

Goal

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



Softwares and Devices:

:		
Software	Versión	
CARE-XL Web FaunSerwis	10.05.00 1.54	
Hardware	Modele	
EW500 Modulo 485 Interface Optico	EW5001CDxxxx EWA500C-RS485 EWA3001798	

NOTE: check newest versions availables

Firsts Steps:

- 1.- Donwload the FaunSerwis Software tool fom the FTP
- 2.- Install the and set the lenguaje in English

Narzędzia	Opcje Pomoc		
	Transmisja		
Dane ogóln	Języki	polski	Moduł dodatkowy Optozłącze i sieć
		angielski	
	Nieczul	łość DT pomiaru energii	
	Ak	tywacja rejestru chłodu	~
	Aktywacja	a progu pomiaru chłodu 🗌	v
		Próg pomiaru chłodu	
		Rodzaj taryfy 1.	Ŧ
		Próg dla 1. taryfy	
		Rodzaj taryfy 2.	*
		Próg dla 2. taryfy	
	Sposób n	aliczania wartości taryfy	¥

Connect the optical interface EWA3001798



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

dministración del equipo (loc	▲ → SP01LT3B3CHV1			Acciones
Herramientas del sistema	Adaptadores de pantalla			Administrador de dispositiv
Programador de tareas	⊿ 🔮 Adaptadores de red	Accience adicionales		
> 🛃 Visor de eventos	Adaptador de minipuerto WiFi virtual de Microso	ft		Acciones adicionales
> 🛐 Carpetas compartidas	Cisco AnyConnect Secure Mobility Client Virtual	Miniport Ada	apter for Windows x64	
🛛 🌆 Usuarios y grupos local	Intel(R) 82579LM Gigabit Network Connection	_		
No Rendimiento		Propiedade	es: USB Serial Port (COM3)	23
🚔 Administrador de dispo	VirtualBox Host-Only Ethernet Adapter			
Almacenamiento	Baterías	General	Configuración de puerto Controlador	Detalles
Administración de disco	Controladoras ATA/ATAPI IDE	-		
Servicios y Aplicaciones	Controladoras de almacenamiento			
	Controladoras de bus serie universal		Bits por segundo: 96	• 00
	Controladoras de sonido y vídeo y dispositivos de juis		Pr 1 1 .	
	ControlVault Device		bits de datos. 8	_
	Dispositivos de imagen		Paridad: Nic	
	Dispositivos de interfaz de usuario (HID)		Turioud.	guno
	Dispositivos del sistema		Bits de parada: 1	_
	Dispositivos portátiles			
	⊳ di Equipo		Control de flujo: Nir	iguno 👻
	Lectores de tarjetas inteligentes			
	Monitores			
	Mouse y otros dispositivos señaladores		Opciones avanzadas Resta	urar valores predeterminados
	Procesadores			
	Puertos (COM y LPT)			
	ECP Printer Port (LPT1)			
	Prolific USB-to-Serial Comm. Port (COM1)			
	IT USB Serial Port (COM3)			
	reciados			
	Unidades de disco			Accenter Conceler
	Unidades de DVD o CD-ROM			Aceptar

Set the configuration port and save settings:

Tools	Options	Help
General	Additional re	egs. Additional inputs Archives Modules Optical port and network
		Temperature difference insensibility
		Transmission
		Section to COUP
		Baudrate 9600
		Parity Even
		Addressing mode Broadcast
		Address 0
		Respond timeout 1200
		Optical port 🔽

Procedure: Phisical Connection

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



Connect the auxiliar 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:

_	s. Additional inputs	Archives	Modules	Optical port and network
Г		Seri	al no.	71500473
		Manufact	ure date	28/03/2015
		Firmware	e version	1.01.01
	Customer no. (M-Bus	secondary	address)	71500473
		M-Bus	address	4

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 spanner

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"

General	Additional regs.	Additional inputs	Archives	Modules	Optical port and network	
Netwo	k configuration					
		M-Bus ad	dress (1 - 2	50)	2	
	Custome	er no. (M-Bus secor	idary addre	ss)	71500473	
		LUMBUS ac	ldress (0 -	63)	_2	
		MODBUS add	dress (1 - 2	47)	_4	
Optica	port configuration	1				
			Baudr	ate 9600	▼ b	/s
			Pa	rity Even	•	
	Sta	ndby time of optical	port (1 - 2	55)	_32 s	
				М-В	us frame configuration	



Go to "modules" tabs to set the RS485 module. Choose the slot



odule configuratio	n						
Module type	RS232 / F	RS485 🔻	Protocol	MODBUS	•	M-Bus frame configuration	
Baudrate	9600	-	Parity	Even	•		
nalogue output 1.				Analogue outpu	rt 2.		
Data type	Flow tem	iperature 🔻 🔻]	Data t	ype R	etum temperature 🛛 👻	
Start of the range		1,0	С	Start of the ra	nge	1.0 C	
End of the range		180,0	С	End of the ra	nge	180,0 C	
ulse output 1.				Pulse output 2.			
Data typ	e Main e	nergy		Data	a type	None	
Pulse constar	nt 1 kWh	/imp		Pulse co	nstant	1 kWh/imp	
ulse input 1.				Pulse input 2			
Additiona	l input no.	Inactive		Addi	tional inp	out no. Inactive	
Register	resolution	0,001 m3; 0,1	kWh 🧃	Reg	jister res	olution 0,001 m3; 0,1 kWh	
Pulse	e constant	0,0	dm3 / pulse 👻	1	Pulse co	nstant0,0 dm3 / pulse	12
Semested devices		00000000		Connected di	vice ee	0000000	_

Here you can see one meter with:

Address:	4
Baudrate:	9600
Parity :	Even

Set sames 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,

			neermour				
lodules							
Module configurati	on			[
Module type	None	•	Protocol	MODBUS		M-Bus frame con	figuration
Baudrate	9600	+	Parity	Even 💌			
Analogue output 1				Analogue output 2			
Data type	Flow terr	perature 👻		Data type	Return te	mperature 👻	
Start of the range		1.0 (2	Start of the range		1.0	С
End of the range		180,0	2	End of the range		180,0	С
Pulse output 1				Pulse output 2.			
Data ty	Main e	nergy	-	P Data type	None		
Pulse consta	nt 1 kWh	/imp		Pulse constan	t 1kWh	/imp	
Pulse input 1.				Pulse input 2.			
Addition	al input no.	Inactive		Additional	input no.	Inactive	
Registe	r resolution	0,001 m3; 0,1 kW	h ,	Register	resolution	0,001 m3; 0,1 k	Wh
Puls	e constant	0.0 dm3	/ pulse 🔻	Pulse	constant	0.0 dr	m3/pulse
Connected devic	e serial no.	00000000		Connected device	serial no.	00000000	

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

CARE

+ Externo

Master Configuration: EagleMSTP EagleMbus EagleModBus Fast Access Lists Description

Modbus Channel Name:	Master Channel	
Communication Port		
C R5485-1		
C 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: Mo	st Significant Byte F	irst 🔻
Default Word Orders		Test a

Modbus Points/Datapoints:



Translate/Download and...

😰 XwOnline - [EagleModBus [192.168.11.30] - System	Admin]			
🖼 File View LiveCARE Window Help				
🏚 🔺 🔸 🕨 🖉 🧔 🗂 🖾 🖄	Zoom 150	- % Find: Comment		▼ 1
HWw_TestModbus	Detail	s,		
Plants	Туре	Name	Value	Event state
	AI	EW500 4 Energia	27 kWh	Normal
	AI	EW500_4_HorasOperativas	2114h	Normal
	AI	EW500_4_EnergiaAuxiliar	0 kWh	Normal
	AI	EW500_4_Volumen	0,94 m^3	Normal
🖻 🧰 Datapoints	AI	EW500_4_TempImp	34,9 °C	Normal
🕀 😡 Analog input	AI	EW500_4_TempRet	26,1 °C	Normal
- 😰 Fast access lists	AI	EW500_4_TempDif	8,8 °C	Normal
- 🖻 Flag points	AI	EW500_4_CodigoError	0	Normal
	AI	EW500_4_Potencia	0 kW	Normal
EW500 4	AI	EW500_4_PotenciaMaxima	0 kW	Normal
	AI	EW500_4_Caudal	0 m^3/h	Normal
Datapoints	AI	EW500_4_CaudalMaximo	0 m^3/h	Normal
Analog input	AI	EW500_4_TempImpMax	0 °C	Normal
Fast access lists	AI	EW500_4_TempRetMax	0 ℃	Normal
Elag points				
Reference Points				
Evolution				
System settings				
H- Other devices				

BUILDING XPERTS	EW500	
	Modbus-RTU	Energia Produccion de Calor
		Energia 27.0 kWh Impulsion 34.9 °C
		Energia Aux 0.0 kWh Retorno 26.1 °C
	Horas 2114 h	Potencia
		Volumen 0.9 m^3
	- 0 0	Datos Estadísticos
		Caudal Max 0.0 m^3/h Impulsion Max 0.0 °C
		Potencia Max 0.0 °C

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 – m³,

- 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



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