EEM Software Instruction

V 1.1

Website： http://www.eastrongroup.com

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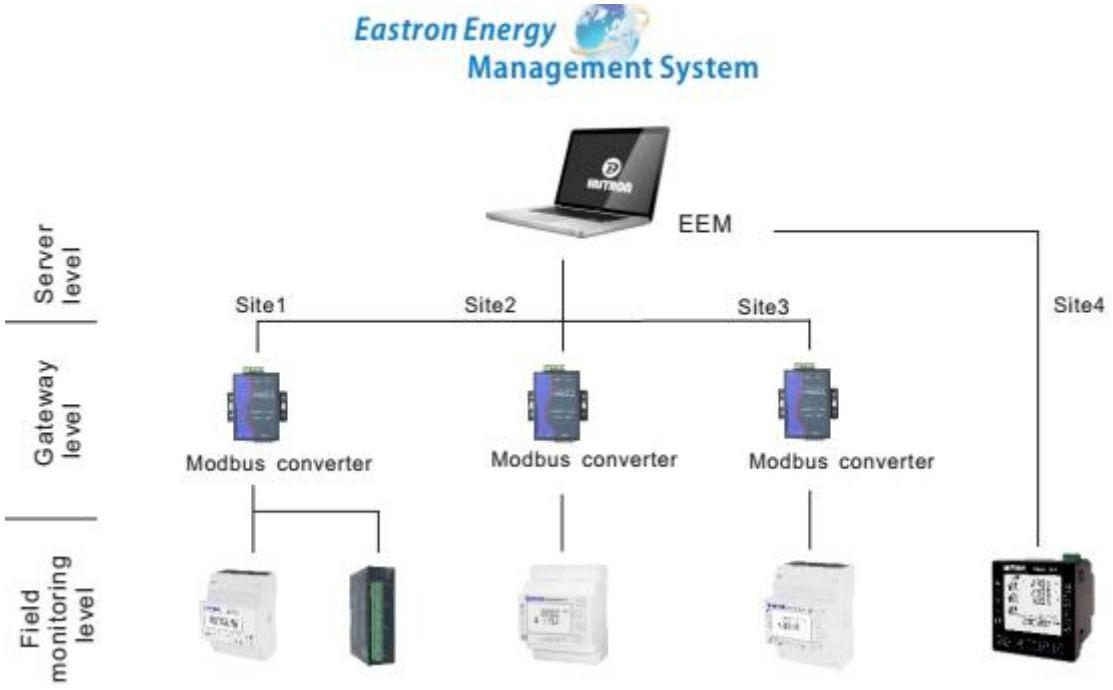
1. Software Introduction

EEM System can realize the remote reading for long distance meterage in community and buildings. This software can collect energy information (Current, voltage, active power, reactive power, energy and so on) from all Modbus energy meter on RS485 communication bus which connected by TCP-485 Gateway, 232-485 converters. The software not only can monitor the real-time data like current, voltage etc. online, but also can show the readings and its variety through graphs. Meters' system parameters can also be set remotely. The software has integrated all the protocol of EASTRON meters which help users to choose easily. Modbus meters from other manufacturers are also compatible.

This software use Microsoft .NET Framework4.0 as operational framework and MySQL5.5 relational database system. With the advantages of data security, stability, user-friendly etc. which can better support multicore CPU, providing storage mechanism for transactions and non-transactions, allocating systems based on the internal memory of thread to ensure software's stability.



EEM SYSTEM

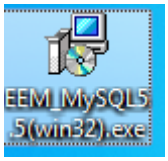
Operating environment requirements for software and hardware:

- CPU: above 2.0Ghz
- RAM: above 2GB
- Hard Drive： above 5G
- Screen Resolution: above 1280 x 1024
- Operation System: Window 7/8/8.1/10-32/64-Bit
- Database System：MySQL 5.5(already have in installation package of EEM)；
- Operational framework：Above Microsoft .NET Framework4.0（Can be downloaded from Microsoft website）
  https://www.microsoft.com/en-us/download/details.aspx?id=42642

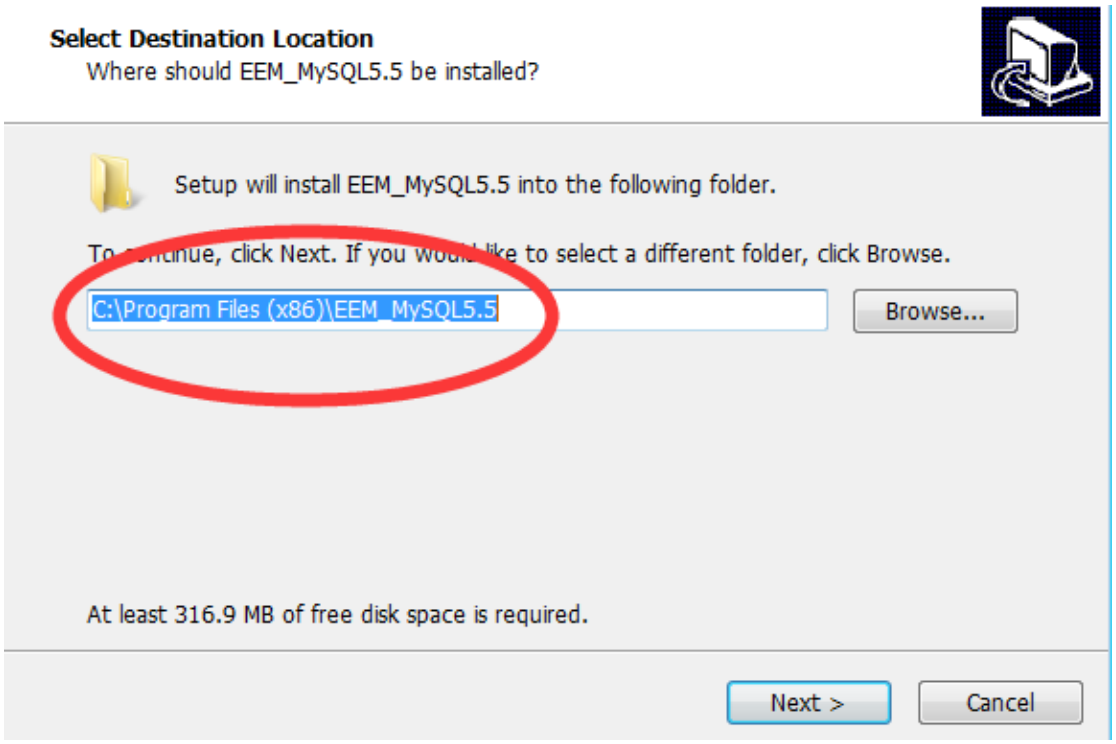
2. Software Installation and unloading

2.1. Software Installation

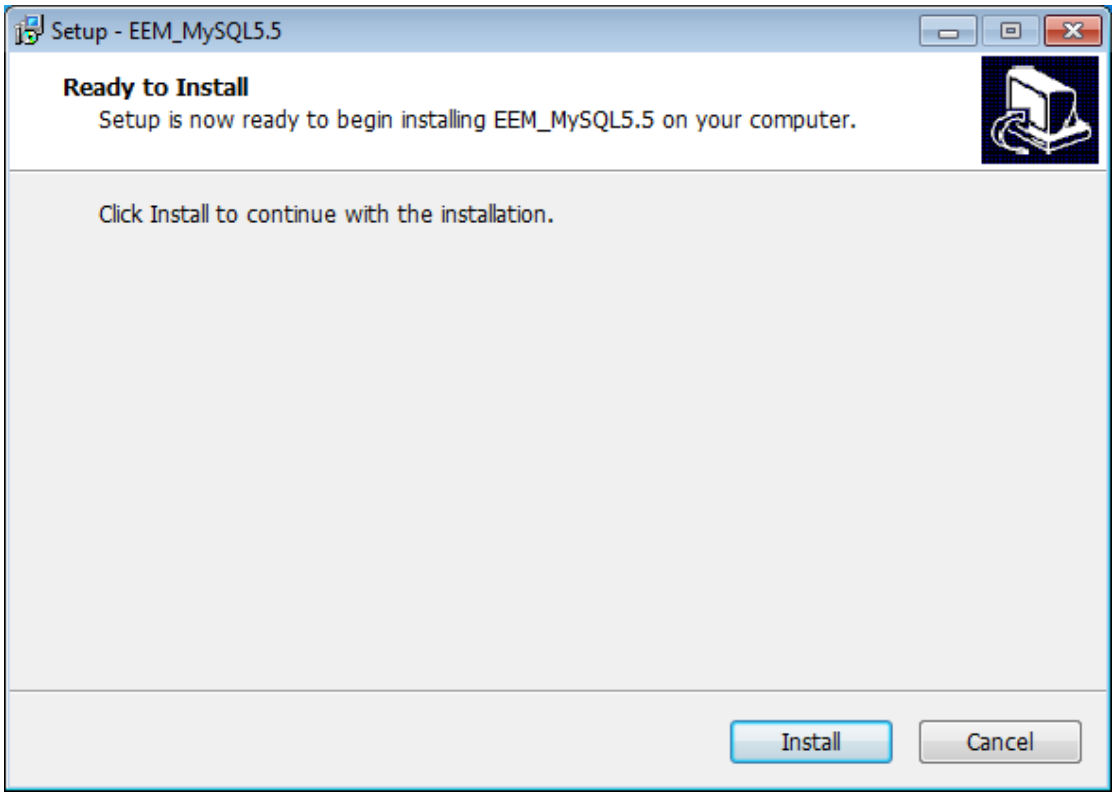
Software install document：EEM_MySQL5.5(win32).exe（include EEM install files and MySQL5.5 install files）



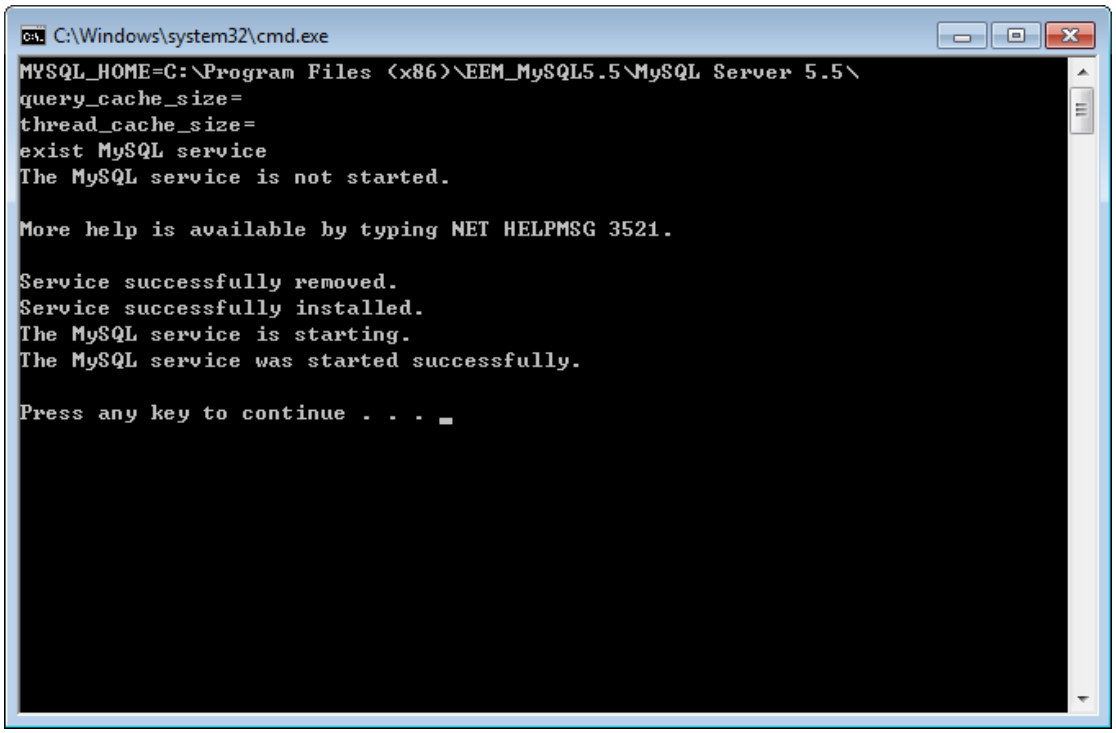
Double click “EEM_MySQL5.5(win32).exe” to start installation, according to the installation tips, choose a directory for installation.



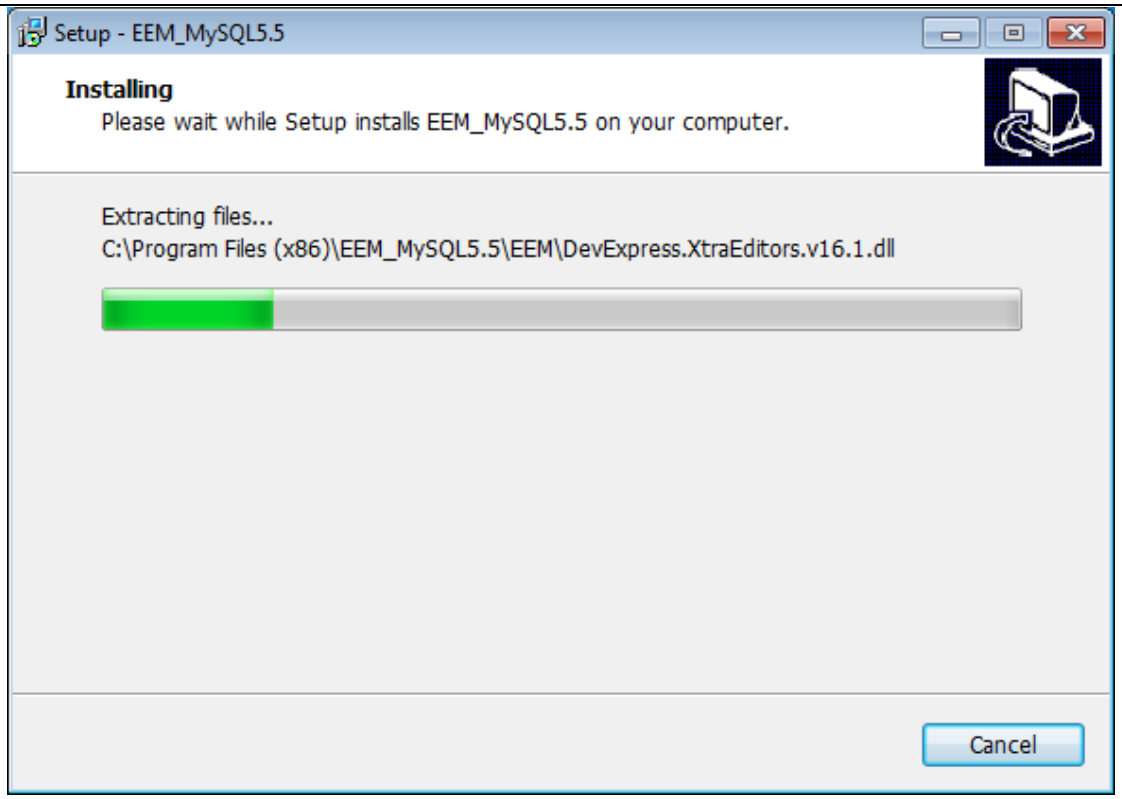
According installation hints to install the software.

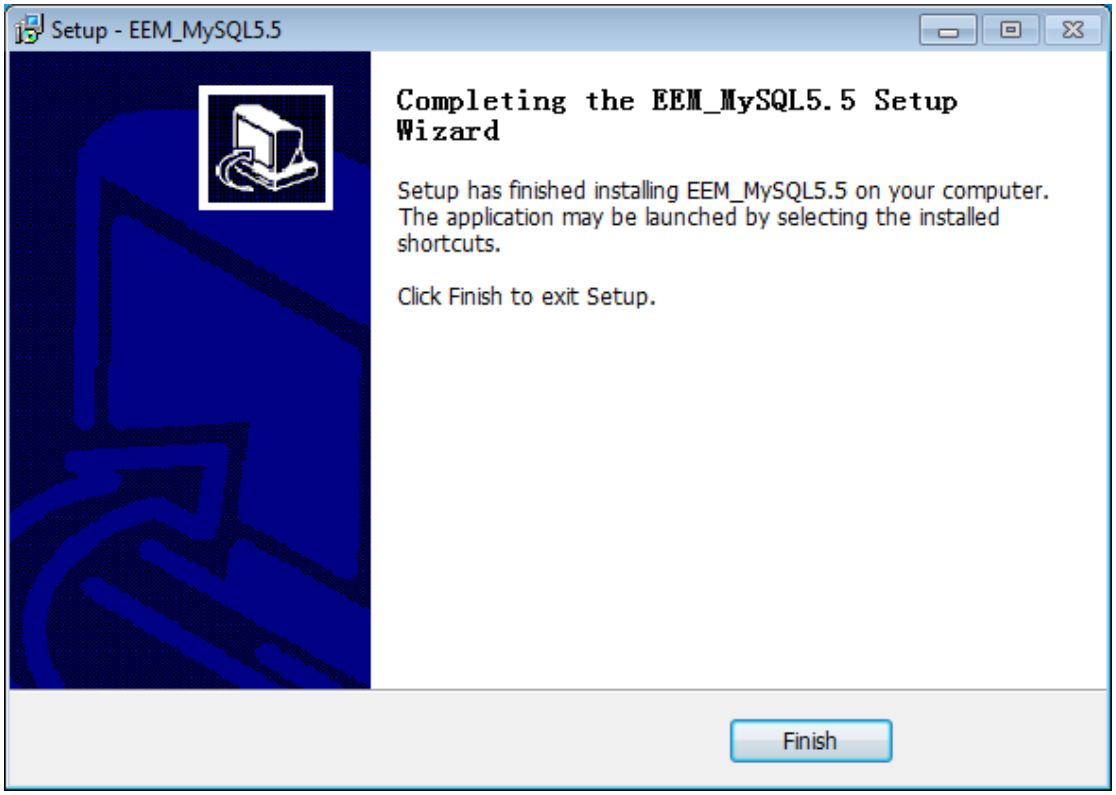


When install MYSQL data base, the install pack will register the service automatically. A DOS window will pop up, and please press any key to continue the installation.



After pressing, the software will install automatically.





The software successfully installed.

On desktop you can find below icon.

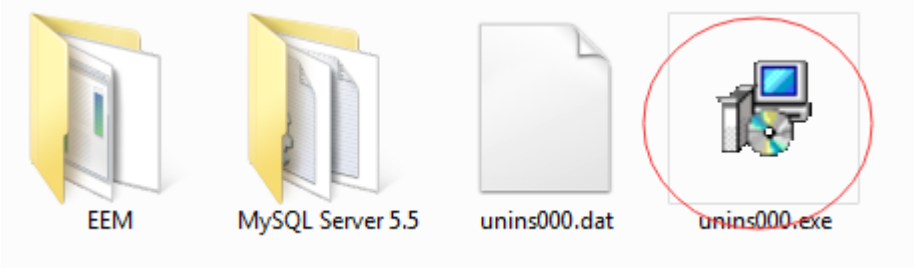
2.2 Software unloading

Before unloading the software, please backup database first. Or the database will be deleted after unloading, and never be recovered, please operate with cation.

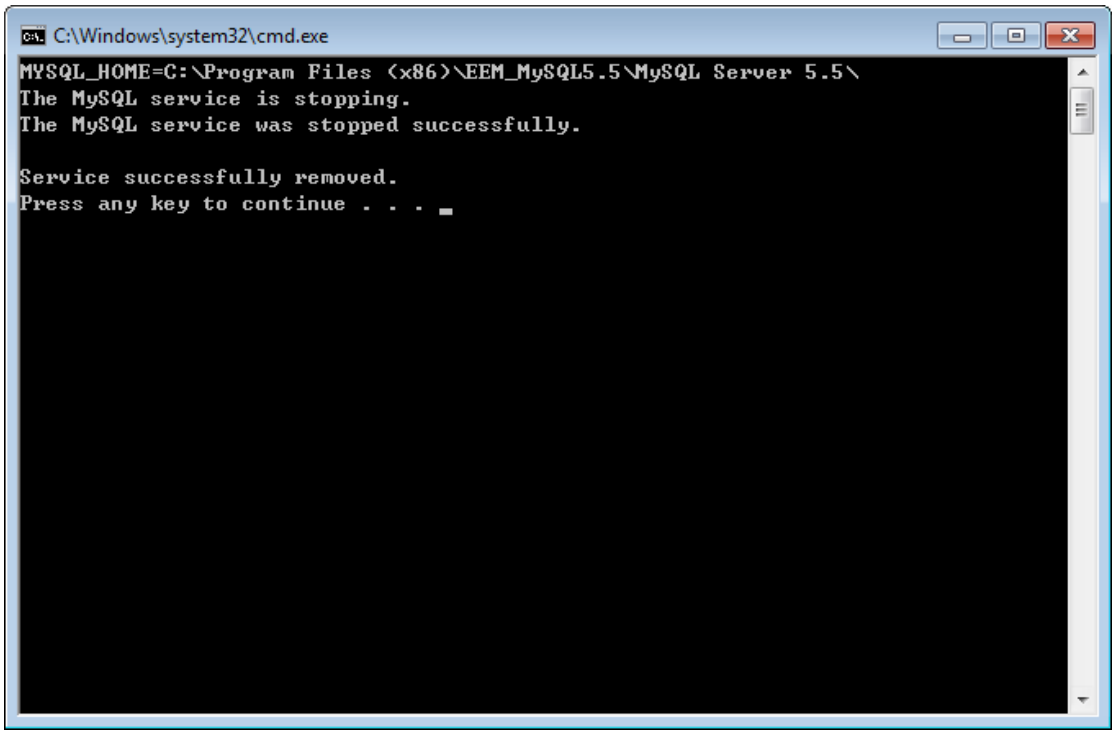
The software can uninstall in two ways:

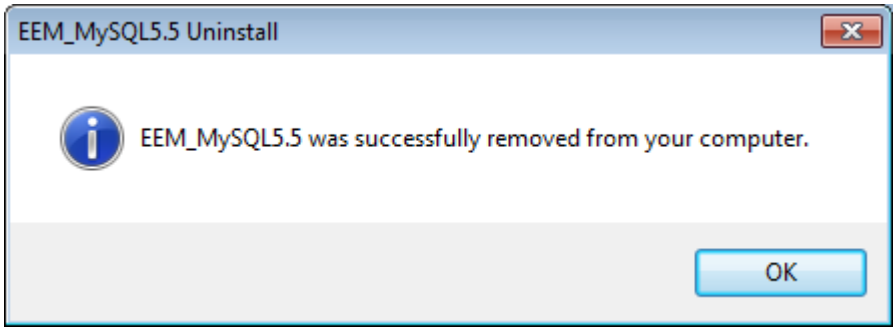
a. Enter the Control panel, open Software uninstall, find EEM_MySQL5.5, click to uninstall.

b. Enter software installation directory,



Click “unins000.exe” to uninstall, the software will remove the MySQL Service. It will pop up a DOS window, press any key to continue.





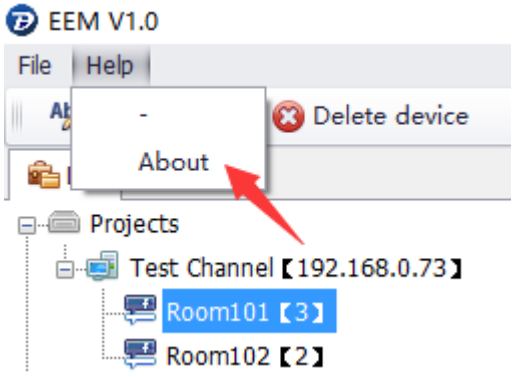
The software successfully unloading.

2.3 Software on trial/Registration

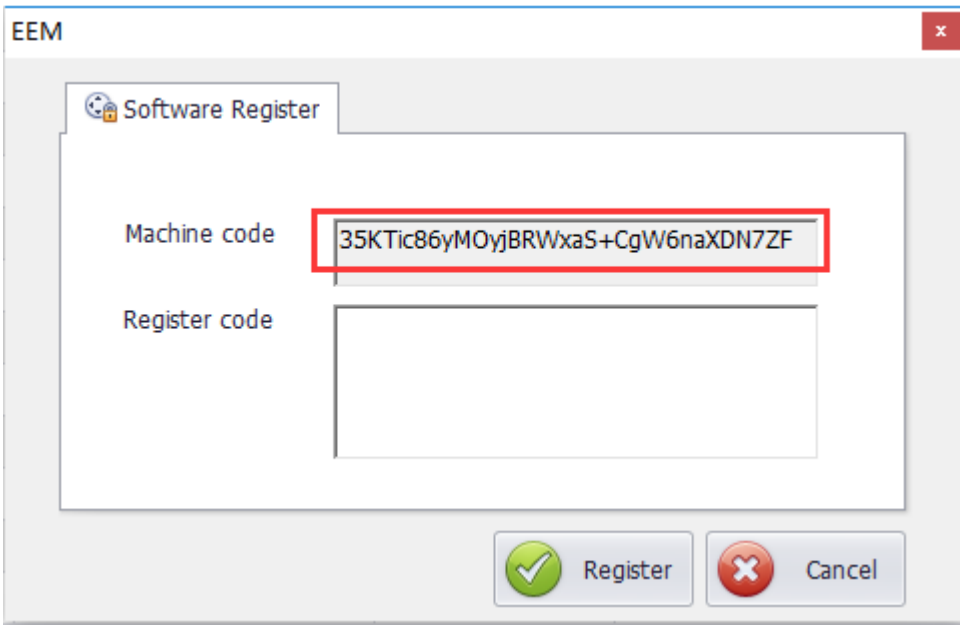
Trial version can be used for 30 days and support 10pcs meters' management. For normal using, please buy and register the official version.

Registration process:

Click EEM software, open system menu【Help】->【About】



click “Register”, a dialog will pop up.



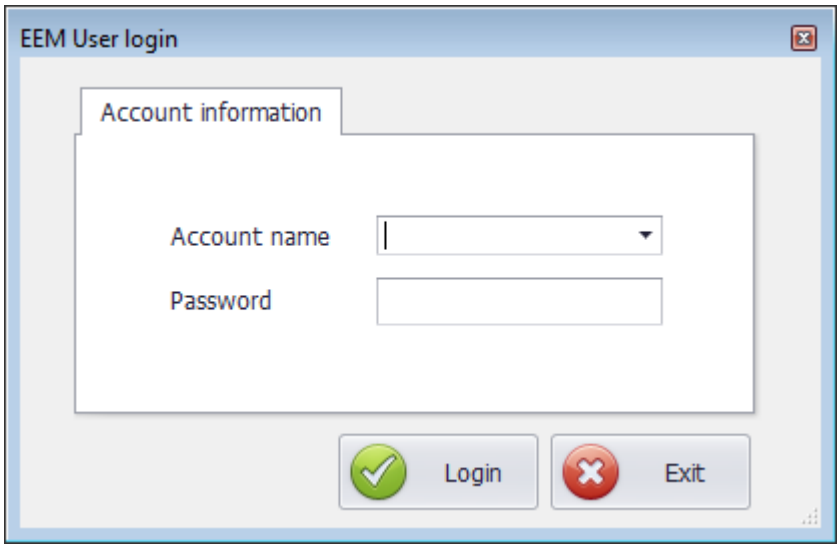
copy characters after“Machine code”, send it to software manager ，the manager will send back a registration code. Input this code into the “Register code”, click “Register”, the registration finished.

3. Software functions

Click to enter EEM software.

3.1.EEM System login

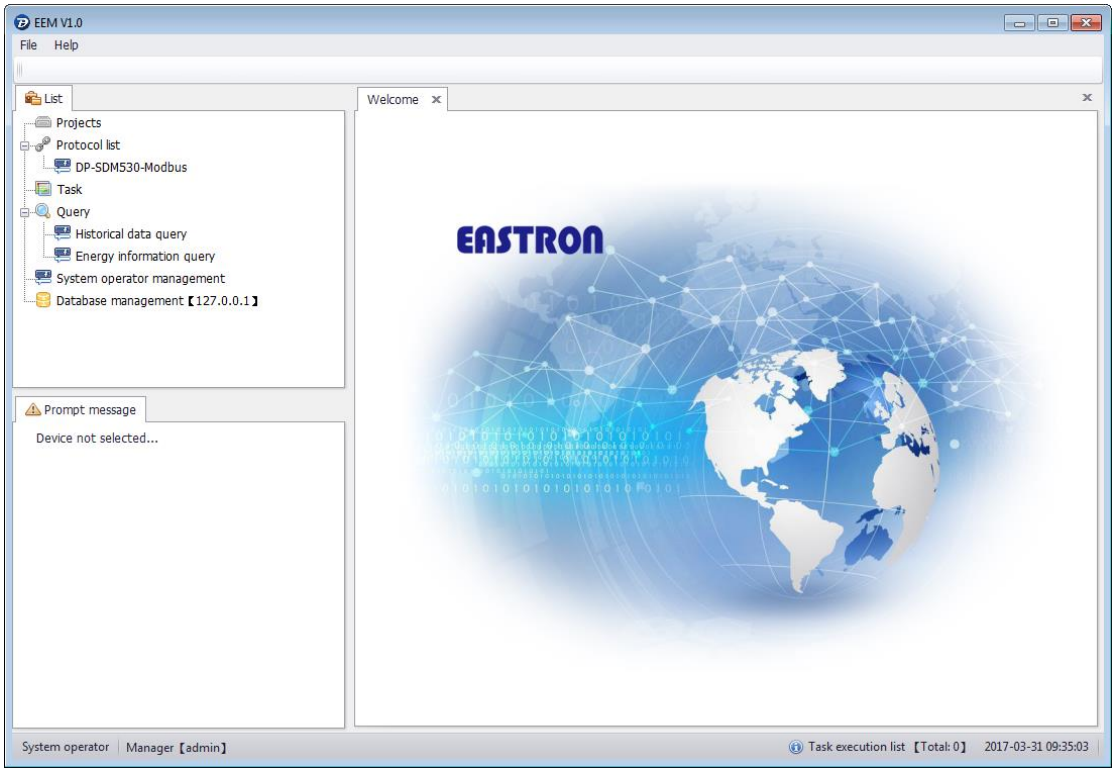
After the software open， the software will automatically open a small pop up window about user login, press account name and password.



Software default user name：admin

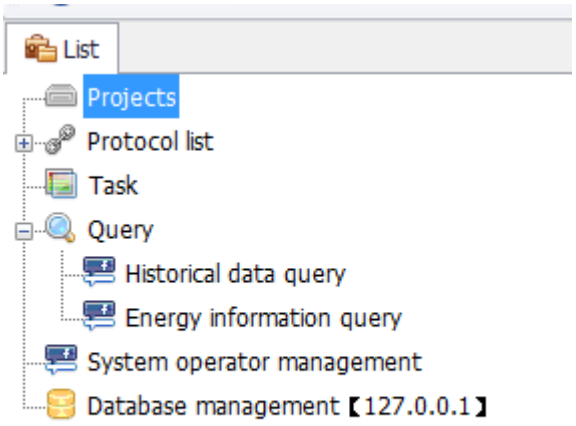
default password：999

Press right account name and password to enter EEM system.



3.2. Function overview

All the function can be operated on the upper corner of the tree structure.

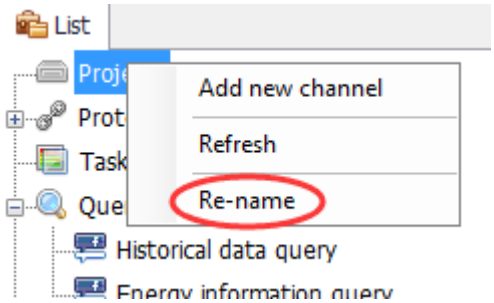


3.2.1 Projects

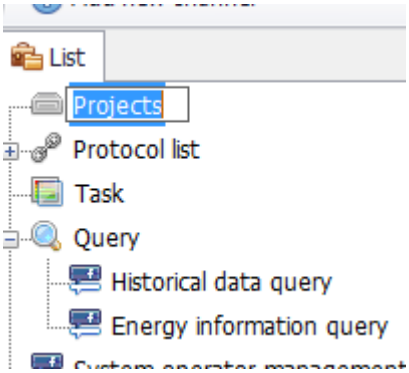
Below can add new channels and energy meters.

“Projects” can be re-named, like “xxxGarden”、“XXXbuliding”.

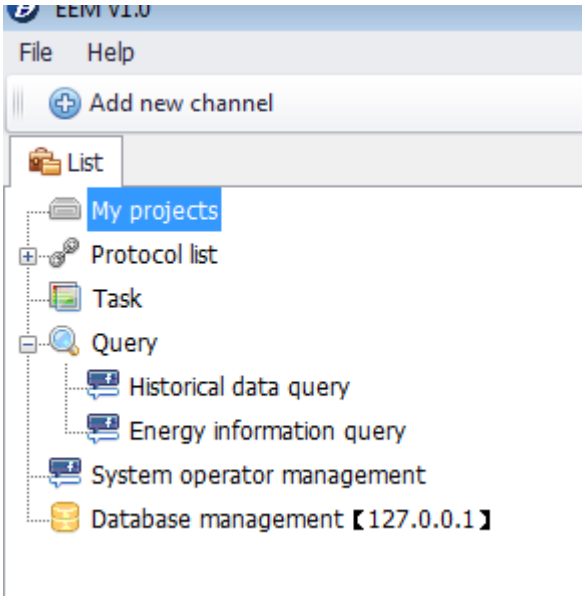
Operation like this: click left button to choose “Projects”, click right button to open a small popup window.



click“Re-name”to modify，“Projects” can be changed.



Enter the modify name, press “Enter” button. Modify successfully.



3.2.2 Protocol list

All Eastron protocol information is saved here. The Protocol can be added, deleted, modified, imported and exported.

3.2.3 Task

all meter reading tasks are here , using for defining and scheduling Meter reading plan. The task can be started or stopped.

3.2.4 Query

Can check all devices reading history and monthly electricity records.

3.2.5 System operator management

To manage the software operator information: add, delete, modify system operator.

3.2.6 Database management

System database management（backup data、recover data）

3.3 Communication channel management

3.3.1 Definition of Communication Channel

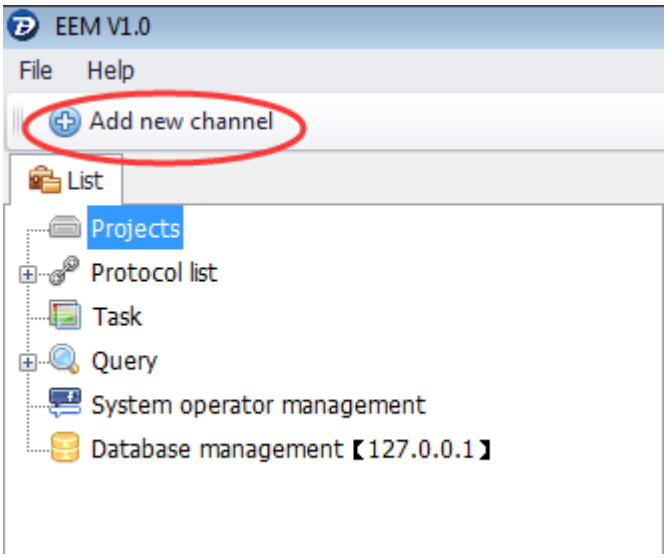
Here we have two communication channels：

TCP/IP-RS485channel： connect with TCP/IP-RS485 Gateway， the gateway need to be set as Server, EEM will use Client way(default).

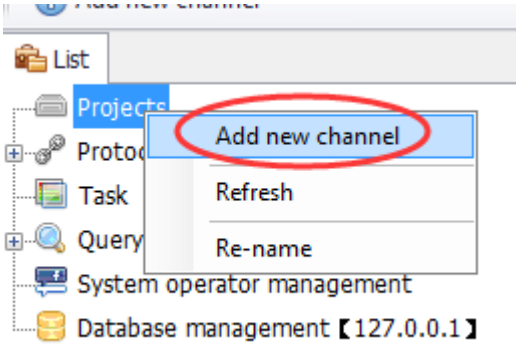
RS485-RTU channel: the meter can do communication with computer through USB to RS485 converter.

3.3.2 Add channel

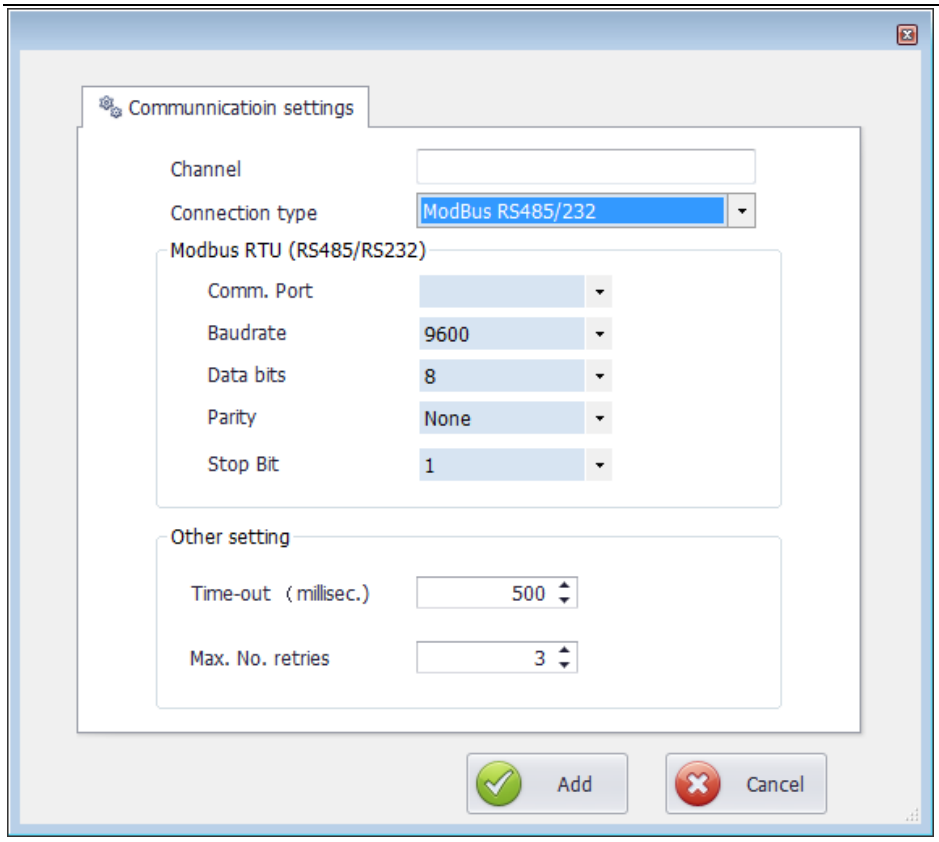
Click “Projects”, on toolbar will appear ”Add new channel” button，



Or click right button to open a small popup window：



Click “Add new channel” button to open a small popup window.

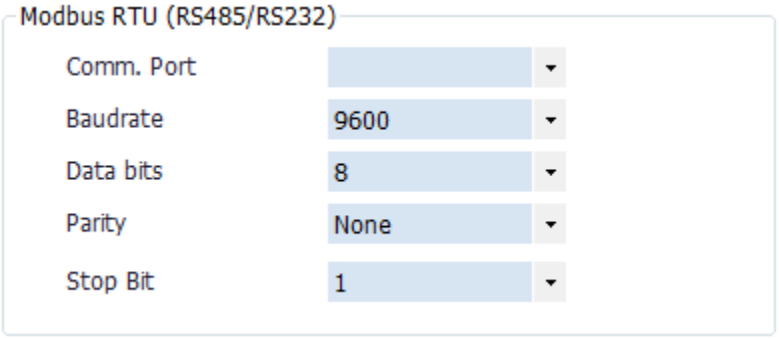


Enter Channel name

Connection type: choose communication port（TCP/IP-RS485、Modbus RS485/232）

3.3.2.1 Add RS485-RTU channel：

Connection type choose “Modbus RS485/232”, then it will change to Modbus RS485/232 configuration information：

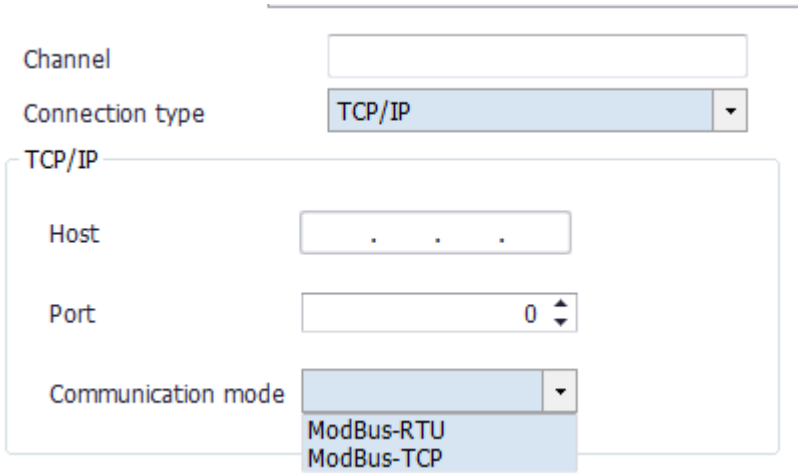


Set communication parameters（Comm.Port、Baudrate、Data bits、Parity、Stop Bit）,

All the parameters should be the same as the meter(which connected under this channel) parameters, or the communication will not work.

3.3.2.2 Add TCP/IP-485 channel

Connection type choose “TCP/IP”, then it will change to TCP/IP-485 configuration information：



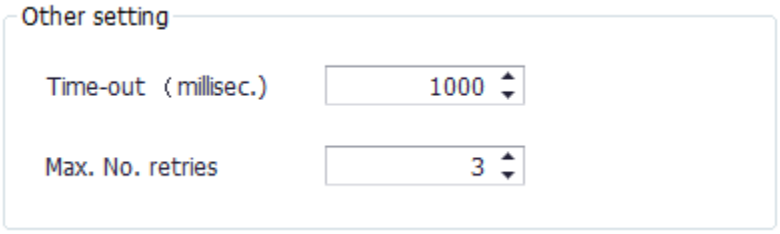
Host：enter TCP/IP-485 gateway IP address;

Port: enter TCP/IP-485gateway port number;

remark： EEM operating mode is Client mode, TCP/IP-485 gateway need to be set to Server mode;

Communication mode：two communication mode（ Modbus-RTU、ModBus-TCP）, need to be set the same as the communication port. 致。

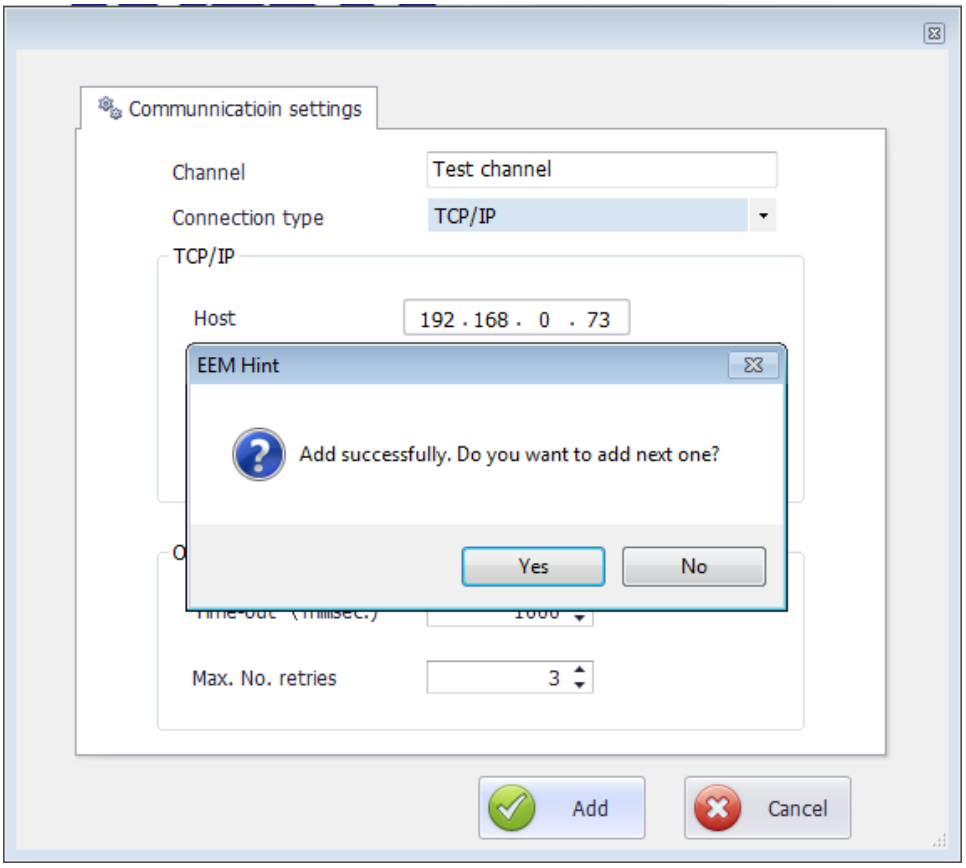
Other parameters:



Time-out(milisec.): Means the max communication overtime between EEM system and the meters. set range: 1~10000ms.this parameter can be set according the channel communication speed, default 1000ms.

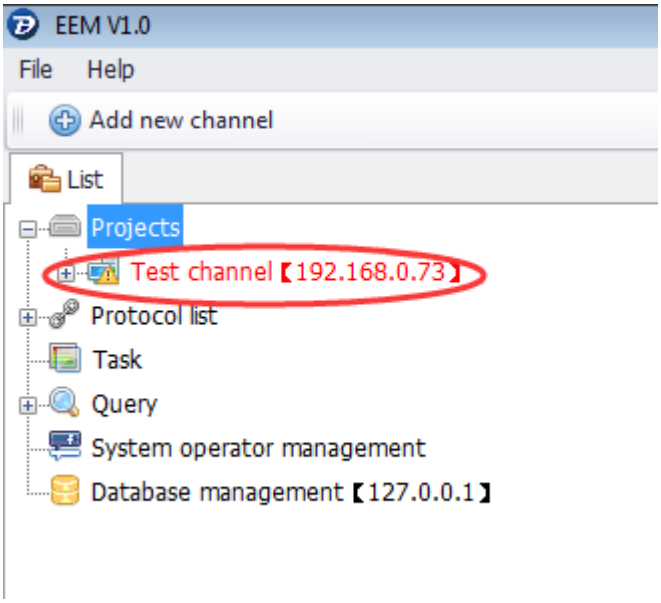
Max.No.retries: The max retry times of communication error between EEM system and meters. Set range: 1 to 10 times, default: 3 times.

After the parameters set, click “add” to finish adding channels.



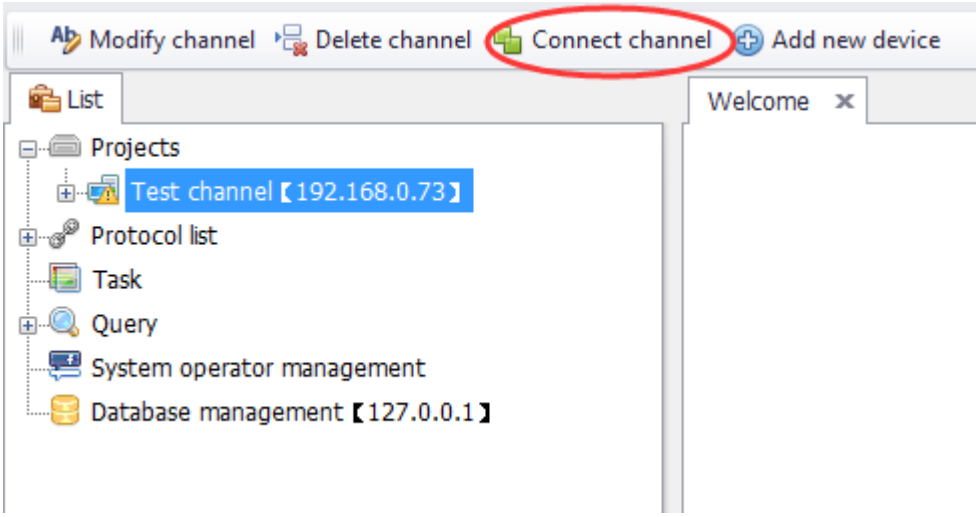
After add successfully, a small popup window will prompt “Add successfully, do you want to add next one?” click” Yes” can keep adding new channels, click “No” to close the window.

Back to the software main interface, the channel which added just now can be saw.

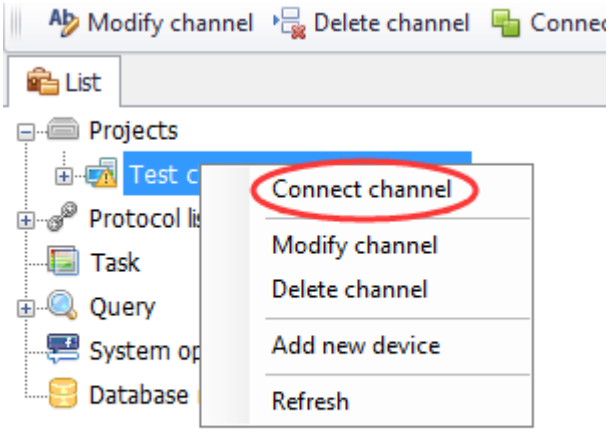


3.3.3 Connect/Close channels

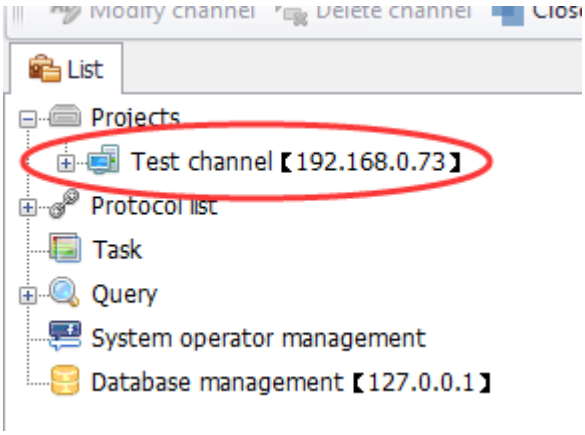
The channel which added just is in red font, this means the channel is not connected.
Choose the channel, click “Connect channel” on the toolbar



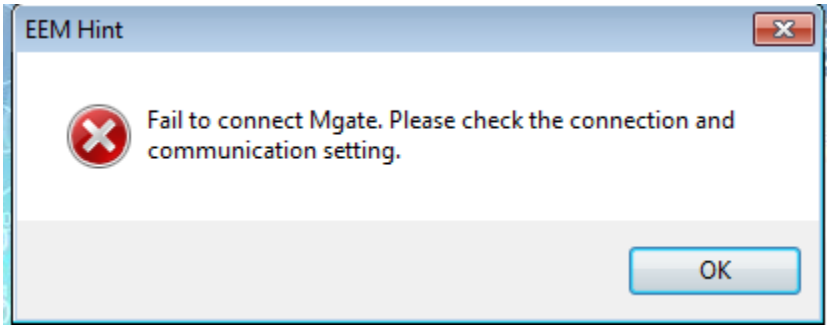
Or click right button, it will [pop up a pull-down menu.



Click “Connect channel” button,
When connected, the channel name will be shown in black color. And the icon will be changed.

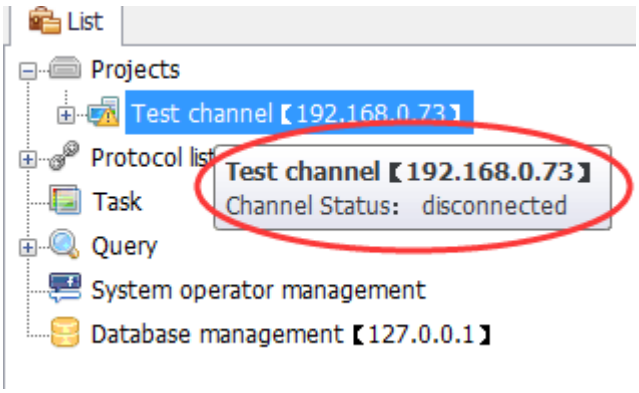


If not connected, a small popup window will come out:



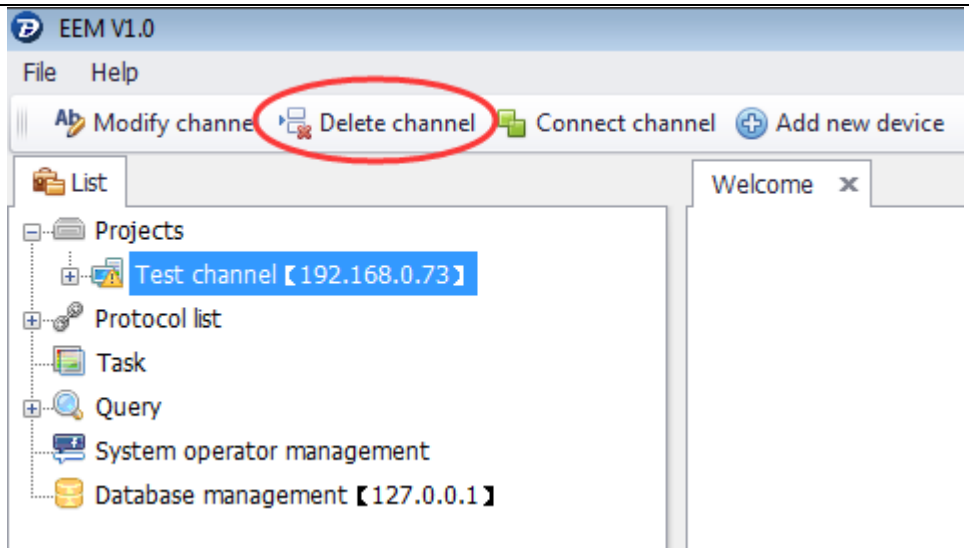
Close channel： click channel, click “Close channel” on the toolbar or on right click menu. Then the channel will be closed.

When the cursor stay on the name of the channel, a prompt window will come out to show the communication information.



3.3.4 Delete Channel

Click the channel which want to delete, on the toolbar will show “Delete channel” button.



Or click right button, choose “Delete channel”

click “delete channel” to delete channel.

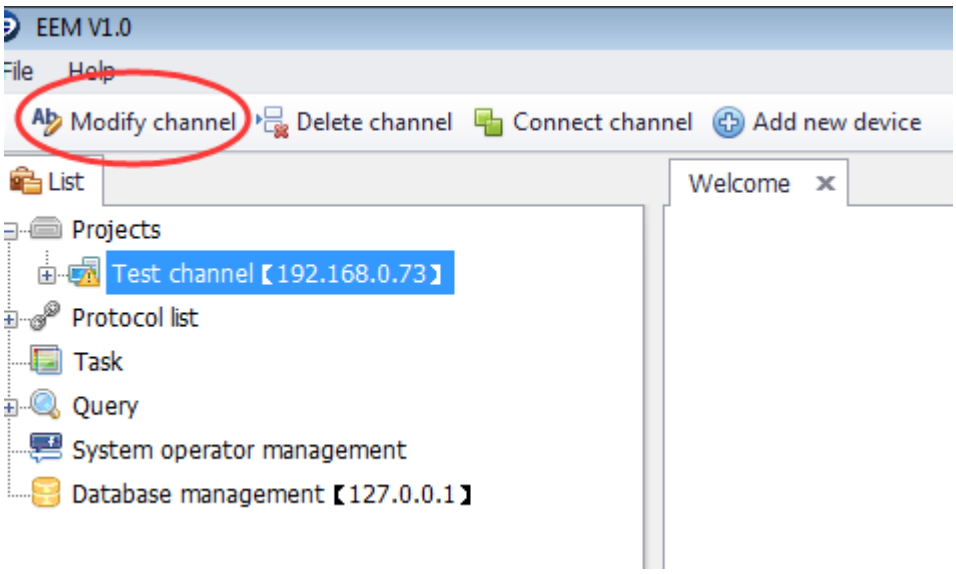
Remark：

1） If the channel is connected, it can’t be deleted. The channel can be deleted after the channel closed.

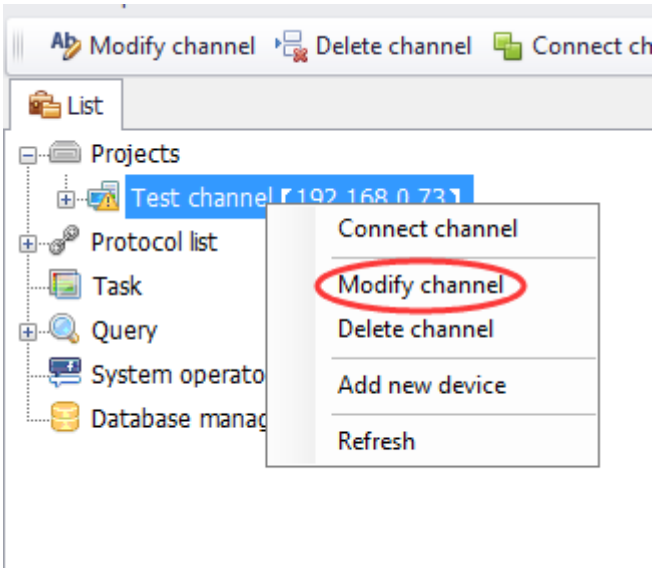
2） If there are meters under the channel, the channel can’t be deleted.

3.3.5 Modify channel

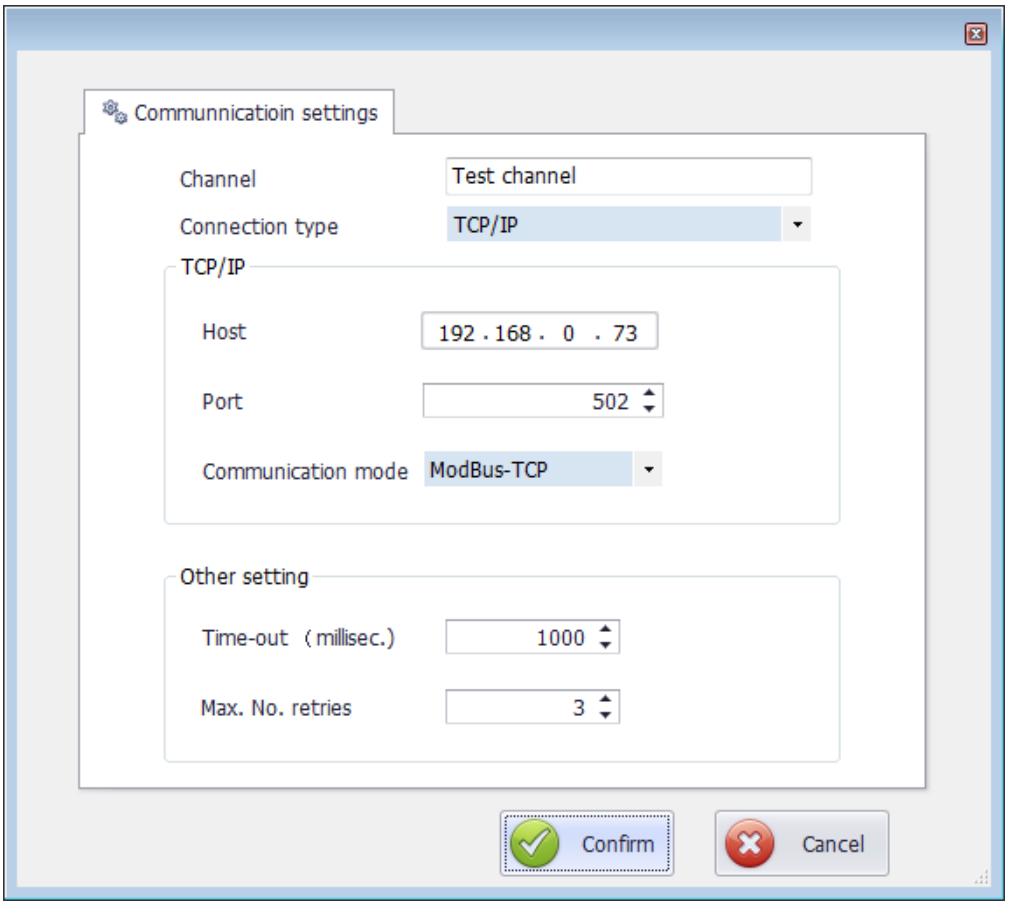
Click the chosen channel, on the toolbar will show the button of “Modify channel”.



Or click the right button, choose “Modify channel” on the menu.



Click “Modify channel”, a small window will pop up.

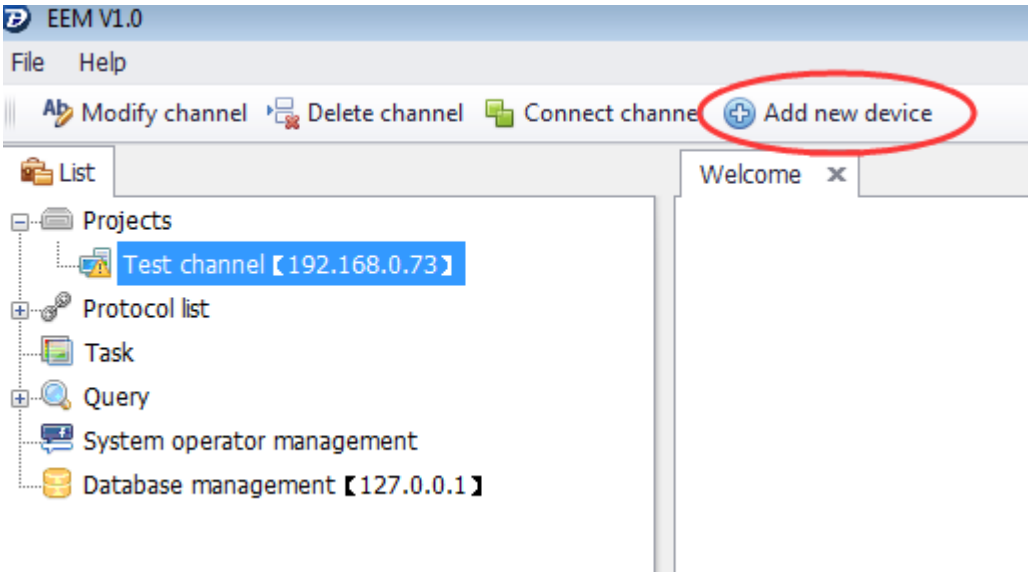


Modify the parameters, click “Confirm” button.

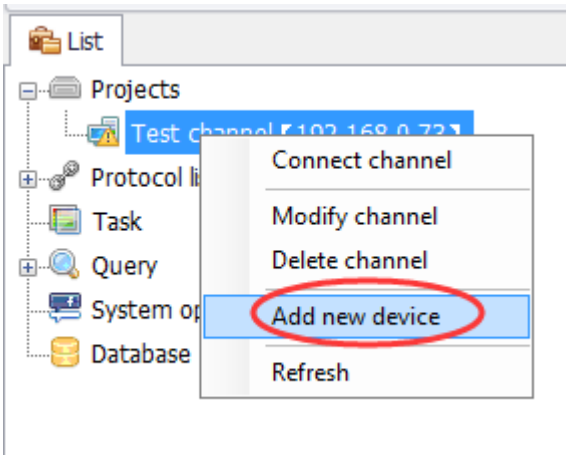
4.Energy meter management

4.1 Add energy meters

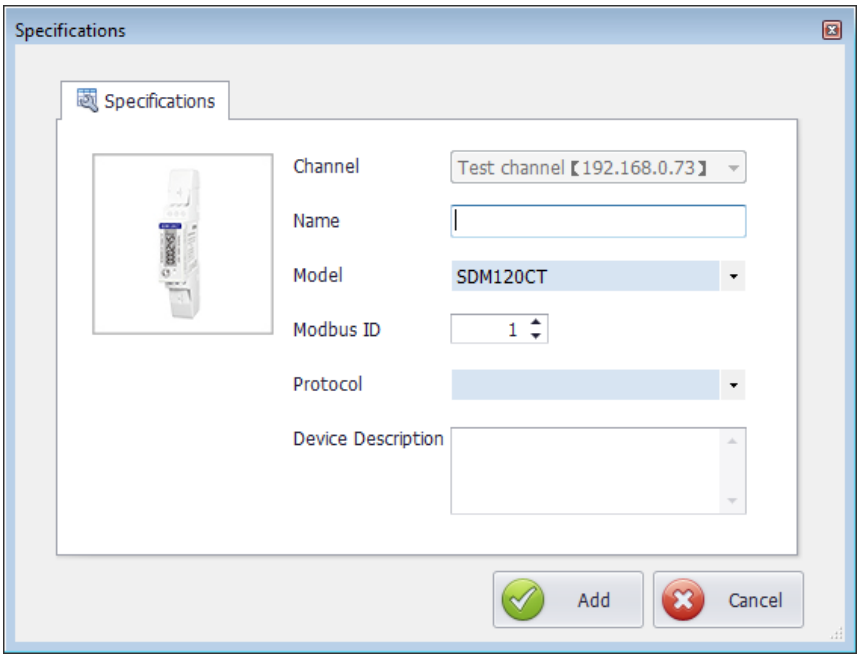
Choose the channel which you want connect the meter, on the toolbar will show “Add new device” button.



Or click the right button, choose “add new device”



Click “Add new device” button, a small popup window will come out.



Channel: show the channel name

Name： energy meter's name. it can be room number, or user name, etc. like "Room101" or "John".

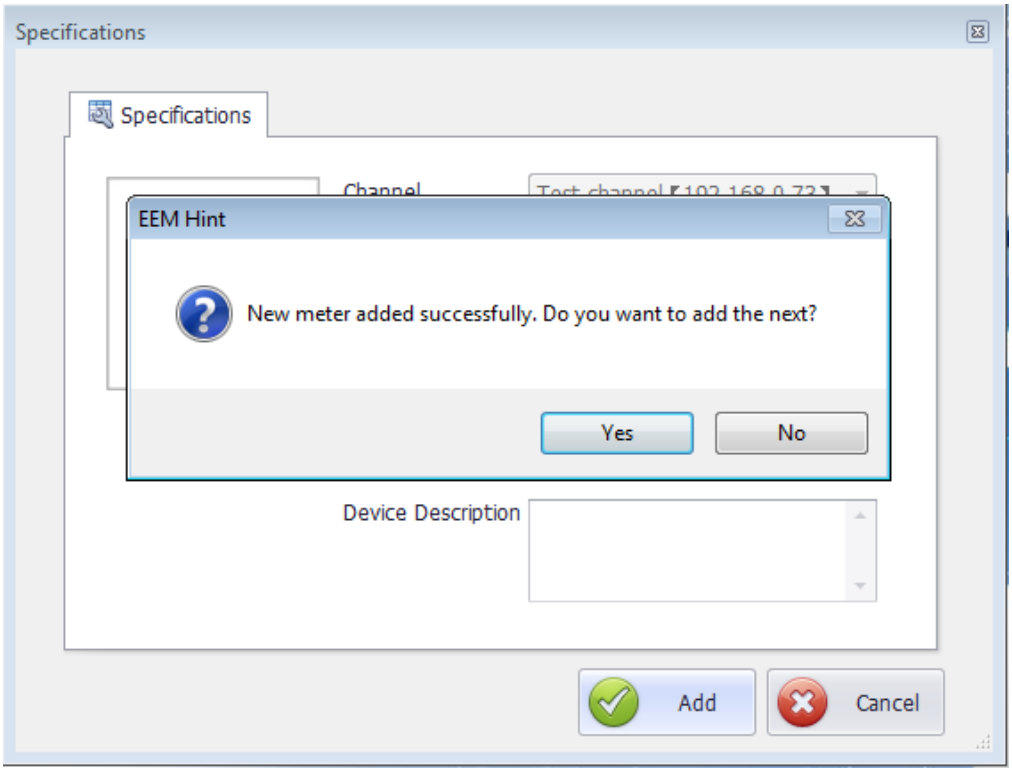
Model: model of energy meters

Modbus ID: energy meter address, need to be set the same as corresponding meter address.

Protocol： energy meter's communication protocol

Device Description: remark on the meter

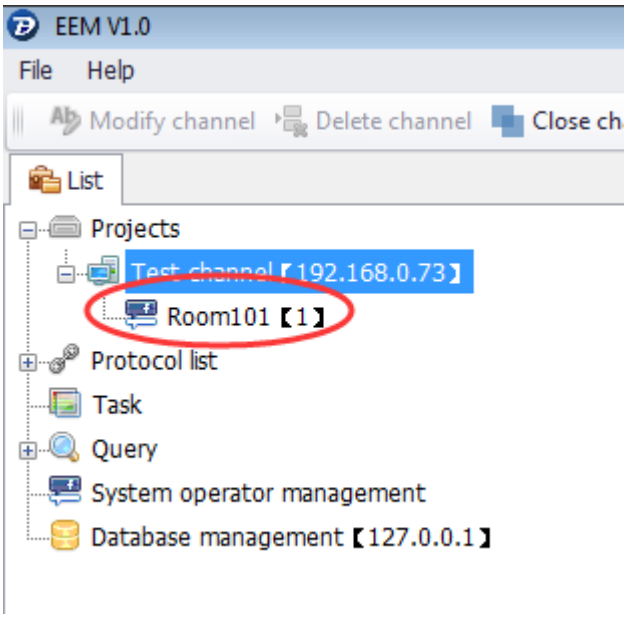
Enter the right parameters, click "Add" button, the device will add successfully, a small popup window will come out.



It will show "New meter added successfully. Do you want to add the next?"， if click "Yes"， then it will continue

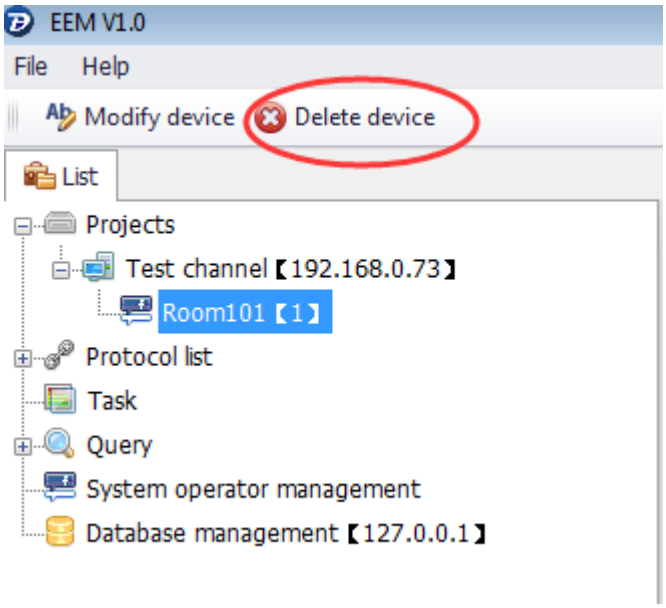
to add new devices. If click" No", the small window will be closed, new device adds finished.

In the upper left corner of the main window of the software, the right channel will show the device which already added.

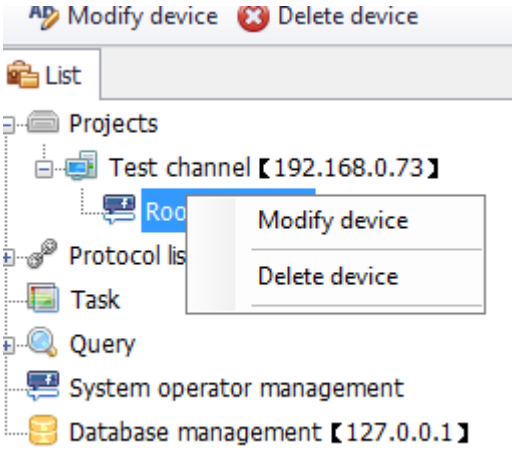


4.2 Delete energy meter device

Choosing the device which want to be deleted, on the toolbar will show the button of "Delete device"

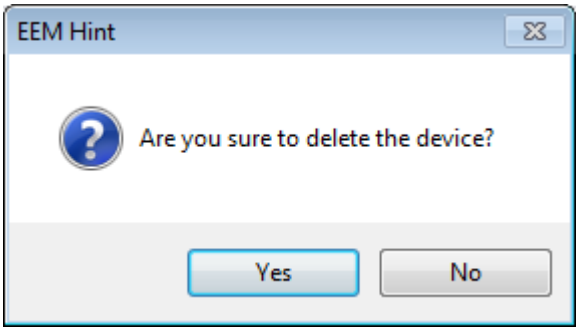


Or click the right button to choose "Delete device"



Click “Delete device”

Then a small popup window will come out: “Are you sure to delete the device?”



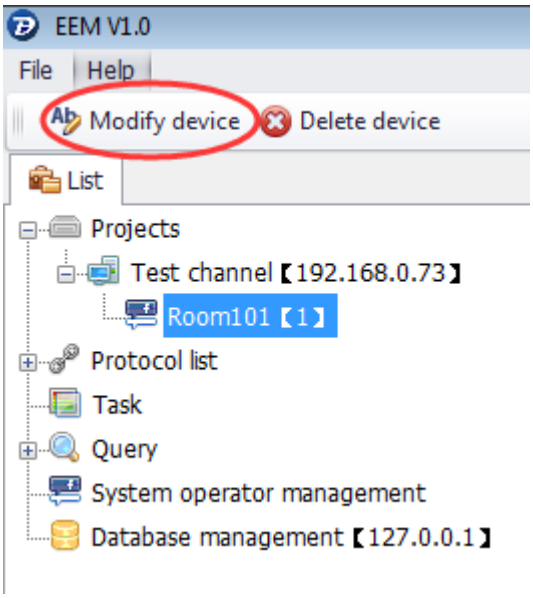
Click” Yes “to delete the choosing device

Click “No” to cancel delete

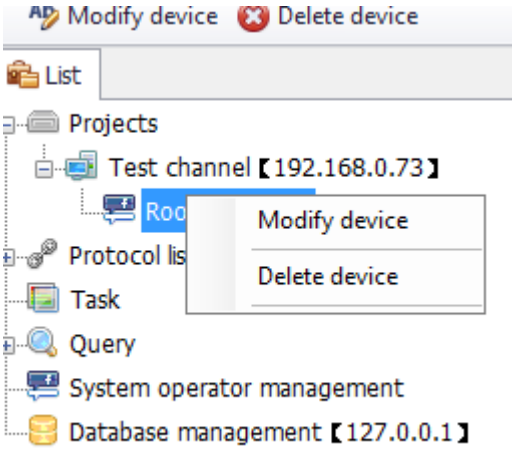
Remark： after delete the device, the device and the information of the delete device will be delete (like the meter in meter reading plan). But the meter reading history data will be store, so the users can check the data of the deleted device next time.

4.3 Modify energy meter device

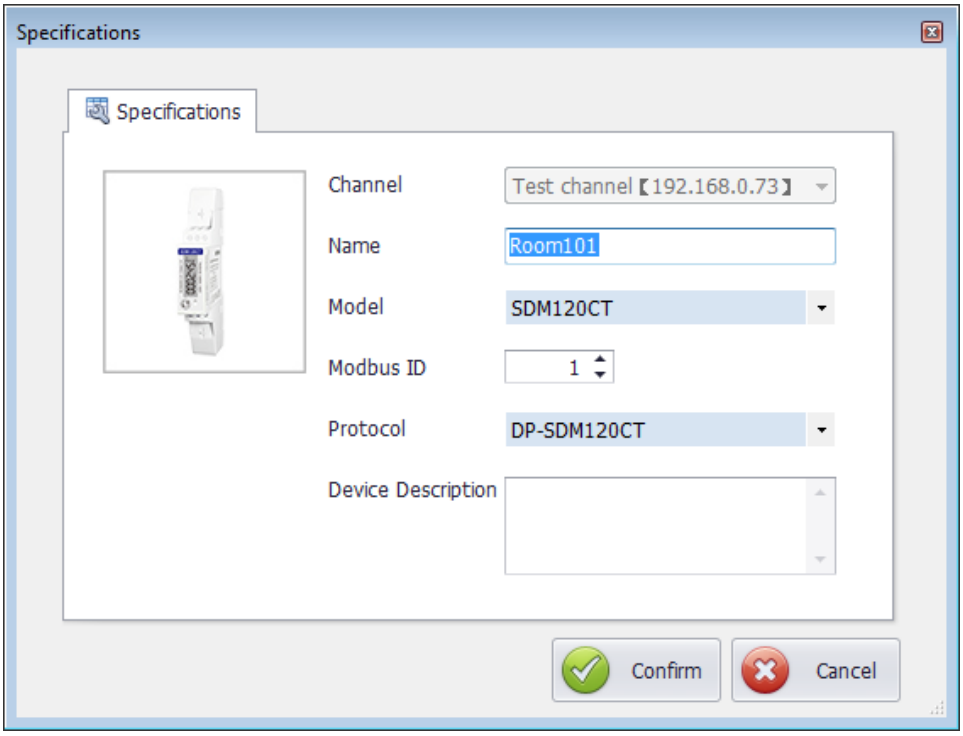
Choosing the device want to be modify, on the toolbar will show the button of “Modify device”.



Or click the right button to choose “Modify device”



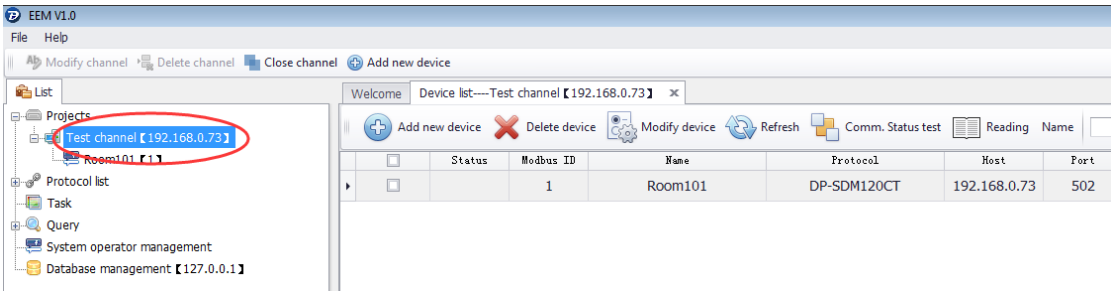
Click “Modify device”, then a small popup window will come out.



Modify the parameters, click" Confirm" to finish modification.

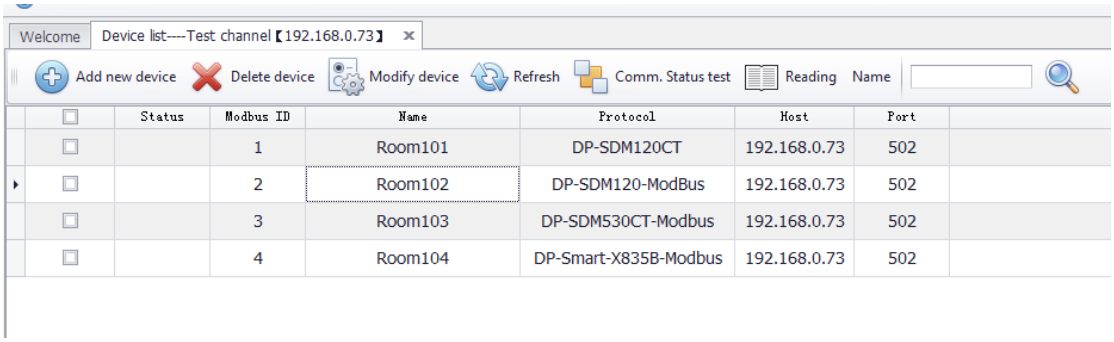
4.4Check device list

Double click "Project" or one channel, then open the device list on the right.



Click "Projects"： all the meter devices in the list can be checked.

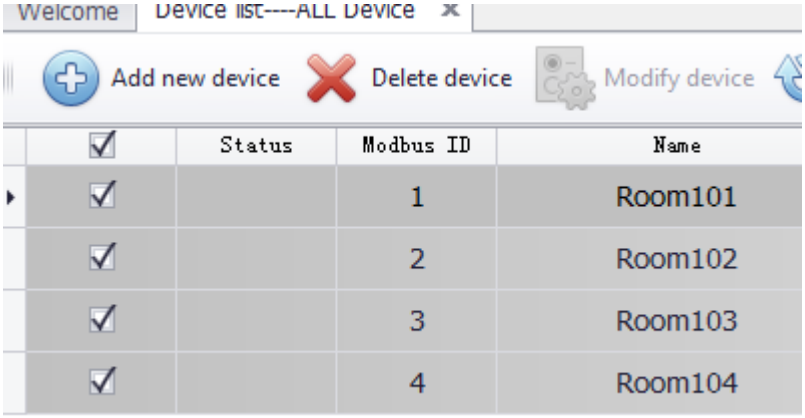
Click on communication channel： all the meter devices in this channel can be checked.



	Status	Modbus ID	Name	Protocol	Host	Port
☐		1	Room101	DP-SDM120CT	192.168.0.73	502
☐		2	Room102	DP-SDM120-ModBus	192.168.0.73	502
☐		3	Room103	DP-SDM530CT-Modbus	192.168.0.73	502
☐		4	Room104	DP-Smart-X835B-Modbus	192.168.0.73	502

In this list, many meters can be choosing by one time. After selected, the meters can be reading, testing communication delete. Below is how to operational:

There is selection box on each device. The device can be selected by click the selection box, clock the selection box] the title bar, or press Ctrl +A to select all the devices.



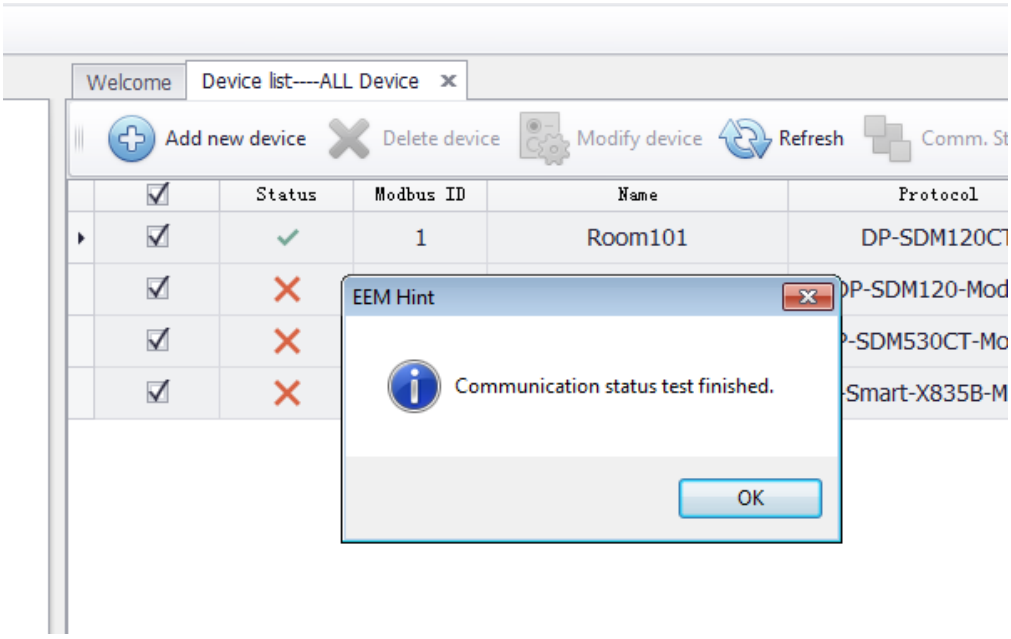
☑	Status	Modbus ID	Name
☑		1	Room101
☑		2	Room102
☑		3	Room103
☑		4	Room104

Add new device： add new device in this channel

Delete device： delete the device in the list, many devices can be deleted.

Modify device： modify the device information

Comm. Status test: communication connection status test, first select the device which need to test the communication, click “Comm.Status test” the system will check each devices communication status one by one.

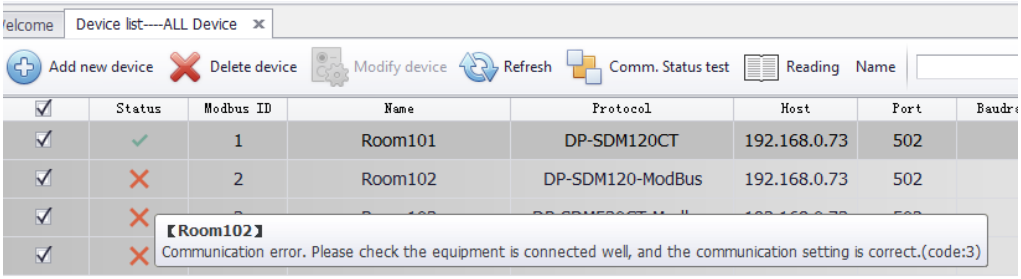


Status

“ ” means communication ok, connection ok, device online.

“ ”means communication wrong, need to check the communication line and the setting of communication parameters.

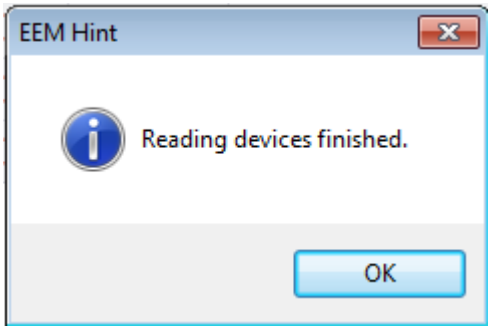
When the cursor stay at the status of some line, it will show the communication result:



Reading： reading the voltage, current, power, energy and other parameters from the device.

Choosing the device which need to be read, click “Reading”, then the system can read the devices one by one.

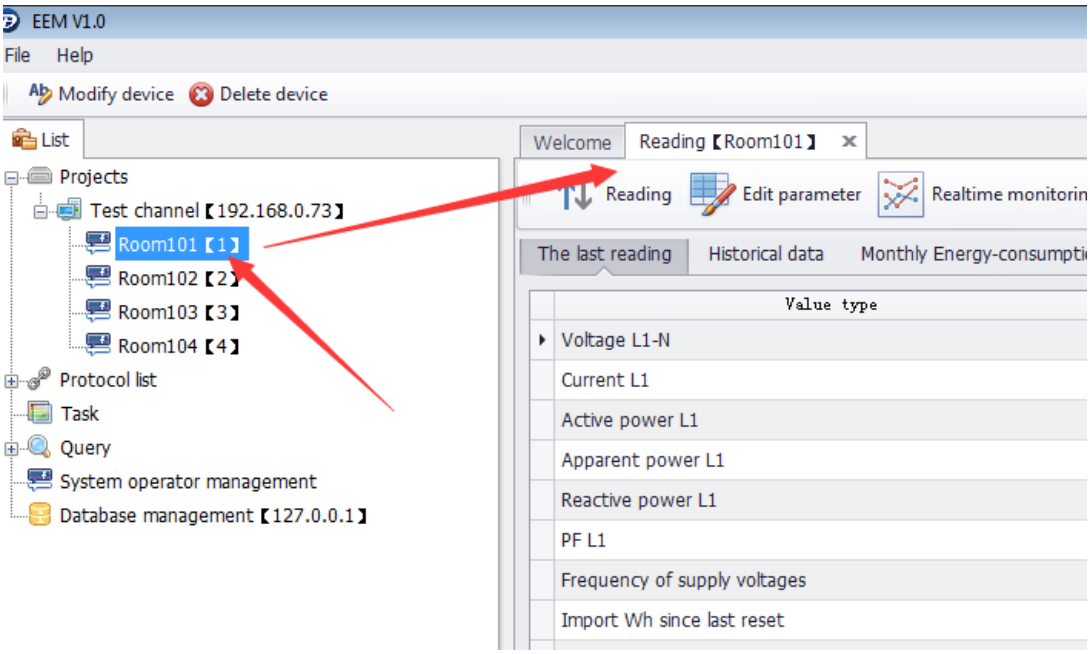
When a small popup window come out to show “Reading devices finished.”

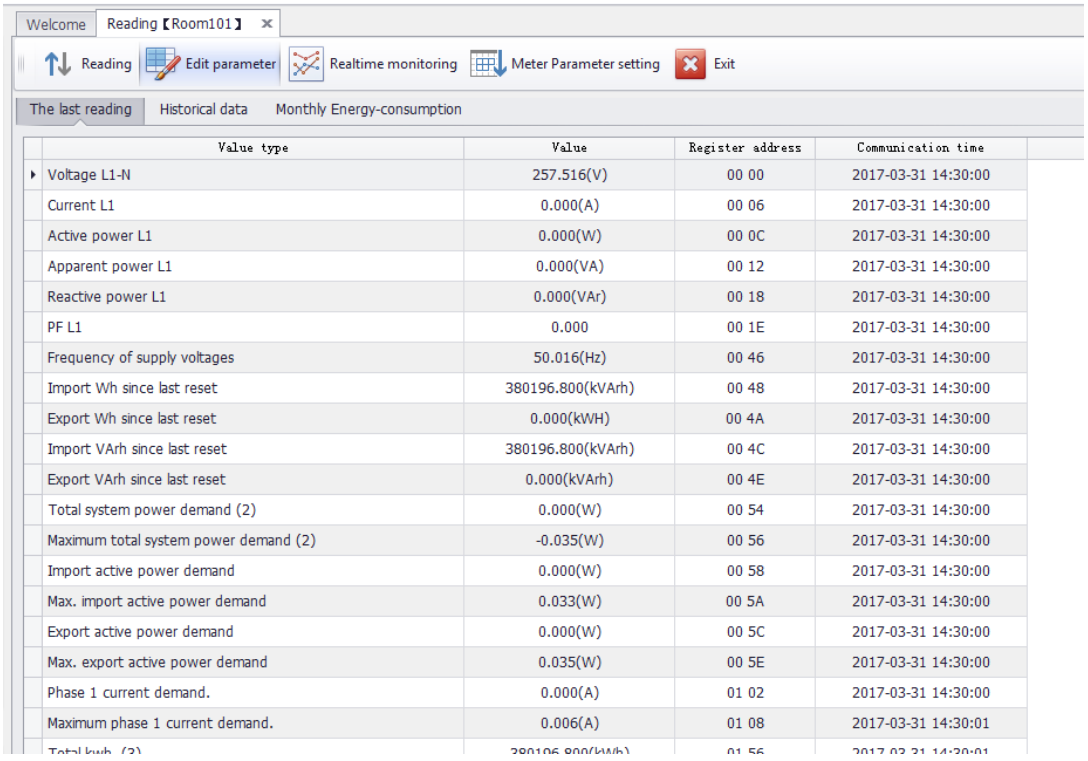


After reading finished, the list will show the communication status of the devices.

5. Reading energy meter information

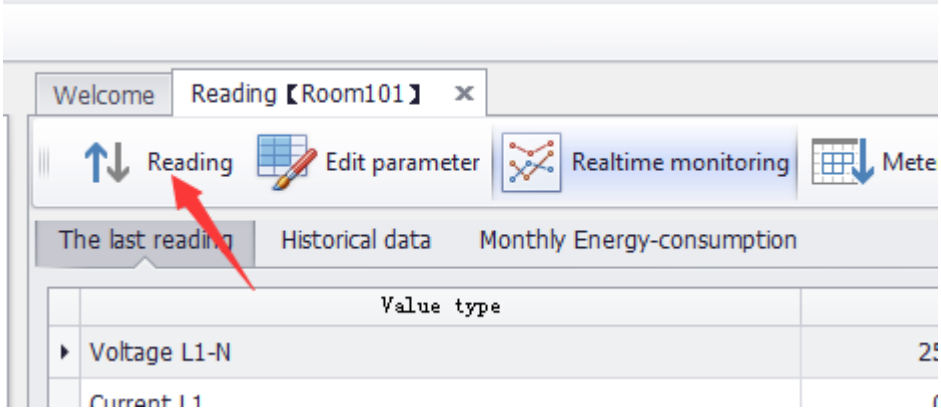
Double click the name of the device, on the right the system will open a window as below picture:





Value type	Value	Register address	Communication time
Voltage L1-N	257.516(V)	00 00	2017-03-31 14:30:00
Current L1	0.000(A)	00 06	2017-03-31 14:30:00
Active power L1	0.000(W)	00 0C	2017-03-31 14:30:00
Apparent power L1	0.000(VA)	00 12	2017-03-31 14:30:00
Reactive power L1	0.000(VAr)	00 18	2017-03-31 14:30:00
PF L1	0.000	00 1E	2017-03-31 14:30:00
Frequency of supply voltages	50.016(Hz)	00 46	2017-03-31 14:30:00
Import Wh since last reset	380196.800(kVArh)	00 48	2017-03-31 14:30:00
Export Wh since last reset	0.000(kWH)	00 4A	2017-03-31 14:30:00
Import VArh since last reset	380196.800(kVArh)	00 4C	2017-03-31 14:30:00
Export VArh since last reset	0.000(kVArh)	00 4E	2017-03-31 14:30:00
Total system power demand (2)	0.000(W)	00 54	2017-03-31 14:30:00
Maximum total system power demand (2)	-0.035(W)	00 56	2017-03-31 14:30:00
Import active power demand	0.000(W)	00 58	2017-03-31 14:30:00
Max. import active power demand	0.033(W)	00 5A	2017-03-31 14:30:00
Export active power demand	0.000(W)	00 5C	2017-03-31 14:30:00
Max. export active power demand	0.035(W)	00 5E	2017-03-31 14:30:00
Phase 1 current demand.	0.000(A)	01 02	2017-03-31 14:30:00
Maximum phase 1 current demand.	0.006(A)	01 08	2017-03-31 14:30:01

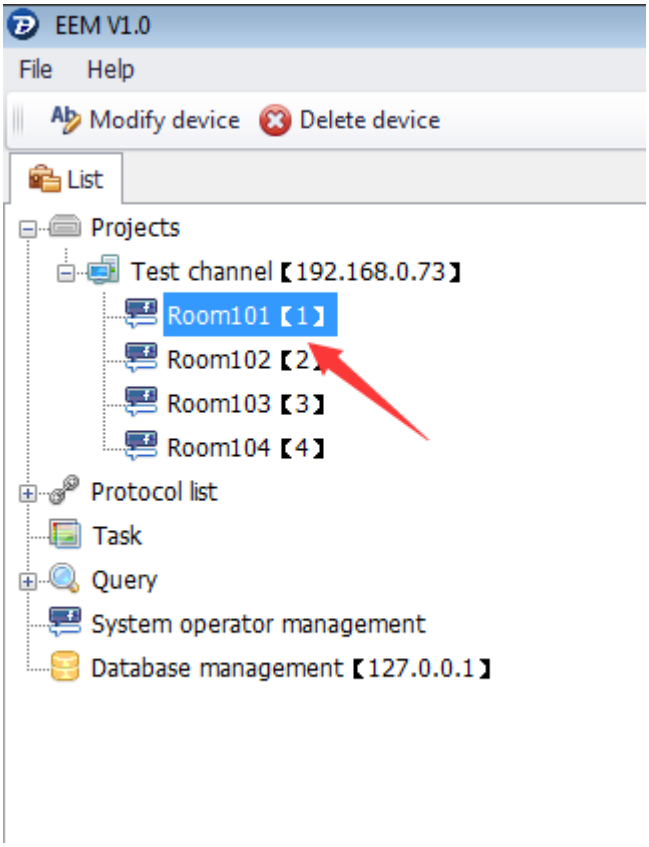
Click “Reading” to start reading the meter



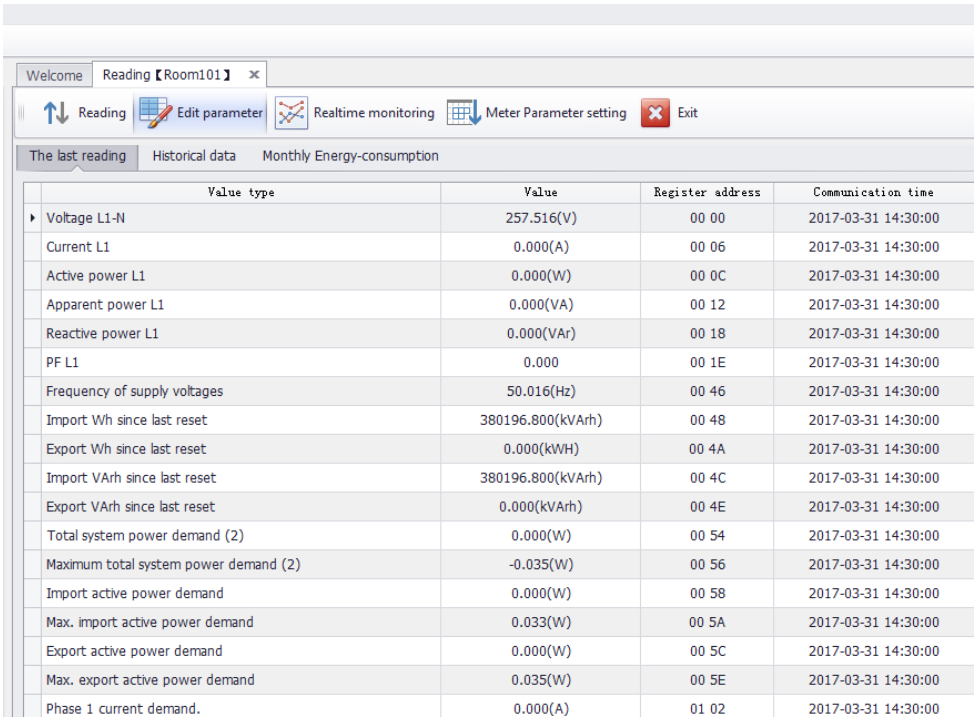
EEM will reading the voltage , current, energy, power and many parameters from the meter by the each meters protocols.

6.Real-time monitoring data

Double click the device which want to real-time monitor

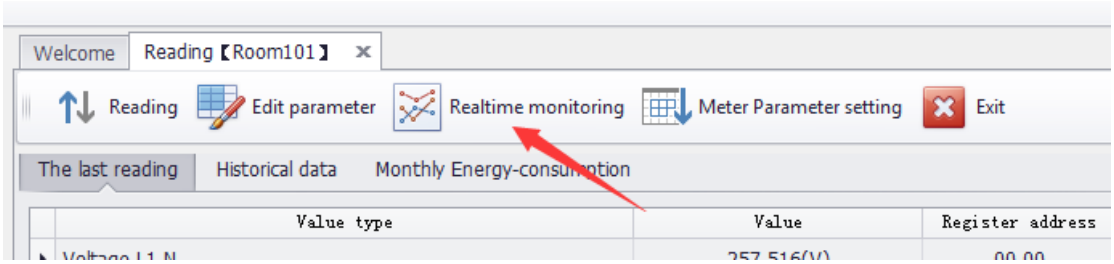


A window will be open as below picture

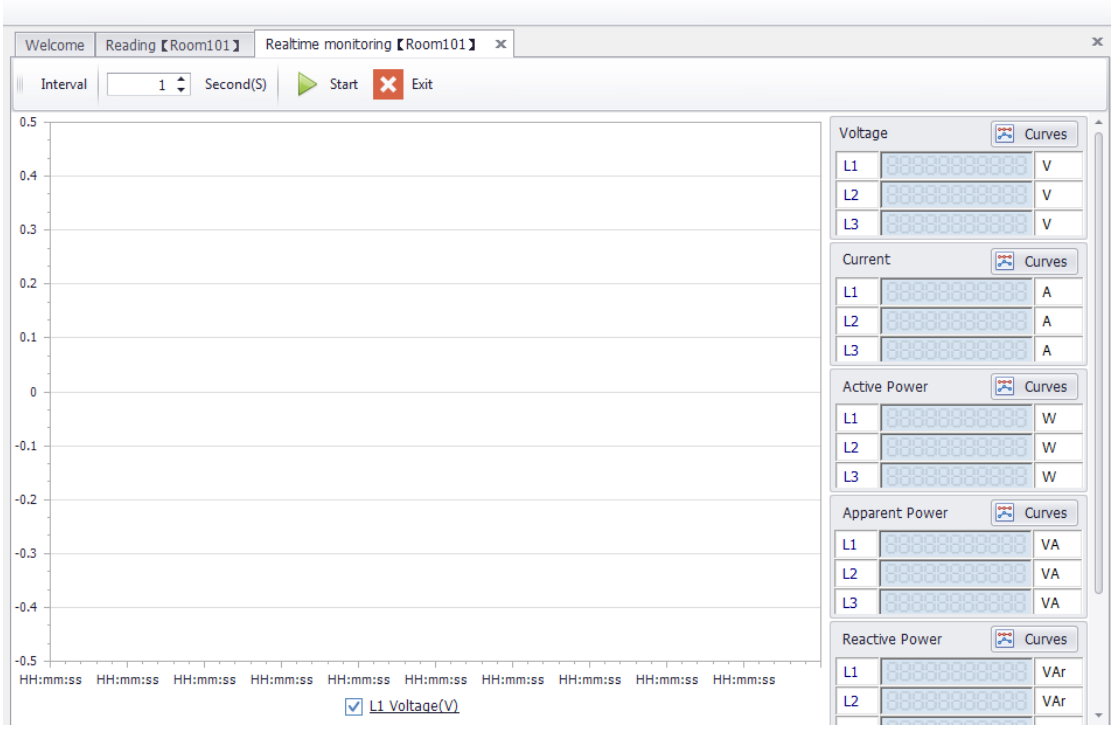


Value type	Value	Register address	Communication time
Voltage L1-N	257.516(V)	00 00	2017-03-31 14:30:00
Current L1	0.000(A)	00 06	2017-03-31 14:30:00
Active power L1	0.000(W)	00 0C	2017-03-31 14:30:00
Apparent power L1	0.000(VA)	00 12	2017-03-31 14:30:00
Reactive power L1	0.000(VAr)	00 18	2017-03-31 14:30:00
PF L1	0.000	00 1E	2017-03-31 14:30:00
Frequency of supply voltages	50.016(Hz)	00 46	2017-03-31 14:30:00
Import Wh since last reset	380196.800(kVArh)	00 48	2017-03-31 14:30:00
Export Wh since last reset	0.000(kWH)	00 4A	2017-03-31 14:30:00
Import VArh since last reset	380196.800(kVArh)	00 4C	2017-03-31 14:30:00
Export VArh since last reset	0.000(kVArh)	00 4E	2017-03-31 14:30:00
Total system power demand (2)	0.000(W)	00 54	2017-03-31 14:30:00
Maximum total system power demand (2)	-0.035(W)	00 56	2017-03-31 14:30:00
Import active power demand	0.000(W)	00 58	2017-03-31 14:30:00
Max. import active power demand	0.033(W)	00 5A	2017-03-31 14:30:00
Export active power demand	0.000(W)	00 5C	2017-03-31 14:30:00
Max. export active power demand	0.035(W)	00 5E	2017-03-31 14:30:00
Phase 1 current demand.	0.000(A)	01 02	2017-03-31 14:30:00

Click “Real-time monitoring”,

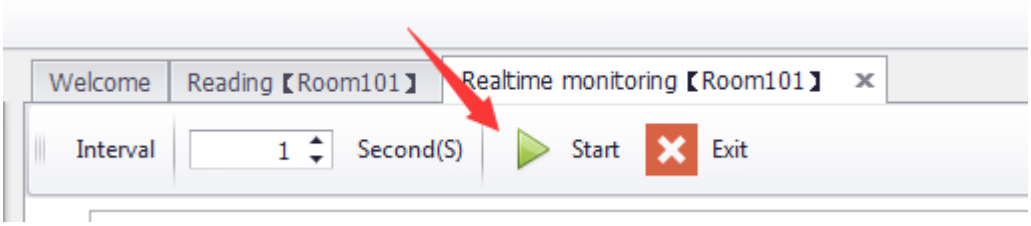


Then the window will open as below:



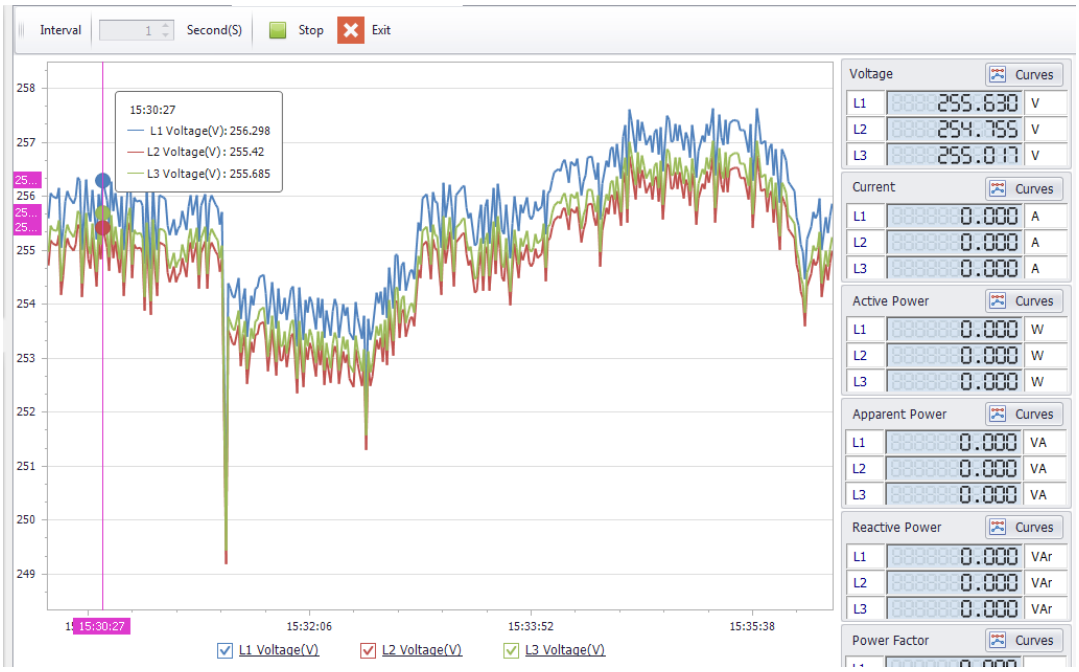
Choose the communication interval, setting range（1~60s）

Click “Start” to start real-time monitoring



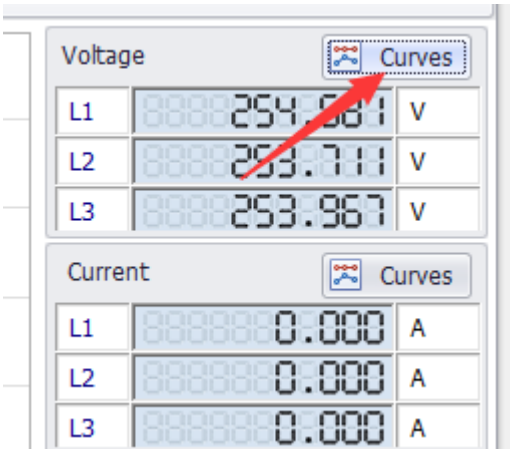
It can monitoring Voltage、Current、Active Power、Apparent Power、Reactive Power、Power Factor" total six kinds of datas.

The left side shows the curve, and the right side (LED frame) shows the real-time energy reading.

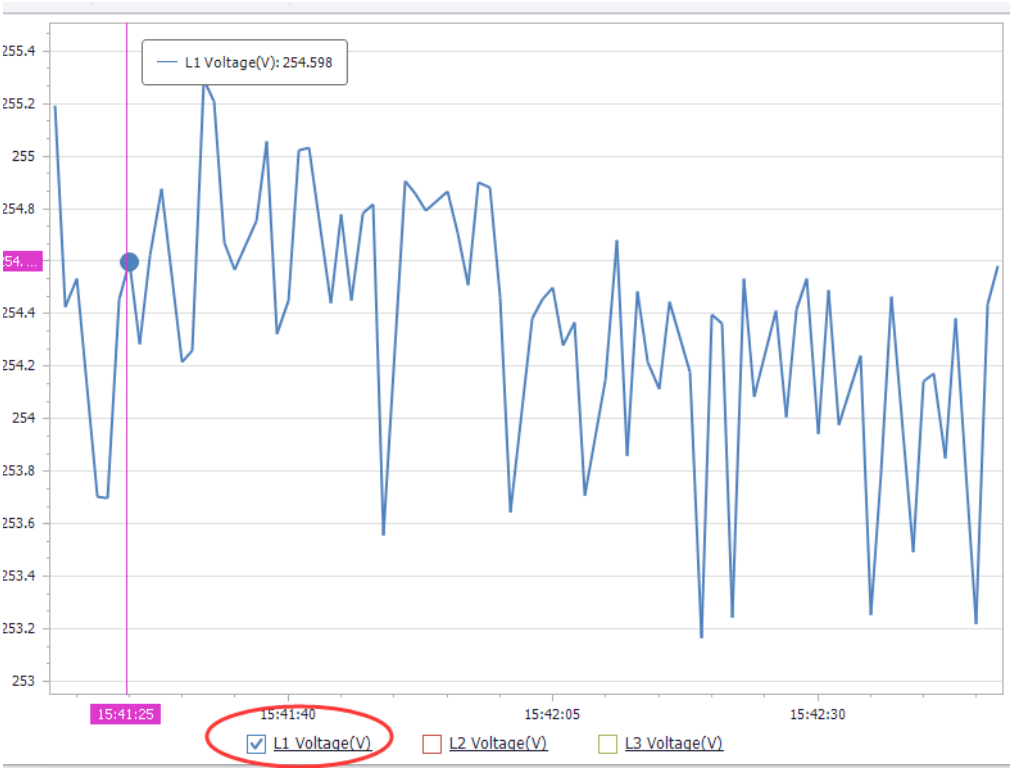


Click Left can show curve in real time of three phase current, voltage and power, etc.

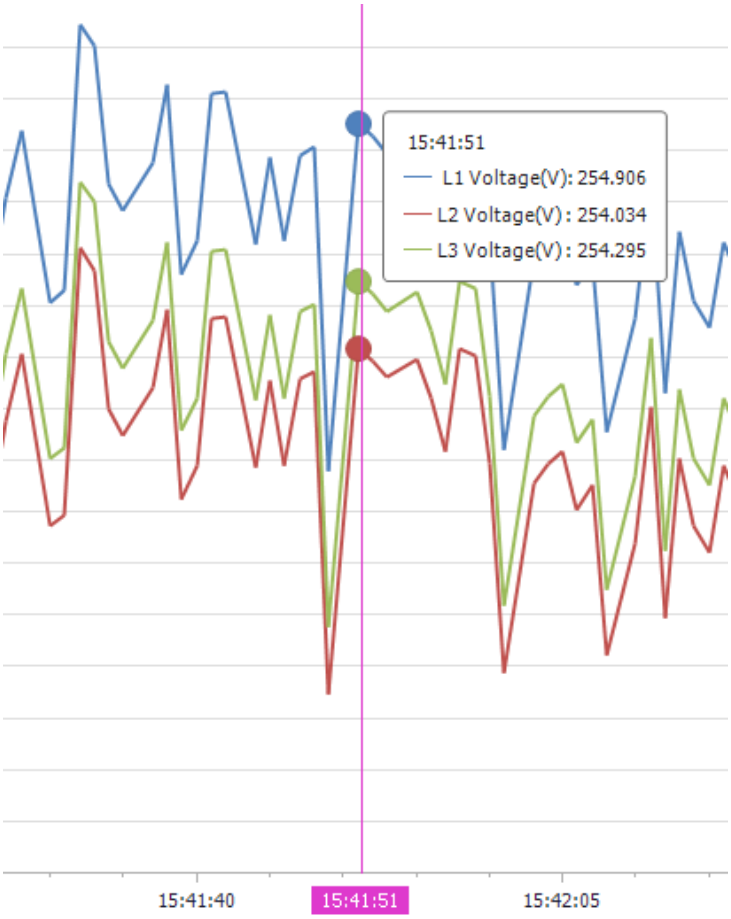
Click right button "Curves" to switch curves of each group.



Each group has three curves. The curves can be showed or hide. Click the choice box as show in below picture to show or hide the curves.



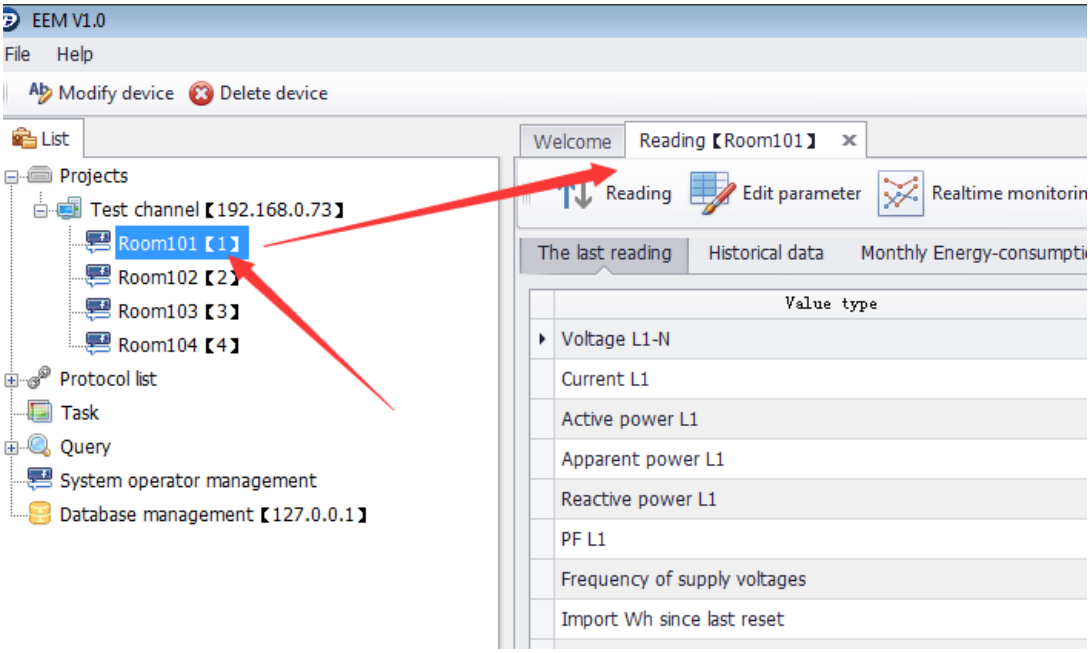
Move the cursor to left or right on the curves, the software will show the real-time reading Vernier.

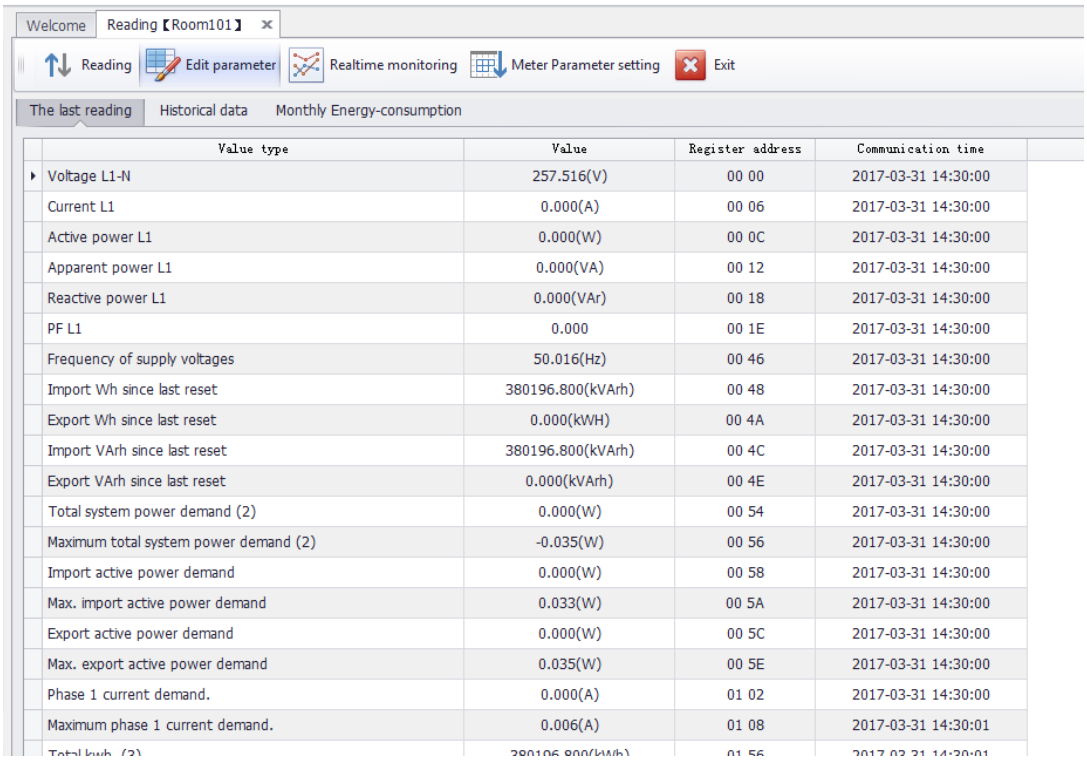


7.Energy meter parameters setting

The energy meter parameters can be set remotely, below is how to operate:

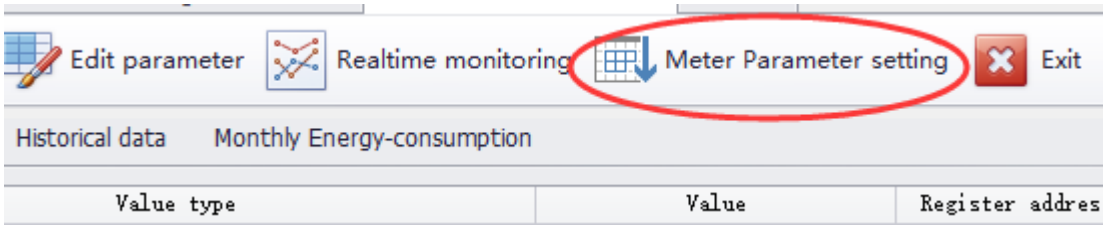
Double click the device, open the right window as show in below picture:





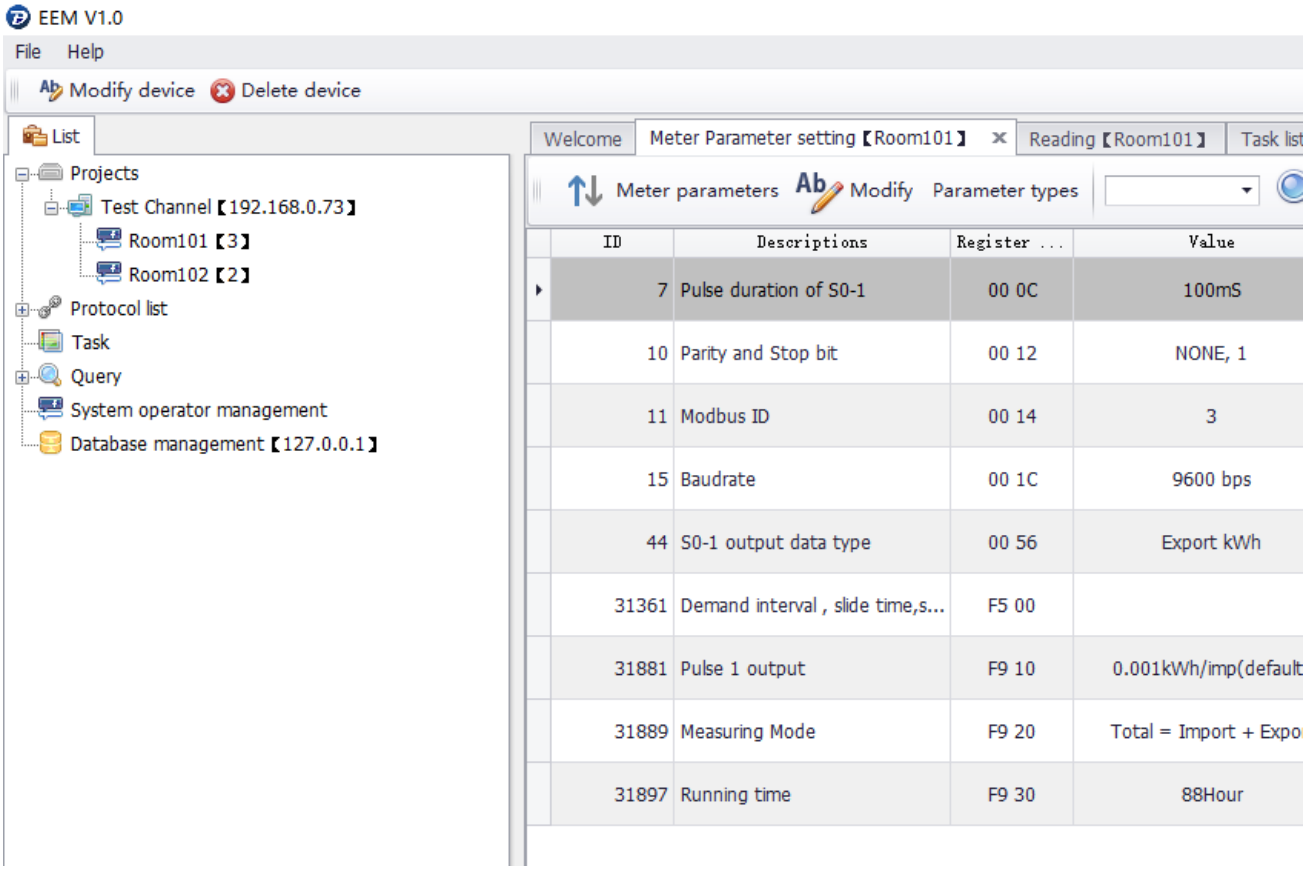
Value type	Value	Register address	Communication time
Voltage L1-N	257.516(V)	00 00	2017-03-31 14:30:00
Current L1	0.000(A)	00 06	2017-03-31 14:30:00
Active power L1	0.000(W)	00 0C	2017-03-31 14:30:00
Apparent power L1	0.000(VA)	00 12	2017-03-31 14:30:00
Reactive power L1	0.000(VAr)	00 18	2017-03-31 14:30:00
PF L1	0.000	00 1E	2017-03-31 14:30:00
Frequency of supply voltages	50.016(Hz)	00 46	2017-03-31 14:30:00
Import Wh since last reset	380196.800(kVArh)	00 48	2017-03-31 14:30:00
Export Wh since last reset	0.000(kWH)	00 4A	2017-03-31 14:30:00
Import VArh since last reset	380196.800(kVArh)	00 4C	2017-03-31 14:30:00
Export VArh since last reset	0.000(kVArh)	00 4E	2017-03-31 14:30:00
Total system power demand (2)	0.000(W)	00 54	2017-03-31 14:30:00
Maximum total system power demand (2)	-0.035(W)	00 56	2017-03-31 14:30:00
Import active power demand	0.000(W)	00 58	2017-03-31 14:30:00
Max. import active power demand	0.033(W)	00 5A	2017-03-31 14:30:00
Export active power demand	0.000(W)	00 5C	2017-03-31 14:30:00
Max. export active power demand	0.035(W)	00 5E	2017-03-31 14:30:00
Phase 1 current demand.	0.000(A)	01 02	2017-03-31 14:30:00
Maximum phase 1 current demand.	0.006(A)	01 08	2017-03-31 14:30:01

Click the button “Meter Parameter setting”

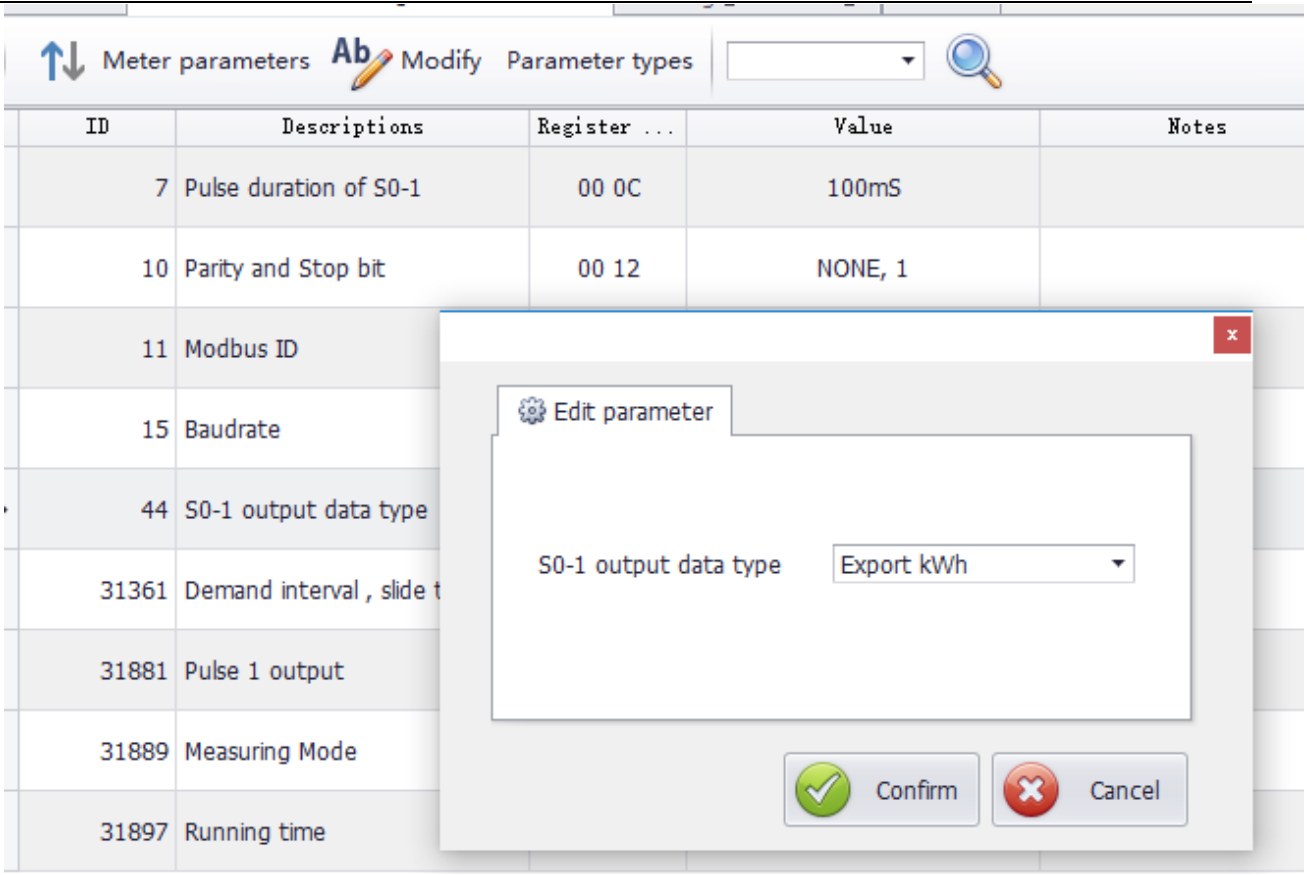


Then the software will start reading the parameters from the energy meter. When finished, a window will show on right as below picture

All parameters will be showed on the list (different meters have different parameters).



To modify a parameter, first choose the corresponding line. Then click the “Modify” button on the toolbar or the “Modify” at the end of the line. A small popup window will come out.



After modify, click “Confirm” to finish.

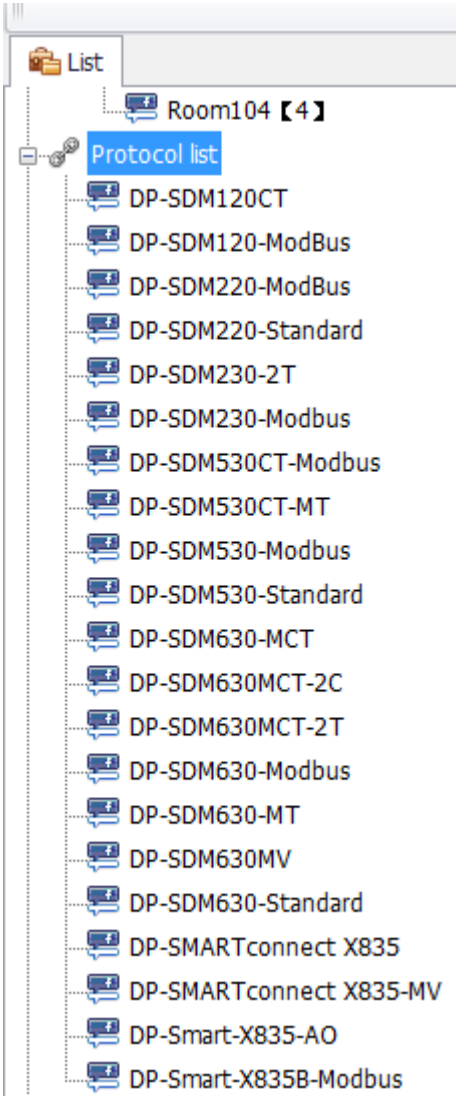
PS： After modify the communication parameters like “Modbus ID”、“Parity and Stop bit”、“Baud rate”, the channel parameters also need to be modified, or the communication will not success.

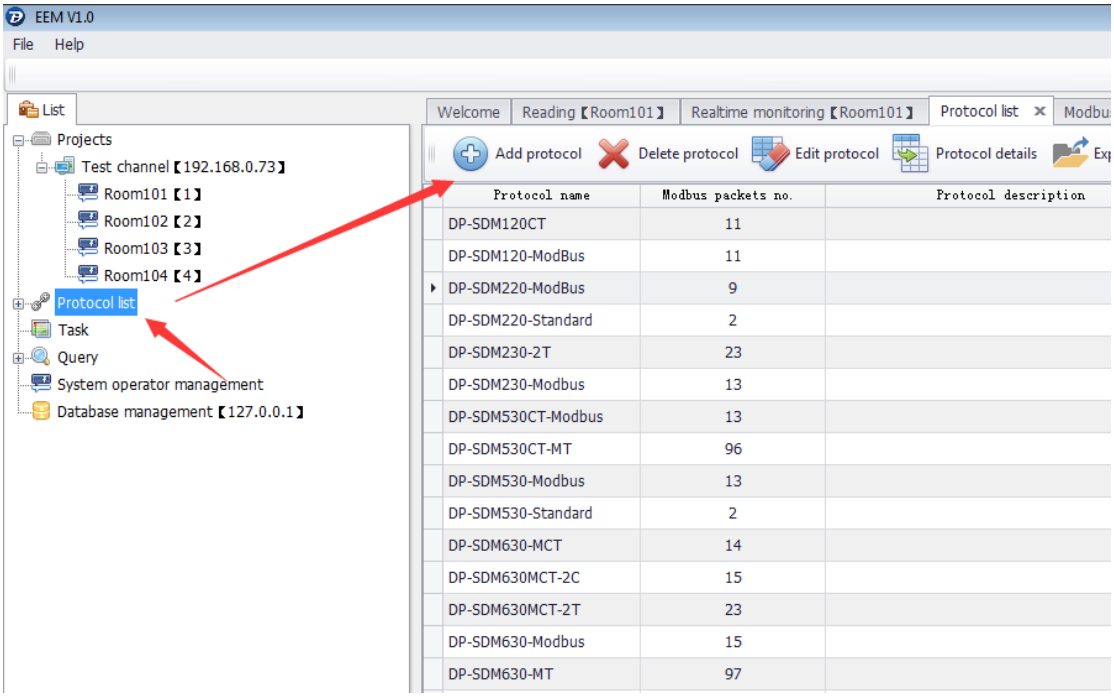
8. Device protocols management

After installing EEM software, all the protocols will be pre-install in the software. When adding the device, just need to choose the right one.

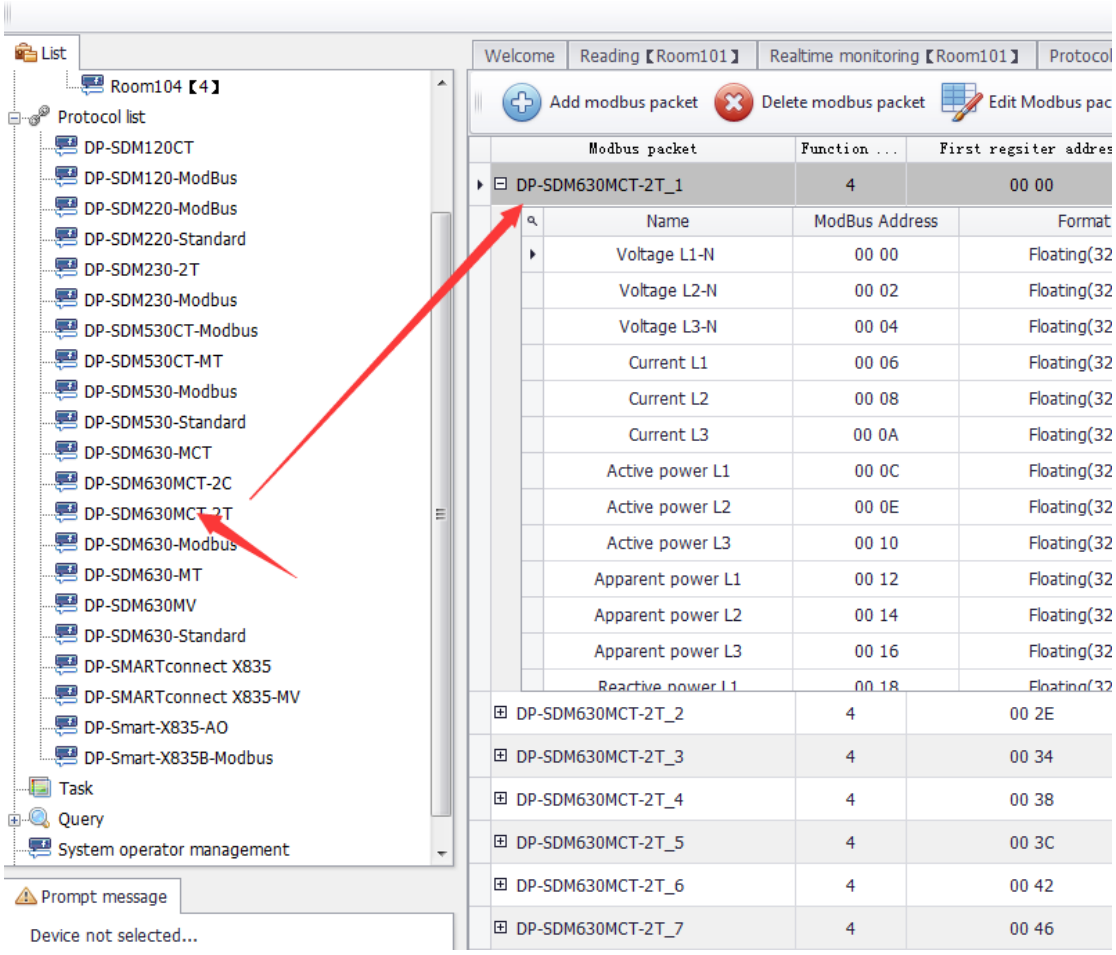
8.1 Check protocols

Double click “Protocol list” to open the list


List
Room104【4】
Protocol list
DP-SDM120CT
DP-SDM120-ModBus
DP-SDM220-ModBus
DP-SDM220-Standard
DP-SDM230-2T
DP-SDM230-Modbus
DP-SDM530CT-Modbus
DP-SDM530CT-MT
DP-SDM530-Modbus
DP-SDM530-Standard
DP-SDM630-MCT
DP-SDM630MCT-2C
DP-SDM630MCT-2T
DP-SDM630-Modbus
DP-SDM630-MT
DP-SDM630MV
DP-SDM630-Standard
DP-SMARTconnect X835
DP-SMARTconnect X835-MV
DP-Smart-X835-AO
DP-Smart-X835B-Modbus


EEM V1.0
File
Help
List
Projects
Test channel【192.168.0.73】
Room101【1】
Room102【2】
Room103【3】
Room104【4】
Protocol list
Task
Query
System operator management
Database management【127.0.0.1】
Welcome
Reading【Room101】
Realtime monitoring【Room101】
Protocol list
Add protocol
Delete protocol
Edit protocol
Protocol details
Protocol name
Modbus packets no.
Protocol description
DP-SDM120CT 11
DP-SDM120-ModBus 11
DP-SDM220-ModBus 9
DP-SDM220-Standard 2
DP-SDM230-2T 23
DP-SDM230-Modbus 13
DP-SDM530CT-Modbus 13
DP-SDM530CT-MT 96
DP-SDM530-Modbus 13
DP-SDM530-Standard 2
DP-SDM630-MCT 14
DP-SDM630MCT-2C 15
DP-SDM630MCT-2T 23
DP-SDM630-Modbus 15
DP-SDM630-MT 97

Double click one of the protocol then the details of this protocol will be showed.



8.2 Add protocols

We have defined all the protocols which are preinstalled. Some protocols have many parameters. If we don't need to read so many parameters, we can define the protocol by ourselves.

A protocol will be divided into three grades. First grade defines the name of the main protocol. Second grade are the groups protocol packet which under the main protocol; it can define many group of the protocol packets. The third grade is the reading protocol, which under the group protocol packet. According the definition of Modbus protocol, many registers can be read Consecutively if the register addresses are continuous.

Example: we need to add a protocol for a device.

First grade, define the name of the main protocol： DP-530-Modbus-EX

Second grade, define three groups of protocol packets, the name of protocol packet:

DP-530-Modbus-EX_1

DP-530-Modbus-EX_2

DP-530-Modbus-EX_3

Third grade, define the continuous register address:

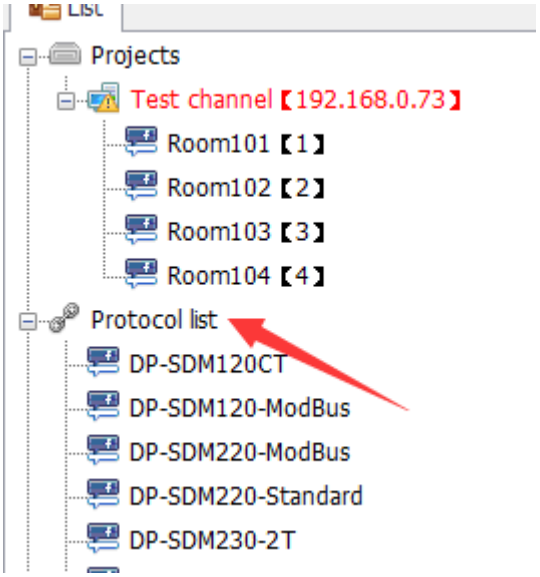
DP-530-Modbus-EX_1 the parameters of register name and address under the group of protocol packet which define the reading protocol. See as below:

Name	Modbus Address	Total byte	...
Voltage L1-N	00 00	4	...
Voltage L2-N	00 02	4	...
Voltage L3-N	00 04	4	...
Current L2	00 06	4	...
...	...	...	...

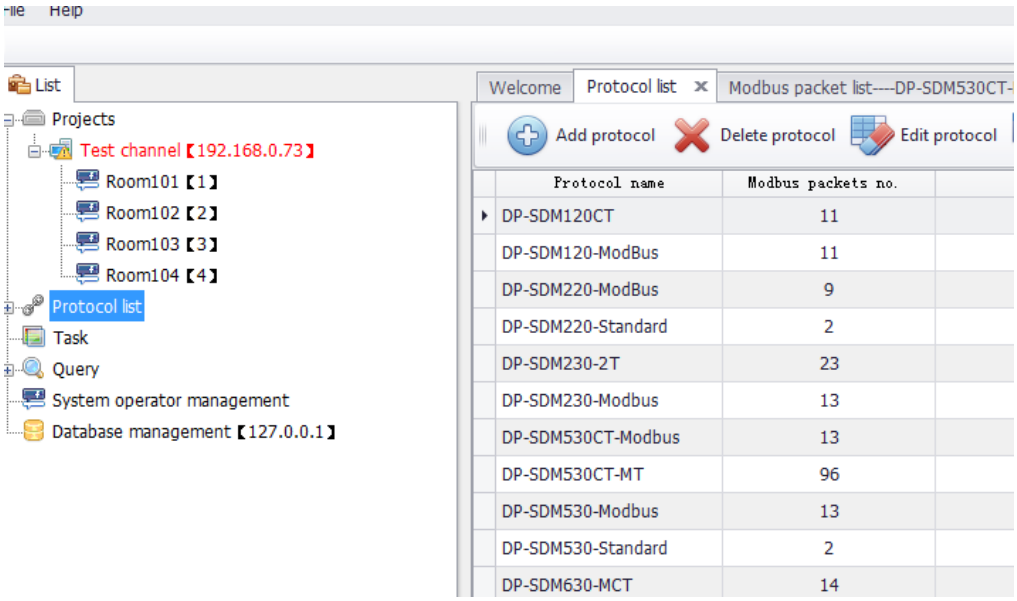
DP-530-Modbus-EX_2、DP-530-Modbus-EX_3 two groups of protocol packet, also should allow this rule to define the protocols.

Below is the software operation:

Double click the button of" Protocol list" which in the upper left corner of the function tree window

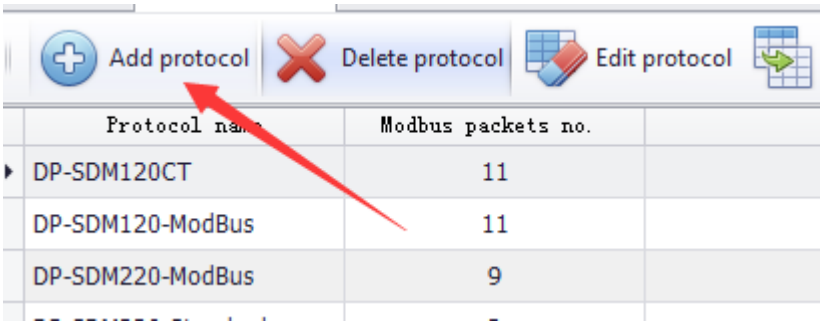


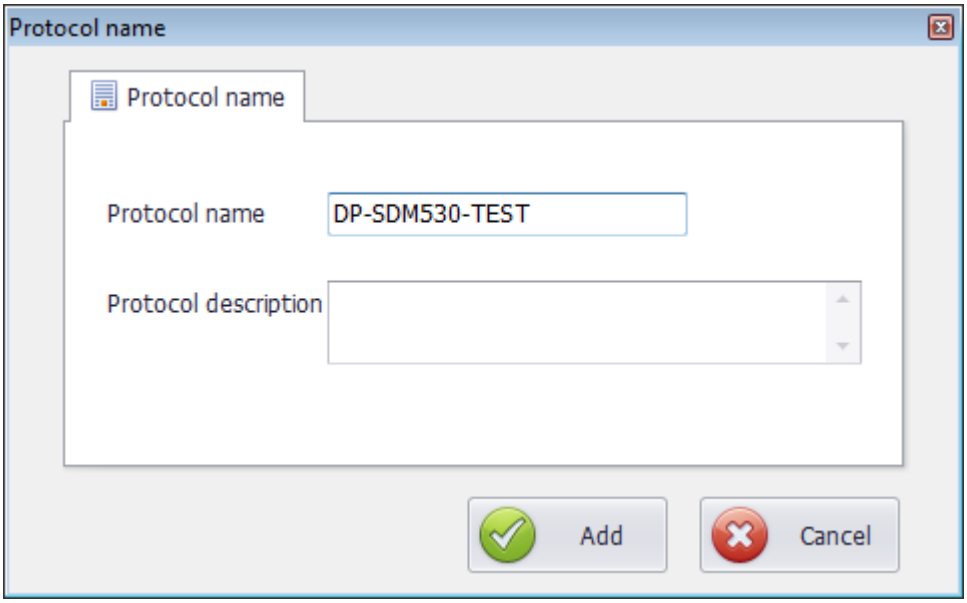
In the right window, all the protocol will be listed



8.2.1 Add main protocol

Double click “Add protocol”, a small popup window will come out for adding protocol , see below picture:



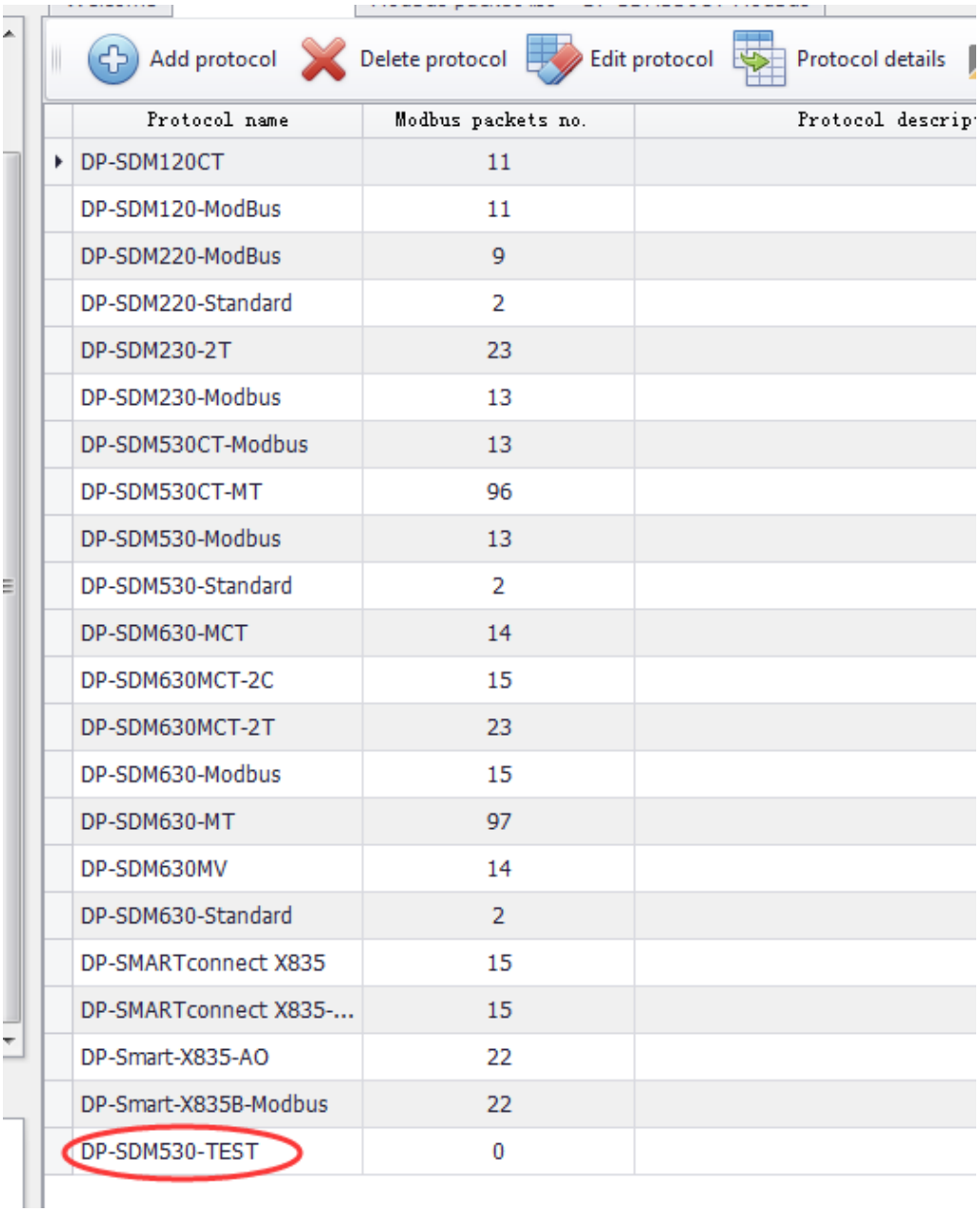


Protocol name： the name of main protocol

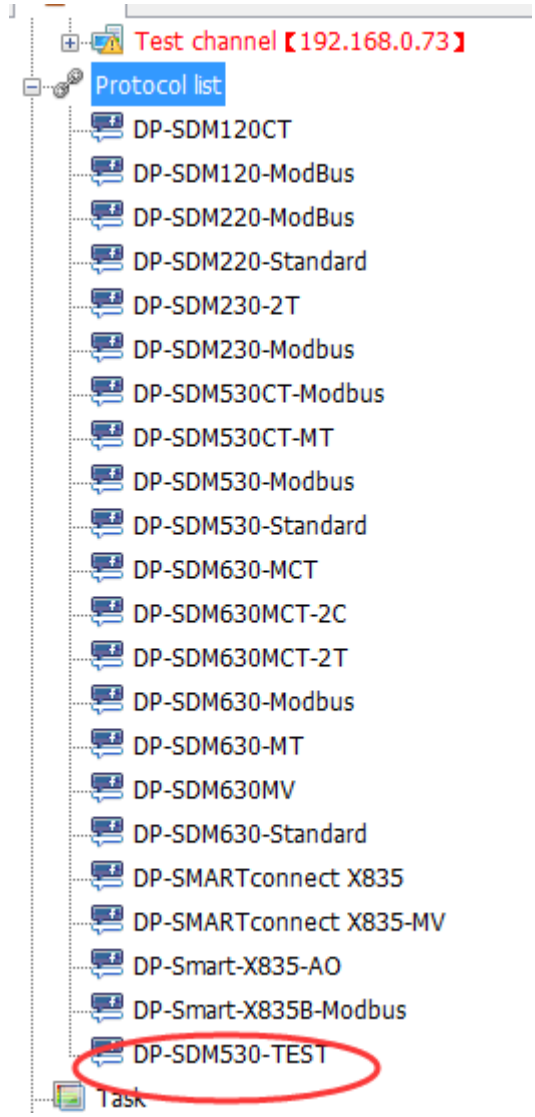
Protocol description： the description of the main protocol

Enter the name of the protocol (PS: the name of the protocol can't be repeated) and description of the protocol (can be empty).

Click "Add" to finish adding the protocol. After finished, in the left protocol tree list and right window will add a new protocol.

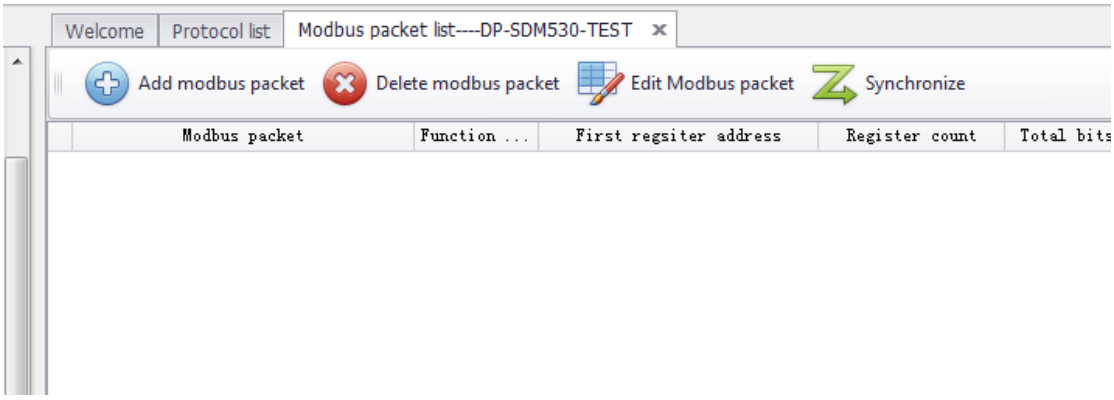


Protocol name	Modbus packets no.	Protocol descrip
DP-SDM120CT	11	
DP-SDM120-ModBus	11	
DP-SDM220-ModBus	9	
DP-SDM220-Standard	2	
DP-SDM230-2T	23	
DP-SDM230-Modbus	13	
DP-SDM530CT-Modbus	13	
DP-SDM530CT-MT	96	
DP-SDM530-Modbus	13	
DP-SDM530-Standard	2	
DP-SDM630-MCT	14	
DP-SDM630MCT-2C	15	
DP-SDM630MCT-2T	23	
DP-SDM630-Modbus	15	
DP-SDM630-MT	97	
DP-SDM630MV	14	
DP-SDM630-Standard	2	
DP-SMARTconnect X835	15	
DP-SMARTconnect X835-...	15	
DP-Smart-X835-AO	22	
DP-Smart-X835B-Modbus	22	
DP-SDM530-TEST	0	

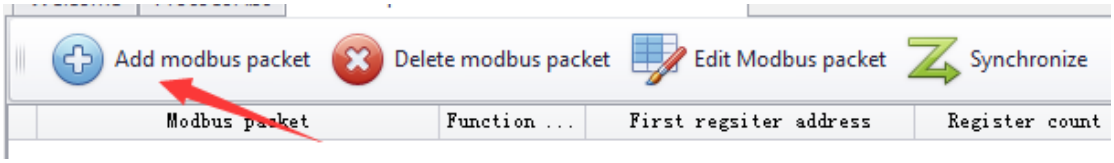


8.2.2 Add groups of protocol

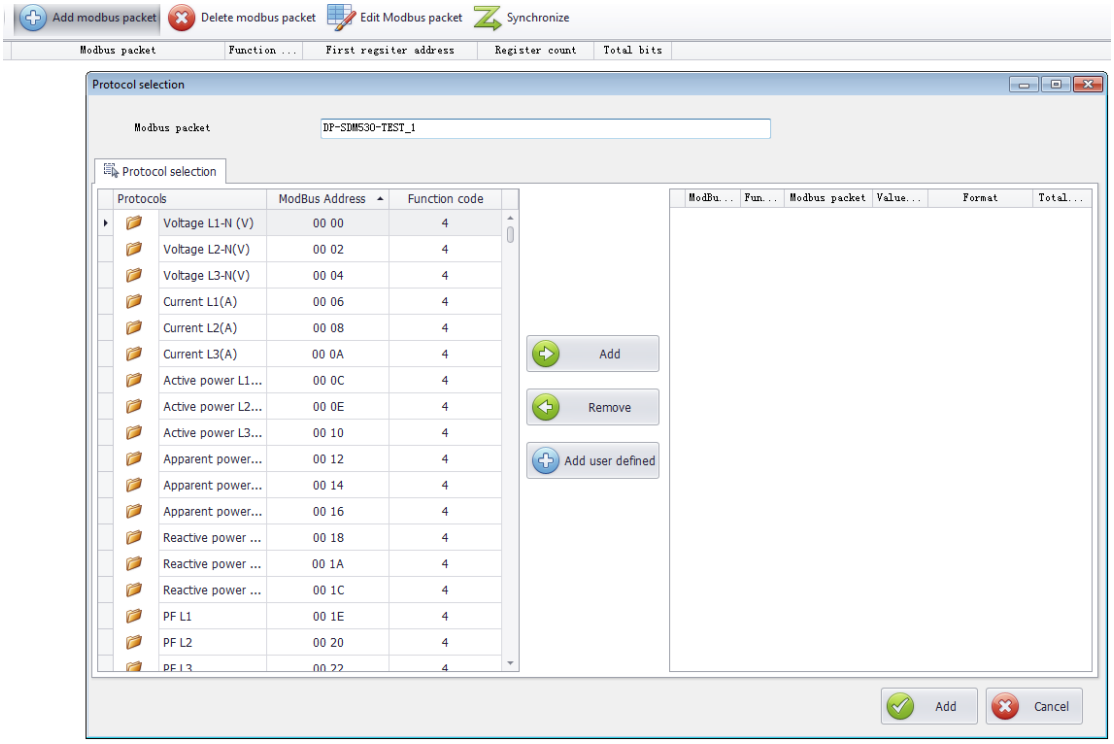
Double click the protocol name “DP-SDM530-TEST” in left which added just now. then a window of group of protocol packet list will be open.



Then add the group of protocol packet, click" Add Modbus packet"



A popup window will come out



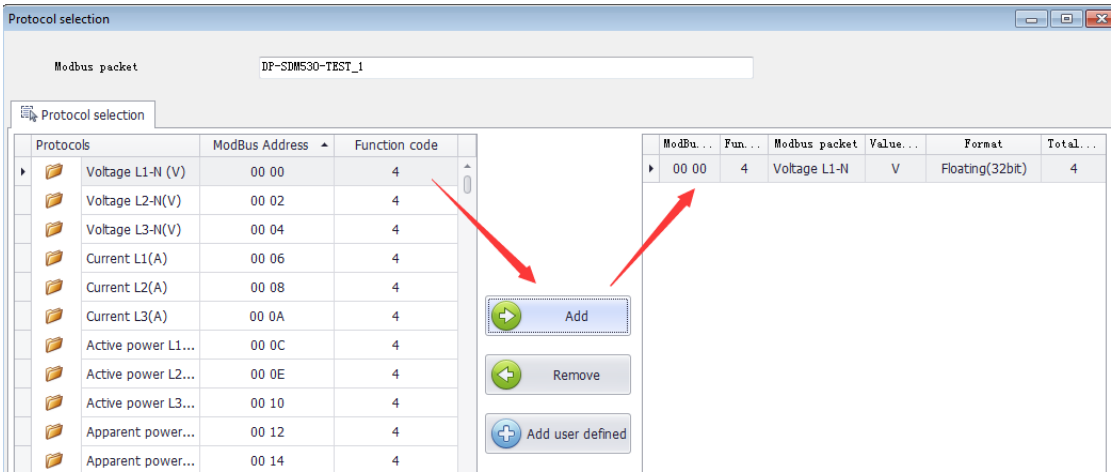
Modbus packet： means the name of the group of protocol packet, the system will have a name automatically. You can define it by your own. Normally we will use the name which system give us as default.

In the left list, there is our protocol library. You can choose the protocol which you need.

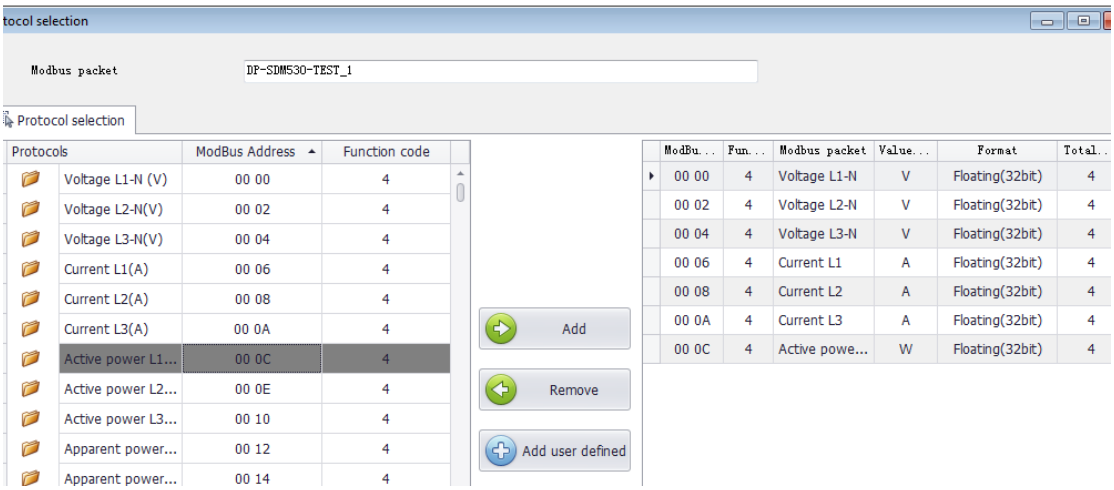
In the right is the chosen protocol.

Choosing the protocol, you need in the protocol library.

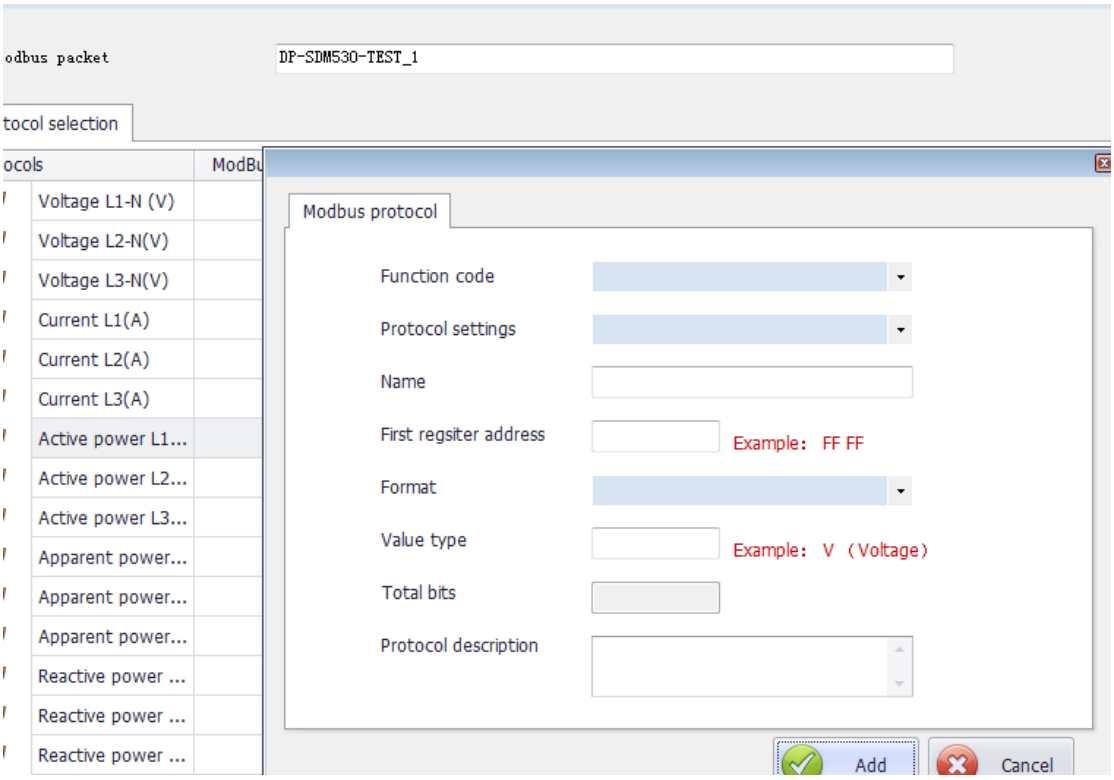
In the left, choosing the protocol to double click them or press "Add" button, then in the right window will add the protocol you just choose, see below picture:



Many continuous protocols can be adding. Discontinuous protocols can't be adding.

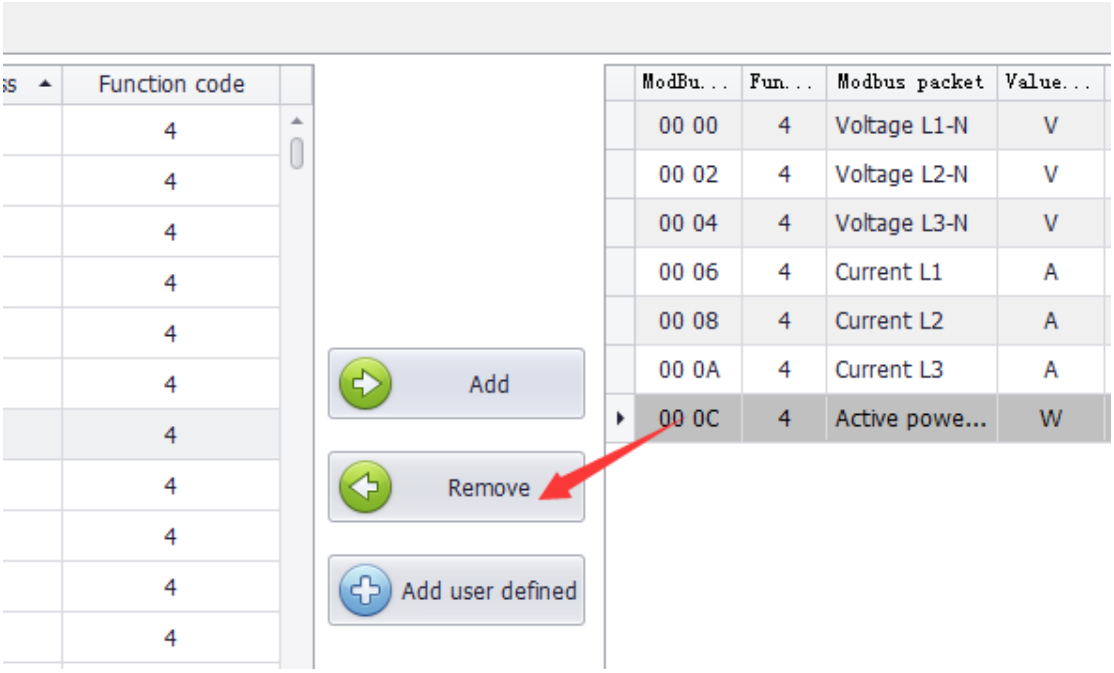


The protocol of user own also can be added, click "Add user defined" to open a small popup window.



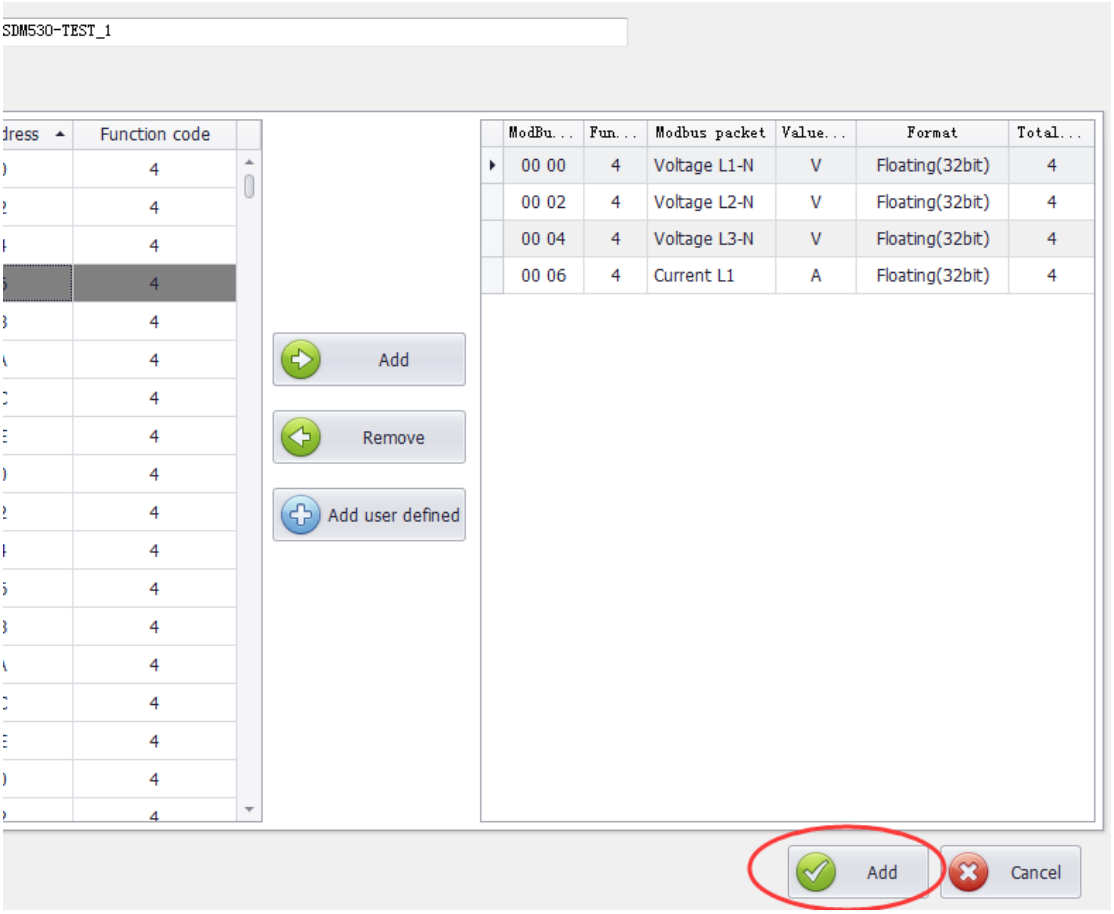
Enter parameters, press" Add", the register address also should be continuous.

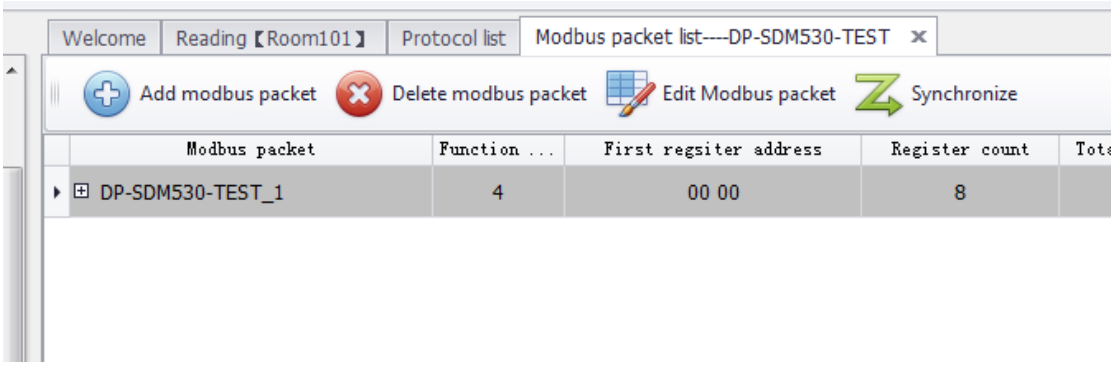
If add wrong protocol, it can be removed. Click the protocols in right, press the button of "Remove", then the wrong protocol will be removed.



PS： When moving the protocols, only can remove them one by one. And only can remove the protocol on the head or bottom for the consistency of protocol.

After choosing the protocol, click the “Add” button to finish the definition of the group of protocol packet.

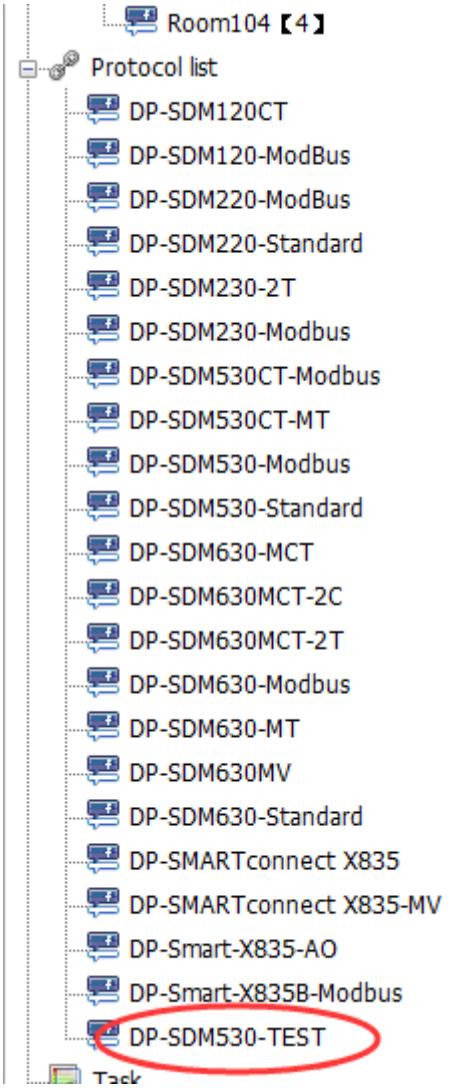




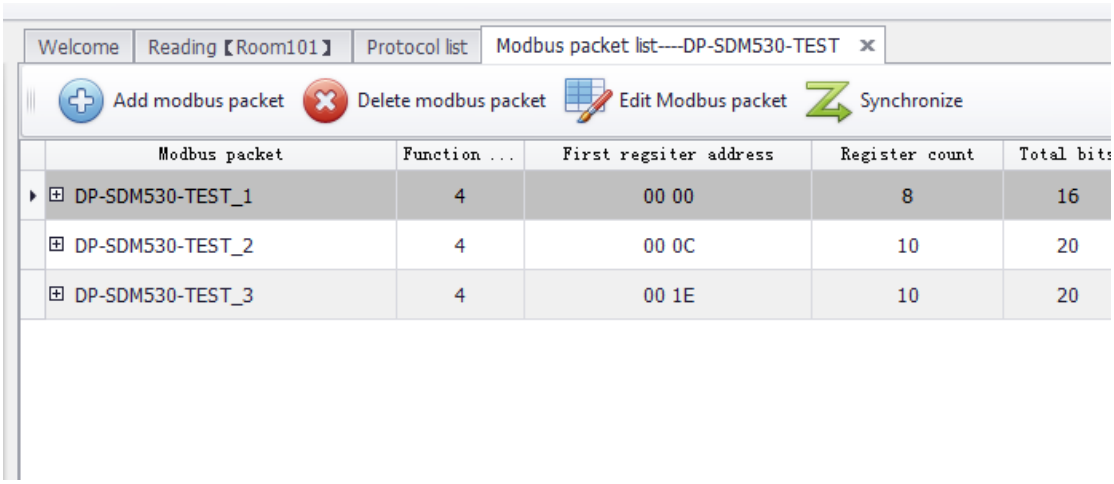
8.3 Delete protocol

8.3.1 delete group of protocol packet

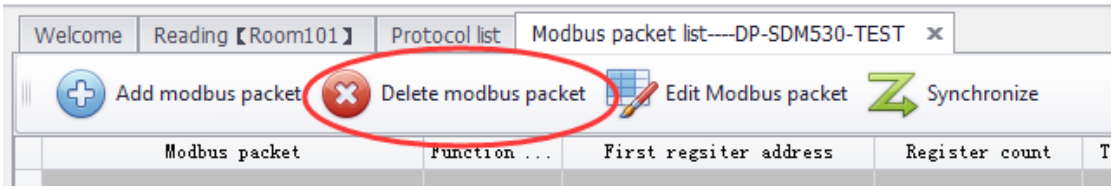
Choosing the protocol in the left protocol tree, see below picture:



Double click to enter the window of the group of protocol packet.



Choosing the group pf protocol packet which want to be deleted, click" Delete Modbus packet" button

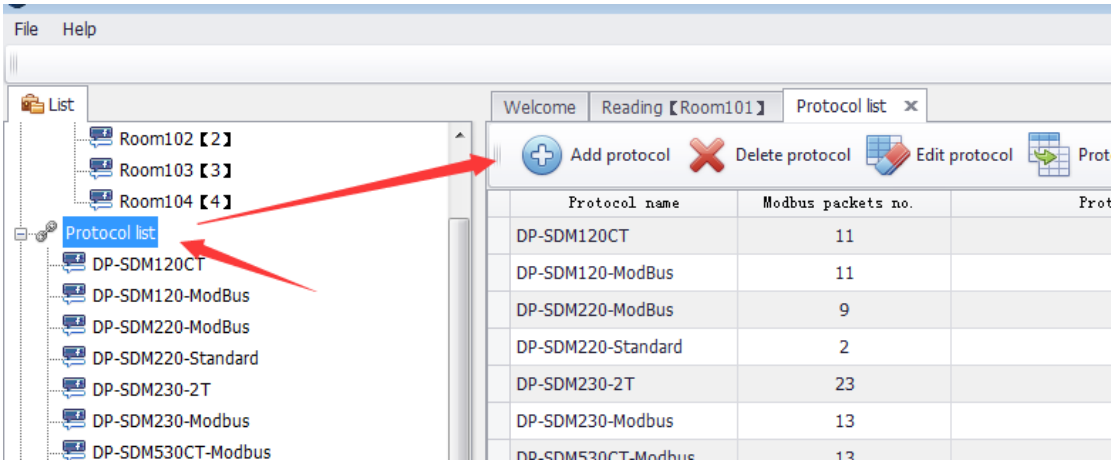


Then the protocol deleted

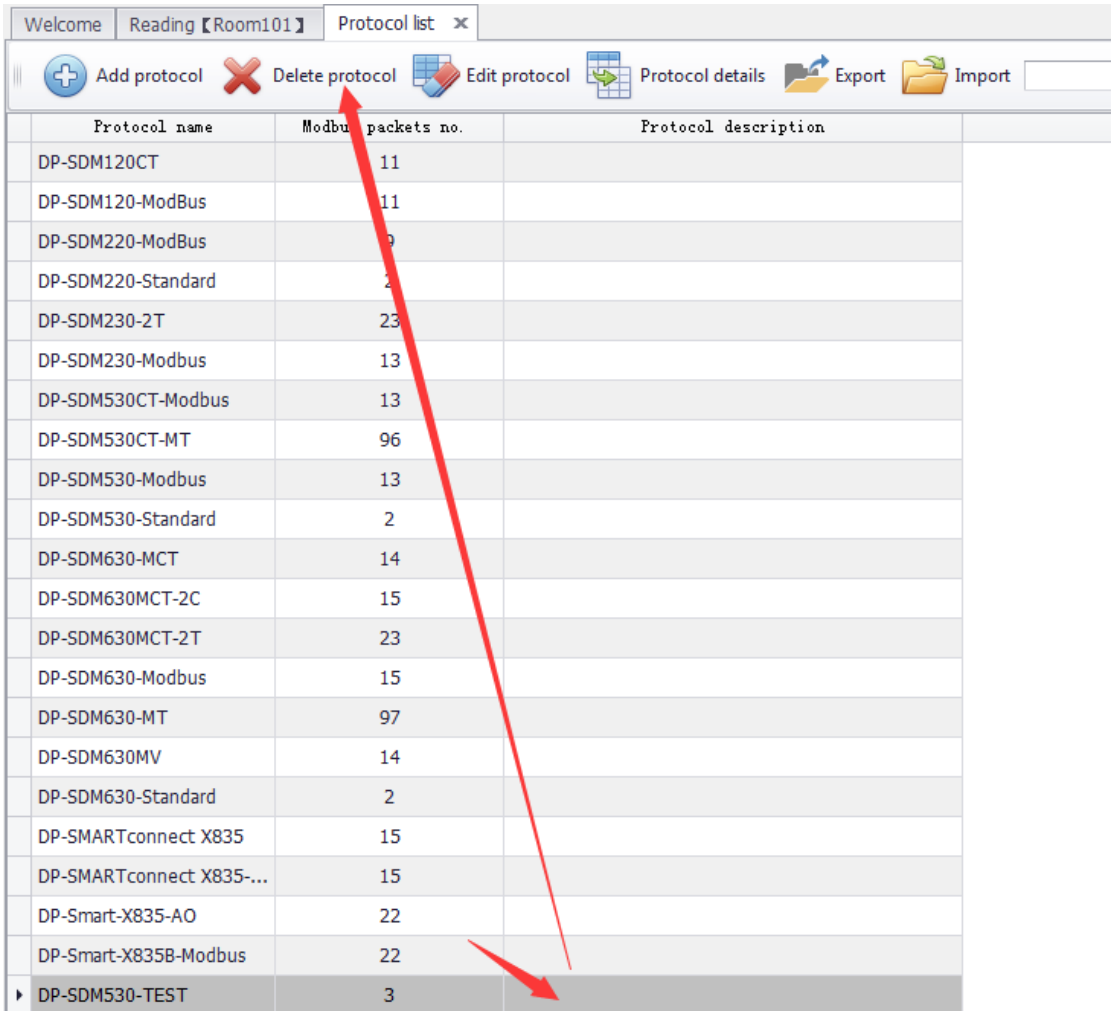
PS： after delete the protocol packet, the device take effect after synchronize to the device list which have this protocol.

8.3.2 Delete main protocol

Click "Protocol list" to open the protocol list in the left function tree.



Choosing the protocol which need to be deleted, click" Delete protocol"



Protocol name	Modbus packets no.	Protocol description
DP-SDM120CT	11	
DP-SDM120-ModBus	11	
DP-SDM220-ModBus	9	
DP-SDM220-Standard	2	
DP-SDM230-2T	23	
DP-SDM230-Modbus	13	
DP-SDM530CT-Modbus	13	
DP-SDM530CT-MT	96	
DP-SDM530-Modbus	13	
DP-SDM530-Standard	2	
DP-SDM630-MCT	14	
DP-SDM630MCT-2C	15	
DP-SDM630MCT-2T	23	
DP-SDM630-Modbus	15	
DP-SDM630-MT	97	
DP-SDM630MV	14	
DP-SDM630-Standard	2	
DP-SMARTconnect X835	15	
DP-SMARTconnect X835-...	15	
DP-Smart-X835-AO	22	
DP-Smart-X835B-Modbus	22	
DP-SDM530-TEST	3	

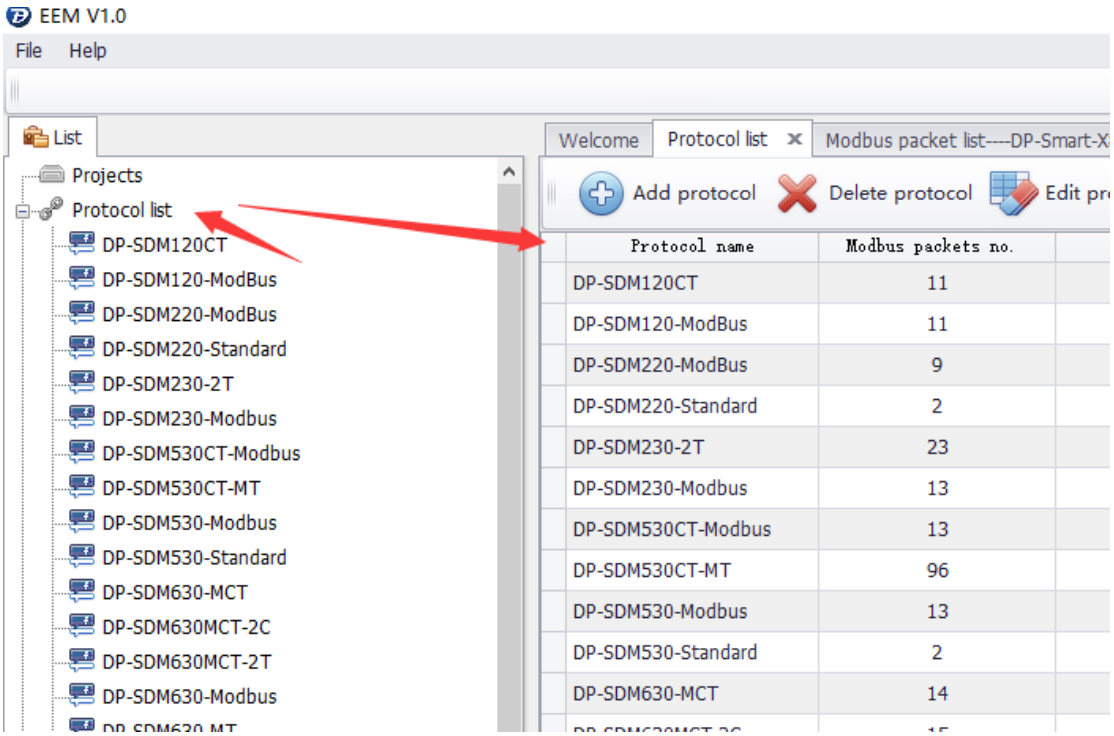
Then the protocol deleted.

PS：if one or more than one device connects with the protocol, the protocol can't be deleted; if no device connects with the protocol, the protocol can be deleted.

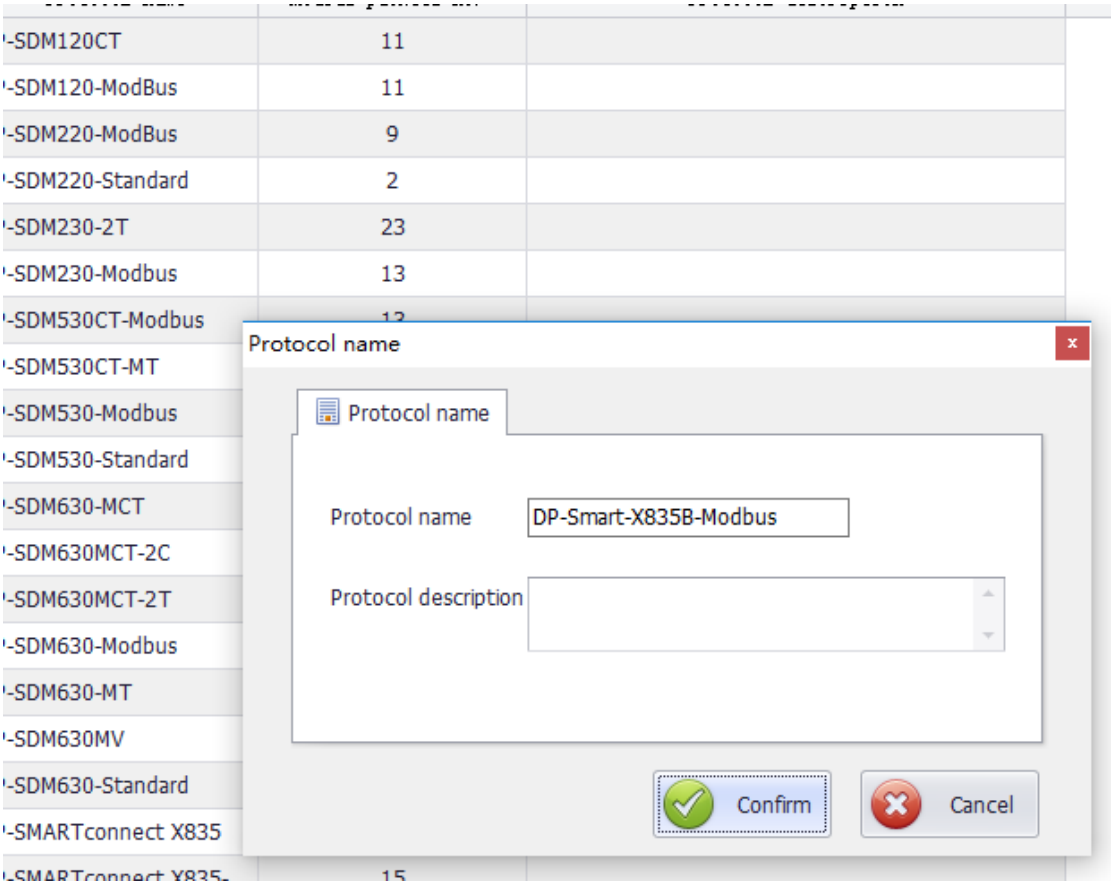
8.4 Modify protocol

8.4.1 Modify main protocol

Double click left function tree "Protocol list" to open the protocol list.



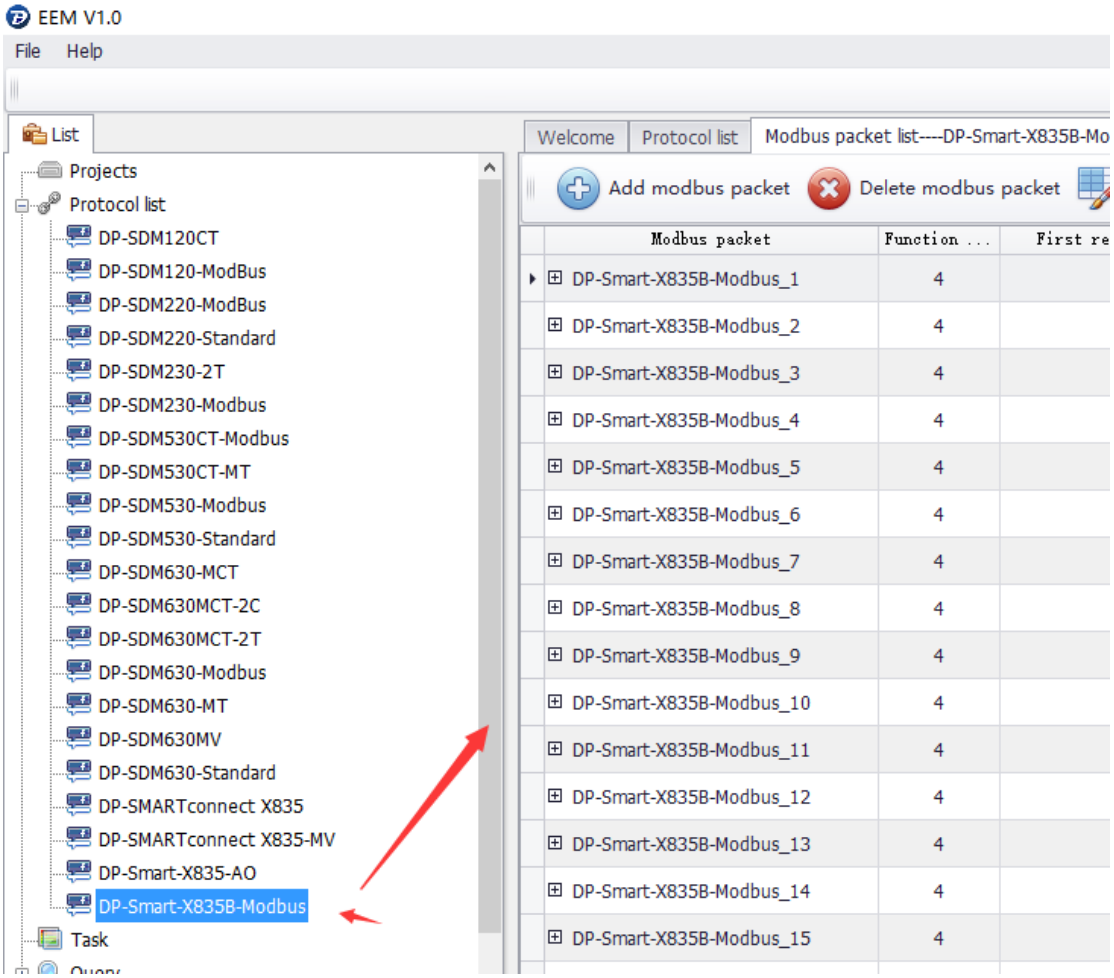
Choosing the protocol which need to be modified, click “Edit protocol”, a small popup window will come out.



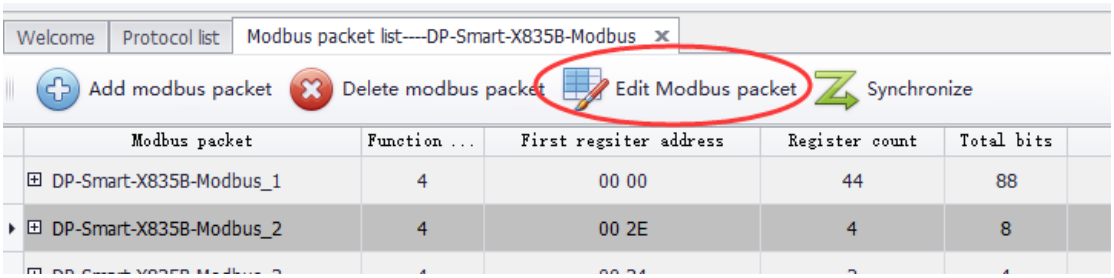
After modify the name of protocol, click “Confirm” to finish modify.

8.4.2 Modify groups of protocol packet

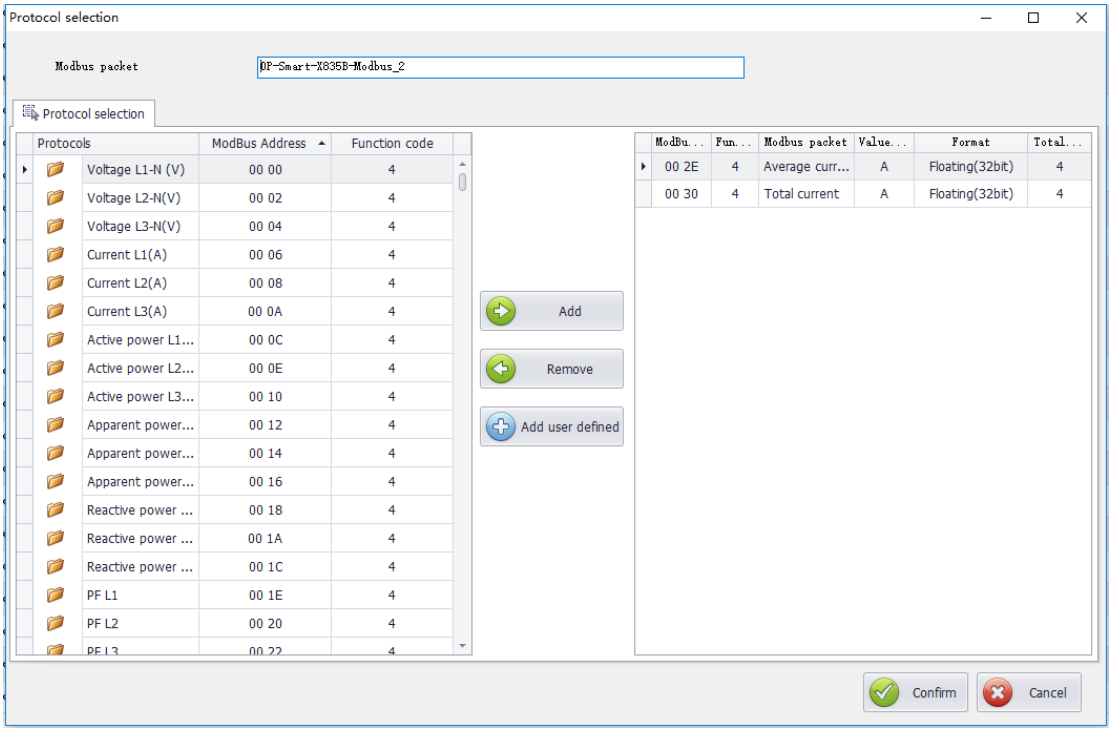
Double click the protocol which need to be modified in the left to open the protocol packet list.



Choosing the group of protocol packet in the right, click" Edit Modbus packet".

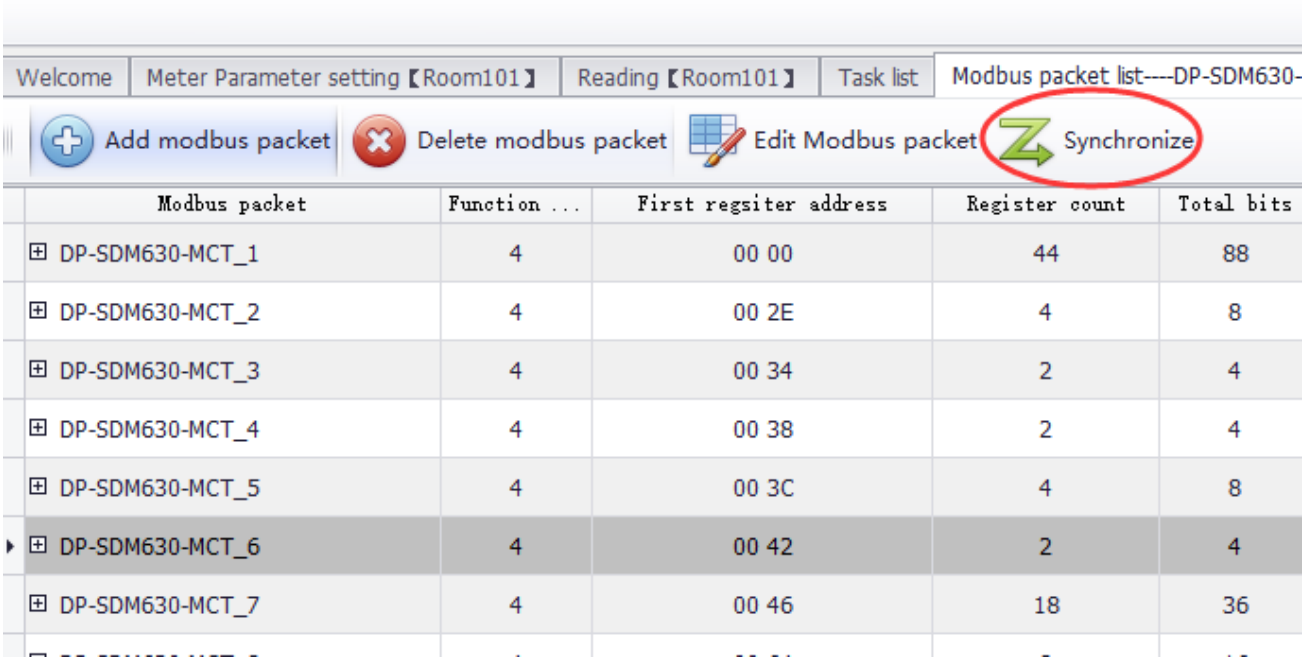


A popup window will come out.



Specific operation is the same is adding group of protocol packet. Please refer to below adding group of protocol list.

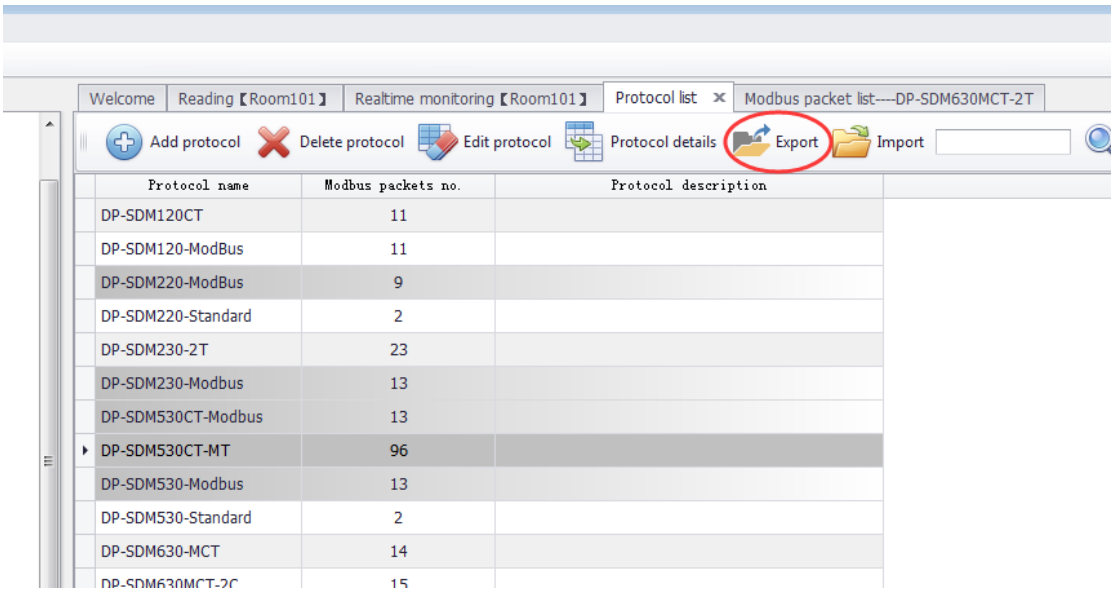
PS：if the protocol changed, all the device which connect with this protocol, need to click “Synchronize” to ensure consistency of protocol.



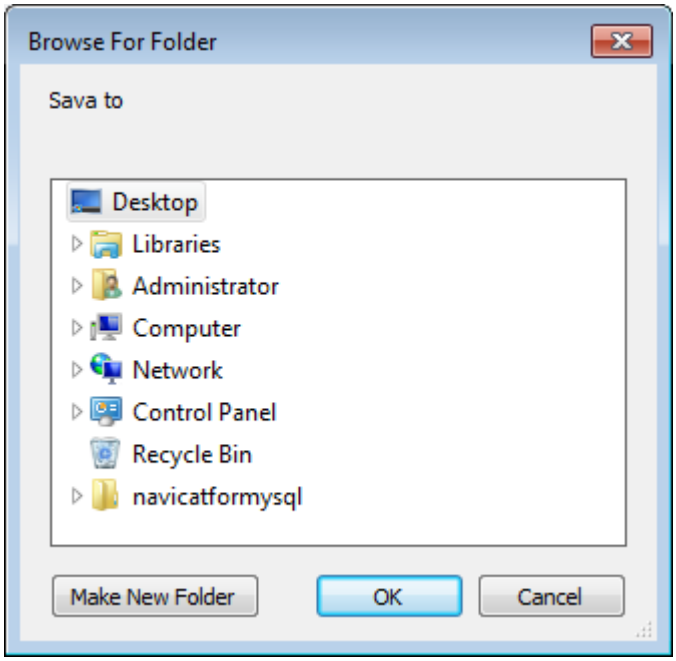
8.5 Import/Export protocols

8.5.1 Export protocol

Choosing he protocol which need to be exported (press Ctrl+left click of the mouse can choosing many of the protocols, Press Ctrl+A can select all the protocols)， click “Export” button



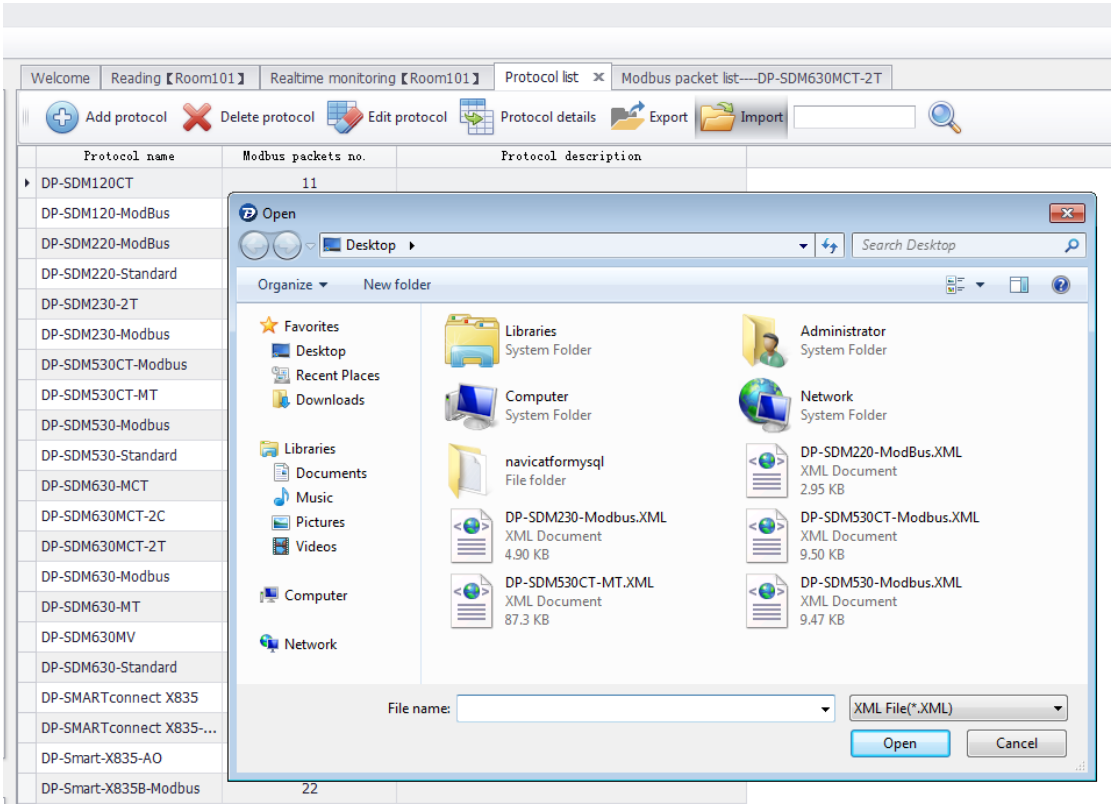
A small popup window will come out



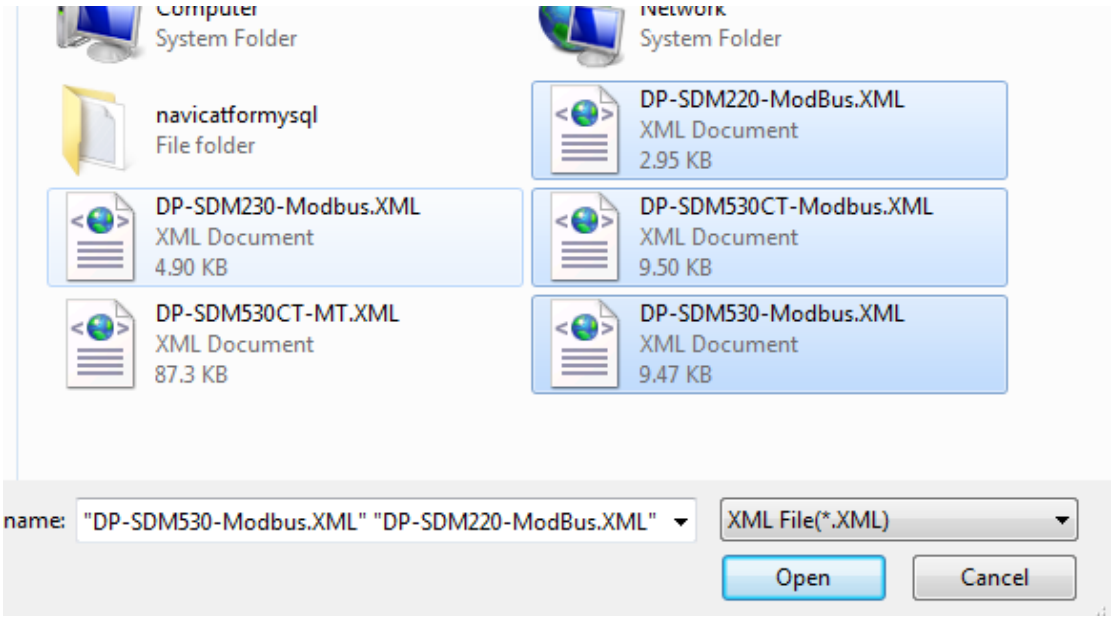
Choosing the catalog which want to save, click “OK”, then under the save catalog will generate XML protocol document.

8.5.2 Import protocol

Click “Import “button, a small popup window will come out.

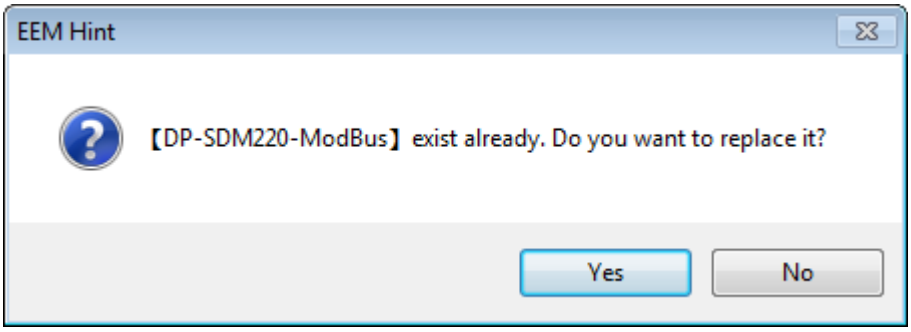


Choosing the protocol document, the file extension should be XML, many protocol documents can be chosen.



After choosing, click" Open", EEM software will import these protocols.

If the protocol already exists, the system will ask need to cover the origin protocols or not.



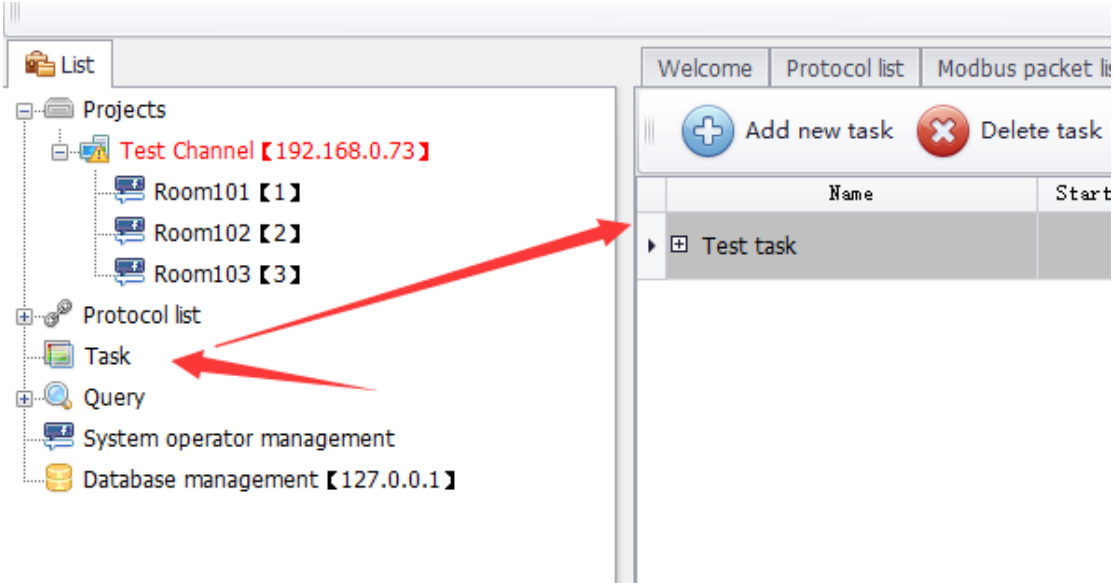
Click “Yes” to cover, click “No”, the origin protocol will not be updated.

9. Meter reading task

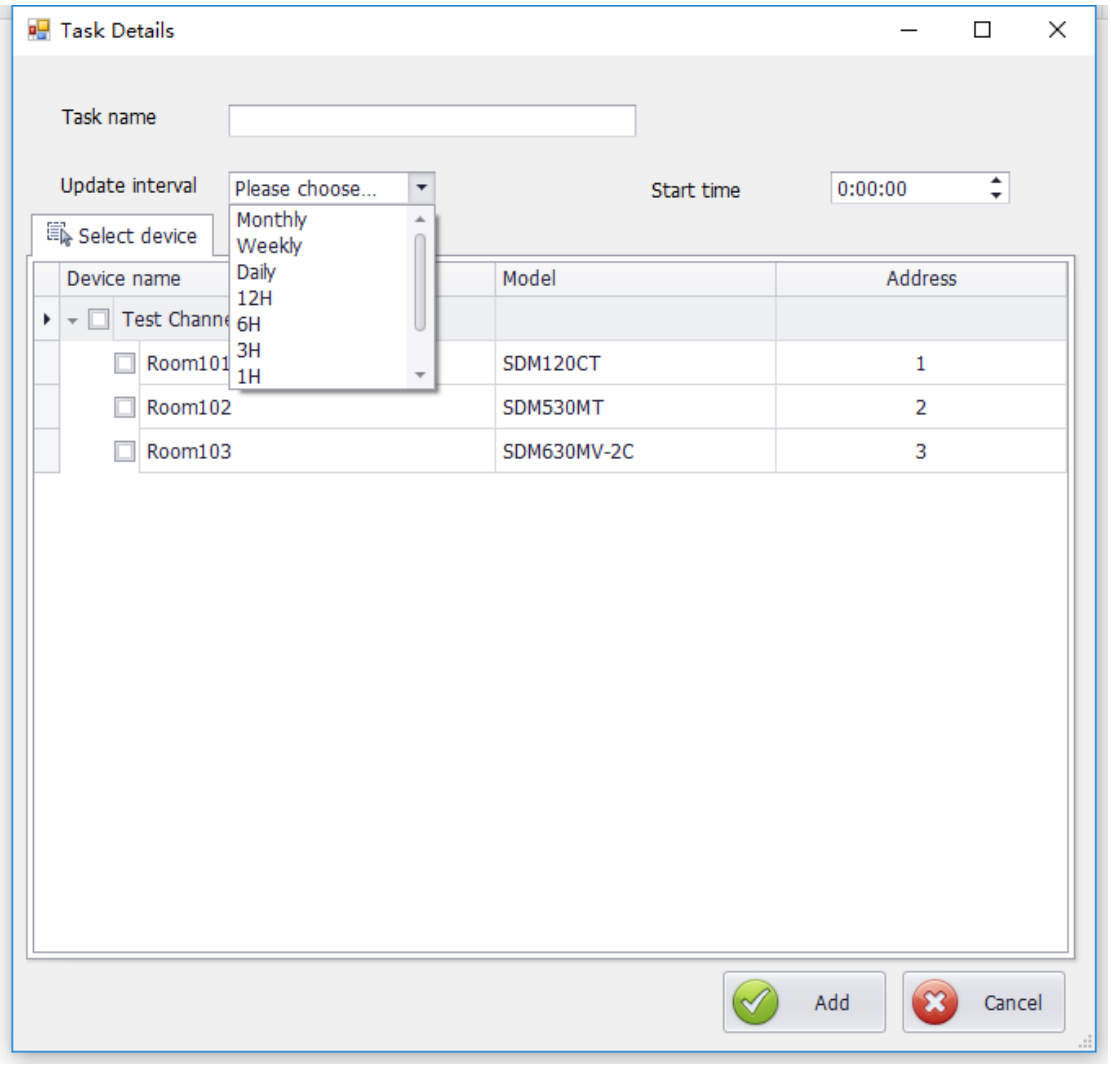
This function use to define the plan which can do automatic meter reading regularly. The task can be started at each month, each week, each day, each hour.

9.1 Create meter reading task

Double click the “task” in the left function tree. In the right will open a plan list.



Click “Add new task” button, a small popup window will come out.



Task name: the name of the task；

Update interval： the frequency of the meter reading（every month, every week, every day, every 12 hours, every 6 hours, every three hours, every hour, every 30 minutes, every 15 minutes）;

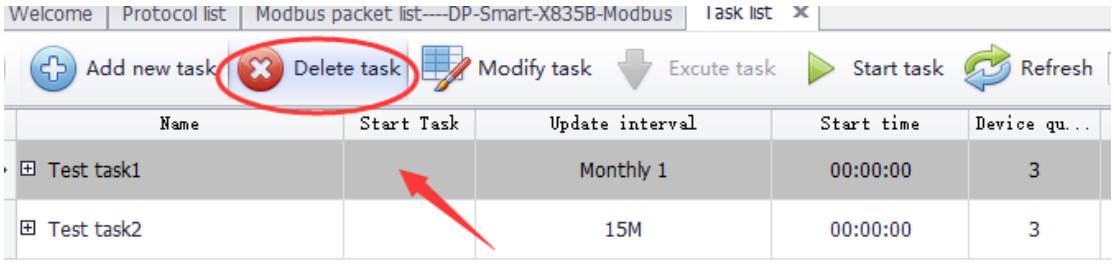
Start time： meter reading start time；

Select device： can select the device which meter be read. All the meter under one channel can be chosen, or 下 we can choose some channels.

After chosen, click “Add” to finish the meter reading task adding.

9.2Delete meter reading task

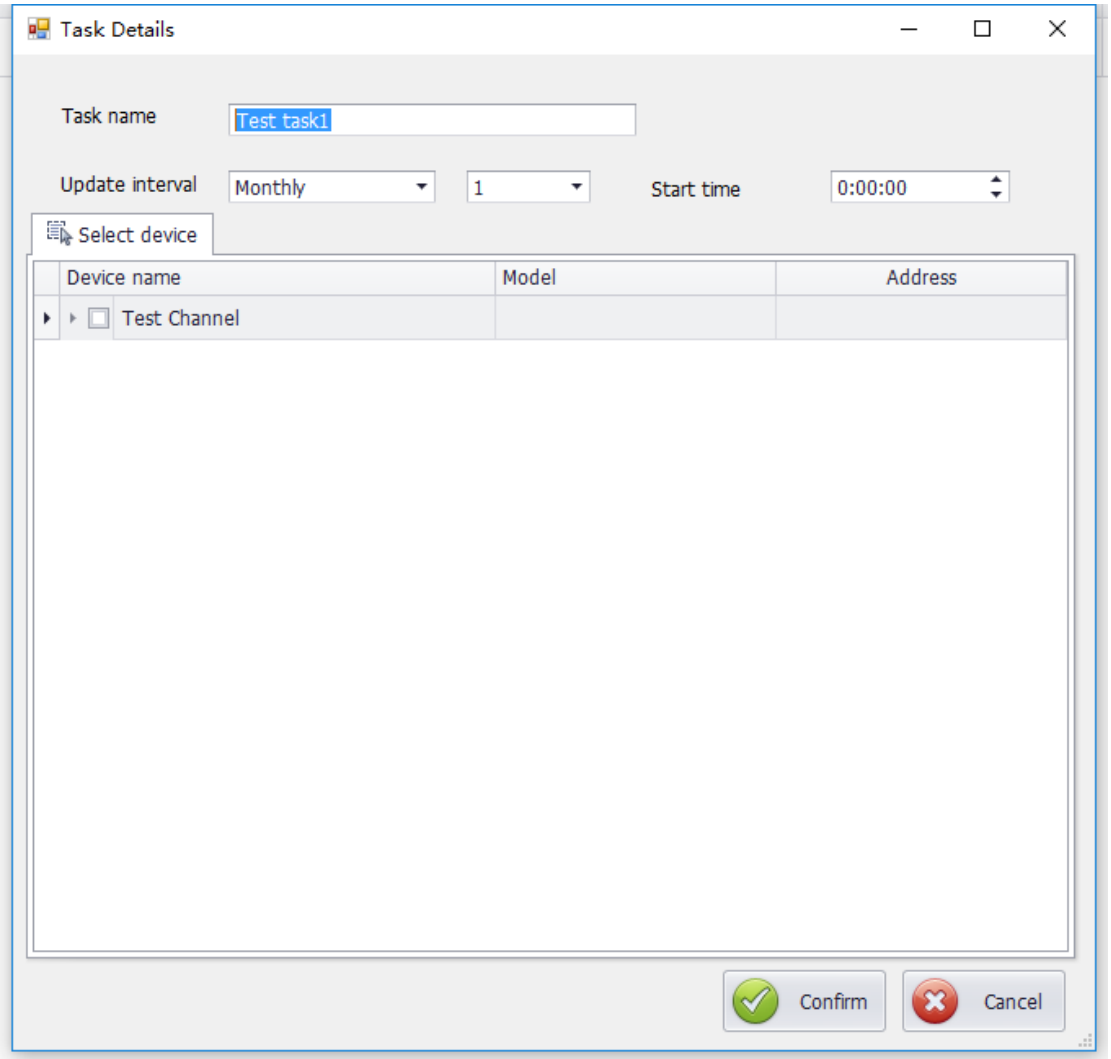
In the list of meter reading plan, select the reading task which need to be deleted, click “Delete task” to delete the task.



PS：if the task already started, it can't be deleted.

9.3Modify meter reading task

In the reading task list, choosing the task which need to be modified, click "Modify task" to open a small popup window.

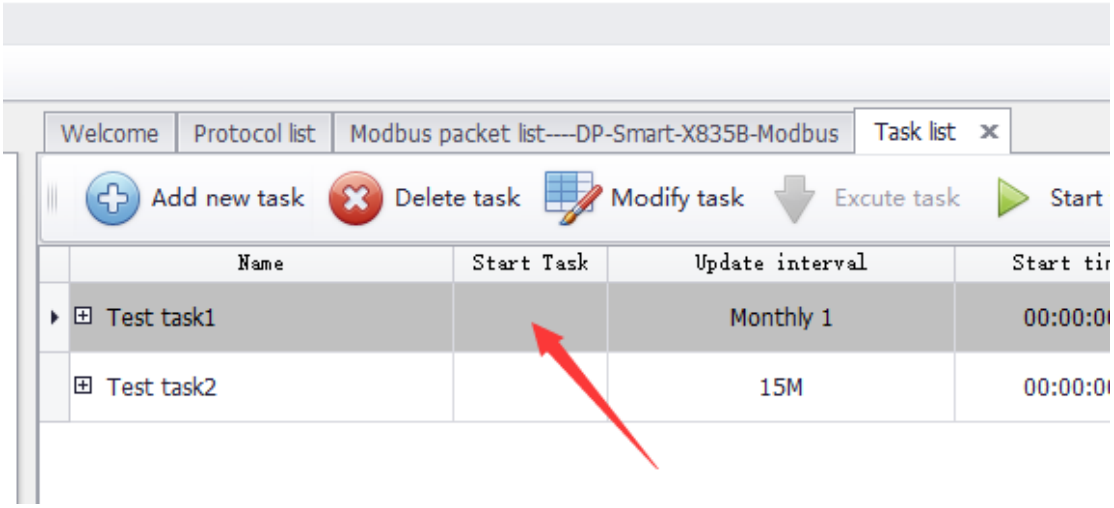


Modifying operation is the same as adding operation, please check the adding task.

PS：if the task already started, it can't be modified.

9.4 Start/ Stop meter reading task

When the meter reading task is created, the default status is not started.

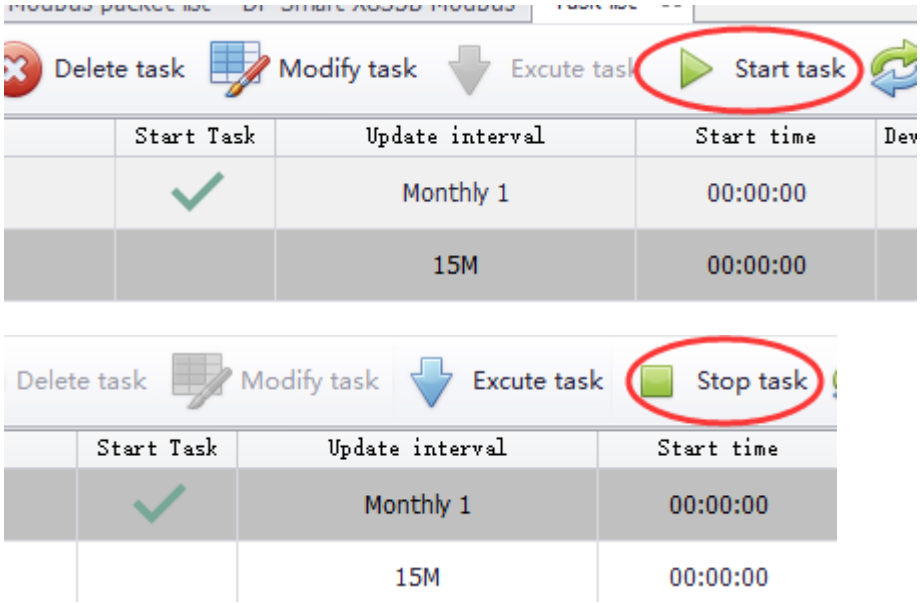


In “Start Task”,

“White” means task is not started；

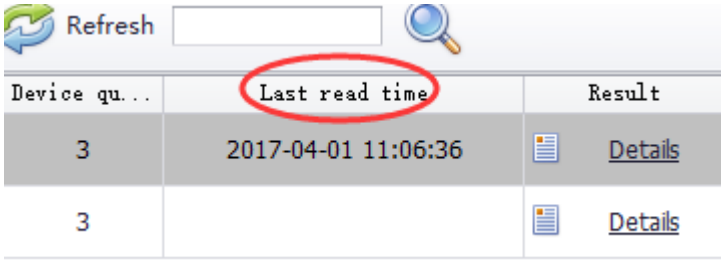
“  ” means the task is starting

If the task need to be started or stopped, choosing the task line, click the button “Start”/” Stop”.

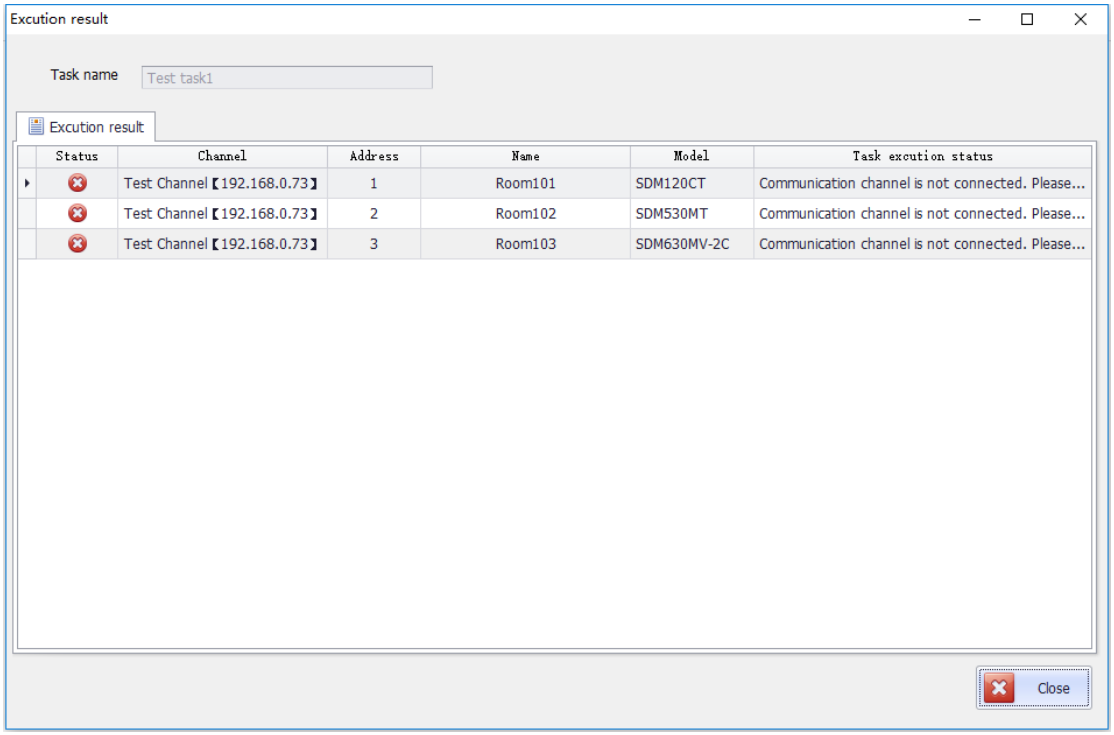


9.5Check the result of meter reading task

After started the defined task, the task will automatically execute. After task finished, “Last read time” will be updated.



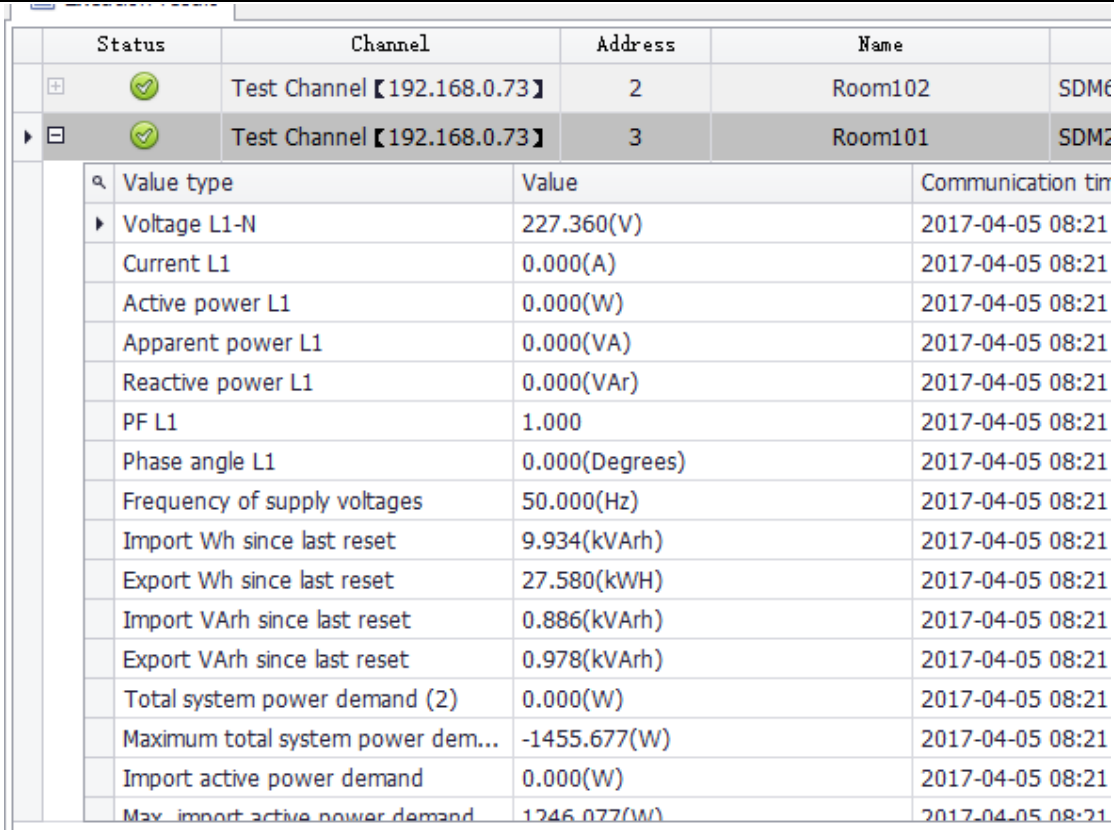
Click “Details” which under “Result” to see the details.



Status：the status of the result

“ ” means execution failure, on “Task execution status” will show the details of why get the failure.

“ ” means execution success, click “ ” will show the details of reading data(show as below)；



Status	Channel	Address	Name	
	Test Channel【192.168.0.73】	2	Room102	SDM6
	Test Channel【192.168.0.73】	3	Room101	SDM2

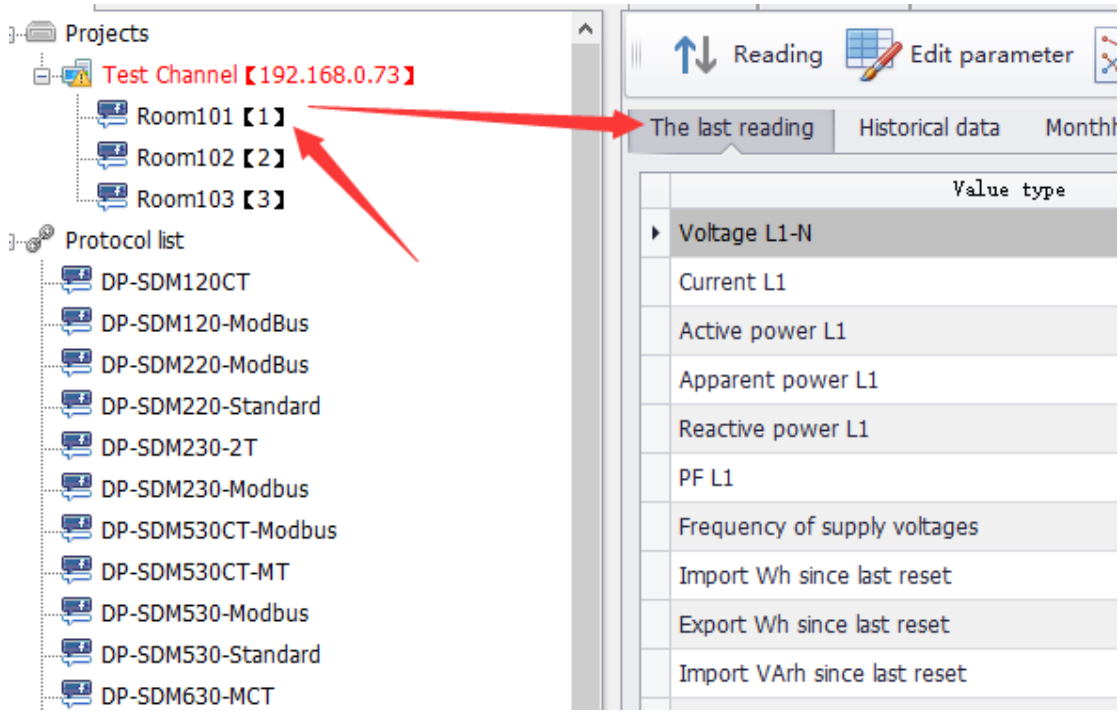
Value type	Value	Communication tim
Voltage L1-N	227.360(V)	2017-04-05 08:21
Current L1	0.000(A)	2017-04-05 08:21
Active power L1	0.000(W)	2017-04-05 08:21
Apparent power L1	0.000(VA)	2017-04-05 08:21
Reactive power L1	0.000(VAr)	2017-04-05 08:21
PF L1	1.000	2017-04-05 08:21
Phase angle L1	0.000(Degrees)	2017-04-05 08:21
Frequency of supply voltages	50.000(Hz)	2017-04-05 08:21
Import Wh since last reset	9.934(kVArh)	2017-04-05 08:21
Export Wh since last reset	27.580(kWH)	2017-04-05 08:21
Import VArh since last reset	0.886(kVArh)	2017-04-05 08:21
Export VArh since last reset	0.978(kVArh)	2017-04-05 08:21
Total system power demand (2)	0.000(W)	2017-04-05 08:21
Maximum total system power dem...	-1455.677(W)	2017-04-05 08:21
Import active power demand	0.000(W)	2017-04-05 08:21
Max. import active power demand	1246.077(W)	2017-04-05 08:21

10.Data check

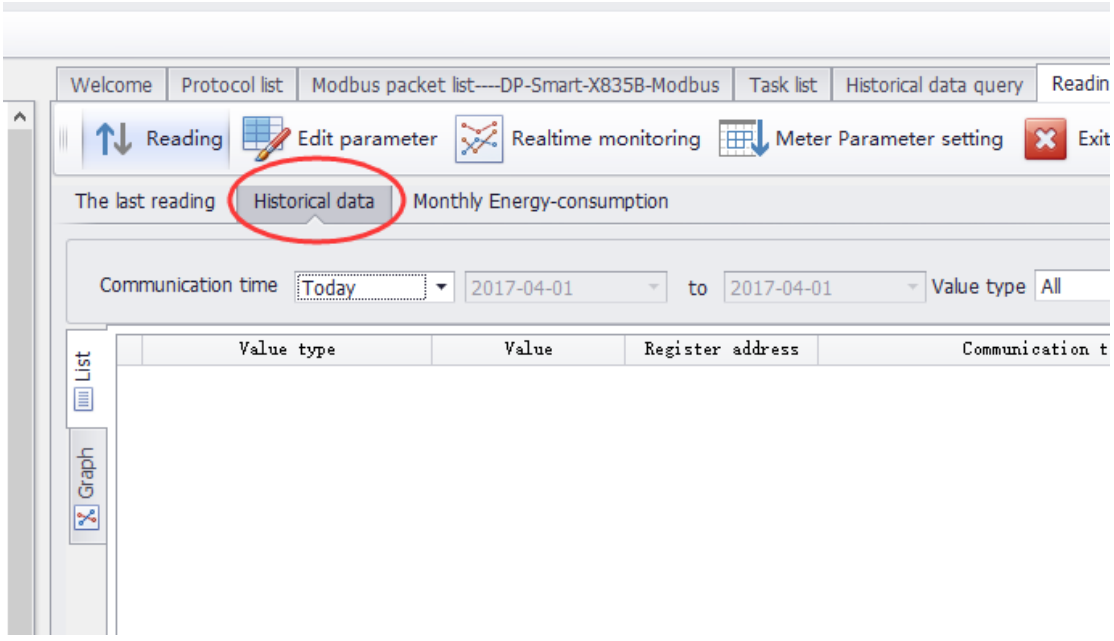
10.1 Historical meter reading data check

10.1.1 check each meter’s reading data

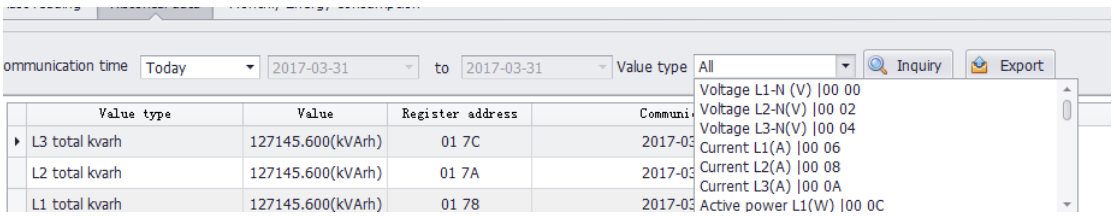
In the left function tree can check the meter which needed.



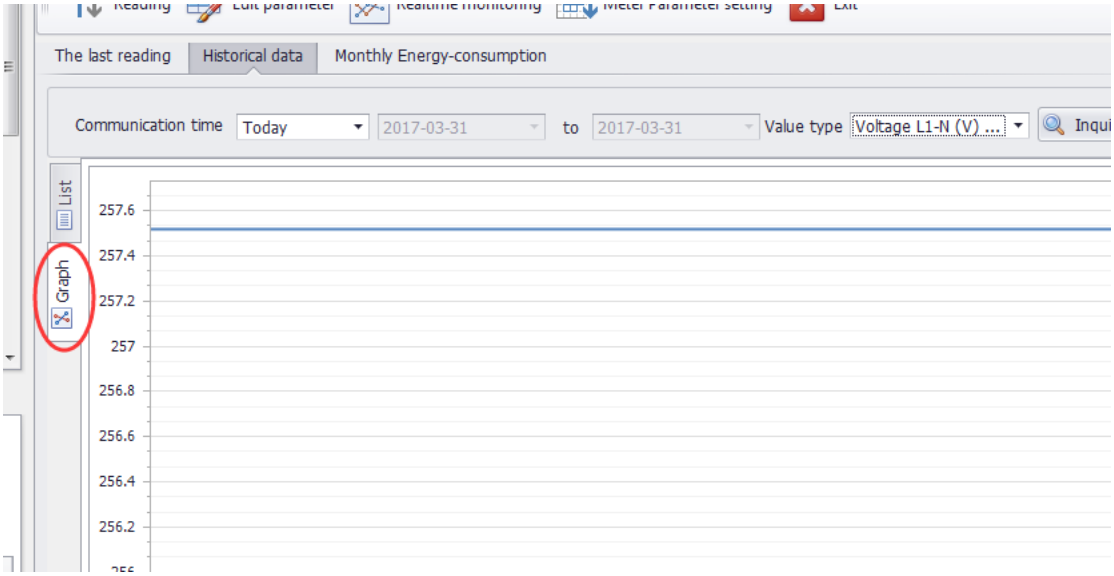
Choosing“Historical data”to open the historical meter reading data.



The data can be checked by the filtering data.

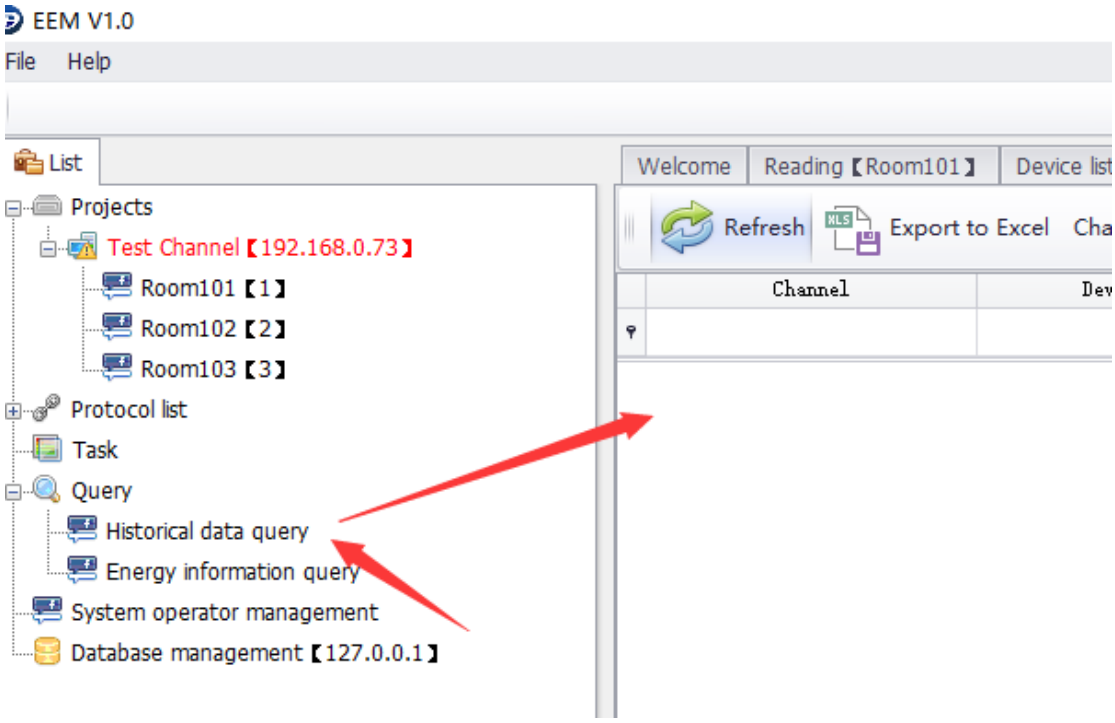


Click “Graph”, the data can be shown by curves.



10.1.2 Check many meters reading data

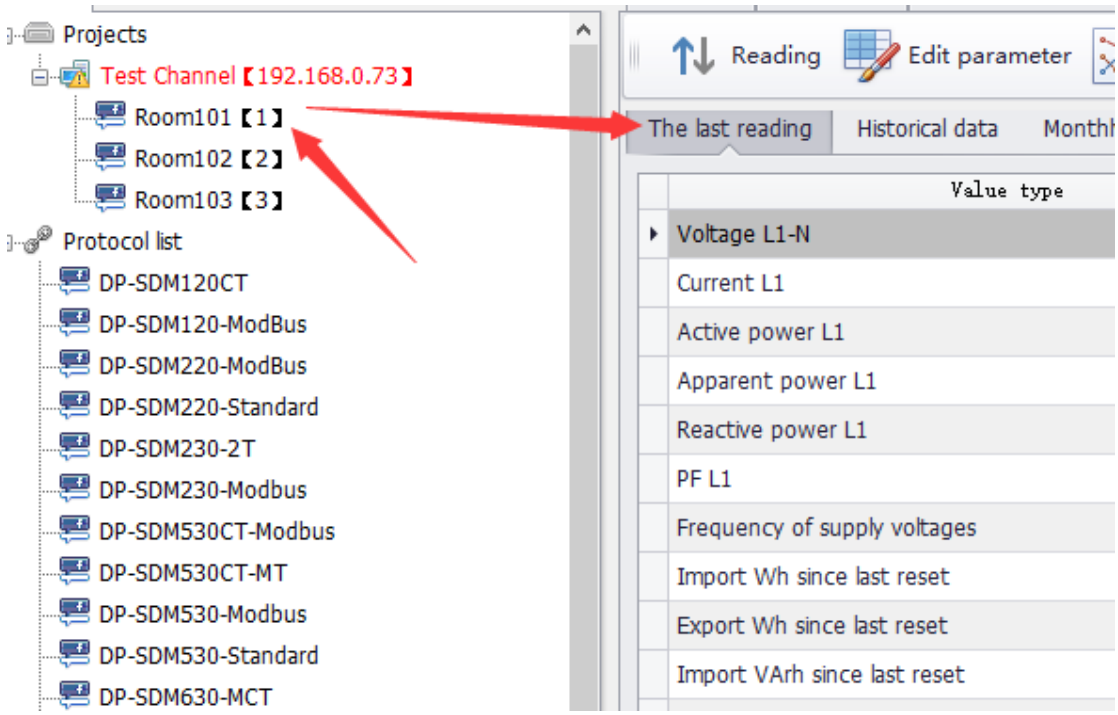
click” Historical data query” in the left function tree, open the historical meter reading window. After enter the screening condition, the data which want to be checked will be shown. The data can be exported to Excel documents.



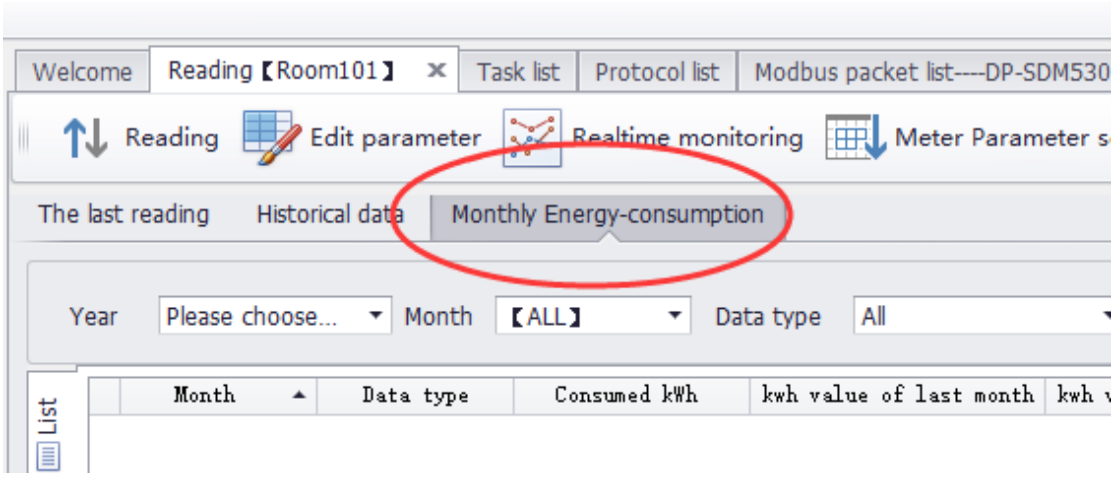
10.2 Historical energy consumption check

10.2.1 check one-meter historical energy consumption

In left function tree choose the meter which need to be checked

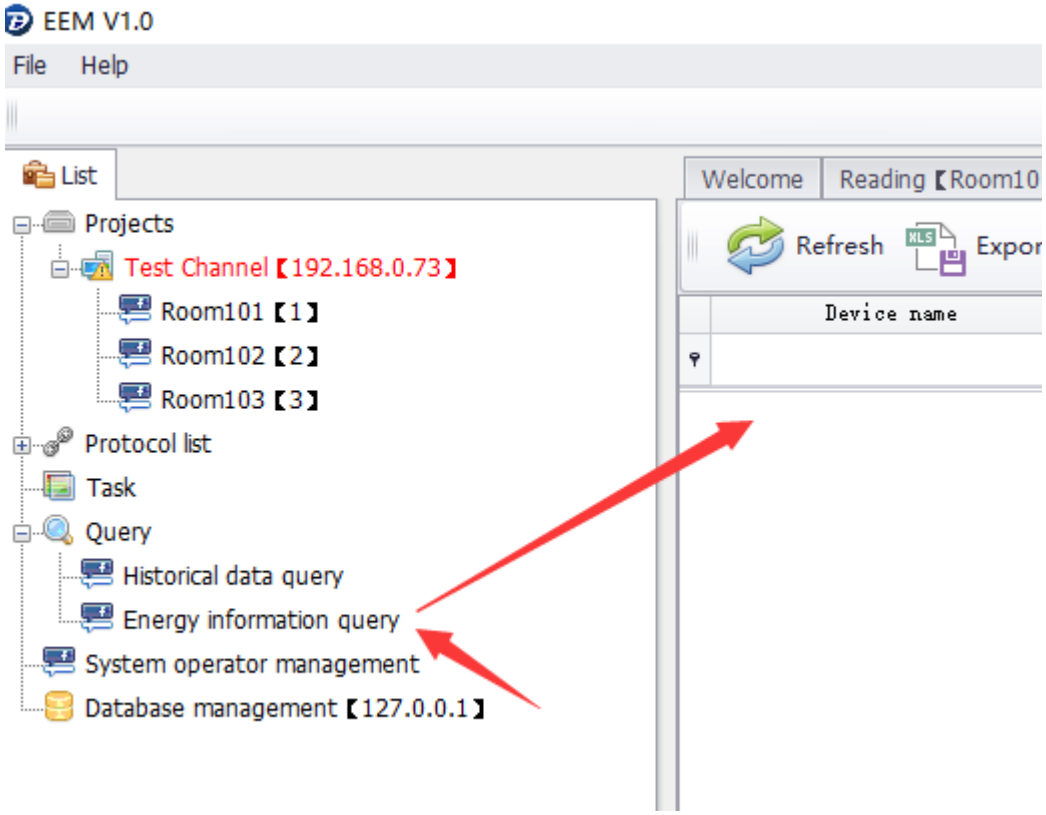


Choosing “Monthly Energy-consumption”, the result can be checked through filer criteria.



10.2.2 check many meters’ historical energy consumption

Click “Energy information query” in left function tree to open a window to check the historical energy consumption. After enter the screening condition, the data which want to be checked will be shown. The data can be exported to Excel documents.



11. Operator management

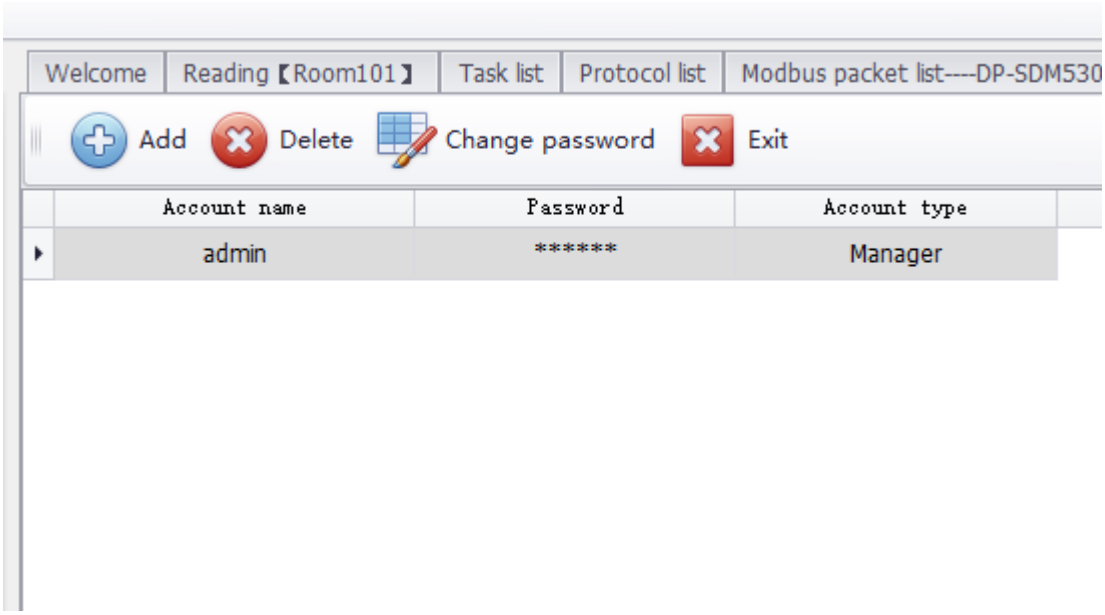
There are two kinds operators: “Super operator” and “normal operator”

“Super operator”： the unique one in the system, can add, modify normal operators, can operate all the function of the software.

“Normal operator”： can’t create operator account, can’t operate database backup, restore, can’t modify energy meters’ function and so on.

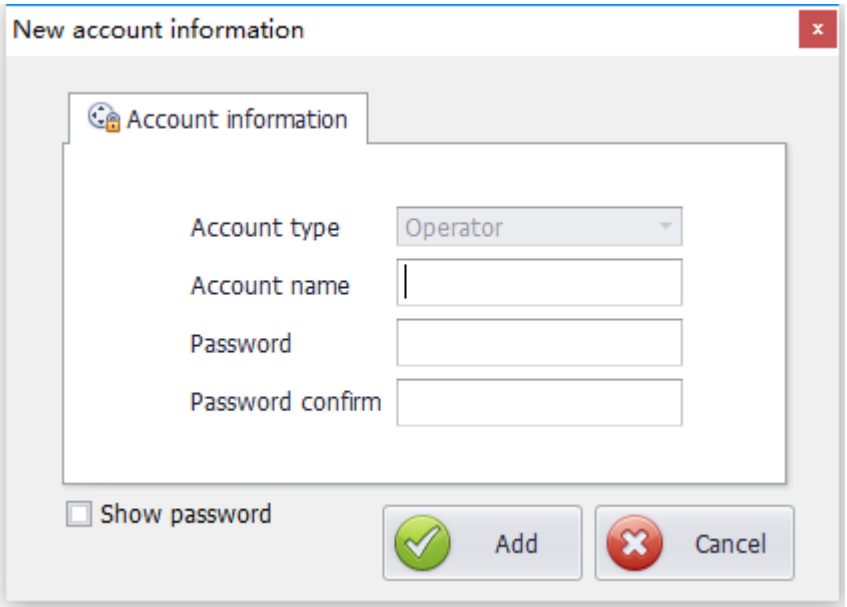
11.1 Check operators

Click” System operator management” to open system account window. See below picture:



11.2 Add operators

click “Add” button in the windows, a small popup window will come out



here can only add normal operators, enter account and password, press “Add” to finish adding.

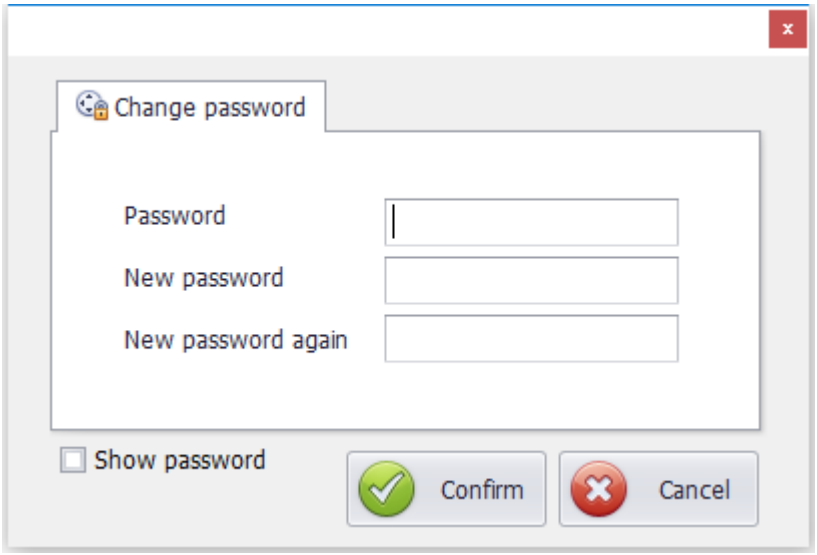
11.3 Delete operators

In the list of operators, choosing the operators which want to be deleted, click the “Delete” button on the toolbar to finish account delete.

PS：Super operator can’t be deleted.

11.4 Modify operator's password

Enter the operator's list, choosing the which need to change the password. Click "Change password" , a small popup window will come out.



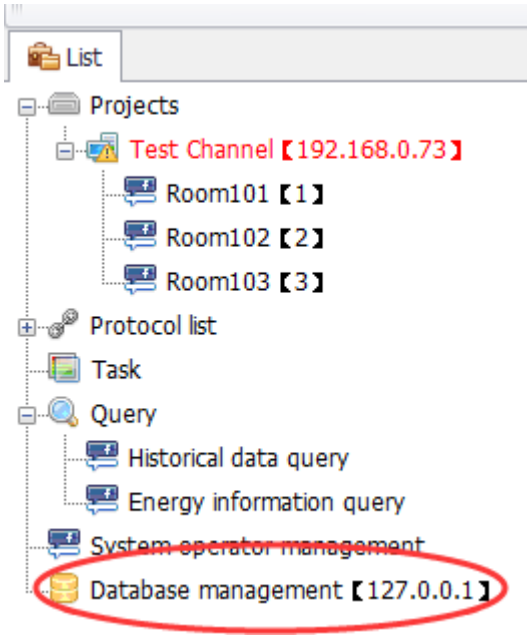
Enter the old password and new password, click " Confirm" to finish modifying.

12 Database management

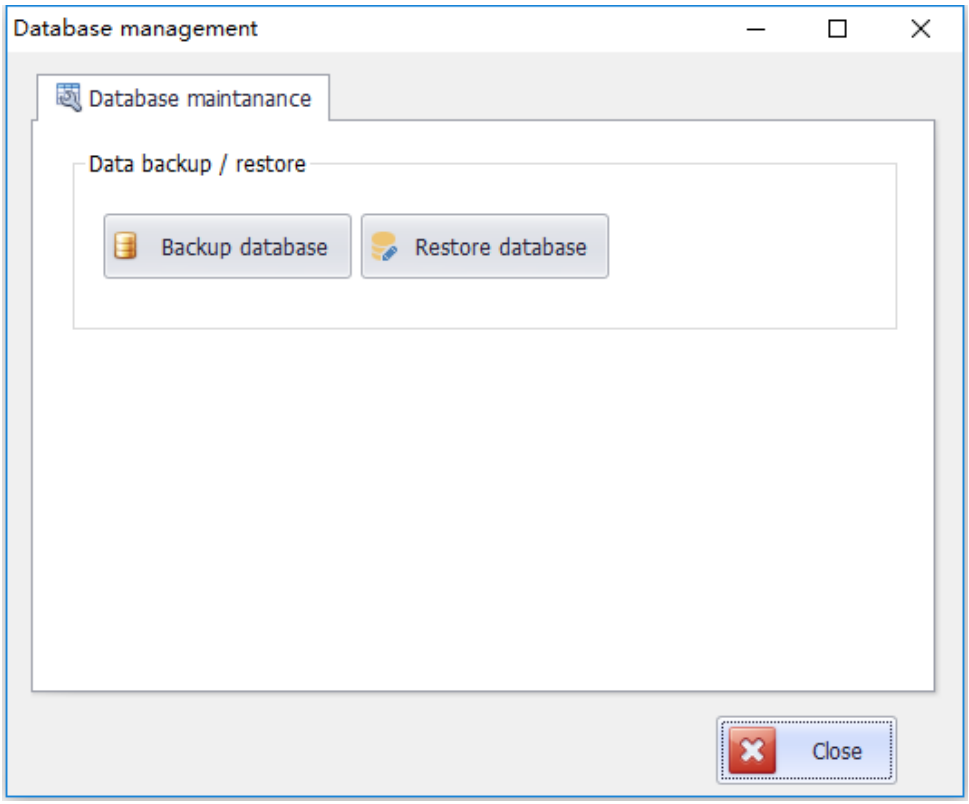
The database is MySQL5.5. please backup database regularly to avoid the data losing.

12.1 Backup database

Click "Database management" as show in below picture



Open the window of backup database

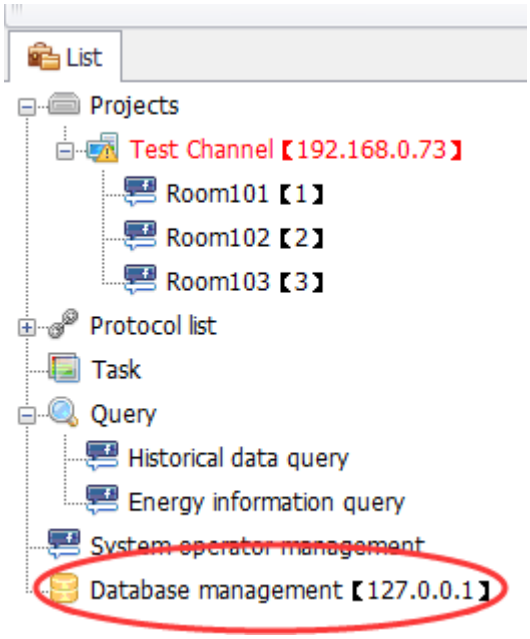


Click “Backup database”, choosing the backup database to save.

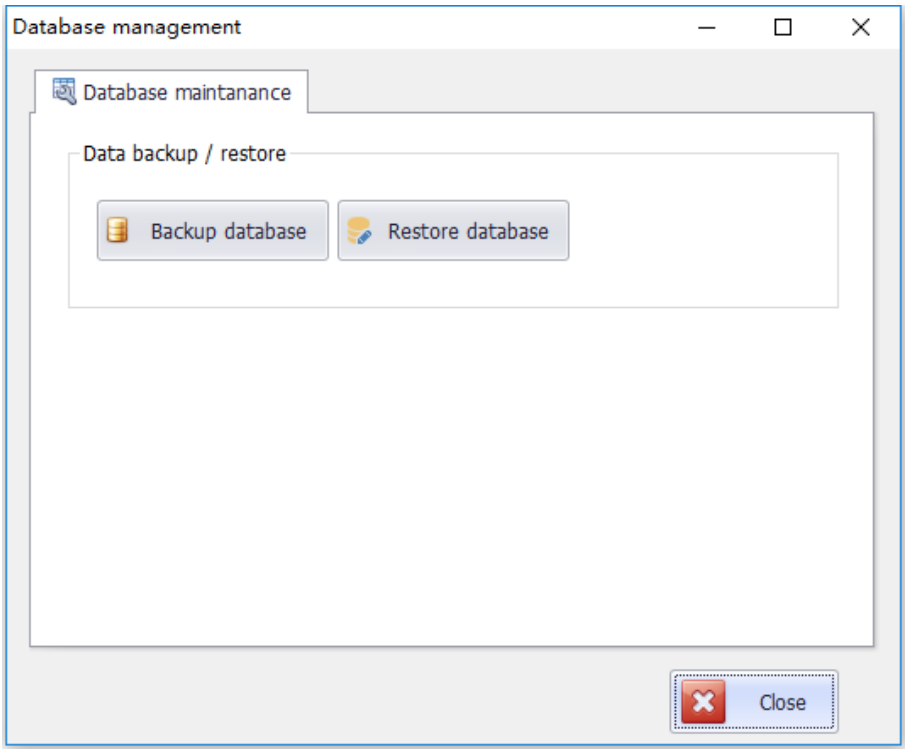
12.2 Restore database

Restore database need to operate carefully. When restored database, the origin data will lose.

Click” Database management” as shown in below picture



Open the window of database management



Click" Restore database", choosing the restore document to finish the database restore.

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