MeiStreamRF

Bulkmeter for cold potable water DN 40 ... 300, PN16

APPLICATIONS

- Radio equipped watermeter for walk-by/drive-by readout applications
- Metering endpoint in radio based Smart Water Networks
- Measurement for billing of potable water up to 50 °C
- Measurement of high flowrates e.g. in pumped pipes
- Measurement of low flow e. g. in light load periods
- For leakage detection

Materials

Body	Cast iron (PN16)
Metrological module	Engineering polymer
Rotor	Engineering polymer
Battery	Lithium
We also use the following materials	Brass Stainless steel

Main characteristics

- Register with integrated radio communication and data logger
- LC-display for consumption and status information
- Secured encrypted data transmission
- Meter with MID pattern approval acc. to annex MI001
- Exchangeable metrological unit with MID pattern approval acc. to annex MI001
- Unique measuring range; $Q_3/Q_1 \geq 100$
- High overload capability
- No straight inlet length necessary (U0D0 acc. to OIML R49:2013 and ISO 4064-1:2017)
- Installation position horizontal and vertical
- Meter body in short (WP) and long (WS) overall length acc. to DIN 19625 and ISO 4064-1:2017 available
- Meter can be submerged; protection class IP68
- Used materials are temperature resistant up to 70 °C

Available options

- Version free of copper alloy for aggressive water
- Radio communication with different frequencies
- ¼" pressure monitoring port

Environmental Conditions

Acc. to ISO 4064-1:2017

Environmental class B

Environmental temperature 5-70 °C

Electromagnetic environmental class E1

Approval Mark

Meter cpl. and exchangeable metrological module

Marking CE M-XX* 0102

DN 40 ... 150 DE-09-MI001-PTB 010

DN 200 ... 300 DE-15-MI001PTB 014

* year of production

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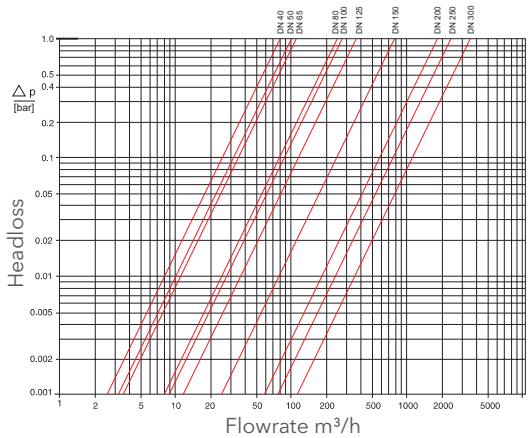
Metrological Data acc. to Manufacturers Values

	Size	DN	40	50	65	80	100	125	150	200	250	300
Q_s	Max. Peak Flow	m³/h	60	90	120	200	300	350	600	1200	1600	2000
Q_3'	Continuous Flow	m³/h	40	50	70	120	230	250	450	800	1250	1400
Q_{2h}	Transitional Flowrate horizontal	m³/h	0.32	0.4	0.63	0.51	0.81	1.02	1.6	4.0	6.3	16.0
Q_{1h}'	Minimum Flow horizontal	m³/h	0.2	0.15	0.2	0.2	0.3	0.5	0.8	2.0	3.5	9.0
Q_{2v}	Transitional Flowrate vertical	m³/h	0.4	0.51	0.81	0.8	1.28	1.6	3.2	4.0	10.1	25.4
Q_{1v}'	Minimum Flow vertical	m³/h	0.25	0.28	0.4	0.5	0.5	1	1.6	2.5	6.3	15.9
	Starting Flow	m³/h	0.05	0.05	0.07	0.1	0.11	0.15	0.3	1.5	3	8

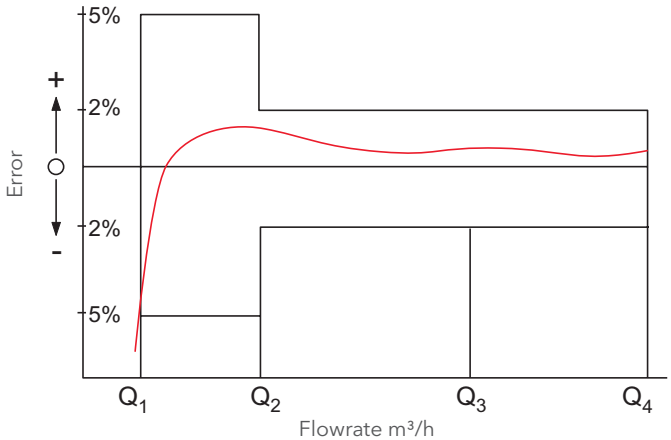
Metrological Data acc. to 2014/32/EU (MID)

	Size	DN	40	50	65	80	100	125	150	200	250	300
Q_4	Overload Flowrate acc. to MID	m³/h	31.25	50	78.75	125	200	200	500	787.5	787.5	1250
Q_3	Permanent Flowrate acc. to MID	m³/h	25	40	63	100	160	160	400	630	630	1000
Q_{2h}	Transitional Flowrate horizontal acc. to MID	m³/h	0.32	0.4	0.63	0.51	0.81	1.02	1.6	4.03	8.06	25.4
Q_{1h}	Minimum Flowrate horizontal acc. to MID	m³/h	0.2	0.25	0.39	0.32	0.51	0.64	1	2.52	5.04	15.9
Q_{2v}	Transitional Flowrate vertical acc. to MID	m³/h	0.635	0.64	1.0	1.28	1.6	2.05	3.2	4.03	10.1	25.4
Q_{1v}	Minimum Flowrate vertical acc. to MID	m³/h	0.4	0.4	0.63	0.8	1.0	1.28	2	5.52	6.3	15.9
Q_3/Q_1 h	Max. Ratio horizontal		125	160	160	315	315	250	400	250	125	63
Q_3/Q_1 v	Max. Ratio vertical		63	100	100	125	160	125	200	250	100	63
Q_3/Q_1	Standard Marking		63	100	100	100	100	100	100	100	100	63
Δp	Headloss at Q_3 acc. to ISO 4064-1:2017	bar	0.1	0.16	0.32	0.16	0.34	0.19	0.27	0.11	0.07	0.08

Typical Headloss Curve



Typical Error Curve



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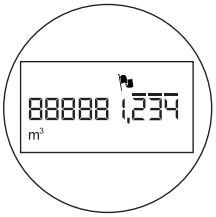
Dial



DN 40 ... 125

DN 150 ... 300

Nominal diameter DN	Smallest reading m³	Max. reading m³
40 ... 125	0.001	999,999.999
150 ... 300	0.01	9,999,999.99

- Alarm is triggered
- Low battery level is reached
- Radio is activated
- System is set up in hydraulic testing mode
- ⊕⊖ Indicates positive or negative flow
- m³ Indicates the unit

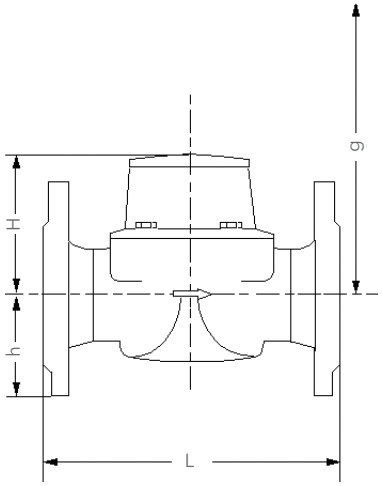
Installation

Pipe	horizontal vertical
Meter head	upwards sideways

Installation Requirements

- Unrestricted straight pipe upstream 0 x DN
- No abrupt restrictions directly downstream of the meter

Dimension Picture



Order Example

MeiStream, DN 50, T50, PN16 — Type, Size, Max. medium temperature, Nominal pressure
Drilling EN 1092 PN16 — Drilling pattern
Length 270 mm — Body length
eRegister / m³ — Register type / unit
with MID conformity — Approval standard

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Dimensions

Nominal Diameter		DN	40	50	50	50	65	65	80	80	80	80
Overall length	L	mm	220	200	270	300	200	300	200	225	300	350
Height	H	mm	120	120	120	120	120	120	150	150	150	150
Height to pipe axis	h	mm	69	73	73	73	85	85	95	95	95	95
Dismantling height	g	mm	200	200	200	200	200	200	270	270	270	270

Nominal Diameter		DN	100	100	100	125	150	150	200	250	300
Overall length	L	mm	250	350	360	250	300	500	350	450	500
Height	H	mm	150	150	150	160	177	177	214	238	264
Height to pipe axis	h	mm	105	105	105	118	135	135	162	194	226
Dismantling height	g	mm	270	270	270	280	356	356	449	474	499

Weight PN 16

Nominal Diameter		DN	40	50	50	50	65	65	80	80	80	80
Overall length	L	mm	220	200	270	300	200	300	200	225	300	350
Meter		kg	7.5	7.8	9.6	9.9	10.1	12.0	13.8	14.2	16.3	17.7
Metrological module		kg	1.5	1.5	1.5	1.5	1.5	1.5	3.2	3.2	3.2	3.2
Body		kg	6.0	6.3	8.1	8.4	8.6	10.5	10.6	11.0	13.1	14.5

Nominal Diameter		DN	100	100	100	125	150	150	200	250	300
Overall length	L	mm	250	350	360	250	300	500	350	450	500
Meter		kg	18.2	20.0	20.2	20.7	35.9	44.2	56.9	79.4	103.8
Metrological module		kg	3.2	3.2	3.2	3.2	5.9	5.9	9.6	9.6	9.6
Body		kg	15.0	16.8	17.0	17.5	30.0	38.3	47.3	69.8	94.2

Weight PN 40

Nominal Diameter		DN	50	50	65	80	80	100	100	150	150
Overall length	L	mm	200	270	300	225	300	250	360	300	500
Meter		kg	9.7	10.7	13.1	17	18.6	20.4	22.9	44.6	52.9
Metrological module		kg	1.7	1.7	1.7	4	4	4	4	9.3	9.3
Body		kg	8	9	11.4	14.6	14.6	16.4	18.9	35.3	43.6

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MeiStreamRF infrastructure

The MeiStreamRF has SensusRF integrated technology providing the advantages of both uni- and bidirectional system architecture as described below. SensusRF is the optimized license free radio system for battery driven endpoints and repeaters. Scalable for mobile and remote reading without exchange of components, it is available in 433 MHz and 868 MHz. OMS® compatible.

SensusRF offers two communication modes

1. Fixed Radio Network

- Auto configuration wizard (gateway sniffing for endpoints and repeaters)
- Integrating repeaters (up to 7 hops in a chain)
- Self-healing network (using alternative routes)
- Meter reading transparent and local
- Fast track alarms
- DMA snap shot (snap shot of a water network for evaluation)
- TCP/IP technology for the WAN communication
- High level of data security (end-to-end encryption)
- Enables cloud technologies, FTP and other remote database applications

2. Mobile read - Walk-by / Drive-by

- Unidirectional telegrams
- Bidirectional communication
- Spontaneous reception possible without route
- Configuration of the endpoint

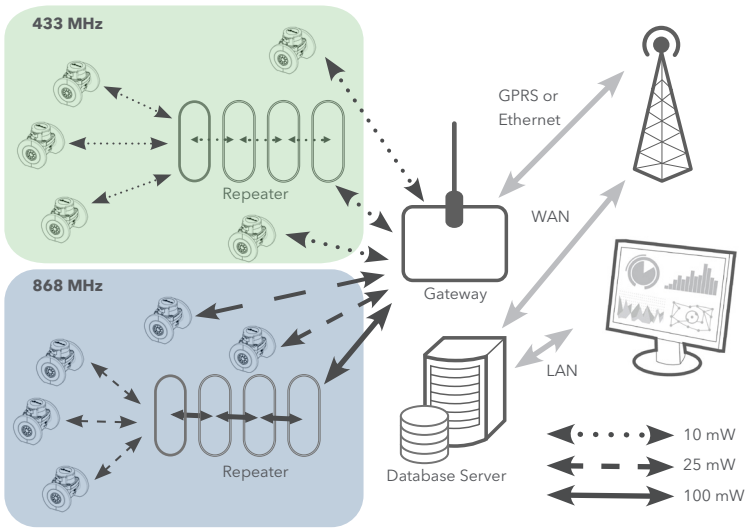
SIRT (Sensus Interface Radio Tool)

SIRT is a radio modem for SensusRF radio, connected to a handheld via Bluetooth and using DIAVASO Mobile Reading software with the following features:

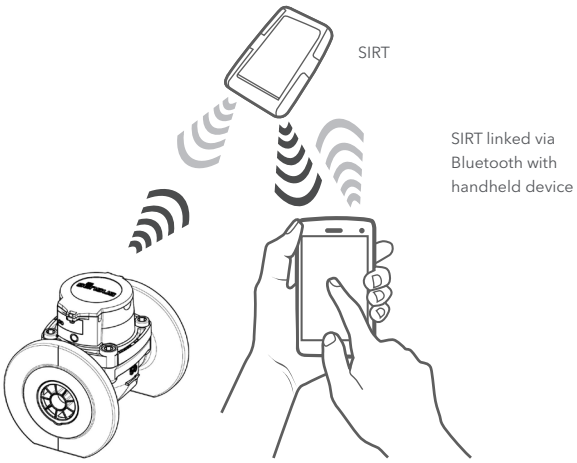
- Installation and readout of devices
- Reception of frequently transmitted radio messages from Sensus RF radio endpoints
- Request additional information from the radio endpoints
- Change configuration of radio endpoints (alarm, level settings...)

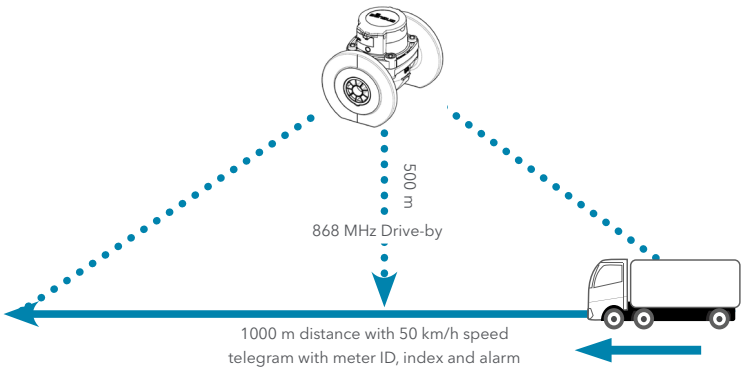
For further information please refer to the SensusRF brochure.

MeiStreamRF Fixed radio network - Remote Access & Monitoring



Unidirectional/Bidirectional communication





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