AXIØMA METERING

Real needs. Real solutions.

Qalcosonic W1
B design DN15–20

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

AMR Ready

- wM-Bus 868 MHz OMS T1
- LoRaWAN (EU863-870, IN865-867)
- 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)
- 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 1.6 / 2.5 / 4.0 m^3/h
Wide measurement range Q_3/Q_1 = 80 / 160 / 250 / 315 / 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
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 (868MHz OMS T1 mode), LoRaWAN or NB-IoT.

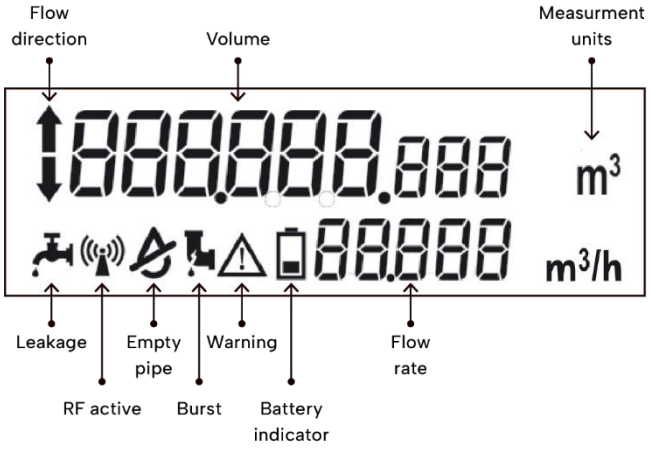
AMR interfaces, optional

LoRaWAN® NB-IoT M-Bus wireless

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	Q3 [m³/h]	1.6 / 2.5 / 4.0
	R Q3 / Q1	80 / 160 / 250 / 315 / 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
	Pressure loss	0.16 / 0.25 / 0.40
	Battery lifetime	up to 16 years LoRa/wM-Bus version (depending on communication settings)
	Units	m^3 – m^3/h

Nominal flow rate	**1,6**	**2,5**	**2,5**	**4,0**
Overall length, mm	110, 165, 170	110, 165, 170	105, 130, 165, 190	105, 130, 165, 190
Nominal diameter	**DN15**	**DN15**	**DN20**	**DN20**
Connection	G ¾"	G ¾"	G 1"	G 1"
Dynamic range R,Q3/Q1	80 / 160 / 250 / 315 / 400	80 / 160 / 250 / 400 / 500 / 800	80 / 160 / 250 / 400	80 / 160 / 250 / 400 / 500 / 800
Minimum flow rate Q_1, m^3/h	0,020 / 0,010 / 0,0064 / 0,005 / 0,004	0,031 / 0,0156 / 0,010 / 0,0062 / 0,005 / 0,0031	0,031 / 0,0156 / 0,010 / 0,0062	0,050 / 0,025 / 0,016 / 0,010 / 0,008 / 0,005
Transitional flow rate Q_2, m^3/h	0,032 / 0,016 / 0,010 0,008 / 0,0064	0,050 / 0,025 / 0,016 0,010 / 0,008 / 0,005	0,050 / 0,025 / 0,016 / 0,010	0,080 / 0,040 / 0,026 / 0,016 / 0,0128 / 0,008
Starting flow rate, m^3/h	0,001	0,001	0,001	0,002
Maximum flow rate Q_4, m^3/h	2,0	3,125	3,125	5,0
Pressure loss class Δp, bar x 100*	Δp16	Δp25	Δp16	Δp25

* – for direct flow, without optional strainer

Size & dimensions:

DN15 / L [mm]: 110, 165, 170
DN15 / connection: 3/4"

DN20 / L [mm]: 105, 130, 165, 190
DN20 / connection: 1"