SENSECOM-xMD series

Overview of the equipment and its use

IoT communication units for readings

The **SENSECOM-xMD** series is used for regular readings of consumption meters, especially meters with "C" type consumption, using most of the interfaces used such as pulse, optical or RS232/RS485 (MODBUS).

Types of equipment:

SENSECOM-IMD can be used for pulse reading via **S0 interface**, the device has built-in galvanic isolation 4.5kV for billing meters, has input for tariff resolution, secondary input for simultaneous reading of water, gas, etc., digital input, e.g. for shafts flood detection (using float). The device may also include an input for electronic seals.
The **SENSECOM-OMD** is designed for reading registers of a meter or other devices using the **IEC62056-21 optical interface** (Mode C), battery powered or via USB-C. The OMD-E model allows reading only 4 selected registers: both consumption tariffs, supply and meter S/N number.
SENSECOM-CMD is used for reading registers of electricity meters or other meters using **MODBUS** or **M-BUS** protocol via **RS485** (full/half duplex) or **RS232** interface. Models with mains power supply have an interface with galvanic isolation of inputs.

Functionality:

- **Inputs** - pulse S0 (IMD), optical IEC62045-21 in "C" mode (OMD) or RS485/232 with MODBUS (CMD) according to the type.
- **Readout** - Reports the readout at a set period, by default once a day (adjustable from 15min to 24h).
- **Alarm** - message about tampering, excessive consumption, communication errors, ...
- **Configuration** - remote reconfiguration of parameters (reading/message periods, parameters, register selection...).
- **Communication** - over the **SIGFOX** or **NB-IoT** wide area network with high availability and reliability.
- **Security** - messages have authentication, integrity, protection against fraud, E2E encryption option, SENSEPARAM or SIGFOX Cloud connection via HTTPS interface or by APN with UDP packets from NB-IoT.
- **Antenna** - ISM antenna on SMA connector (standard rod, or plate, hat), possibility of connection via repeater for radio difficult to reach places (all-metal switchboards, basements, shafts).
- **Power supply** - various models: OMD: 10 years on battery with one-day readings or continuous readings with accumulator/adapter via USB-C, IMD: mains or battery power, CMD: both, battery models with a lifetime of about 1-2 years.

Usage and deployment example

Consumption monitoring of the point of consumption, monitoring of machine load and detection of peak consumption size, monitoring of tariff signal changes, power outages and emergency/excessive consumption rate.

SENSECOM-IMD
Application with 3 electricity meters in the administration building

SENSECOM-OMD
Mounting on the electricity meter in a residential unit

SENSECOM-IMD/CMD (production)

Approved and deployed in the *ČEZ Distribuce* Power network on billing meters from 2019.

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