

# 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



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# 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.

Select Destination Location Where should EEM_MySQL5.5 be installed?
Setup will install EEM_MySQL5.5 into the following folder.
C:\Program Files (x86)\EEM_MySQL5.5 Browse
At least 316.9 MB of free disk space is required.
Next > Cancel



According installation hints to install the software.

B Setup - EEM_MySQL5.5	- • •
Ready to Install Setup is now ready to begin installing EEM_MySQL5.5 on your computer.	
Click Install to continue with the installation.	
Install	Cancel

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.

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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】







About EEM		×
	Eastron Electronic Instruments Co.,Ltd. Version 1.0.0.0 Not registered Copyright © 2017	
	Register(R) OK(0)	~

click "Register", a dialog will pop up.

EEM			x
	Ga Software Register		
	Machine code	35KTic86yMOyjBRWxaS+CgW6naXDN7ZF	
	Register code		
		Register Cancel	

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.

EEM User login	
Account information	
Account name  Password	
Cogin Exit	.41

Software default user name: admin default password: 999

Press right account name and password to enter EEM system.

7 EEM V1.0		
File Help		
🔒 List	Welcome ×	х
Projects     Protocol list     Protocol list     Protocol list     Query     System operator management     Destabase management [127.0.0.1]	EASTRON	
Prompt message Device not selected		
System operator Manager [admin]	(i) Task execution list [Total: 0] 2	017-03-31 09:35:03



### 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.

💼 List		
Proj	Add new channel	
Task	Refresh	
🖃 🔍 Que 🤇	Re-name	
Energy information query		

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.



			X
& Communnicatioin settings			_
Channel			
Connection type	ModBus RS4	85/232 🗸	
-Modbus RTU (RS485/RS	5232)		
Comm. Port		-	
Baudrate	9600	-	
Data bits	8	•	
Parity	None	•	
Stop Bit	1	•	
Other setting			
Time-out (millisec.)	50	00 🗘	
Max. No. retries		3 🗘	
		Add Cancel	

#### 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:

Modbus RTU (RS485/RS232)				
Comm. Port		-		
Baudrate	9600	-		
Data bits	8	-		
Parity	None	-		
Stop Bit	1	-		

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:



Channel		
Connection type	TCP/IP	-
TCP/IP		
Host		]
Port	0	r r
Communication mode	•	·
	ModBus-RTU ModBus-TCP	

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:

Other setting		
Time-out (millisec.)	1000 🗘	
Max. No. retries	3 🗘	

**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.



Communnicatioin setti	
Channel	
Connection type	TCP/IP +
TCP/IP	
Host	192.168.0.73
EEM Hint	8
Add	d successfully. Do you want to add next one?
O Add	d successfully. Do you want to add next one?
	d successfully. Do you want to add next one?
O Add	d successfully. Do you want to add next one?
O Max. No. retries	d successfully. Do you want to add next one?

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.





### **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

Nodify channel 📲 Delete channel 🍯 Connect channel 🕀 Add new device				
🚘 List		Welcome	x	
🗄 🖃 🖬 Test channel 🕻 192.168.0.73 🕽				
Protocol list				
🖶 🔍 Query				
💭 💭 System operator management				

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.



IVIC IVIC	odity channel 🧃 Delete channel 📲 Clos
💼 List	
e Pro	pjects
	Test channel [192.168.0.73]
⊕@Pro	ptocol list
— 🗐 Та	sk
🗄 - 🔍 Qu	iery
	stem operator management
Da	tabase management [127.0.0.1]

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

EEM Hin	t	×
8	Fail to connect Mgate. Please check the connection and communication setting.	
	ОК	

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.



Ab Modify channel	🙀 Delete channel 🛛 🖷 Connect ch
💼 List	
Projects	
⊕ 👼 Test channel r	192 168 0 731
⊕	Connect channel
	Modify channel
🗄 🔍 Query	Delete channel
📲 System operato	Add new device
	Refresh

Click "Modify channel", a small window will pop up.

Test channel	
TCP/IP	•
192.168. 0 . 73	
502 🗘	
ModBus-TCP 🔹	
1000 🗘	
3 🗘	
	TCP/IP 192.168.0.73 502 ModBus-TCP • 1000 3 *

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.

D EEM V1.0	
File Help	
Ab Modify channel 📲 Delete channel 📲 Connect chan	nne 🚯 Add new device
🛍 List	Welcome ×
Projects	
🗄 🔍 Query	
- 🚝 System operator management	
Database management [127.0.0.1]	

Or click the right button, choose "add new device"



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

Specifications			
Specifications			
	Channel	Test channel 【192.168.0.73】	<b>~</b>
	Name	[	
	Model	SDM120CT	•
	Modbus ID	1 🗘	
	Protocol		•
	Device Description		*
			*
		Add 😵	Cancel

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.

Specifications	x
Specifications	
EEM Hint	
New meter added successfully. Do you want to add the next?	
Yes No	
Device Description	
Add Cancel	#

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"



Ap Modify device 🔞 Delete device				
💼 List				
Projects				
🚊 📑 Test channel 🕻 192.168.0.73 🕽				
	Modify device			
⊡~g <sup>®</sup> Protocol lis	Delete device			
🗔 Task				
🖳 🍭 Query				
😔 System operator management				

#### Click "Delete device"

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

EEM Hint	23
Are you sure to delete the device?	
Yes No	

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.



Specifications				X
Specifications				
	Channel	Test channel 【192.168.0.73】	-	
	Name	Room101		
a o	Model	SDM120CT	•	
	Modbus ID	1 🗘		
	Protocol	DP-SDM120CT	•	
	Device Description		<u>.</u>	
			-	
		Confirm 😵	Cancel	

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.

7 EEM V1.0							
File Help							
Modify channel 📲 Delete channel 📲 Close channel 🚳 Add new device							
🛍 List	🛍 List Welcome Device listTest channel 🛙 192.168.0.73 ] 🗴						
□-	Add r	new device 🍃	🕻 Delete devic	e Modify device	Refresh 🔚 Comm. Status test	Reading	Name
Reemini [1]		Status	Modbus ID	Name	Protocol	Host	Port
⊕g <sup>®</sup> Protocol list	•		1	Room101	DP-SDM120CT	192.168.0.73	502
- 🕮 System operator management							
Database management [127.0.0.1]							

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.



	-							
	Welcome Device listTest channel [192.168.0.73] ×							
	Add new device 🔀 Delete device 👸 Modify device 🖓 Refresh 📲 Comm. Status test 📄 Reading Name							
Γ		Status	Modbus ID	Name	Protocol	Host	Port	
			1	Room101	DP-SDM120CT	192.168.0.73	502	
1			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.

1	Welcome Device IISTALL Device X							
	Add new device X Delete device Modify device							
	$\checkmark$	Status	Modbus ID	Name				
Þ	$\checkmark$		1	Room101				
	$\checkmark$		2	Room102				
	$\checkmark$		3	Room103				
	$\checkmark$		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.



	Addi	new device			erresn	Comm.
	$\checkmark$	Status	Modbus ID	Name		Protocol
×	$\checkmark$	~	1	Room101		DP-SDM120C
	$\checkmark$	×	EEM Hint		x	P-SDM120-Mo
	$\checkmark$	×			Þ.	SDM530CT-M
	$\checkmark$	×	Cor	Communication status test finished.		Smart-X835B-N
					_	
				ОК		

#### Status

" 🗹 " means communication ok, connection ok, device online.

"  $\times$  "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:

elcome	Device listALL	Device 🗙					
🔂 Add new device 🔀 Delete device 🛞 Modify device 🛞 Refresh 📔 Comm. Status test 🔝 Reading Name							
$\checkmark$	Status	Modbus ID	Name	Protocol	Host	Port	Baudr
$\checkmark$	×	1	Room101	DP-SDM120CT	192.168.0.73	502	
$\checkmark$	×	2	Room102	DP-SDM120-ModBus	192.168.0.73	502	
$\checkmark$	×	Room1021	D 400	DD CDUEDOCT U	400 400 0 70	500	
$\checkmark$	× Cor	mmunication erro	or. Please check the equipment	is connected well, and the comm	nunication setting	is correct.(code	e:3)

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."

EEM Hint	<b>—</b>
i	Reading devices finished.
	ОК

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:

2 EEM V1.0			
File Help			
Ab Modify device 🔞 Delete device			
🛍 List	Welcome Read	ding [Room101]	x
Projects 	Reading	Edit param	neter 🧭 Realtime monitorin
Room101 [1]	The last reading	Historical data	Monthly Energy-consumpti
		Valu	e type
	Voltage L1-N		
	Current L1		
	Current LI		
	Active power	L1	
	Apparent pov	ver L1	
System operator management	Reactive pow	er L1	
Database management [127.0.0.1]	PF L1		
	Eroquonov of	supply voltages	
	Frequency of	supply volcages	
	Import Wh sir	nce last reset	
The last reading Historical data Monthly Energy-consumption			
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 WAs since last reset	0.000(KWH)	00 4A	2017-03-31 14:30:00
Evont Varh since last reset	0.000(kVArb)	00 4C	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
Total kuth (2)	200106 000/MMP)	01 56	2017 02 21 14-20-01

Click "Reading" to start reading the meter



W	elcome Readi	ng [Room101] ×	
	Neading	Edit parameter Realtime monitoring	Mete
Tł	ne last reading	Historical data Monthly Energy-consumption	
		Value type	
×	Voltage L1-N		25
	Ourrent L1		(

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



Velcome Reading [Room101] ×			
Reading Edit parameter Realtime m	onitoring 🔟 Meter Parameter setting	X Exit	
The last reading Historical data Monthly Energy-co	nsumption		
Value type	Value	Register address	Communication time
Voltage L1-N	257.516(V)	00 00	2017-03-31 14:30:0
Current L1	0.000(A)	00 06	2017-03-31 14:30:0
Active power L1	0.000(W)	00 OC	2017-03-31 14:30:0
Apparent power L1	0.000(VA)	00 12	2017-03-31 14:30:0
Reactive power L1	0.000(VAr)	00 18	2017-03-31 14:30:0
PF L1	0.000	00 1E	2017-03-31 14:30:0
Frequency of supply voltages	50.016(Hz)	00 46	2017-03-31 14:30:0
Import Wh since last reset	380196.800(kVArh)	00 48	2017-03-31 14:30:0
Export Wh since last reset	0.000(kWH)	00 4A	2017-03-31 14:30:0
Import VArh since last reset	380196.800(kVArh)	00 4C	2017-03-31 14:30:0
Export VArh since last reset	0.000(kVArh)	00 4E	2017-03-31 14:30:0
Total system power demand (2)	0.000(W)	00 54	2017-03-31 14:30:0
Maximum total system power demand (2)	-0.035(W)	00 56	2017-03-31 14:30:0
Import active power demand	0.000(W)	00 58	2017-03-31 14:30:0
Max. import active power demand	0.033(W)	00 5A	2017-03-31 14:30:0
Export active power demand	0.000(W)	00 5C	2017-03-31 14:30:0
Max. export active power demand	0.035(W)	00 5E	2017-03-31 14:30:0
Phase 1 current demand.	0.000(A)	01 02	2017-03-31 14:30:0

### Click "Real-time monitoring",

Welcome Reading [Room101]	ĸ		
Reading Edit paramet	er 🔀 Realtime monitoring	Meter Parameter setting	Exit
The last reading Historical data	Monthly Energy-consumption		
Value 4	ype	Value	Register address
Notaco L1 N		257 516(1/)	00.00

Then the window will open as below:



Welcome     Reading [Room101]     Realtime monitoring [Room101]       Interval     1 + Second(S)     Start   Exit		2
0.5	Voltage	Curves
	L1 888888	383838 V
	L2 88888	88888 V
0.3	L3 888888	388888 V
	Current	🔀 Curves
0.2	L1 88888	88888 A
	L2 88888	388888 A
	L3 888888	88888 A
0 -	Active Power	🔀 Curves
	L1	388888 w
-0.1	L2 88888	88888 w
	L3 88888	388888   W
-012 -	Apparent Power	Curves
-0.3	u 888888	VA
	L2	VA
-0.4		AV   666666
	Reactive Power	Curves
HH:mm:ss	1m:ss	VAr
✓ L1 Voltage(V)	L2	VAr

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



Click "Start" to start real-time monitoring

_			
	Welcome	Reading [Room101] Realtime monitoring [Room101] ×	
	Interval	1 🗘 Second(S) 🕨 Start 🗙 Exit	



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:

2 EEM V1.0								
File Help								
Nodify device 🔞 Delete device								
🛍 List	Welcome Reading	Room101] ×						
	· · ·	a = 12						
🖶 🗐 Test channel 【192.168.0.73】	Reading	Edit parameter	Realtime monitorin					
	The last reading Hi	storical data M	onthly Energy-consumption					
🚝 Room102 🕻 2 🖌								
🚝 Room103 【3】		Value type	2					
	<ul> <li>Voltage L1-N</li> </ul>							
Protocol list	Current L1							
	Active power L1							
🗄 🔍 Query	Apparent power L1							
System operator management	Reactive power L1							
	PF L1							
	Frequency of supply	voltages						
	Trequency of supply	t see t						
	Import wh since ias	t reset						
The last reading Historical data Monthly Energy-consump	tion							
Value type	Value	Register address	Communication time					
Voltage L1-N	257.516(V)	00 00	2017-03-31 14:30:00					
Active power L1	0.000(A)	00.00	2017-03-31 14:30:00					
Apparent power L1	0.000(VA)	00 00	2017-03-31 14:30:00					
Reactive power L1	0.000(VAr)	00 12	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					
Total kub (2)	200106 000/bw/b)	01 56	0017 02 21 17:20:01					

Click the button "Meter Parameter setting"

EEM SOFTWARE INSTRUCTION V1.1		<b>E</b> ASTRON 东调科技
-	ing Meter Parameter se	tting 🔀 Exit
Historical data Monthly Energy-consumption		
Value type	Value	Register addres

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).

7 EEM V1.0									
File Help									
Modify device 🔯 Delete device									
List	W	elcome Me	ter Parameter setting <b>[</b> Room10]	1 🕽 🗙 Readi	ng [Room101] Task list				
	↑↓ Meter parameters Aby Modify Parameter types -								
		ID	Descriptions	Register	Value				
Room102 【2】	×	7	Pulse duration of S0-1	00 OC	100mS				
Task ⊕Q Query		10	Parity and Stop bit	00 12	NONE, 1				
		11	Modbus ID	00 14	3				
		15	Baudrate	00 1C	9600 bps				
		44	S0-1 output data type	00 56	Export kWh				
		31361	Demand interval , slide time,s	F5 00					
		31881	Pulse 1 output	F9 10	0.001kWh/imp(default				
		31889	Measuring Mode	F9 20	Total = Import + Expo				
		31897	Running time	F9 30	88Hour				

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.



<b>↑↓</b> Meter	parameters Aby Modify	Parameter types	5	• 🔍	
ID	ID Descriptions			Value	Notes
7	Pulse duration of S0-1	00 OC	1	L00mS	
10	Parity and Stop bit	00 12	N	ONE, 1	
11	Modbus ID				X
15	Baudrate	🎲 Edit paramet	ter		
44	S0-1 output data type				
31361	Demand interval , slide t	SO-1 output d	lata type	Export kWh	•
31881	Pulse 1 output				
31889	Measuring Mode			Confirm	Cancel
31897	Running time				Cancer

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





2 EEM V1.0							
File Help							
💼 List	١	Nelcome	Reading [Room1	01]	Realtime monitoring	[Room101]	Protocol list × Modbu
Projects			ld protocol 💚	Delete r	arata cal		Drotocol details
🖃 🗐 Test channel 【192.168.0.73】		C AG		Delete			
		Pro	otocol name	Modi	bus packets no.		Protocol description
🚝 Room102 🕻 2 🕽		DP-SDM1	20CT		11		
🥮 Room103 🕻 3 🕽		DP-SDM1	20-ModBus		11		
Room104 [4]	•	DP-SDM2	20-ModBus		9		
		DP-SDM2	20-Standard		2		
		DP-SDM2	30-2T		23		
System operator management	E	DP-SDM2	30-Modbus		13		
Batabase management [127.0.0.1]	E	DP-SDM5	30CT-Modbus		13		
		DP-SDM5	30CT-MT		96		
		DP-SDM5	30-Modbus		13		
		DP-SDM5	30-Standard		2		
		DP-SDM6	30-MCT		14		
		DP-SDM6	30MCT-2C		15		
		DP-SDM6	30MCT-2T		23		
		DP-SDM6	30-Modbus		15		
		DP-SDM6	30-MT		97		



💼 List Welcome Reading [Room101] Realtime monitoring [Room101] Protocol 🔜 Room104 【4】 Add modbus packet Delete modbus packet Edit Modbus pac 🖶 🧬 Protocol list E DP-SDM120CT Modbus packet Function . First regsiter addres E DP-SDM120-ModBus ▶ □ DP-SDM630MCT-2T\_1 4 00 00 📟 DP-SDM220-ModBus Name ModBus Address Format 魓 DP-SDM220-Standard 00 00 Floating(32 Voltage L1-N DP-SDM230-2T Voltage L2-N 00 02 Floating(32 E DP-SDM230-Modbus 📟 DP-SDM530CT-Modbus Voltage L3-N 00 04 Floating(32 📟 DP-SDM530CT-MT Current L1 00 06 Floating(32 🕮 DP-SDM530-Modbus Current L2 00 08 Floating(32 魓 DP-SDM530-Standard Current L3 A0 00 Floating(32 🕮 DP-SDM630-MCT 00 OC Floating(32 Active power L1 E DP-SDM630MCT-2C Active power L2 00 0E Floating(32 🕮 DP-SDM630MC 🚤 Т 🕮 DP-SDM630-Modbus Active power L3 00 10 Floating(32 🕮 DP-SDM630-MT Apparent power L1 00 12 Floating(32 🕮 DP-SDM630MV Apparent power L2 00 14 Floating(32 📟 DP-SDM630-Standard Apparent power L3 00 16 Floating(32 📟 DP-SMARTconnect X835 Reactive nower I 1 00.18 Eloating(32 E DP-SMARTconnect X835-MV DP-SDM630MCT-2T\_2
 00 2E 4 🖳 DP-Smart-X835-AO 🖳 DP-Smart-X835B-Modbus 00.34 4 🗔 Task 4 00 38 🗄 🔍 Query 4 00 3C 📟 System operator management 4 00 42 \land Prompt message DP-SDM630MCT-2T 7 4 00 46 Device not selected...

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



-не нер				
🔒 List	١	Welcome Protocol list 🗴	Modbus packet listDP-SDM530C	CT-
⊇-		Add protocol 🗙	Delete protocol 📑 Edit protoco	
🕮 Room101 【1】 🕮 Room102 【2】		Protocol name	Modbus packets no.	
	Þ	DP-SDM120CT	11	IP-SDM530CT- Edit protocol
		DP-SDM120-ModBus	11	
Room104 [4]		DP-SDM220-ModBus	9	
Protocol list	F	DP-SDM220-Standard	2	
∃Q Query		DP-SDM230-2T	23	
🖳 🐖 System operator management		DP-SDM230-Modbus	13	
Batabase management [127.0.0.1]		DP-SDM530CT-Modbus	13	
		DP-SDM530CT-MT	96	
		DP-SDM530-Modbus	13	
		DP-SDM530-Standard	2	
		DP-SDM630-MCT	14	

#### 8.2.1 Add main protocol

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

	Add protocol	Delete protocol 🔛 Edit	protocol
	Protocol name	Modbus packets no.	
Þ	DP-SDM120CT	11	
	DP-SDM120-ModBus	11	
	DP-SDM220-ModBus	9	
		-	
Ρ	rotocol name		X
	Protocol name		
	Protocol name	DP-SDM530-TEST	
	Protocol description		*
		Add	Cancel

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.

	Add protocol 🗙	Delete protocol 🗾 Edit	protocol Protocol details
	Protocol name	Modbus packets no.	Protocol descrip
۲	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	
6	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 p	rotocol packet, click" Add	d Modbus packet"	
Add modbus packet	😰 Delete modbus packet	Edit Modbus packet	Synchronize
Modbus packet	Function	First regsiter address	Register count

#### A popup window will come out

oabu	: packe	t Functio	on First regsi	ter address	Registe	er count	Total bits					
Prot	ocol se	lection										-
	Mod	bus packet	DP-SDM530-TF	IST_1					1			
1	> Proto	col selection										
	Protoc	ols	ModBus Address 🔺	Function code				HodBu Fun.	Hodbus packe	t Value	Format	
Þ	1	Voltage L1-N (V)	00 00	4	Â							
	1	Voltage L2-N(V)	00 02	4	0							
	1	Voltage L3-N(V)	00 04	4								
	1	Current L1(A)	00 06	4								
	1	Current L2(A)	00 08	4								
	1	Current L3(A)	00 0A	4	(	$\bigcirc$	Add					
	1	Active power L1	00 OC	4								
	1	Active power L2	00 0E	4	(	<b>(</b>	Remove					
	1	Active power L3	00 10	4		_						
	1	Apparent power	00 12	4	(	Ad	ld user defined					
	1	Apparent power	00 14	4		· ·						
	1	Apparent power	00 16	4								
	1	Reactive power	00 18	4								
	$\bowtie$	Reactive power	00 1A	4								
	1	Reactive power	00 1C	4								
	1	PF L1	00 1E	4								
	1	PF L2	00 20	4								
	1	PEIS	00.22	4	•							

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:

Pro	tocol se	election										-	- 6	•
100	Mo	dbus packet ocol selection	DP-SDM530-TE	ST_1										
ſг	Proto	cols	ModBus Address 🔺	Function code				ModBu	Fun	Modbus packet	Value	Format	Tot	tal
•	1	Voltage L1-N (V)	00 00	4	<b>^</b>		۲	00 00	4	Voltage L1-N	v	Floating(32bit)		4
	1	Voltage L2-N(V)	00 02	4	J			1						
	1	Voltage L3-N(V)	00 04	4										
	1	Current L1(A)	00 06	4		. /								
	1	Current L2(A)	00 08	4										
	1	Current L3(A)	00 0A	4	$\bigcirc$	Add								
	1	Active power L1	00 OC	4										
	1	Active power L2	00 0E	4		Remove								
	1	Active power L3	00 10	4										
	1	Apparent power	00 12	4	4	Add user defined								
	1	Apparent power	00 14	4										



tocol se	ection											_	
Mod	bus packet	DP-SDM530-TE	ST_1										
🍐 Proto	col selection												
Protoc	ols	ModBus Address 🔺	Function code		]			ModBu	Fun	Modbus packet	Value	Format	Total
1	Voltage L1-N (V)	00 00	4	1	1		۲	00 00	4	Voltage L1-N	v	Floating(32bit)	4
1	Voltage L2-N(V)	00 02	4	U				00 02	4	Voltage L2-N	v	Floating(32bit)	4
1	Voltage L3-N(V)	00 04	4					00 04	4	Voltage L3-N	v	Floating(32bit)	4
1	Current L1(A)	00 06	4					00 06	4	Current L1	Α	Floating(32bit)	4
	Current L2(A)	00 08	4					00 08	4	Current L2	Α	Floating(32bit)	4
1	Current L3(A)	00 0A	4			Add		00 0A	4	Current L3	Α	Floating(32bit)	4
	Active power L1	00 0C	4	0				00 OC	4	Active powe	W	Floating(32bit)	4
	Active power L2	00 0E	4	1		Remove							
1	Active power L3	00 10	4										
1	Apparent power	00 12	4		A	ld user defined							
	Apparent power	00 14	4										

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.

odł	ous packet	DP-SDM530-TEST_1	
too	ol selection		
000	ols	ModBu	X
I.	Voltage L1-N (V)	Modbus protocol	
I.	Voltage L2-N(V)		
I.	Voltage L3-N(V)	Function code	
I.	Current L1(A)	Protocol settings	
I.	Current L2(A)		
I.	Current L3(A)	Name	
I.	Active power L1	First regsiter address Example: FF FF	
I.	Active power L2	Format	
I.	Active power L3		
I.	Apparent power	Value type Example: V (Voltage)	
I.	Apparent power	Total bits	
I.	Apparent power	Protocol description	
I.	Reactive power		
I.	Reactive power		
I.	Reactive power	bba 📎	Cancel

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.



is 🔺	Function code				ModBu	Fun	Modbus packet	Value
	4	<b>^</b>			00 00	4	Voltage L1-N	V
	4	U			00 02	4	Voltage L2-N	V
	4				00 04	4	Voltage L3-N	V
	4				00 06	4	Current L1	Α
	4				00 08	4	Current L2	Α
	4		Add		00 0A	4	Current L3	Α
	4				00 OC	4	Active powe	W
	4		C Remov	e				
	4							
	4		Add user de	efined				
	4							
	4 4 4		Add user do	efined				

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.





	Welcome	Reading [Room101]	Protocol list Mo	dbus packet listDP-SDM530-TI	EST ×	
^	Ad	ld modbus packet 🔞	Delete modbus pac	ket 📝 Edit Modbus packet	Synchronize	
		Modbus packet	Function	First regsiter address	Register count	Tote
		modbas pacifice				
	► DP-SDM	M530-TEST_1	4	00 00	8	

### 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.

Welcome Reading [Room101] Prot	tocol list Mod	dbus packet listDP-SDM530-TE	EST ×	
Add modbus packet 🔞 Delet	e modbus pack	tet 📝 Edit Modbus packet	Synchronize	
Modbus packet	Function	First regsiter address	Register count	Total bit
▶	4	00 00	8	16
DP-SDM530-TEST_2	4	00 OC	10	20
	4	00 1E	10	20

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

	Welcome	Reading [Room101]	Protocol list Mo	dbus packet listDP-SDM530-Tf	EST ×	
	Ad	ld modbus packet	Delete modbus pac	ket Edit Modbus packet	Synchronize	
ľ		Modbus packet	Function	First regsiter address	Register count	T

#### 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.

File Help			
🚘 List	Welcome Reading [Room1	01 ] Protocol list ×	
	Add protocol V	Delete protocol	protocol Drot
	Protocol name	Modbus packets no.	Prot
Protocol list	DP-SDM120CT	11	
💭 DP-SDM120CT	DP-SDM120-ModBus	11	
	DP-SDM220-ModBus	9	
- 💭 DP-SDM220-ModBus		-	
P-SDM220-Standard	DP-SDM220-Standard	2	
🐖 DP-SDM230-2T	DP-SDM230-2T	23	
	DP-SDM230-Modbus	13	
	DD-SDM530CT-Modbus	12	

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



Welcome Reading [Room10	11 Protocol list ×	
Add protocol 💥 🛙	Delete protocol 🗾 Edit	protocol 💀 Protocol details 📂 Export 🚰 Import
Protocol name	Modbu 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.



#### EEM V1.0



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

-SDM120CT	11	
-SDM120-ModBus	11	
-SDM220-ModBus	9	
-SDM220-Standard	2	
-SDM230-2T	23	
-SDM230-Modbus	13	
-SDM530CT-Modbus	12	
-SDM530CT-MT	Protocol name	X
-SDM530-Modbus	Protocol name	
-SDM530-Standard		
-SDM630-MCT	Protocol name	DP-Smart-X835B-Modbus
-SDM630MCT-2C		
-SDM630MCT-2T	Protocol description	A
-SDM630-Modbus		
-SDM630-MT		
-SDM630MV		
-SDM630-Standard		Confirm Concol
-SMARTconnect X835		
CMARTconnect V925	15	

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".

	Welcome Protocol list Modbus pack	et listDP-Sm	art-X835B-Modbus 🗙			
	🔂 Add modbus packet 🔞 D	elete modbus	packet Edit Modbus pa	cket Z Synchron	nize	
	Modbus packet	Function	First regsiter address	Register count	Total bits	
		4	00 00	44	88	
Þ	DP-Smart-X835B-Modbus_2	4	00 2E	4	8	
	D DD Court VODED Nodhur D		00.24	2	4	

A popup window will come out.



Modbus packet	0P-Smart-X83	5B-Modbus_2										
Protocol selection												
Protocols	ModBus Address 🔺	Function code					ModBu	Fun	Modbus packet	Value	Format	Total.
🥟 Voltage L1-N (V)	00 00	4				۲	00 2E	4	Average curr	Α	Floating(32bit)	4
Voltage L2-N(V)	00 02	4	U				00 30	4	Total current	Α	Floating(32bit)	4
Voltage L3-N(V)	00 04	4										
Current L1(A)	00 06	4										
Current L2(A)	00 08	4										
Current L3(A)	00 0A	4		$\bigcirc$	Add							
Active power L1	00 OC	4										
Active power L2	00 0E	4		$\bigcirc$	Remove							
Active power L3	00 10	4										
Apparent power	00 12	4		(	ld user defined							
Apparent power	00 14	4		<u> </u>								
Apparent power	00 16	4										
Reactive power	00 18	4										
Reactive power	00 1A	4										
🥟 Reactive power	00 1C	4										
🥟 PF L1	00 1E	4										
🥟 PF L2	00 20	4										
PE13	00.22	4	-									

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.

Welcome Meter Paramete	er setting [Room101]	Reading [Room101] Task list	Modbus packet list-	DP-SDM630-
Add modbus pack	cet 🔞 Delete modbu	us packet 🛃 Edit Modbus pa	acket Synchron	nize
Modbus packet	Function	. First regsiter address	Register count	Total bits
DP-SDM630-MCT_1	4	00 00	44	88
DP-SDM630-MCT_2	4	00 2E	4	8
DP-SDM630-MCT_3	4	00 34	2	4
DP-SDM630-MCT_4	4	00 38	2	4
DP-SDM630-MCT_5	4	00 3C	4	8
DP-SDM630-MCT_6	4	00 42	2	4
DP-SDM630-MCT_7	4	00 46	18	36
			_	

### 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

	Welcome Reading Room1	.01 ] Realtime monitoring	Room101 Protocol list × Modbus packet list	DP-SDM630MCT-2T
	Add protocol 💥	Delete protocol 🛛 🛃 Edit	protocol Protocol details	Import (
	Protocol name	Modbus packets no.	Protocol description	
L	DP-SDM120CT	11		
	DP-SDM120-ModBus	11		
	DP-SDM220-ModBus	9		
Γ	DP-SDM220-Standard	2		
Γ	DP-SDM230-2T	23		
Γ	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		

A small popup window will come out

Browse For Folder	×
Sava to	
🧮 Desktop	
D Ibraries	
Administrator	
🖻 🖳 Computer	
🛛 🗣 Network	
D S Control Panel	
🗑 Recycle Bin	
Inavicatformysql	
Make New Folder OK Cance	

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.



Welcome Reading [Room10	011 Realtime monitoring	[Room101] Protocol list × Modbus packet	listDP-SDM630MCT-2T
Add protocol 💥 🕻	Delete protocol 🛛 🛃 Edit p	protocol 🙀 Protocol details 📂 Export 🦻	Import 🔍
Protocol name	Modbus packets no.	Protocol description	
DP-SDM120CT	11		
DP-SDM120-ModBus	😥 Open		<b>—</b>
DP-SDM220-ModBus	🖉 🗢 📃 Desktop	•	✓ 4 Search Desktop
DP-SDM220-Standard	Organize 🔻 New f	older	
DP-SDM230-2T			
DP-SDM230-Modbus	☆ Favorites	Libraries	Administrator
DP-SDM530CT-Modbus	Becent Places	System Folder	System Folder
DP-SDM530CT-MT	Downloads	Computer	Network
DP-SDM530-Modbus		System Folder	System Folder
DP-SDM530-Standard	📜 Libraries	navicatformysql	OP-SDM220-ModBus.XML
DP-SDM630-MCT	Documents     Music	File folder	2.95 KB
DP-SDM630MCT-2C	Pictures	DP-SDM230-Modbus.XML	OP-SDM530CT-Modbus.XML
DP-SDM630MCT-2T	Videos	XML Document 4.90 KB	XML Document 9.50 KB
DP-SDM630-Modbus		DP-SDM530CT-MT.XML	DP-SDM530-Modbus.XML
DP-SDM630-MT	Computer	XML Document	XML Document
DP-SDM630MV	👊 Network	0/3 KB	5.47 (0
DP-SDM630-Standard			
DP-SMARTconnect X835	Fi	le name:	▼ XML File(*.XML)
DP-SMARTconnect X835			
DP-Smart-X835-AO			Upen Cancel
DP-Smart-X835B-Modbus	22		

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

l		System Folder		System Folder
		navicatformysql File folder		DP-SDM220-ModBus.XML XML Document 2.95 KB
		DP-SDM230-Modbus.XML XML Document 4.90 KB		DP-SDM530CT-Modbus.XML XML Document 9.50 KB
		DP-SDM530CT-MT.XML XML Document 87.3 KB		DP-SDM530-Modbus.XML XML Document 9.47 KB
name:	"DP-SI	DM530-Modbus.XML" "DP-SDM220-M	lodBus.XM	1L" ▼ XML File(*.XML) ▼
				Open Cancel

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 Details				-	-		×
Task name			]				
Update interval	Please choose  Monthly Weekly		Start time	0:00:00		Ť	
Device name	Daily 12H	Model		Ad	dress		
Room10	3H 1H -	SDM120CT			1		
Room10	2	SDM530MT			2		_
Koomio.	2	5DM030MV-2C			з		
			$\checkmark$	) Add	8	Cano	el .

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  $\overline{\uparrow}$  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.



V	Velcome   Protocol list   Modbus p	acket listDP	-Smart-X835B-Modbus   lask list	x	
	Add new task Delet	e task	Modify task V Excute task	start task	🥏 Refresh
	Name	Start Task	Update interval	Start time	Device qu
•	⊕ Test task1		Monthly 1	00:00:00	3
	⊞ Test task2		15M	00:00:00	3

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.

归 Task Details			-		×
Task name					
				•	
Update interval Monthly   I  Select device	•	Start time	0:00:00	÷	
Device name	Model		Add	ress	
▶ ▶ □ Test Channel					
			Confirm	Canc	el

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.

	ous Task list 🗙							
Add new task 😰 Delete task 🧾 Modify task 🚽	7 Excute task ┝ Start							
Name Start Task Update int	erval Start ti							
▶      Test task1 Monthly	1 00:00:0							
	00:00:0							
In "Start Task".								
"White" means task is not started:								
" moons the task is starting								
If the task need to be started or stopped, choosing the task line, cl	ick the hutten "Start"/" St							
	If the task need to be started or stopped, choosing the task line, click the button "Start"/" Stop							
Delete task Modify task 🚽 Excute task 🕨 Start task								
Delete task Modify task 🚽 Excute task	art task							
Delete task Modify task Excute task Start Task Update interval Start	time Dev							
Delete task Modify task Excute task Start Start Task Update interval Start Monthly 1 00:0	art task Car time Dev 0:00							
Delete task Modify task Excute task Start Start Start Start Start Monthly 1 00:00	time Dev 0:00							
Delete task Modify task Excute tas Start Start Task Update interval Start Monthly 1 00:0 15M 00:0	tart task C							
Delete task Modify task Excute task Start Start Task Update interval Start Monthly 1 00:0 15M 00:0 Delete task Modify task Excute task Stop	tart task C							
<ul> <li>Delete task Modify task Excute task Start</li> <li>Start Task Update interval</li> <li>Monthly 1</li> <li>00:0</li> <li>15M</li> <li>00:0</li> <li>Delete task Modify task Excute task Stop</li> <li>Start Task Update interval</li> </ul>	tart task C							
Delete task Modify task   Start Task Update interval   Start Task Update interval   Start Task Monthly 1   00:0   Delete task Modify task   Delete task Modify task   Start Task Update interval   Start Task Update interval   Start ti	tart task C time Dev 0:00 task ( me 0							

### 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.



羄 Refresh		
Device qu	Last read time	Result
3	2017-04-01 11:06:36	<u>Details</u>
3		<u>Details</u>

Click "Details" which under "Result" to see the details.

ution re	esult					- 🗆 X
Task	name	e Test task1				
📕 Excu	ution r	result				
Sta	tus	Channel	Address	Name	Model	Task excution status
C	3	Test Channel 【192.168.0.73】	1	Room101	SDM120CT	Communication channel is not connected. Please
E	3	Test Channel 【192.168.0.73】	2	Room102	SDM530MT	Communication channel is not connected. Please
C	3	Test Channel [192.168.0.73]	3	Room103	SDM630MV-2C	Communication channel is not connected. Please
						Close

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);



	_								
		S	tatus	Channel		Address	Name		
	± 🥝		$\bigcirc$	Test Channel 【192.168.0.7	Test Channel 【192.168.0.73】		Room102		SDM6
۲	⊡		0	Test Channel <b>【</b> 192.168.0.7	Test Channel 【192.168.0.73】		Room101		SDM2
		٩	Value typ	e	Val	ue	Co	mmunicat	ion tin
		۲	Voltage L	1-N	227	7.360(V)	20	17-04-05	08:21
			Current L	1	0.0	00(A)	20	17-04-05	08:21
			Active po	wer L1	0.000(W) 0.000(VA) 0.000(VAr) 1.000 0.000(Degrees)			17-04-05	08:21
			Apparent	power L1				17-04-05	08:21
			Reactive	power L1				17-04-05	08:21
			PF L1					17-04-05	08:21
			Phase and	gle L1				17-04-05	08:21
			Frequenc	y of supply voltages	50.000(Hz)		20	17-04-05	08:21
			Import W	/h since last reset	9.9	34(kVArh)	20	17-04-05	08:21
			Export W	'h since last reset	27.	580(kWH)	20	17-04-05	08:21
			Import V/	Arh since last reset	0.8	86(kVArh)	20	17-04-05	08:21
		Export VArl Total system		Arh since last reset	0.9	78(kVArh)	20	17-04-05	08:21
				tem power demand (2)	0.0	00(W)	20	17-04-05	08:21
	Maximum total sys		Maximum	total system power dem	-14	55.677(W)	20	17-04-05	08:21
			Import ac	tive power demand	0.0	00(W)	20	17-04-05	08:21
	Max impo			ort active nower demand	124	16 077(\M/)	20	17-04-05	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.

	Welco	ome Pro	tocol list	Modbus packe	t listDP-Smart-X	(835B-Modbus	Task list	Historical data query	Readin
^	1	👃 Readir	ng 📕	Edit parameter	Realtime	monitoring	Meter	Parameter setting	X Exit
	The	last readin	g Histo	orical data Mo	onthly Energy-cons	sumption			
	Co	ommunicat	ion time	Today	▼ 2017-04-01		2017-04-01	- Value type	All
	st		Value	type	Value	Register	address	Communi	cation t
	III List		Value	type	Value	Register	address	Communi	cation t
	h 🔤 List		Value	type	Value	Register	address	Communi	cation t
	Graph IIII List		Value	type	Value	Register	address	Communi	cation t
	🔏 Graph 📰 List		Value	type	Value	Register	address	Communi	cation t
	🔏 Graph 🔟 List		Value	type	Value	Register	address	Communi	cation t

The data can be checked by the filtering data.

_							
0	ommunication time Today	▼ 2017-03-31	▼ to 2017-03-3	Value type		🖄 Export	
Ī	Value type	Value	Register address	Communi	Voltage L2-N(V)  00 02	0	
	<ul> <li>L3 total kvarh</li> </ul>	127145.600(kVArh)	01 7C	2017-03	Voltage L3-N(V)  00 04 Current L1(A)  00 06		
	L2 total kvarh	127145.600(kVArh)	01 7A	2017-03	Current L2(A)  00 08		
	L1 total kvarh	127145.600(kVArh)	01 78	2017-03	Active power L1(W)  00 0C	-	



Click "Graph", the data can be shown by curves.

		I ₩ INEau	ing 🖵	cuit pararriet	.ei 🗡		unitoring			ici setti	''Y 🎦 '	ar		
Ш	Th	e last read	ing Hist	orical data	Month	ly Energy-con	sumption							
		Communic	ation time	Today	•	2017-03-31	Ŧ	to	2017-03-31	Ŧ	Value type	Voltage L1-N	(V) ] ▼	🔍 Inqu
	III List	257.6												
	F	257.4												
	Grat	257.2 -												
Ŧ	V	257 -												
		256.8 -												
٦		256.6 -												
		256.4 -												
		256.2 -												
		254												

#### 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.

Welcome	Reading [Room101]	× Task list	Protocol list	Modbus packet list-	DP-SDM530
<b>1</b> ↓ Re	eading 🗾 Edit para	ameter 💥	Realtime moni	toring Meter	r Parameter s
The last re	ading Historical data	Monthly En	ergy-consumpt	ion	
Year	Please choose •	Month CALL	J - Da	ata type All	
	Month 🔺 Data	type C	onsumed kWh	kwh value of last	t month kwh v

#### 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.



EEM V1.0 File Help 💼 List Welcome Reading [Room10 Projects Expor Refresh 🖮 🚮 Test Channel 【192.168.0.73】 🔚 Room101 🚺 Device name 🔜 Room102 🚺 ۲ 譬 Room103 [ 3 🛛 🔚 Task 🗄 🔍 Query Energy information query 📰 System operator management Database management [127.0.0.1]

### 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:



١	Welcome	Reading [Room101]	Task list	Protocol list	Modbus packet listDP-SDM	1530		
	Add 🔯 Delete 📝 Change password 🔀 Exit							
		Account name	Pas	sword	Account type			
Þ		admin	**	****	Manager			

### 11.2 Add operators

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

New account information		x
Ca Account information		
Account type	Operator 👻	
Account name		
Password		
Password confin	m	
Show password	Add 😰 Cancel	

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.

	x
Change password	
Password	
New password	
New password again	
Show password	Confirm Cancel

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





🚘 List
🖃 🚮 Test Channel 🕻 192.168.0.73 🕽
Query
Energy information query
- 🚝 System operator management
Database management [127.0.0.1]

#### Open the window of backup database

Database management	-		×
💐 Database maintanance			
Data backup / restore			
闥 Backup database 🍃 Restore database			
			-
	[		
	×	Close	

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





🚘 List
🖃 📹 Test Channel 🕻 192.168.0.73 🕽
🐖 Room101 🕻 1 🕽
🚚 Room103 🕻 3 🕽
🗄 🐨 🧬 Protocol list
uery
Energy information query
- 🚝 System operator management
Database management [127.0.0.1]

Open the window of database management

Database management	-		×
💐 Database maintanance			
Data backup / restore			
Backup database			
	×	Close	

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

ZHEJAING EASTRON ELECTRONIC CO., LTD NO.1369 CHENGNAN RD, JIAXING, ZHEJIANG, CHINA TEL: 86-0573-83698881 FAX: 86-0573-83698883 <u>WWW.EASTRONGROUP.COM</u> <u>WWW.EASTRON.COM.CN</u>