



## elvaco CMe2100 LTE CM-Bus Metering Gateway For Mobile Network Instruction Manual

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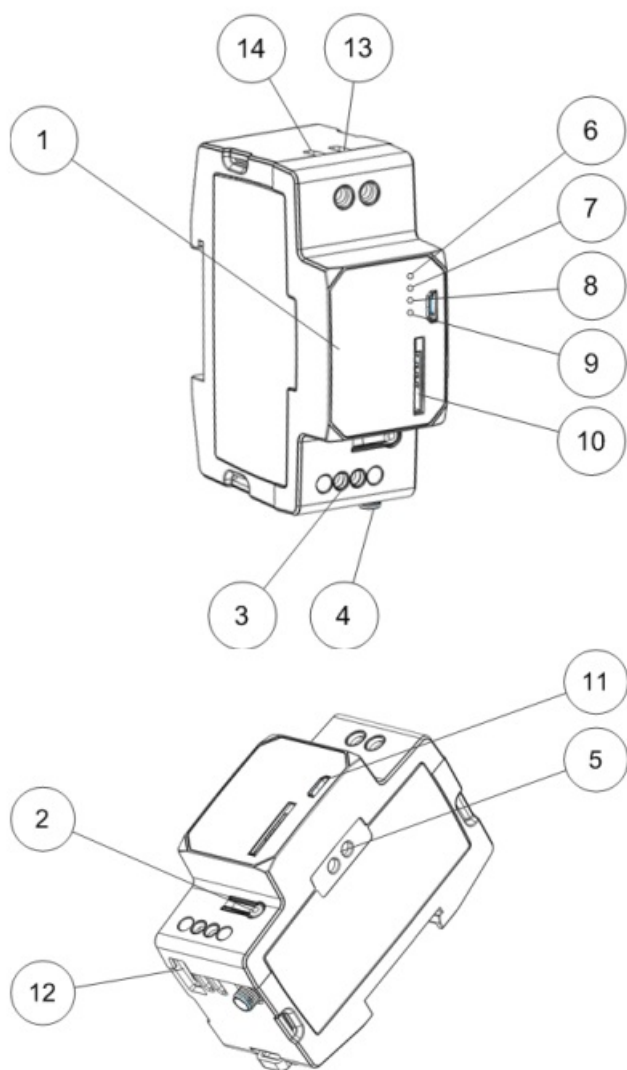
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## INTRODUCTION

CMe2100 LTE is a flexible and cost-effective DIN-mounted M-Bus Metering Gateway for Mobile Network. It is compatible with all meters following the M-Bus standard. For a complete description of the product, visit the Elvaco AB website, [www.elvaco.com](http://www.elvaco.com).

## OVERVIEW



1. Serial number
2. Push button
3. M-Bus connector
4. Antenna SMA connector
5. IR interface
6. Status LED (green)
7. Error LED (red)
8. Network LED (yellow)
9. Blue LED (not used)
10. SIM card holder
11. USB slave connector
12. USB master connector
13. Power supply L
14. Power supply N

## MOUNTING

The CMe2100 LTE should be mounted on a DIN-rail. The plastic clip on the bottom is used to mount and demount the unit from the DIN-rail. For safety reasons, a DIN-rail enclosure must cover the terminals.

## SIM CARD

Install the SIM card into the SIM card holder (10). Remember the phone number for later use.

## IMPORTANT

- The SIM card shall not have any PIN code activated.
- The SIM card must have 2G/3G/LTE internet access activated for full functionality.
- If a prepaid SIM card is used, ensure that enough credits are available.

## POWER SUPPLY

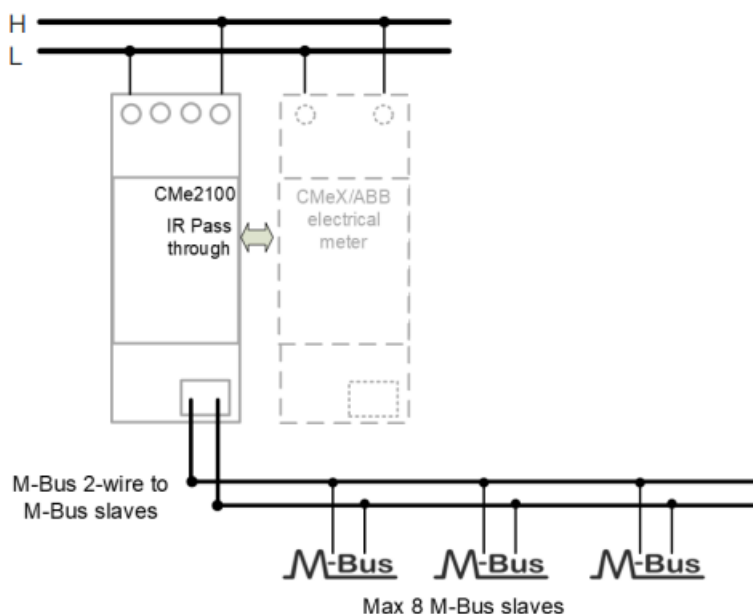
The installation should be performed by a qualified electrician or installer with required knowledge. The power supply should be connected via a clearly marked, easily accessible and close switch so the unit can be switched off during service work. The main supply should be connected to screw terminal (13) and (14). Main supply voltage should be in the range of 100-240 VAC, 50/60 Hz.

## 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<sup>2</sup>, e.g. a standard telephone cable (EKKX 2x2x0.5). Connect the wiring to the connector (3). Do not exceed the maximum cable length of 1000 m.

## IMPORTANT

The product handles up to 256 meters. Use an M-Bus extender for installations with more meters than the product limit. All connected M-Bus slaves must have unique primary or secondary M-Bus addresses depending on addressing mode.



## ANTENNA

An external antenna is needed for CMe2100 LTE, this is ordered separately. Please visit [www.elvaco.com](http://www.elvaco.com) to find a suitable antenna option.

The antenna should be connected to the SMA connector (4). If the unit is mounted in a metal cabinet, the external antenna should be mounted outside the metal cabinet.

## IMPORTANT

- CMe2100 LTE should be connected to the antenna when the antenna wiring is done. Otherwise the SMA connector can be damaged.
- Do not mount the antenna close to the M-Bus 2-wire bus.
- Do not mount the antenna inside a metallic cabinet.

## INSTALLATION/SEND SMS COMMAND

CMe2100 LTE is configured with SMS commands. Send any command from the table below in a text message to the phone number of the product.

Function	SMS command
New installation of meter	install n [profile]
Change of meter	install n [profile] clean
Add meter on the bus	install n [profile] keep
Signal strength/is the terminal alive?	status
Is mobile data working?	timesync
Send momentary values via e-mail	misreport
Send momentary values to a specific recipient	misreport email.to=name@ domain.se
Receive meter values via sms	misreport 101 [secondary address]
Receive meter values as excel files	report 1day 1104 email. <a href="mailto:to=name@domain.se">to=name@domain.se</a>
Receive hourly values once every day as excel files	sch report1 1day 1104

n: the number of meters to be installed [profile]: customer specific profile with custom settings (contact Elvaco to order a profile). Default settings will be used if no customer specific profile is set.

[secondary address]: secondary address of the meter to be read. If only TECHNICAL SPECIFICATIONS one meter is connected, the secondary address can be omitted. An SMS from the product should be received within a minute with information that the installation has started. The product will also send an SMS with information about if the installation was successful or not. For a successful installation, the signal strength should be at least 3.

## TROUBLESHOOTING

## **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. Please contact Elvaco support.

## **Red LED is permanently on**

This indicates an error on the M-Bus 2-wire bus. Please verify no short circuit of the M-Bus bus. The voltage of the bus should be between 24 VDC and 30 VDC.  
Red LED is flashing shortly or 50/50

## **This indicates an error on the networks or SIM card.**

Please verify:

- SIM card has no PIN code activated.
- SIM card is activated.
- SIM card contact areas are clean.
- Antenna installation. Installation with bad network coverage sometimes requires an external antenna.

## **The product does not respond to SMS requests**

Please verify:

- Product is powered up.
- LEDs are showing normal operation and network coverage.
- Security access codes may be used; verify correct access code.
- If a prepaid SIM card is used, balance may be zero.

## **Install command does not find any meters**

Please verify your M-Bus slave configuration:

- Voltage over M-Bus slave should be between 24 VDC and 30 VDC.
- All M-Bus slaves must have unique primary or secondary M-Bus addresses depending on addressing mode.
- M-Bus slave baud rates.

## **Timesync command does not work**

This may be due to wrong APN is set. Set the correct APN with the command: qset net [APN][user][password].  
Please contact your network provider for information about APN, APN username and APN password.

## **E-Mail reporting is configured but no e-mails are sent**

This may be due to the following reasons, when customer specific profile is not used:

- No or wrong SMTP server is auto detected. Please verify with command status. If the SMTP server is not set, please set the SMTP server manually by using command qset email [recipient] [SMTPserver] [SMTP-port].
- No/no valid recipients are set. Set recipients with command qset email [recipient].
- 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.

## TECHNICAL SPECIFICATIONS

<b>Mechanics</b>	
Protection class	IP20
Mounting	Mounted on DIN rail (DIN 50022) 35 mm
SIM card	Push-push type
<b>Electrical connections</b>	
Supply voltage	Screw terminal. Cable 0.5-2.5 mm <sup>2</sup> , 0.5 Nm tightening torque
M-Bus master port	Screw terminal. Cable 0.2-1.5 mm <sup>2</sup>
<b>Electrical characteristics</b>	
Nominal voltage	100-240 VAC (+/- 10%)
Frequency	50/60 Hz
Power consumption (max)	<6 W
Power consumption (nom)	<1 W
Installation category	CAT 3
<b>User interface</b>	
Green LED	Power
Red LED	Error
Yellow LED	Network status

Push button	Factory reset
Configuration	SMS, HTTP, Telnet
<b>Integrated M-Bus Master</b>	
M-Bus baud rate	2400 and 9600 bit/s
Nominal voltage	28 VDC
Maximum unit loads	16T/24 mA
Maximum cable length	1000 m (100 nF/km, maximum 90 V)
<b>Approvals</b>	
EMC	EN 61000-6-2, EN 61000-6-3, EN 301489-1, EN 301489-7
Safety	EN 61010-1, CAT 3

## ORDERING INFORMATION

Product	Item number	Description
CMe2100 LTE	1100386	1 M-Bus meter
CMe2100 LTE	1100363	16 M-Bus meter (16T)
CMe2100 LTE	1100364	32 M-Bus meters (16T)
CMe2100 LTE	1100365	64 M-Bus meters (16T)
CMe2100 LTE	1100366	128 M-Bus meters (16T)
CMe2100 LTE	1100367	256 M-Bus meters (16T)

## SIMPLIFIED DECLARATION OF CONFORMITY

Hereby, Elvaco declares that the product is in compliance with the following directives:

### EU:

- 2014/30/EU (EMC)
- 2014/35/EU (LVD)
- 2014/53/EU (RED)
- 2011/65/EU + 2015/863 (RoHS)



## UK:

- 2017 No. 1206
- 2016 No. 1091
- 2016 No. 1101
- 2012 No. 3032

The complete Declaration of Conformity can be found at [www.elvaco.se/en](http://www.elvaco.se/en) > Search on product or article number.

## CUSTOMERS SUPPORT

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### CONTACT INFORMATION


Elvaco AB Technical support:

E-mail: [support@elvaco.com](mailto:support@elvaco.com)

Online: [www.elvaco.com](http://www.elvaco.com)



## Documents / Resources

	<p><a href="#">elvaco CMe2100 LTE CM-Bus Metering Gateway For Mobile Network</a> [pdf] Instruction Manual</p> <p>CMe2100 LTE CM-Bus Metering Gateway For Mobile Network, CMe2100 LTE CM-Bus, Metering Gateway For Mobile Network, Gateway For Mobile Network, For Mobile Network, Mobile Network, Network</p>
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