

# Pulse/Data sensor (M-Bus/MiniBus)

for water meter Meistream

AT 7275MEI

## Internet variants

### Range of application

HRI MEI is an inductive sensor for remote reading and transmission of measurement values from water meter to data center to measurement collection. The sensor is compatible with Armatec turbine sensor Meinstream of type AT 7110/7110A (cold water) and AT 7170 (warm water). The sensor is mounted on top of the meter's display panel.

### HRI MEI is available in 2 different versions:

- HRI Combined pulse- and data sensor with electronic interface that supports both M-bus and Mini-bus (e.g. for reading a well meter, see AT 7086). The sensor also has a programmable open collector pulse, which, when delivered, is programmed to 100 and 1000 liters per pulse depending on the variant (see How to order).
- HRI Radio scanner for radio systems, type scout. See product sheet AT 7087.



AT 7275MEI

## Quality assurance

### CE-marked

The product has performed the requirements for electromagnetic compatibility in accordance with EEC Directive 98/34, European Standard EN61000-6-1

## Function and design

The HRI-sensor inductively reads the number of rotations on the metal indicator located under the glass on the water meter's display board.

The sensor has a built-in battery for up to 12 years of operation. Measuring value and settings are maintained in case of power failure (e.g. interference with the M-bus loop). In case of power failure, the data sensor (AT 7275MEI-B1 -....) will continue to register the values.

The data sensor is marked with a manufacturing number, which corresponds to the secondary print. For delivery, the primary print is set to 000 by default.

## Technical data

<b>Cable length:</b>	3 m (does not apply to the radio scanner)
<b>Protection:</b>	IP 68 (hermetically sealed)
<b>Storage temperature:</b>	-20 °C to +65 °C
<b>Ambient temperature:</b>	-10 °C to +65 °C
<b>Battery:</b>	Lithium. Life length 11 +1 år (stockholding) When connected to the M-bus loop, the life length can be extended.

Data interface	
<b>Type:</b>	M-bus and Mini-bus
<b>Speed:</b>	Automatic recognition, 300/2400 Baud
<b>Protocol:</b>	According to IEC 870 / EN 1434-3
<b>Data:</b>	Measurement, meter number, backflow*, monthly metering* and min-max flow*
<b>Max cable length:</b>	According to M-bus specifications

\*The sensor can be programmed to transfer these values

Measurement readings and settings remain in the event of any external power failure on the data receiver (e.g. M-bus loop malfunctions). During power failure,

# Pulse/Data sensor (M-Bus/MiniBus)

for water meter Meistream

AT 7275MEI

the HRI-unit will continue to register the values.

## Pulse output (I1, I2) enl. ISO/TC 30/SC 7/ WG 8

Type:	Open Collector, transistor relay (potential dependent)*
Input voltage:	max 48V DC
Input current:	max 20 mA
Length:	32, 128 or 500ms (is delivered with 500ms as standard pulse length)

\*To get a potential-free pulse, the AT 7281-2PCD must be mounted after the pulse sensor. \*  
To get a different pulse length than 500 ms, clarify this when ordering

## Accessories and options

Pulse Transducer with high definition Opto-signal, 1 pulse per liter: AT 7275PDY1. AT 7275MEI-B1 .... always has an open collector output (potential-dependent pulse). If you want a potential-free pulse signal, the sensor can be supplemented with a separate converter; AT 7281-2PCD

## Pulse numbers- and lengths

Pulse value (liter/ pulse)	10		50		100		250		500	
	1	5	1	5	1	5	1	5	1	5
	3 2 0	3 2 0	3 2 0	3 2 0	3 2 0	3 2 0	3 2 0	3 2 0		
Length (ms)	2 8 0	2 8 0	2 8 0	2 8 0	2 8 0	2 8 0	2 8 0	2 8 0	2 8 0	2 8 0
DN 40	X X -	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X
DN 50	X X -	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X
DN 65	X X -	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X
DN 80	X - -	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X
DN 100	X - -	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X
DN 125	X - -	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X
DN 150	- - -	- - -	- - -	- - -	X X -	X X -	X X -	X X -	X X -	X X -

DN 40-100 can be supplied with Opto-OD sensor AT 7275-PDY1 for 1 liter per pulse. Amplifiers AT 7275-WE77-230V or AT 7275-WE77 are necessary to amplify the output of the transducer.

## Installation

- Sensors that are prepared for HRI has an indicator equipped with a metal plate. Before mounting the sensor, the transport foil on the underside of the sensor has to be removed.
- Assembly of the HRI-unit is done without the need to break any seals on the gauge, and this can be done either directly when the meter is mounted or afterwards when the meter has already been mounted. When retrofitting, the sensor should be programmed so that its calculator is in accordance with the meter.
- The HRI-MEI remote reader module is mounted on the counter by removing the blue door labeled OD on the side of the gauge, turning the counter counterclockwise, securing the module into the grooves and turning the work clockwise
- Signal-wires are selected according to the following wiring diagram, depending on the use of pulse or M-bus/Mini-bus. Usually, the following are used: **Pulse:** white (+) and gray (-). M-bus: green and brown (*also see separate Operating instructions* ).

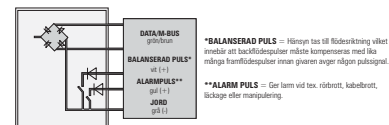
# Pulse/Data sensor (M-Bus/MiniBus)

for water meter Meistream

AT 7275MEI

## Marking

The sensor is marked with SENSUS, manufacturing number, which corresponds to the secondary print. The combined pulse/data/M-bus/Mini-bus sensor AT 7275MEI-B1-... is marked HRI MEI B1, pulse number- and length, DN, CE



Connection diagram HRI sensor

## How to order

Type	Art.no	Dimension (DN)
Pulse/data/M-bus/ Mini-bus	AT 7275MEI-B1D100K1	40-125
	AT 7275MEI-B1D100K2 For DN 200, choose AT 7109-200 with associated donors	150
Radio probe Scout	See product sheet AT 7087	
Opto-sensors OD	AT 7275PDY1 with amplifier AT 7275-WE77	50 -100