

## EDC-communication module

For connection to ZENNER water meters with modulator disc  
EDC module with M-Bus interface and electronic pulse output

The EDC communication module (electronic data capture module) was developed for electronic, non-reactive scanning of all ZENNER water meters equipped with a modulator disc.

The EDC module variant with M-Bus interface and electronic pulse output is an add-on module for water meters for remote reading or for integrating meters into wired M-Bus networks or readout systems.

The combined version of the two interfaces enables data transmission to two different users.

The pulse output of the combination module is supplied ex works with mode U in accordance with ISO 22158.



### Performance characteristics in overview

- Battery powered
- Protection class IP68
- Retrofittable without destroying seals
- Flow direction recognition
- 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 / WPV

### Smart Metering functions with EDC M-Bus

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

# EDC-communication module

## General technical data EDC with M-Bus interface and electronic pulse output\*

Energy supply	Lithium battery (C-Cell)
Battery life	(lifetime up to 15 years depending on operating and environmental conditions)
Battery status monitoring	yes
Ambient conditions	>0°C to 55°C
Protection class	IP68
Number of conductors	5
Cable length	1.5 m
Electromagnetic compatibility	complies with the Directive 89/336/EEC
Pulse output function	ex works mode U (according to ISO 22158), balanced pulses, other versions on request

\* For EDC applications with simultaneous use of pulse outputs and M-Bus interface, only battery powered or galvanically isolated pulse modules can be connected to the pulse outputs. Otherwise, the EDC module may be damaged in the case of a potential difference between the connected devices.

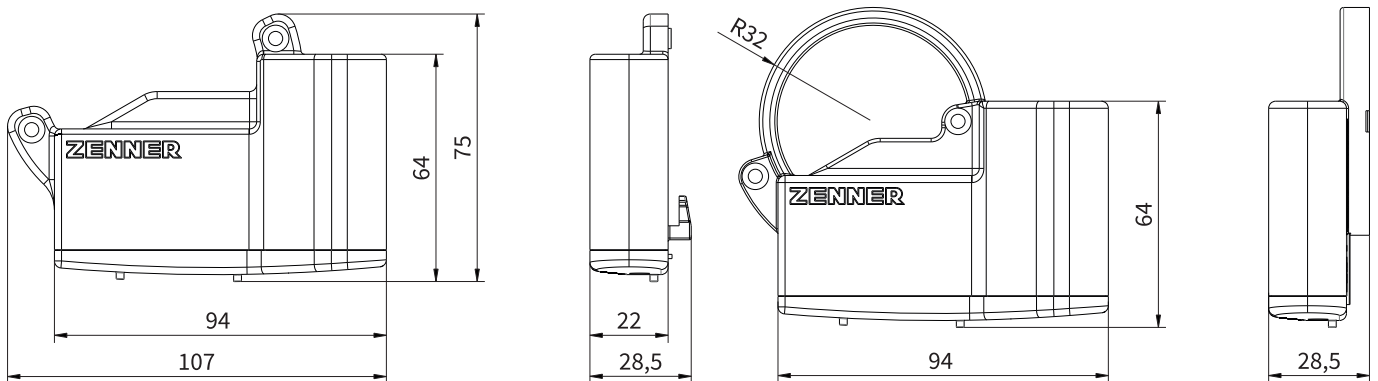
## Technical data pulse output

Output type N-channel	Open-Drain (equivalent to an open collector)
Max. Output voltage	24 VDC
Max. Output current	50 mA
Pulse length	125 ms
Output resistance (open)	110 Ω
Output capacitance (closed)	1 nF
Pulse value for all meters with modulator disc	DN15-40, 1 L/Imp. DN50-125, 10 L/Imp. DN150-200, 100 L/Imp.

## Description of the pulse outputs according to ISO 22158\*\*

	Output 1	Output 2
Data Set Type "U"	Balanced pulses	Alarm module unmounted resp. manipulation
Data Set Type "B1"	Forward pulses	Reverse pulses
Data Set Type "B2"	Forward and reverse pulses	Flow direction (open = forward)
Data Set Type "B3" Quadrature signal	Forward and reverse pulses	Forward and reverse pulses
(phase shift 90°)	(Output 1 before Output 2)	Output 2 before Output 1)

\*\* The adjustment of the outputs is possible with the ZENNER MSS demo licence using a MinoConnect Bluetooth or USB and the ZENNER-IrDA opto head.



## EDC-communication module

### Technical data M-Bus interface of EDC

M-Bus telegram	M-Bus (EN 13757-3)
Cable assignment	reverse polarity protection
Supported baud rates (configurable)	300, 2400 (standard ex works), 9600

### Content of the main M-Bus telegram

Identifier	Value	Description
SID	76767676	Serial number (configurable)
MAN	ZRI	Manufacturer
GEN	2	Generation
MED	Water	Medium (configurable)
RADR	10	Primary address (configurable)
FAB	12345678	Fabrication number
TIMP	06.07.2023 08:35	Equipment Date, Time
QM	120.762 m <sup>3</sup>	Current value
QM	1.18 m <sup>3</sup>	Actual reverse volume (accumulated)
QM[1]	55.193 m <sup>3</sup>	Last due date value
TIMP[1]	01.01.2023	Last due date value time stamp
QM[2]	100.571 m <sup>3</sup>	Last monthly value
TIMP[2]	01.07.2023	Last monthly value time stamp
QM[3]	80.545 m <sup>3</sup>	Last half-monthly value
TIMP[3]	15.06.2023	Last half-monthly value time stamp
QM[4]	111.283 m <sup>3</sup>	Last daily value
TIMP[4]	05.07.2023	Last daily value time stamp
QMPH	1.75 m <sup>3</sup> /h	Current flow rate
OnHours	7 h	Operation hours EDC module
OpHours	1 h	Operation hours water meter
OnHours_ERR	0 h	Operation hours with errors
ERR	0x00000008	Errors and warnings (hexadecimal)

The following parameters can be changed using conventional M-Bus configuration software (in accordance with EN1434):

- Serial number of the connected water meter
- Measuring medium
- M-Bus primary address
- Baud rate of the M-Bus in

### Data logger

Annual due date values	max. 16
Monthly values	18 plus 18 half-monthly values
Daily values	96
Quarter-hour values	96

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