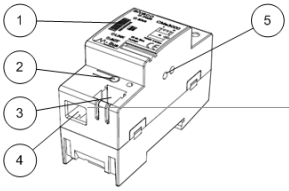
CMe3000

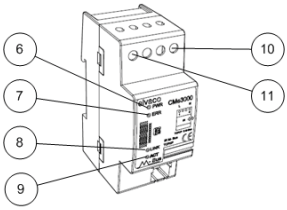
M-Bus Gateway for fixed network

INTRODUCTION

CMe3000 is a DIN-mounted M-Bus Gateway for Fixed Network. It is compatible with ABB meters equipped with IR interface and all other meters supporting the M-Bus protocol.

OVERVIEW





1. Serial number
2. Push button
3. M-Bus connector
4. Ethernet RJ 45 connector
5. IR interface
6. PWR LED (green)
7. ERR LED (red)
8. LINK LED (yellow)
9. ACT LED (yellow)
10. Power supply L
11. Power supply N

MOUNTING

CMe3000 is mounted on a DIN-rail. The metallic clip on the bottom is used to attach and deatach the device from the rail. For safety reasons, a DIN-rail enclosure must cover the terminals.

POWER SUPPLY

Screw terminal (10) and (11) are used to supply the device with power. The main supply voltage should be in the range of 100-240 VAC with a frequency of 50/60 Hz. The power needs to be connected via a clearly marked and easily accessable switch to make sure the device can be switched of during service work. The switch must comply with IEC 60947-1 and IEC 60947-3.

IMPORTANT

- The installation must be performed by a qualified electrician or another professional with the required knowledge.
- The power supply must be protected with a 10 A circuit breaker of characteristics C or slow blow fuse.

ETHERNET CONNECTION

Connect a TP cable to the Ethernet RJ45 connector (4). On successful connection, the yellow LINK LED (8) will be permanently on.

All equipment connected to the Ethernet RJ 45 connector must have double or reinforced insulation from mains to prevent the risk of electric shocks.

M-BUS 2-WIRE

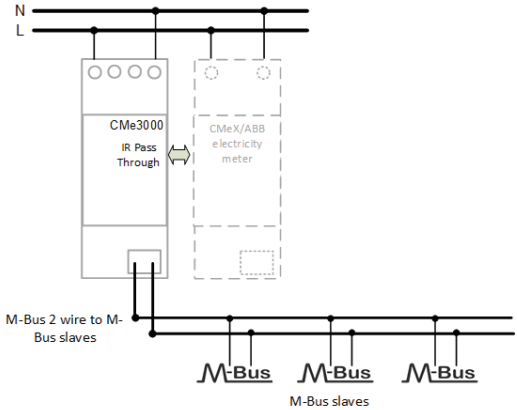
M-Bus is a multi-drop 2-wire bus with no polarity. CMe3000 can drive up to 8 M-Bus unit loads (1 lunit load=1.5 mA). The number can be extended by using an M-Bus Master from the Elvaco CMeX10-13S Series.

Use a telephone cable (e.g. EKKX 2x2x0.5 mm) or standard mains type (1.5 mm^2) to connect meters to the M-Bus connector (3). Do not exceed the maximum cable length of 1000 m.

All equipment connected to the M-Bus must have double or reinforced insulation from mains to prevent the risk of electric shocks.

IR INTERFACE

The IR interface can be used with an ABB electricity meter or a product from the Elvaco CMeX Series. Remove the IR shield (5) and mount the CMe3000 right next to the other device with no space between the two. Do not remove the shield unless planning to use the IR interface.



LOGIN

CMe3000 is configured via its integrated web interface. Type the IP address of the product in the address field of a web browser. Log in using the following credentials:

Username: admin
Password: admin

IP SETTINGS

CMe3000 supports both static and dynamic IP settings. To configure IP settings, navigate to the "Network" section of the web interface.

Click on "Configuration" and select what settings to use. The product may need to reboot after IP settings have been configured.

FACTORY RESET

There are two different ways to reset the CMe3000 to factory default settings.

- Reset the product and use dynamic IP settings. Press and hold the push button (2) during start-up. Keep it pressed for 5 seconds until the ACT LED (9) begins to flash faster. Release the push button to perform the factory reset. After a restart, the product will be assigned an IP address from an available DHCP server.
- Reset the product and use static IP settings. Press and hold the push button (2) during start-up. Keep it pressed for 10 seconds until the ACT LED (9) begins to flash faster for a second time. Release the button to perform the factory reset. After a restart, the product will use the following IP settings:

  IP address: 192.168.0.10

  Netmask: 255.255.255.0

  Gateway: 192.168.0.1

CMe3000 can also be reset via the System page in its integrated web interface. Through this menu, product reboots and software updates may also be performed.

TROUBLESHOOTING

All LEDs are permanently off
This indicates a problem with the supply voltage. Please verify that the voltage is in the range of 100-240 VAC. If the problem persists, the product may be malfunctioning. Please contact Elvaco for support.

Red LED is permanently on
This indicates an error on the M-Bus. Please verify that there is no short-circuit. The voltage should be in the range of 24-30 VDC.

Cannot connect to the product using TCP/IP
Please use the web interface to verify the following TCP/IP settings:

- TCP port used for communication.
- IP address.
- Ethernet link settings.

Cannot read connected M-Bus meters
Please verify that:

- Voltage on the M-Bus is in the range of 24-30 VDC.
- All connected M-Bus meters use a unique primary or secondary address (depending on the addressing mode).
- The baud rate used is supported by meters. The baud rate can be configured in the M-Bus Serial section of the web interface.

ORDERING INFORMATION

Product	Part number	Description
CMe3000	1050015	M-Bus Gateway for Fixed Network

CONTACT INFORMATION

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

elvaco

DECLARATION OF CONFORMITY

We, Elvaco AB, (Reg. No 556248-6687), Kabelgatan 2T, S-434 37 Kungsbacka, Sweden
Declare that the products:

Product Name: CMe3000
Product Number: 1050015

Provided that it is installed, maintained and used in application which is was made, in accordance with "professional practices", relevant installation standard and manufacturer instructions, it is confirmative with the electrical Safety and EMC-requirements in:

EMC Directive 89/336/EEC	
EN 55022	**Conducted emission**
EN 55022	**Radiated emission**
EN 61000-4-3	**Immunity to RF-Field**
EN 61000-4-6	**Immunity to HF-injection**
EN 61000-4-4	**Immunity to Burst**
EN 61000-4-11	**Immunity to Voltage Variation**
EN 61000-4-8	**Immunity to Magnetic Field**
EN 61000-4-2	**Immunity to ESD**
EN 61000-4-5	**Immunity to Surge**
Low Voltage Directive 73/23/EEC	
IEC EN 61010-1	**Pollution Degree 2**
	Over Voltage Category 2

Year of affixing "CE" marking: 2009

Kungsbacka 2009-11-20
(Place and date)

David Vonasek
Elvaco AB

TECHNICAL SPECIFICATIONS

Mechanics	
Protection class	IP20
Mounting	Mounted on DIN-rail (DIN 50022) 35 mm
Electrical connections	
Supply voltage	Screw terminal. Cable 0.75-2.5 mm², 0.5 Nm tightening torque
M-Bus master port	Pin terminal. Solid wire 0.6-0.8 Ø mm
Electrical characteristics	
Nominal voltage	100-240 VAC (+/- 10%)
Frequency	50/60 Hz
Power consumption (max)	<2.5 W
Power consumption (nom)	<1 W
Installation category	CAT 3
User interface	
Green LED	Power
Red LED	Error
Yellow LED	Network status
Push button	Factory reset
Configuration	Web interface
Integrated M-Bus Master	
M-Bus baud rate	300 and 2400 Bit/s
Nominal voltage	28 VDC
Maximum unit loads	8T/12 mA (can be extended with CMeX10-13S Series)
Maximum cable length	1000 m (100 nF/km, maximum 90 Ω)
Approvals	
EMC	EN 61000-6-2, EN 61000-6-3
Safety	EN 61010-1, CAT 3