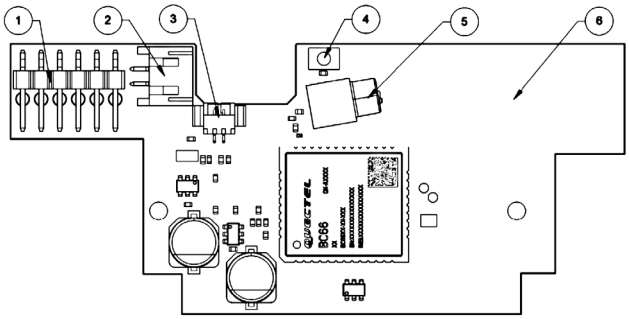
CMi6110 WZU-NB-IoT-G2

Integrated MCM for Landis+Gyr UH50/UC50, NB-IoT

INTRODUCTION

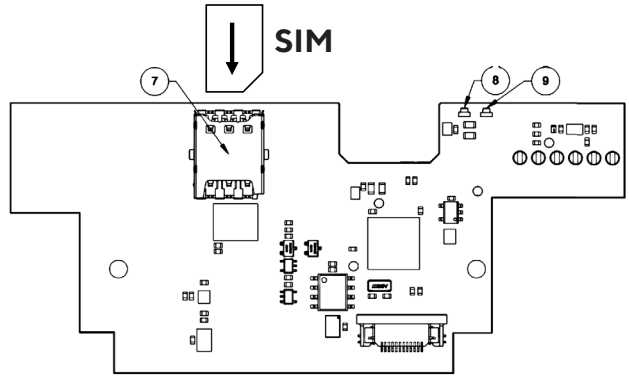
CMi6110 is an integrated meter connectivity module mounted inside a Landis+Gyr UH50 heat meter/UC50 heat calculator to deliver meter data to a receiving system via a NB-IoT network. For a complete description of the product, or for information in other languages, please visit the Elvaco AB website, https://www.elvaco.com.

MODULE SPECIFICATION



1. Meter Interface
2. PSU Power Connector
3. Battery Power Connector*
4. Push Button
5. Antenna Connector (MCX)
6. NFC Antenna
7. SIM Card Holder
8. Green LED
9. Red LED

*Option



MOUNTING

Before mounting the module in the meter, make sure that a SIM card is installed in the SIM card slot (7).

NOTE! Please note that the SIM card must be inserted as illustrated below. If it is inserted upside down it can easily damage the SIM slot.

CMi6110 is mounted in module slot 2 of a Landis+Gyr UH50/UC50 with software version 5.15/8.07 or higher. Grab the device by the outer edges and gently press it into position.

NOTE

- Electrostatic-sensitive devices. Please observe the necessary ESD protective measures when installing the device.

MOUNTING - PSU POWER

Make sure to connect the (longer) 2-wire cord from the power supply unit (24V or 110/230V) in the right compartment to the power connector (2). For more information about PSU, please see manual for CMip2110/ WZU-AC230-xx.

MOUNTING - BATTERY POWER (OPTION)

Remove the red flap inside the meter. If the right compartment for power supplies is equipped, remove that battery or power supply unit. For the meter supply, a Landis+Gyr WZU-BC+GUM battery has to be inserted into the left compartment. Mount the Landis+Gyr WZU-NB-IoT-BAT (battery+holder) in the right compartment. **The battery and holder must be put in the compartment before connecting it to the CMi6110 module.** Battery operation is available from FW 1.03. Models with earlier FW can be remotely updated.

NOTE

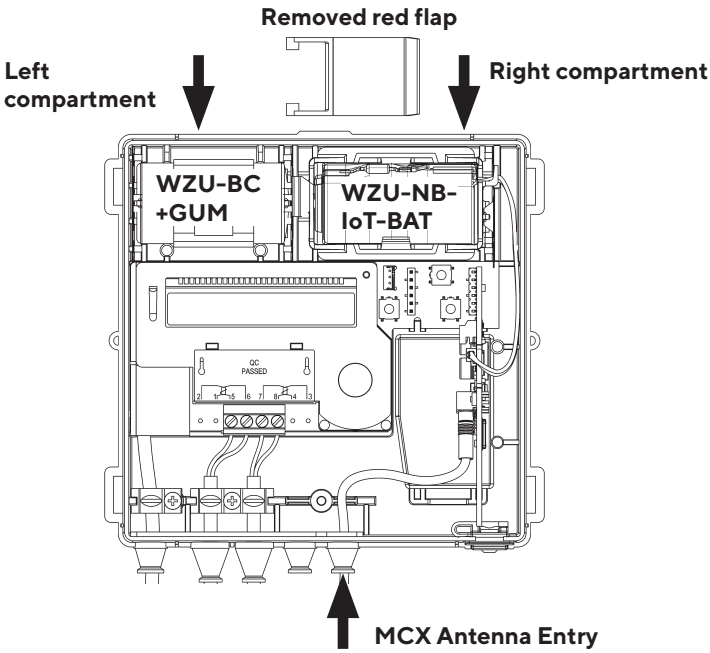
- The battery supplying the meter must be connected before connecting the battery supplying the CMi6110.
- Removing the meter's red flap is only allowed for this purpose!
- The battery holder (made of isolating material) substitutes the function of the red flap. Once inserted into the meter it cannot be removed.

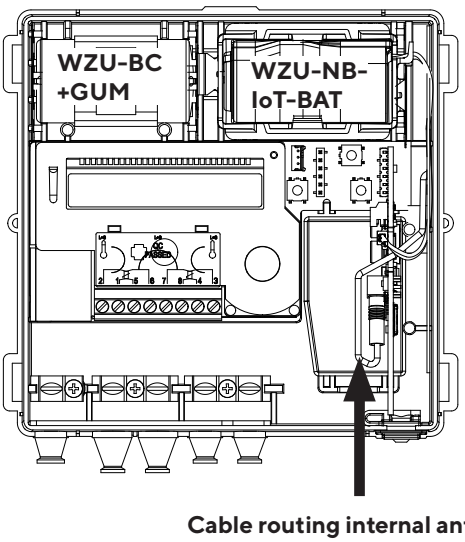
EXTERNAL ANTENNA CONNECTION

Make sure to connect an external antenna (released by the supplier) with MCX connector to the module in the UH50/UC50. The image below illustrates how the antenna cable should be routed. Push the connector gently into the socket on the module.

NOTE

- The antenna should be mounted at least 0.5 meter away from the meter to avoid interference.
- The rubber gromets may not be cut.
- Punch a small hole with 3mm diameter through the gromet. A 3mm hex key (Allen key), for example, is a suitable tool.
- Make sure to remove the strain relief (metallic clip) and do not remount it due to the risk of damaging the antenna cable. If you want to add additional strain relief, mount a cable tie on the antenna cable, close to the cable entry inside the enclosure.





INTERNAL ANTENNA CONNECTION

If mounting an internal antenna, make sure that the cable is routed as in above image.

* Internal antenna is only an option for battery powered devices.

ACTIVATION

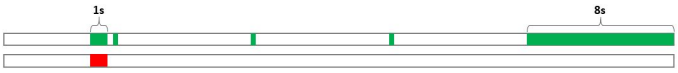
Upon delivery, CMi6110 has a standard configuration. If you would like to change configuration, please download the Elvaco OTC Application (One-Touch commissioning) for Android and iOS.

The Elvaco OTC connects to the module via NFC.

By default, the product is set to passive mode, which means no messages will be transmitted from the device. There are two ways to activate the product:

1. Press and hold down the push button (4) for at least 5 seconds until the green LED (8) lights up.
2. Read the meter via NFC to activate the Apply tab in the Elvaco OTC app. Go to the Apply tab, set the Power mode to "Active", push "Apply" and place the phone on the right side of the meter, next to the module. Make sure to hold the phone still until the phone vibrates.

Upon start-up, the module will attempt to connect to the mobile network. The phase is indicated by short flashes on the green LED. After successfully connecting to the mobile network, the green LED will lighten up for 8 seconds, as indicated by the figure below.



NOTE

- Make sure to locate the NFC antenna on your phone. When you scan or write new configurations to the module, you should place the phone's NFC antenna as close as possible to the NFC antenna of the module (6). The best place is on the right side of the meter.

SIMPLIFIED DECLARATION OF CONFORMITY

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

EU:

- 2014/53/EU (RED)
- 2014/30/EU (EMC)
- 2014/35/EU (LVD)
- 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 > Search on product.

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.

CONTACT INFORMATION

Elvaco AB Technical support:

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

TECHNICAL SPECIFICATIONS

Mechanics

Dimensions (w x h x d)	84 x 37 x 12 mm
Mounting	In Landis+Gyr UH50/UC50 module slot 2
Antenna connector (internal antenna only available for battery operated devices)	MCX female (for both internal and external antenna)
SIM card	Slide, size Nano

Electrical connections

Mains supply	**Elvaco PSU:** CMip2110 **Landis +Gyr PSU:** WZU-AC230-xx
24 V supply	**Elvaco PSU:** CMip2110 **Landis +Gyr PSU:** WZU-ACDC24-00
Battery supply	**NB-IoT** Landis+Gyr battery+holder: WZU-NB-IoT-BAT **Meter** Landis+Gyr: WZU-BC+GUM
Battery life time	10+1 year The battery life time is based on ECL0 and hourly readings (24 values) sent once per day.

Electrical characteristics

Nominal voltage PSU	100-230 VAC / 24VAC
Nominal voltage Battery	3 VDC
Current consumption (max)	400 mA
Current consumption (sleep mode)	6 µA

Environmental specifications

Operating temperature	+5 °C to +55 °C
Operating humidity	0 - 93 % RH, no condensation
Operating altitude	2000 m
Pollution degree	Degree 1
Usage environment	Indoors
Storage temperature	-20 °C to +60 °C (Module)

Mobile network

Band	20, 8, 3
3GPP	Release 14 (NB2)
Transmit power	Maximum 23.0 dBm
Receiver sensitivity	-135 dBm

User interface

Green LED	Start-up, Network connection
Red LED	Start-up, Error
Push button	Start-up, Reboot
Configuration	• NFC via Elvaco OTC App • Via LwM2M (Elvaco Evo DM-system, or third-party DM-system) • Preconfig on delivery

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CMi6110 Quick manual English
Document ID: 1090142
Version: 1.10.1