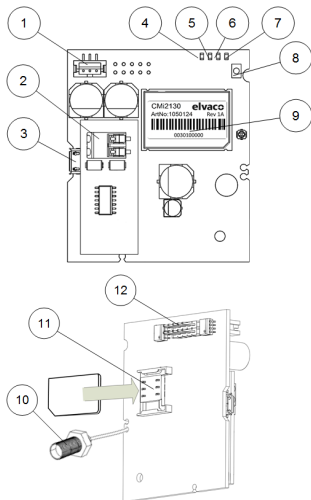# CMi2130G3

Integrated MCM for Itron CF 51/55/ECHO II, Gateway for Mobile Network

INTRODUCTION

CMi2130 is an integrated solution for Itron CF 51/55 and Itron CF ECHO II meters. For a complete description of the product or for information in other languages, visit the Elvaco AB website, http://www.elvaco.com.

OVERVIEW

1. Power connector
2. M-Bus connector*
3. USB connector
4. PWR LED (green)
5. GSM LED (yellow)
6. ERR LED (red)
7. STA LED (blue)
8. Push button
9. Serial number
10. SMA antenna connector
11. SIM card holder
12. Itron meter interface

MOUNTING

CMi2130 is mounted in the module slot of an Itron CF 51/55 or ECHO II meter. Please see the CMi2130 user's manual for detailed information on how to mount the MCM.

IMPORTANT
• Electrostatic sensitive device. Handle only at static safe work stations.

POWER SUPPLY

The connection should be handled by a qualified electrician or an installer with the required knowledge. 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.

SIM CARD

For the CMi2130 to be able to use the mobile network, a GSM SIM card needs to be installed in the SIM card holder (11).

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

ANTENNA

The included antenna is connected to the SMA antenna connector (10) and needs to be placed at least 1 meter away from the Itron meter.

IMPORTANT
• CMi2130 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*

M-Bus is a multi-drop 2-wire bus with no polarity. Use a cable of area 0.2-0.75 mm², e.g. a standard telephone cable (EKKX 2x2x0.5) to connect up to 8 meters to the M-Bus connector (2). Do not exceed the maximum cable length of 1000 m.

INSTALLATION/SEND SMS COMMAND

CMi2130 is normally configured using SMS commands. Select commands from the table below and send it to the phone number of the SIM card.

Function	SMS command
Perform a meter installation	*install n [profile]*
Perform a meter installation, and delete all previously installed meters	*install n [profile] clean*
Perform a meter installation, and keep all previously installed meters	*install n [profile] keep*
Request a status report from the CMi2130	*status*
Synchronize time with internet time server	*timesync*
Send momentary meter values via e-mail	*momreport*
Send momentary meter values to a selected recipient	*momreport email. to=name@domain.se*
Receive momentary meter values via sms	*momreport 101 [secondary address]*
Receive meter values from the last day structured in an Excel file	*report 1day 1104 email. to=name@domain.se*
Receive hourly meter values from the last day, structured in an Excel file, once every day	*sch report1 1day 1104*

n: the number of meters to be installed.
[profile]: customer specific profile with customized settings (created by Elvaco). If no profile is specified, default settings will be used.
[secondary address]: the secondary address of a meter.

When starting a meter installation, a text message will be received from CMi2130 within one minute, confirming that the installation has started. The MCM 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
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
This indicates an error on the GSM network or with the SIM card. Please verify that:
• The SIM card is activated and has clean contact areas.
• The SIM card does not use a PIN code
• 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 verify access code is used when sending the SMS.

No meters are found
Please verify that:
• Voltage over connected M-Bus meters is in the range of 24-30 VDC.
• All meters have a unique secondary addresses.
• The meters support the baud rate used by CMi2130.

Status Report indicates missing APN
This may be due to the fact that the auto APN detection is missing information about your network provider. The APN can be set manually. See the CMi2130 Operations guide for more information.

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. Check current SMTP server by using the command *status*. If no SMTP server has been set, use the command *qset email [recipient] [server]* to set it manually.
- The report is not correctly activated. Use the command *sch* to schedule e-mail Push Reports (see table).
- There is not enough credit on the SIM card.

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

Mechanics

Protection class	IP54
Mounting	In Itron CF 51/55/ECHO II meter
SIM card	Slide, standard size

Electrical connections

Supply voltage	Supplied from Itron meter
Connection M-Bus*	Push-pull connector, cable area 0.2-0.75 mm²

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 2

User interface

Green LED	Power
Red LED	Error
Yellow LED	GSM status
Blue LED	USB active
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 (in addition to the meter in which the MCM is mounted)
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 2

*Only applicable to the CMi2130 equipped with M-Bus Master

ORDERING INFORMATION

Product	Part number	Description
CMi2130 (gen.3)	1050124	Integrated MCM for Itron CF 51/55/ECHO II, Gateway for Mobile Network (0T/0)
CMi2130 (gen.3)	1100244	Integrated MCM for Itron CF 51/55/ECHO II, Gateway for Mobile Network (8T/128 meters)
CMip2130	1050018	Power supply 230 VAC

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: CMi2130
Product Number: 1050124, 1100244

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

Year of affixing "CE" marking: 2017

Kungsbacka 2017-04-20
(Place and date)

David Vonasek
Elvaco AB