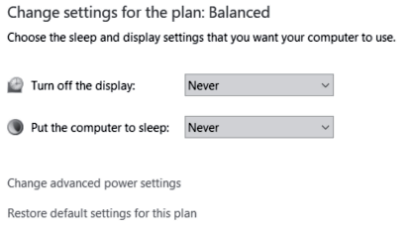
Pic3-17

Select “Change when the computer sleeps”:



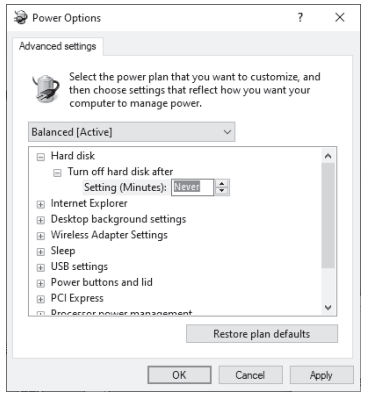
Pic3-18

Set “Put the computer to sleep” to “Never”, and click “Change advanced power settings”:



Pic3-19

Select “Turn off hard disk after”, and set to “Never”:



Pic3-20

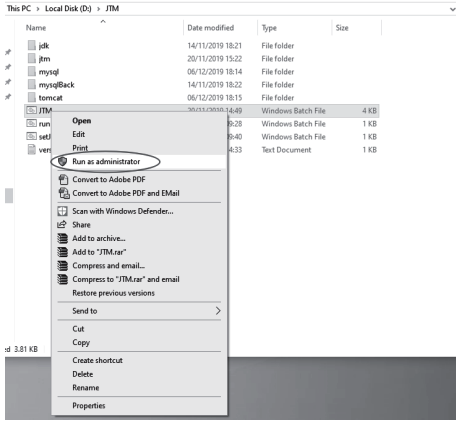
Remarks:

(1) Contact local branch company for the software.
(2) The JTM folder must be installed in the root directory of the D drive to be effective; if there is no D drive, please contact your computer dealer.

3.3 Software Startup Instructions

3.3.1 JTM boot

Find the decompressed JTM archive, select “JTM”, right click and select “Run as administrator”:

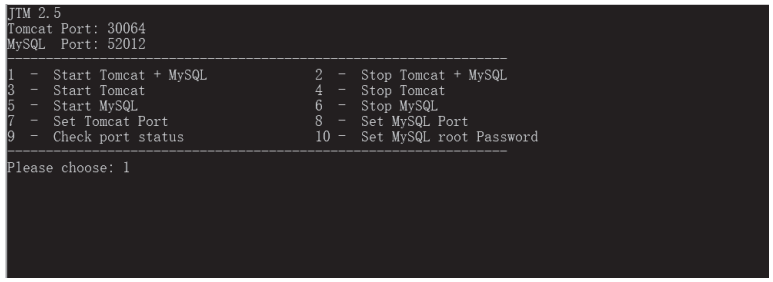


Pic3-21

Select “Yes”:

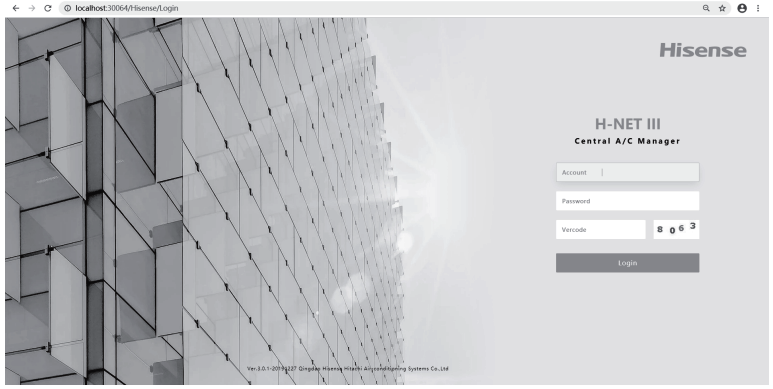
Pic3-22

Type “1” and press Enter:



Pic3-23

After the prompt is completed, type http://localhost:30064/Hisense/Login in the browser address bar to enter the login interface:



Pic3-24

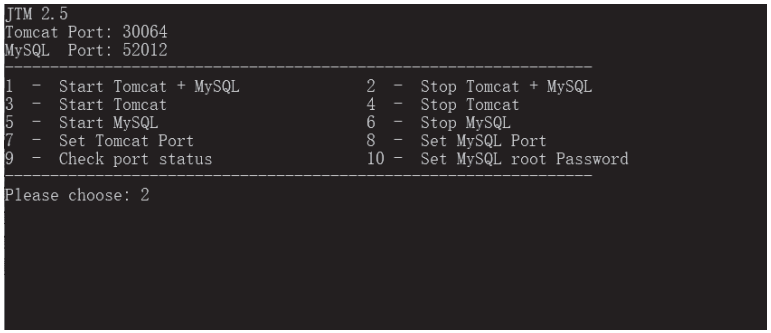
There is chrome setup in JTM, it can be installed:

Pic3-25

3.3.2 JTM update

If you need to update the JTM archive, you need to follow these steps:
1. Backup the database(1);
2. Stop the tomcat and mysql services;
3. Delete the JTM folder;
4. Decompress the new JTM archive on the original JTM path.

Stop the tomcat and mysql services: Repeat the above JTM startup steps, type “2” in the interface and press Enter:



Pic3-26

After the services are stopped, delete the current JTM folder(2). Then, decompress the new JTM archive to the original JTM path(3).

Remarks:

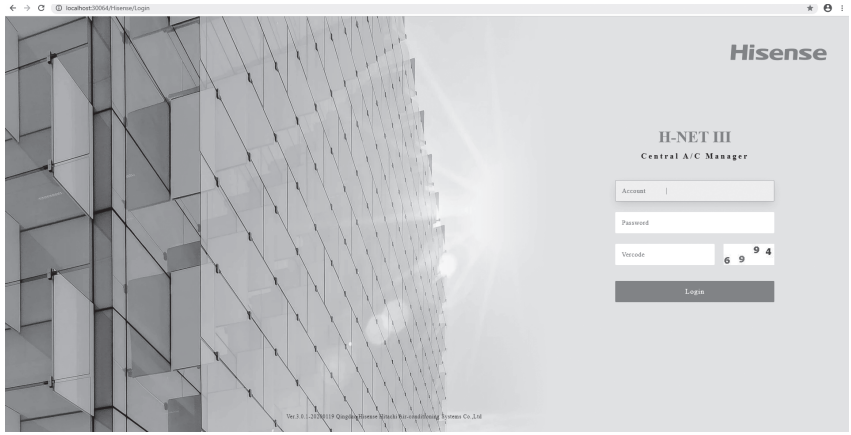
(1) For the operation of database backup, please refer to 6.1;
(2) Please stop the tomcat and mysql services before deleting the JTM folder, or else the operating system will prompt that some files can’t be deleted;
(3) If the new JTM path is inconsistent with the original JTM, the mysql service will fail to start.

3.4 System Initialization

System initialization can only be performed on a computer with JTM installed. If you import the configuration on another computer in the LAN, the system will prompt an error.

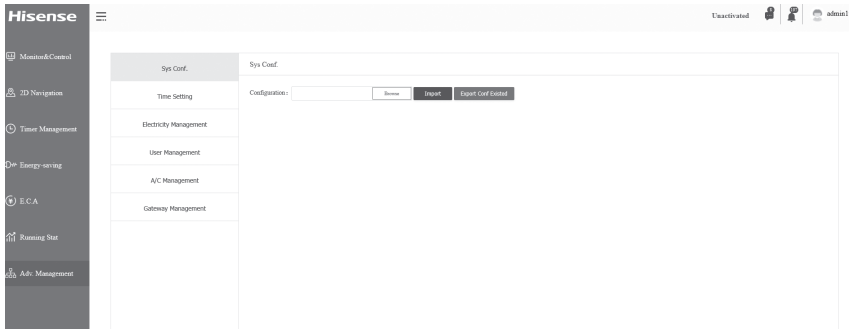
3.4.1 Log in with administrator permissions(1)

Account name: admin1, initial password: 123456; then enter the vercode on the page:



Pic3-27

After logging in, select “Adv. Management” – "System Conf.”:



Pic3-28

3.4.2 Preparing the configuration

The system commissioning personnel need to prepare a configuration according to the actual installation situation of the project. Click “Export Configuration Template” button(2). The configuration template format is as follows:

Server IP	192.168.3.200								
No.1 GW IP	192.168.3.100	Electricity Allocation	yes						
Ammeter Type	2								
No.	ODU Address	IDU Address	Ammeter ID	Building	Floor	Room	User Name	A/C Name	User No.
1	0	0	1	Fortune Tower A	B1	B101	Property office		1
2	0	1	1	Fortune Tower A	B1	B101	Property office		1
3	0	2	1	Fortune Tower A	B1	B101	Property office		1
4	0	3	1	Fortune Tower A	1	101	XX Bank	Lobby 1	3
5	18	2	2	Fortune Tower A	1	101	XX Bank	Lobby 2	3
6	18	3	2	Fortune Tower A	1	101	XX Bank	Lobby 3	3
7	18	4	2	Fortune Tower A	1	101	XX Bank	Lobby 4	3
8	18	5	2	Fortune Tower A	1	101	XX Bank	Lobby 5	3
No.2 GW IP	192.168.3.101	Electricity Allocation	no						
Ammeter Type									
No.	ODU Address	IDU Address	Ammeter ID	Building	Floor	Room	User Name	A/C Name	User No.
1	0	0		Fortune Tower A	2	201	XX Bank	Office 1	3
2	0	1		Fortune Tower A	2	201	XX Bank	Office 2	3
3	0	2		Fortune Tower A	2	201	XX Bank	Office 3	3
4	0	3		Fortune Tower A	2	202	XX Bank	VIP 1	3
5	1	0		Fortune Tower A	2	202	XX Bank	VIP 2	3
6	1	1		Fortune Tower B	2	203	Tea Room		6
7	1	2		Fortune Tower B	2	204	Storage Room 1		7
8	1	3		Fortune Tower B	2	205	Storage Room 2		8
9	2	0		Fortune Tower B	1	Dining Hall	Dining Hall		9
10	2	1		Fortune Tower B	1	Dining Hall	Dining Hall		9
11	2	2		Fortune Tower B	1	Dining Hall	Dining Hall		9
12	2	3		Fortune Tower B	1	Dining Hall	Dining Hall		9
13	2	4		Fortune Tower B	1	Dining Hall	Dining Hall		9
14	2	5		Fortune Tower B	1	Dining Hall	Dining Hall		9

Table3-2

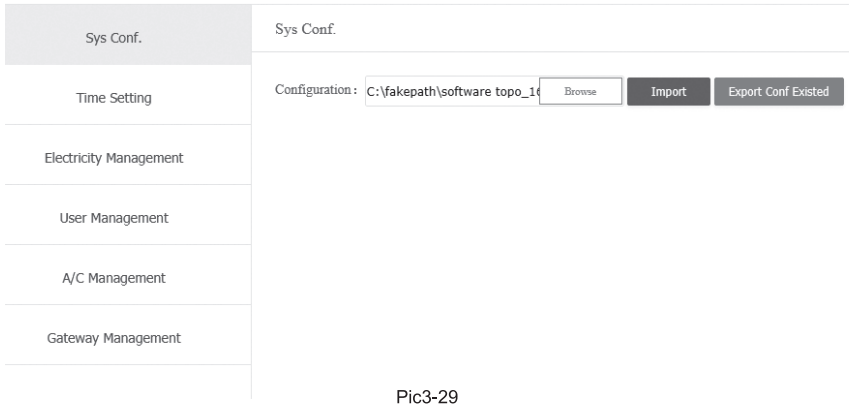
Description of preparation rules:

1. It must be modified on the exported configuration template rather than creating a new excel document, or else the system will not recognize it. If the configuration needs to be modified multiple times, use the “Save As” command after changing on the template.
2. Server IP: It must be the same as the IP address of local unit (the computer with JTM installed).
3. Gateway IP: The sequence number starts from 1 and ranges from 1 to 32. Repeated serial numbers and gateway IPs are not allowed. The first three segments of each gateway IP address must be the same. Whether billing: Yes, or No.
4. Meter type: 2: Schneider Modbus protocol ammeter.
   If it is a billing gateway, the ammeter type mustn’t be null; if it is not a billing gateway, the ammeter type must be null.
5. No.: Ascending order from 1, range: 1~160.
6. ODU address column: The A/C system address connected to the gateway: ODU address DIP. Range: 0~63.
7. IDU address column: The address of the indoor unit connected to each A/C system: IDU address DIP. Range: 0~63.
8. Ammeter ID column:
   ① Billing gateway: The ammeter ID column mustn’t be null:
   For type 2 ammeter, ID is the communication address of the ammeter, range: 1~247; it must be set when the ammeter is installed(3).
   The outdoor unit system address and the ammeter ID are in one-to-one correspondence, that is, an A/C system corresponds to an ammeter ID;
   ② Non-billing gateway: The ammeter ID column must be null.

9. Building, floor, room, user name, A/C name: Fill in according to the actual conditions; building, floor, room and user name are required, used for A/C query[4]; A/C name isn't required;
10. User No. column: One-to-one correspondence with the user name, only integers allowed, starting from 1. The user NO. is used for the report data combination in the A/C sorting and energy analysis menus of the software[5]. If there is a need for Electricity consumption allocation, please ensure that the user NO. and user name match the actual conditions.
11. All cells shouldn't be include blank except column: Building\Floor\Room\User Name\A/C Name.

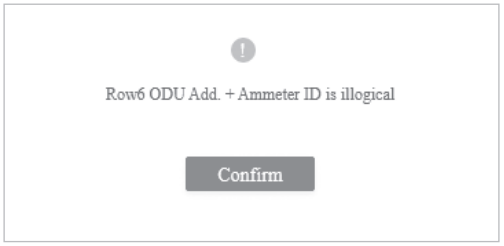
3.4.3 Import configuration

In the system configuration interface, select the configuration compiled in the previous step, and then click "Import":



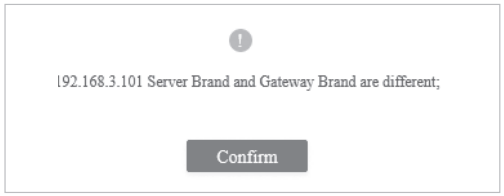
Pic3-29

After the configuration is imported, the software will verify it. Each item of the above-mentioned preparation rules will be verified. If there is any non-conformity, an error will be reported. For example:



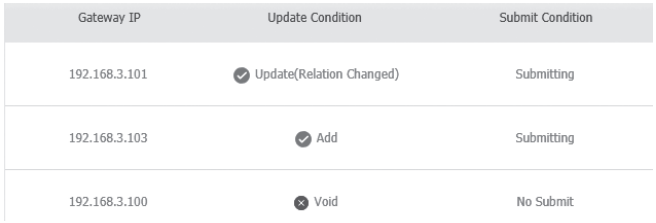
Pic3-30

In addition to the above-mentioned configuration rules, the verification content also includes: brand consistency of the gateway and the software. The software will read the brand attribute of each gateway in the configuration. If any gateway is inconsistent with the software brand, it will report an error:



Pic3-31

The debugging personnel can modify the configuration as prompted.
After the verification is passed, the software will compare the newly imported configuration with the last imported configuration, and prompt the debugging personnel; there are 6 update statuses:



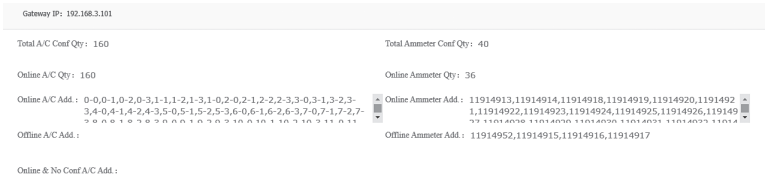
Pic3-32

1. Add: The gateway that is added in the newly imported configuration and did not exist in the last imported configuration;
2. Void: The gateway that existed in the last imported configuration but does not exist in the newly imported configuration. The gateway is only abandoned in the software: no longer communicate with it nor receive the uploaded files. But it can still be used normally in the gateway interface;
3. Update (Relation no Change): The gateway that exists both in the last imported configuration and the newly imported configuration; ammeter type, ODU system address, IDU address, and ammeter ID are not changed in the new configuration;
4. Update (Relation Changed): The gateway that exists both in the last imported configuration and the newly imported configuration, the ammeter type, ODU system address, IDU address, and ammeter ID are changed in the new configuration;
5. No change: The gateway exists that both in the last imported configuration and the newly imported configuration, and the content has not changed.
   Click "Cancel" to return to the previous step to import configuration interface, click "Confirm": only the "Void" and "No change" status do not need to be submitted, and other statues must be updated in the configuration:

Update status	Submit status
Void, No change	No submit
Update (Relation no Change)	Submit successfully, Submit failed[6]
Add, Update (Relation Changed)	Automatically search device after submitted successfully, submit failed[6]

Table3-3

After device search, the search results will appear:



Pic3-33

Search results description:

1. Online A/C (ammeter) address: The address of the device that exists in the configuration and is online when search;
2. Offline A/C (ammeter) address: The address of the device that exists in the configuration but is offline when search;
3. Online & No Conf A/C address: The address of the indoor unit that that does not exist in the configuration but is online when search.

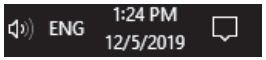
In the software interface and gateway interface, both online and offline indoor units (ammeters) are displayed. The indoor unit that is online but not in the configuration is not displayed. It only prompts the debugging personnel: the actual situation of the project does not match the configuration, and it needs to be checked and modified.

Device search notes:

1. Before automatic search, make sure that the A/C and ammeter in the gateway are installed and turned on, or else the search results will be incorrect;
2. The indoor unit that is online during device search can be displayed in real time in the software interface and gateway interface if the online status changes later;
3. The indoor unit that is not online during device search will be offline afterwards, unless the device search is started again;
4. For the gateway already with configuration, the device search can be separately executed in the gateway interface(7). It is applicable to gateways that are in a state of no change and Relation no change when importing configuration.

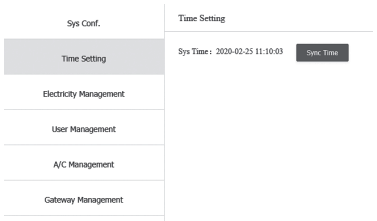
3.4.4 Time synchronization

Before importing the configuration in the previous step, make sure that the operating system time of the host computer is correct: view in the lower right corner of the desktop



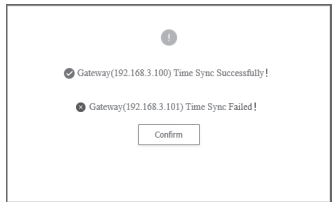
As long as the gateway is successfully submitted, the system time of the computer will be synchronized to the gateway time(8).

You can also manually synchronize the time in the Time Setting menu later:



Pic3-34

After clicking “Sync Time”, the software will synchronize the current time of the system to all gateways in the configuration(9):



Pic3-35

Remarks:

(1) For a detailed description of the software user permissions, please refer to 5.8;
(2) If no configuration has been imported into the system, this button displays “Export Configuration Template”; if any configuration has ever been imported, this button displays “Export Existing Configuration”. The existing configuration is a configuration that at least one gateway has been successfully imported last time;
(3) For the setting of the ammeter address, please refer to 1.3;
(4) For detailed functions, please refer to 5.2;
(5) For detailed functions, please refer to 5.5;
(6) The biggest possibility of submit alarm is gateway offline. Please check the network connection of the gateway.
(7) For detailed functions, please refer to 4.6;
(8) Please refer to 4.6 to check the gateway time.
(9) The biggest possibility of time synchronization alarm is gateway offline. Please check the network connection of the gateway.

IV. Gateway Instructions

4.1 Login

The initial IP address of the gateway is 192.168.3.100.
If there are multiple gateways in the LAN, first modify the IP address of the gateway:
① Ensure that the IP addresses of all gateways are not duplicated;
② Ensure that the first three segments of all gateway IP addresses are the same.

Take the initial IP: 192.168.3.100 as an example. Enter 192.168.3.100 in the browser address bar to enter the login interface:

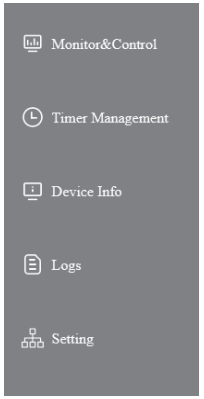
Pic4-1

There are two types of login accounts: admin and user; default account is “user”, and default password is 123123.
The admin account requires a specific action to display:
Double-click “Qingdao Hisense Hitachi Air Conditioning System Co., Ltd.” in the bottom of the login interface, and then select “admin” in the account.

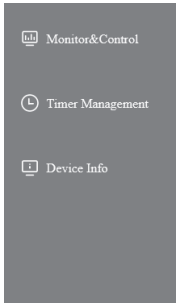
Pic4-2

The default password of admin is 123456.
The difference between the two accounts is that the admin has full permissions and the user does not have gateway Setting and Logs view permissions.

Menu after logging in as admin:



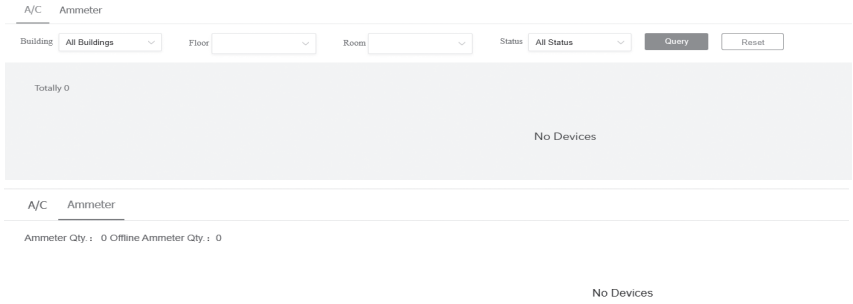
Menu after logging in as user:



Pic4-3

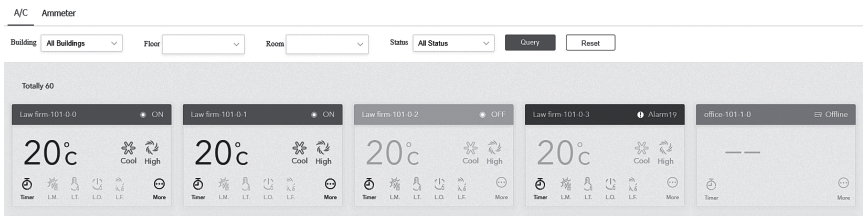
4.2 Monitor & Control

There are two tabs under this menu: A/C, Ammeter.
If the gateway is not initialized in the software, it is displayed as follows:



Pic4-4

4.2.1 A/C tab: You can query the status and submit control commands to all indoor units in the gateway configuration:



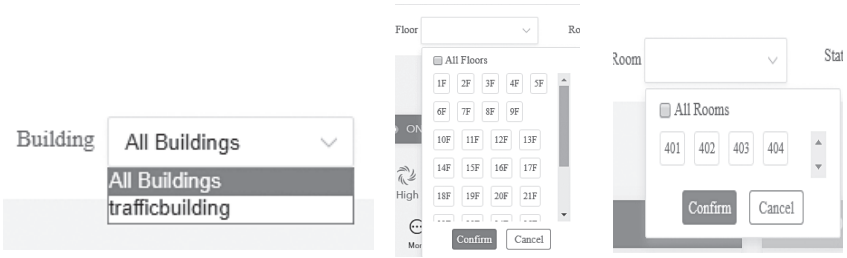
Pic4-5

Main features of A/C tab:

4.2.1.1 Device filter

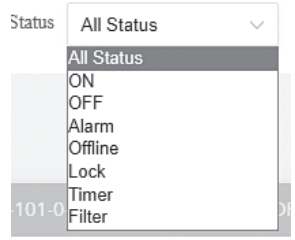
There are 4 filter conditions: Building, floor, room, and device status. The first three items are filtered according to the gateway configuration, and the last one is based on the current running status of the indoor unit.

The building, floor, and room correspond to the building, floor, and room in the configuration:



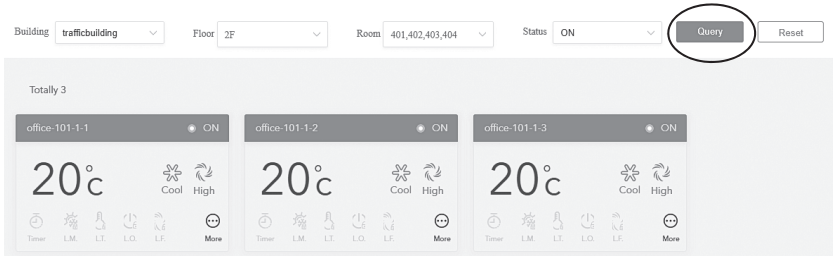
Pic4-6

Device status includes: on, off, alarm, offline, lock, timer, filter:



Pic4-7

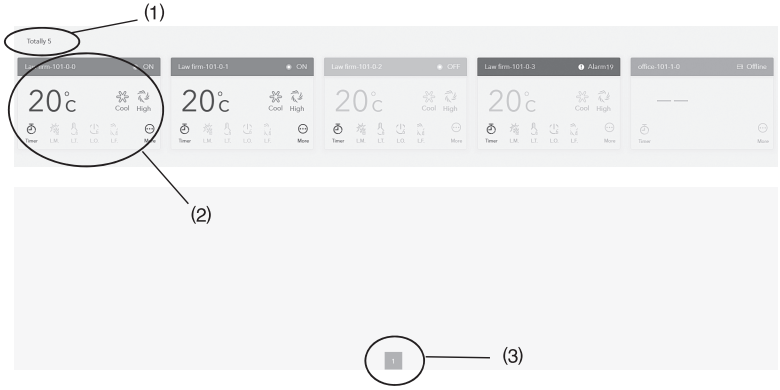
The above four filter conditions can be used in combination. After selection, click “Query” to display the result:



Pic4-8

Click “Reset” to clear all filters.

4.2.1.2 Status query

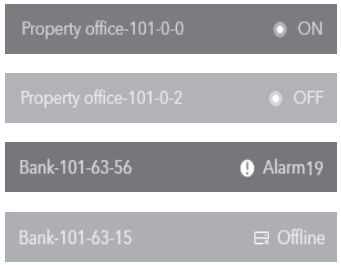


Pic4-9

1. Total number of devices queried: The total number of indoor units displayed on the current page, up to 35 units: up to 5 units in a row, up to 7 rows;
2. A/C status tab: Displays the current running status of each indoor unit.

Pic4-10

Color definition:



Turn on status

Turn off status

Alarm status

Offline status

Tab name meaning: User name + device ID. For example, “Data center-100-1-1”:

Data center: The corresponding user name of the indoor unit in the configuration;

100-1-1: Device ID(1):

100: The last segment of the gateway IP address;

1: The ODU address corresponding to the indoor unit in the configuration;

1: The IDU address corresponding to the indoor unit in the configuration.

Tab display definition:

19°C: The current set temperature of the indoor unit. On: The indoor unit is turned on; Off: The indoor unit is turned off;

The current running mode of the indoor unit. On: The indoor unit is turned on; Off: The indoor unit is turned off;

The current fan of the indoor unit. On: The indoor unit is turned on; Off: The indoor unit is turned off;

The current timer status of the indoor unit. On: The timer set by the software includes the indoor unit; Off: The timer set by the software does not include the indoor unit;

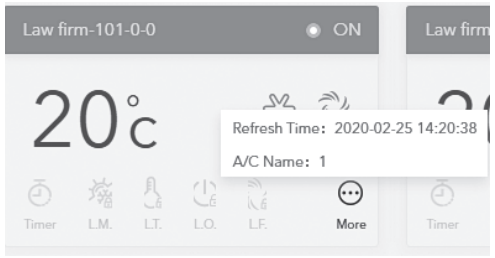
The current mode setting lock status of the indoor unit. On: The mode setting of the indoor unit is locked; Off: The mode setting of the indoor unit is unlocked;

The current temperature setting lock status of the indoor unit. On: The temperature setting of the indoor unit is locked; Off: The temperature setting of the indoor unit is unlocked;

The current On/Off setting lock status of the indoor unit. On: The On/Off setting of the indoor unit is locked; Off: The On/Off setting of the indoor unit is unlocked;

The current fan setting lock status of the indoor unit. On: The fan setting of the indoor unit is locked; Off: The fan setting of the indoor unit is unlocked;

More: Move the mouse pointer over the icon to display the last refresh time and the A/C name in the configuration:



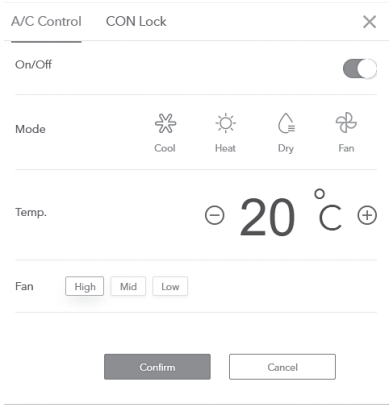
Pic4-11

The refresh rate is once every 1 minute.

3. Current page. The gateway can be connected up to 160 indoor units, and each page can display up to 35 units. When there are more than 35 units, it will be displayed on next page.

4.2.1.3 Submit control command

1. Select A/C: Click the A/C status tab to be controlled to pop up the control command menu:

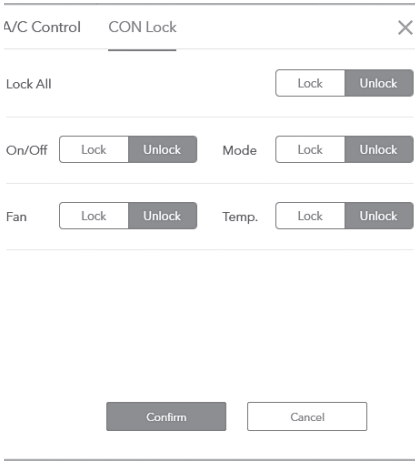


Pic4-12

If the indoor unit is in “offline” state, the control command menu will not be displayed.

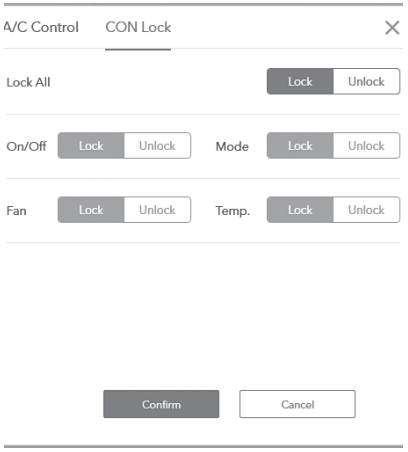
2. Control command menu(2) has two tabs: A/C control, control lock
A/C control has 4 commands:
On/Off: On, off;
Mode: Cool, heat, dry, fan;
Temperature: 19~30°C;
Fan: High, medium and low.
After selecting the corresponding setting item, click “OK” to submit.

“Control lock” has 5 commands:



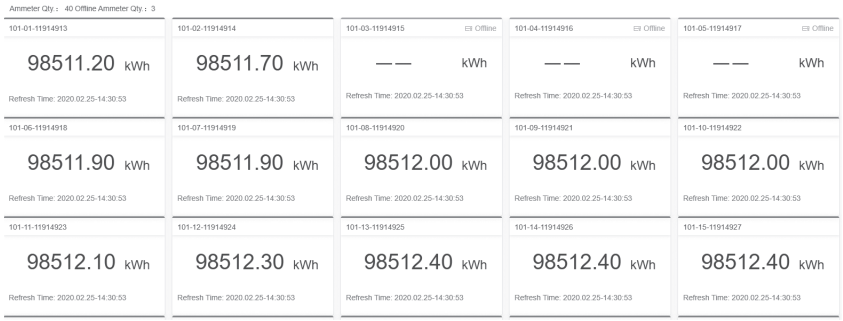
Pic4-13

Lock all: On/Off, mode, fan and temperature can be all locked or unlocked. The following 4 items can be selected separately only when “Lock All” is in the “Unlock” position; if “Lock All” is in the “Lock” position, the following 4 items will not unavailable:



Pic4-14

4.2.2 Ammeter tab:
The status of all the ammeters in the gateway configuration can be queried:

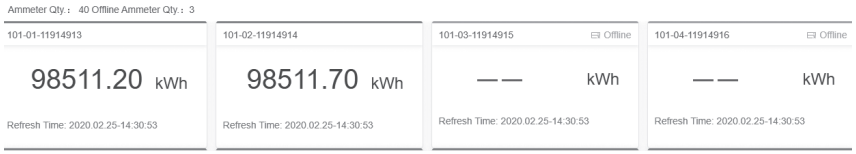


Pic4-15

The main functions of ammeter tab:

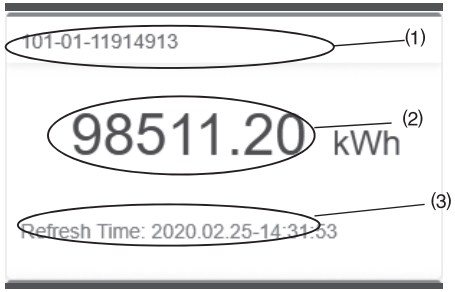
4.2.2.1 Count the number of ammeters in the gateway

Ammeter: The total number of ammeters in the gateway configuration;
Offline ammeters: The total number of ammeters currently in “offline” state.



Pic4-16

4.2.2.2 Ammeter status query



Pic4-17

1. Color definition of ammeter status tab:

Online ammeter

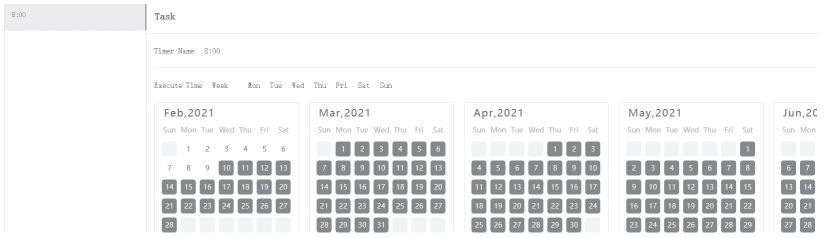
Offline ammeter

Tab name meaning: Ammeter ID[3]. For example: 102-00-3:
102: The last segment of the gateway IP address;
00: The ODU address corresponding to the ammeter in the configuration;
3: The ID of the ammeter in the configuration.
2. Current reading of ammeter: 26872.23 kWh
3. Refresh time: The time of the last refresh; the refresh rate is once every minute.

Remarks:

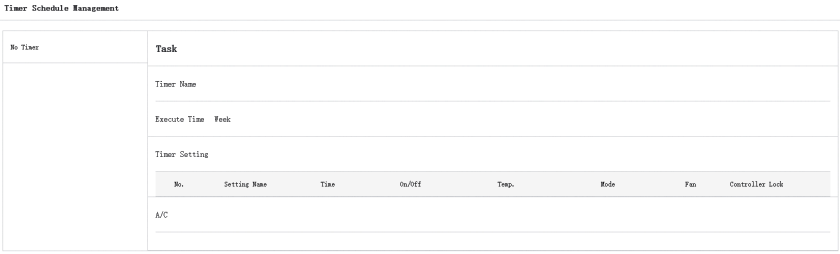
(1) The device ID will be reflected in the output report of the software. See 5.5 and 5.6 for details;
(2) The control command menu is fixed, and there is no adaptation for different types of indoor units. Some indoor unit commands may not match.
(3) The ammeter ID will be reflected in the output report of the software. See 5.5 and 5.6 for details.

4.3 Timer Management



Pic4-18

Timer management can't be set on the gateway; only the timer set in the software can be viewed[1].
If the indoor unit under the gateway is included in the timer and has been submitted successfully, you can view it in this menu.
If "No Timer" is displayed under this menu, as shown below:



Pic4-19

The possibilities may be:

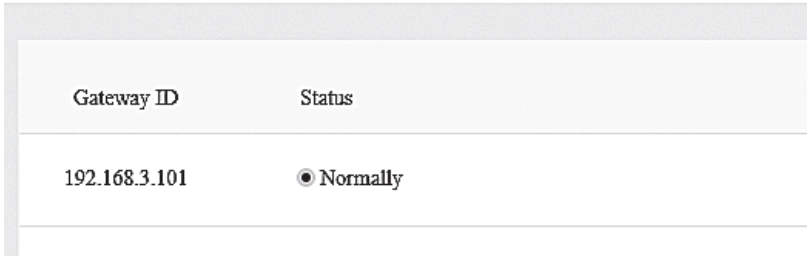
① The gateway is not initialized in the software;
② The indoor unit under the gateway is not included in the timer;
③ The timer including the indoor unit under the gateway is turned off in the software;
④ The submit of the timer including the indoor unit under the gateway failed.

Remarks:
(1) For detailed operation of timer management in software, please refer to 5.4.

4.4 Device Info

Two tabs are included in the device info menu.

4.4.1 Gateway info



Pic4-20

Display the current status of the gateway, including normal, no configuration, low battery, insufficient gateway space, and gateway malfunction.

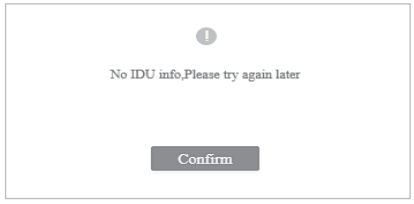
4.4.2 A/C info

ateway Info | A/C Info

ID	ODU Address	IDU Address	Building	Floor	Room	User	A/C Type	Capacity Code	Fan Motor Capacity
1	0	0	trafficbuilding	1F	501	Law firm-101-0-0	1	64	560W
2	0	1	trafficbuilding	1F	502	Law firm-101-0-1	1	64	560W
3	0	2	trafficbuilding	1F	503	Law firm-101-0-2	1	64	560W
4	0	3	trafficbuilding	1F	504	Law firm-101-0-3	1	64	560W

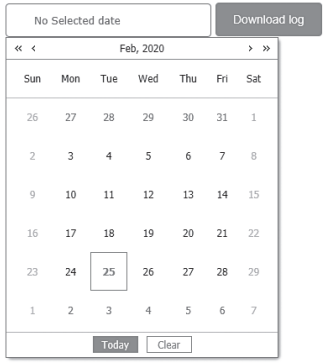
Pic4-21

Display the indoor unit list according to the gateway configuration, and the model, capability code, and fan power of each indoor unit are added to the configuration. The fan power is used to calculate the power consumption of the indoor unit for the Electricity consumption allocation function.
If the gateway is not initialized in the software, a prompt will pop up:



Pic4-22

4.5 Diagnosis Log



Pic4-23

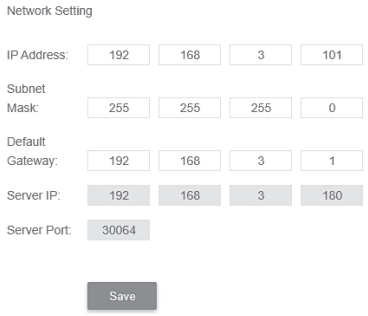
Select the appropriate date in the calendar, and then click “Download log” to download the log of the selected date; if no log is generated on the selected date, a prompt will pop up:

Pic4-24

The log is split every day at 10:30 in the morning. If the gateway does not work normally at 10:30 on the same day, the log will be kept until the next split time. The log will remain in the gateway for up to 30 days.
The downloaded log shall be processed by our professional staff.

4.6 Settings

4.6.1 Network settings



Pic4-25

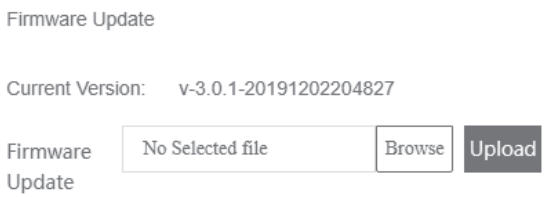
You can set the IP address, subnet mask, and default gateway of the gateway. The server IP and server port are submitted by the software at the time of initialization and can't be modified.

4.6.2 View gateway time

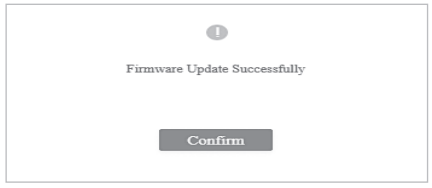
The gateway time is automatically synchronized by the software when it is initialized and can't be modified.
If the gateway is not initialized in the software, or if the gateway battery is low, wrong time may be

displayed:

4.6.3 Firmware upgrade



Select the corresponding firmware file, click "Upload", and the gateway will automatically restart after the upload is successful:

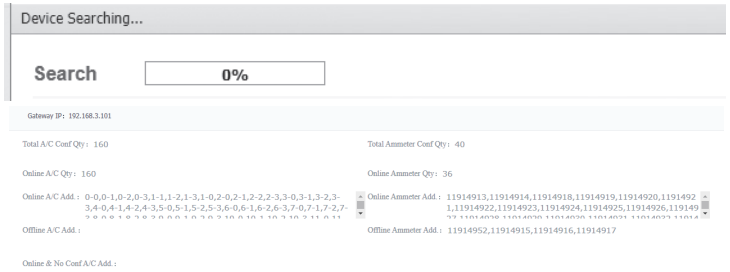


Pic4-26

4.6.4 Device search

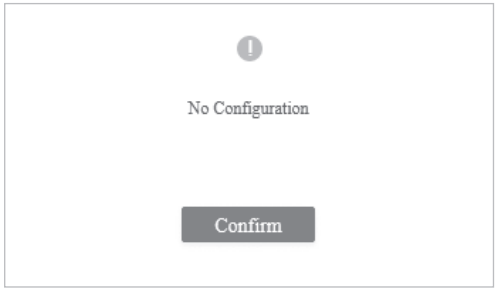
Pic4-27

If it is necessary to search the device again after the software initializes the gateway, click "Search". After search, the search result prompt will appear:



Pic4-28

If the gateway is not initialized in the software, a prompt will pop up:



Pic4-29

V. Software Instructions

Software supply 30 days on trial since initialization finished. If software is still unactivated after trial, it will be unavailable. Please contact local branch company for the way of activate.

If software is unactivated, there will be note when logging in the main interface:

Pic5-1

After activated, the note will be disappeared.

5.1 System Login

The system has two types of accounts(1). One is the admin and the other is user. Admin1 has full permissions. The instructions in this chapter are based on admin1 account and the system initialization has completed.

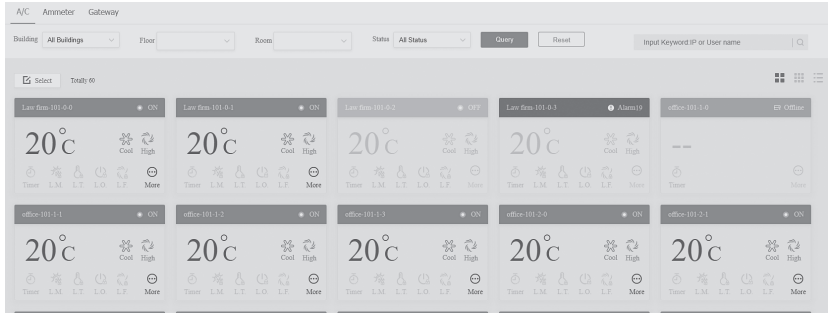
Remarks:

(1) Please refer to 5.8 for detailed settings and usage of the two types of accounts.

5.2 Monitor & Control

There are 3 tabs under this menu: A/C, ammeter, gateway.

5.2.1 A/C tab: Query status and submit control commands to all indoor units in the configuration:



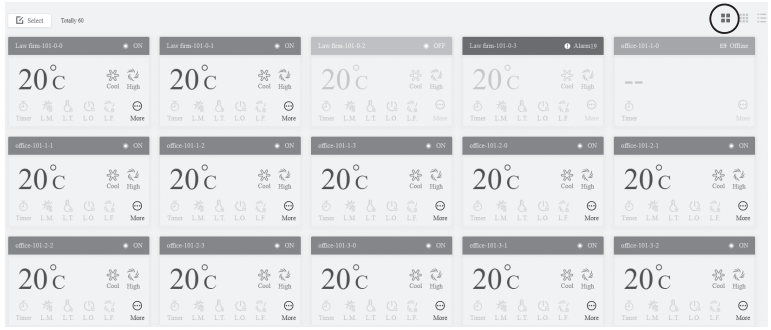
Pic5-2

Main functions of A/C tab:

5.2.1.1 Display mode

A/C tab has 3 display modes: big tags, small tags and list.

1. Big tags mode. Each line displays 5 indoor units, and each page displays up to12 lines, that is, up to 60 indoor units:



Pic5-3

Click the icon to display in big tags. The display content of a single tag is the same as that of the gateway page. Please refer to 4.2 for instructions.

2. Small tags mode. Each line displays 10 indoor units, and each page displays up to 30 lines, that is, up to 300 indoor units:

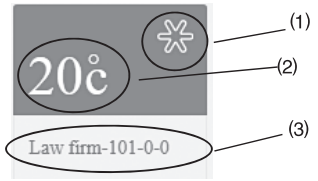
Pic5-4

Click the icon to display in small tags.

Description of tag color:

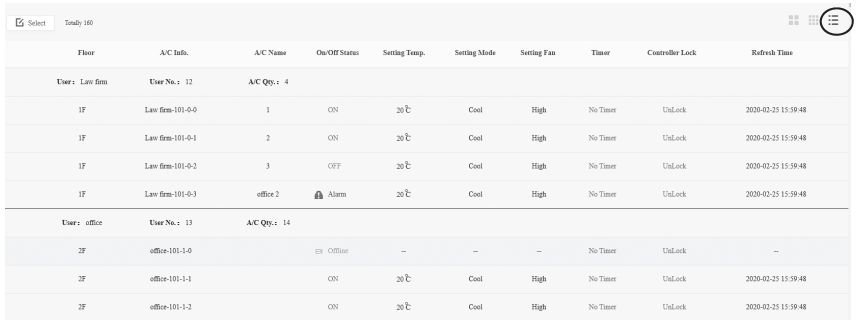
Turn on　Alarm　Turn off　Offline

Information displayed on the tag:



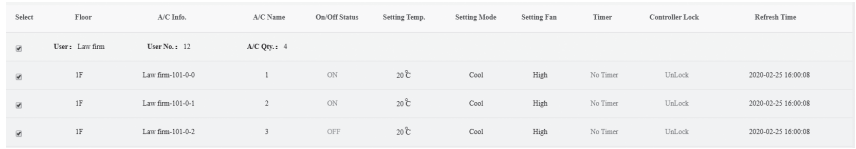
Pic5-5

1. The current operation mode of the indoor unit;
2. The current temperature of the indoor unit;
3. The name of the tag, with the same meaning as the web page. See 4.2 for instructions.
3. In list mode, each line displays an indoor unit, and displays up to 600 lines:



Pic5-6

Click the icon to display in list. By default, the user name in the configuration is combined and displayed, and all the users can be selected for group control:



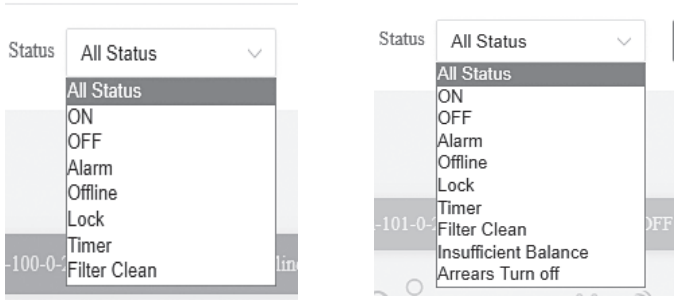
Pic5-7

Below are the instructions for using the A/C tab in big tag display mode.

5.2.1.2 Device filter

There are five types of filter conditions: Building, floor, room, device status, keywords. The first four have the same usage methods as the gateway page. Please refer to 4.2. The device status is different from the gateway page:

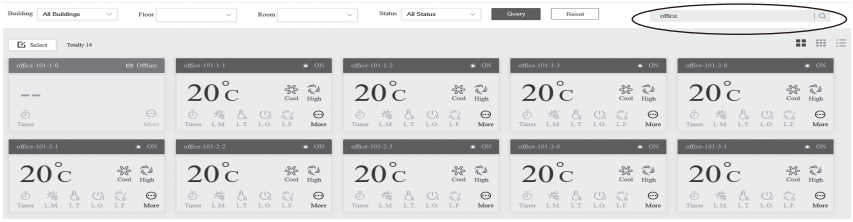
When “Post-payment” is selected in Adv. Management - Electricity Setting, the device status includes: on, off, alarm, offline, lock, timer, filter clean;
When “Pre-payment” is selected in Adv. Management - Electricity Setting, the device status includes: on, off, alarm, offline, lock, timer, filter clean, insufficient balance, and arrears turn off.



Post-payment Pre-payment

Pic5-8

The software also supports filtering by keywords. Supported keywords include:
gateway IP address, user name:



Pic5-9

5.2.1.3 Status query

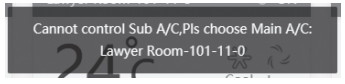
The status query function is the same as the gateway page. Please refer to 4.2;

5.2.1.4 Control commands submit

Control commands are divided into single control and group control.

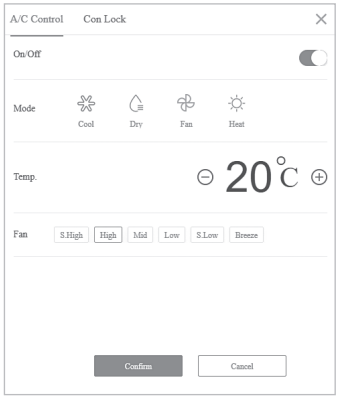
1. Single control

The single-control function adds model recognition based on the gateway page(1): In the pop-up control command menu, the menu display is different for different models. For the sub unit of wire controller group, there’s no control command menu.



Pic5-10

1.1 A/C control

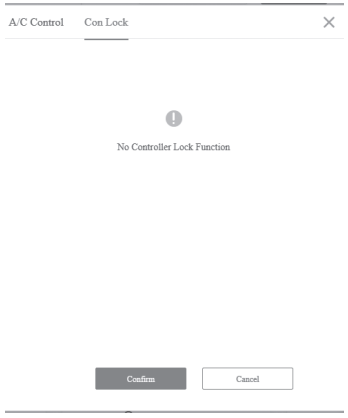


Pic5-11

Mode: The display is different depending on the current model, including: auto, cooling, dry, fan, heat.
Temperature: The temperature setting range is different according to the current model.
Fan: It varies according to the current model. Available options include high, middle, low and auto.

1.2 Control lock

The display is different depending on the current model. If the current IDU does not have a wire controller, it displays:



Pic5-12

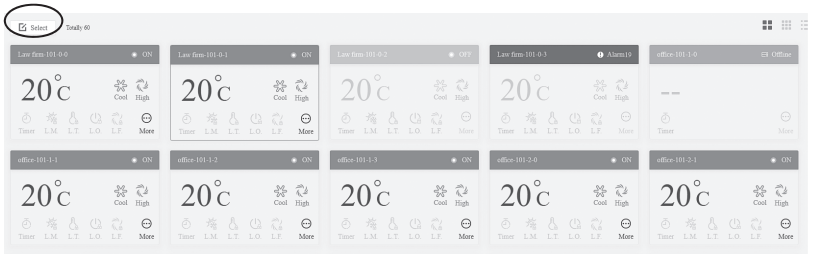
If it has a wire controller, the menu function is the same as the gateway page. Please refer to 4.2.

2. Group control:

For the sub unit of wire controller group, it cannot be chosen.

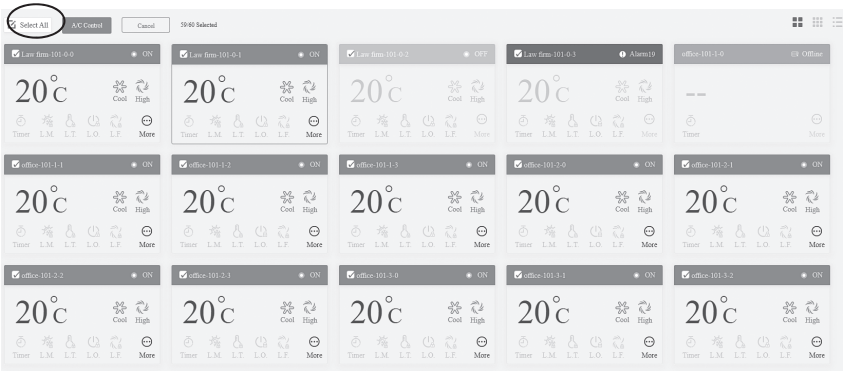
2.1 A/C control

Select an indoor unit that requires group control. Click the “Select” button:



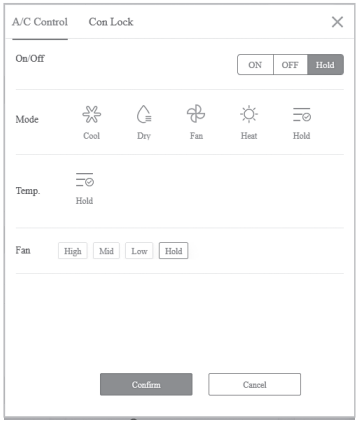
Pic5-13

A check box appears in the upper left corner of each indoor unit status tag (except for indoor units in the offline state):
Select the indoor unit to be controlled in group as needed; you can also click the “Select All” button to select all indoor units by default (except for the indoor unit in offline state):



Pic5-14

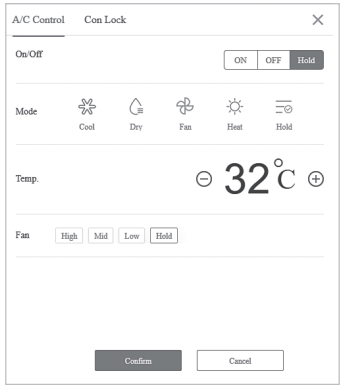
After selecting, click the “A/C control” button to pop up the control command menu:



Pic5-15

Compared to the single control mode, each command in the group control menu has a “Hold” option added. If “Hold” is selected for a command, the command will not be executed during group control. For example: when multiple indoor units are selected, but only power-on and cooling commands need to be sent, and the current temperature and fan of each indoor unit do not need change, then “Hold” can be selected in “Temperature” and “Fan” commands.

The set values of the mode are fixed: cool, heat, dry, and fan;
The temperature setting range is determined by the mode and the selected indoor unit: If the mode is selected as “Hold”, the temperature defaults to “Hold” and can’t be set. After selecting the specific mode, the temperature can be set, and the setting range is the intersection of the selected indoor unit setting range in this mode:



Pic5-16

The set values of the fan are fixed: high, middle and low.Each command defaults to "Hold".

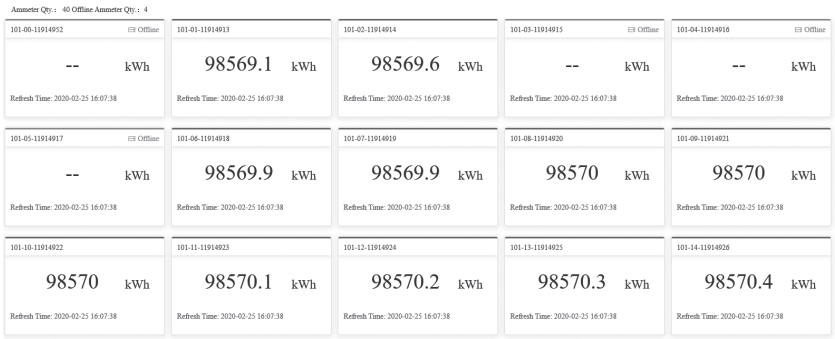
2.2 Control lock

Pic5-17

If “Hold” is selected for “Lock all”, the four branches are all “Hold”;
If “Lock” is selected for “Lock all”, the four branches are all “Lock”;
If “Unlock” is selected for “Lock all”, the four branches can be freely set.

5.2.2 Ammeter tab:

You can query the status of all ammeters in the configuration.
5 lines are displayed per line, up to 24 lines:



Pic5-18

The function of ammeter tab is the same as that of the gateway page. Please refer to 4.2.

5.2.3 Gateway tab:

You can query the status of all gateways in the configuration:

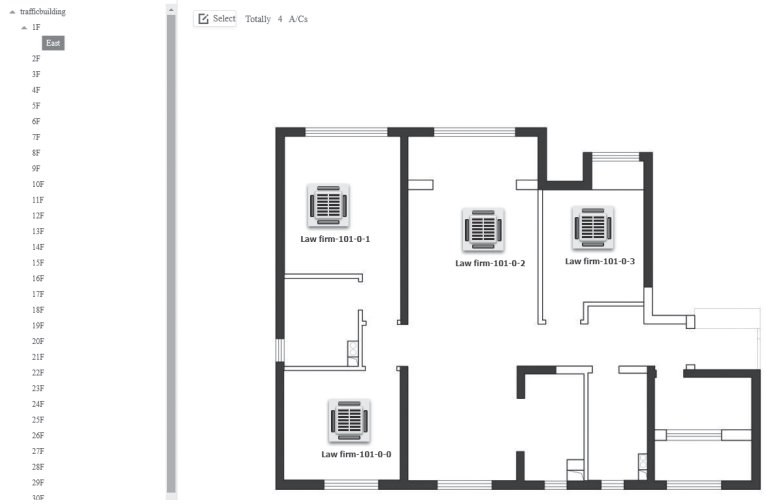
Pic5-19

Online/total A/C: The number of indoor units in the gateway configuration /the total number of indoor units in the configuration;
Online/total ammeters: The number of ammeters online in the gateway configuration /the total number of ammeters in the configuration;
Status: Includes normal, no configuration, low battery, insufficient gateway space, brand not match, offline, and gateway alarm.

Remarks:

(1) Refer to the instructions for use of the indoor unit for specific modes, temperature/humidity settings, and fan settings for each model.

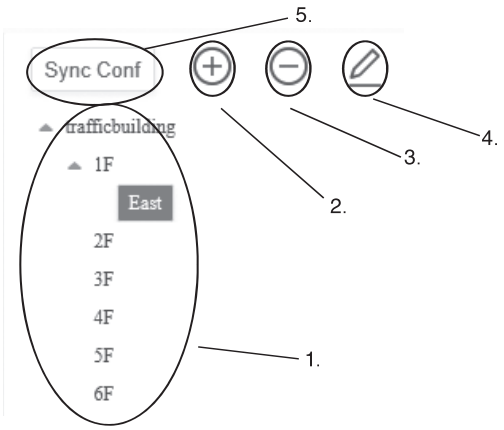
5.3 2D Navigation



Pic5-20

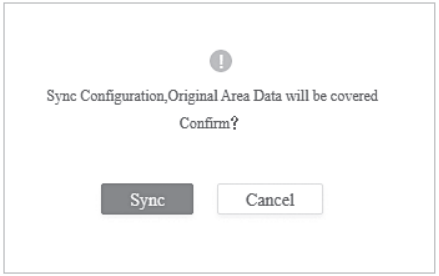
This menu allows the user to import the plan in a certain area, and then place the indoor unit in the area in the corresponding position in the plan, so that the indoor unit can be monitored more intuitively.

5.3.1 Area editing



Pic5-21

1. User menu tree. A total of three levels of user directories are displayed, in which the building and floor directories are displayed according to the configuration, and the third level menu corresponds to the area, which is created by the user. Due to the limitation of the plan resolution, a maximum of 30 indoor units can be placed in each area, and each area menu corresponds to a plan;
2. Add user menu. The floor menu can be manually added on the basis of the selected building menu; the area menu can also be manually added on the basis of the selected floor menu;
3. Delete user menu. Delete the selected floor or area menu;
4. Edit user menu name. Modify the menu name on the selected floor or area menu;
5. Synchronize configuration. If the configuration has changed, click “Sync Conf.” to replace the user menu tree with the building and floor menus in the new configuration. Since the “Sync Conf.” operation will clear the existing area menu and plan layout, it needs to be confirmed twice before execution:



Pic5-22

5.3.2 Plan layout

After the area menu is created, click the area menu and it will display as follows:

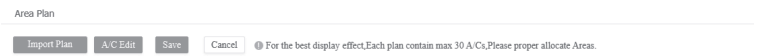
Pic5-23

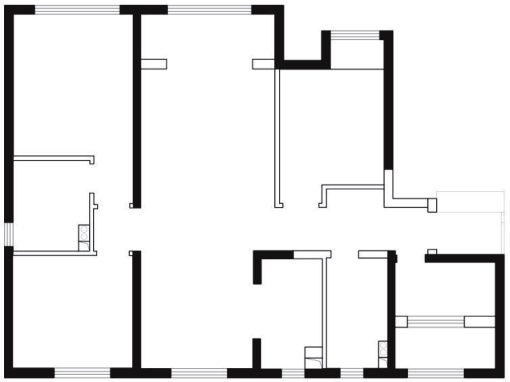
Click “Plan Edit” to enter the plan editing interface:

Pic5-24

1. Import plan:

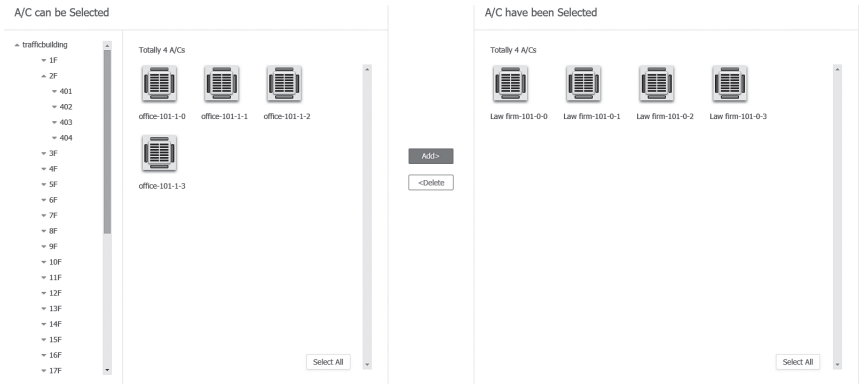
You can select the plan in the pop-up menu; it supports jpg, bmp and gif format.





Pic5-25

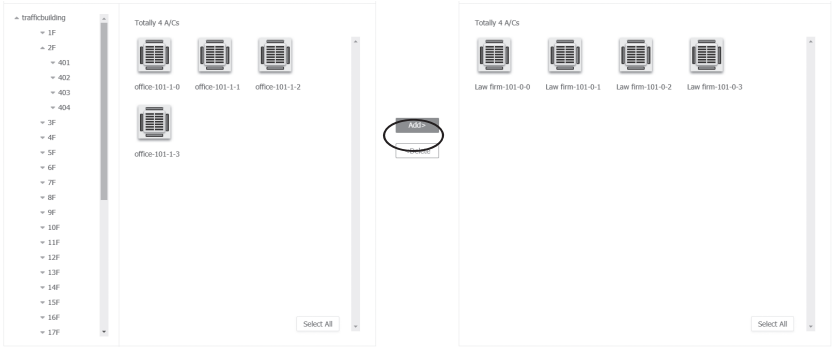
2. A/C Edit:



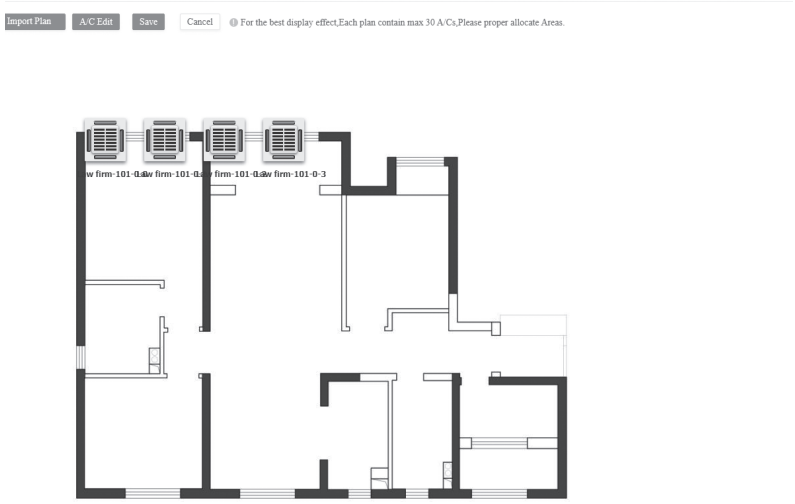
Pic5-26

A/C can be Selected: Expand from the user menu tree on the left, select the floor menu or room menu, and display the indoor units in the current menu. You can click the IDU icon to select it, or click “Select All”.

After selecting the indoor unit, click “Add” to enter the “A/C have been Selected”.
A/C have been Selected: The number of indoor units arranged in the current plan, up to 30 units. If you need to modify the selection, click the IDU icon separately, or click “Select All”, and click “Delete” to remove these indoor units.
After selecting, click “Submit” to arrange the selected IDU icons in the plan:

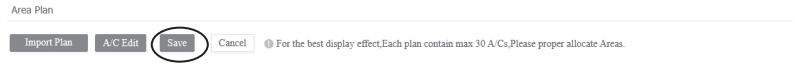


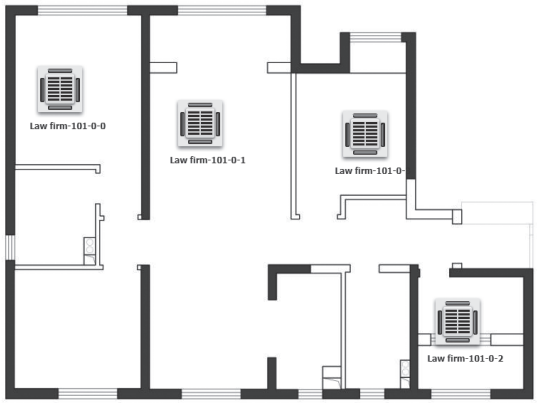
Pic5-27



Pic5-28

After dragging each IDU icon to the corresponding location, click "Save" to complete the layout:

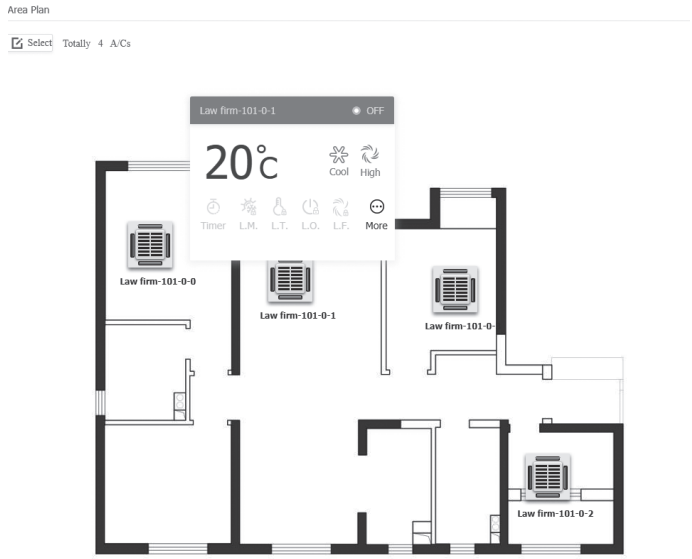




Pic5-29

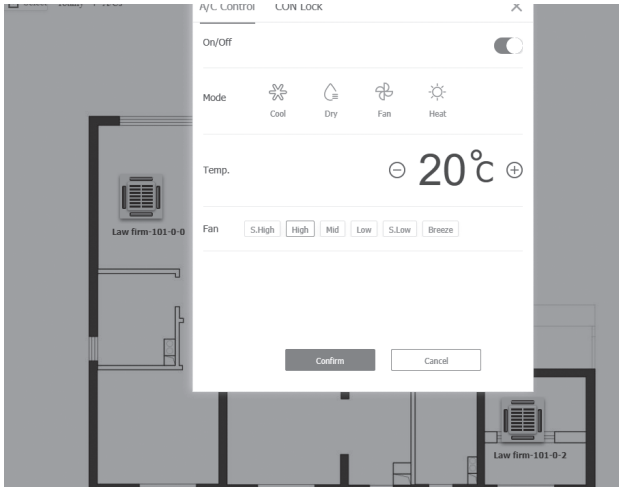
3. A/C monitor and control.

Move the mouse pointer over the IDU icon to bring up the running status menu:



Pic5-30

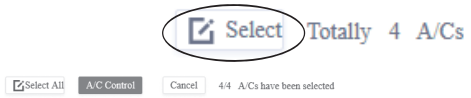
To control, click the IDU icon or the running status menu of the indoor unit to pop up the single control command menu:

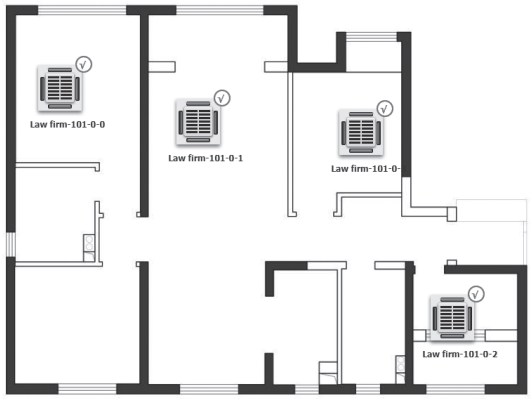


Pic5-31

The function of the single control command menu is the same as in "Monitor & Control"(1).

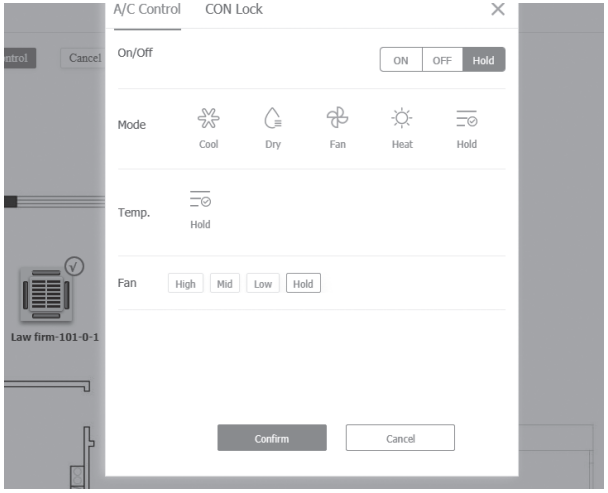
For group control, click "Select" first:





Pic5-32

The IDU icons can be selected separately or all selected. After selecting, click “A/C Control” to show the group control command menu:



Pic5-33

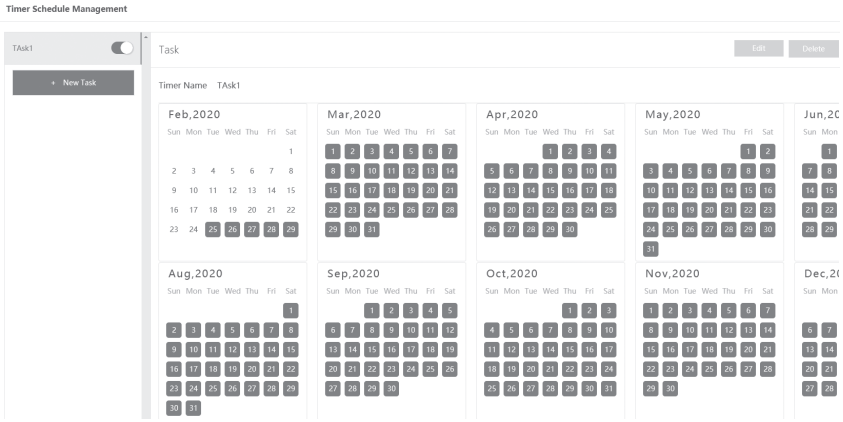
The function of group control command menu is the same as in "Monitor & Control"(2).

If you need to modify the current plan, click “Plan Reset”.

Remarks:

(1) For detailed instructions, please refer to 5.2;
(2) For detailed instructions, please refer to 5.2.

5.4 Timer Management



Pic5-34

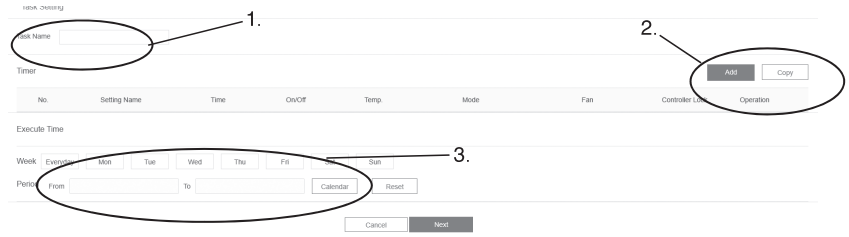
You can set timer under this menu and send it to the gateway for execution.Up to 50 timers can be set.

5.4.1 New timer

Pic5-35

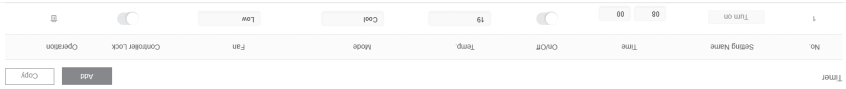
Click "New Task" to go to the timer setting interface.

5.4.2 Timer settings



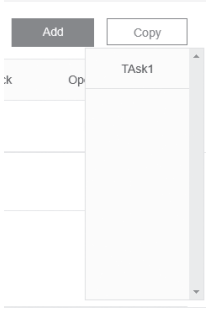
Pic5-36

5.4.2.1 Task name: Custom name;
5.4.2.2 Timer setting: Set the timer to be performed during the day in units of one day. There are two ways:
① Add setting:



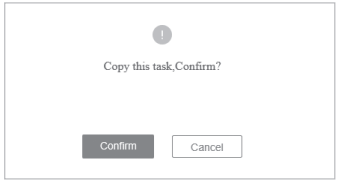
Pic5-37

Setting Name: Custom name;
Time: Select the moment when the timer is executed;
On/Off: Select to turn on or off;
Temperature: Set temperature, range 19~30;
Mode: Cool, heat, dry, fan
Fan: low, middle, high;
Control lock: Select whether you want to lock all timers.
Up to 8 timers can be added for one day.
② Copy setting:



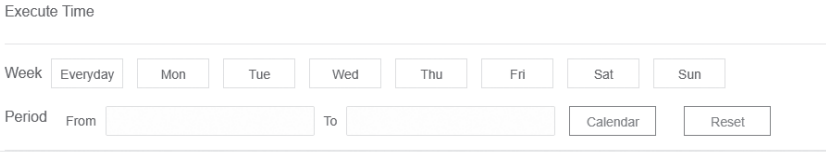
Pic5-38

You can copy setting from an existing timer: When an existing timer is selected, the current setting will be overwritten after a second confirmation.



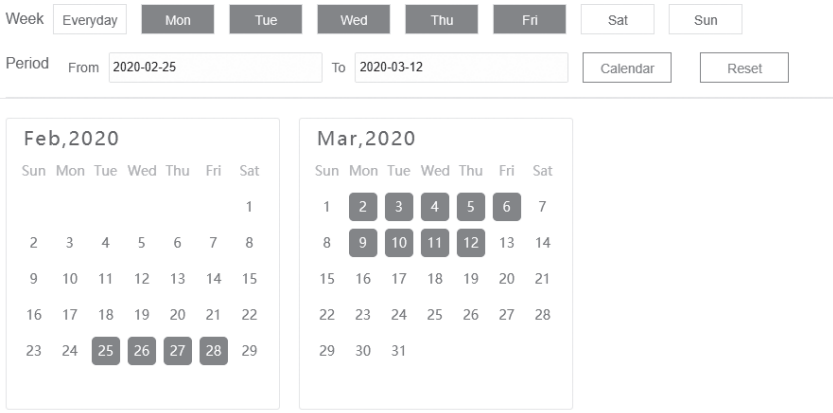
Pic5-39

5.4.2.3 Set execute time



Pic5-40

Set the execute time of timer and select through two conditions: first select the week, then select the time period. The effect set after clicking “Calendar” is as shown in the figure below. The date with color on the calendar is the date when the timer is executed:

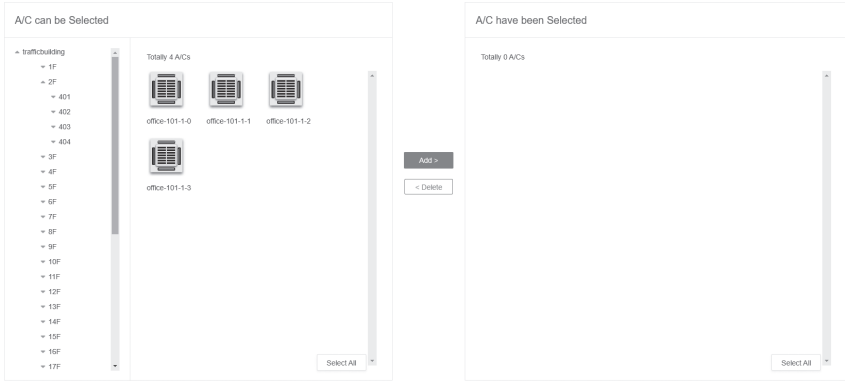


Pic5-41

If there are exception dates, the corresponding dates can be deselected in the calendar.

5.4.2.4 Allocate A/C

After setting, click “Next” to go to the “Allocate A/C” interface:



Pic5-42

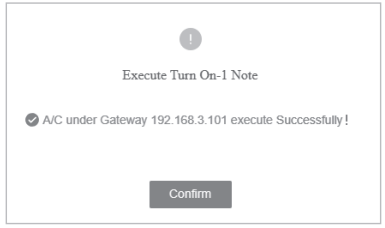
The function of “Allocate A/C” is the same as “A/C Edit” in “2D Navigation”. For details, see 5.3.

5.4.2.5 Turn on task

After clicking "Submit", a prompt "Turn on the Task, Confirm?" will pop up:

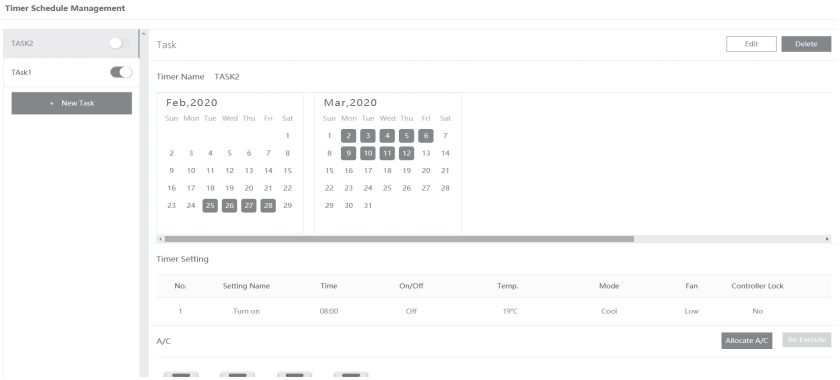
Pic5-43

Select "Yes" to turn on the task immediately:



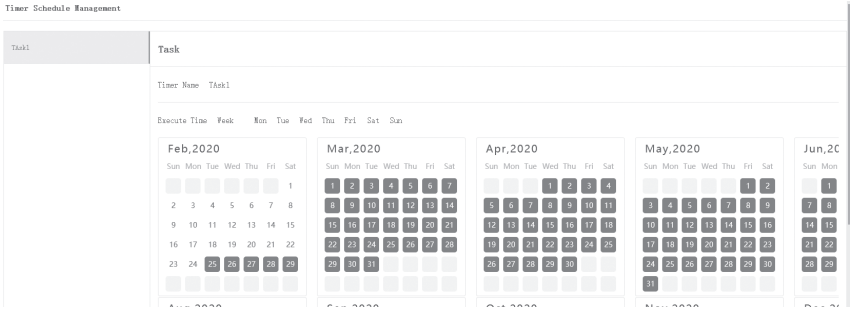
Pic5-44

Select "No" to return to the timer management interface:



Pic5-45

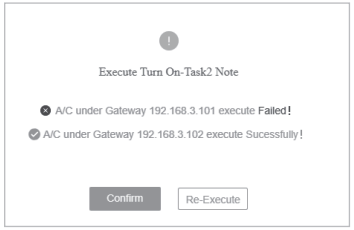
The tasks turned on successfully can be viewed under the corresponding gateway:



Pic5-46

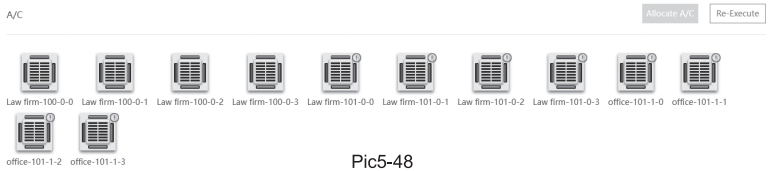
When a task is turned on successfully, the gateway will perform the task according to the settings regardless of whether the software is enabled or not.

If the gateway execution fails in the prompt returned by the task turned on[(2)]:



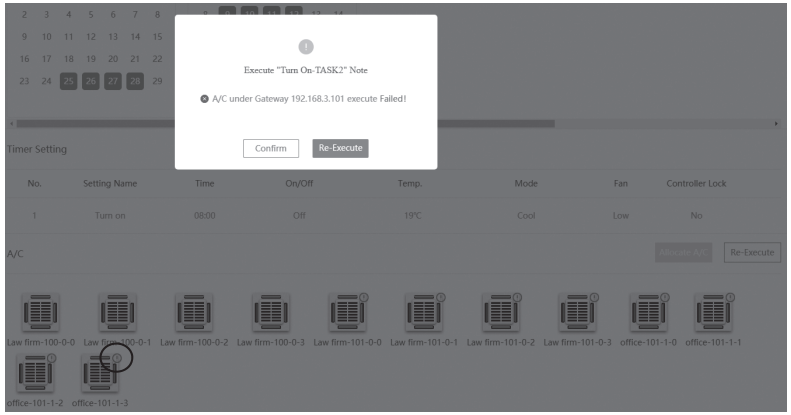
Pic5-47

In the A/C list under the task, the IDU icon that failed to execute will have a red exclamation mark:



Pic5-48

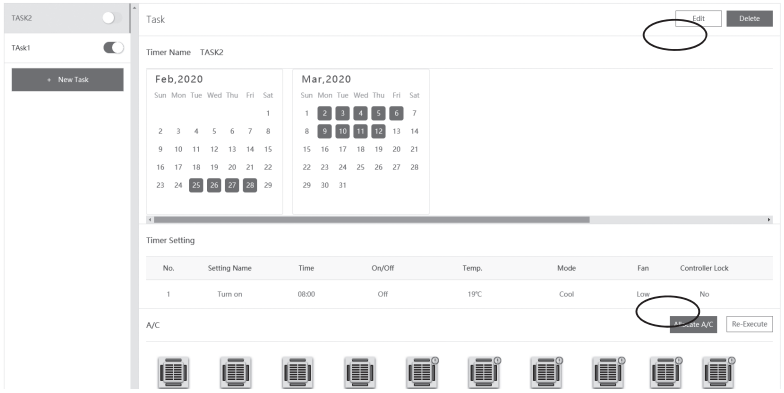
Click the red exclamation point icon, a prompt will pop up; click “Re-execute” to submit the task to the gateway again.



Pic5-49

5.4.3 Modify timer

The task that has been set can be modified by clicking "Edit", or you can click "Allocate A/C" to re-allocate the A/C.

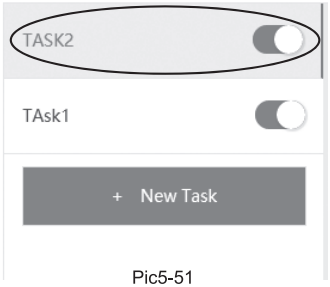


Pic5-50

It can be modified only when the task is turned off.
When turning on a task, the task status is displayed as ON as long as one or more gateways are successfully turned on; if all gateways under the task fail to turn on, the task status is displayed as OFF.
On the Gateway page where the task failed to be turned on, the task will not be displayed and the gateway will not execute the task.

5.4.4 Turn off task

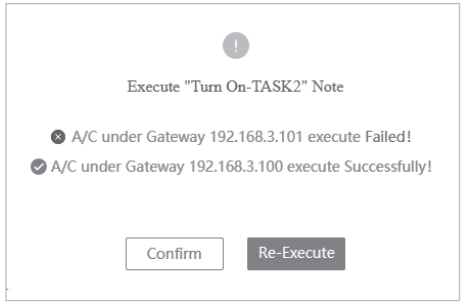
If the task needs to stop executing after it is successfully turned on, you can turn off the task.
Select the task to turn off in the taskbar:



Pic5-51

Click the icon to turn it to and turn off the task;

The host computer submits the task to the gateway included in the task. If it prompts that the task is turned off successfully, the task has been deleted in the gateway page, and the gateway will no longer execute the task.
If any gateway execution fails in the returned prompt of the task, you need to view the current task list of the gateway through the gateway page and determine whether the gateway will execute the task.
When turning off a task, the task status is displayed as OFF as long as one or more gateways are successfully turned off; if all gateways under the task fail to turn off, the task status is displayed as ON.



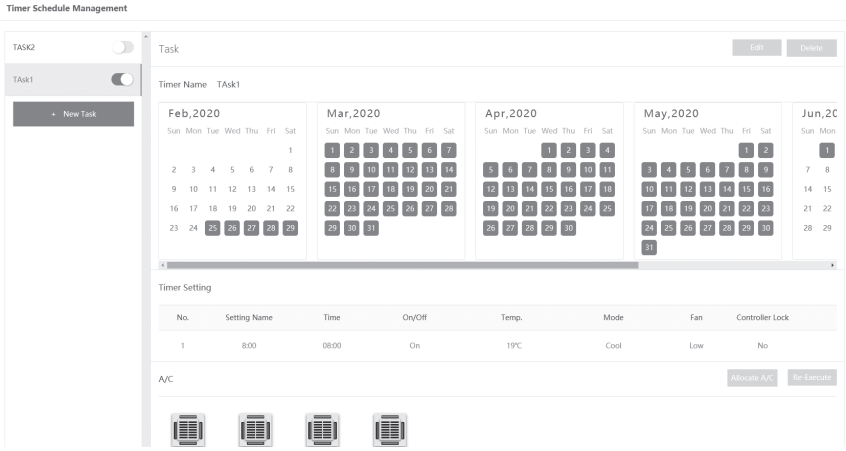
Pic5-52

Failing to turn off gateway task may bring two results:

1. The task was successfully turned on in the gateway before, and now it fails to turn off in the gateway, it means that the gateway will still execute the task. Please check the network connection and re-execute;
2. The task failed to turn on in the gateway before and now it fails to turn off in the gateway, so the gateway won't execute the task actually.

5.4.5 Delete task

As explained above, if all the indoor units in the task are turned off successfully, it means that the task has actually been deleted from the timer list of all gateways and will not be executed. The task record is also retained in the software and is applicable to certain scenarios, as shown in the following figure:



Pic5-53

If the indoor unit and setting for the summer task are the same every year and only the execute time needs to be changed, then you can click "Edit" in the task, and then turn it on again after modifying the execute time.

If you still need to delete the task in the software, first make sure that all the indoor units under the task are turned off successfully. As described above, the gateway may continue to execute the task if it fails to turn off the task.

To ensure that all indoor units under the task are turned off successfully, there are two ways:

1. Check the network connection and re-execute the indoor unit that failed to turn off until the turn-off is successful.
2. Re-allocate indoor unit: Remove the indoor unit that fails to turn off from the task.

In the second method, the gateway may still continue to execute when the task has been deleted from the host computer.

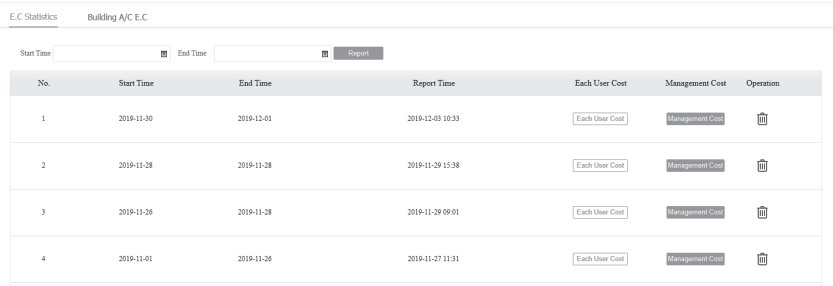
Remarks:

(1) For detailed functions, please refer to 4.3;

(2) The biggest possibility of execution failure is that the gateway is offline. Please check the network connection;

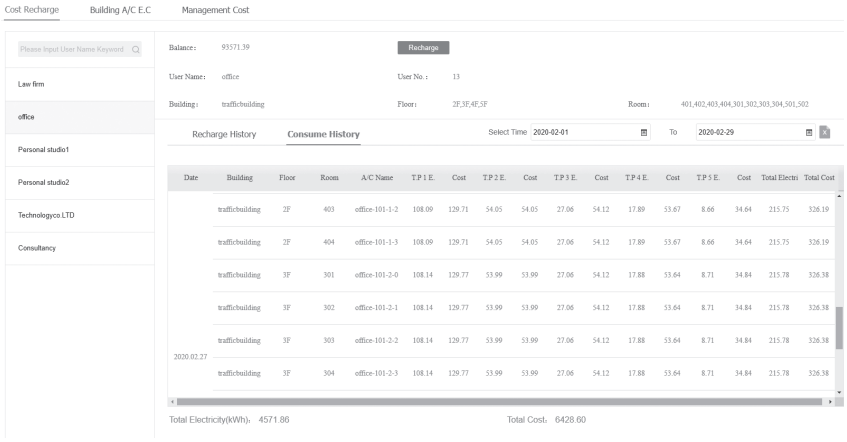
5.5 E.C.A.(electricity consumption allocation)

If at least one of the gateways connected to the software is billing type, the menu is displayed; if the gateways connected to the software are central control type, the menu is not displayed.
The format of this menu is also different according to the settings in "Adv. Management" - "Electricity Management"(1):
If the payment method(2) is "Post-payment", the format of "E.C.A" is:



Pic5-54

If the payment method is "Pre-payment", the format of "E.C.A" is:



Pic5-55

Post-payment: The user first uses the A/C, and the property management company charges the electricity fee according to the usage;
Pre-payment: The user first recharges the electricity fee for the A/C. The software automatically deducts the fee according to the daily usage. If the user's balance is insufficient, a reminder will pop up. If the user has already owed the fee, the A/C will be turned off and locked.

5.5.1 E.C.A - Post-paid

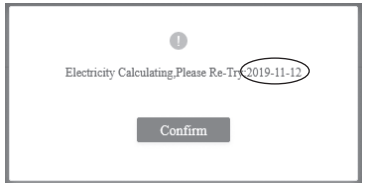
5.5.1.1 Generate a bill:

Pic5-56

Depending on the time period selected, the time to generate a bill may be longer. Other operations are not affected while the software is generating the bill:

Pic5-57

If start time before the calculate point of software, it will be note as below, Please modify the bill time period.

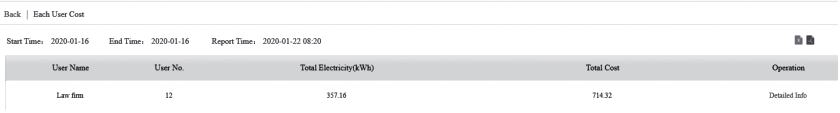


Pic5-58

5.5.1.2 Each User Cost:

Pic5-59

In the generated bills, there are two lists: each user cost and management cost(3). The format of each user cost is as follows:

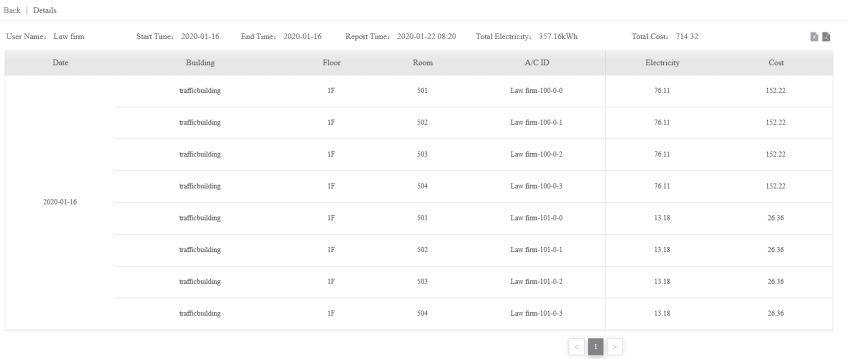


Pic5-60

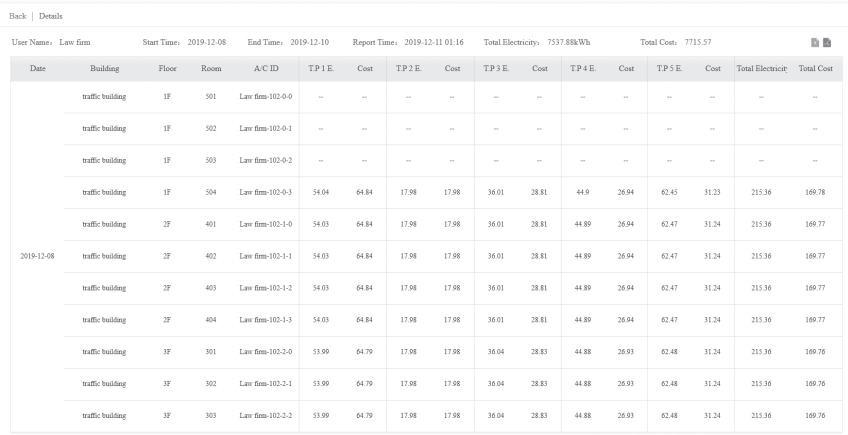
Click the icon to export the table to excel. Click the icon to output the table in pdf format.

The list of each user cost is arranged by user NO. in the configuration. Here is the total electricity and total cost of the user during the specified billing period. Among them, the unit of electricity is kWh, and the cost is calculated according to the setting value in "Adv. Management" - "Electricity Management" - "Electricity Price Setting". Click "Detailed Info" to view a breakdown of the user bill. The detailed table has two formats depending on the electricity price setting(4):

1. Single electricity price:



2. T.P. electricity price:



Pic5-62

The list shows the breakdown of each user for each day and every electricity price during the billing period.

5.5.1.3 Management cost

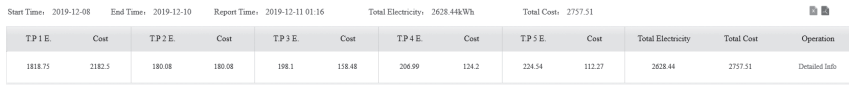
Pic5-63

This table lists the total electricity and total cost of the management cost(5) during the specified billing period. Click "Detailed Info" to view a breakdown of the management cost.
The management cost has two formats depending on the electricity price setting:

1. Single electricity price:

Pic5-64

2. T.P. electricity price:



Pic5-65

5.5.1.4 Building A/C E.C.

The building A/C E.C. is to calculate the difference in readings of all the ammeters in the menu according to the time period selected by the user based on the first-level menu in the configuration in order to display the power consumption trend of the A/C system of the entire building.
There are two ways to select the time period:

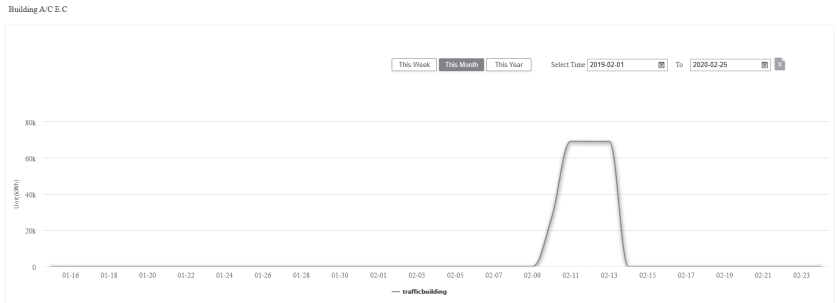
①Select start time and end time

Pic5-66

② Select according to the current time of the computer system: this week, this month, this year:

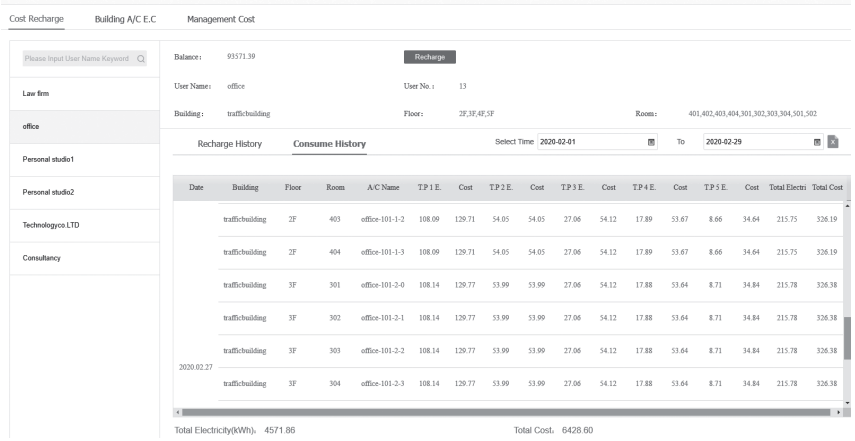
Pic5-67

After selecting the time period, the software will automatically generate the electricity consumption trend graph of the A/C system. Move the mouse pointer over the curve to display the electricity consumption of the current date:



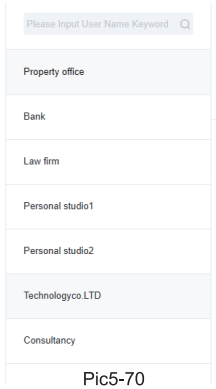
Pic5-68

5.5.2 E.C.A. - Pre-payment



Pic5-69

In pre-payment mode, the menu has three tabs: cost recharge, building A/C E.C., and management cost.
1. cost recharge:
In the user list on the left, all users in the current host computer system are listed by the user NO. in the configuration:



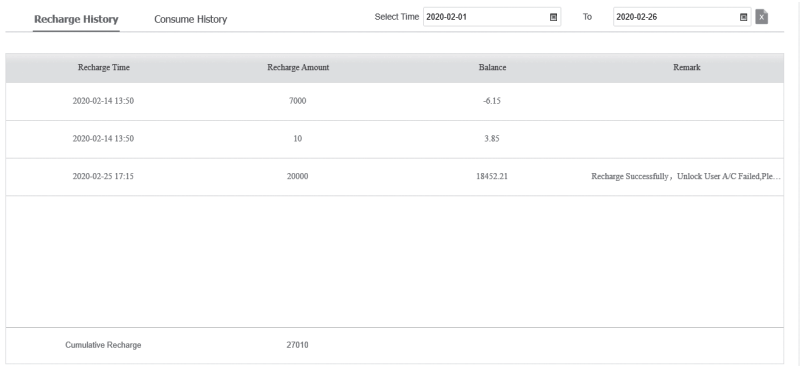
Pic5-70

After selecting the user, the upper right section lists the attributes and current balance of the user in the configuration. You can click “Recharge” to recharge the user:

Pic5-71

The lower right section lists the recharge history and consumption history for the selected time period of the user.

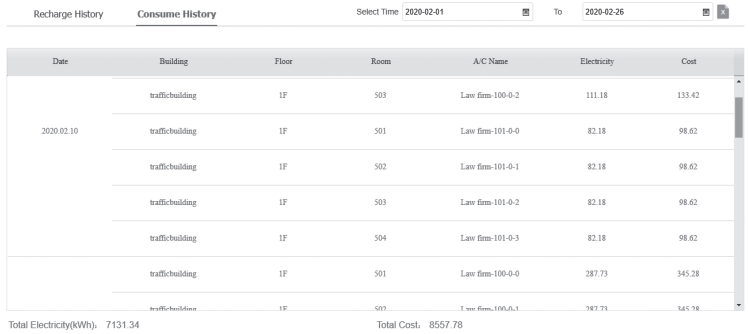
Recharge history:



Pic5-72

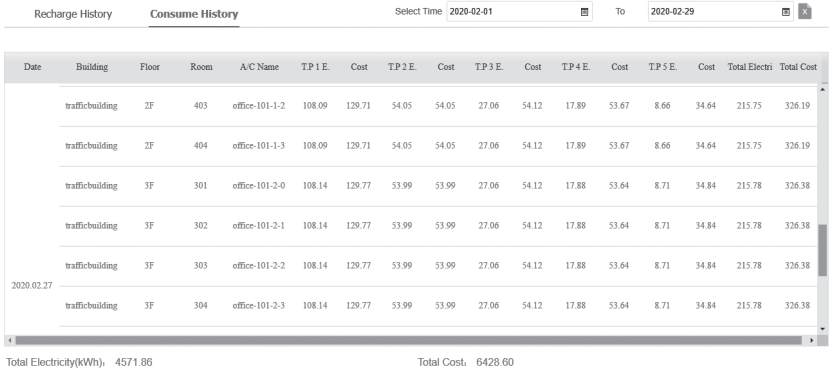
The consume history has two formats depending on the electricity price setting:

① Single electricity price:



Pic5-73

② T.P. electricity price:



Pic5-74

The building A/C E.C. and management cost tabs have the same functions as the post-payment mode.

Remarks:
(1) For detailed functions, please refer to 5.8;
(2) For details of the payment method, please refer to 6.3
(3) For details of the management cost, please refer to 6.3
(4) For details of the electricity price setting, please refer to 5.8
(5) For details of the management cost, please refer to 6.3

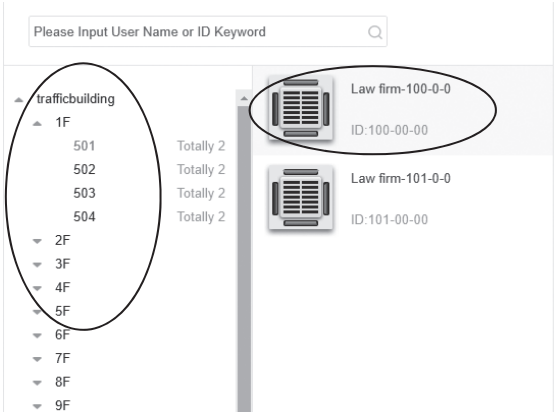
5.6 Running Statistics

There are four tabs: A/C data, ammeter data, statistics, and alarm history. Click icon in each tab to output excel report.

5.6.1 A/C data

The tab counts the running records of each indoor unit during the time period selected by the user, including on/off, running mode, setting temperature, setting fan, inlet air temperature, and outlet air temperature.

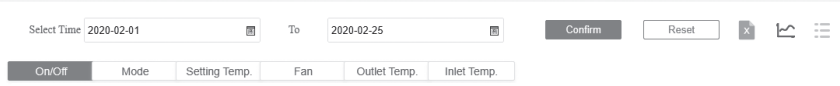
1. Select A/C



Pic5-75

The software generates a tree diagram on the left according to the configuration. After expanding and selecting the third level menu, the list of indoor units in the current menu is displayed on the right side, and you can click and select the corresponding indoor unit.

2. Select the running parameters and the time period



Pic5-76

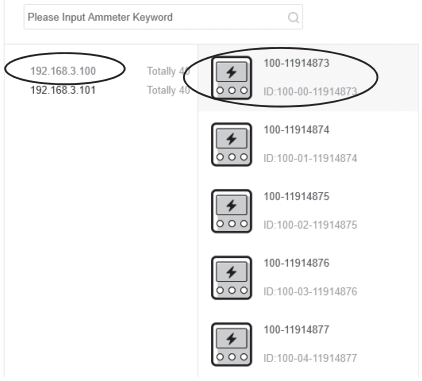
After selecting the running parameters to be generated, select the start time and end time, and click Apply to generate the curve. Move the mouse pointer over the curve to display the running parameters for the current time:

Pic5-77

5.6.2 Ammeter data(1)

This tab counts the readings of each ammeter.

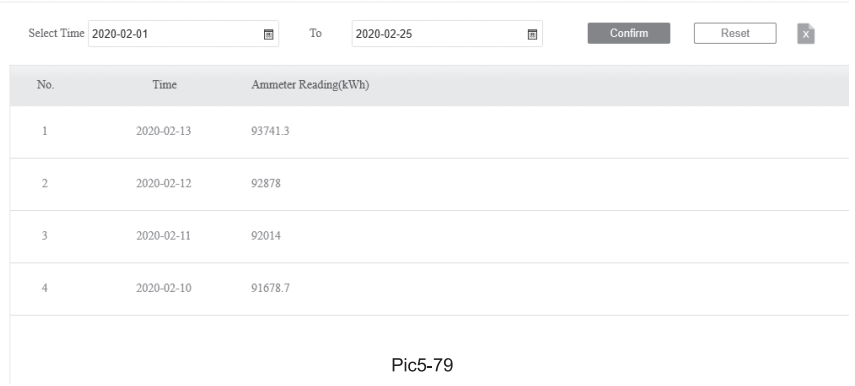
1. Select ammeter



Pic5-78

The software generates a list of gateways on the left according to the configuration. You can select a gateway to expand the ammeters connected to the gateway, click and select the corresponding ammeter.

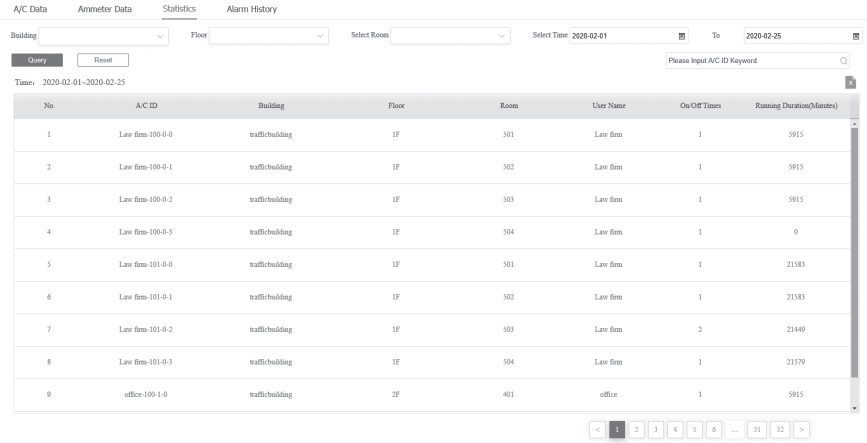
2. Select time period



Pic5-79

Select the start time and end time and click Apply to generate a record of the ammeter reading.

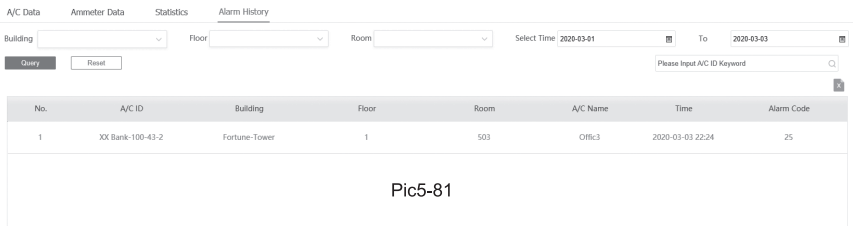
5.6.3 Statistics



Pic5-80

After filtering out the user, select the time period and click Apply to generate the statistics under the selected user: the number of starts and stops and the running time of each indoor unit.

5.6.4 Alarm History



Pic5-81

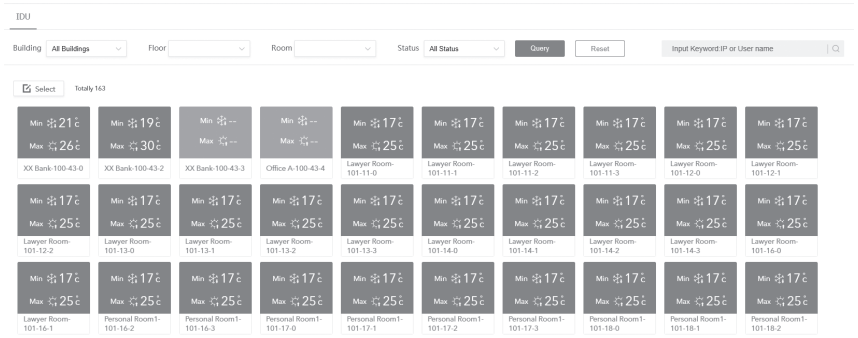
After filtering out the user, select the time period and click Apply to generate the statistics under the selected user: the alarm code record of each indoor unit.

Remarks:

(1) The ammeters connected to the central control gateway can't generate ammeter data.

5.7 Energy-saving

5.7.1 Device filter function is same with the "Monitor & Control":



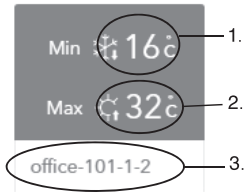
Pic5-82

5.7.2 Tag status description

① Tag color description

Online Offline

② Tag display description

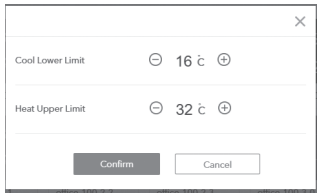


Pic5-83

1. The lower limit of the current cooling temperature of the indoor unit;
2. The upper limit of the current heating temperature of the indoor unit;
3. Device ID command rules are the same as the "Monitor & Control " menu.

5.7.3 IDU energy saving settings

1. Single control: Click the tag of the indoor unit to pop up the setting menu:



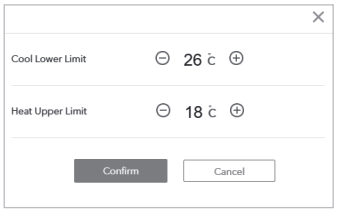
Pic5-84

Based on the current heating and cooling setting range of the indoor unit, the upper heating limit and the lower cooling limit can be set.

2. Group control: Click "Select" to show the figure below:

Pic5-85

You can check the online IDU icon, or “Select All”, and then click “Settings” to pop up the group control settings menu:

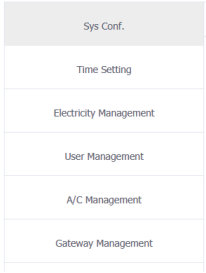


Pic5-86

In the group control menu, the setting range is the intersection of the selected IDU settings:
Heating upper limit: The lowest value of the upper heating limit of the selected indoor unit;
Lower cooling limit: The highest value of the lower cooling limit of the selected indoor unit.

5.8 Adv. Management

There are five submenus under the Adv. Management menu: Sys Conf, Time setting, electricity management, user management, A/C management and Gateway management.



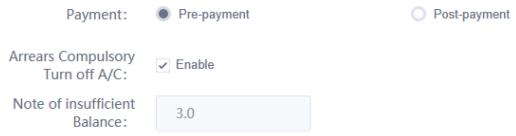
Pic5-87

For details of system configuration and time setting, see 3.4

5.8.1 Electricity management:

5.8.1.1 Payment method: pre-payment, post-payment. Select the payment method used for the Electricity consumption allocation function. The electricity allocation algorithms(1) of the two are completely different, and the report formats(2) are also completely different. Please select according to the actual situation. Once the payment method is changed, it will have a great impact on the report data in the “E.C.A.”.

If "Pre-payment" is selected, there will be two additional options:



Pic5–88

Arrears Compulsory Turn off A/C: If “Enable” is selected, the software will send turn-off and lock command if user has arrears after the automatic deduction on the same day. To avoid conflicts with timer management setting, the software will send a turn-off and lock command every hour.
If “Enable” isn’t selected, the software will pop up a reminder only for the user who has arrears after the automatic deduction and do not take any other action.
Note of insufficient balance: You can set the alert value of insufficient balance. If the balance is lower than this set value after automatic deduction on the same day, the software will pop up a reminder.

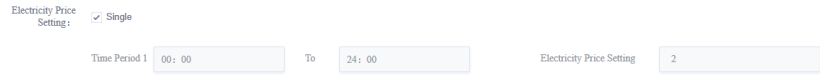
5.8.1.2 IDU energy consumption. If "Statistics" is selected, the IDU energy consumption will be calculated whether it is post-payment each user cost or pre-payment consumption details. For details on IDU energy consumption, please refer to 6.3.

5.8.1.3 Stand-by electricity allocation. There are two options:
1. Allocation by IDU usage of A/C system: The standby electricity of the outdoor unit will be allocated to the indoor unit in the same A/C system, and will be allocated according to the usage of each indoor unit. For the specific allocation algorithm, please refer to 6.3;
2. No allocation, as management cost: The standby electricity of the outdoor unit will not be allocated, and the accumulated value will be placed in the management cost.

5.8.1.4 Public & idle electricity(3) allocation. There are two options:
1. Allocation by all in-use IDUs: The energy consumption of public and idle A/C will be allocated to the indoor unit in the configuration that meets the following two conditions at the same time:
① Connected under billing type gateway;
② The usage status under "A/C Management" is set to in-use.
2. No allocation, as management cost: The public & idle A/C electricity consumption will not be allocated, and the accumulated value will be placed in the management cost.

5.8.1.5 Electricity price setting: There are two types of electricity prices. Electricity price: The price of 1kWh electricity.

1. If "Single" is checked:



Pic5–89

Only the electricity price setting of T.P. 1 is available by default from 00:00 to 24:00;

2. If "Single" isn't checked

Pic5–90

The default is T.P. price. Up to 5 T.P. prices can be set: T.P. starts from 00:00 by default and the last T.P. is until 24:00 by default.

5.8.2 User management:

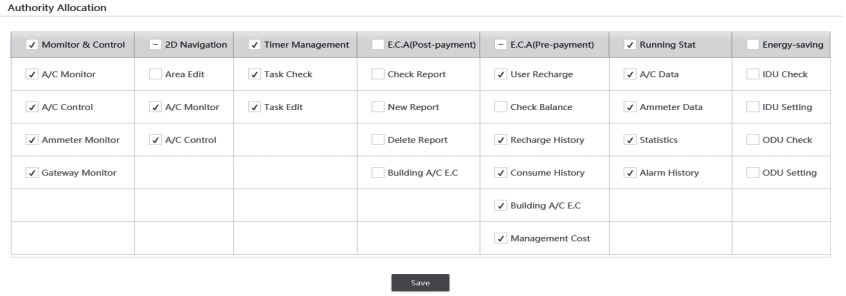
There are two user roles by default: admin and user.

Admin login account: admin1, admin. Command rules of user login account: user-n, n=user order in the configuration. Example: If the user NO.=1, the user account is user-1.

Differences in permissions for each account:

① admin1: Adv. Management menu is always displayed, and other menus can be checked;

② admin: Adv. Management menu is unavailable, and other menus can be checked;



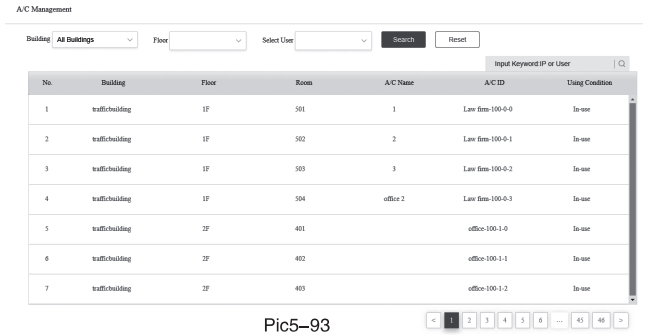
Pic5-91

③ user: Only the indoor units under this user can be displayed. Available menus: Monitor & control (IDU query, IDU monitor), 2D navigation (IDU query, IDU monitor), timer management (view task).

Pic5-92

5.8.3 A/C management:

The usage status can be set for each indoor unit of the software:



Pic5–93

Public: Indoor units installed in public areas;

Idle: Indoor units that are idle while the user is not found;

In use: Indoor units that are rented by users.

Public and idle indoor units are not separately displayed in the user report of energy consumption statistics, and the cost is allocated to the in-use indoor unit or calculated into the management cost through setting.

Remarks:

(1) For description of the electricity allocation algorithm, see 6.3

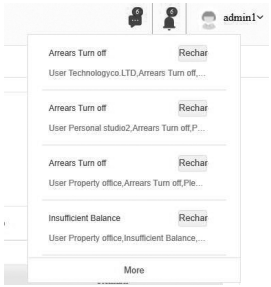
(2) For report format, see 5.5

(3) For details of public & idle A/C electricity consumption, see 6.3

5.9 Reminder

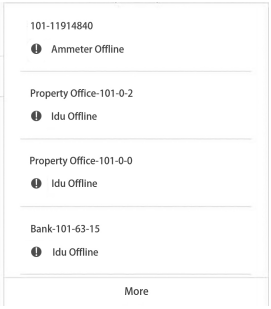
In the upper right corner of the main interface, there are two prompt icons, which are messages and alarm reminders:

5.9.1 Message reminder: filter clean, insufficient balance (pre-payment), arrears turn off (pre-payment).



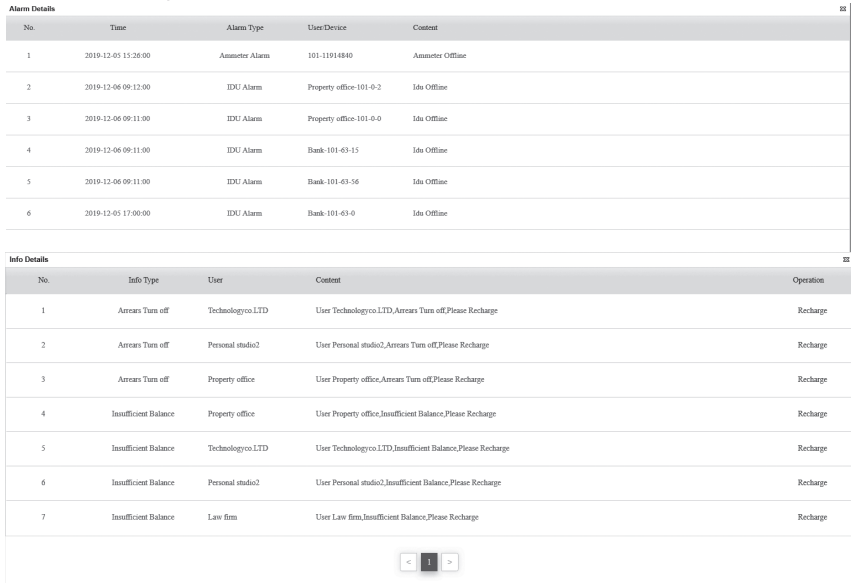
Pic5–94

5.9.2 Alarm reminder: the gateway offline, ammeter offline, IDU alarm, and IDU offline.
Click the reminder interface to pop up a sketch:



Pic5-95

Click View More to go to the details interface:



Pic5-96

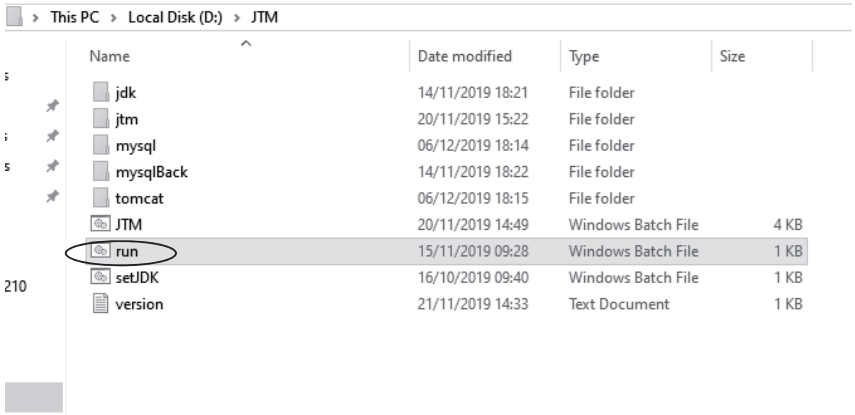
In the message reminder interface, if the indoor unit has filter cleaning reminder, click Reset to reset the filter;
If the indoor unit has insufficient balance or arrears, click Recharge to go to the “E.C.A. – Electricity and Recharge” interface.
In the alarm reminder interface, the sorting order is divided into: Gateway > Ammeter > IDU. If a gateway is offline, all ammeters and IDU that are connected to the gateway will not be alarmed separately.
If the content of the message (alarm) reminder changes, it will remind again; if there is no change, there will be only one record.

VI. Matters Needing Attention

6.1 Database Backup

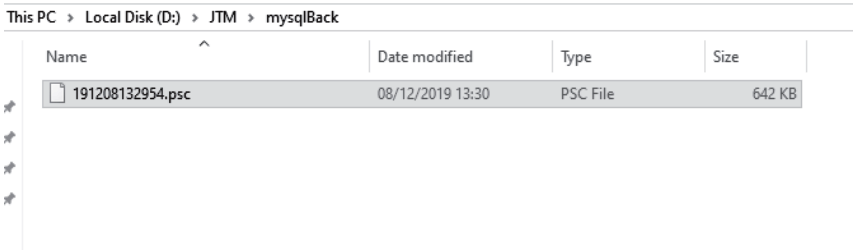
The database is MySql, which is one of the most widely used open source databases. The batch tools for backups included in JTM:

6.1.1 Manual backup, double-click “run” to perform backup automatically:



Pic6-1

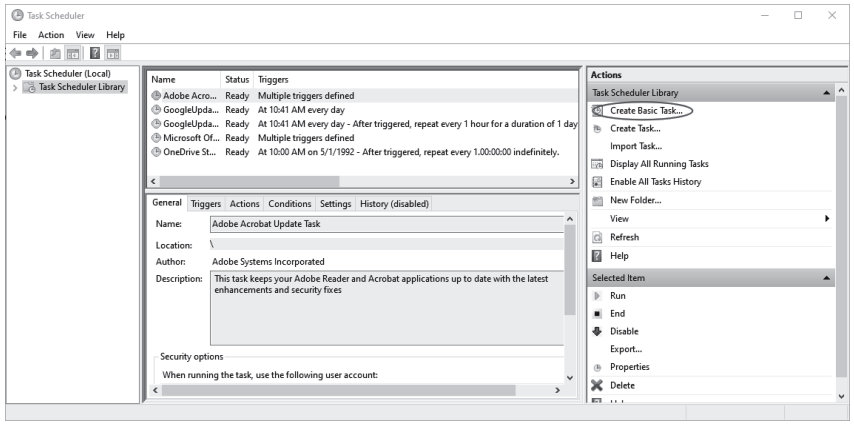
The backup database file is in the mysqlBack folder:



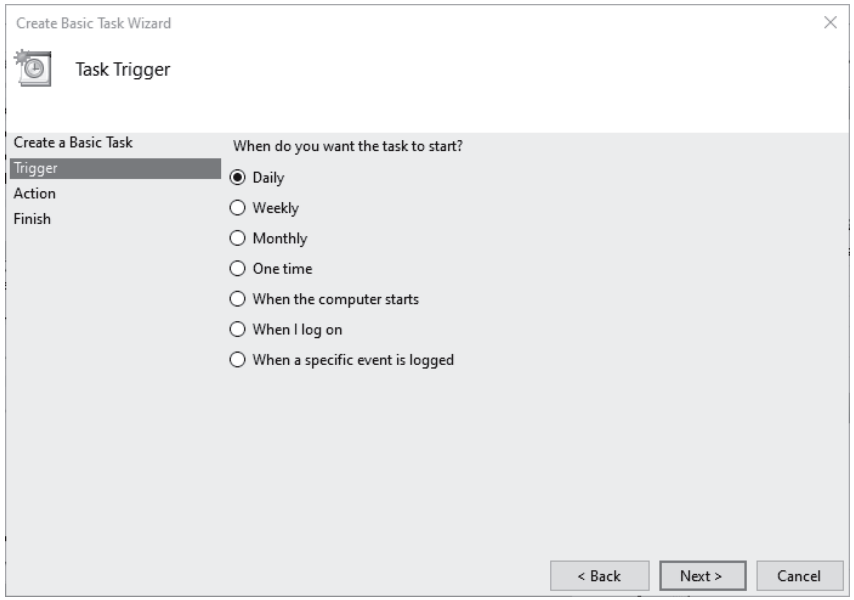
Pic6-2

6.1.2 Timer automatic backup:

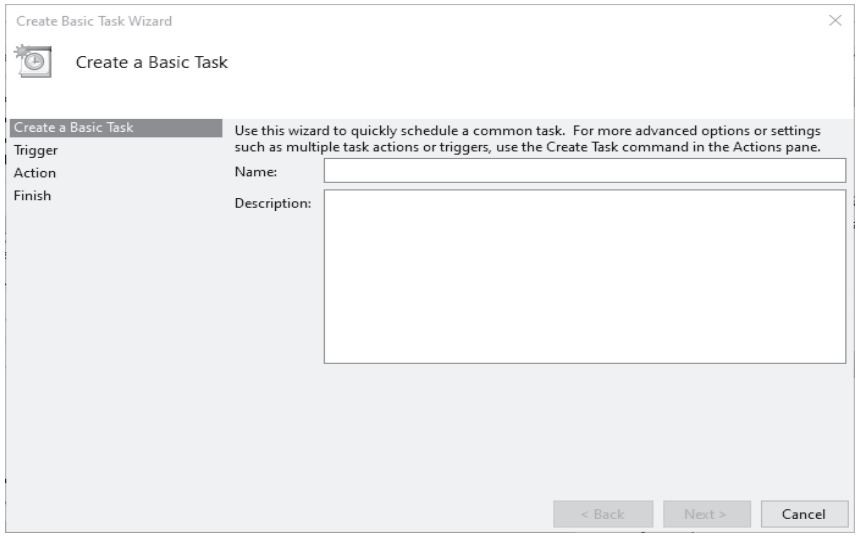
Open the [Task Scheduler] of Windows. The following steps are to set daily backup, or you can modify it according to the actual situation:



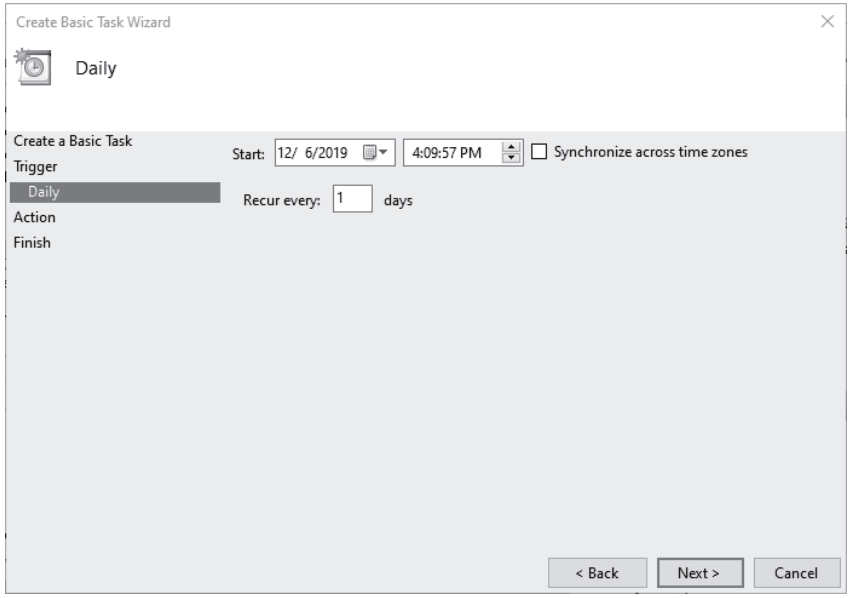
Pic6-3



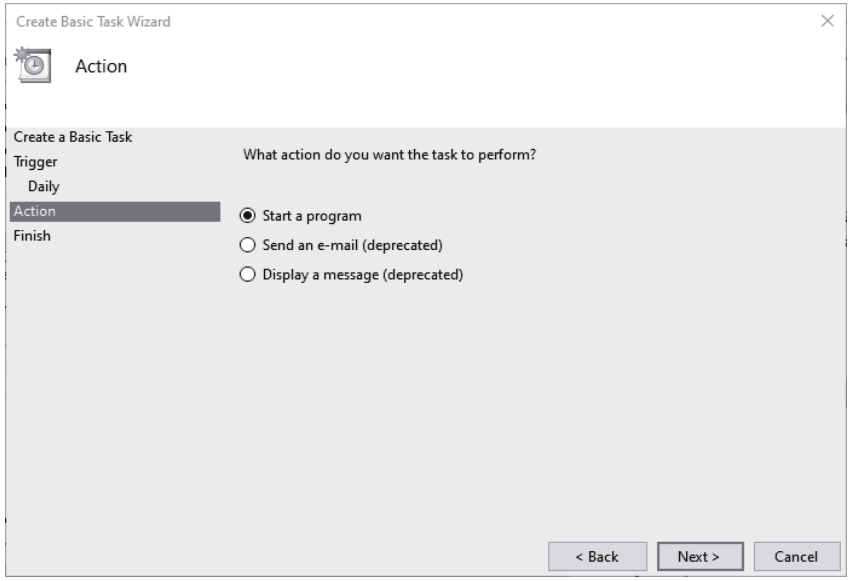
Pic6-4



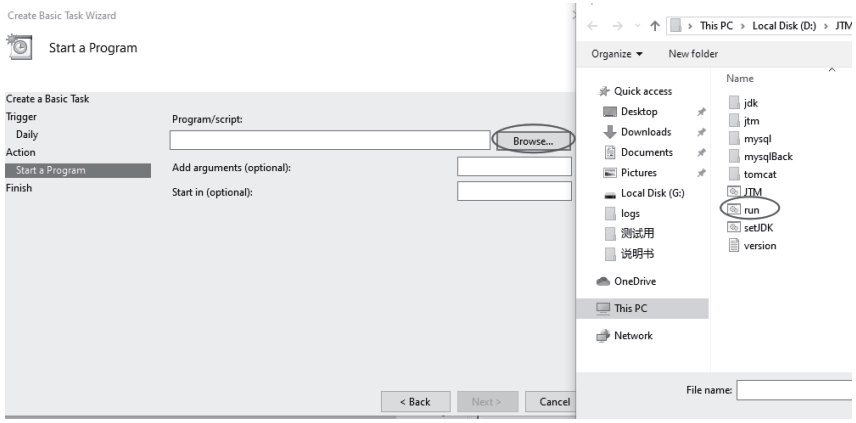
Pic6-5



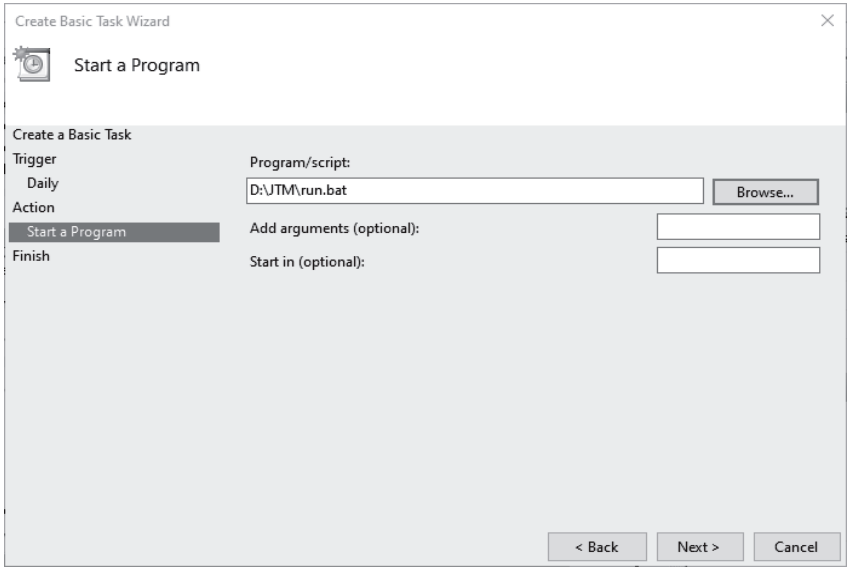
Pic6-6



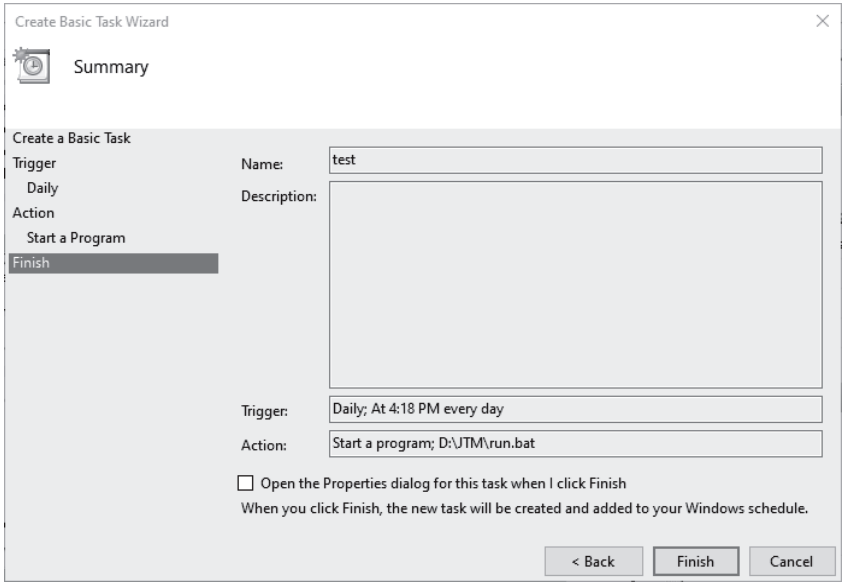
Pic6-7



Pic6-8



Pic6-9

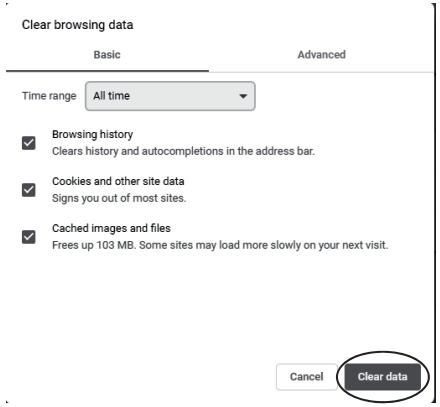


Pic6-10

6.2 Browser Cache Cleanup

After JTM update or gateway firmware update, you need to clear the browser's cache to avoid error display because the login URL has not changed:
In the browser address bar, type: chrome://settings/clearBrowserData

Click "Clear Data":



Pic6-11

After clearing, restart the browser.

6.3 Electricity consumption allocation Instructions

6.3.1 Prerequisites
If you need to use the Electricity consumption allocation function, the computer with the host software installed must run continuously around the clock:
1. Ensure that the software is always running in the background;
2. Ensure that the operating system has turned off the sleep mode. For details, see 3.2.
3. To prevent abnormal power failure, it is recommended to install the UPS. Refer to 3.1 for recommended specifications.

6.3.2 Basic principle of electricity allocation
The electricity allocated by each indoor unit is divided into three parts:
1. ODU running electricity: The electricity allocated to the indoor unit according to the operating status of each indoor unit in the A/C system, the opening of the electronic expansion valve, and the running time when the outdoor unit is running. Recorded as A;
2. IDU energy consumption: The electricity of the fan, water pump, valve, etc. of the indoor unit. Recorded as B;

3. ODU standby electricity: The electricity allocated to the indoor unit in the A/C system when the outdoor unit is in the standby state. Recorded as C.
Both A and B are calculated in units of one hour, and C is calculated in units of one day.

6.3.3 ODU standby electricity calculation:
The ODU standby electricity refers to the amount of electricity generated by the outdoor unit due to the electric heating belt being still in operation when all the indoor units are in the off state.
1. If IDU allocation is selected: The software calculates the accumulative value of A for each indoor unit in the A/C system. If all the outdoor units of a A/C system are in standby on the same day and no running electricity is generated, the software will allocate the standby electricity to the management cost, and won't allocate;
2. If you choose not to allocate: The electricity won't be allocated to each indoor unit, and it will be included in the management cost.

6.3.4 Public & idle A/C electricity calculation:
First, accumulate the total electricity allocated by each indoor unit: A+B (if allocation is selected; it is 0 if not allocated) + C. Calculate the public and idle A/C electricity based on the electricity bill setting for the day:
1. If IDU allocation is selected: First count all the indoor units with the status in-use under the billing type gateway in the software, and record it as n; then accumulate the total electricity allocated by all indoor units with the status public or idle under the billing type gateways in the software, and divide it by n to get D;
2. If you choose not to allocate: Accumulate the total electricity of all indoor units with the status public or idle under the billing type gateways in the software, and save as the management cost.
Indoor units set to public or idle are no longer displayed on the user's bill; the total electricity allocated to each indoor unit in the day = A+B (if allocation is selected; 0 if not allocated) + C+D.

6.3.5 Prepayment deduction principle
With one day as the settlement cycle, the electricity of the previous day is settled and deducted at 1 o'clock every day.
If the balance of a user after deduction is lower than the set "Note of insufficient balance", the software will pop up insufficient balance prompt on all indoor units of the user.
If the balance of a user after deduction is less than 0, the software will submit a turn-off & control lock command every hour to all indoor units of the user, and pop up a reminder of the arrears turn off.