

# F&F meter configuration

Document number: PO-084-EN    Version: 2.0    Date of publication: May 22, 2023

## Introduction

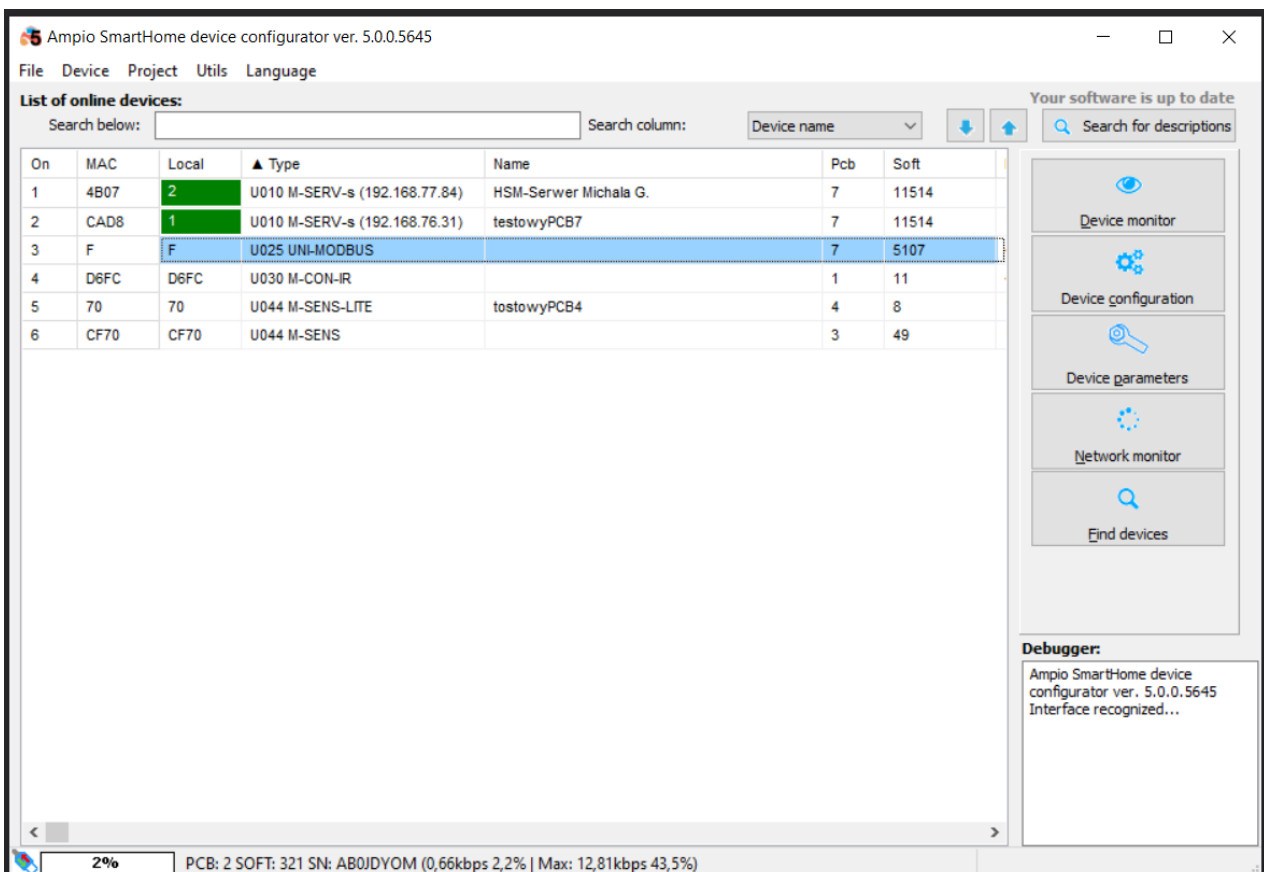
Integration of meters that support the Modbus protocol is performed with the use of an M-CON-485-s module. In order to start the meter, it needs to be connected to a power source and to the M-CON-485-s module, according to the manufacturer's instructions.

The LE-03MW CT meter provides the following information:

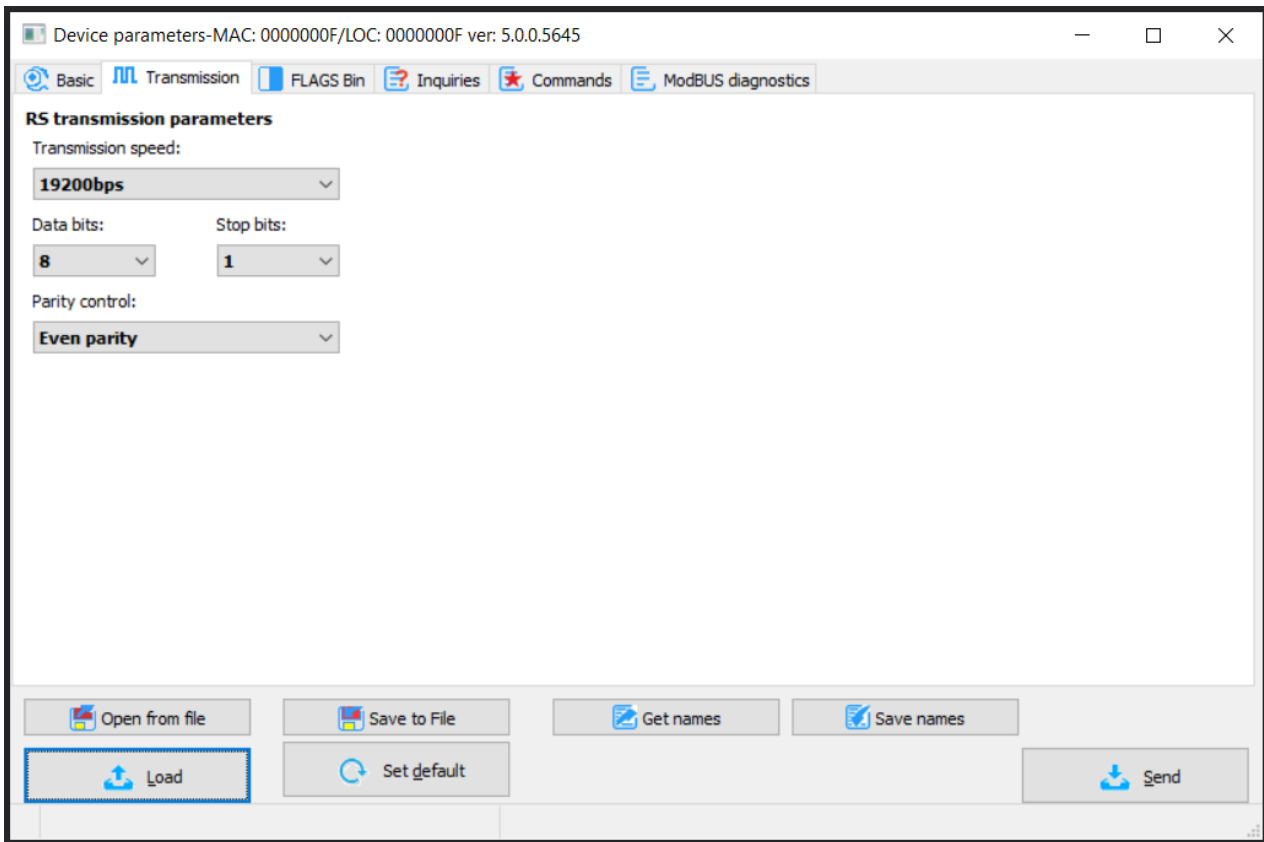
- mains frequency,
- voltage - all 3 phases,
- current - all 3 phases,
- active power - all 3 phases,
- apparent power,
- and many other.

## M-CON-485-s configuration

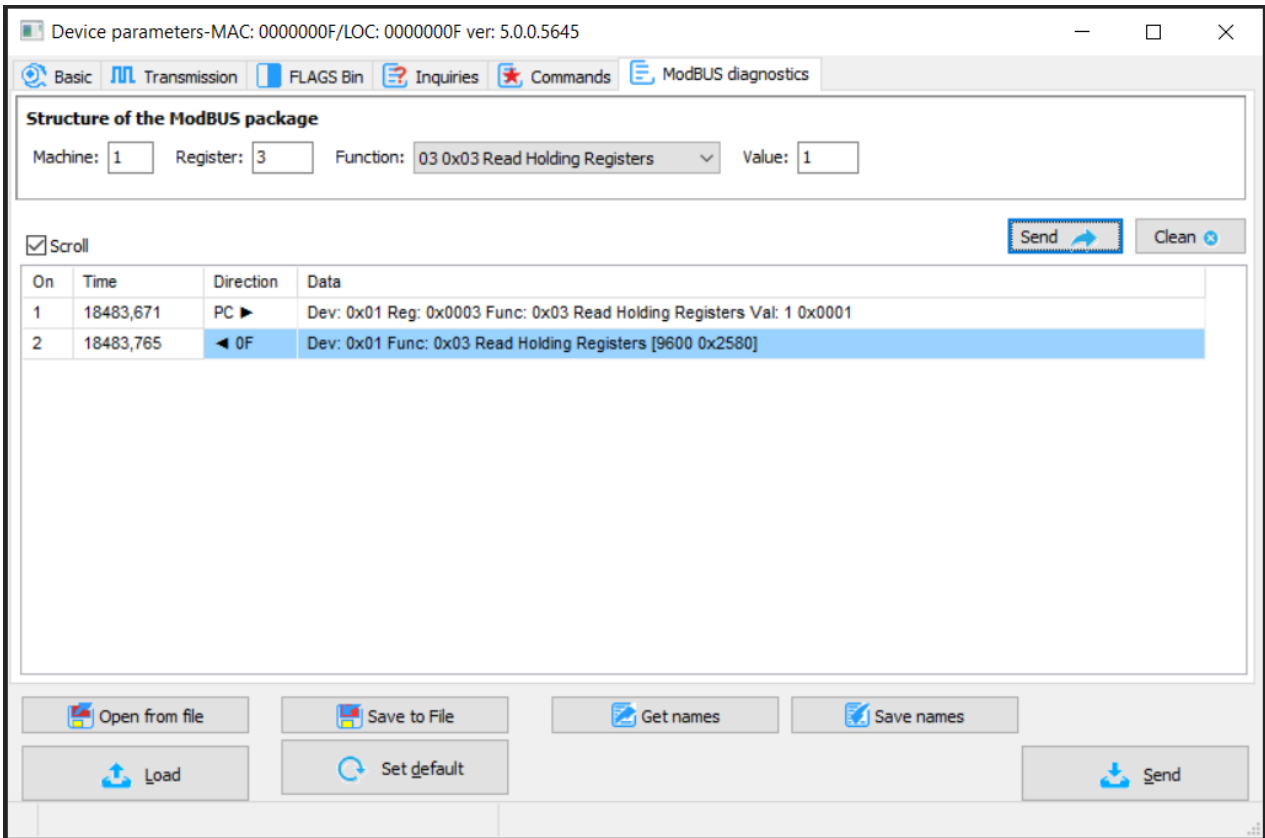
First, launch the Ampio Smart Home configurator.



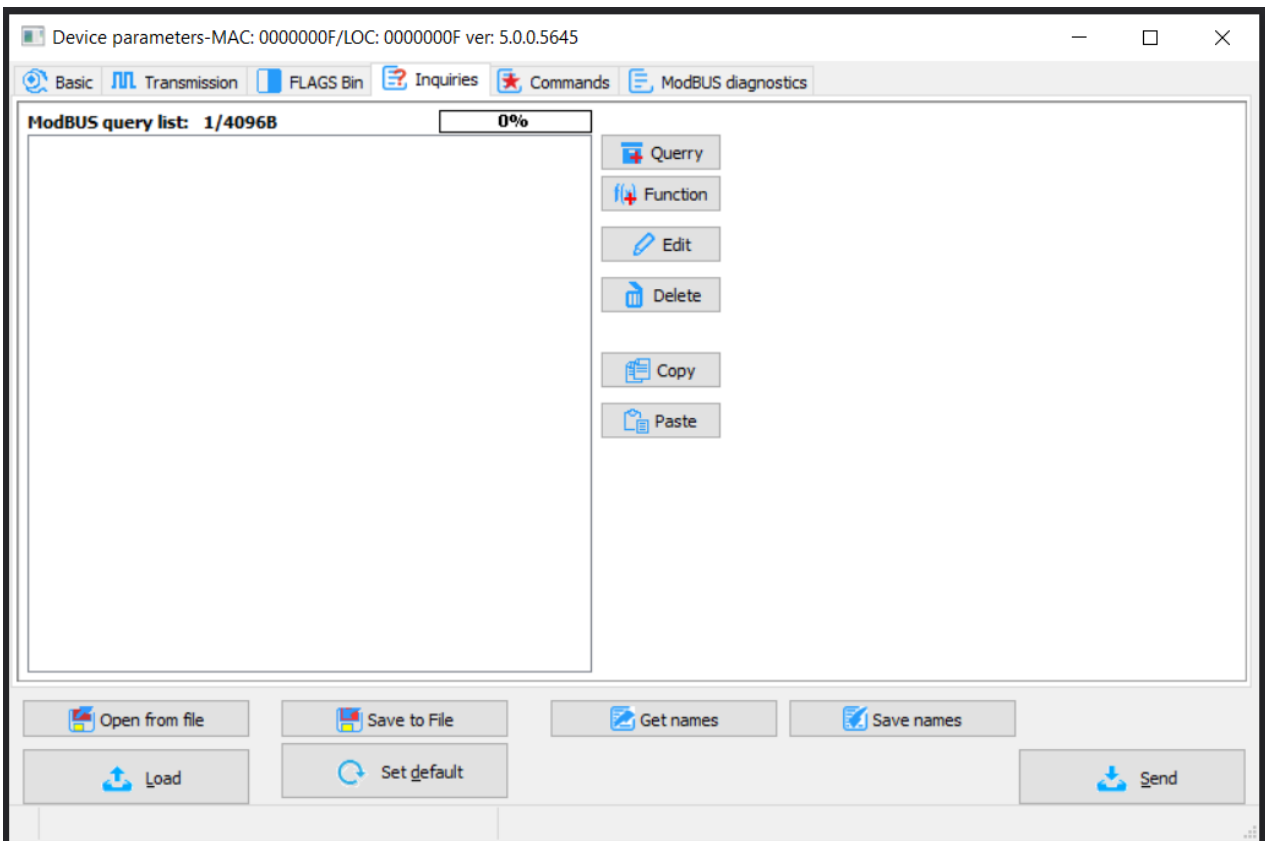
Then, set the transmission parameters according to the documentation and send them to the device. On the device list, select M-CON-485-s, update the software according to the table presented in [RS-485 integration module](#), and go to *Device parameters* into the *Transmission* tab.



In order to ensure that the information is correctly read by the meter, go to the *ModBUS diagnostics* tab, send an query to one of the registers and check the response. Below, you will see a test request for the transmission speed, which received a response 9600.



If the parameters are not correct, or the device is not working properly, you will receive a fitting notification. Once the settings are configured properly, go to the *Inquiries* tab.



Add a new query, select the register of interest, the function number and value (the *Value* field stands for the number of

queried registers).

Query

Function

Edit

Delete

Copy

Paste

**Editing the query:**

Desc.:

**Structure of the ModBUS package**

Device:  Register:

Function:

Value:

Add a *Function* to the query. Then, translate the Modbus information into Ampio information. In the provided example, the *Float32* value will become type *Int32* in Ampio.

Query

Function

Edit

Delete

Copy

Paste

**Editing the analysis:**

Desc.:

ModBUS data type:

Register number:

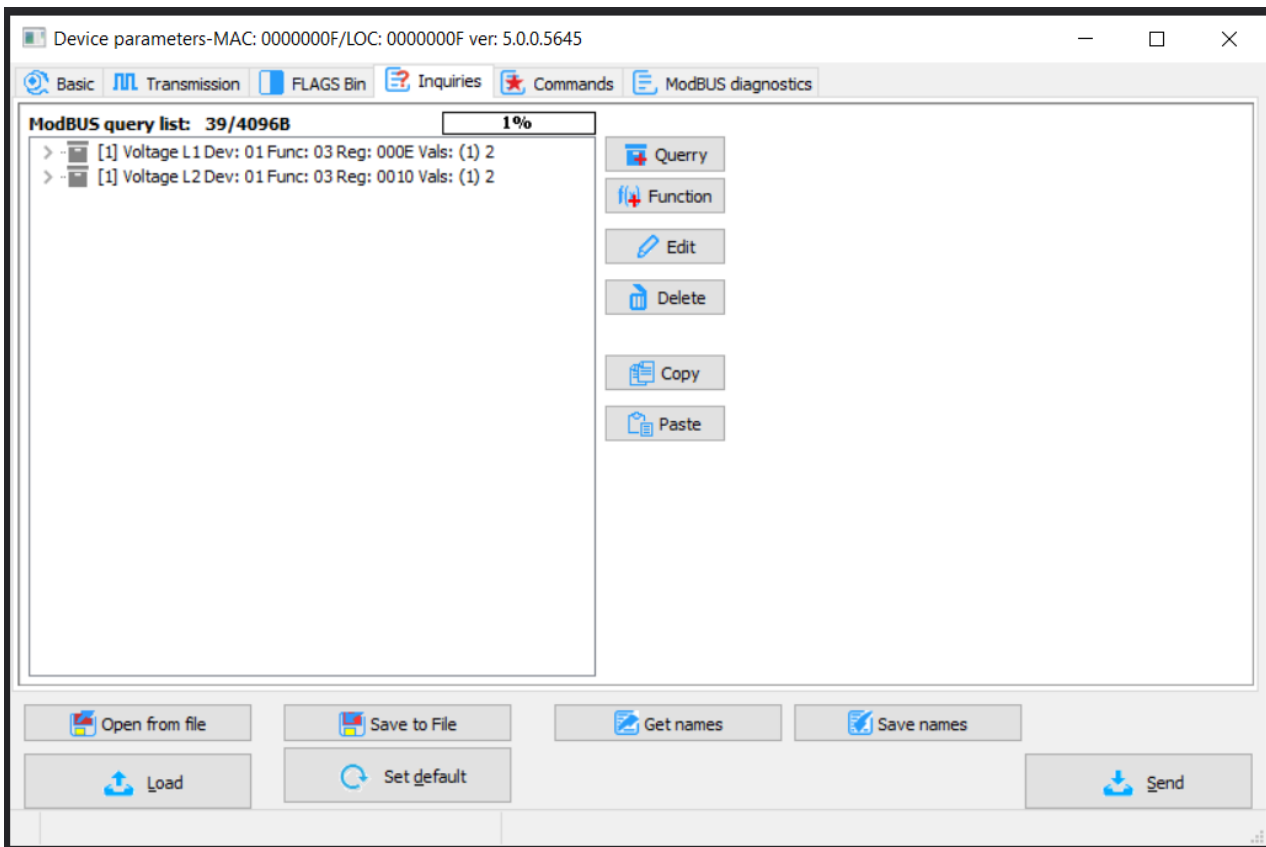
Converting the retrieved value (y=ax+b):

Result=(  /  ) \* X +

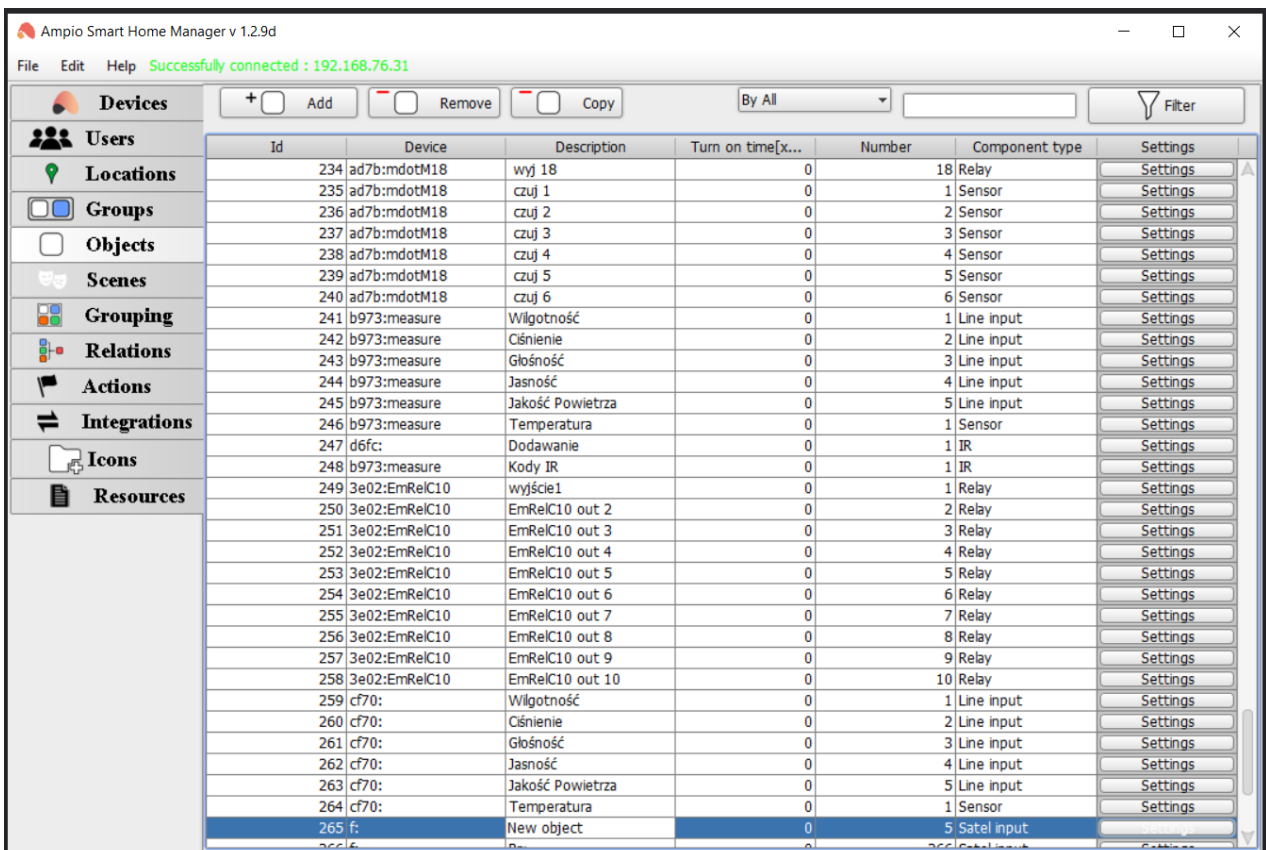
The data target type:

Data target number:

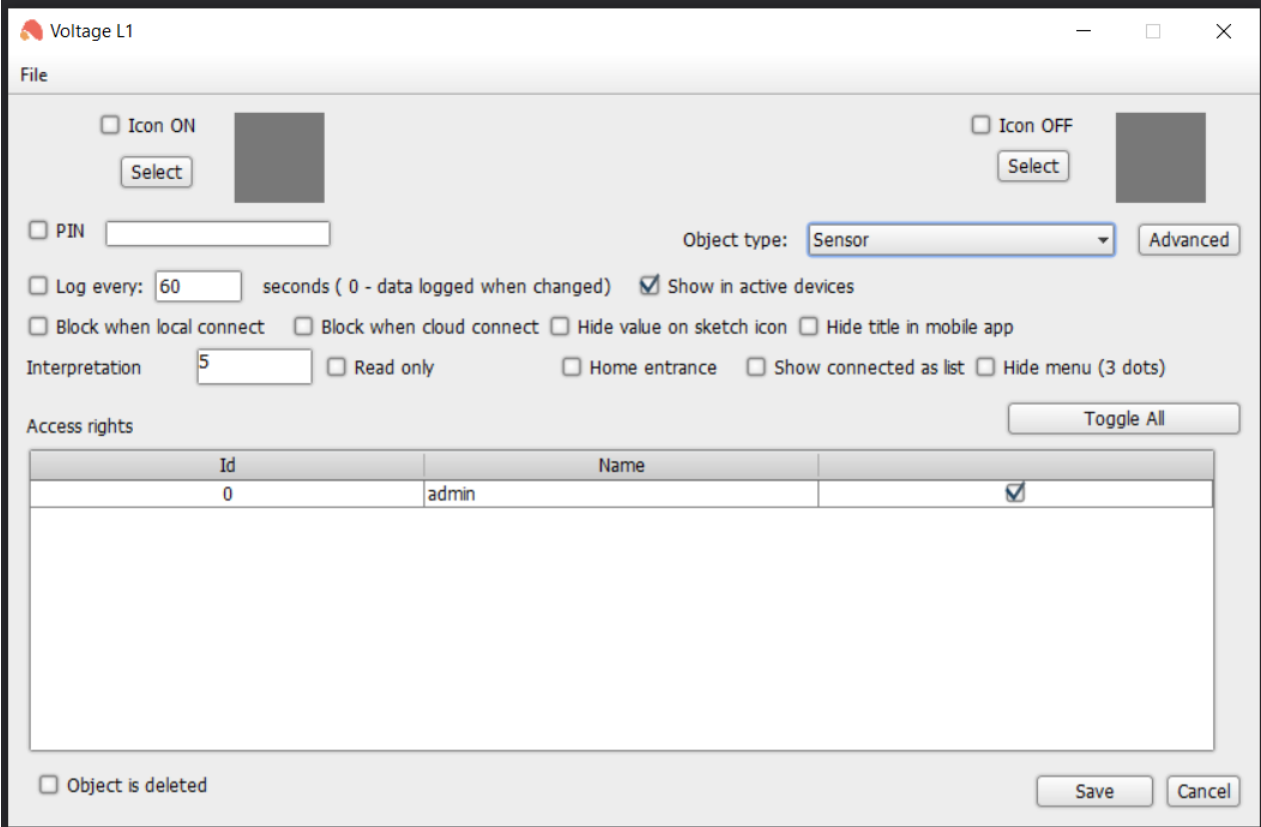
Having created all the queries and analyses, it is imperative to send the *Parameters* to the device.



In order to display data in the mobile application, create a new object in the Ampio Smart Home Manager and configure it accordingly.



Name the object, go to *Settings* and select *Sensor*:



The screenshot shows the configuration window for 'Voltage L1'. The 'File' tab is active. The 'Object type' is set to 'Sensor'. The 'Access rights' table is as follows:

Id	Name	
0	admin	<input checked="" type="checkbox"/>

The next step is to go to *Advanced*, add a unit and select the data type previously supplied in the configurator. If you want to achieve display accuracy, add *String format* and tick *Divide by*.

Unit: V

Divide by: 1000

Type: Bit 32

Value	Description	Operator	Icon
-------	-------------	----------	------

Add unit to description from table  Add description to icon  Add value to icon  Step charts

Use in weather: None

String format: `%.3f`

Add Remove Save Cancel

Save everything and send to the server (*Ctrl+S* shortcut).

Device	Description	Turn on time[x...	Number	Component type	Settings
ad7b:mdotM18	wyj 18	0	18	Relay	Settings
ad7b:mdotM18	czuj 1	0	1	Sensor	Settings
ad7b:mdotM18	czuj 2	0	2	Sensor	Settings
ad7b:mdotM18	czuj 3	0	3	Sensor	Settings
ad7b:mdotM18	czuj 4	0	4	Sensor	Settings
ad7b:mdotM18	czuj 5	0	5	Sensor	Settings
ad7b:mdotM18	czuj 6	0	6	Sensor	Settings
b973:measure	Wilgotność	0	1	Line input	Settings
b973:measure	Ciśnienie	0	2	Line input	Settings
b973:measure	Głośność	0	3	Line input	Settings
b973:measure	Jasność	0	4	Line input	Settings
b973:measure	Jakość Powietrza	0	5	Line input	Settings
b973:measure	Temperatura	0	1	Sensor	Settings
06fc:	Dodawanie	0	1	IR	Settings
b973:measure	Kody IR	0	1	IR	Settings
249 3e02:EmRelC10	wyście1	0	1	Relay	Settings
250 3e02:EmRelC10	EmRelC10 out 2	0	2	Relay	Settings
251 3e02:EmRelC10	EmRelC10 out 3	0	3	Relay	Settings
252 3e02:EmRelC10	EmRelC10 out 4	0	4	Relay	Settings
253 3e02:EmRelC10	EmRelC10 out 5	0	5	Relay	Settings
254 3e02:EmRelC10	EmRelC10 out 6	0	6	Relay	Settings
255 3e02:EmRelC10	EmRelC10 out 7	0	7	Relay	Settings
256 3e02:EmRelC10	EmRelC10 out 8	0	8	Relay	Settings
257 3e02:EmRelC10	EmRelC10 out 9	0	9	Relay	Settings
258 3e02:EmRelC10	EmRelC10 out 10	0	10	Relay	Settings
259 cf70:	Wilgotność	0	1	Line input	Settings
260 cf70:	Ciśnienie	0	2	Line input	Settings
261 cf70:	Głośność	0	3	Line input	Settings
262 cf70:	Jasność	0	4	Line input	Settings
263 cf70:	Jakość Powietrza	0	5	Line input	Settings
264 cf70:	Temperatura	0	1	Sensor	Settings
265 ff:	Voltage L1	0	5	Satel input	Settings

Objects also need to be assigned to groups in which you would like the data to be shown in the Ampio UNI app.

From now on, the data from the meter will be visible in the Ampio UNI app.

Ampio Smart Home Manager v 1.2.9d

File Edit Help Successfully connected : 192.168.76.31

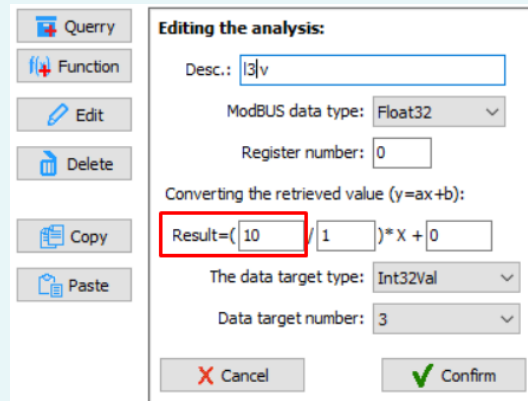
Select Group: -1 Main Menu  Only grouped By All

- Devices
- Users
- Locations
- Groups
- Objects
- Scenes
- Grouping
- Relations
- Actions
- Integrations
- Icons
- Resources

Belongs	ID	Object name	Device name	Settings	LP
<input type="checkbox"/>	239	czuj 5	ad7b:mdotM18	Settings	
<input type="checkbox"/>	240	czuj 6	ad7b:mdotM18	Settings	
<input type="checkbox"/>	241	Wilgotność	b973:measure	Settings	
<input type="checkbox"/>	242	Ciśnienie	b973:measure	Settings	
<input type="checkbox"/>	243	Głośność	b973:measure	Settings	
<input type="checkbox"/>	244	Jasność	b973:measure	Settings	
<input type="checkbox"/>	245	Jakość Powietrza	b973:measure	Settings	
<input type="checkbox"/>	246	Temperatura	b973:measure	Settings	
<input type="checkbox"/>	247	Dodawanie	d6fc:	Settings	
<input checked="" type="checkbox"/>	248	Kody IR	b973:measure	Settings	
<input checked="" type="checkbox"/>	249	wyjście1	3e02:EmRelC10	Settings	
<input checked="" type="checkbox"/>	250	EmRelC10 out 2	3e02:EmRelC10	Settings	
<input checked="" type="checkbox"/>	251	EmRelC10 out 3	3e02:EmRelC10	Settings	
<input checked="" type="checkbox"/>	252	EmRelC10 out 4	3e02:EmRelC10	Settings	
<input checked="" type="checkbox"/>	253	EmRelC10 out 5	3e02:EmRelC10	Settings	
<input checked="" type="checkbox"/>	254	EmRelC10 out 6	3e02:EmRelC10	Settings	
<input checked="" type="checkbox"/>	255	EmRelC10 out 7	3e02:EmRelC10	Settings	
<input checked="" type="checkbox"/>	256	EmRelC10 out 8	3e02:EmRelC10	Settings	
<input checked="" type="checkbox"/>	257	EmRelC10 out 9	3e02:EmRelC10	Settings	
<input checked="" type="checkbox"/>	258	EmRelC10 out 10	3e02:EmRelC10	Settings	
<input type="checkbox"/>	259	Wilgotność	cf70:	Settings	
<input type="checkbox"/>	260	Ciśnienie	cf70:	Settings	
<input type="checkbox"/>	261	Głośność	cf70:	Settings	
<input type="checkbox"/>	262	Jasność	cf70:	Settings	
<input type="checkbox"/>	263	Jakość Powietrza	cf70:	Settings	
<input type="checkbox"/>	264	Temperatura	cf70:	Settings	
<input checked="" type="checkbox"/>	265	Voltage L1	f:	Settings	



In order to display floating-point decimal places (FLOAT), the value needs to be multiplied in the configurator and divided in the Ampio Smart Home Manager. For example, in order to get one decimal place, multiply by 10 in the configurator:



**Editing the analysis:**

Desc.:

ModBUS data type:

Register number:

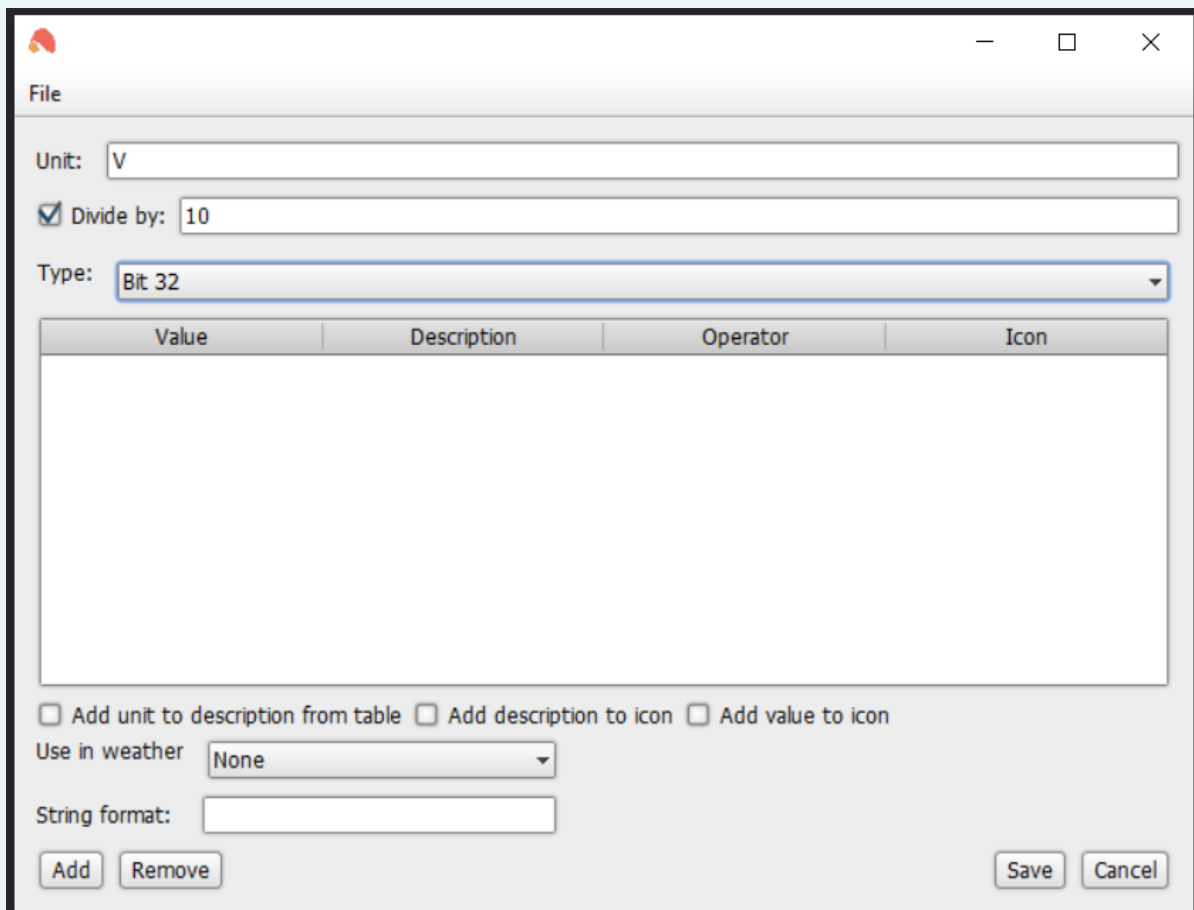
Converting the retrieved value (y=ax+b):

Result=( / ) \* X +

The data target type:

Data target number:

and divide by 10 in the advanced parameters of the Ampio Smart Home Manager:



File

Unit:

Divide by:

Type:

Value	Description	Operator	Icon
-------	-------------	----------	------

Add unit to description from table  Add description to icon  Add value to icon

Use in weather:

String format: