English

User Manual

Electronic function module UO-EM-AME/M

Modbus over Ethernet module

Read the User manual prior to assembly,
starting installation and handling!
Keep for future reference!

1.1 General

1.1.1 Introduction

The UO-EM-AME/M module can be connected to the Unit One modules at any position and provides the system with an Ethernet interface.
This interface supports standard and fast Ethernet (10/100 Mb). The speed is detected and adjusted automatically.
Modbus TCP is used as the protocol.
The module provides the following initial data:

- Position
- ERC data
- Status and diagnosis
- Communications counter
- Connection details
- Operating time

The following functions can also be parameterised:

- Counting direction
- Preset value
- Lower limit switch
- Upper limit switch

1.1.2 Modbus TCP

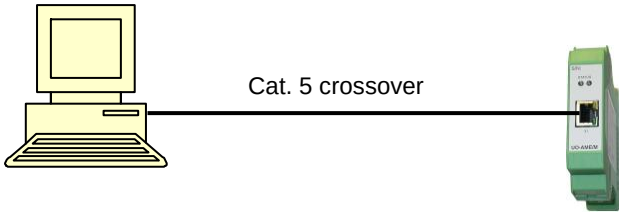
MODBUS is a protocol at Level 7 of the OSI model.
It has been the industry standard since 1979.
Access to the Ethernet is via port 502 on the TCP/IP protocol stack.

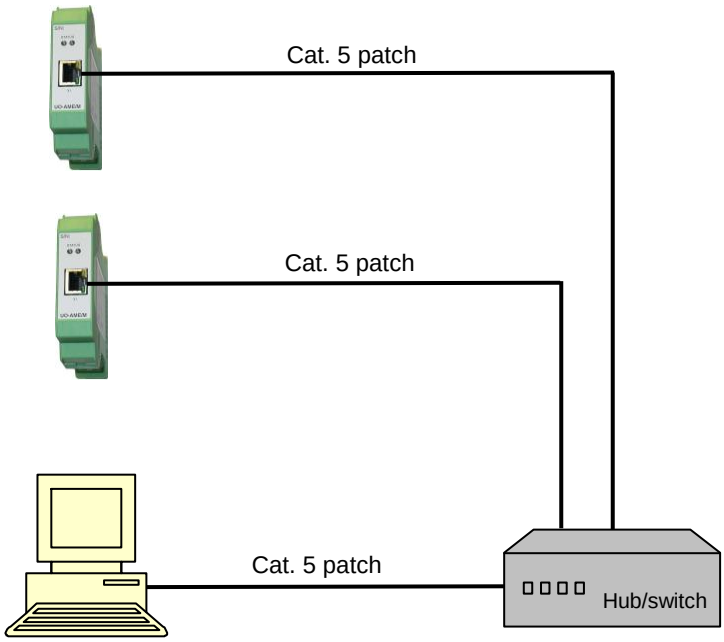
More detailed information and the relevant protocol specifications are available on the Modbus user organisation's website (www.modbus.org, www.modbus-ida.org).

1.2 Connection and network configuration

1.2.1 Network topology

Various connection possibilities are available for the Ethernet.
The simplest choice is direct connection to a PC (PLC). A Cat. 5 crossover cable needs to be used here.
Another option is to use a hub or a switch. In both these cases, a normal Cat. 5 patch cable needs to be used.





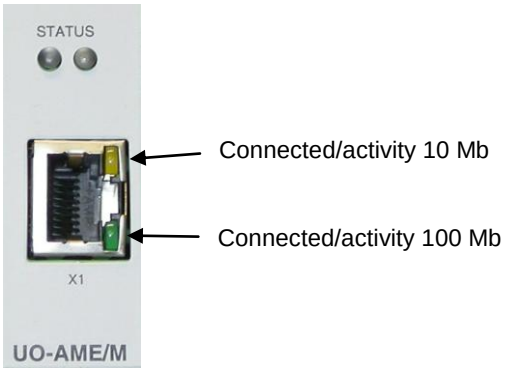
1.2.2 Connection of the module

Power is supplied via the Unit One LWL-D2 module.
The Ethernet port is designed as an RJ45 socket. Standard Cat. 5 cables can be used.

Pin assignment of the socket:

RJ45 pin	Signal
1	TX+
2	TX-
3	RX+
4	Not used
5	Not used
6	RX-
7	Not used
8	Not used

1.2.3 Diagnosis LEDs

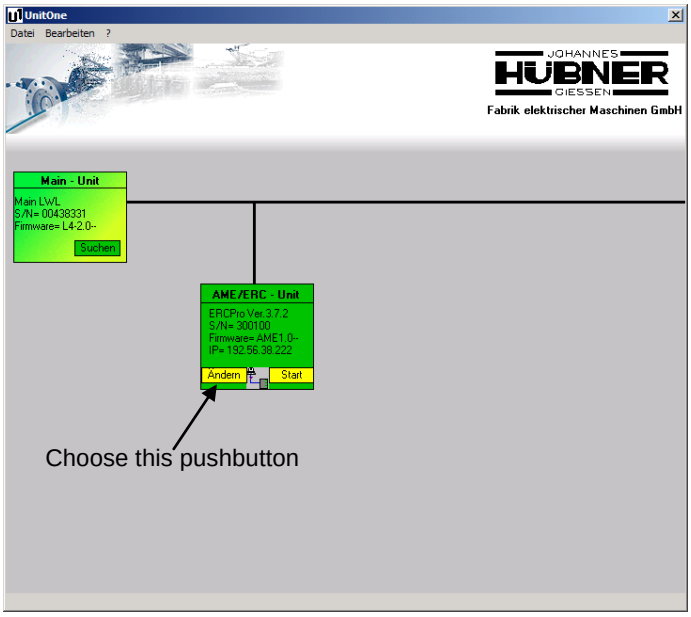


The four LEDs indicate the relevant status of the module.
The two LEDs in the RJ45 socket indicate the relevant network activity. One lights up when the module is connected in the network and flashes when there is any activity. The yellow LED indicates 10 Mb and the green LED 100 Mb. The two status LEDs (green and red) indicate the module's current operating status. The table below lists the possible statuses and associated displays.

Operational status	Status flag	LWL decoder connection	Network module	Network status	TCP status	Status LEDs	
						Red	Green
Start-up	–	–	–	–	–	Off	Off
Preliminary operation	–	No	–	–	–	On	Off
	–	Yes	Not identified	–	–	Flashes 500 ms	Off
	–	Yes	Identified	–	–	On	Flashes 500 ms
Transition	–	–	–	–	–	On	On
Operation	0	–	–	Connected	Other	Off	Flashes 250 ms
	0	–	–	Connected	Not connected	Off	Flashes 500 ms
	0	–	–	Connected	Connected	Off	On
	0	–	–	Not connected	–	Flashes 500 ms	In sync with red
	Parameter invalid	–	–	–	–	Flashes 250 ms	Inverts to red
Programming	–	–	–	–		Flashes 250 ms	Off
Error	–	–	–	–		On	Off

1.2.4 Network configuration

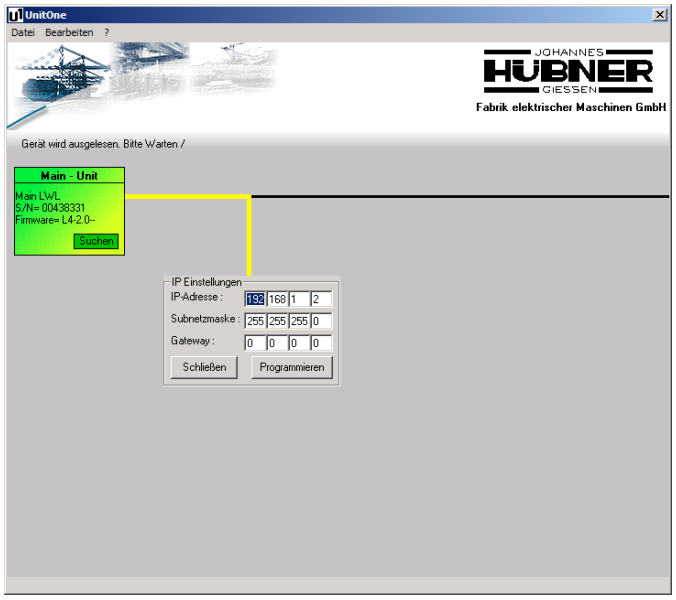
Once the Unit One operating software has started up, an overview screen of all addressable modules appears. To change the network settings, you need to use the mouse to choose the “Change” pushbutton in the “AME/ERC Unit” field.



The next screen then appears. Here, you can configure the IP address, subnet mask and default gateway. The default settings are:

IP address:	192.168.1.2
Subnet mask:	255.255.255.0
Default gateway:	0.0.0.0

Once you have configured this data, choose “Program”. If you want to cancel the procedure, choose “Close”.



When you choose “Program”, the AME/M module is reset and restarts with the new settings.

1.3 Data transfer

1.3.1 Modbus parameters

The response time of the module is > 5 ms. The overall response time also depends on the network load and structure. The client's timeout time (time waited until a response is received) needs to be configured accordingly.

The module is addressed via the IP address. The "MODBUS Unit Identifier" is therefore not important for the module (this parameter is required for other interfaces). It is ignored by the AME/M module. The module inserts in the response the byte received. This byte may take on any value (0x00 – 0xFF).
We recommend that you set this value to 0xFF (0x00 is also possible).

The AME/M module has an input memory for the TCP packages. This means that it can handle several requests "simultaneously". The Modbus parameter "NumberMaxOfServerTransaction" can be set to 10.

Port 502 is reserved for the Modbus transfer and must be used.

The module can edit a TCP connection. If a second connection is opened, the first is closed.

1.3.2 Supported function codes

The following Modbus function codes are supported:

- 01 (0x01) Read Coils
- 02 (0x02) Read Discrete Inputs
- 03 (0x03) Read Holding Registers
- 04 (0x04) Read Input Registers
- 05 (0x05) Write Single Coil
- 06 (0x06) Write Single Register
- 16 (0x10) Write Multiple Registers

The different function codes all access the same memory area.
In Modbus, the high-order byte is first transferred ("big endian"). Memory space is assigned in the same way.

1.3.3 Modbus memory assignment table

Register	Name	Data format	Valency	Coil no.	Byte no.	Access type
0	Position value & limit switch flags	UINT 32	$2^{24} – 2^{31}$	0 – 7	0	Read
			$2^{16} – 2^{23}$	8 – 15	1	
1			$2^{8} – 2^{15}$	16 – 23	2	
			$2^{0} – 2^{7}$	24 – 31	3	
2	ERC data	UINT 16	$2^{8} – 2^{15}$	32 – 39	4	Read
			$2^{0} – 2^{7}$	40 – 47	5	
3	Error flags	UINT 16 (bit array)		48 – 55	6	Read
	Warnings & status			56 – 63	7	
4	Communications counter	UINT 16	$2^{8} – 2^{15}$	64 – 71	8	Read
			$2^{0} – 2^{7}$	72 – 79	9	
5	For future reference	UINT 16	$2^{8} – 2^{15}$	80 – 87	10	Read
			$2^{0} – 2^{7}$	88 – 95	11	
6	Parameter flags	UINT 16 (bit array)		96 – 103	12	Read/write
	Process flags			104 – 111	13	
7	Limit switch min.	UINT 32	$2^{24} – 2^{31}$	112 – 119	14	Read/write
			$2^{16} – 2^{23}$	120 – 127	15	
8			$2^{8} – 2^{15}$	128 – 135	16	
			$2^{0} – 2^{7}$	136 – 143	17	

Register	Name	Data format	Valency	Coil no.	Byte no.	Access type
9	Limit switch max.	UINT 32	$2^{24} – 2^{31}$	144 – 151	18	Read/write
			$2^{16} – 2^{23}$	152 – 159	19	
10			$2^{8} – 2^{15}$	160 – 167	20	
			$2^{0} – 2^{7}$	168 – 175	21	
11	Preset value	UINT 32	$2^{24} – 2^{31}$	176 – 183	22	Read/write
			$2^{16} – 2^{23}$	184 – 191	23	
12			$2^{8} – 2^{15}$	192 – 199	24	
			$2^{0} – 2^{7}$	200 – 207	25	
13	For future reference	UINT 16	$2^{8} – 2^{15}$	208 – 215	26	Read/write
			$2^{0} – 2^{7}$	216 – 223	27	
14	For future reference	UINT 32	$2^{24} – 2^{31}$	224 – 231	28	Read/write
			$2^{16} – 2^{23}$	232 – 239	29	
15			$2^{8} – 2^{15}$	240 – 247	30	
			$2^{0} – 2^{7}$	248 – 255	31	
16	Software version	UINT 16	$2^{8} – 2^{15}$	256 – 263	32	Read
			$2^{0} – 2^{7}$	264 – 271	33	
17	Hardware version	UINT 16	$2^{8} – 2^{15}$	272 – 279	34	Read
			$2^{0} – 2^{7}$	280 – 287	35	
18	Serial number	UINT 32	$2^{24} – 2^{31}$	288 – 295	36	Read
			$2^{16} – 2^{23}$	296 – 303	37	
19			$2^{8} – 2^{15}$	304 – 311	38	
			$2^{0} – 2^{7}$	312 – 319	39	
20	IP address	UINT 32	$2^{24} – 2^{31}$	320 – 327	40	Read
			$2^{16} – 2^{23}$	328 – 335	41	
21			$2^{8} – 2^{15}$	336 – 343	42	
			$2^{0} – 2^{7}$	344 – 351	43	
22	Subnet mask	UINT 32	$2^{24} – 2^{31}$	352 – 359	44	Read
			$2^{16} – 2^{23}$	360 – 367	45	
23			$2^{8} – 2^{15}$	368 – 375	46	
			$2^{0} – 2^{7}$	376 – 383	47	
24	Default gateway	UINT 32	$2^{24} – 2^{31}$	384 – 391	48	Read
			$2^{16} – 2^{23}$	392 – 399	49	
25			$2^{8} – 2^{15}$	400 – 407	50	
			$2^{0} – 2^{7}$	408 – 415	51	
26	Operating time	UINT 32	$2^{24} – 2^{31}$	416 – 423	52	Read
			$2^{16} – 2^{23}$	424 – 431	53	
27			$2^{8} – 2^{15}$	432 – 439	54	
			$2^{0} – 2^{7}$	440 – 447	55	

1.3.4 Position & limit switch

The position value has a value range of 24 bit (12 bit multi-turn and 12 bit single turn). Bits 30 and 31 are used for the limit switch function (like in CAN and Profibus).
The special feature of these two bits is activated in the “process flags”.

								Position (24 bit)																								
31	30	.	.	.	.	.	.	23	.	.	.	.	.	16	15	.	.	.	.	.	.	8	7	.	.	.	.	.	.	.	0	**Bit**
7	.	.	.	.	.	.	0	15	.	.	.	.	.	8	23	.	.	.	.	.	.	16	31	.	.	.	.	.	.	.	24	**Coil no.**

Bit 31: Limit switch max.
Bit 30: Limit switch min.

1.3.5 ERC data

The ERC data is stored in Register 2. Unused bits are transferred as 0.

Switch points 1 – 6 (R1 – R6)								Switch points 7 – 12 (R7 – R12)								
–	–	R6	R5	R4	R3	R2	R1	–	–	R12	R11	R10	R9	R8	R7	**Switch**
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	**Bit**
39	38	37	36	35	34	33	32	47	46	45	44	43	42	41	40	**Coil no.**

1.3.6 Error flags & status flags

These flags are stored in Register 3 as illustrated.

Error flags								Warnings & status								
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	**Bit**
55	54	53	52	51	50	49	48	63	62	61	60	59	58	57	56	**Coil no.**

The following error messages are supported:

Coil no.	Error flag	Cause
48	Memory error (NVRAM)	The data in the NVRAM is invalid.
49	Checksum incorrect	Invalid data is constantly being received from the encoder.
50	No signal from the encoder	No data is being received from the encoder.
51	Jump error	The encoder data is not consistent.
52	For future reference	
53	For future reference	
54	For future reference	
55	For future reference	

Where one of these flags is set, the last valid position value will always be transferred.
The ERC data is set to 0.

Possible status and warning messages:

Coil no.	Warnings & status	Cause
56	Device ready	Device has started up correctly.
57	Parameterisation invalid	The client is attempting to write incorrect data.
58	Handshake signal	Is set for read accesses.
59	Warning encoder data transfer	The frequency of errors with the encoder data is increased.
60	For future reference	
61	For future reference	
62	For future reference	
63	For future reference	

A warning flag is for information purposes only. All data continues to be consistent. The functionality is not impaired.

1.3.7 Communications counter

This value is incremented with each valid Modbus access. Its memory address is Register 4.

Communications counter																
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	**Bit**
55	54	53	52	51	50	49	48	63	62	61	60	59	58	57	56	**Coil no.**

This enables “life monitoring” to be set up. This counter is processed by the main CPU.

1.3.8 Parameter flags & process flags

These flags are stored in Register 6 as illustrated.

Parameter flags								Process flags								
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	**Bit**
103	102	101	100	99	98	97	96	111	110	109	108	107	106	105	104	**Coil no.**

Parameter flags:

Coil no.	Parameter flag	Function
96	Counting direction	Position value increases during right or left rotation
97	Limit switch min. active	Enable limit switch min. (bottom)
98	Limit switch max. active	Enable limit switch max. (top)
99	For future reference	
100	For future reference	
101	For future reference	
102	For future reference	
103	For future reference	

Process flags:

Coil no.	Process flag	Function
104	For future reference	
105	For future reference	
106	For future reference	
107	For future reference	
108	For future reference	
109	For future reference	
110	Set preset	The position value is set to the preset value.
111	Transfer data	Confirmation of a write access.

1.3.9 Limit switch min.

This value is stored in registers 7 and 8.

	Limit switch min. (24 bit)																									
31	.	.	.	.	.	.	.	23	.	.	.	.	.	16	15	.	.	.	.	.	.	8	7	.	.	.	.	.	.	.	0	**Bit**
119 – 112								127 – 120							135 – 128								143 – 136								**Coil no.**

1.3.10 Limit switch max.

This value is stored in registers 9 and 10.

	Limit switch max. (24 bit)																									
31	.	.	.	.	.	.	.	23	.	.	.	.	.	16	15	.	.	.	.	.	.	8	7	.	.	.	.	.	.	.	0	**Bit**
151 – 144								159 – 152							167 – 160								175 – 168								**Coil no.**

1.3.11 Preset value

This value is stored in registers 11 and 12.

	Preset value max. (24 bit)																											
31	.	.	.	.	.	.	.	23	.	.	.	.	.	16	15	.	.	.	.	.	.	8	7	.	.	.	.	.	.	.	0	**Bit**
183 – 176								191 – 184							199 – 192								207 – 200								**Coil no.**

1.3.12 Software version

This value is stored in Register 16 as illustrated.

Position 1				Position 2				Position 3				Position 4				
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	**Bit**
263 – 260				259 – 256				271 – 268				267 – 264				**Coil no.**

A nibble is used for each position.
The value 0x0210 means Version 02.10.

1.3.13 Hardware version

This value is stored in Register 17 as illustrated.

Position 1				Position 2				Position 3				Position 4				
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	**Bit**
279 – 276				275 – 272				287 – 284				283 – 280				**Coil no.**

A nibble is used for each position.
The value 0x0120 means Version 01.20.

1.3.14 Serial number

This value is stored in registers 18 and 19.

	Serial number (24 bit)																											
31	.	.	.	.	.	.	.	23	.	.	.	.	.	16	15	.	.	.	.	.	.	8	7	.	.	.	.	.	.	.	0	**Bit**
295 – 288								303 – 296							311 – 304								319 – 312								**Coil no.**

The number is stored as a figure.
The value 0x00049444 means: SN=300100.

1.3.15 IP address

This value is stored in registers 20 and 21.

	IP address																											
31	.	.	.	.	.	.	.	23	.	.	.	.	.	16	15	.	.	.	.	.	.	8	7	.	.	.	.	.	.	.	0	**Bit**
295 – 288								303 – 296							311 – 304								319 – 312								**Coil no.**

The value 0xC0A80102 means: IP address = 192.168.1.2.

1.3.16 Subnet mask

This value is stored in registers 22 and 23.

	Subnet mask																											
31	.	.	.	.	.	.	.	23	.	.	.	.	.	16	15	.	.	.	.	.	.	8	7	.	.	.	.	.	.	.	0	**Bit**
359 – 352								367 – 360							375 – 368								383 – 369								**Coil no.**

The value 0xFFFFFF00 means: Subnet mask = 255.255.255.0.

1.3.17 Default gateway

This value is stored in registers 24 and 25.

Default gateway																															
31	.	.	.	.	.	.	.	23	.	.	.	.	.	16	15	.	.	.	.	.	.	8	7	.	.	.	.	.	.	.	0	**Bit**
391 – 384								399 – 392							407 – 400								415 – 408								**Coil no.**

The value 0xAAB51E01 means: Default gateway = 170.181.30.1.

1.3.18 Operating time

This value is stored in registers 26 and 27.

Operating time																															
31	.	.	.	.	.	.	.	23	.	.	.	.	.	16	15	.	.	.	.	.	.	8	7	.	.	.	.	.	.	.	0	**Bit**
423 – 416								431 – 424							439 – 432								447 – 440								**Coil no.**

The resolution is 0.1 h.
The value 0x00006CD9 means: Operating time = 2786.5 h.

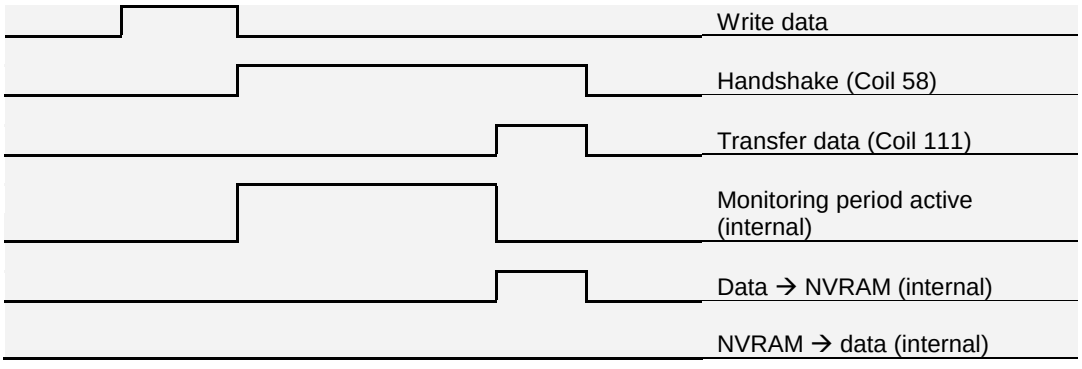
1.3.19 Write data

If data is to be written to the memory (function codes 5, 6, 16), the following procedure must be followed:

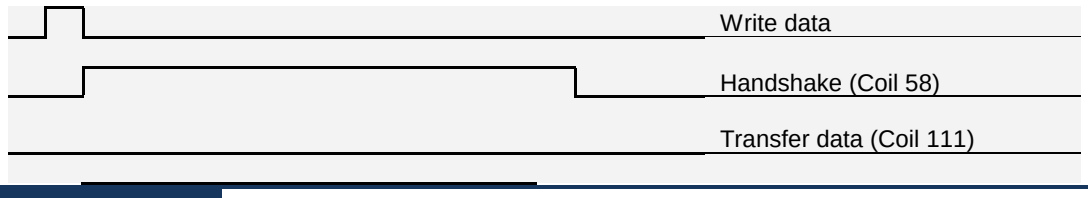
- Write data to a valid address.
- The AME/M module sets the handshake flag (Coil 58) and starts the monitoring period.
- Set the “Transfer data” flag (Coil 111).
- The AME-M module carries out the following:
  The data is transferred to the process memory and NVRAM.
  The handshake flag (Coil 58) is cleared.
  The “Transfer data” flag (Coil 111) is cleared.
  The data will now be used for the calculation.

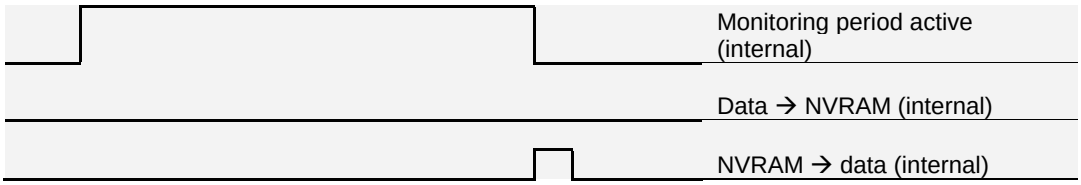
If this procedure is not followed, the data will be replaced with the data from the NVRAM at the end of the monitoring period and the handshake flag cleared. The internal calculations will not be affected.

Correct transfer:



Error, “Transfer data” not set:





Error, monitoring period exceeded (> 2s):

1.4 Parameterisation

1.4.1 Counting direction

The “Counting direction” flag (Coil 96) is used to specify whether the actual process value increases or decreases when the shaft is rotated to the right.
The direction of rotation can be determined by looking at the shaft end.

Direction of rotation	“Counting direction” flag (Coil 96)
Right	0
Left	1

1.4.2 Limit switch min.

The “Limit switch min. active” flag (Coil 97) can be used to specify whether the lower limit switch is output in the actual process value.

Output in the actual process value	“Limit switch min. active” flag (Coil 97)
Off	0
On	1

1.4.3 Limit switch max.

The “Limit switch max. active” flag (Coil 98) can be used to specify whether the upper limit switch is output in the actual process value.

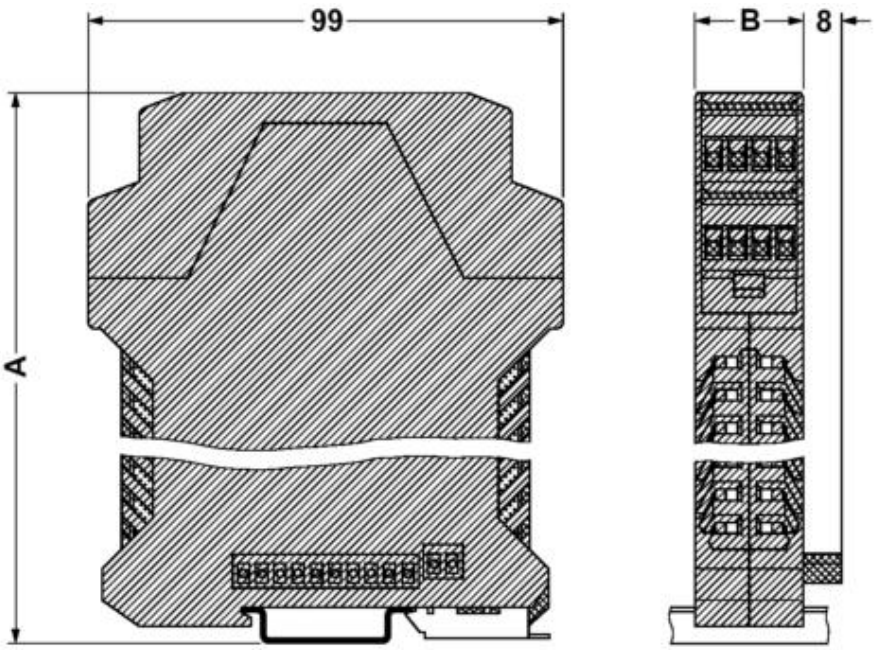
Output in the actual process value	“Limit switch max. active” flag (Coil 98)
Off	0
On	1

1.4.4 Preset

The preset value is written to registers 11 and 12. Once it has been written here correctly, the preset is, however, still not set. It is set using the “Set preset” flag (Coil 110).
Each time this flag is set, a new internal offset is calculated, saved in the NVRAM and displayed as the current position value. The “Set preset” flag (Coil 110) is then cleared by the AME/M module. The position value is subsequently equal to the preset value.
A new preset value can also be transferred at the same time as the set “Set preset” flag (with Command 16, Write Multiple Registers). The preset is then set immediately.

1.5 Electrical data

Power supply:	12VDC...30VDC, connection via UO EM-D2
Power consumption:	1W max.
Design:	Flat module, integrated in modular electronic housing with bus connector
Dimensions:	W = 22.5 mm H = 99 mm D = 115 mm
Connection technology:	RJ45 plug
Resolution:	12 bit (4,096 revolutions) 12 bit (4,096 steps per revolution)
Temperature range:	0 °C to +70 °C
Interface:	Modbus TCP
Baud rates:	10/100 Mb
Network address:	Configurable



Gehäusebreite [B]: 22,5 mm
Gehäusehöhe [A]: 114,5 mm

Housing width [B]: 22.5 mm

Housing height [A]: 114.5 mm

1.6 Unit One UO-SM-AME_ERC Electronic Position Switch

1.6.1 Introduction

The electronic position switch UO SM-AME_ERC is integrated in the AME unit as software module. The absolute value data produced by the UO EM-AME will be prepared in the electronic position switch and will be compared with 12 programmable switching ranges with one switching-on and switching-off position each. The switching point output is effected via a 2 byte information which is component of the process data output of the UO EM-AME.

The programming of the position switch and therewith also determination of the switching ranges is only affected via a PC (e.g. Laptop) via the central serial interface (RS232) of the UO EM-D2.

1.6.2 Technical data

Outputs: Switching positions:

2 software switches via process data output of the UO EM-AME

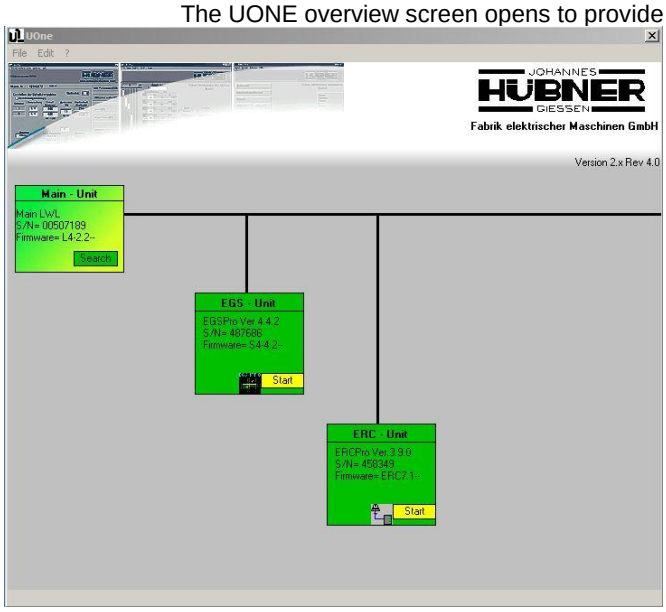
as 2 byte information

Operating range: single turn mode 12 bit

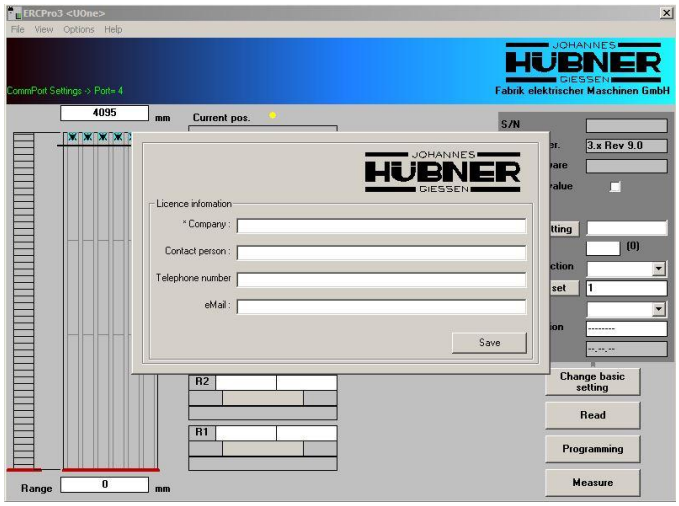
Multi turn mode 12 bit

1.7 Operating the software

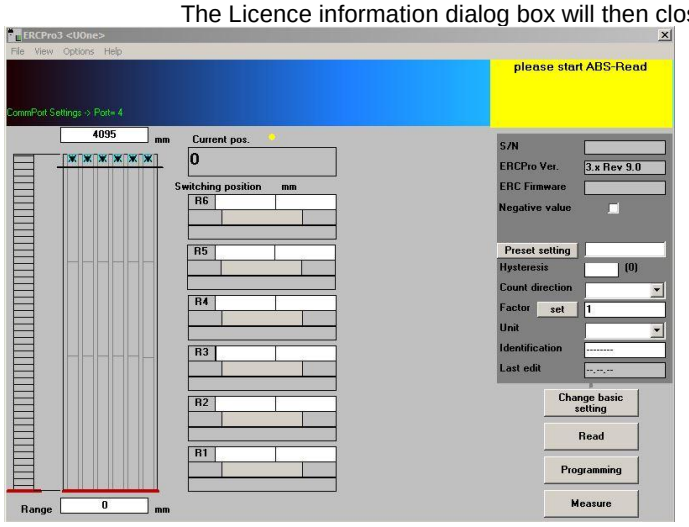
Launch the configuration program (UONE)
The UONE overview screen opens to provide a graphic overview of the connected modules.



Now click the "Start" button in the AME - Unit graphic icon to launch the program ERCPro3.

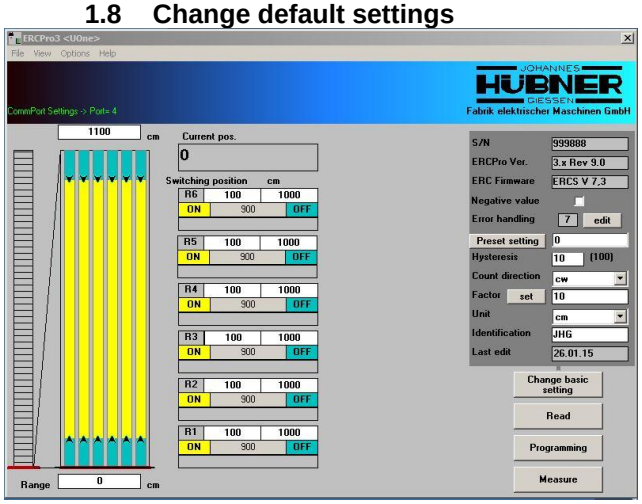


Complete the fields in the Licence information dialog box, then click the "Save" button.
The Licence information dialog box will then close.

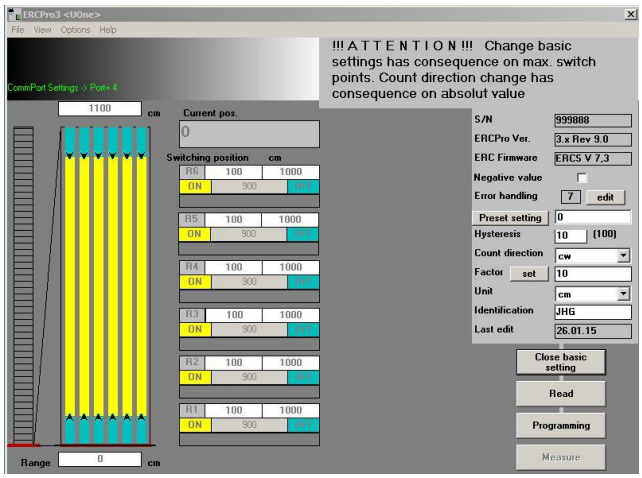


Data must be read-out of the module. To do so, click the "Read" button. Data from the module populate the fields.
A flashing yellow dot signalizes that position data is being read out of the module.

1.8 Change default settings



It is possible to change the basic ERC unit settings (dark-grey shaded area).
To do so, click the "Change basic settings" button.



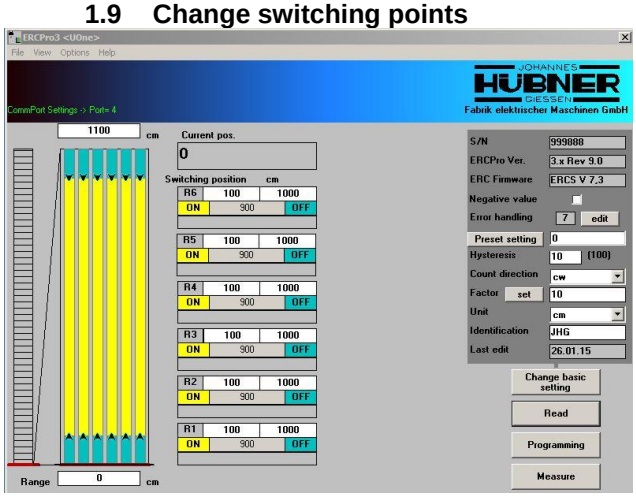
1. S/N
   This field displays the serial number of the module; this information is read only and cannot be changed.
2. ERCPro Ver.
   This field displays the version of the programming software; this information is read only and cannot be changed.
3. ERC Firmware
   This field displays the firmware version of the UO-SM-ERC – module; this information is read only and cannot be changed.
4. Negative value
   When the Negative value box is selected, the displayed value range is placed in the middle of the value range of the basic unit. The display can now display positive and negative numbers.
5. Preset setting
   The preset value for the module is entered in this field. This value is transmitted immediately to the UO-EM-AME module when you click the "Preset setting" button.
   The position value is always set to this value when the hardware input "Preset setting" is activated.
6. Hysteresis
   The switching hysteresis is entered in this field (switch-on and reset hysteresis of the relays). The value is entered in encoder increments (1-255). This determines the difference between the switch-on and switch-off points of a switching point.
7. Count direction
   The selected option determines if the position value increases when the encoder shaft is turning in a clockwise or anti-clockwise direction.
8. Factor
   It is possible to enter a conversion factor in this field. Raw encoder data are multiplied by this factor and displayed.
   Caution!!!
   Any changes to this setting will influence the switching points. You will need to check and possibly adapt the corresponding settings (see chap. 1.9).
9. Unit
   It is possible to select a character string from the Unit drop-down list, which is displayed as the unit of the displayed values. It is also possible to define the character string in the system settings.

10. Identification
    The character string entered in this field serves to identify the module. The user is able to choose the characters in the string up to a maximum of eight characters.

11. Last edit
    The date data was last transmitted to the module is displayed in this field.

To write the data to the module click the button "Programming". By contrast, if you do not wish to save the edited data click the "Close basic setting" button.

1.9 Change switching points



It is possible to adjust the range of the graphic display by entering positions in both "Range" fields.

The ERC module offers 12 independent channels, each of which has a relay as output stage. 2 switching points can be assigned to each channel. The programmed switching range may also exceed the zero reference point.
The switch-on points are entered in the left field, and the switch-off point points in the right field. When entering the switching points please note that they are scaled according to the set "factor". The value range of the encoder (factor = 1) is 0 to 224-1 (16777215).

Several options are available to the user to complete the fields:

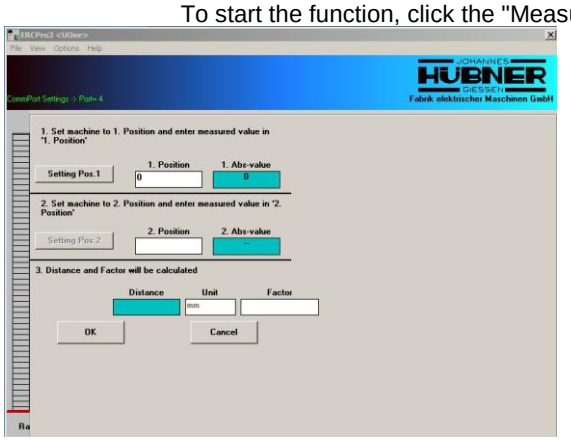
- Enter value manually.
- Click the value in the field "Current pos." and copy the value to the target field by holding down the left mouse button in a drag-and-drop operation
- Hold down the left mouse button to move the yellow bar. The lower limiting arrow moves the entire bar, the upper limiting arrow changes the length of the bar.

It is possible to invert the switching function of the channel by double-clicking "ON" or "OFF".

Click the "Programming" button to write and save the new values to the ERC module.

1.10 Measure function

The "Measure" function is an aid that makes it possible to determine the scaling factor. It can be used when the scaling factor of the system is unknown. It is essential when using the program that the speed ratio between the mounted position of the encoder and the axis to be configured is constant and there is a linear relation between the axis position and the data word of the encoder.
To start the function, click the "Measure" button.



Caution! The absolute value of position 1 must be less than the absolute value of position 2; moreover, zero crossing is not allowed between these two positions.
The accuracy of the calculation is greater when both positions on the axis are as far apart as possible.

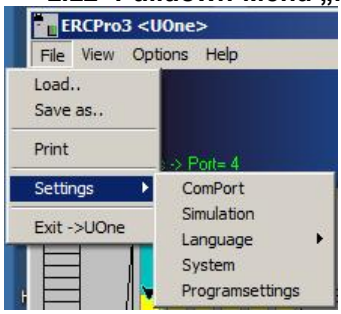
Move the axis to the first position. The current raw encoder data are displayed in the field "1. Abs-value". Now enter the desired value in the field "1. Position". To apply the data, click the "Setting Pos. 1" button.
Now move the axis to the second position. The current raw encoder data are displayed in the field "2. Abs-value". Now enter the desired value in the field "2. Position". To apply the data, click the "Setting Pos. 2" button. The factor will now be calculated and displayed in the field "Factor".
Click the "OK" button to store the value in the buffer memory. Click the "Cancel" button to abort the procedure and close the dialog box.
The message "Factor = xxxxx" is now displayed in the message area of the UONE overview screen. If you wish to use this value, you must enter it in the field "Factor" (see Change basic settings).

1.11 Pulldown-Menu „file“

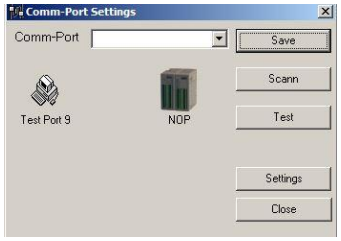
In the File menu it is possible to save, load and print out data as well as change program settings.

1. Read parameters
   "File→Load.." opens the "Open *.DAT file" dialog box. Select and load the parameter file (*.DAT) into the programming software.
   To be able to transmit the data to the module, you must click the "Programming" button.
   Caution! The preset value is not transmitted and must be set separately.
2. Save parameters
   "File→Save as.." opens the Save as dialog box. To save the parameters (settings) select a destination folder and specify a file name for the parameter file (*.DAT).
3. Print
   File → Print" prints the parameter on the standard printer.
4. Exit
   "File → Exit ->U-One" terminates the program and launches the configuration program (UONE).

1.12 Pulldown-Menu „file → settings“



1. Communication port
   "File → Settings → ComPort" opens the Comm-Port Settings dialog box.



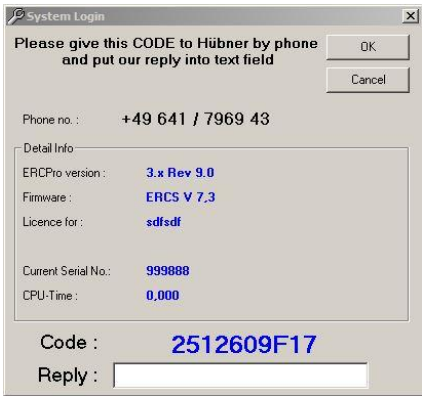
Under normal circumstances users are not required to use this menu item, because the settings in the configuration program (UONE) have already been set. If it is not possible to establish a communications with the module, carry out the settings as described in chapter 1.7 Configuration of the software).

2. Simulation
   "File → Settings → Simulation" sets the software to "showroom" mode to be used for demonstration purposes only.

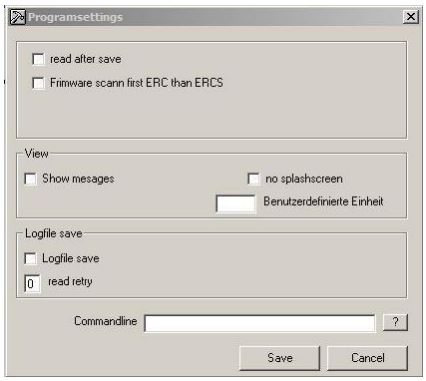
3. Select language
   "File → Settings →Language" enables the user to set the desired user interface languag.

Selection	User interface
Deutsch	Deutsch
English	English
User	Is not longer supported

4. Factory settings
   "File → Settings → System" launches a menu to request a code.
   It is only possible to request a code over the phone.



5. Program settings
   "File → Settings →Programsettings" opens the Programsettings dialog box.

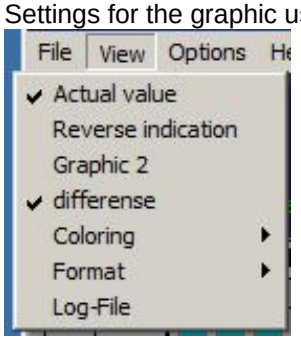


User selectable settings are listed in the table below.

Description	Function
read after save	After the switching points are programmed the "read" command is executed (corresponds to clicking the "Read" button). This function is always activated no matter what selection is made.
Firmware scan first ERC then ERCS	This setting is required for other devices and is of no relevance in this instance.
Show messages	Activates additional messages.
no splashscreen	Program information is not displayed when the program is launched.
User defined unit	Text field for user defined unit. This is determined when making basic settings. The characters are saved locally on the PC.
Logfile save	Save data communication with the module to a file.
read retry	It is possible to enter a value in this field in the event communication problems arise (< 10). Communications are slowed if the value is too high.
Commandline	This is reserved for future programming options, it remains unused.

1.13 Pulldown-Menu „View“

Settings for the graphic user interface are made in this menu.



1. Position display
   "View → Actual value" switches the position display bar on or off in the switch graphic overview.

2. Zero reference point of position display
   "View → Reverse indication" reverses the fields displaying the range view (top <-> bottom).

3. Position display
   "View → Graphic 2" opens the GRAPHIC 2 overview with a different representation of the actual position.

4. Difference display
   "View → Difference" switches the display showing the difference between the switching points (relay on range) on and off.

5. Coloring
   "View → Coloring" allows the user to define the color representation of the graphic interface. You must close and relaunch the software for the changes to take effect.

6. Format option
   "View → Format" enables the user to select the display resolution. It is possible to make this setting independent of the position display and the switching points.
   To confirm this setting click the "Read" button.

7. Display log file
   "View → Log-File" opens the log file in an editor.

1.14 Pulldown menu "Options"

"Options → Visual setting" switches the option on and off that enables the user to set the switching points by moving the bars.

1.15 Pulldown menu "Help"

"Help → Info ERCPro3" displays the program information dialog box.

1.16 EU- Declaration of Conformity

JOHANNES HÜBNER GIESSEN

EU-Konformitätserklärung

(EU-Richtlinie 2014/30/EU)

EU-Declaration of Conformity

(EU-Directive 2014/30/EU)

Hersteller / Manufacturer: Johannes Hübner Fabrik elektrischer Maschinen GmbH

Anschrift / Address: 35394 Giessen, Siemensstrasse 7

Produktbezeichnung / Product designation:

Elektronik-Funktionsmodul UO-EM-AME/M
Electronic function module UO-EM-AME/M

Die bezeichneten Produkte stimmen in der von uns in Verkehr gebrachten Ausführung mit den Vorschriften folgender Europäischer Richtlinien überein:
The products described above in the form as placed on the market are in conformity with the provisions of the following European Directive:

2014/30/EU (Ausgabe / Version 2014-02-26)
Richtlinie des Europäischen Parlaments und des Rates vom 26. Februar 2014 zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit
Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility

DIN EN 55011 (Ausgabe / Version 2011-04) Industrielle, wissenschaftliche und medizinische Geräte - Funkstörungen - Grenzwerte und Messverfahren
Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement

DIN EN 61326-1 (Ausgabe / Version 2013-07)
Elektrische Mess-, Steuer-, Regel- und Laborgeräte - EMV-Anforderungen - Teil 1: Allgemeine Anforderungen
Electrical equipment for measurement, control and laboratory use - EMC requirements -- Part 1: General requirements

Unterschrift:	Frank Tscherney (Geschäftsführer / General manager)	Gießen, 17.01.2017