

EDC-communication module with LoRaWAN® radio interface

Communication module to connect to ZENNER water meter with modulator disc

The EDC-communication module (Electronic data capture module) with LoRaWAN® interface is a clip-on module for secure remote reading to integrate water meters in LoRaWAN® readout systems.

The Electronic Data Capture (EDC) module is designed for non reactive, electronic pulse detection of all the ZENNER water meters with modulator disc.



Performance characteristics at a glance

- Battery powered
- Tampering detection
- Protection class IP68
- Retrofittable without destroying seals
- Detection of water flow direction
- Secure data collection without the use of reed switches
- Optical interface for configuration purposes

The EDC module was developed for

- Single-jet dry dial meters ETKD/ETWD
- Multi-jet dry dial meters MTKD/MTWD
- Positive displacement meters RTKD
- Bulk meters WPD / WPHD / WSD

Smart Metering functions

- Self-monitoring
- Tampering detection
- Dismounting of module and meter detection
- Reverse water flow detection
- Leakage detection
- Meter Stop detection
- Meter oversized detection
- Meter undersized respectively pipe burst detection

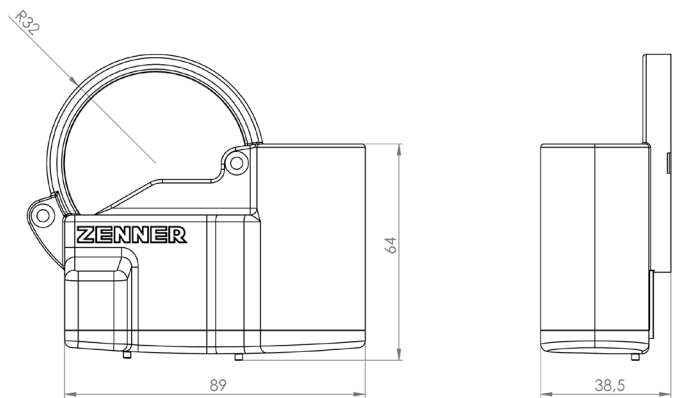
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Technical data radio module

Available operating frequencies	Bands: EU 863-870 MHz; US 902-928 MHz
Transmission power	approx. 14 dBm, 25 mW
Duration of transmission telegrams	Up to 1.5 s (depending on spreading factor)
Transmission interval	Standard: daily; optional and on request: monthly rep. 8 telegrams per day (each with the last 3 hourly values)
Data transmission procedure	LoRaWAN® class A (bi-directional communication)
Encryption of radio protocols	yes
Error detection	CRC
Optical interface	yes
Energy supply	Lithium battery
Battery life	10 years + reserve, depending on e.g. the communication scenario, spreading factor and environmental conditions
Battery status monitoring	yes
Display	no
Reverse water flow detection	yes
Protection class	IP68
Ambient conditions	>0 °C to +55 °C
CE conformity	According to directive 2014/53/EU (RED)
Activation of radio in case of subsequent retrofitting	Using ZENNER-OptoHead and MSS configuration software
Activation of radio for pre-installed module	Illumination > 8s (the light source should be a light bulb, not an LED); using ZENNER opto head and MSS software; Autostart possible after flow of 30 L from FW version 1.41

Datalogger (readable via optical IrDA interface)

Annual reference date values	2
Monthly values	18 plus 18 half-monthly values
Daily values	32



Dimensions

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LoRaWAN® radio telegram

Protocol content	Interval
Serial number (DevEUI EDC-communication module)	once when logging into the LoRaWAN™ network
Device-specific information (firmware version, LoRaWAN®-version, device type)	six-monthly
Due date value and date	every year on due date
changes of status (manipulation, battery warning,...)	event-driven

Szenario 201 (monthly)

Protocol content	Interval
Monthly value (previous month) [liter], status information, actual date and time	monthly (beginning)
Monthly value (previous month) [liter], mid-month value, actual date and time	monthly (middle)

Szenario 202 (daily)

Protocol content	Interval
Daily values (previous day) [liter]	daily
Status information, actual date and time	monthly

Szenario 203 (8 telegrams per day)

Protocol content	Interval
each packet contains the last 3 hourly values [liter]	3 hours

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