

640C

640MC

Volumetric Meter - Composite Body with Electronic Register



Main characteristics

DN 15 to 20 and Coax, MAP 16, T50 (temperature range 0.1 to 50 °C)

Light and robust

Easy to handle

Meets current and anticipated regulations for potable water

Environmentally friendly

Unrivalled accuracy and measuring range

High resistance to impurities and aggressive water

Quiet operation

Ready for wireless communication with integrated radio functionality (available in different frequencies)

Long lasting battery life expectation inclusive of metrology and radio function

The register includes a lithium battery

Applications

The 640C/640MC is a high precision meter.

Due to its unique piston and measuring chamber design, the smallest drops of water are measured.

With the 640C/640MC you are assured of lasting metrology.

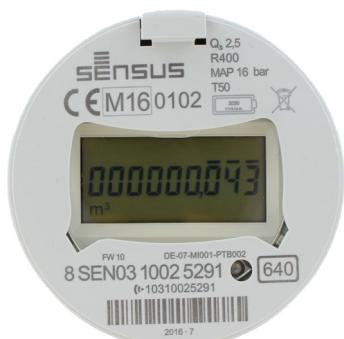
The 640C meter range includes an electronic register with integrated radio functionality which enables easy and fast communication.

Due to our broad range of system solutions you can adapt the 640C/640MC to all your AMR, AMI requirements.

The protection class of the electronic register of the 640C family is IP 68.

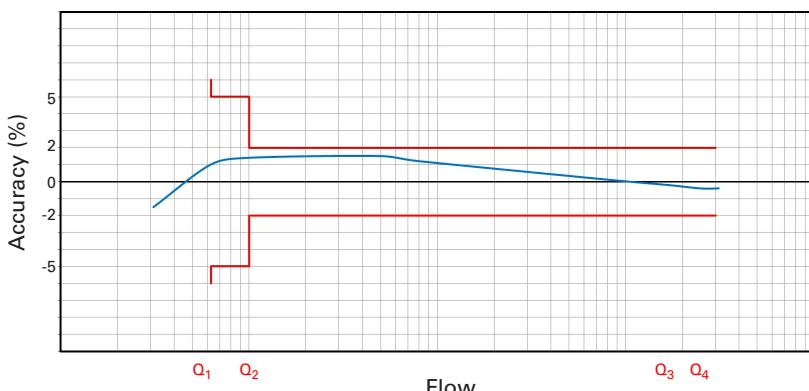
With a tamper proof design and its long life span you can be confident when selecting the 640C/640MC.

Typical Marking



Markings may vary depending on particular markets or metrological specifications.

Typical Accuracy Curve



Accuracy and Reliability

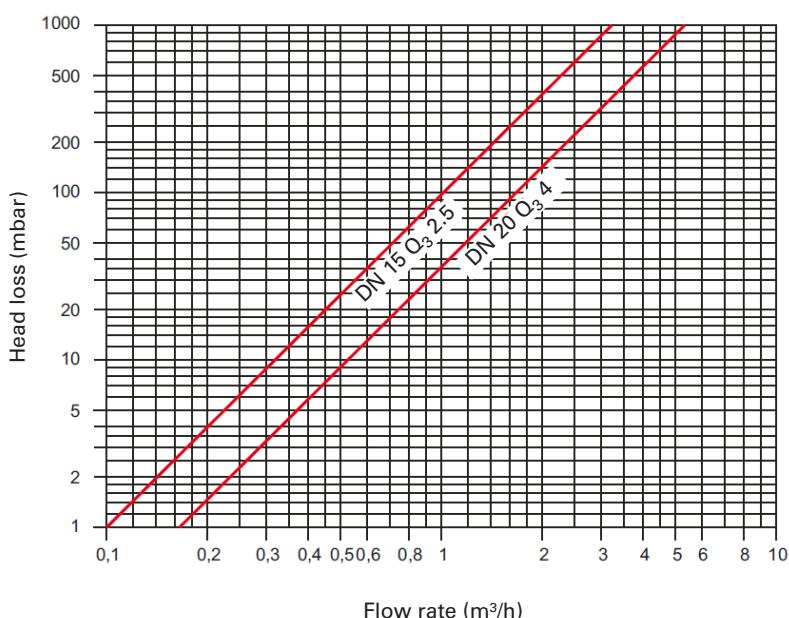
Thanks to the advanced design of its measuring chamber the meter has a low starting flow.

It can be supplied with metrological seal according the MID regulation 2014/32/EU with a ratio up to R400.

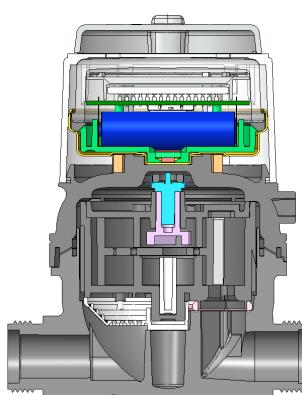
Foreign matter present in the water is filtered out by either the tubular strainer on the inlet or the seat strainer. All electronic components of the register are hermetically sealed and assembled in a glass copper casing which allow the protection class IP68.

The 640C/640MC water meter retains its metrological accuracy for many years of operation, even in difficult working conditions.

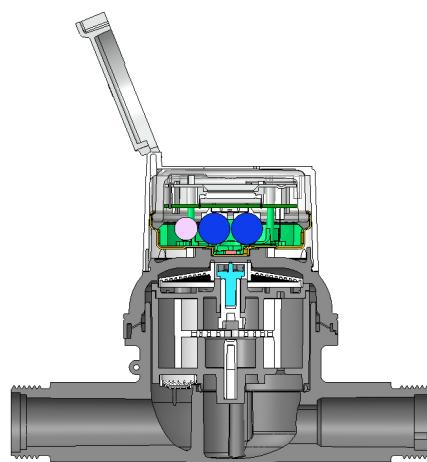
Typical Head Loss Curve



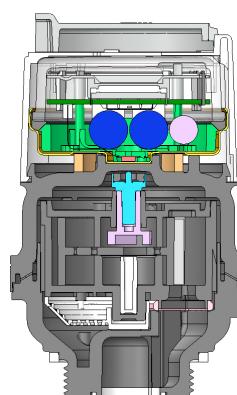
Cross Section



640C 110 mm



640C 190 mm



640MC

Approvals

EC type-examination certificate
in conformity with

- 2014/32/EU (MID)
 - OIML R49:2013
 - EN 14154:2005+A2:2011
 - ISO 4064:2014
- Q₃ 2,5 DE-07-MI001-PTB002
Q₃ 4 DE-09-MI001-PTB004

Certificate of compliance for potable drinking water

KTW/DVGW (D) ACS (F)

WRAS (UK) Hydrocheck (B)

KIWA ATA (NL)

Legibility

The display with 9 digits (6 for m³, 3 for litres) ensures exceptional readability. The highest resolution in testing mode is 0.05 litres.

Icons are also displayed on the LCD to indicate important information have been registered:

- 🚩 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 programmed in use

Performance Data

Metrological characteristics in accordance with Measuring Instruments Directive

			Coaxial Manifold	Inline	
Nominal Size	DN	mm	#	15	20
Permanent flowrate	Q ₃	m ³ /h	2.5	2.5	4
Ratio "R"	Q ₃ /Q ₁	R	40 / 80 / 160 / 315 / 400		
Maximum flowrate ⁽¹⁾	Q ₄	m ³ /h	3.125	3.125	5.0
Minimum flowrate ⁽¹⁾ (tolerance ±5%)	Q ₁	l/h	6.25	6.25	10.0
Transitional flowrate ⁽¹⁾ (tolerance ±2%)	Q ₂	l/h	10.0	10.0	16.0

⁽¹⁾ Values for R=400

Dimensions and Weights

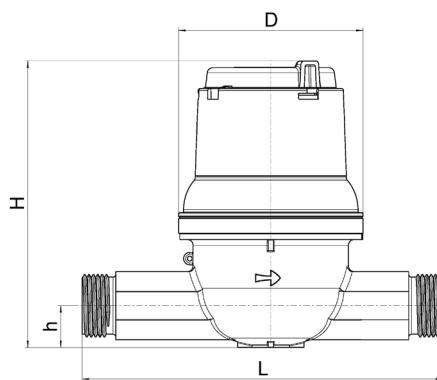
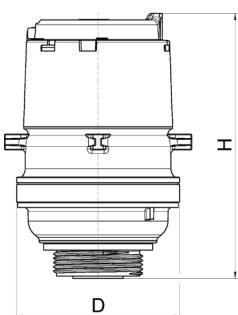
			Coaxial Manifold	Inline	
Nominal Size	DN	mm	#	15	20
Length	L	mm		170 ⁽¹⁾	190 ⁽³⁾
Width	D	mm	87	87	97.2
Total height	H	mm	140.3	142.6	149
Height to pipe axis	h	mm		18.95	21.5
Tail	Diameter	inch	G 1½" B	G ¾" B ⁽²⁾	G 1" B
Piece		mm	47.8	26.44	33.25
Thread	Pitch		2.31	1.81	2.31
Weight		kg	0.5	0.6	0.68

⁽¹⁾ Also available in length 110/115/134 and 165 mm

⁽²⁾ Also available in length 165 and 190 mm with 1" threads

⁽³⁾ Also available in length 165 and 220 mm

Dimensional Diagram



For the installation guidelines please refer to the manual "Volumetric Meter Manual" on our website.

640C/640MC infrastructure

The 640C product range 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

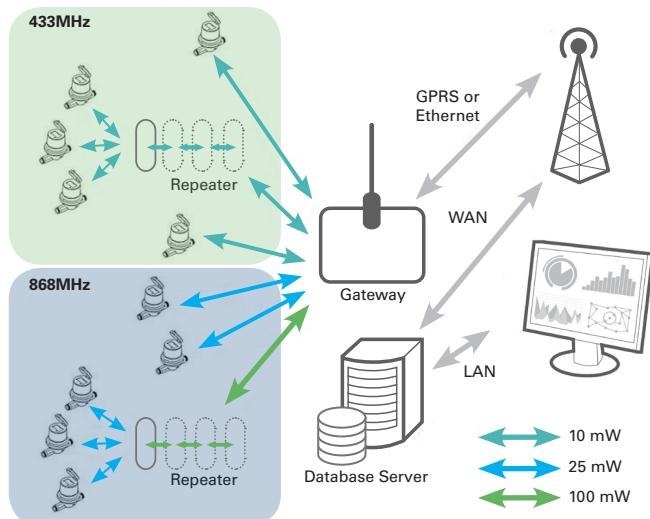
SIRT (Sensus Interface Radio Tool)

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

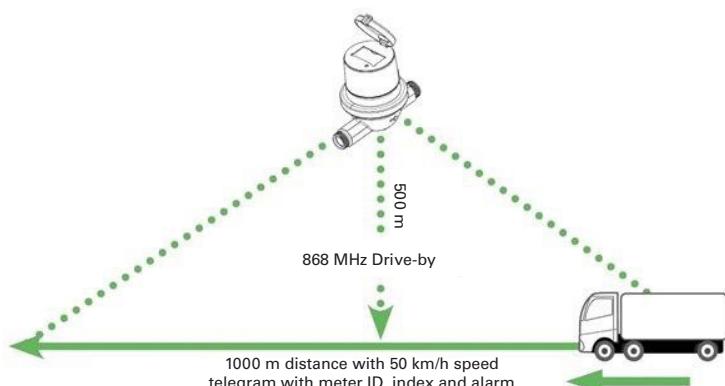
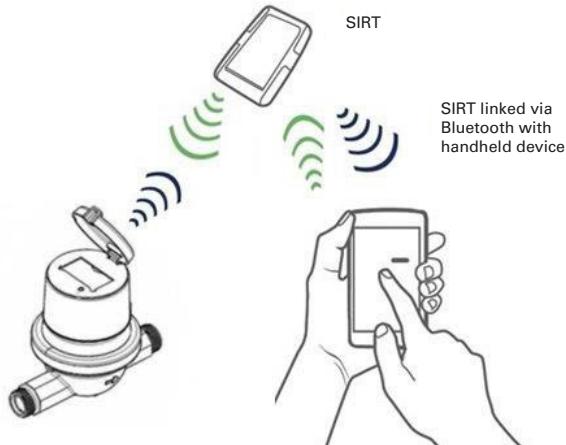
- Installation and readout of devices
- Reception of frequently transmitted radio messages from Sensus RF radio endpoints
- Request additional information from the radio endpoints
- Change configuration of radio endpoints (alarm, level settings...)

For further information please refer to the SensusRF brochure.

640C/640MC Fixed radio network - Remote Access & Monitoring



Unidirectional/Bidirectional communication



qualityaustria
Succeed with Quality

Certified according to ISO 9001
Quality Management System Quality Austria Reg.no. 3496/0

UK & Ireland Enquiries

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Basingstoke RG24 8QY UK

T: +44 (0) 1256 372800 F: +44 (0) 1256 707203 Email: info.gb@xyleminc.com www.sensus.com

International Enquiries

Sensus GmbH Ludwigshafen, Industriestrasse 16, 67063 Ludwigshafen, Germany
T: +49 (0) 621-6904-0 F: +49 (0) 621-6904-1409 Email: info.int@xyleminc.com www.sensus.com



Main characteristics

DN 15 to 40, MAP 16, T50 (temperature range 0.1 to 50 °C)

Unrivalled accuracy and measuring range

Small pressure drop

Easy to handle

Meets current and anticipated regulations for potable water

Environmentally friendly

Unrivalled accuracy and measuring range

High resistance to impurities and aggressive water

Quiet operation

Ready for wireless communication with integrated radio functionality (available in different frequencies)

Long lasting battery life expectation inclusive of metrology and radio function

The register includes a lithium battery

Applications

The 640 is a high precision meter.

Due to its unique piston and measuring chamber design, the smallest drops of water are measured.

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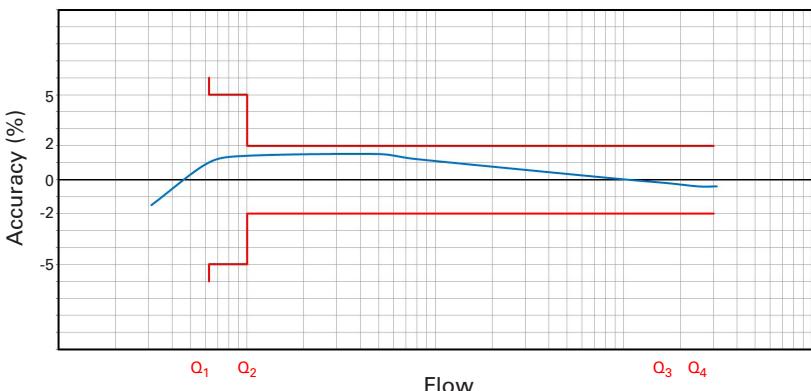
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Typical Marking



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Typical Accuracy Curve



Accuracy and Reliability

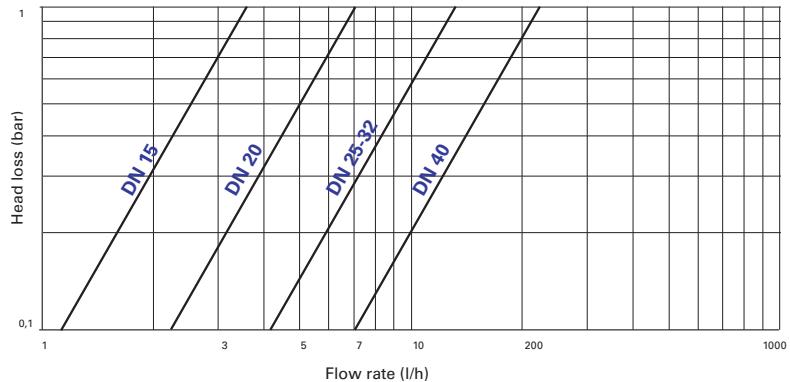
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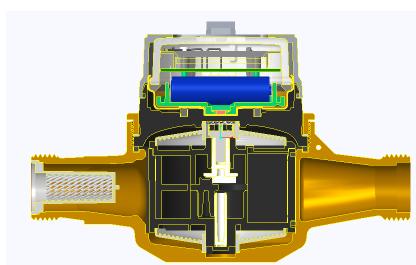
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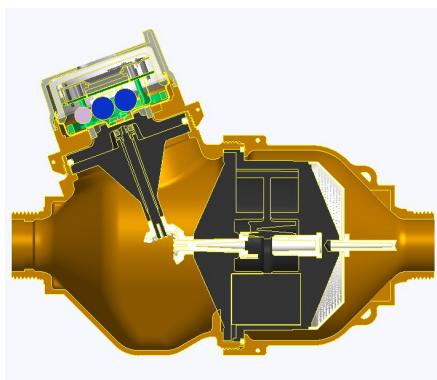
Typical Head Loss Curve



Cross Section



640, DN 20



640, DN 32

Approvals

EC type-examination certificate

in conformity with

- 2014/32/EU (MID)
- OIML R49:2013
- EN 14154:2005+A2:2011
- ISO 4064:2014

Q_3 2.5 DE-07-MI001-PTB002
 Q_3 4 DE-09-MI001-PTB004
 Q_3 6.3 - 16 DE-15-MI001-PTB019

Performance Data

Metrological characteristics in accordance with Measuring Instruments Directive

Nominal Size	DN	mm	15	20	25	32	40
Permanent flowrate	Q_3	m ³ /h	2.5	4	6.3	10	16
Ratio "R"	Q_3/Q_1	R	40 / 80 / 160 / 315 / 400		40 / 80 / 160 / 315		
Maximum flowrate	Q_4	m ³ /h	3.125	5	7.875	12.5	20
Minimum flowrate ⁽¹⁾ (tolerance ±5%)	Q_1	l/h	6.25	10	20	31.75	50.8
Transitional flowrate ⁽¹⁾ (tolerance ±2%)	Q_2	l/h	10	16	32	50.8	81.3

⁽¹⁾ Values for R=400 (DN 15, DN 20);
Values for R=315 (DN 25, DN 32, DN 40)

Certificate of compliance for potable drinking water

KTW/DVGW (D) ACS (F)

WRAS (UK) Hydrocheck (B)

KIWA ATA (NL)

Legibility

The display with 9 digits (6 for m³, 3 for litres) ensures exceptional readability. The highest resolution in testing mode is 0.05 litres.

Icons are also displayed on the LCD to indicate important information have been registered:

- 🚩 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 programmed in use

Dimensions and Weights

Nominal Size	DN	mm	15	20	25	32	40
Length	L	mm	170 ⁽¹⁾	190 ⁽³⁾	260 ⁽⁴⁾	260	300
Width	D	mm	79.7	93.5	135	135	150
Total height	H	mm	132.7	123	186	186	193
Height to pipe axis	h	mm	15.5	37.5	68	68	75
Tail	Diameter	inch	G $\frac{3}{4}$ "B ⁽²⁾	G1"B	G1 $\frac{1}{4}$ "B	G1 $\frac{1}{2}$ "B	G2"B
Piece		mm	26.44	33.25	41.91	47.80	59.61
Thread	Pitch		1.81	2.31	2.31	2.31	2.31
Weight		kg	1.0	1.6	3.7	3.8	5.0

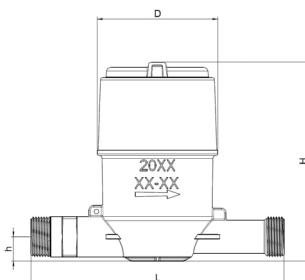
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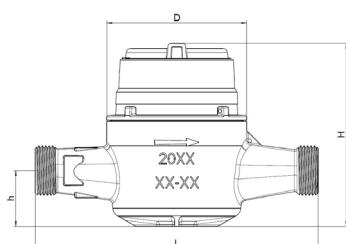
⁽³⁾ Also available in length 130 and 165 mm

⁽⁴⁾ Also available in length 198 mm (with Q_3 4)

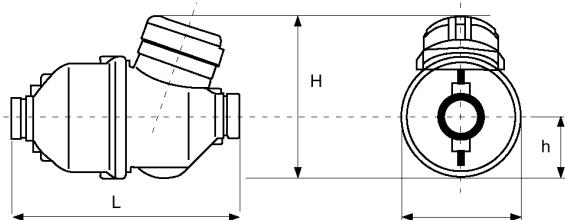
Dimensional Diagram



640, DN 15



640, DN 20



640, DN 25-40

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640 infrastructure

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

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

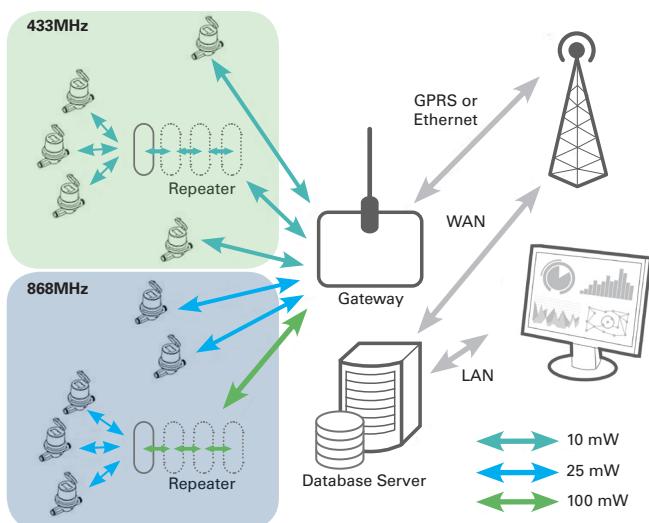
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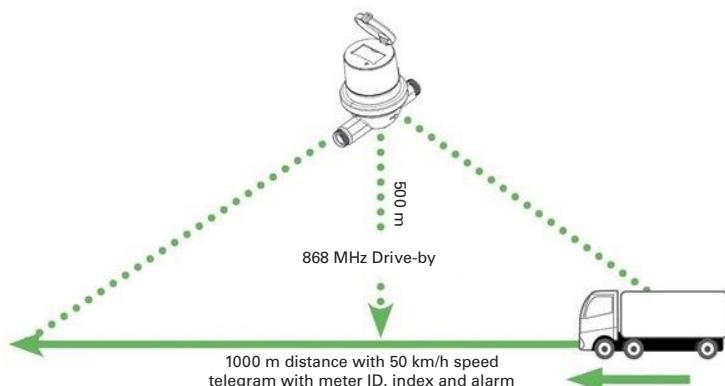
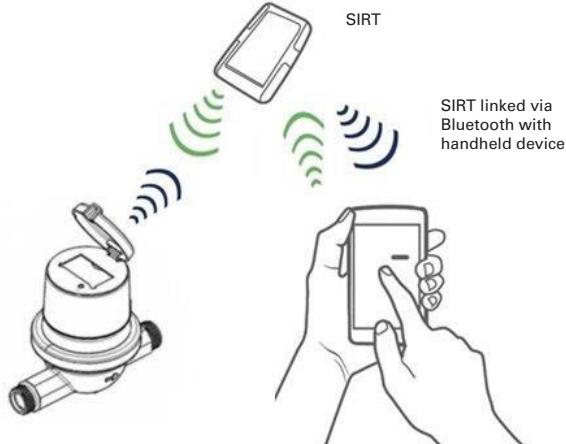
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640



Unidirectional/Bidirectional communication



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Succeed with Quality

Certified according to ISO 9001
Quality Management System Quality Austria Reg.no. 3496/0

UK & Ireland Enquiries

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Intelligent technology meets water management

Whether internet, telephony or electricity - intelligent network communications are all around us and offer almost unlimited possibilities. So why not apply the same principle to one of our most important resources - water.

Worldwide, water networks need to keep pace with the development of intelligent network communications to ensure they are up to date with demand-driven automation and load management that is standard in the smart grid.

Using a fixed AMI communications network (such as Sensus FlexNet™), iPERL can help identify potential issues, such as leakages in the network, enabling you to address them quickly. This saves your business time, money, improves targeting of field crews, and increases customer service levels.

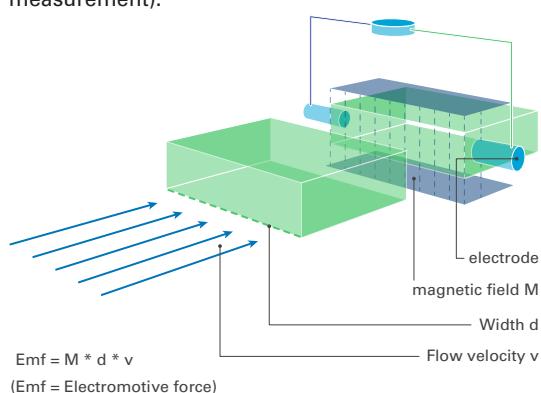
Always accurate - the concept of iPERL

Sensus iPERL offers unrivalled, sustained R800 measurement accuracy for all sizes from DN15 to DN40 over its expected 15 year operational life when used for clean potable water:

- Operating ambient temperature range of +60 °C down to -15 °C, provided that a minimum water flow rate of 100 litre / hour is ensured to prevent freezing
- A water temperature range of +0.1 °C to +50 °C (70 °C*)
- Water conductivity down to 120 µS / cm
- Water pressure up to 16 bar

* special variant

Unlike other solid state meters, iPERL uses remanent magnetic field technology which provides a linear measurement range even down to very low flow rates. The magnetic field acting on the water flowing through the flow channel generates an electrical voltage; this is proportional to the velocity of the water (principle of magnetic-inductive flow measurement).



Approvals

EC Design-examination Certificate

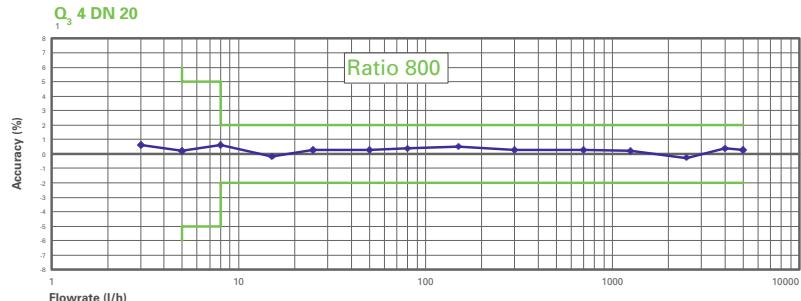
in conformity with

- 2014/32/EU (MID)
- EN 14154:2005+A2:2011
- OIML R49:2013
- ISO 4064:2014

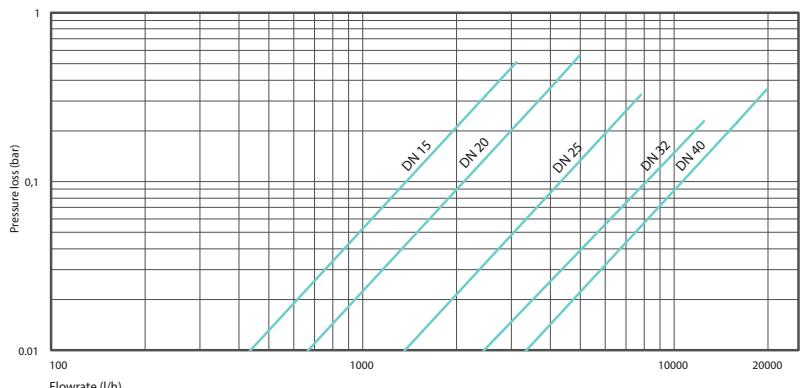
Drinking water approvals:

- KTW/DVGW (D)
- ACS (F)
- WRAS (UK)
- KIWA (NL)

Measuring accuracy



Typical pressure loss curve



Technical data

Nominal size	DN		DN (mm)				
			15	20	25	32	40
Permanent flowrate	Q ₃	m ³ /h	2.5	4	6.3	10	16
Starting flowrate		l/h	1	1.6	2.5	4	6.4
Ratio "R"	Q ₃ /Q ₁	R				800	
Maximum flowrate	Q ₄	m ³ /h	3.125	5	7.875	12.5	20
Minimum flowrate	Q ₁	l/h	3.13	5	7.88	12.5	20
Transitional flowrate	Q ₂	l/h	5	8	12.6	20	32



Constant metrological performance - independent of the installation position

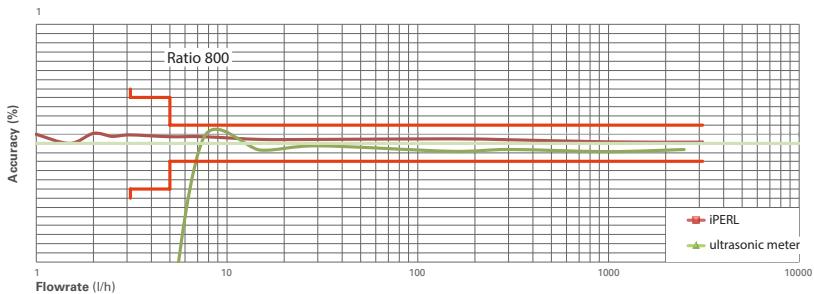
iPERL delivers constant accuracy in a wide range of installation conditions and can be installed in any orientation without the need for linear pipe leads in or out. iPERL also has an automatic detection of the direction of flow, further enabling the choice of installation positions when operated in accordance with the framework conditions as set out in MID (European Directive 2014/32/EU) and European standard EN 14154:2005+A2:2011.

Communication and data availability

iPERL is equipped with either a standards compliant low power 868 MHz or 433 MHz integrated radio technology. The innovative communications provide for walk-by / drive-by collection, plus the ability to interrogate meters for more detailed data, including the log of up to 2880 data points and alarms.

Along with Sensus radio, iPERL also offers an OMS certified broadcast platform. This provides for connection to the Sensus FlexNet AMI system, allowing iPERLs to migrate from walk-by / drive-by collection to a fixed network in the future without having to visit the meter.

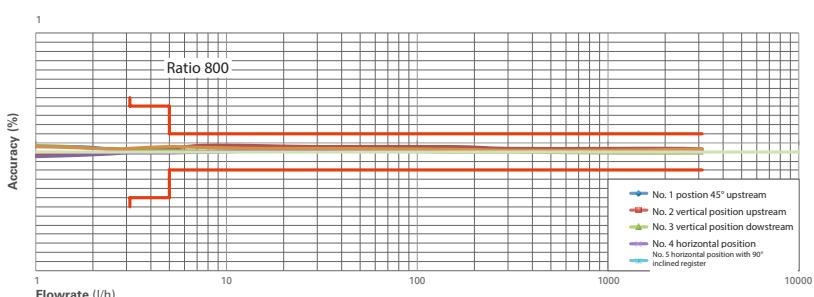
Performance curve of iPERL compared to an ultrasonic meter



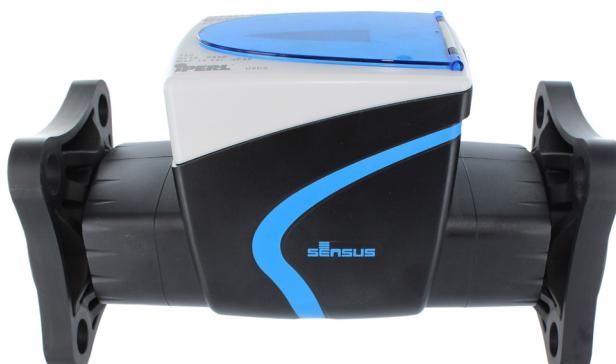
Overlaying the metrological performance curve of iPERL and a representative ultrasonic solid state flowmeter (green), demonstrates this extreme benefit.

Based on its outstanding metrological performance, iPERL ensures that the water utility accounts for the water supplied to the consumer, thus representing a considerable reduction in Non-Revenue Water.

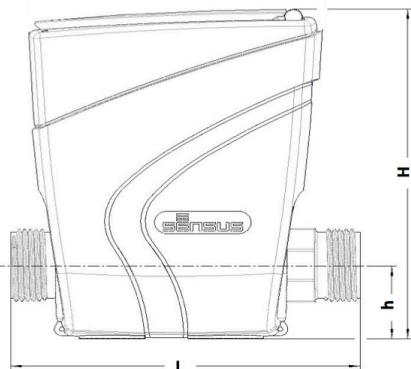
Metrological performance, independent of any installation position



- iPERL can be installed in any orientation
- iPERL detects the direction flow automatically
- iPERL provides constant measurement accuracy over time



Dimensional Diagram



Dimensions

Nominal Size	DN	mm	15	20	25	32	40
Length	L	mm	110 (1)	105 (3)	198 (4)	260	300 (5, 6)
Width	D	mm	94	94	114	114	114
Height	H	mm	120	120	138	138	138
Height to pipe axis	h	mm	26	26	40	40	40
Tail Diameter		inch	3/4" (2)	1"	1 1/4"	1 1/2"	2"
Weight		kg	0.85	0.85	1.65	1.65	1.75

(1) also available in length 115, 134, 145, 165 and 170 mm

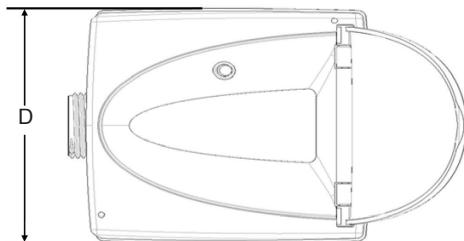
(2) also available in 7/8"x 3/4" with length 115 mm

(3) also available in length 115, 130, 165, 190, 220 mm

(4) also available in length 260 mm

(5) also available in length 245 and 270 mm

(6) also available in 270 and 300 mm with composite flanges (possibility of an installation into a bulk meter measuring point of DN50)



 **qualityaustria** Certified according to ISO 9001
Succeed with Quality Quality Management System Quality Austria Reg.no. 3496/0

UK & Ireland Enquiries

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MeiStreamRF

Bulkmeter for cold potable water DN 40...300



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 and ISO 4064-1:2014)
- Installation position horizontal and vertical
- Meter body in short (WP) and long (WS) overall length acc. to DIN 19625 and ISO 4064-1:2014 available
- Meter can be submerged; protection class IP68
- Used materials are temperature resistant up to 70 °C

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

Available options

- Version free of copper alloy for aggressive water
- Version for high pressure up to PN 40
- Radio communication with different frequencies
- 1/4" pressure monitoring port

Performance Data

Metrological Data acc. to Manufacturers Values

	Size	DN	40	50	65	80	100
Q_s	Max. Peak Flow	m ³ /h	60	90	120	200	300
Q_3'	Continuous Flow	m ³ /h	40	50	70	120	230
Q_{2h}	Transitional Flowrate horizontal	m ³ /h	0.32	0.4	0.63	0.51	0.81
Q_{1h}'	Minimum Flow horizontal	m ³ /h	0.2	0.15	0.2	0.2	0.3
Q_{2v}	Transitional Flowrate vertical	m ³ /h	0.4	0.51	0.81	0.8	1.28
Q_{1v}'	Minimum Flow vertical	m ³ /h	0.25	0.28	0.4	0.5	0.5
	Starting Flow	m ³ /h	0.05	0.05	0.07	0.1	0.11

	Size	DN	125	150	200	250	300
Q_s	Max. Peak Flow	m ³ /h	350	600	1200	1600	2000
Q_3'	Continuous Flow	m ³ /h	250	450	800	1250	1400
Q_{2h}	Transitional Flowrate horizontal	m ³ /h	1.02	1.6	4.0	6.3	16.0
Q_{1h}'	Minimum Flow horizontal	m ³ /h	0.5	0.8	2.0	3.5	9.0
Q_{2v}	Transitional Flowrate vertical	m ³ /h	1.6	3.2	4.0	10.1	25.4
Q_{1v}'	Minimum Flow vertical	m ³ /h	1	1.6	2.5	6.3	15.9
	Starting Flow	m ³ /h	0.15	0.3	1.5	3	8

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

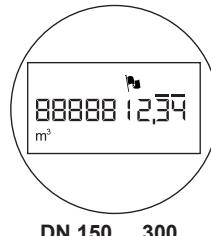
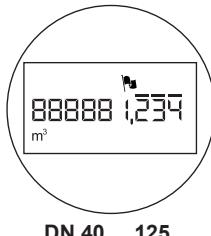
	Size	DN	40	50	65	80	100
Q_4	Overload Flowrate acc. to MID	m ³ /h	31.25	50	78.75	125	200
Q_3	Permanent Flowrate acc. to MID	m ³ /h	25	40	63	100	160
Q_{2h}	Transitional Flowrate horizontal acc. to MID	m ³ /h	0.32	0.4	0.63	0.51	0.81
Q_{1h}	Minimum Flowrate horizontal acc. to MID	m ³ /h	0.2	0.25	0.39	0.32	0.51
Q_{2v}	Transitional Flowrate vertical acc. to MID	m ³ /h	0.4	0.51	0.81	0.8	1.28
Q_{1v}	Minimum Flowrate vertical acc. to MID	m ³ /h	0.25	0.32	0.5	0.5	0.8
$Q_3/Q_1\ h$	Max. Ratio horizontal		125	160	160	315	315
$Q_3/Q_1\ v$	Max. Ratio vertical		63	100	100	125	160
Q_3/Q_1	Standard Marking		63	100	100	100	100
Δp	Headloss at Q_3 acc. to ISO 4064-1:2014	bar	0.1	0.16	0.32	0.16	0.34

	Size	DN	125	150	200	250	300
Q_4	Overload Flowrate acc. to MID	m ³ /h	200	500	787.5	787.5	1250
Q_3	Permanent Flowrate acc. to MID	m ³ /h	160	400	630	630	1000
Q_{2h}	Transitional Flowrate horizontal acc. to MID	m ³ /h	1.02	1.6	4.03	8.06	25.4
Q_{1h}	Minimum Flowrate horizontal acc. to MID	m ³ /h	0.64	1	2.52	5.04	15.9
Q_{2v}	Transitional Flowrate vertical acc. to MID	m ³ /h	1.6	3.2	4.03	10.1	25.4
Q_{1v}	Minimum Flowrate vertical acc. to MID	m ³ /h	1	2	5.52	6.3	15.9
$Q_3/Q_1\ h$	Max. Ratio horizontal		250	400	250	125	63
$Q_3/Q_1\ v$	Max. Ratio vertical		125	200	250	100	63
Q_3/Q_1	Standard Marking		100	100	100	100	63
Δp	Headloss at Q_3 acc. to ISO 4064-1:2014	bar	0.19	0.27	0.11	0.07	0.08

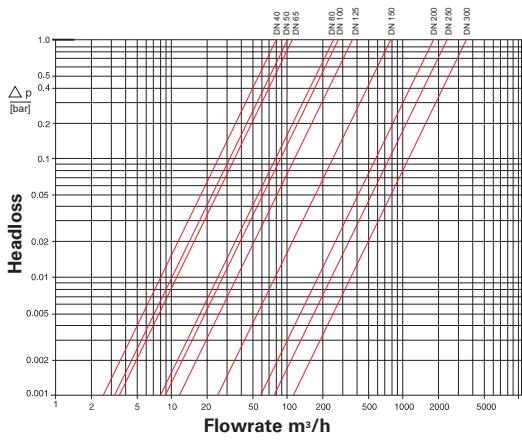
Dial

-  Alarm is triggered
-  Low battery level is reached
-  Radio is activated
-  System is set up in hydraulic testing mode
-  indicates positive or negative flow
- m^3 indicates the unit

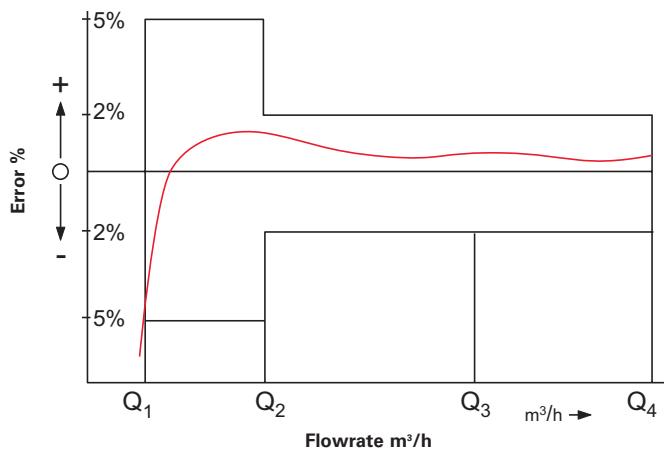
Nominal diameter DN	Smallest reading m^3	Max. reading m^3
40 ... 125	0.001	999,999.999
150 ... 300	0.01	9,999,999.99



Typical Headloss



Typical Error Curve



Installation

Pipe	horizontal vertical	
Meter head	upwards sideways	

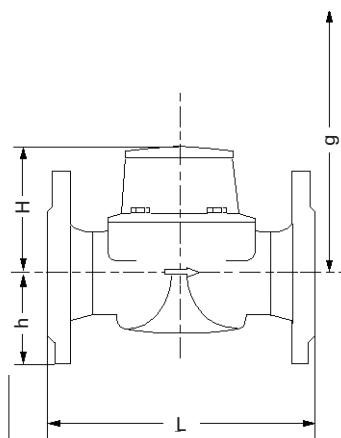
Installation Requirements

- Unrestricted straight pipe upstream $0 \times \text{DN}$
- No abrupt restrictions directly downstream of the meter

Materials

Body	Cast iron (PN16) Ductile iron (PN40)
Measuring element	Plastic
Rotor	Plastic
Battery	Lithium
We also use the following materials	Brass Stainless steel

Dimension Picture



Available Lengths

Nominal diameter	40	50	65	80	100	125	150	200	250	300
Overall length L WS (DIN / ISO) mm		270 / 300*	300	300 / 350*	360 / 350*		500			
Overall length L WP (DIN / ISO) mm	220*	200	200*	225 / 200*	250	250*	300	350	450	500

* PN16 only

Approval Mark

Meter cpl. and exchangeable metrological unit

Marking CE M-XX* 0102

DN 40 ... 150 DE-09-MI001-PTB 010
DN 200 ... 300 DE-15-MI001PTB 014

Environmental Conditions

Acc. to ISO 4064-1:2014

Environmental class B

Environmental temperature 5-70 °C

Electromagnetic environmental class E1

* year of production

Order example

MeiStream, DN 50, T50, PN16

Drilling EN 1092 PN16

Length 270 mm

eRegister / m³

with MID conformity

Type
Size
Max. medium temperature
Nominal pressure

Drilling pattern

Body length

Register type / unit

Approval standard

Dimensions and Weights

Dimensions

Nominal diameter	DN	40	50	50	50	65	65
Overall length	L mm	220	200	270	300	200	300
Height	H mm	120	120	120	120	120	120
	h mm	69	73	73	73	85	85
Dismantling height	g mm	200	200	200	200	200	200

Nominal diameter	DN	80	80	80	100	100	100
Overall length	L mm	200	225	300	350	250	350
Height	H mm	150	150	150	150	150	150
	h mm	95	95	95	105	105	105
Dismantling height	g mm	270	270	270	270	270	270

Nominal diameter	DN	125	150	150	200	250	300
Overall length	L mm	250	300	500	350	450	500
Height	H mm	160	177	177	214	238	264
	h mm	118	135	135	162	194	226
Dismantling height	g mm	280	356	356	449	474	499

Weight PN16

Nominal diameter	DN	40	50	50	50	65	65
Overall length	L mm	220	200	270	300	200	300
Meter cpl.	kg	7.5	7.8	9.6	9.9	10.1	12.0
Measuring unit	kg	1.5	1.5	1.5	1.5	1.5	1.5
Body	kg	6.0	6.3	8.1	8.4	8.6	10.5

Nominal diameter	DN	80	80	80	100	100	100
Overall length	L mm	200	225	300	350	250	350
Meter cpl.	kg	13.8	14.2	16.3	17.7	18.2	20.0
Measuring unit	kg	3.2	3.2	3.2	3.2	3.2	3.2
Body	kg	10.6	11.0	13.1	14.5	15.0	17.0

Nominal diameter	DN	125	150	150	200	250	300
Overall length	L mm	250	300	500	350	450	500
Meter cpl.	kg	20.7	35.9	44.2	56.9	79.4	103.8
Measuring unit	kg	3.2	5.9	5.9	9.6	9.6	9.6
Body	kg	17.5	30.0	38.3	47.3	69.8	94.2

Weight PN40

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 cpl.	kg	9.7	10.7	13.1	17	18.6	20.4	22.9	44.6	52.9
Measuring unit	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

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.

® 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

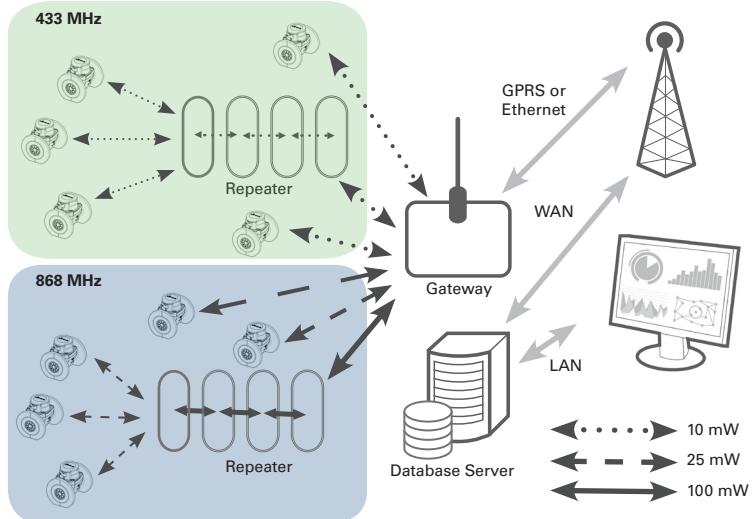
SIRT (Sensus Interface Radio Tool)

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

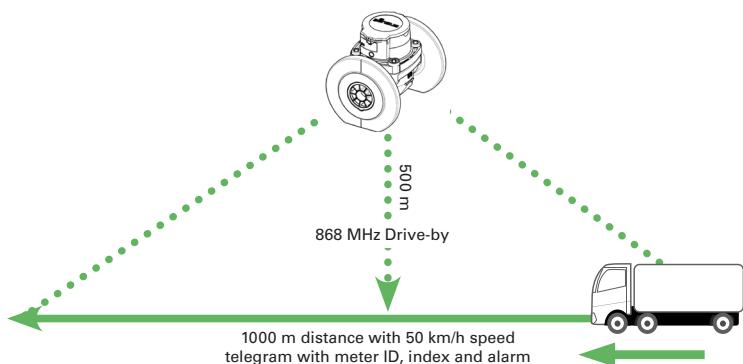
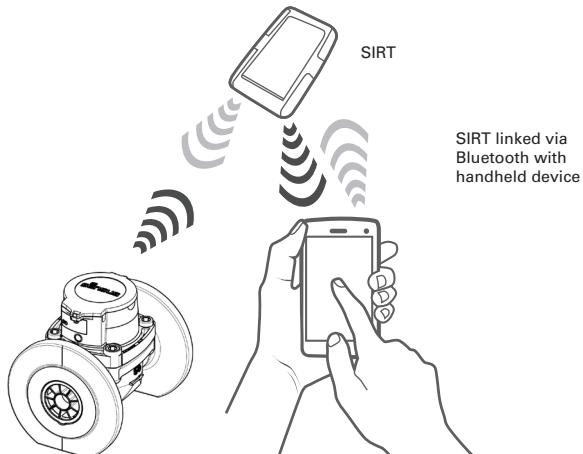
- Installation and readout of devices
- Reception of frequently transmitted radio messages from Sensus RF radio endpoints
- Request additional information from the radio endpoints
- Change configuration of radio endpoints (alarm, level settings...)

For further information please refer to the SensusRF brochure.

MeiStreamRF Fixed radio network - Remote Access & Monitoring



Unidirectional/Bidirectional communication



qualityaustria
Succeed with Quality

Certified according to ISO 9001
Quality Management System Quality Austria Reg.no. 3496/0

UK & Ireland Enquiries

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Basingstoke RG24 8QY UK

T: +44 (0) 1256 372800 F: +44 (0) 1256 707203 Email: info.gb@xyleminc.com www.sensus.com

International Enquiries

Sensus GmbH Ludwigshafen, Industriestrasse 16, 67063 Ludwigshafen Germany

T: +49 (0) 621-6904-0 F: +49 (0) 621-6904-1409 Email: info.int@xyleminc.com www.sensus.com

MeiTwinRF

Compound Water Meter
for potable water up to 50 °C
DN 50, DN 65, DN 80, DN 100



Applications

Measurement of high flow rates with extremely wide spread flow profile

Measurement of very small flow rates for leakage detection

Ideal for fire service pipes

Options

Radio communication with different frequencies

Optional by-pass meter:

Spool piece for extension of meter casing as per DIN 19625

Port for 1/4" pressure sensor

Main characteristics

Registers with integrated radio communication and data logger

LC-display for consumption and status information

Secured encrypted data transmission

The main meter and the by-pass meter are arranged one behind the other in the direction of flow.

There is no longer any need for the differentiation between the "by-pass meter on the right" and "by-pass meter on the left".

No straight upstream or downstream pipe necessary due to integrated flow straightener (U0D0).

Removable metrological unit consisting of the main meter, the change-over valve and the by-pass meter ("3 in 1" concept).

A multirange metrological unit allows an easy economical replacement after the validity period of the calibration has expired.

Main meter with hydrodynamic balanced rotor.

Spring-loaded change-over valve with low headloss and extended lifetime.

By-pass meter specified as a piston meter cartridge 612MTW-RF with plug-in non-return valve, register copper/glass, protection class IP68.

Minimum flowrate: 6 l/hour for piston type by-pass meter.

Available in body lengths specified as per DIN 19625 and ISO 4064.

Pattern Approval

Marking CE M-XX* 0102
SK 11-MI001-SMU020

*Year of production

Installation



The meter does not require any upstream or downstream straight length

Technical data

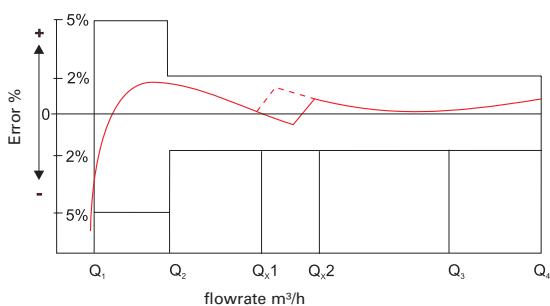
Performance Table acc. to Manufacturers Values

Size	DN	[mm]	50	65	80	100
Maximum Working Pressure	PN	[bar]		16		
Maximum Peak Flow	Q_s	[m³/h]	90	120	200	280
Continuous Flow	Q_3'	[m³/h]	50	70	120	180
Changeover Flowrate at Increasing Flow	Q_{x2}	[m³/h]		2.0 - 2.6		
Changeover Flowrate at Decreasing Flow	Q_{x1}	[m³/h]		1.1 - 1.7		
Transitional Flowrate	Q_2	[m³/h]		0.012		
Minimum Flowrate	Q_1'	[m³/h]		0.006		

Performance Table acc. to MID Pattern Approval

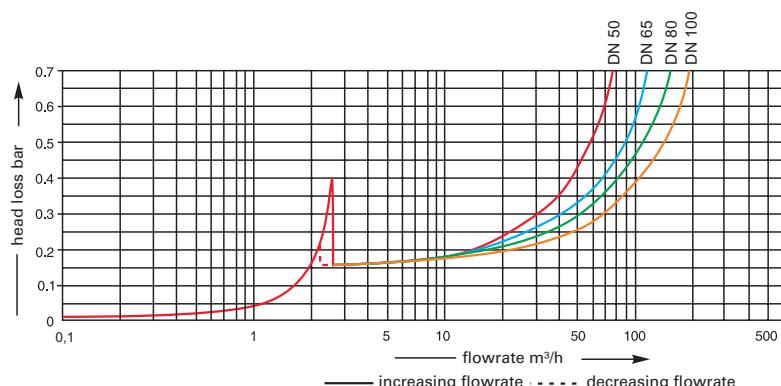
Size	DN	[mm]	50	65	80	100
Maximum Working Pressure	PN	[bar]		16		
Maximum Peak Flow	Q_4	[m³/h]	31.25	50	78.75	125
Continuous Flow	Q_3	[m³/h]	25	40	63	100
Changeover Flowrate at Increasing Flow	Q_{x2}	[m³/h]		2.0 - 2.6		
Changeover Flowrate at Decreasing Flow	Q_{x1}	[m³/h]		1.1 - 1.7		
Transitional Flowrate	Q_2	[m³/h]		0.025		
Minimum Flowrate	Q_1	[m³/h]		0.016		
Ratio	Q_3/Q_1		1600	2500	4000	6300

Typical Accuracy Curve

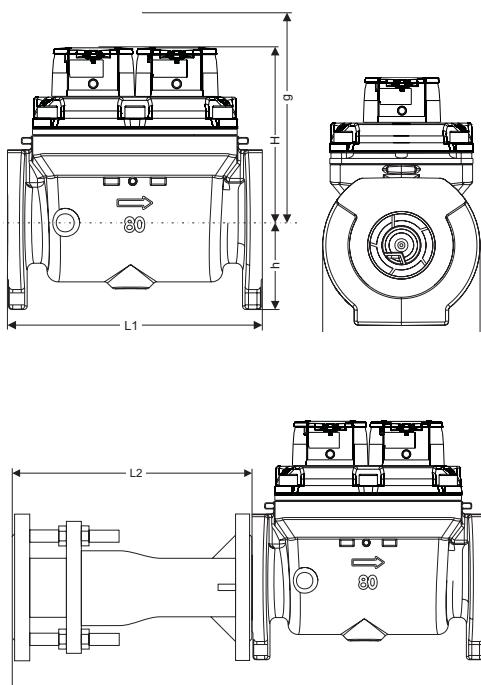


- Q_1 minimum flow $\pm 5\%$
- Q_2 transitional flow $\pm 2\%$
- Q_3 continuous flow $\pm 2\%$
- Q_4 maximum peak flow $\pm 2\%$

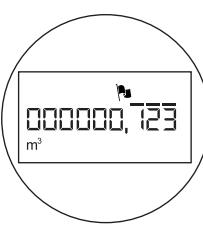
Typical Head Loss Curve



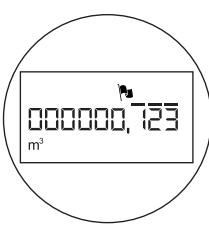
Dimension Picture



Dials



Main meter



By-pass meter
(type 612MTW-RF)

	Smallest reading m ³	Max. reading m ³
Main meter	0,001	999,999.999
By-pass meter	0,001	999,999.999

🚩 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

Dimensions and Weights

Nominal Diameter	mm	50	65	80	100
Overall length	L1 mm	270		300	360
	L1 mm	300	300	350	350
Dismantling height	H mm			250	
	h mm	80	92.5	100	100
Length	g mm			505	
	L2 mm	330±40		400±60	440±60
	L* mm	600±40		700±60	800±60
Width	mm	185	185	210	220
	meter	kg	23.0	24.6	26.1
Weight	measuring unit	kg		7	
	spool piece	kg	10.5		16.5
					20.5

* for MeiTwinRF with body length according DIN 19625

Materials

Body	main meter	Cast iron
	by-pass meter	Brass
Measuring element	both meters	Plastic
Rotor	both meters	Plastic
Spring loaded valve		Pastic and stainless steel
Battery		Lithium

By-pass Meters

Piston meter cartridge dry dial type 612MTW-RF Q₃ 4



By-pass meter
(type 612MTW-RF)

Available design

Size	DN	50	65	80	100
Nominal size	Q ₃	25	40	63	100
		Overall length as per DIN 19625			
Overall length	mm	270		300	360
		Overall length as per ISO 4064			
Overall length	mm	300	300	350	350

Accessories

Spool pieces for extension of meter casing as per DIN 19625					
Size	DN	50	65	80	100
Overall length	mm	330±40		400±60	440+60

Order example

MeiTwinRF, DN 50, T30/16
Drilled to EN 1092 PN 16
eRegister / 868 MHz / m³
Type 612MTW-RF by-pass meter Q₃ 4
Overall length 270 mm
With MID conformity
With spool piece
DN 50

Type
Size
Temperature
Pressure
Flange drilling
Register type / frequency / unit
By-pass meter
Overall length
Type of approval
Fittings
Nominal width

MeiTwinRF infrastructure

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- Bidirectional communication
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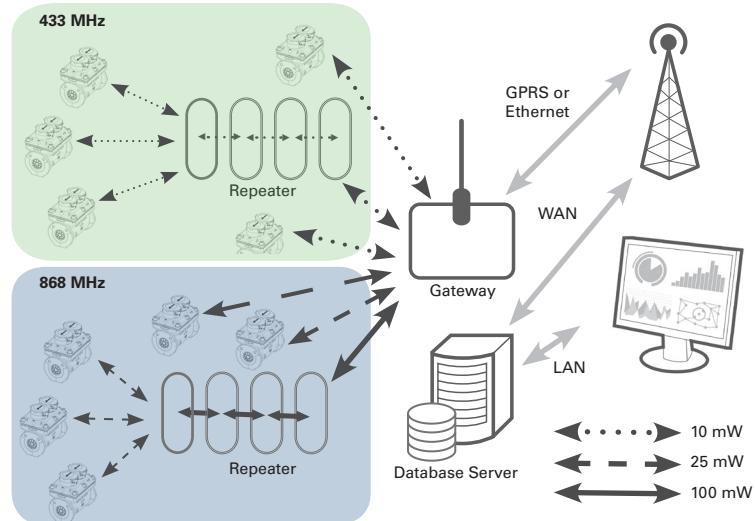
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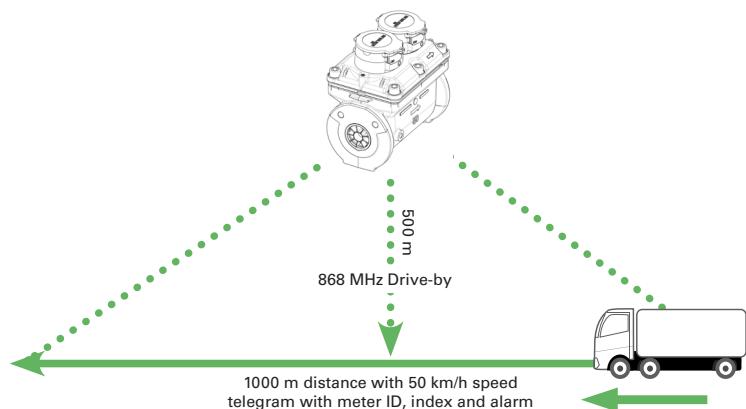
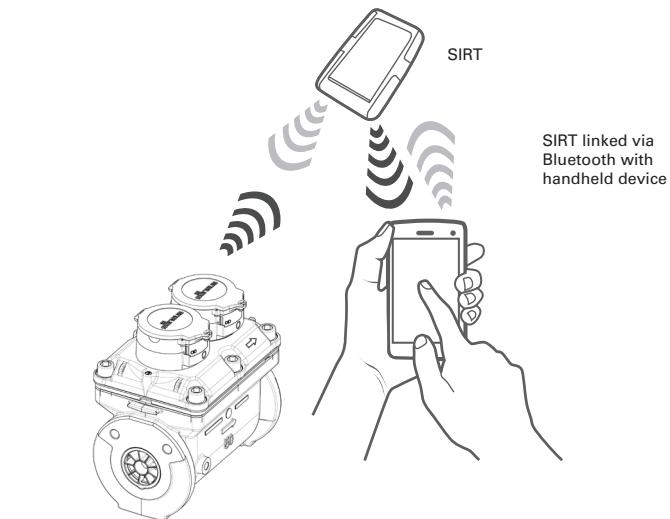
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MeiTwinRF Fixed radio network - Remote Access & Monitoring



Unidirectional/Bidirectional communication



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Succeed with Quality Quality Management System Quality Austria Reg.no. 3496/0

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