

Minomess® Single-jet meter with LoRaWAN®-interface

Single-jet dry-dial meter for cold and hot water

The radio water meter Minomess® is a dry-dial meter with 7-digit-rollers register and a shielded magnetic coupling. The individual advantage of the meter is an exceptional compact design. With its very small height, the meter easily adapts to any installation situation. The meter is available in various lengths and dimensions.

It can be used in horizontally and vertically position.

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



Product characteristics

- Single jet dry-dial with shielded magnetic coupling
- With 7-digit-rollers register and modulator disc (1 l/pulse) for non-reactive scanning for radio
- For horizontal and vertical installation (also for risers and downpipes)
- All materials, which are used in the drinking water section, comply with the required standards, guidelines and the current German drinking water approval (other country-specific drinking water approvals on request)
- Register cap made of high-quality UV-resistant polymer plastic
- Equipped with EDC-LPWAN-radio module (868 MHz) for LoRaWAN® as standard
- Battery life 10 years after radio activation
- Transmission interval daily
- Brass body (chrome-plated)
- Register rotatable 360°
- Operating pressure MAP 10
- Approved in accordance with MID

Applications

- For consumption measuring of drinking water and unpolluted service water up to 30 °C
- For consumption measuring of drinking water and unpolluted service water up to 90 °C

Smart Metering functions

- Self-monitoring
- Tampering detection
- Reverse water flow detection
- Leakage detection
- Meter Stop detection
- Meter oversized detection
- Meter undersized respectively pipe burst detection

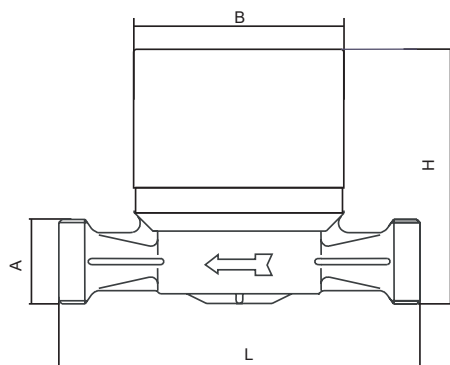
Minomess® mit LoRaWAN®-interface

Nominal technical data

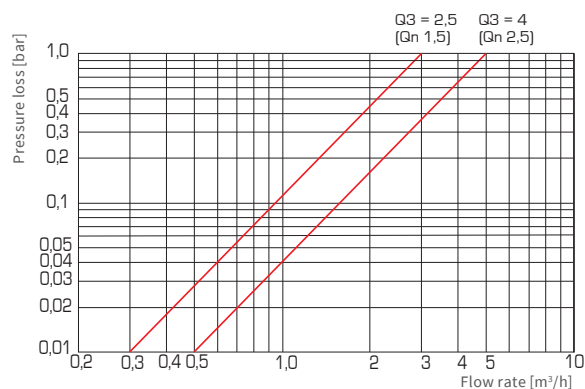
Permanent Flowrate	Q_3	m^3/h	2.5	2.5	4
Comparable to nominal flow (EWG)	Q_n	m^3/h	1.5	1.5	2.5
Overload Flowrate	Q_4	m^3/h	3.125	3.125	5
Transitional Flowrate	Q_2	l/h	50 H / 100 V	50 H / 100 V	80 H / 160 V
Minimum flow	Q_1	l/h	31.25 H / 62.5 V	31.25 H / 62.5 V	50 H / 100 V
Standard mesuring range	Q_3 / 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

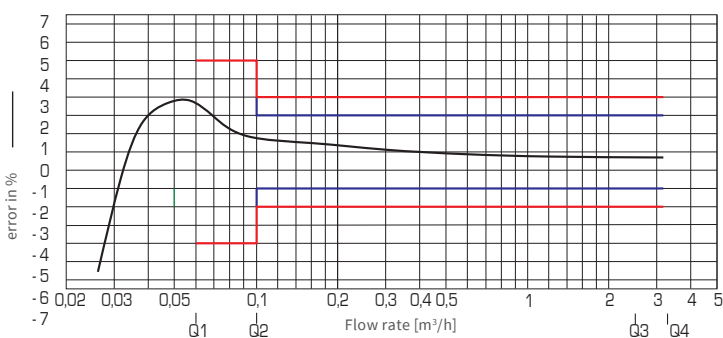
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Nominal operating conditions

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	Δp	bar	0.63
Pressure loss class at Q_4	Δp	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	Telegram contents depend on the communication scenario: Contents can be, for example: daily-, monthly, half-monthly value, due date, date, time, status information, firmware version, ident number
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	IP67
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

ZENNER International GmbH & Co. KG

Römerstadt 6
66121 Saarbrücken
Germany

Phone +49 681 99 676-30
Fax +49 681 99 676-3100
E-Mail info@zenner.com
Internet www.zenner.com