Q400 NB-IoT Ultrasonic Water Meter – Data Sheet

Overview

The Q400 ultrasonic water meter is designed to accurately measure cold drinking water consumption in households, apartment buildings and small commercial premises.

Ultrasonic meter for cold potable water

Wide flow range exceeding R250 (Q_3/Q_1)

Extended lifetime accuracy with no moving parts

Fully potted electronics IP68 protection

Integrated NB-IoT enables network digitisation

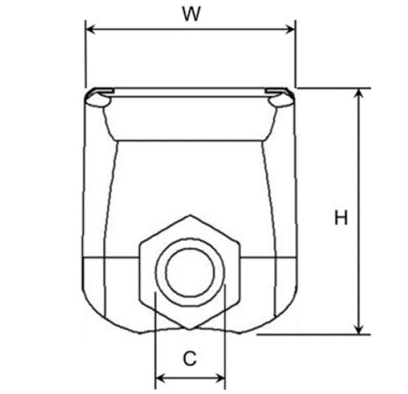
Battery options – 10 years (optional 15 years with a dual battery*)

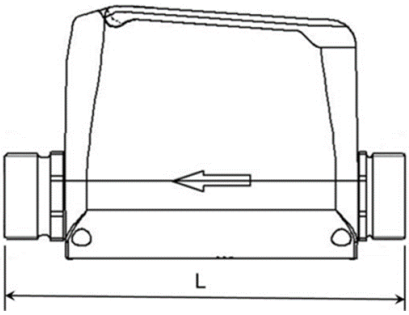
Benefits

- Ultrasonic flow measurement technology
- No moving parts, so maintains accuracy over a lifetime, maximising revenue capture.
- FOTA download methodology, including DFOTA for lower communication costs.
- Extended flow range, reducing non-revenue water (NRW)
- Optional pressure sensing for event detection, network optimisation and energy efficiency programs
- Rugged casing design prevents damage in exposed and vulnerable locations.
- Self-diagnosis functions, including low battery warning.

Technical Specifications

DESIGNATION		Q400	
NOMINAL SIZE DN	mm	**20**	**25**
PERMANENT FLOW RATE Q3	m^3/h	4.0	6.3
DIMENSIONS			
C: CONNECTION THREAD	ISO 228/1 inch	G 1”	G 1 ¼”
L: LENGTH, STANDARD	mm	154	177
L2: LENGTH WITH CONNECTORS	mm	244	300
W: OVERALL WIDTH	mm	85	85
H: OVERALL HEIGHT	mm	98	98
H2: HEIGHT WITH LID OPEN	mm	192	192
PERFORMANCE DATA			
OVERLOAD FLOW RATE	Q_4 m^3/h	5.0	7.875
PERMANENT FLOW RATE	Q_3 m^3/h	4.0	6.3
TRANSITIONAL FLOW RATE	Q_2 l/h	25.6	40.3
MINIMUM FLOW RATE	Q_1 l/h	16.0	25.2
MEASURING RANGE	Q_3/Q_1	R250	R250
TEMPERATURE CLASS MAT	T_{max} °C	50	50





METER ATTRIBUTES	
INGRESS PROTECTION	IP68
ENVIRONMENT CLASS	B
MECHANICAL CLASS	M1
ELECTROMAG CLASS	E1
DISPLAY TYPE LCD	0~9999999.9999
MEASUREMENT UNIT	Cubic metres (m^3)
INSTALL ORIENTATION	Any
DISTURBANCE CLASS	U0/D0
PRESSURE CLASS MAP	PN 16
HEADLOSS CLASS ΔP	0.63 bar
AMBIENT TEMP.	5 °C to 55 °C
FLOW TUBE	Brass

COMMUNICATION AND ELECTRONICS DATA	
BATTERY LIFETIME*	10 Years, use case dependant (15 years with x 2 D-cell batteries) in ECL 0 /1
RADIO MODULE / SIM	Cellular NB-IoT – Band 28 (Qualcomm based)
	Soldered MFF2 SIM (provided by Taggle)
FIRMWARE & LWM2M	Water flow sampling every 30 minutes (default), configurable at manufacture.
	End of day transmission of data. Optional real time alarms
	Over the air firmware updatable. DFOTA supported
	LwM2M data model for device management
ALARMS	Leak, burst, backflow, no consumption, over temperature, battery low
DATA SECURITY	Encrypted communications (DTLS)

STANDARDS AND COMPLIANCE				
NMI R-49*	AS3565.1	AS/NZ 4020	RCM*	Telstra Certification*
* Certifications and battery testing are in progress				