Intelis™ wSource™

Smart Ultrasonic Water Meter

Intelis™ wSource™ is an ultrasonic meter dedicated to residential, commercial and industrial areas. It connects easily to multiple data collection systems and generate extensive data from the water network. Associating a low-to-no maintenance solid-state mechanism with field-tested robustness, the new Intelis smart water meter is setting the stage for new standards of metrology excellence in harsh environmental conditions. Featuring a rich and comprehensive data set including configurable alarms, it charts the course for operational efficiency and water conservation initiatives.

A step into the future of metrology

Sole meter MID-certified for R1000, Intelis™ wSource™ establishes a new standard in precision for measuring water consumption.

Ready for off-road adventures, All-Conditions billing

With extreme care spent on its design, the new Intelis smart water meter maintains the highest level of accuracy in the most challenging conditions from hard waters to intermittent water supply regardless of its installation conditions.

Built For The Long Run

Intelis™ wSource™ is built with electronics that last and exploits the full potential of solid-state technology to deliver long-lasting performance, with a battery lifetime intended for up to 22 years of use.

MANAGING WATER WITH ITRON'S WATER END-TO-END SOLUTION

Smart metering for flexibility:
- Remote reading
- Precise billing
- Real-time alarms

Data collection for simplicity:
- Customer awareness
- Workforce management
- Network as a service

Advanced analytics for efficiency:
- Visibility to the health of distribution system
- Reduce real and apparent losses

KEY FEATURES

- DN15-50
- wM-Bus / LoRa / SigFox / OMS 868MHz
- NFC Local Communications
- R1000 Accuracy (MID class 2)
- R500 Accuracy (MID class 1) for DN15-20
- 22 years battery lifetime
- Compatible with harsh installation conditions

Connected now, connected tomorrow

Intelis™ wSource™ is interoperable with open standards and non-proprietary communication protocols. Connected today to your AMR system, it will grow alongside your business and support your transition to AMI tomorrow.

Keep your customer service in the know

Intelis™ wSource™ provides timely notifications and alarms to your teams in charge of customer satisfaction.

Its full set of configurable alarms is the starting point of an enhanced user experience.

The 4Ds Promise, Deep Data Driving Decisions

Meaningful decisions start with granular understanding. Intelis™ wSource™ generates data and natively renders actionable insights for informed decision-making. Its rich data set includes meter right sizing, leakage quantification and customer profiling.

ENVIRONMENTAL-ECO DESIGN

A life cycle assessment study has been carried out to ensure the proper design of the new Intelis smart meter. It can be easily recycled at the end of the product life, as it can be dismantled into separate components (batteries, circuit board, brass) that each have their own recycling circuits.

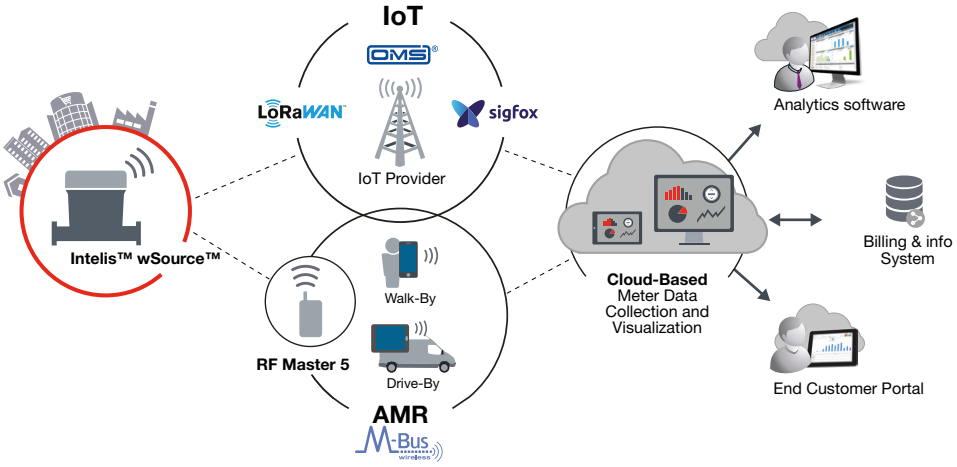
INTEROPERABLE WITH OPEN-STANDARDS (with out-of-the-box connectivity options)

IoT Networks (Sigfox® or LoRaWAN™)

Connect smart water meters to networks dedicated to the Internet of Things (IoT) using LoRaWAN™ or Sigfox® or OMSv4 technologies.

Automated Meter Reading (AMR)

Wirelessly collect data from meters either in walk-by or drive-by mode using Itron's RF Master 5 or third party RF Masters (compatible with EN 13757-3 & 4). Eliminates the need for physical access to the meter.



EXTENDED DATA SET

Billing Index & Consumption Data Logging

Daily billing and custom billing functions along with precise consumption data logging up to 15min resolution

Flow Distribution

Precise monitoring of the distribution flow including periodic minimum and maximum values

Backflow / Reverse Flow

Detection and quantification of backflow to help assess water quality and/or sanitary risk

Alerts

Alarms are generated when important events are detected, such as:

- Leakage at customer side (continuous flow)
- Tamper attempt (dismantling)
- Blocked meter (zero consumption)
- Oversize/undersize
- Freeze risk

Diagnostics

Good system performance is ensured via monitoring of:

- Battery level
- Configuration settings
- Clock synchronization in LoRaWAN and wM-Bus

Technical Specifications

Nominal Diameter DN		mm inches	15 ½”		20 ¾”		25 1”		32 1 ¼”	40 1 ½”	50 2”
In compliance with MID - (2014/32/EU)											
MID Accuracy Ratio (Q3/Q1) all positions			160 to 1000 class 2 & 160 to 500 class 1				160 to 1000 class 2				
MID type Approval Number			LNE 37882				LNE 37882				
Nominal Flow Rate	(Q3)	m³/h	1.6	2.5	2.5	4	6.3	10	10	16	25
Standard Production Ratio*	(Q3/Q1)		500	800	500	800	400	400	400	400	400
Minimum Flow Rate	(Q1)	l/h	3.2	3.125	5	5	15.75	25	25	40	62.5
Transitional Flow Rate	(Q2)	l/h	5	5	8	8	25.2	40	40	64	100
Overload Flow Rate	(Q4)	m³/h	2	3.125	3.125	5	7.9	12.5	12.5	20	31.25
High Cut Flow Rate		m³/h	3	5	5	7.5	10	16	16	26	40
Pressure Loss Class at Q3		bar	0.25	0.40	0.25	0.63	0.4	0.63	0.63	0.4	0.63
Real Pressure Loss at Q3		bar	0.16	0.38	0.17	0.44	0.255		0.61	0.31	0.59
Maximum Admissible Pressure	MAP	bar	0.1 / 16								
Sensitivity Class			U0D0 (Seal restriction, Elbow, Ball Valve)								
Water Operating Temperature	T	°C	+0.1 / +50								
Climatic Environment		°C	-25 / +70								

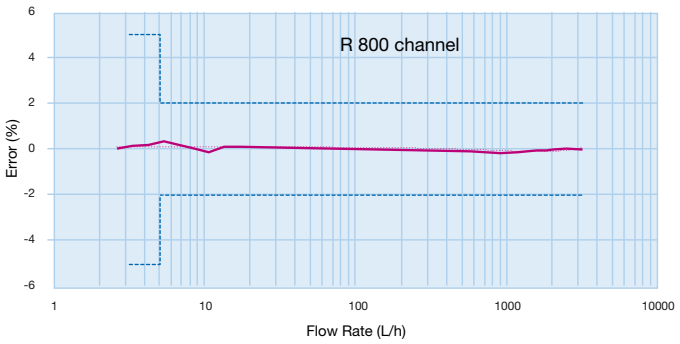
* Other Ratios available under specific request

Other Characteristics

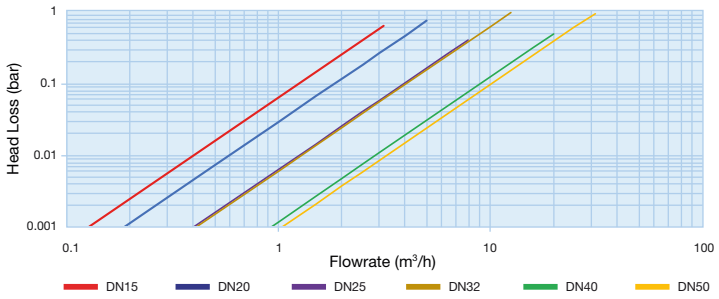
Indication Range*		m³	999999.999				999999.999				9999999.99
Minimum Scale Interval**		l	1				1				10
Typical Starting Flow Rate		l/h	1	1	2	2	4	6	6	10	10
Testing Pressure		bar	25				25				
Maximum Accidental Water Temperature		°C	70 (<1h/week)				70 (<1h/week)				

* Comma configurable under specific request - ** 0.001 liter in test mode

TYPICAL ACCURACY CURVE Q3=2,5 M³/H



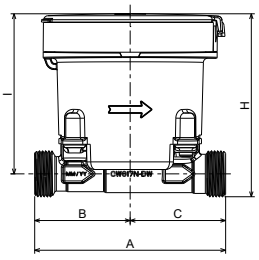
HEAD LOSS

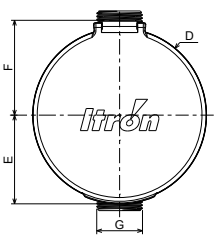


Dimensions

Nominal Diameter	mm	15							20			25	32	40	50
A	mm	105*	110	115	134*	165	170	115	105*	130	190	260	260	300	300
G	inches	G ¾ B						G ⅞ B x ¾ B		G 1 B		G 1 ¼ B	G 1 ½ B	G 2 B	G 2 ½ B
B	mm	52.5			55				52.5	65		130		150	
C	mm	52.5	55	60	79	110	115	60	52.5	65	125	130		150	
D	mm	ø 100										ø 100			
E	mm	51										51			
F	mm	54.5										54.5			
H	mm	105.2						107.1		111.2		122.6	125.6	137.1	144.9
H (w/o Lid)	mm	101.2						103.1		107.2		118.6	121.6	133.1	140.9
I	mm	92								94.7		101.7		107.4	
I (w/o Lid)	mm	88								90.7		97.7		103.4	
Weight (2 batteries)	gr	667	674	679	698	731	737	695	729	766	845	1405	1480	2225	2365
Weight (3 batteries)	gr	690	697	702	721	754	760	718	752	789	868	1423	1503	2248	2388

* Bodies version on demand (L105 - 134 DN15 & L105 DN20)

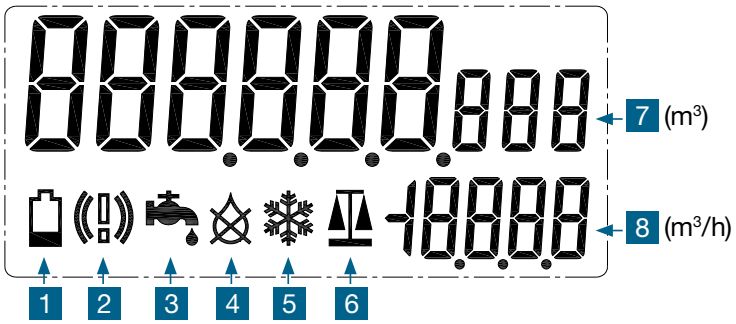




MULTIFONCTIONAL DISPLAY

» Easy to read display

» Visual Alarms



1 Battery Level Indicator

2 System Alarm Indicator

3 Leakage Indicator

4 Air in pipe Indicator

5 Freezing Indicator

6 Test mode Indicator

7 Main Index Indicator 8/9 digits

8 Flowrate Unit Indicator

Local Reading

Connectivity Specifications

Radio Frequency Features	
Protocol	wM-Bus T1/T2, C1/C2 (EN 13757-3 & 4) / LoRaWAN™ / Sigfox®
Modulation	FSK, BPSK (Sigfox®), CSS (LoRa®)
Frequency carrier	868 MHz ISM Band
Radiated power	< 25 mW

Functional Specifications	
Protection / Relative Humidity	IP 68* / 0 to 100% humidity - Floodable
Environmental condition	Indoor / outdoor (Pit, Direct sunlight...)** / Intermittent water supply - B/O
Electromagnetic class	E2
Operating temperature	-10°C / +55C
Accidental temperature	-20°C / +70°C

* IPX8: Under 2 meters during 2 months @ 50°C water temperature
** For direct sunligth exposure the Lid is mandatory

Battery Features	
Battery lifetime	15 years (2 cells)- 22 years (3 cells)*
Power source	Lithium batteries

* Depends on connectivity mode and reporting interval. / Environmental condition

Connectivity Certifications

» LoRaWAN R1.0.4

» Sigfox V2.10.0

» OMS v4.1.2

COMPLIANCE

» Compliant with Directive 2014/53/EU on RF Spectrum usage

» MID, ISO4064, R-49

» ACS, KTW, W270, WRAS

» RoHs, WEEE2, CE

» IP68 certified according to EN 60529

» Compliant with 2002/95/EC on non usage of hazardous substances in electrical and electronic equipment

» Wireless M-Bus according to EN 13757-3 & 4

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