CMa 30
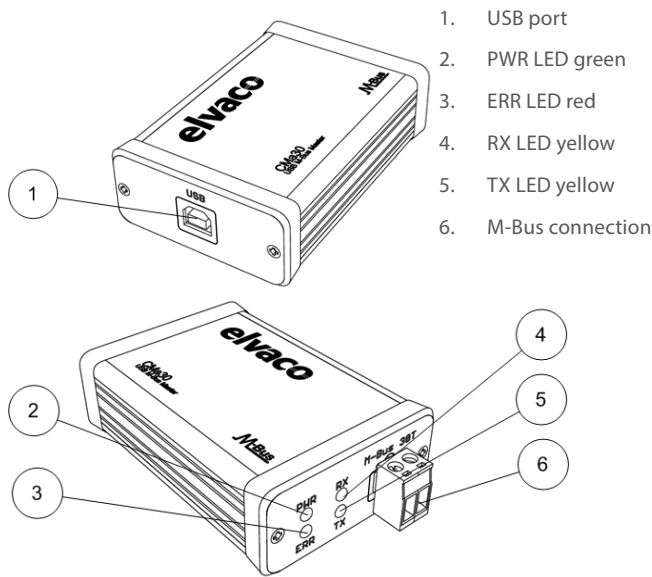## USB M-Bus master

INTRODUCTION

CMa30 is a USB M-Bus master specifically designed for mobile use. In combination with a laptop, it is suitable for installation and troubleshooting of M-Bus slaves. CMa30 is also suitable for fast and easy reading of small M-Bus systems. Drivers for CMa30 and more information about M-Bus can be downloaded from the Elvaco Knowledge Base, https://support.elvaco.com/hc/en-us.

OVERVIEW

1. USB port
2. PWR LED green
3. ERR LED red
4. RX LED yellow
5. TX LED yellow
6. M-Bus connection

INSTALLATION

Drivers for CMa30 have to be installed on the computer before using CMa30. Drivers are available for download at https://support.elvaco.com/hc/en-us/articles/17439477128221-Installing-drivers.

Start the installation guide and follow the instructions.
Connect the CMa30 to the USB port in the computer and check which COM port number the device received in the device manager. See the Troubleshooting section for more information.

M-BUS 2-WIRE BUS

M-Bus is a multi-drop 2-wire bus with no polarity. Connect the wiring to terminal (6). CMa30 handles up to 30 slaves. Overloading the bus will turn on the ERR LED and turn off the M-Bus bus. All connected M-Bus slave devices must have unique primary or secondary addresses depending on addressing mode.

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 slaves connected	
Flashing for 1 second	M-Bus slave collision	

Yellow RX LED
RX LED indicates communication from M-Bus slave to computer.

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

Yellow TX LED
TX LED indicates communication from computer to M-Bus slaves.

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

elvaco

TROUBLESHOOTING

Green PWR LED is permanently off
Make sure that CMa30 is connected to an active USB port.

Green PWR LED is on but CMa30 is not working
Make sure that the drivers for CMa30 are correctly installed (Windows).

1. Click on "Start"

2. Right click on "Computer" and properties.

3. Click on "Device manager"

4. Expand the tab under Ports (COM & LPT)

5. Check if there is a port called "Silicon Labs CP210X USB to UART Bridge". The line ends with the COM port the device has been assigned.

6. To ensure which port is used, the USB cable should be plugged out. The port will then disappear from the list. When reconnecting the USB cable the port appears in the list again.

7. If the device is not found in the list, the drivers for the device need to be installed/reinstalled. Download the drivers on http://www. elvaco.com/en/download/31160

NOTE! The steps 1-3 may look different depending on which version of Windows you are using. The keyboard shortcut Windows key + R with the command devmgmt.msc can also be used to start the device manager. (Press the Windows key and R simultaneously and type devmgmt.msc in the box that appears.)

CMa30 is working but no slaves are found

1. Make sure that the yellow TX LED is flashing when the scan is started from the M-Bus software. This is a confirmation that the correct COM port is selected.

2. Check if the red ERR LED is flashing. This indicates error on the bus.

3. Check if the red ERR LED is permanently on. This indicates short circuit or overload of the bus (more than 30 M-Bus loads).

4. Make sure that scanning/reading is made with the correct baud rate.

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
CMa30	1050103	USB M-Bus master

CONTACT INFORMATION

Elvaco AB Technical support:

E-mail: support @elvaco.com
Online: www.elvaco.com

TECHNICAL SPECIFICATIONS

Mechanics	
Protection class	IP41
Dimensions	98x57x26 mm
Weight	95 g
Connection M-Bus	Pluggable screw terminal 0.25-2.5 mm^2
Mounting	Desktop
Cable	USB type A-B 0.6 m

Electrical	
Power supply	USB type B 5 V 500 mA
Power consumption at 1 T	160 mA

Environmental	
Operating temperature range	-20 °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 loads	30 (one load is 1.5 mA)
Maximum cable length	1000 m
Maximum load capacitance	1.5 uF
Nominal voltage	28 VDC
IR interface	No
Pass through	No
Compatibility	All standard M-Bus slaves

Approvals	
EMC	EN 61000-6-2, EN 61000-6-3