AXIOMA METERING

Real needs. Real solutions.

Qalcosonic W1 DN25–50

V 2.0

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 3 l/h.
- Ready for AMR with NFC, wM-Bus, LoRa and NB-IoT technologies.

AMR Ready

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

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.

Approvals

- MID (2014/32/EU)
- OIML R49
- LoRa WAN compliance certificate
- OMS compliance certificate
- WRAS (UK)
- ACS (France)
- ICIM (Italy)
- KIWA (the Netherlands)

Technical features

Temperature class T30, T50, T30/90, T90
Nominal flow 6.3 / 10 / 16 / 25 / 40 m^3/h;
Wide measurement range Q_3/Q_1 = R 80 / 160 / 250 / 400 / 500 / 800 (optional)
No straight pipe sections required before or after the meter
Installation in any position
No measurement of air
Electromagnetic environment class E2 Mechanical environment class M1
Protection class IP68
Nominal pressure PN16 (PN25 for flange version)
Internal datalogger
Maintenance free device, battery lifetime up to 16 years*
Bi-directional flow measurements
Flow direction indication
Meter parameterisation and archive reading via NFC or optical interface
Durable composite body

* – depending on communication settings.

Data logger – history values

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

Radio interface

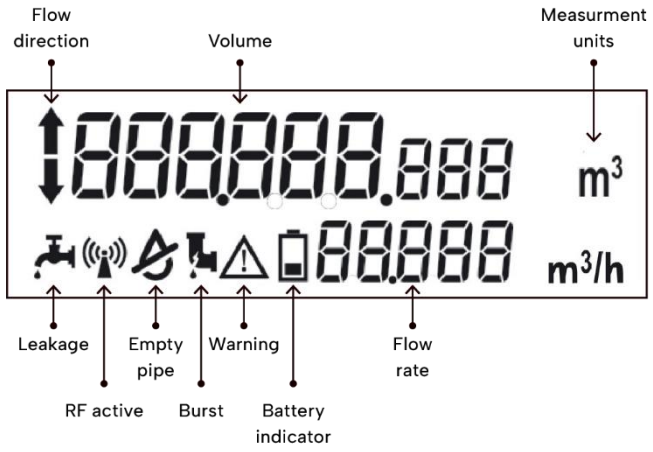
Integrated radio communication allows data reading via wM-Bus telegram: 433 MHz or 868MHz OMS T1 mode, LoRaWAN or NB-IoT.

AMR interfaces, optional

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.



Technical data:

Flow sensor	Q_3 [m³/h]	6.3 / 10 / 16 / 25 / 40
	R Q_3 / Q_1	80 / 160 / 250 / 400 / 500 / 800
	Water temperature	0,1 – 90°C
	LCD Display	9-digits
Flow measurement	Protection class [IP]	IP68
	Environmental class	B (Indoors) / O (Outdoors) / ISO 4064
	Ambient temperature	-15°C ... +70°C
	Installation position	All installation positions (vertically, horizontally, diagonally)
	Nominal pressure [bar]	PN16 bar (PN25 bar for flange version)
	Pressure loss	0.16 / 0.25 / 0.40 / 0.63
	Battery lifetime	up to 16 years LoRa/wM-Bus version up to 13 years NB-IoT version (depending on communication settings)
	Units	m³ – m³/h

Nominal flow rate	**6,3**	**6,3**	**10,0**	**10,0**
Overall length, mm	260	260	260	260
Nominal diameter	**DN25**	**DN32**	**DN25**	**DN32**
Connection	G 1 ¼"	G 1 ½"	G 1 ¼"	G 1 ½"
Dynamic range R,Q_3/Q_1	80 / 160 / 250 / 400 / 800*	80 / 160 / 250 / 400	80 / 160 / 250 / 400 / 500 / 800*	80 / 160 / 400 / 500 / 800*
Minimum flow rate Q_1, m³/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 / 0,0126 / 0,0125	0,125 / 0,0625 / 0,025 / 0,0202 / 0,0125
Transitional flow rate Q_2, m³/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 / 0,0202 /0,020	0,200 / 0,100 / 0,040 / 0,032 / 0,020
Starting flow rate, m³/h	0,003	0,005	0,003	0,005
Maximum flow rate Q_4, m³/h	7,875	7,875	12,5	12,5
Pressure loss class Δp, bar x 100**	Δp25	Δp16	Δp63	Δp25

* – T30 temperature class only

** – for direct flow, without optional strainer

Nominal flow rate	10,0	16,0	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 / 500 / 800*	80 / 160 / 250 / 400	80 / 160 / 400 / 500 / 800*
Minimum flow rate Q1, m³/h	0,125 / 0,0625 / 0,0625	0,200 / 0,100 / 0,064 / 0,040 / 0,032 / 0,020	0,200 / 0,100 / 0,064 / 0,040	0,3125 / 0,156 / 0,100 / 0,0625 / 0,050 / 0,0312
Transitional flow rate Q2, m³/h	0,200 / 0,100 / 0,100	0,032 / 0,016 / 0,102 / 0,064 / 0,0512 / 0,032	0,032 / 0,016 / 0,102 / 0,064	0,500 / 0,250 / 0,160 / 0,100 / 0,080 / 0,050
Starting flow rate, m³/h	0,01	0,01	0,0016	0,01
Maximum flow rate Q4, m³/h	12,5	20,0	20,0	31,25
Pressure loss class Δp, bar x 100**	Δp16	Δp16	Δp16	Δp16

Nominal flow rate	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 / 500 / 800*	80 / 160 / 250 / 400 / 500 / 800*
Minimum flow rate Q1, m³/h	0,3125 / 0,156 / 0,100 / 0,0625 / 0,0312 / 0,0312	0,5 / 0,25 / 0,16 / 0,1 / 0,080 / 0,05
Transitional flow rate Q2, m³/h	0,500 / 0,250 / 0,160 / 0,100 / 0,050 / 0,050	0,8 / 0,4 / 0,256 / 0,16 / 0,128 / 0,08
Starting flow rate, m³/h	0,016	0,016
Maximum flow rate Q4, m³/h	31,25	50,00
Pressure loss class Δp, bar x 100**	Δp25	Δp63

* – T30 temperature class only

** – for direct flow, without optional strainer

Size & dimensions:

DN25 / L [mm]: 260
DN25 / connection: G 1 1/4“

DN32 / L [mm]: 260
DN32 / connection: G 1 1/2“

DN40 / L [mm]: 300
DN40 / connection: G 2“

DN50* / L [mm]: 200
DN50* / connection: DN50

* – T30 temperature class only