



ALSONIC

Ultrasonic Building Automation Water Meter

ALSONIC BAWM Series

GENERAL

ALSONIC Building Automation Water meters employ transit-time ultrasonic flow technology and are designed for domestic water metering. The no-moving parts design of the ultrasonic meter gives the ALSONIC-BAWM a number of advantages over traditional water meters that employ mechanical measurement techniques. These advantages include superior particle tolerance for dirty-water applications, excellent low flow sensitivity for leak detection applications, and the improved longevity and lower cost of ownership that results from the no-moving-parts design.

The ALSONIC-BAWM is available with a brass body and NPT threaded process connections for ½" through 1½" sizes and a carbon steel body with ANSI or DIN flanges for sizes ranging from 2" through 12". All meters come with an alphanumeric LCD that displays flow rate, totals, leakage alarm, reverse flow, and diagnostic codes. A variety of industry standard communication protocols including 4-20 mA, pulse, M-Bus, RS-485/Modbus, and RF may be selected. These features all combine to make the ALSONIC-BAWM an ideal choice for new construction as well as replacement of older mechanical water meters for service in harsh environments where the domestic water system may have particles or scale present. Unlike conventional water meters, this device introduces virtually no pressure drop and its accuracy doesn't degrade over time.



FEATURES

- Alphanumeric LCD display for flow rate, totalized flow, and a variety of diagnostics
- Maintenance free construction; durable brass or cast iron body & no-moving-parts design
- Temperature compensation for cold water and hot water up to 176°F (80°C)
- ½" - 2" threaded connections, 2"-12" ANSI or DIN flanged
- Complies with OIML R49 / ISO 4064 Class D, ANSI / AWWA C708 & NSF 61 Annex G
- Can be integrated with AMR systems via M-Bus or RS-485/Modbus
- NEMA 6P / IP68 rating; fully submersible
- 2 year data logger with 700 daily and 24 monthly totals
- Battery life in excess of 6 years
- NIST traceable calibration certificate
- Built-in diagnostics



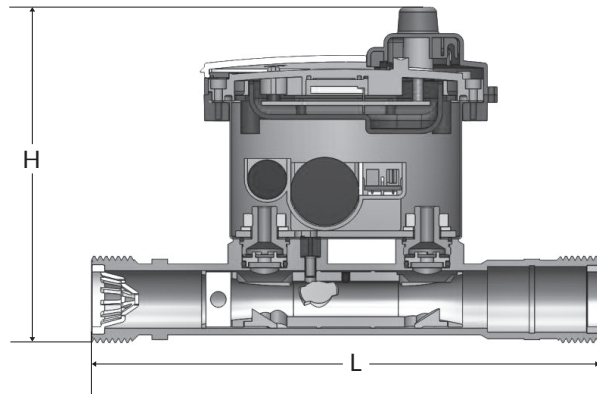
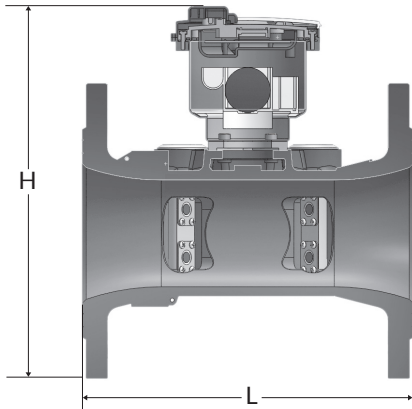
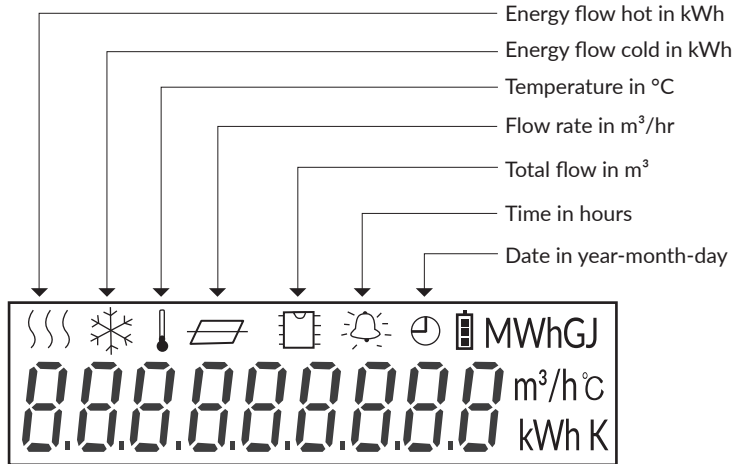
SPECIFICATIONS

Flow measurement :	Transit time ultrasonic method
Transducer type:	Spool piece, flanged or threaded
Fluid Temperature:	0.1°C to 60°C and safety temperature up to 80°C
Pipe Size:	½"-12" 15~300mm
Pressure:	std: (232psi) PN16, opt: (362psi) PN25
Pressure loss:	Less than 3.6 psi, (0.25 bar)
Flow Body Material:	brass, cast iron
Flow rates:	Up to 1200m³/hr (5280 GPM) see chart
Resolution -Flow:	0.03 m³/h
Resolution -Temp:	±0.02°F (0.01°C)
Temperature range:	35.6-203°F (2~+95°C)
Engineering units:	Metric or US English
Pressure Loss Class:	Δp25 (Δp16, Δp10)
Max Admissible Pressure(MAP):	MAP16 (MAP25, MAP16, MAP10)
Electromagnetic Class:	E1 (E1/E2)
Temperature Class:	T30 (T70, T50, T30)

Flow Profile Sensitivity Class:	U5/D3
Outputs:	MBUS, RS485, 4-20mA, Pulse, RF, Infrared, GPRS, NB-IoT etc.
Approval:	OIML R49/ISO 4064 Class D, ANSI/AWWA C708 Standard and NSF 61-Annex G compliant
Enclosure:	IP68/NEMA 6P submersible rating with IP67 sensor
Response Time:	< 1 second
Ambient Temperature:	-13-131°F (-25~+55 °C)
Display:	LCD (8 digits + prompting character)
Resolution:	999.99999 - 999999.99 - 99999999 rate, total consumption, flow rate, total flow leakage, alarm, reverse flow, time, date
Power Supply (DC):	3.6V _{DC} /2.4Ah Li battery (for 6 years of operation)
Data Storage:	EEPROM, 256 Mb up to 2 years

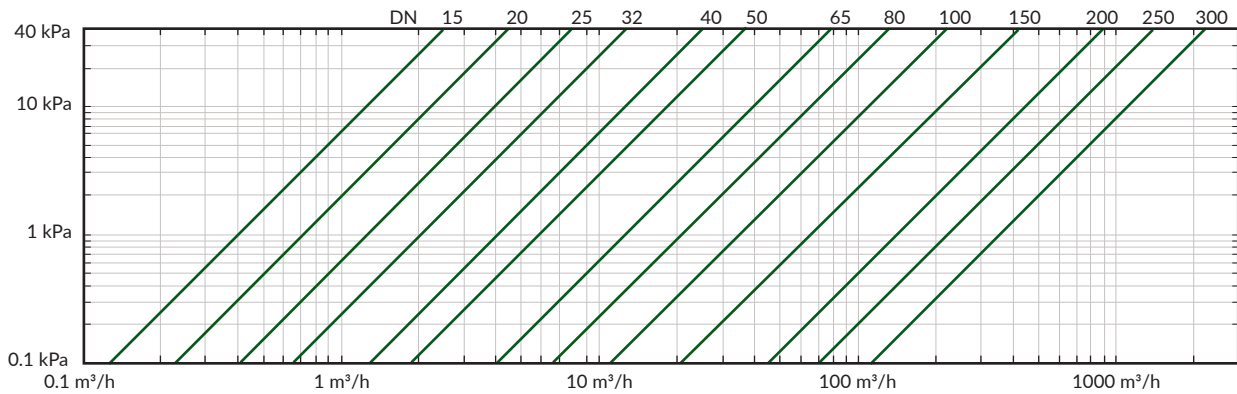
Dimensions

Display:	9-bit LCD display. Can display totalizer, Instanteous flow, error alarm, flow direction, output
Data Storage:	Up to 10 years of data, year, month and day
Output:	Modbus (baud rate: 19200, 9600, 4800, 2400); 4-20mA, Pulse, (default 2ml/pulse)
EM compatibility:	E2
Power supply:	3.6 V _{DC} (disposable lithium batteries) ≥15 years
IP Grade:	IP68



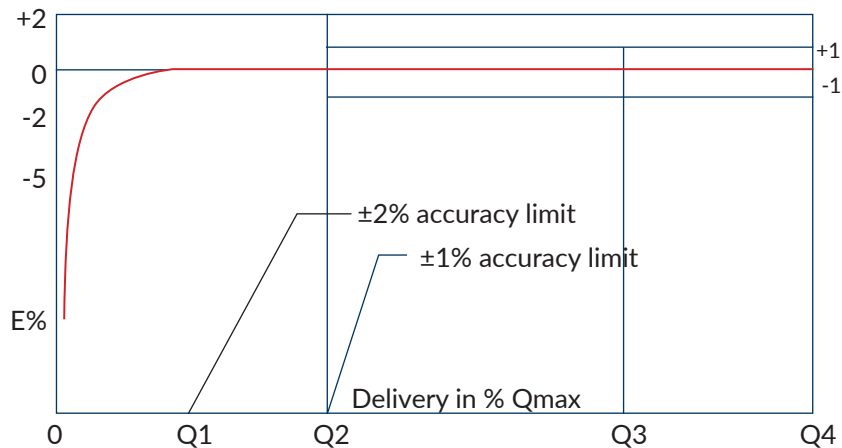
Line size inch (mm)	Length inch (mm)	Height inch (mm)	Width inch (mm)	Connection	Weight Lb. (kg)
½" (DN15)	6.49 (165)	4.01 (102)	4.33 (110)	G ¾"	3.30 (1.5)
¾" (DN20)	7.67 (195)	4.21 (107)	4.33 (110)	G 1"	3.30 (1.5)
1" (DN25)	8.85/10.23 (225/260)	4.41 (112)	4.33 (110)	G 1 ¼"	3.30 (1.5)
1½" (DN32)	7.08 (180)	4.76 (121)	4.33 (110)	G 1 ½"	3.96 (1.8)
1¾" (DN40)	7.87 (200)	5.19 (132)	4.33 (110)	G 2"	4.41 (2)
2" (DN50)	7.87 (200)	9.25 (235)	6.49 (165)	DIN/ANSI	19.84 (9)
2½" (DN65)	7.87 (200)	9.76 (248)	7.28 (185)	DIN/ANSI	26.45 (12)
3" (DN80)	8.85 (225)	10.39 (264)	7.87 (200)	DIN/ANSI	28.66 (13)
4" (DN100)	9.84 (250)	11.29 (287)	8.66 (220)	DIN/ANSI	33.06 (15)
5" (DN125)	9.84 (250)	12.59 (320)	9.84 (250)	DIN/ANSI	61.72 (28)
6" (DN150)	11.81 (300)	13.97 (355)	11.22 (285)	DIN/ANSI	70.54 (32)
8" (DN200)	13.77 (350)	16.14 (410)	13.38 (340)	DIN/ANSI	99.20 (45)
10" (DN250)	5.91 (150)	17.79 (452)	15.94 (405)	DIN/ANSI	149.91 (68)
12" (DN300)	19.68 (500)	21.65 (550)	18.11 (460)	DIN/ANSI	211.64 (96)

Pressure Loss - KPa



Preformance

Line size inch (mm)	Q4 m³/hr	Q3 m³/hr	Q2 m³/hr	Q1 m³/hr	ΔP kpa	No.Path
½" (DN15)	3.125	2.5	0.04	0.025	23	1
¾" (DN20)	5.0	4.0	0.07	0.04	23	1
1" (DN25)	7.875	6.3	0.1	0.063	19	1
1½" (DN32)	12.5	10	0.16	0.1	17	1
1¾" (DN40)	20.0	16	0.26	0.16	16	1
2" (DN50)	31.25	25	0.16	0.1	15	2
2½" (DN65)	50.0	40	0.256	0.16	14.5	4
3" (DN80)	78.75	63	0.4	0.25	14	4
4" (DN100)	125	100	0.64	0.4	13	4
5" (DN125)	200	160	1.02	0.64	13	4
6" (DN150)	312.5	250	1.6	1.0	13	4
8" (DN200)	500	400	2.56	1.6	12	4
10" (DN250)	787.5	630	4.0	2.52	11.6	4
12" (DN300)	1250	1000	6.4	4.0	11	4



** Please contact your local SmartMeasurement application engineer
You also need to provide the following information:

TYPE OF FLUID	Please provide the name of your fluid, including operating density and viscosity
LINE SIZE	Nominal pipe size and sensor connection type
PROCESS PRESSURE AND TEMPERATURE	We will calibrate your flowmeter as close to your operating conditions as possible
TYPE OF ELECTRONICS	Output and installation type (compact, wall mount)
FLOW RANGE	Please provide the flow range

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Example 1: Alsonic-BAWM-ST-C100-NN-NN-NC-CT

ALSONIC BAWM	**	**	**	**_	*	*	**_	DESCRIPTION
Standard type	ST							Flow Meter
½"~1½" (DN15~DN40)		S**						Line size
2"~12" (DN50~DN300)		C**						
Special size		SP						
Standard temperature: 35~122°F (+2~+50°C)			NN					Temperature
High temperature: 35~176°F (+2~+80°C)			HT					
Standard pressure: up to 232 psi (1.6Mpa)				NN				Pressure
High pressure: up to 362 psi (2.5Mpa)				HP				
Standard - brass flowbody					NN			Material
Standard - castiron flowbody					NN			
Special material					**			
M-Bus						MB		Output
RS485						485		
Wireless						WL		
Infrared output						IR		
Pulse output (total flow)							PT	Options
M-bus to GPRS: collector (256 to 1) + concentrator							MG	
Wireless to GPRS: data collector (50 m) + data concentrator							WG	
M-Bus to RS232 transmitter (64 to 1)							MB	
Wireless to GPRS: data collector (1 to 1)							GP	
With pre-set control valve							VL	
Other options							OP	

