iPERL

Static electromagnetic meter with remnant magnetic technology

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 a Sensus System), 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.

Bermad Water Technologies
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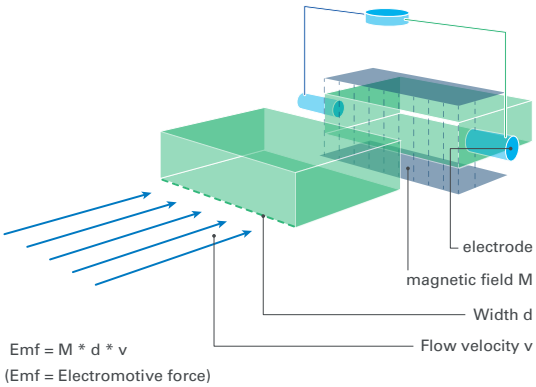
Always accurate - the concept of iPERL

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
- Water pressure up to 16 bar

Unlike other solid state meters, iPERL uses remnant 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 2004/22/EG (MID) according to

EN 14154:2007

OIML R49:2006

Approvals:

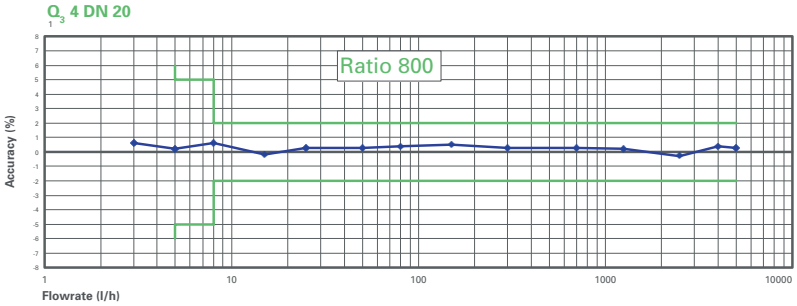
KTW/DVGW (D)

ACS (F)

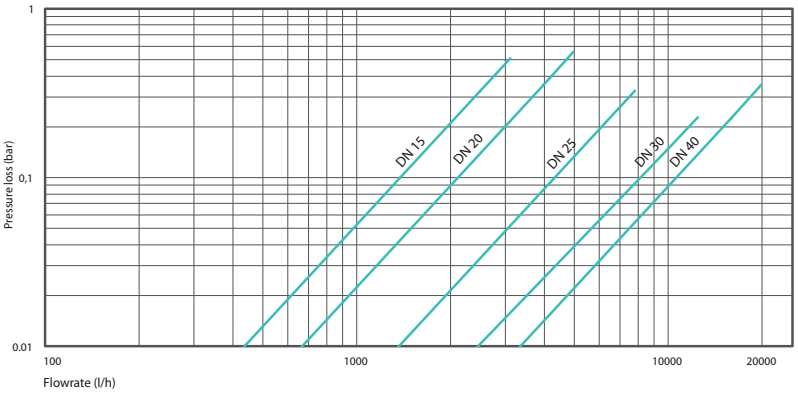
WRAS (UK)

NMI R49 DN20mm, pending on other sizes

Measuring accuracy



Typical pressure loss curve



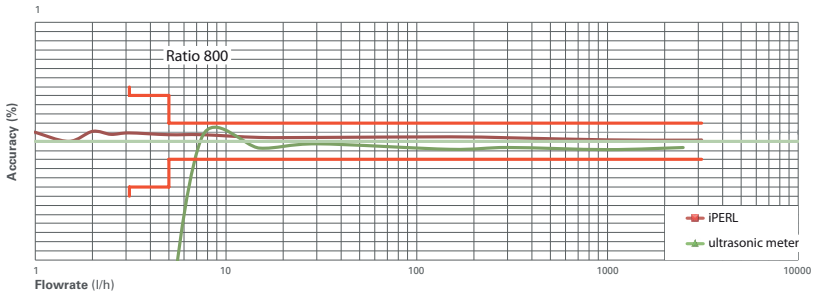
Technical data

Nominal size	DN		DN (mm)				
			15	20	25	30	40
Permanent flowrate	Q_3	m³/h	2.5	4	6.3	10	16
Starting flowrate		l/h	1	1.6	2.5	4.0	6.4
Ratio "R"	Q_3/Q_1	R	800				
Maximum flowrate	Q_4	m³/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 2004/22/EC) and European standard EN 14154:2005.

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.

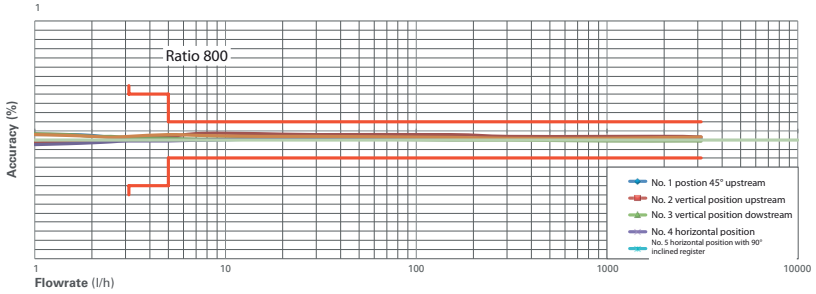
Based on its outstanding metrological performance, iPERL ensures that the water utility accounts for the water supplied to the consumer, thus representing a considerable reduction in Non-Revenue Water.

Communication and data availability

iPERL is equipped with standard compliant 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.

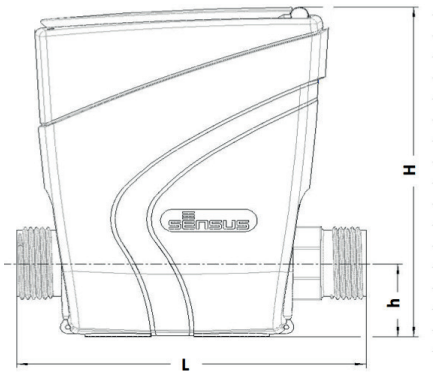
Along with Sensus radio, iPERL also offers an OMS certified broadcast platform. This provides for connection to the Sensus Radio AMI system, allowing iPERLs to migrate from walk-by / drive-by collection to a fixed network in the future without having to visit the meter.

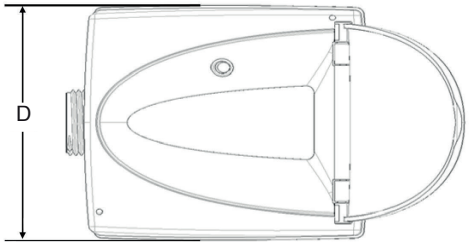
Metrological performance, independent of any installation position



- 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		15	20	25	32	40
Length	L	mm	110 (1)	154 (2)	198 (3)	260	245 (4)
Width	D	mm	94	94	114	114	114
Height	H	mm	120	120	138	138	138
Height to pipe axis		mm	26	26	40	40	40
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 length 115, 153, 165, 190 and 220 mm
(3) also available in length 260 mm
(4) also available in length 300 mm

Exclusive Australian distributor:

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