

# Minomess® Water meter with LoRaWAN®-interface

## for cold and hot water

The ZENNER radio water meter Minomess® is a dry-dial meter with rotatable register. The meter is available in different lengths and nominal sizes and therefore meets all standard installation situations. Minomess® can be installed in horizontal and vertical installation position.

Minomess® is equipped with a LoRaWAN® radio module ex works and can be integrated in LoRaWAN® readout-systems.



### Product characteristics

- Single-jet meter
- Dry-dial register with magnet protection proven by German PTB according to the regulations of German VDDW
- 360° rotatable register for best reading position
- Brass housing, metal materials according to Federal Environment Agency (Acceptance of metallic materials used for products in contact with drinking water)
- Produced according to DIN ISO 9001, DVGW W270
- according to MID 2014/32/EU
- Certificate no. DE-07-MI001-PTB010
- Equipped with LoRaWAN® radio module

### Applications

- For the consumption measuring of cold potable water up to 30 °C
- For the consumption measuring of hot potable water up to 90 °C

### 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

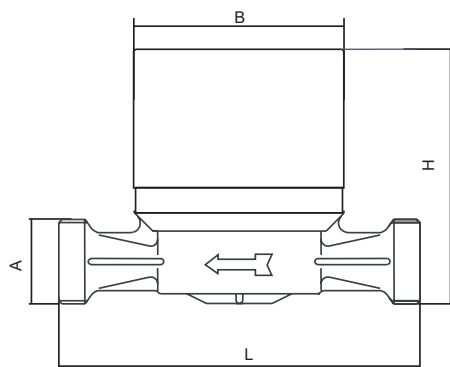
## Technical data sheet Minomess® mit LoRaWAN®-interface

### Nominal technical data

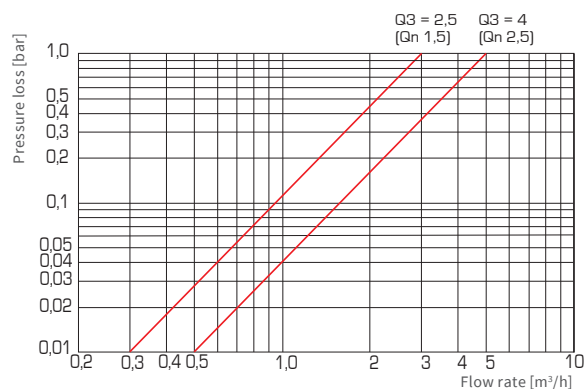
Permanent Flowrate	$Q_3$	$m^3/h$	2.5	2.5	4
Comparable to nominal flow (EWG)	$Q_n$	$m^3/h$	1.5	1.5	2.5
Overload Flowrate	$Q_4$	$m^3/h$	3.125	3.125	5
Transitional Flowrate	$Q_2$	l/h	50 H / 100 V	50 H / 100 V	80 H / 160 V
Minimum flow	$Q_1$	l/h	31.25 H / 62.5 V	31.25 H / 62.5 V	50 H / 100 V
Standard measuring range	$Q_3 / Q_1$	R	80 H / 40 V	80 H / 40 V	80 H / 40 V
Starting flow approx.		l/h	10	10	14
Display value min.		l	0.05	0.05	0.05
Display value max.		$m^3$	10.000	10.000	10.000

### Technical Dimensions

Connecting sizes	DN	mm	15	15	20
		inch	½	½	¾
Overall length meter	L	mm	80	110	130
Overall length with connectors approx.		mm	160	190	226
Meter thread	A	inch	G ¾ B	G ¾ B	G 1 B
Thread connector		inch	R ½	R ½	R ¾
Height	H	mm	77	75	78
Width	B	mm	64	64	64
Net weight		kg	0.44	0.48	0.59
Measurement accuracy class	Cold and hot water		± 5 % ( $Q_1 \leq Q < Q_2$ )		
			± 2 % ( $Q_2 \leq Q \leq Q_3$ )		
			± 3 % ( $Q_3 \leq Q \leq Q_4$ )		



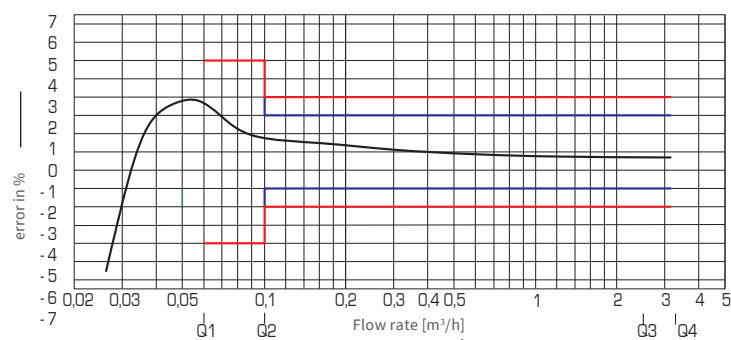
Dimensions



Pressure loss curve

Nominal operating conditions			
Temperature range	Cold and hot water	°C	0.1 - 30 30 - 90
Pressure stage	MAP	bar	10
Test pressure	P	bar	16
Pressure loss class at $Q_3$	$\Delta p$	bar	0.63
Pressure loss class at $Q_4$	$\Delta p$	bar	1.0
Mechanical environmental condition	M1		
Climatic condition	5°C to 70°C – Condensation possible		
Magnet protection	PTB tested acc. VDDW and EN 14154-3		

Technical data LoRaWAN® radio module	
Operating frequency	868 MHz
Transmission power	~ 14 dBm
Duration of transmission telegram	up to 1 s (depending on spreading factor)
Sending interval	daily (monthly rep. hourly: on request)
Data transmission procedure	LoRaWAN class A (bi-directional communication)
Encoding of radio protocols	yes
Error detection	CRC
Telegram content	Serial number, type of device, monthly value, mid-month value, faulty transmissions, manipulation
Optional IR interface	yes
Battery capacity	for 10 years from the beginning of radio activation
Display	no
Energy supply	Lithium battery
Reverse flow detection	yes
Protection class	IP68
ambient conditions	+5 °C to +55 °C
CE conformity	according to directive 2014/53/EU (RED)
Radio activation	Illuminating > 8s; Autostart after flow of 30 l; using Zenner opto head and MSS software



Typical pressure loss curve

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