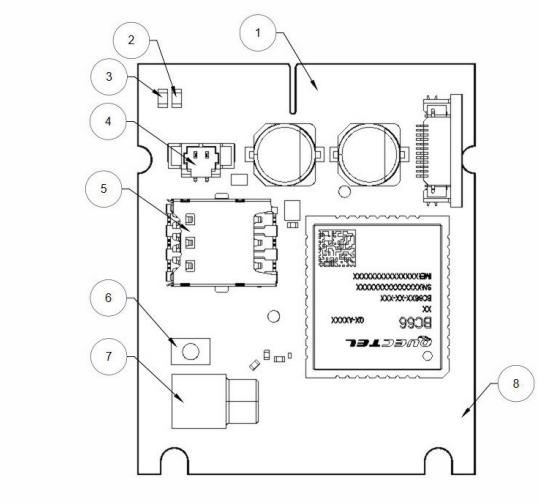
CMi6160

Integrated MCM for Diehl Metering SHARKY 775, SCYLAR INT 8, NB-IoT

INTRODUCTION

CMi6160 is an integrated meter connectivity module mounted inside a Diehl Metering SHARKY 775 heat/cold meter and SCYLAR INT 8 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. Green LED
3. Red LED
4. Battery Power Connector
5. SIM Card Holder
6. Push Button
7. Antenna Connector (MCX)
8. NFC Antenna (around whole board)

MOUNTING

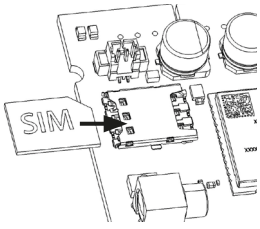
Before mounting the module in the meter, make sure that a SIM card is installed in the SIM card slot (5) as illustrated above.

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.

Open the calculator by folding down the side catches.
Lock the module into the appropriate slot (preferable slot 2, mandatory when internal antenna is used) and carefully connect the pre-formed ribbon cable at both ends.
Close the lid and check the meter for correct operation by pressing the push button. Apply tamper evident seal of the housing lid if the meter functions correctly.

NOTE

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

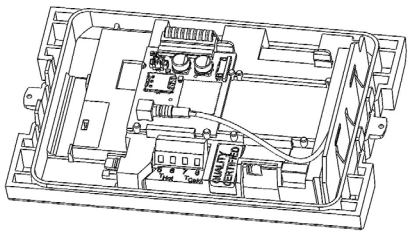


MOUNTING - BATTERY POWER

See manual for external battery pack. Connect power cable from external battery back to battery power connector (4) of the CMi6160.

ANTENNA CONNECTION

If the CMi6160 is equipped with internal antenna no additional actions need to be taken. If external antenna is required disconnect the internal antenna (if it is mounted) from MCX connector of CMi6160. See picture below for internal antenna positioning.



Connect an external antenna (released by the supplier) with MCX connector to the module CMi6160 in the meter. Make a hole in rubber gromets/sealing and push the mcx connector through the gromet/sealing. Make sure thicker part of antenna cable is in gromet/seal. Push the connector gently into the antenna connector (7) on the module.

ACTIVATION

Upon delivery, CMi6160 has a standard configuration. To change the configuration, please download the Elvaco OTC Application (One-Touch commissioning) for Android, available in Google Play, for iOS available in app store.

The Elvaco OTC connects to the module via NFC.

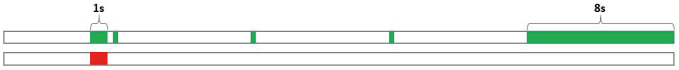
NOTE

- 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 (8). The NFC is reachable from back side of the meter or from top when lid is removed.

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 (6) for at least 5 seconds until the green LED (2) lights up.
2. Via the Elvaco mobile application. Go to the Apply tab, set the Power mode to "Active", push "Apply" and place the phone on the back 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 light up for 8 seconds, as indicated by the figure below.



SIMPLIFIED EU DECLARATION OF CONFORMITY

Hereby, Elvaco declares that the radio equipment type CMi6160 is in compliance with the following directives:
- 2014/30/EU (EMC)
- 2014/35/EU (LVD)
- 2014/53/EU (RED)
- 2011/65/EU + 2015/863 (RoHS).

The complete Declaration of Conformity can be found at www.elvaco.se/en > Search on product name.

SIMPLIFIED UK DECLARATION OF CONFORMITY

Hereby, Elvaco declares that the radio equipment type CMi6160 is in compliance with the following directives:
- Electromagnetic Compatibility Regulations 2016
- Electrical Equipment (Safety) Regulations 2016
- Radio Equipment Regulations 2017
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

The complete Declaration of Conformity can be found at www.elvaco.se/en > Search on product name

SAFETY

Install the antenna / product minimum distance 20 cm from person. 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	
Dimensions (w x h x d)	43 x 37 x 9 mm
Mounting	In Diehl Metering SHARKY 775 or SCYLAR INT 8 module slot 2
External antenna connector	MCX female
Antenna max gain	4 dBi
SIM card	Slide, size Nano
Electrical connections	
Battery supply	**Externally mounted Diehl Metering D-Cell**
Battery life time	13+1 year The battery life time is based on ECL0 and hourly reading sent once / day.
Electrical characteristics	
Nominal voltage Battery	3.0 VDC
Power consumption (max)	400 mA
Power 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 (NB-IoT)
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
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

CONTACT INFORMATION

Elvaco AB Technical support:

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