



## Goal

This document describes the procedure to configure and install the meter EW500 in order to communicate via Modbus RTU



## Softwares and Devices:

:

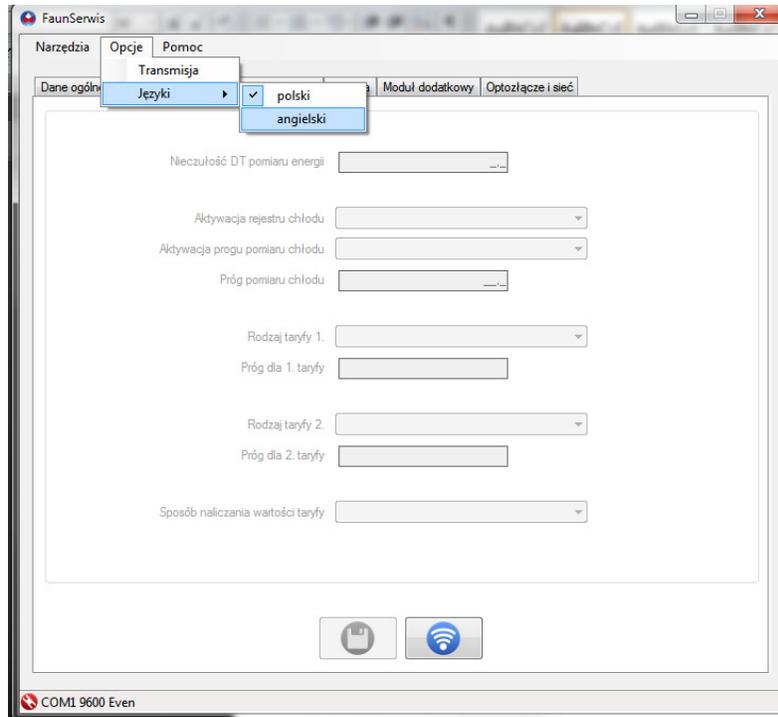
Software	Versión
<b>CARE-XL Web</b>	10.05.00
<b>FaunSerwis</b>	1.54

Hardware	Modelo
<b>EW500</b>	<b>EW5001CDxxxx</b>
<b>Modulo 485</b>	<b>EWA500C-RS485</b>
<b>Interface Optico</b>	<b>EWA3001798</b>

**NOTE:** check newest versions availables

## Firsts Steps:

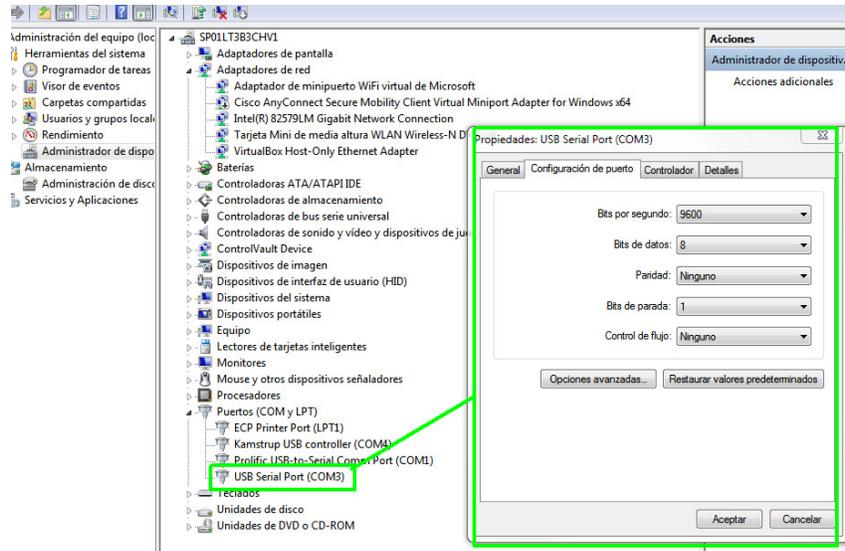
- 1.- Download the FaunSerwis Software tool from the FTP
- 2.- Install the and set the lenguaje in English



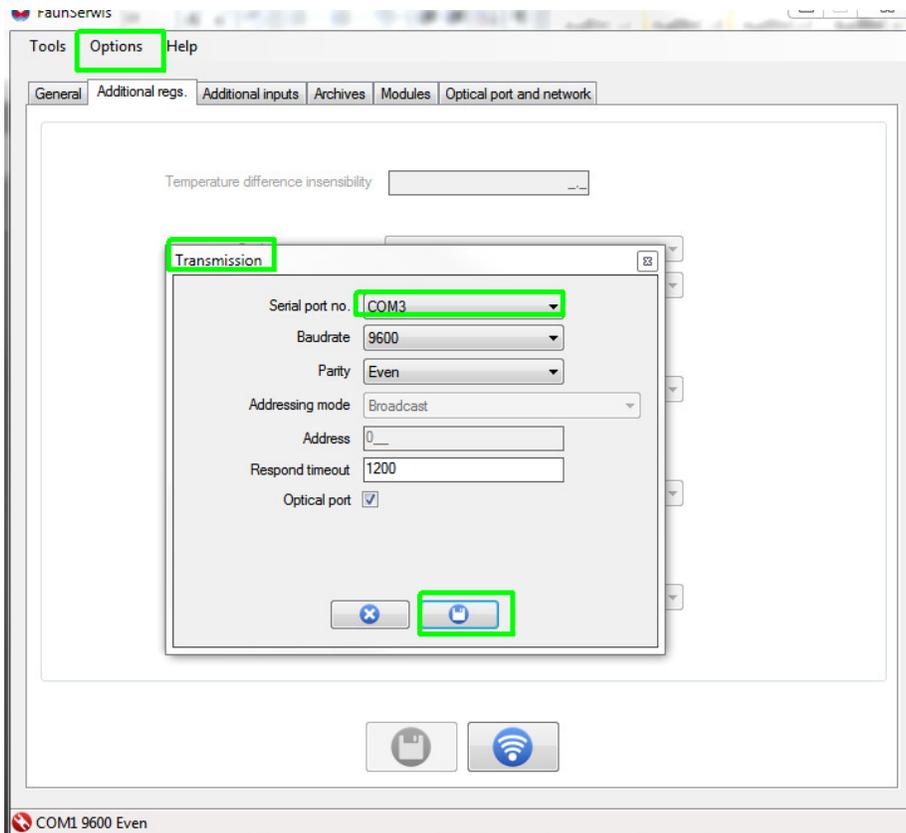
Connect the optical interface **EWA3001798**



Check the port COM settings. If there is any problem, install the drivers from the CD

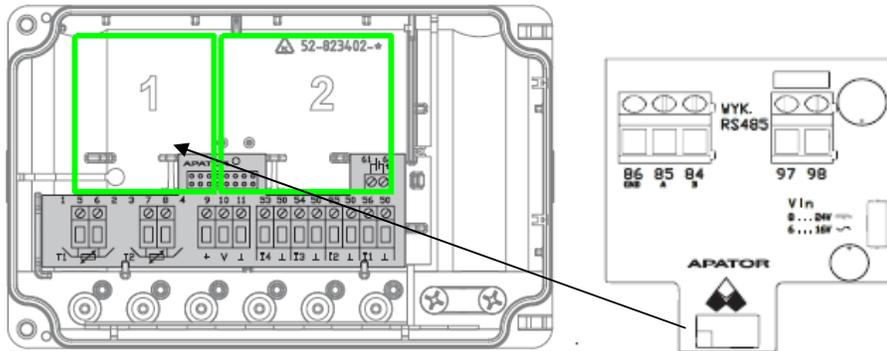


Set the configuration port and save settings:



## Procedure: Physical Connection

Open the housing and install the RS-485 module in the slot. (P.e, slot 1)

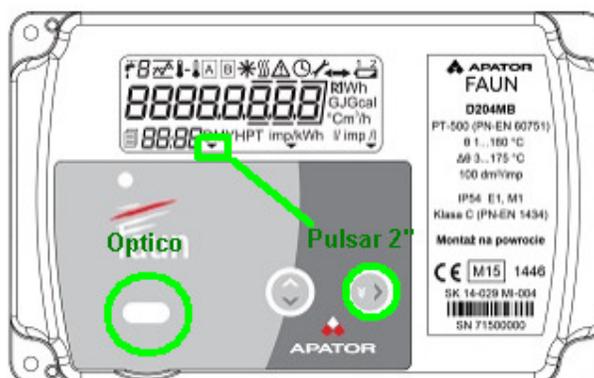


Connect the auxiliary power in terminals 97 y 98 (p.e.24Vca). Connect ModBus to terminals 85 (A)(+) and 84 (B)(-)

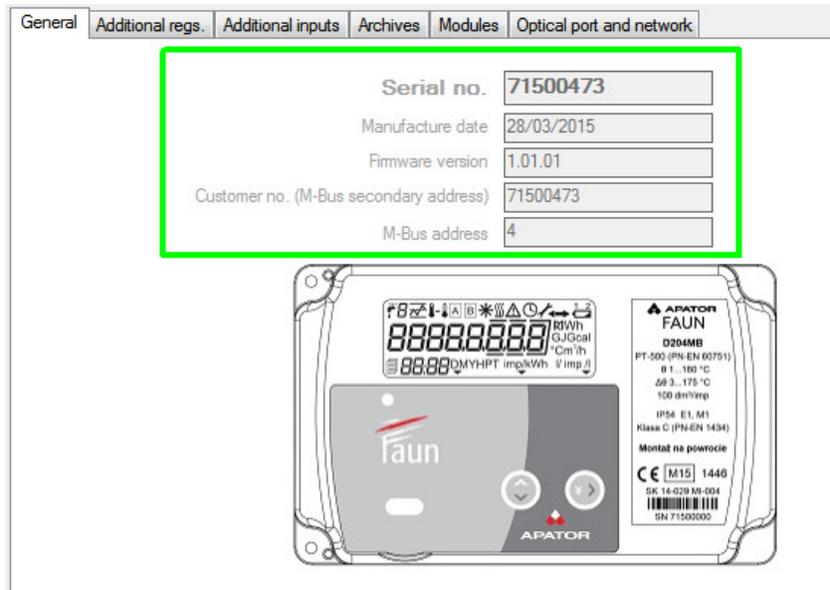


## Settings into Meter

With the tool FaunSerwis and the optical interface situated correctly, push P2 button for 2", until the inverter triangle goes to on. This icon indicates that the optical port of the meter is open



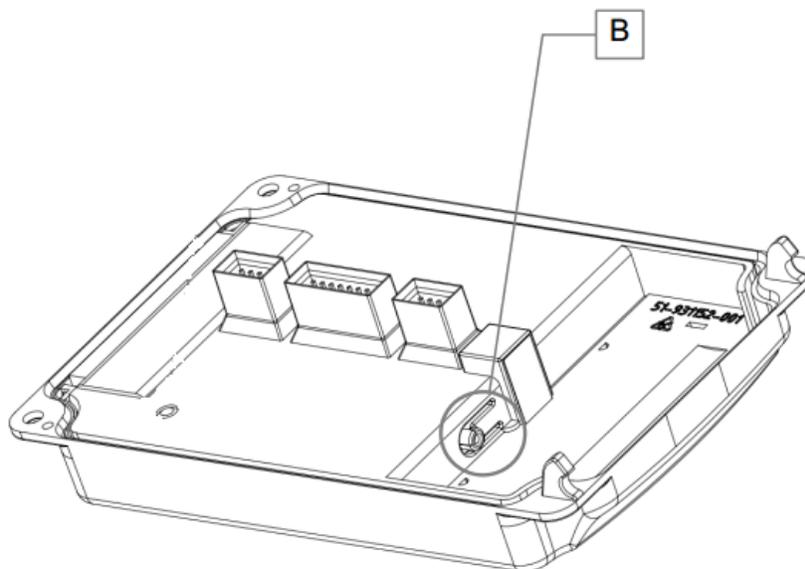
When the optical port of the meter is open, push button “read” . Then meter data can be read in the general tab:



For write data the configurator button have to be pushed briefly. Open the housing and push button “B”. to see if the meter is ready for write the display will show a spinner



This situation is open for 5 minutes after last command from the tool.  
Close the housing.



Go to “optical port and network” and set the modbus address in the field MODBUS address and push “saver” . In this case is 4

General	Additional regs.	Additional inputs	Archives	Modules	Optical port and network
<b>Network configuration</b>					
M-Bus address (1 - 250)		<input type="text" value="2"/>			
Customer no. (M-Bus secondary address)		<input type="text" value="71500473"/>			
LUMBUS address (0 - 63)		<input type="text" value="2"/>			
MODBUS address (1 - 247)		<input type="text" value="4"/>			
<b>Optical port configuration</b>					
Baudrate		<input type="text" value="9600"/>	b/s		
Parity		<input type="text" value="Even"/>			
Standby time of optical port (1 - 255)		<input type="text" value="32"/> s			
<input type="button" value="M-Bus frame configuration"/>					



Go to “modules” tabs to set the RS485 module. Choose the slot

Select module:  and push  “read”

Set the MODBUS parameters and push “save” 

General Additional regs. Additional inputs Archives **Modules** Optical port and network

Select module: **Module no. 1**

**Modules**

**Module configuration**

Module type: **RS232 / RS485** Protocol: **MODBUS** M-Bus frame configuration

Baudrate: **9600** Parity: **Even**

Analogue output 1. Data type: **Flow temperature** Start of the range: **\_\_1.0** C End of the range: **180.0** C

Analogue output 2. Data type: **Return temperature** Start of the range: **\_\_1.0** C End of the range: **180.0** C

Pulse output 1. Data type: **Main energy** Pulse constant: **1 kWh/imp**

Pulse output 2. Data type: **None** Pulse constant: **1 kWh/imp**

Pulse input 1. Additional input no.: **Inactive** Register resolution: **0,001 m3; 0,1 kWh** Pulse constant: **\_\_0.0** dm3 / pulse Connected device serial no.: **00000000**

Pulse input 2. Additional input no.: **Inactive** Register resolution: **0,001 m3; 0,1 kWh** Pulse constant: **\_\_0.0** dm3 / pulse Connected device serial no.: **00000000**

Here you can see one meter with:

Address: 4  
 Baudrate: 9600  
 Parity : Even

Set same settings in the master Modbus in Care .

**IMPORTANT NOTE. To modify the address, first disable the module, change the address, save it, and then configure the module again,**

General Additional regs. Additional inputs Archives **Modules** Optical port and network

Select module: **Module no. 1**

**Modules**

**Module configuration**

Module type: **None** Protocol: **MODBUS** M-Bus frame configuration

Baudrate: **9600** Parity: **Even**

Analogue output 1. Data type: **Flow temperature** Start of the range: **\_\_1.0** C End of the range: **180.0** C

Analogue output 2. Data type: **Return temperature** Start of the range: **\_\_1.0** C End of the range: **180.0** C

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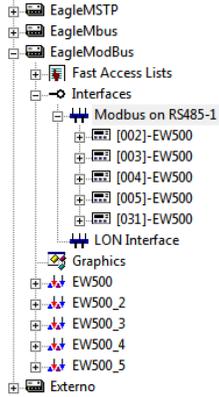
Pulse input 2. Additional input no.: **Inactive** Register resolution: **0,001 m3; 0,1 kWh** Pulse constant: **\_\_0.0** dm3 / pulse Connected device serial no.: **00000000**

You can find the complete documentation in “EW500- Setup and Operating instructions” file

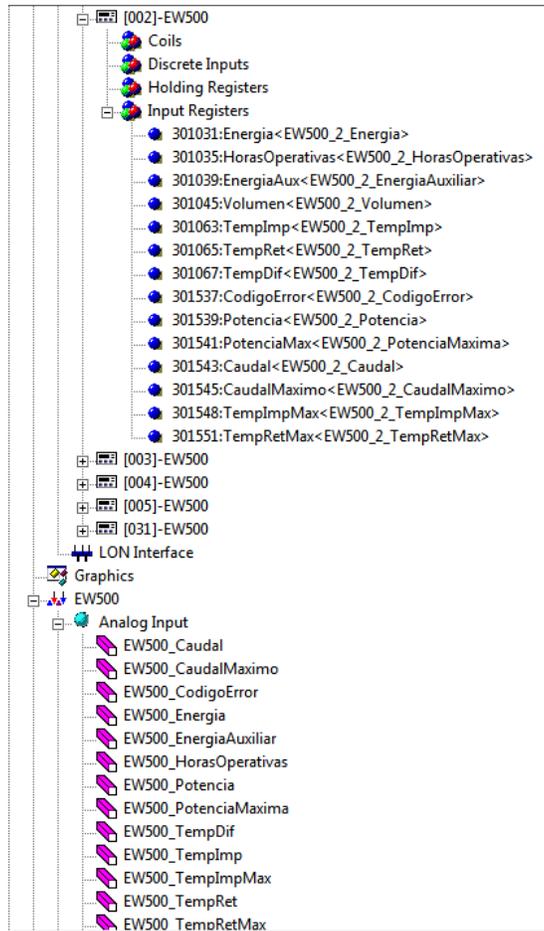
## CARE

### Master Configuration:



Modbus Channel Name:	Master Channel
Communication Port:	<input checked="" type="radio"/> R5485-1 <input type="radio"/> R5485-2
Communication:	Baud Rate: 9600 Bit/s Message Timeout: 200 ms Parity: Even Number of Stop Bits: 1 Bit Live Check Repeat Count: 3 Live Check: 4 s Live Check if Offline: 15 s
Data structure:	Default Byte Order: Most Significant Byte First Default Word Order: Most Significant Word First

### Modbus Points/Datapoints:



## Translate/Download and...

XvOnline - [EagleModBus [192.168.11.30] - SystemAdmin]

File View LiveCARE Window Help

Zoom 150 % Find: Comment

HWw\_TestModbus

EagleModBus

- Plants
  - EW500
  - EW500\_2
  - EW500\_3
    - Control loops
    - Datapoints
    - Analog input
    - Fast access lists
    - Flag points
    - Reference Points
  - EW500\_4
    - Control loops
    - Datapoints
    - Analog input
    - Fast access lists
    - Flag points
    - Reference Points
  - EW500\_5
- Fast access lists
- Alarms
- System settings
- Other devices

Type	Name	Value	Event state
AI	EW500_4_Energia	27 kWh	Normal
AI	EW500_4_HorasOperativas	2114 h	Normal
AI	EW500_4_EnergiaAuxiliar	0 kWh	Normal
AI	EW500_4_Volumen	0,94 m <sup>3</sup>	Normal
AI	EW500_4_TempImp	34,9 °C	Normal
AI	EW500_4_TempRet	26,1 °C	Normal
AI	EW500_4_TempDif	8,8 °C	Normal
AI	EW500_4_CodigoError	0	Normal
AI	EW500_4_Potencia	0 kW	Normal
AI	EW500_4_PotenciaMaxima	0 kW	Normal
AI	EW500_4_Caudal	0 m <sup>3</sup> /h	Normal
AI	EW500_4_CaudalMaximo	0 m <sup>3</sup> /h	Normal
AI	EW500_4_TempImpMax	0 °C	Normal
AI	EW500_4_TempRetMax	0 °C	Normal

## ANNEX Modbus Tables

Register address	Data size [B]	Register name	Data format
1024	4	Main value units	
1026	4	Factory number	BCD
1028	4	Client number	BCD
1030	4	Main energy	Uint32
1032	4	RTC time (time in Unix format)	Uint32
1034	4	Operating time [h]	Uint32
1036	4	Error operating time [h]	Uint32
1038	4	Auxiliary energy	Uint32
1040	4	Tariff energy 1	Uint32
1042	4	Tariff energy 2	Uint32
1044	4	Main volume	Uint32
1046	4	Auxiliary volume	Uint32
1048	4	Tariff volume 1	Uint32
1050	4	Tariff volume 2	Uint32
1052	4	Units of auxiliary input values	

Register address	Data size [B]	Register name	Data format
1054	4	Counter status of auxiliary input 1	Uint32
1056	4	Counter status of auxiliary input 2	Uint32
1058	4	Counter status of auxiliary input 3	Uint32
1060	4	Counter status of auxiliary input 4	Uint32
1062	4	Supply temperature	Uint32
1064	4	Return temperature	Uint32
1066	4	Temperature difference	Uint32
1068	4	Metrological test	Uint32
1536	2	Calculator error code	Uint16
1537	2	Averaging cycle [min]	Uint16
1538	2	Momentary power	Uint16
1539	2	Average power	Uint16
1540	2	Maximum power	Uint16
1541	2	Minimum power	Uint16
1542	2	Momentary flow	Uint16
1543	2	Average flow	Uint16
1544	2	Maximum flow	Uint16
1545	2	Minimum flow	Uint16
1546	2	Average supply temperature	Uint16
1547	2	Maximum supply temperature	Uint16
1548	2	Minimum supply temperature	Uint16
1549	2	Average return temperature	Uint16
1550	2	Maximum return temperature	Uint16
1551	2	Minimum return temperature	Uint16
1552	2	Average temperature difference	Uint16
1553	2	Maximum temperature difference	Uint16
1554	2	Minimum temperature difference	Uint16
1555	2	Software version	BCD

The decimal place is sent under address 1024 for the transmitted temperatures and momentary difference as well as average and peak values, flow, power, volume and energy, as well as the energy unit.

Register bit 1024	Size [b]	Field name
2:0	3	Decimal place for momentary temperatures and temperature difference
5:3	3	Decimal place for momentary flow, average flow and peak flow

Register bit 1024	Size [b]	Field name
8:6	3	Decimal place for momentary power, average power and peak power
11:9	3	Decimal place for volume
14:12	3	Decimal place for energy
17:15	3	Decimal place for average and peak temperatures and temperature difference
20:18	3	Energy unit
23:21	3	Power unit
31:24	8	Reserved

The decimal place and the unit of the transmitted values of auxiliary inputs is transmitted under address 1052

Register bit 1052	Size [b]	Field name
2:0	3	Decimal place for the value of auxiliary input 1
5:3	3	Unit for the value of auxiliary input 1
8:6	3	Decimal place for the value of auxiliary input 2
11:9	3	Unit for the value of auxiliary input 2
14:12	3	Decimal place for the value of auxiliary input 3
17:15	3	Unit for the value of auxiliary input 3
20:18	3	Decimal place for the value of auxiliary input 4
23:21	3	Unit for the value of auxiliary input 4
31:24	8	Reserved

The decimal place field may have the following values:

- 0 – resolution of the sent data equal to 1 unit,
- 1 – resolution of 0.1 of the unit,
- 2 – resolution of 0.01 of the unit,
- 3 – resolution of 0.001 of the unit.

The energy unit field has the following values:

- 0 – GJ,
- 1 – Gcal,
- 2 – kWh,
- 3 – MWh.

The power unit field has the following values:

- 0 – kW,
- 1 – MW.

The field 'Unit of auxiliary input values' has the following values:

- 0 – m<sup>3</sup>,
- 1 – kWh,
- 2 – MWh.

The MODBUS protocol also allows for changing the transmission speed and address. To change these parameters, press the client jumper. The configuration of the communication port is located under address 4201 in the register:

Bit rejestru 4201	Rozmiar [b]	Nazwa pola	Możliwa wartość
2:0	3	Transmission speed	- 0: 300 b/s, - 1: 600 b/s, - 2: 1200 b/s, - 3: 2400 b/s, - 4: 4800 b/s, - 5: 9600 b/s.
4:3	2	Parity bit setting	- 0: no parity - 1: even parity bit - 2: odd parity bit
15:5	11	Reserved	-

The configurable MODBUS address is located in the register under address 4202. The MODBUS address should be set from the range: 1 ... 247.

**NOTE:** In an address space compatible with a LQM-III calculator (20 ... 54, 80 ... 128 and 200 ... 234), it is possible to read the data in a format which is fully compatible with this calculator.

#### For more information

[homecomfort.resideo.com/europe](http://homecomfort.resideo.com/europe)



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