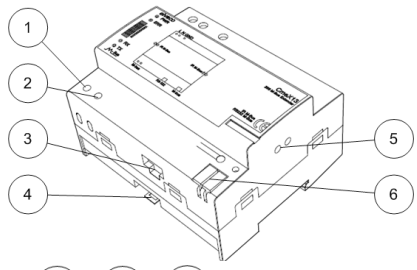
CMeX10S-13S

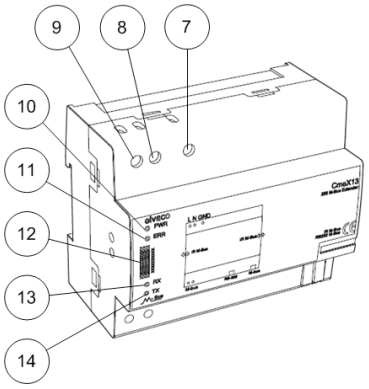
DIN-mounted M-Bus master for 32-256 M-Bus units loads

INTRODUCTION

The CMeX10S/11S/12S/13S is an M-Bus master for up to 256 M-Bus unit loads. For a complete description of the product or for information in Swedish, visit the Elvaco AB website, www.elvaco.com.

OVERVIEW





1. M-Bus out
2. M-Bus out
3. RS232 in
4. DIN-rail lock
5. IR interface
6. M-Bus out
7. Protective earth
8. Power supply N
9. Power supply L
10. Power LED (green)
11. Error LED (red)
12. Serial number
13. RX LED (yellow)
14. TX LED (yellow)

MOUNTING

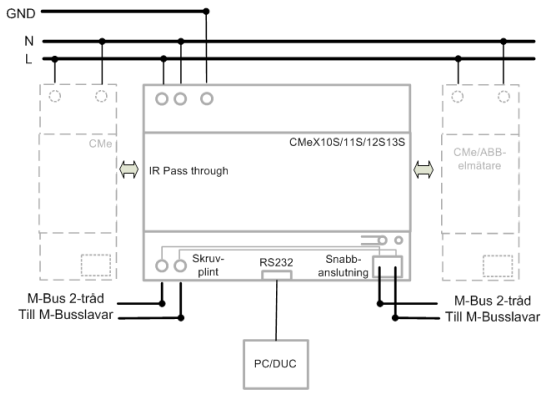
The product should be mounted on a DIN-rail. The DIN-lock (4) on the bottom is used to mount and demount the unit from the DIN-rail. To fully comply with safety regulations, a DIN-rail enclosure must cover the terminals and a disconnector switch on power supply must be used.

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 mm^2, e.g. a standard telephone cable (EKKX 2x2x0.5). Connect the wiring to the connector (1, 2) or the push wire connector (6). Do not exceed the maximum cable length of 5000 m.

IMPORTANT

- CMeX10S/11S/12S/13S handles from 32 up to 256 unit loads. Be sure to use the correct model in your application. Overloading the bus will turn on the ERR LED and turn off the M-Bus bus.
- All connected M-Bus unit loads must have unique primary or secondary M-Bus addresses depending on addressing mode.



IR INTERFACE

The IR interface can be used beside an ABB electricity meter or another CMeX module. Remove the IR shield (5) and mount the CMeX10S/11S/12S/13S on the left side of the meter or CMeX module and leave no space between the products. Do not remove the shield unless the IR interface is used.

RS232 INTERFACE

Use the RS232 interface to use the CMeX10S/11S/12S/13S as an M-Bus master from RS232 to M-Bus 2-wire interface.

POWER SUPPLY

The installation should be performed by a qualified electrician or an installer with the required knowledge. If the product is mounted in an overvoltage category 3 (OVC III) environment, an external transient protection must be installed before the CMeX10S-13S. The power supply should be connected via a switch so the unit can be switched off during service work. The main supply should be connected to screw terminal (8) and screw terminal (9). Main supply voltage should be in the range of 100-240 VAC, 50/60 Hz, fused with 10A. Connect ground ⏚ to screw terminal (7).

TROUBLESHOOTING

Make sure that the product is switched off before the covers to the screw terminals are demounted.

All LEDs are permanently off
There is a problem with the supply voltage. Please verify 100-240 VAC. If the problem persists, the product may be malfunctioning.

Red LED is permanently on
This indicates an error on the M-Bus 2-wire bus. Please verify no short-circuit of the bus. The voltage of the bus should be between 21-42 VDC.

Cannot read connected M-Bus unit loads
Please verify M-Bus status:

- Voltage over M-Bus unit load devices should be between 21-42 VDC.
- All M-Bus unitl load devices must have unique secondary or primary M-Bus addresses depending on addressing mode.
- M-Bus unit load device baud rates.

TX LED is permanently on
When CMeX10S/11S/12S/13S is stacked with other CMeX Series modules and there is a short circuit on a product which is mounted on the left side of the issued product, the TX LED may be permanently on. Verify left side mounted products for no short circuit.

INTEGRA METERING

LED INDICATIONS

Green PWR LED

PWR LED indicates mains supply.

Mode	Description	Visual
Permanently on	Mains power connected	
Permanently off	No mains power connected	

Red ERR LED

ERR LED indicates M-Bus 2-wire bus status.

Mode	Description	Visual
Permanently on	Short circuit of the M-Bus 2-wire bus	
Permanently off	Normal mode, idle	
Short flash every second	No M-Bus unit loads connected	
Flashing for 1 second	M-Bus unit load collision	

Yellow RX LED

RX LED indicates communication from M-Bus unit loads to DTE.

Mode	Description	Visual
On/Flashing	M-Bus unit load is transmitting data	
Off	M-Bus unit load is not transmitting data	

Yellow TX LED

TX LED indicates communication from DTE to M-Bus unit loads.

Mode	Description	Visual
On/Flashing	DTE is transmitting data	
Off	DTE is not transmitting data	

TECHNICAL SPECIFICATIONS

Mechanics	
Protection class	IP20
Dimensions	90x65x108 mm
Weight	220 g
Connection M-Bus	Pin terminal solid wire 0.6-0.8 Ø mm and screw terminal cable 0.25-2.5 mm², 0.5 Nm tightening torque
Mounting	DIN mounted
Power supply	Screw terminal cable 0.75-2.5 mm², 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)	25 W
Power consumption (nom)	0.07 W x M-Bus unit loads + 1.5 W
Overvoltage 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
Maximum connected M-Bus unit loads (1T=1,5mA)	CMeX10S: 32T (48mA) CMeX11S: 64T (96mA) CMeX12S: 128T (192mA) CMeX13S: 256T (384mA)
Maximum cable length	5000 m
Maximum load capacitance	1.5 uF
Nominal voltage	42 VDC
IR interface	Yes
Pass through	Yes. Maximum of 4 CMeX Series products side by side
Compatibility	All M-Bus meters, all ABB meters with IR interface, CMeX Series products

Approvals	
EMC	EN 61000-6-2, EN 61000-6-3, FCC 47 CFR
Safety	EN 62368-1 2018, UL 62368-1:2014 Ed.2], CSA C22.2#62368-1:2014 Ed.2]

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.

CONTACT

Technical support

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

EU DECLARATION OF CONFORMITY

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Elvaco AB, Kabelgatan 21, S-434 37 Kungsbacka, Sweden.

Product Year of CE-marking
CMeX10S 2020
CMeX11S 2020
CMeX12S 2020
CMeX13S 2020

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
FCC 47 CFR Part 15 Subpart B
ICES-001 Issue 4
UL 62368-1:2014 Ed.2
CSA C22.2#62368-1:2014 Ed.2

And are in conformity with the following harmonization standards or other normative documents:
EN 62368-1 2018 (Safety requirements for information and communication technology equipment)
EN 55016-2-1:2014 + A1:2017
EN 55032 2015 (Radiated emission)
EN 61000-4-2 2009 (Immunity to ESD)
EN 61000-4-3:2006 + A1:2008 + A2:2010 (Immunity to RF field)
EN 61000-4-4 2012 (Immunity to electrical fast transient/burst)
EN 61000-4-5 2017 (Immunity to surge measurement)
EN 61000-4-6 2014 (Immunity to conducted disturbances, induced by radio-frequency fields)
EN 61000-4-11 2004 + A1:2017 (Immunity to voltage dips/short interruptions and variations)

Kungsbacka, Sweden, 2020-03-13

David Vonasek, CEO

RECOGNIZED COMPONENT
C ETL US LISTED
Intertek 5017602

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