



QALCOSONIC

W1

SMART ULTRASONIC WATER METER

APPLICATION

Ultrasonic water meter **QALCOSONIC W1** is designed for accurate measurement of cold and hot water consumption in households, apartment buildings, and commercial premises.

- Static method of water flow measurement, no moving parts
- High accuracy calculation of water consumption
- Eliminates measuring deviations caused by sand, suspended particles or air pockets
- Long-term measurement stability and reliability
- 9 digits, multi-line LCD. Total volume and instantaneous flow rate indication
- Sensitive and accurate in low flows, down to 1 l/h
- Ready for AMR with NFC, wM-Bus, LoRa, NB-IoT and Sigfox* technologies

* - Only up to DN32

AMR READY

- wM-Bus 433 or 868 MHz OMS T1
- LoRaWAN (EU863-870, AS923, AU915-928, US902-928, IN865-867 channel plans)
- NB-IoT (CoAP)
- NFC
- Sigfox (RC1; RC7)

PARAMETERISATION OF THE METER

NFC and optical interfaces are integrated into the top panel of the meter. They can be used for data reading and parameterisation of the meter.

TECHNICAL FEATURES

- Temperature class T30, T50, T30/90, T90
- Nominal flow 1.6 / 2.5 / 4.0 / 6.3 / 10 / 16 / 25 / 40 m³/h
- Wide measurement range Q3/Q1 = R 250/400/800 (optional)
- No straight sections required
- Installation in any position
- No measurement of air
- Environment class E2/M1
- Protection class IP68
- Nominal pressure PN16 (PN25 for flange version)
- Internal datalogger
- Maintenance free device, battery lifetime > 16 years
- Bi-directional flow measurements
- Flow direction indication
- Meter parameterisation and archive reading via NFC or optical interface
- Durable composite body
- Measurement units: m³-m³/h

AMR INTERFACES, OPTIONAL



DATA REGISTRATION

- Total volume
- Forward volume
- Reverse volume
- Maximum flow rate value and date
- Minimum flow rate value and date
- Operating time without an error
- Operating time
- Error code
- Water temperature indication

DATA LOGGER - HISTORY VALUES

- Hourly, daily, monthly values of the measured parameters are stored in internal memory

RADIO INTERFACE

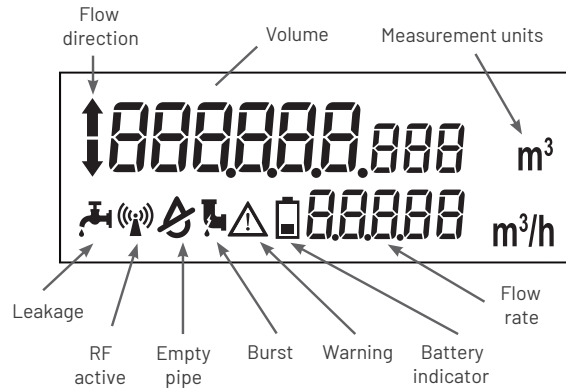
Integrated radio communication allows data reading via wM-Bus telegram: 433 MHz or 868MHz OMS T1 mode, LoRaWAN, NB-IoT or Sigfox.

TECHNICAL DATA:

LCD INDICATIONS AND ALARMS

MULTIPLE ALARMS AND EVENTS, INCLUDING:

- Flow direction indication
- Battery level indication
- Leakage
- Burst
- Backflow
- Empty pipe
- Radio communication
- Warning indication
- Low-temperature warning



Flow sensor	Q3 [m^3/h]	1.6 / 2.5 / 4.0 / 6.3 / 10 / 16 / 25 / 40
	R Q3 / Q1	80 / 160 / 250 / 315 / 400 / 800
	Water temperature	0,1 – 90°C
	LCD Display	9-digits
Flow measurement	Protection class [IP]	IP68
	Ambient class	Class C / EN 14 154
	Ambient temperature	-15°C ... +70°C
	Installation position	All installation positions (vertical, horizontal, rising pipe, down pipe)
	Nominal pressure [bar]	PN16 bar (PN25 bar for flange version)
	Pressure loss	0.16 / 0.25 / 0.40 / 0.63
	Battery lifetime	16 years LoRa/wM-Bus and Sigfox versions, 12 years NB-IoT version (depending on communication settings)
	Units	$m^3/h - m^3$

Nominal flow rate Q3, m^3/h	1,6					2,5					4,0								
Overall length, mm	80, 105, 110, 165, 170					80, 105, 110, 165, 170					105, 110, 130, 165, 190								
Nominal diameter	DN15					DN15					DN20								
Connection	G 3/4"					G 3/4"					G 1"								
Dynamic range R, Q3/Q1	80	160	250	315	400	80	160	250	400	800	80	160	250	400	80	160	250	400	800
Minimum flow rate Q1, m^3/h	0,020	0,010	0,0064	0,005	0,004	0,031	0,0156	0,010	0,0062	0,0031	0,031	0,0156	0,010	0,0062	0,050	0,025	0,016	0,010	0,050
Transitional flow rate Q2, m^3/h	0,032	0,016	0,010	0,008	0,0064	0,050	0,025	0,016	0,010	0,005	0,050	0,025	0,016	0,010	0,080	0,040	0,026	0,016	0,080
Starting flow rate, m^3/h	0,001					0,001					0,001								
Maximum flow rate Q4, m^3/h	2,0					3,125					3,125								
Pressure loss class Δp , bar x 100	$\Delta p16$					$\Delta p25$					$\Delta p16$								

TECHNICAL DATA:

Nominal flow rate Q3, m ³ /h	6,3										10,0								
Overall length, mm	260					260					260								
Nominal diameter	DN25					DN32					DN25				DN32				
Connection	G 1¼"					G 1½"					G 1¼"				G 1½"				
Dynamic range R, Q3/Q1	80	160	250	400	800*	80	160	250	400		80	160	250	400	800*	80	160	400	800*
Minimum flow rate Q1, m ³ /h	0,079	0,040	0,0252	0,016	0,080	0,079	0,040	0,0252	0,016		0,125	0,0625	0,040	0,025	0,0125	0,125	0,0625	0,025	0,0125
Transitional flow rate Q2, m ³ /h	0,126	0,063	0,040	0,0252	0,013	0,126	0,063	0,040	0,0252		0,200	0,100	0,064	0,040	0,020	0,200	0,100	0,040	0,020
Starting flow rate, m ³ /h	0,003					0,005					0,003				0,005				
Maximum flow rate Q4, m ³ /h	7,875					7,875					12,5				12,5				
Pressure loss class Δp, bar x 100	Δp25					Δp16					Δp63				Δp25				

* - T30 temperature class only

Nominal flow rate Q3, m ³ /h	10,0			16,0								25,0				
Overall length, mm	300			300				200				300				
Nominal diameter	DN40			DN40				DN50**				DN40				
Connection	G 2"			G 2"				DN50				G 2"				
Dynamic range R, Q3/Q1	80	160	250	80	160	250	400	80	160	250	400	80	160	250	400	800*
Minimum flow rate Q1, m ³ /h	0,125	0,0625	0,0625	0,200	0,100	0,064	0,040	0,200	0,100	0,064	0,040	0,3125	0,156	0,100	0,0625	0,0312
Transitional flow rate Q2, m ³ /h	0,200	0,100	0,100	0,032	0,016	0,102	0,064	0,032	0,016	0,102	0,064	0,500	0,250	0,160	0,100	0,050
Starting flow rate, m ³ /h	0,01			0,01				0,016				0,01				
Maximum flow rate Q4, m ³ /h	12,5			20,0				20,0				31,25				
Pressure loss class Δp, bar x 100	Δp16			Δp16				Δp16				Δp16				

* - T30 temperature class only

Nominal flow rate Q3, m ³ /h	25,0					40,0				
Overall length, mm	200					200				
Nominal diameter	DN50**					DN50**				
Connection	DN50					DN50				
Dynamic range R, Q3/Q1	80	160	250	400	800*	80	160	250	400	800*
Minimum flow rate Q1, m ³ /h	0,3125	0,156	0,100	0,0625	0,0312	0,5	0,25	0,16	0,1	0,05
Transitional flow rate Q2, m ³ /h	0,500	0,250	0,160	0,100	0,050	0,8	0,4	0,256	0,16	0,08
Starting flow rate, m ³ /h	0,016					0,016				
Maximum flow rate Q4, m ³ /h	31,25					50,00				
Pressure loss class Δp, bar x 100	Δp16					Δp16				

* - T30 temperature class only

SIZE AND DIMENSIONS:

DN [mm]	15	20	25	32	40	50**
L [mm]	80, 105, 110, 165, 170	105, 110, 130, 165, 190	260	260	300	200
Connection	3/4"	1"	G 1¼"	G 1½"	G 2	DN50

* - T30 temperature class only

** - Available from 2022 Q2

2022 01

AXIOMA
M E T E R I N G

 metering@axioma.eu

 +370 37 36 02 34

 Veterinaru str. 52, Biruliskes, LT-54469 Kaunas, Lithuania