Meter Module
product documentation

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Category	Product documentation

1 Instructions for connecting the Meter Module to meters

The Meter Module can be connected to the following types of meters:

- Analog (rotating disc) electricity meter – using a LED sensor connected to the electricity port OR a laser sensor connected to the digital port (provided that the rotating disc has a marker).
- Electricity meter with a flashing led – using a LED sensor connected to the electricity port.
- Analog gas meter – using a LED sensor connected to the gas port (provided that the meter has a reflective surface or marker on the last digit).
- Heat meter – using a cable to connect the heat meter's extensions board

On the electricity port either one of the following meters can be connected using a LED sensor:

- Analog electricity or pulsing LED meter
- Analog electricity export meter

Alternatively the digital port can be used to connected the following meter, using a laser sensor:

- Analog electricity meter

The laser sensor should be used if there is an increased distance to the rotating disc, for instance caused by a (plastic) meter enclosure. Please note that only one electricity meter can be read out, either by laser sensor or LED sensor.

On the gas port either one of the following meters can be connected:

- Analog gas meter (using a LED sensor)
- Heat meter (using a cable)

Please make sure the cables to the meter sensors or meters are connected, before powering on the Meter Module.
When the Meter Module is powered on, a commissioning process will start in order to properly read out the meter. First the indication LED (location corresponding to the port location) will be on continuously. After several pulses or rotations the indication LED will blink with the detection of a marker/pulse. After several pulses more the actual reading of the meter will start.

The laser sensor has an internal LED which will also blink with each meter rotation, after a commissioning process. The indication LED on the Meter Module will also blink with each detected rotation.

2 Z-Wave

This product can be included and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers and/or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

To add the Meter Module into a Z-Wave network, the inclusion process should be started on the controller. In factory default mode, the Meter Module will try to join a Z-Wave network automatically after being plugged into a power socket. If the Meter Module was previously included in a Z-Wave network, or was not just plugged into a power socket, one needs to triple-press the button (quickly).

To remove the Meter Module from a Z-wave network, the exclusion process should be started on the controller. The button on the Meter Module should then be triple-pressed (quickly).

This product does not support the BASIC command class, all received BASIC commands will be ignored.

2.1 Association groups

Root device

Group identifier	Group name (AGI)	Maximum number of devices	Used how
1	Lifeline	1	Lifeline reporting (Device Reset Locally and Meter Data)

End points (1 – 8)

Group identifier	Group name (AGI)	Maximum number of devices	Used how
1	Meter Data via Lifeline	0	To indicate that Meter Data will be send via Lifeline, if a Multi Channel Association is created from the root device Lifeline group.

2.2 Configuration

Parameter number	Description	Default value	Size (bytes)	Possible values
1	Analog gas/heat port mode	1	1	0 = Disabled 1 = Gas enabled 2 = Heat enabled
2	Analog gas/heat port resolution (pulses per cubic meter / pulses per MJ; in Q14.2 notation)	400	4	Value between 120 and 40000
3	Analog electricity port mode	1	1	0 = disabled 1 = Electricity import enabled 2 = Electricity export enabled
4	Analog electricity port resolution (pulses per kWh; in Q14.2 notation)	400	4	Value between 120 and 40000
5	Digital port mode	2	1	0 = disabled 1 = P1 enabled 2 = Laser sensor enabled
255	Restart device	0	1	1 = Restart entire device 2 = Restart metering chip

Note: The Meter Module will not immediately save the value of a CONFIGURATION_SET to memory, as these values are first communicated to an external metering chip. Querying a configuration value (by CONFIGURATION_GET) immediately after a SET will yield the old value.

2.3 Reset functionality

The Meter Module can be reset to factory default by pressing and holding the button for approximately 10 seconds. This will reset the entire device to factory default, also removing the Z-Wave settings. After the reset is complete, both LEDs will blink a single time (indicating startup). If the device was connected to a Z-Wave network, it will no longer be connected after reset. Please use this procedure only in the event that the primary controller is missing or otherwise inoperable.