

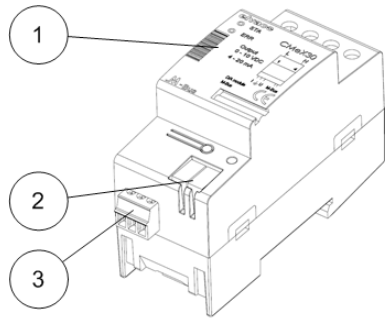
CMex30

DIN-mounted M-Bus D/A module

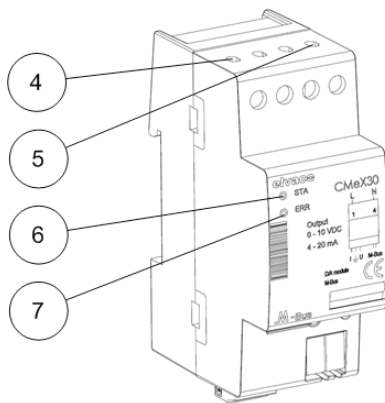
INTRODUCTION

The CMex30 is a digital to analog converter (D/A module) with an output voltage range from 0-10 V or current output range from 4-20 mA. The value is set through standard M-Bus commands. CMex30 has a high accuracy, is reliable and can be used for advanced control processes. For a complete description of the product or for information in Swedish, visit the Elvaco AB website, www.elvaco.com.

OVERVIEW



1. Serial number
2. M-Bus connector
3. Screw terminal for 4-20mA/0-10V
4. Power supply L
5. Power supply N
6. Status LED (green)
7. Error LED (red)



MOUNTING

The CMex30 should be mounted on a DIN-rail. The metallic clip on the bottom is used to mount and demount the unit from the DIN-rail. DIN-rail enclosure must cover the terminals.

POWER SUPPLY

The installation must be performed by a qualified electrician or installer with required knowledge. The power supply should be connected to screw terminals (4) and (5). The voltage should be 100-240 VAC, 50/60 Hz. The power supply should be connected via a clearly marked switch placed close to CMex30, so the unit can be switched off during service work.

M-BUS 2-WIRE BUS

M-Bus is a multi-drop 2-wire bus with no polarity. Use a cable of area 0.25-1.5 mm², e.g. a standard telephone cable (EKKX 2x2x0.5). Connect the wiring to the connector (2).

IMPORTANT

- All connected M-Bus slave devices must have unique primary or secondary M-Bus addresses depending on addressing mode.
- Measure voltage over M-Bus slave connection to verify M-Bus master connection. Voltage should be between 21-42 VDC.

LED INDICATIONS

The product is equipped with a green and red LED. The green LED shows the operation status of the product. When the green LED is permanently on, the product is powered up and ready to use. When the green LED is flashing, the product is communicating via M-Bus. The red LED indicates that the M-Bus 2-wire is not properly connected.

Green LED

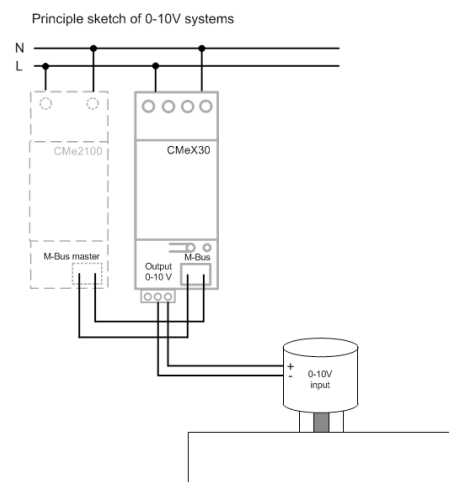
Mode	Product state	Visual
On	The unit is in operation mode	
200 ms off/ 200 ms on/200 ms off/ 200 ms on	The unit has received M-Bus telegram	

Red LED

Mode	Product state	Visual
On	M-Bus missing	

CONNECTION OF OUTPUT 0-10 V

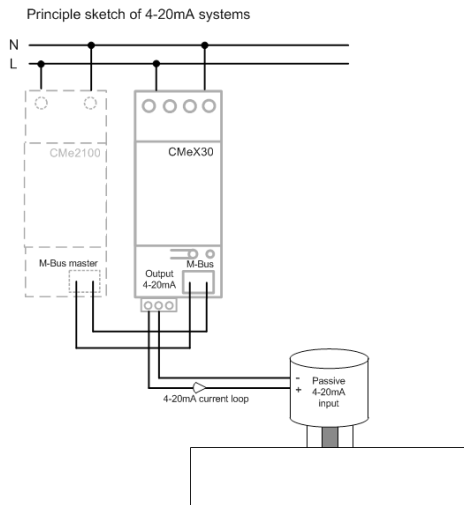
CMex30 can be connected to any analog voltage input that can handle 0-10 V. Connect the negative cable (signal GND) to the center terminal of screw terminal (3), the signal is connected to the right terminal of screw terminal (3).



elvaco

CONNECTION OF OUTPUT 4-20 MA

CMEx30 can be connected to any passive current input that can handle 4-20 mA. Connect the signal cable for 4-20 mA to the left terminal of screw terminal (3). Connect the negative cable (signal GND) to the center terminal of screw terminal (3).



TROUBLESHOOTING

CMEx30 does not respond to M-Bus master commands

Verify your M-Bus slave configuration and connection:

- Voltage over M-Bus connection should be between 21 VDC and 42 VDC. Red LED will indicate error.
- All M-Bus slaves connected to the M-Bus master must have unique primary addresses or secondary addresses depending on addressing mode.
- Verify M-Bus slave baud rate used by M-Bus master. M-Bus master baud rate must be identical to M-Bus slave baud rate.

CMEx30 cannot control the connected unit

Disconnect the cables to the unit to be controlled, e.g. the actuator. Measure the output with a multimeter while an M-Bus command is sent to change the output. If this works, there is probably an error in the connection to the input of the unit to be controlled.

SAFETY

The warranty does not cover damage to the product caused by usage in any other way than described in this manual. Elvaco AB can not be liable for personal injury or property damage caused by usage in any other way than described in this manual.

ORDERING INFORMATION

Product	Part number	Description
CMEx30	1050014	DIN-mounted M-Bus D/A module

CONTACT INFORMATION

Elvaco AB Technical support:

Phone: +46 300 434300
E-mail: support@elvaco.com
Online: www.elvaco.com

TECHNICAL SPECIFICATIONS

Mechanics	
Protection class	IP20
Dimensions	90x65x36 mm
Weight	100 g
Connection M-Bus	Pin terminal solid wire 0.6- 0.8 Ø mm
Mounting	DIN mounted
Power supply	Screw terminal cable 0.75-2.5 mm ² , 0.5 Nm tightening torque
Electrical	
Nominal voltage	100-240 VAC
Voltage range	-10 % to +10 % of nominal voltage
Frequency	50/60 Hz
Power consumption (max)	2.5 W
Power consumption (nom)	1 W
Installation category	CAT 2
Environmental	
Operating temperature range	-30 °C to +55 °C
Storage temperature range	-40 °C to +85 °C
Pollution	Degree 2
Operating altitude	0-2000 m
M-Bus	
M-Bus standard	EN 13757
M-Bus baud rate	300, 2400 Bit/s
M-Bus load	1T (1.5 mA)
Maximum cable length	Is dependent of master
IR interface	No
Analog output	
Output types	4-20 mA and 0-10 V cannot be controlled individually
Connection	Pluggable screw terminal
Min input impedance 4-20 mA	TBD
Max load current 0-10 V	TBD
Approvals	
EMC	EN 61000-6-2, EN 61000-6-3
Safety	EN 61010-1, CAT 2

EU DECLARATION OF CONFORMITY	
This declaration of conformity is issued under the sole responsibility of the manufacturer: Elvaco AB, Kabelgatan 2T, S-43437 Kungälv, Sweden	
Product CMEx30	Year of CE-marking 2016
The object(s) of the declaration listed above is in conformity with the relevant Community harmonization legislation: LVD Directive 2014/35/EU EMC Directive 2014/30/EU RoHS 2011/65/EU	
And are in conformity with the following harmonization standards or other normative documents: IEC 61010-1 (ed. 3) EN 50522 (radiated emission) EN 61000-6-2 (immunity to HF-injection) EN 61000-6-3 (immunity to RF-field) EN 61000-6-4 (immunity to voltage variation) EN 61000-4-4 (immunity to burst) EN 61000-4-5 (immunity to surge) EN 61000-4-2 (immunity to ESD)	
Kungälv, Sweden, 2016-04-16	
	
David Vonasek, CEO	