



Itron Intelis C&I

The benefits of ultrasonic technology dedicated to large sizes metering applications

Intelis C&I offers the benefits of ultrasonic technology to large sizes metering applications where accuracy and robustness are critical. With no moving parts and very low pressure loss, Intelis C&I is capable to cover any large metering use-case from network management to billing of key users.

FEATURES AND BENEFITS

- » High accuracy
- » Very low pressure loss
- » Insensitive to peak flows and harsh water conditions
- » IP68, compatible with pit conditions
- » Battery lifetime up to 10 years

Technology

- » Dual beam ultrasonic technology adapted to large DN sizes
- » Free bore hole diameter for very low pressure loss
- » Insensitive to particles and peak flows for long lasting accuracy performances hence revenue protection
- » Capable of installation in any position

Communication

- » Bi-directional pulse output

Approval and Standards

- » MID, Directive 2014/32/UE,
- » ROHS 2 2011/65/UE
- » ACS and WRAS certification (compliance for potable drinking water)

TECHNOLOGY DESCRIPTION



Intelis C&I DN 100

Intelis C&I is a dual beam ultrasonic meter.

A dual pair of transducers **1** is implemented in the meter body. The water velocity on each of the two chords is measured according the difference in transit time of ultrasonic signal principle. The integration of the dual chord velocity profile allows high accurate measurement of the volume flown through the meter even in the larger diameters.

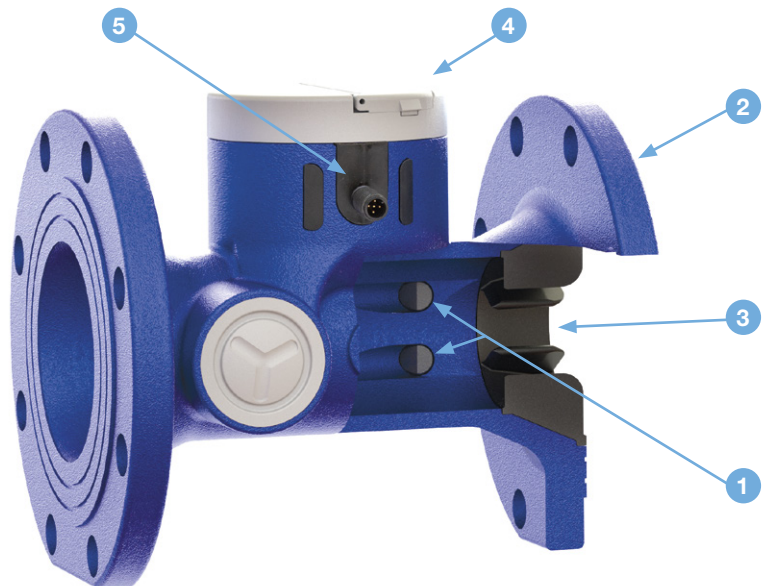
This technology allows a free bore hole of the meter flow section resulting in a very low pressure loss. It allows a large turndown approved up to a ratio of R500 according the provisions of ISO 4064/OIML R49/MID, and low starting flow, whatever the position of installation and the water temperature.

The cast iron body **2** is epoxy coated. A built-in flow conditioner **3** is minimizing the effect of flow disturbances upstream of the meter, that is approved U0/D0 according the provisions of ISO4064/OIML R49/MID.

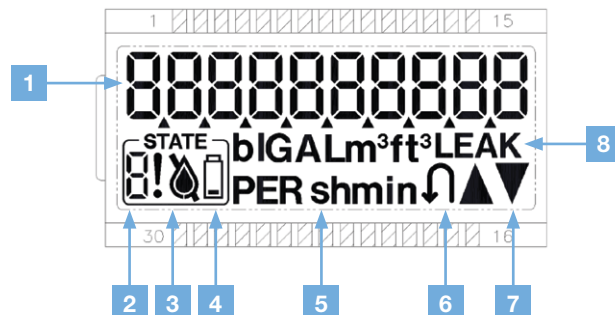
The electronics **4** dealing with signal treatment and displaying information is encapsulated in a waterproof housing. A standard M12 connector **5** allows to output bi-directional pulses. Intelis C&I is ranked IP68 and suitable with humid and flooded pit environments.



Intelis C&I indicator



DISPLAY DESCRIPTION

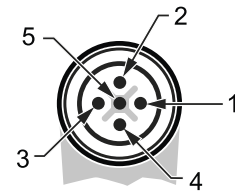


- | | | |
|---------------------------------|--------------------------------|-------------------------|
| 1 Main display 10 digits | 4 Battery alert | 7 Flow direction |
| 2 Error / Communication | 5 Units flow and volume | 8 Leak indicator |
| 3 Air in pipe | 6 Reverse flow | |

COMMUNICATION

Intelis C&I features a bi-directional pulse output with the following characteristics:

Electrical characteristics	Open collector
Pulse weight (standard)	10 liter/pulse (other setting on request)
OFF-State max Ext. Voltage	48 VDC
ON-State max. Sink current	50mA
Pulse width (ON-State)	25ms
M12 connector cabling	4 wires with direction and cable cut detection: 1- Not Used (Brown) 2- Pulse (white) 3- Ground (blue) 4- Direction (black) 5- Cable cut (grey or yellow/green)



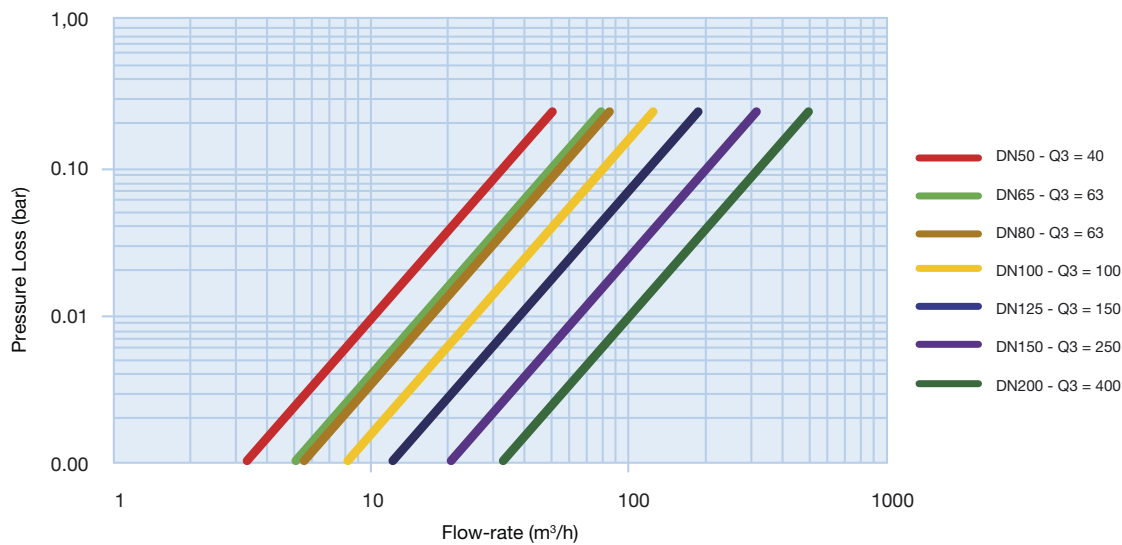
Male

Intelis C&I is compatible through pulse output and remote modules with Itron mobile and cellular solutions Anyquest/Everblu, WaterMind.

METROLOGICAL CHARACTERISTICS

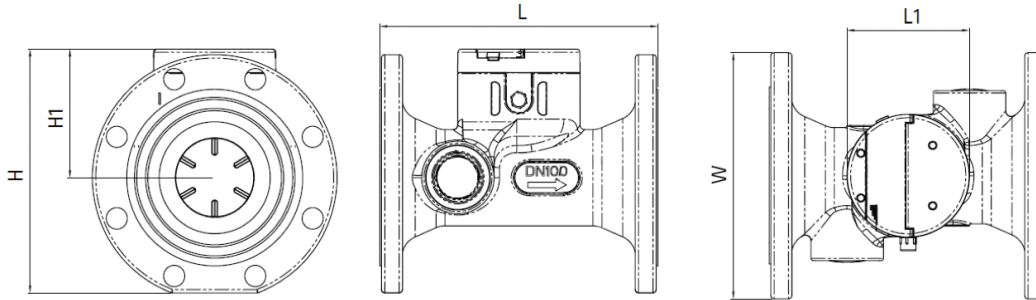
Nominal Diameter DN		mm	50	65	80	100	125	150	200
		inches	2	2 1/2	3	4	5	6	8
Permanent flowrate	Q3	m ³ /h	40	63	63	100	150	250	400
Approved Ratio	R					500			
Overload flowrate	Q4	m ³ /h	50	80	80	125	200	313	500
Minimum flowrate	Q1	l/h	80	126	126	200	300	500	800
Starting flowrate		l/h	20	31	31	50	78	125	200
Cut-off flowrate		m ³ /h	60	100	100	150	250	400	600
Maximum pressure	MAP	bar				16			
Metrological Water Temperature Range		mAT - MAT				+0.1°C ... +50°C			
Sensitivity class						U0/D0			
Pressure loss class						0.16			
Maximum Admissible Water temperature						+55°C			

PRESSURE LOSS



DIMENSIONS AND WEIGHT

Nominal Diameter DN	mm inches	50 2	65 2 ½	80 3	100 4	125 5	150 6	200 8
Total length (L)	mm	200	200	225	250	250	300	350
Flanging		ISO PN10/16						ISO PN10 or PN16
Height (H1)	mm	77	85	95	103	115	126	190
Total Height (H)	mm	182	198.5	215.5	233.5	259.5	275.5	360
Flange diameter (W)	mm	165	185	200	220	240	260	340
Housing diameter (L1)	mm	110	110	110	110	110	110	110
Weight (kg)	mm	10	12	13	15	18	20.5	26



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