

Description

Anybus[®]-CompactCom - M30
for Modbus-RTU[®]

[Control Touch]

Software version: V 2.01

Content

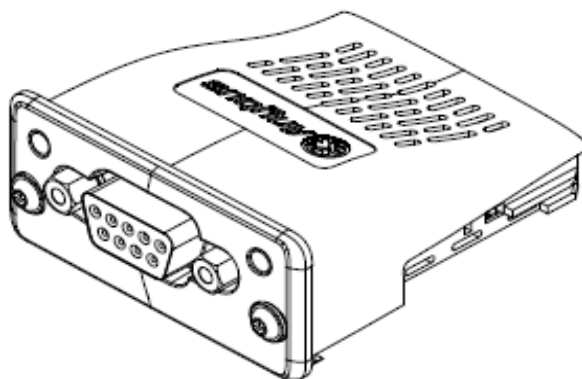
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1 Version

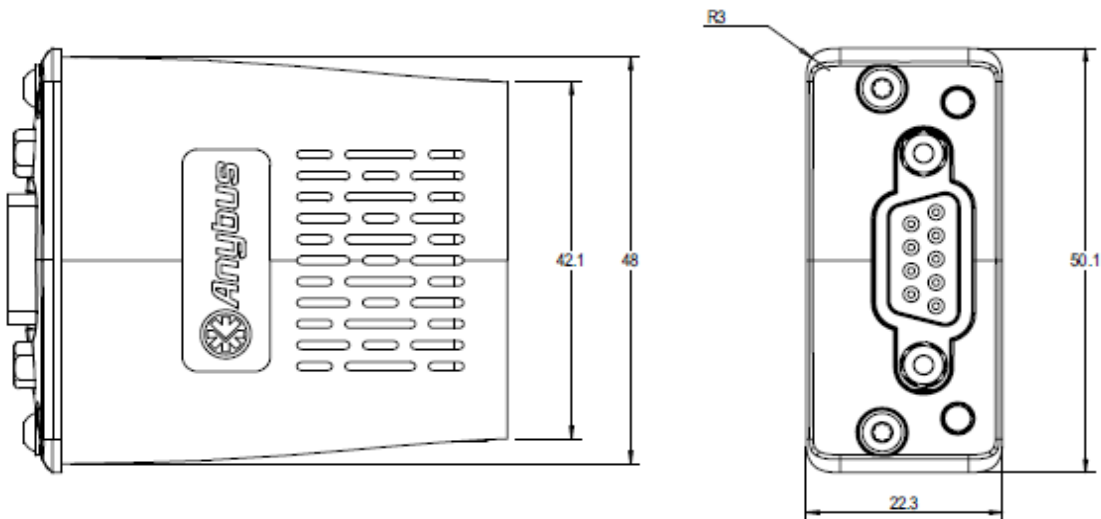
The module „Anybus®-CompactCom-M30“ for „Modbus-RTU®“ allows connection of a Reflex-controller „Control Touch“ as a slave to a Modbus-RTU-network.

The module is inserted directly into the slot on the (back side of) the CPU print board.



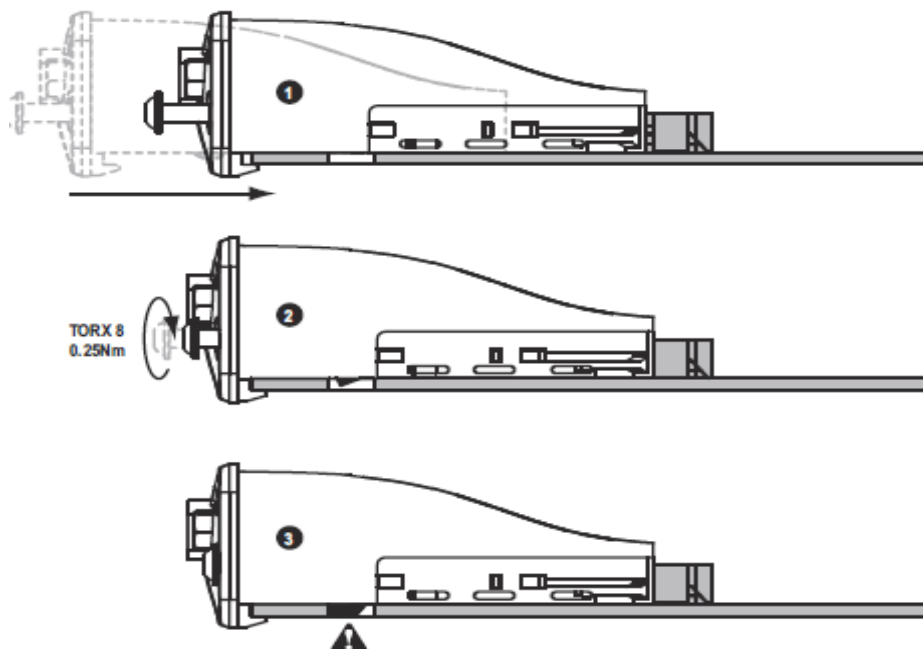
2 Technical data

Ambient conditions:	Operating temperature	-40 to +70°C
	Storage temperature	-40 to +85°C
	Degree of protection accordingly „Control Touch“	
Power supply:	via „Control Touch“	
Modbus-RTU interface:	RS485 or RS232;	
	1,2 kbit/s to 57,6 kbit/s;	
	Connection via 9-pin Sub-D socket	
	Address setting via „Control_Touch“	
Interface to controller:	Module is integrated into the control panel of the unit	
<u>Attention:</u>	Installation or removing of the module only when the control unit is completely isolated for the power supply!	

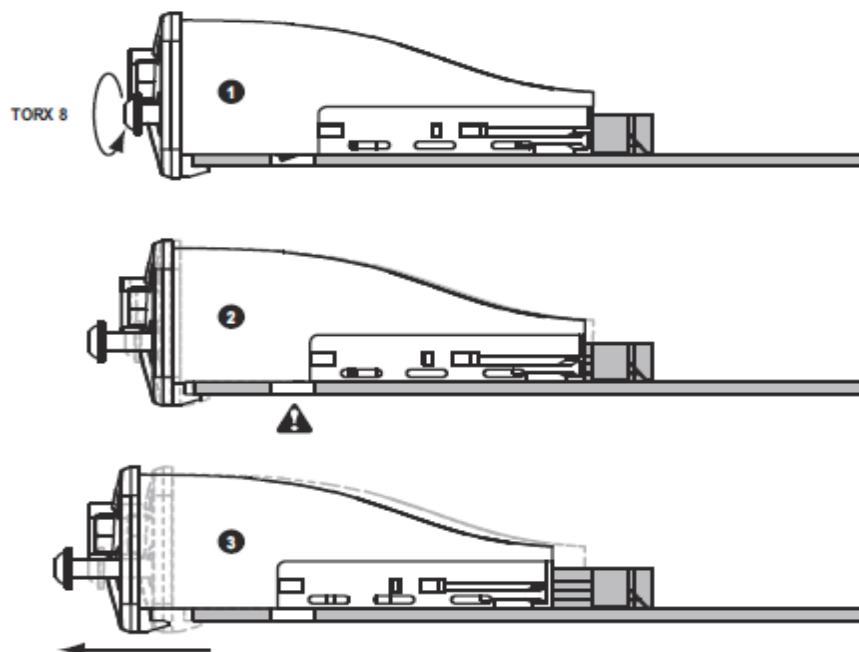


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Installation:



Removal:



3 Connection „Modbus-RTU“

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The DB9-connection slot is accessible after opening the cover.

Before opening the control units must be completely isolated for the power supply!

Pin assignment of the Sub-D-connector:

Pin	Designation	Function
1	GND	)_ not used !
2	5V	)
3	PMC	for „RS485“ leave open! for „RS232“ connect with Pin 2.
4	-	
5	B-Line	RS485 Signal B (+)
6	-	
7	Rx	RS232 Receiving
8	Tx	RS232 Sending
9	A-Line	RS485, Signal A (-)

Settings for the module:

The Modbus-Address (module address), the baud rate and the data format has to be adjusted on the „Control_Touch“ controller.

➔ Settings ➔ Service ➔ Anybus module

This menu is only available when a Anybus module is detected!

Module address: 1 ... 247;
Baud rates: 4800, 9600, 19200, 38400, 57600 Baud;
Data formats: 8/EVEN/1, 8/ODD/1, 8/NONE/2, 8/NONE/1;
(Data bits / Parity / Stop bits)

4 Transmitted data

4.1 Data from Modbus to controller (remote)

Following functions are provided for data transmission:

Modbus Function Code	Designation	Addressing
16 (10h)	Write multiple registers	Word address

Following data can be transmitted:

Designation	Word address	Function
Pumps on/off (only available in mode „Auto“!)	0000h	Bit 0 = Pump/Compressor 1 ON Bit 1 = Pump/Compressor 1 OFF Bit 2 = Pump/Compressor 2 ON Bit 3 = Pump/Compressor 2 OFF If neither the bit for switching ON nor the bit for switching OFF is set, then the pump is set from the controller only.
Valves on/off (only available in mode „Auto“!)	0001h	Bit 0 = Make-up valve OPEN Bit 1 = Make-up valve CLOSE Bit 2 = Overflow valve 1 OPEN * Servitec with 2x2-W-BV: PV open Bit 3 = Overflow valve 1 CLOSE * Servitec with 2x2-W-BV: PV close Bit 4 = Overflow valve 2 OPEN * Servimat: switch to spray-pipe; * Servitec with 2x2-W-BV: CD <u>close</u> Bit 5 = Overflow valve 2 CLOSE * Servimat: switch to vessel; * Servitec with 2x2-W-BV: CD <u>open</u> Bit 6 = Valve MKH-2 OPEN (Servimat only) Bit 7 = Valve MKH-2 CLOSE (Servimat only) If neither the bit for switching ON nor the bit for switching OFF is set, then the valve is set from the controller only.

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Designation	Word address	Function
Set value for P0	0002h	Set value for „P0“ in 1/10 bar If value "0" is sent, then the actual value in the controller is not changed.
Change operation mode	0003h	Bit 0 = operation mode => STOP Bit 1 = operation mode => AUTO

„Remote control“ via a Modbus-Master is only possible, if this is activated in the controller!

4.2 Data from controller to Modbus

Following functions are provided for data retrieval

Modbus Function Code	Designation	Addressing
2	Read discrete inputs	Bit address
3	Read multiple registers (from addr. 100h => # = 1)	Word address
4	Read input registers (from addr. 000h => # = 0)	Word address

Following data can be retrieved:

Designation	Word address	Bit address
System pressure in 1/100 bar (not for „Servitec Levelcontrol“)	#10h	
Filling level in % (not for Servitec / opt. filling pipe pressure in 1/100 bar for Servitec)	#11h	
Digital outputs	#12h	120h Compressor 2 or pump 2 ON 121h Compressor 1 or pump 1 ON 122h Overflow valve 2 OPEN * Servimat: switch to spray pipe * Servitec with 2x2-W-BV: CD <u>close</u> 123h Overflow valve 1 OPEN * Servimat: motorvalve MKH-2 OPEN * Servitec with 2x2-W-BV: PV open 124h Make-up valve OPEN 125h Message: min. level 126h Message: Common fault (1=ok) 127h Message: Make-up fault (only if "CT-MK200")

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Designation	Word address	Bit address
Digital inputs	#13h	130h Feedback pump 1 131h Feedback pump 132h Low-water switch 133h Water meter 134h digital input "di 5") only if 135h digital input "di 6" > "CT-MK200" 136h digital input "di 7")

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Designation	Word address	Bit address
Alarm messages 1	#14h	140h I/O-module faulty 141h EEPROM faulty 142h Undervoltage 143h Pressure below minimum pressure 144h Low water 1 145h Pump 1 fault 146h Compressor 1 fault 147h Pump 2 fault 148h Compressor 2 fault 149h Pressure measurement fault 14Ah Level measurement fault 14Bh Spray tube press. meas. fault (only for Servitec) 14Ch STOP mode for longer than 4 hrs. 14Dh Low water 2 (only for Servitec and Servimat) 14Eh Adjust parameters wrong (PCB) 14Fh Communication fault (cross linking)
Alarm messages 2	#15h	150h Failure PCB 151h Failure digital encoder voltage 152h Failure analogue encoder voltage 153h Failure encoder voltage ball valve 1 154h Failure encoder voltage ball valve 2 155h Failure jumper "pressure" 156h Failure jumper „level“ 15Ah Cond.measurement fault (Option)
Alarm messages 3	#16h	160h Fault MK200-Module, addr.1 161h Fault MK200-Module, addr.2 162h Fault MK200-Module, addr.3 163h Fault MK200-Module, addr.4 164h Fault MK200-Module, addr.5 165h Fault MK200-Module, addr.6 166h Fault MK200-Module, addr.7 167h Fault MK200-Module, addr.8 (only if "CT-MK200")

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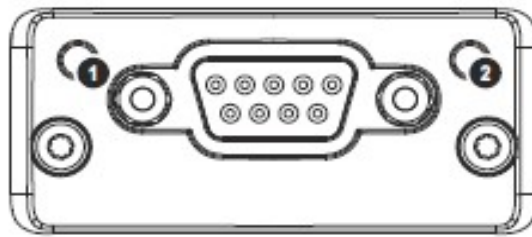
Designation	Word address	Bit address
Warnings 1	#17h	170h Operating pressure over limit (only for Servitec) 171h Maximum level exceeded 172h Pump runtime exceeded 173h Make-up time exceeded 174h Make-up cycles exceeded 175h Maximum pressure exceeded 176h Make-up quantity exceeded 177h Filling time exceeded (only for Servitec) 178h Filling quantity exceeded (only for Servitec) 179h Expulsion time exceeded (only for Servitec) 17Ah Make-up valve leaking 17Bh Voltage failure 17Ch Auto-zero faulty 17Dh Parameter faulty 17Eh Max. make-up quantity exceeded 17Fh Maintenance request
Warnings 2	#18h	180h Replace battery 181h Replace softening cartridge 182h Check data logger 183h Check bus module 184h --- 185h conductivity exceeded (optional!) 18Eh Initialization "Te" failed
Warnings 3	#19h	190h I/O-module, Message digital input 1 191h I/O-module, Message digital input 2 192h I/O-module, Message digital input 3 193h I/O-module, Message digital input 4 194h I/O-module, Message digital input 5 195h I/O-module, Message digital input 6 196h I/O-module, Message digital <u>output</u> 6

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Designation	Word address	Bit address
Operation hours Compressor / pump 1 (32 Bit value)	#1Ah (H) #1Bh (L)	
Operation hours Compressor / pump 2 (32 Bit value)	#1Ch (H) #1Dh (L)	
Cumulative total water meter in liters (32 Bit value)	#1Eh (H) #1Fh (L)	
Status Bus module	#20h	200h 0 = no connection between Bus module and controller 1 = Connection between Bus module and controller OK
Type of system 1 = Variomat 2 = Variomat Giga 3 = Reflexomat / C 4 = Servitec Magcontrol 5 = Servitec Levelcontrol 11 = Servimat	#21h	
Current position motorized ball valve 1 (0-100%)	#22h	
Current position motorized ball valve 2 (0-100%)	#23h	
Operation mode	#24h	240h Operation mode „Hand“ 241h Operation mode „Stop“ 242h Operation mode „Auto“ 244h 1 Pump/compressor 245h 2 Pumps/compressors 247h Servitec with 2x2-W-BV
Anybus-CompactCom Software version (201 = V 2.01)	#25h	
Conductivity (µS/cm) (only with option "cond.monitoring")	#26h	

5 Diagnosis

The module contains two SMD light-emitting diodes, indication the operating status of the module. These are located left and right of the 9-pin Modbus connector on the module.



LED 1 viewed from the rear, to the left of the modbus connector

- * OFF => No power -or- no traffic
- * YELLOW => Communication active
- * RED => Fatal error recognized

LED 2 viewed from the rear, to the right of the modbus connector

- * OFF => Initializing -or- no power
- * GREEN => Module initialized, no error
- * RED => Error recognized