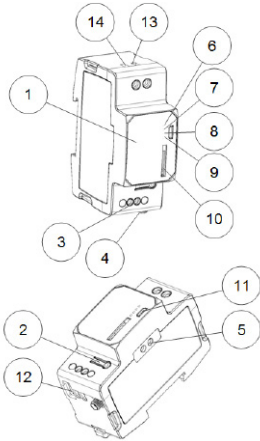


M-Bus Metering Gateway for Mobile Network

INTRODUCTION

CM_e2100 is a flexible and cost-effective DIN-mounted M-Bus Metering Gateway for Mobile Network. This quick manual only applies to generation 3 of the product. For older versions of the manual, a complete description of the product or for information in other languages, visit the Elvaco AB website, <http://www.elvaco.com>.



1. Serial number
2. Push button
3. M-Bus terminal
4. Antenna SMA connector
5. IR interface
6. PWR LED (green)
7. ERR LED (red)
8. GSM LED (yellow)
9. STA LED (blue)
10. SIM card holder
11. USB slave connector
12. USB master connector
13. Power supply L
14. Power supply N

MOUNTING

The CM_e2100 is mounted on a DIN-rail. The blue clip on the bottom is used to attach and detach the device. For safety reasons, a DIN-rail enclosure must cover the terminals.

SIM CARD

Insert the SIM card into the SIM card holder (10). Remember its registered phone number for later use.

IMPORTANT

- The SIM card should not have any PIN code activated.
- The SIM card must have GPRS internet access activated for full functionality.
- If a prepaid SIM card is used, make sure that it has enough credit.

POWER SUPPLY

Screw terminal (13) and (14) 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 accessible switch to make sure the device can be switched off during service work.

IMPORTANT

- The installation should 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.

ANTENNA

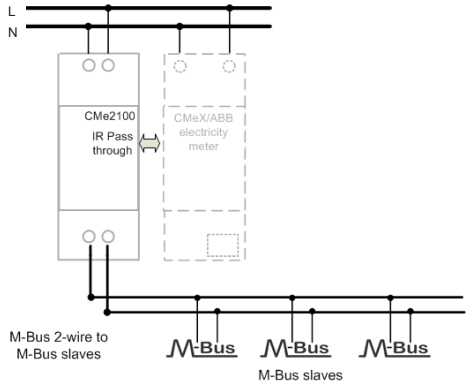
The included stub antenna is connected to the SMA connector (4). If the device is mounted inside a metal cabinet or if the signal strength is insufficient (3 or less), an external antenna, e.g. LP901, should be used.

IMPORTANT

- CM_e2100 should be connected to the antenna when the antenna wiring is done. Otherwise the SMA connector might be damaged.
- Do not mount the antenna close to any metallic objects or the M-Bus 2-wire.

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) to connect the wiring to the M-Bus terminal (3). Do not exceed the maximum cable length of 1000 m.



INSTALLATION/SEND SMS COMMAND

CM_e2100 is normally configured via SMS commands. Use the commands from the table below and send them to the phone number of the SIM card.

Function	SMS command
Perform a meter installation	<i>install n [profile]</i>
Perform a meter installation, and delete all previously installed meters	<i>install n [profile] clean</i>
Perform a meter installation, and keep all previously installed meters	<i>install n [profile] keep</i>
Request a status report from the CM _e 2100	<i>status</i>
Synchronize time with internet time server	<i>timesync</i>
Send momentary meter values via e-mail	<i>momreport</i>
Send momentary meter values to a specific recipient	<i>momreport email. to=name@domain.se</i>
Receive momentary meter values via sms	<i>momreport 101 [secondary address]</i>
Receive meter values from the last day structured in an Excel file	<i>report 1day 1104 email. to=name@domain.se</i>
Receive hourly meter values from the last day, structured in an Excel file, once every day	<i>sch report1 1day 1104</i>

n: the number of meters to be installed
[profile]: customer specific profile with customized settings (which can be ordered from Elvaco). If no profile is specified, default settings will be used for the meter.
[secondary address]: the address of the meter, set by the manufacturer.

When performing a meter installation, a text message will be received from the CM_e2100 within one minute, confirming that the installation has started. The device will send an additional text message after the installation has completed, informing whether it was successful or not.

TROUBLESHOOTING

All LEDs are permanently off

This indicates an error with the supply voltage. Please verify 100-240 VAC. If the problem persists, please contact Elvaco for support.

Red LED is permanently on and green LED is flashing

This indicates an error on the M-Bus. Please verify no short-circuit. The voltage on the M-bus should be in the range of 24-30 VDC.

Red LED is flashing shortly or 50/50

This indicates an error on the GSM network or with the SIM card. Please verify that:

- The SIM card is activated, does not have a PIN code activated and has clean contact areas.
- The network coverage is sufficient (a signal strength of at least 3). A poor network coverage will sometimes require an external antenna.

The product does not respond to SMS requests

Please verify that:

- The product is powered and LEDs are indicating normal operation.
- There is enough credit on the SIM card.
- The correct security code is used.

No meters are found

Please verify that:

- Voltage over M-Bus slave is in the range of 24-30 VDC.
- All M-Bus slaves have a unique secondary addresses.
- The slave devices support the baud rate used by the CMe2100.

Timesync command does not work

Set the correct Access point name (APN) using the command: `qset net [APN] [user] [password]`. Please contact your network provider for information about APN, APN username and APN password.

E-mail settings have been configured but no e-mails are received

This may be due to one of the following reasons:

- No/no valid recipients have been set. Set recipients by using the command `qset email [recipient]`.
- The wrong SMTP server is set. Please check which SMTP server is set by using the command `status`. If no SMTP server is set, use the command `qset email [recipient] [server]` to set it manually.
- The report is not correctly activated, please configure e-mail reports with command `sch` (see table).

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
CMe2100 (gen.3)	1050123	M-Bus Metering Gateway for Mobile Network

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
Mounting	Mounted on DIN-rail (DIN 50022) 35 mm
SIM card	Push-push type, standard size

Electrical connections

Supply voltage	Screw terminal. Cable 1.0-1.5 mm ² , 0.5 Nm tightening torque
M-Bus master port	Screw terminal. Cable 0.5-1.5 mm ² , 0.5 Nm tightening torque

Electrical characteristics

Nominal voltage	100-240 VAC (+/- 10%)
Frequency	50/60 Hz
Power consumption (max)	<6 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	SMS, HTTP, GSM CSD, Telnet

Integrated M-Bus Master

M-Bus baud rate	2400 and 9600 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, EN 301 498-1, EN 310 489-7
Safety	EN 61010-1, CAT 3



EU DECLARATION OF CONFORMITY

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

Elvaco AB, Kabelgatan 2T, S-434 37 Kungsbacka, Sweden.

Product Year of CE-marking
CMe2100G3 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 2014/53/EU
Radio Equipment Directive 2014/53/EU
RoHS 2011/65/EU

And are in conformity with the following harmonization standards or other normative documents:

IEC 61010-1 (ed.3)
EN55022 (Radiated emission)
EN 61000-4-6 (Immunity to HF-injection)
EN 61000-4-3 (Immunity to RF-field)
EN 61000-4-11 (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)
EN 300 220-1 (SRD Low power radio equipment)
EN 300220-2
EN 3010511v.9.0.2 (Gsmalto)

Kungsbacka, Sweden, 2016-12-20

David Vonasek, CEO