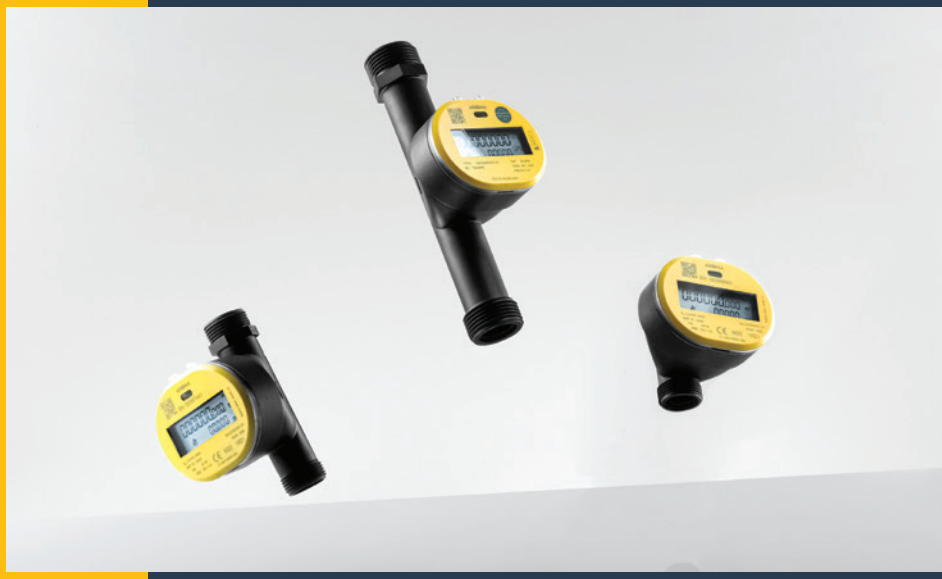
QALCOSONIC

W1

SMART ULTRASONIC WATER METER

/A design/ DN15-20



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 433 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 1.6 / 2.5 / 4.0 m^3/h;
- Wide measurement range Q3/Q1 = 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;
- Environment class E2/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: 433 MHz or 868MHz OMS T1 mode, LoRaWAN or NB-IoT.

AMR INTERFACES, OPTIONAL

LoRaWAN CERTIFIED

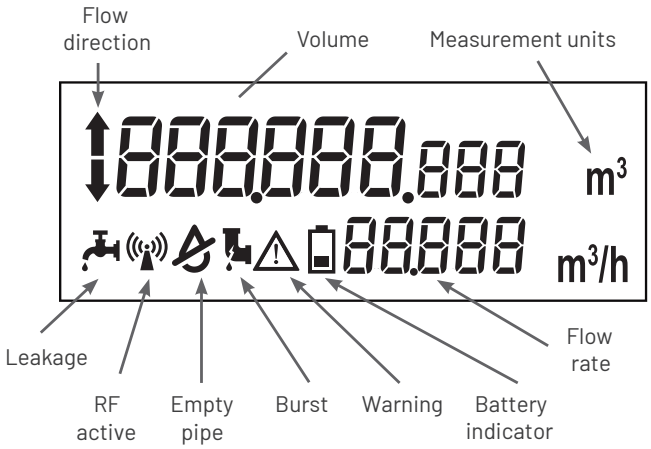
M-Bus wireless

NB-IoT

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
	Ambient class	Class C / EN 14 154
	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, up to 13 years NB-IoT version (depending on communication settings)
	Units	m³ - m³/h

Nominal flow rate Q3, m³/h	**1,6**					**2,5**						**2,5**				**4,0**					
Overall length, mm	80, 110, 115, 165, 170					80, 110, 115, 165, 170						105, 110, 130, 165, 190				105, 110, 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 Q1, m³/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 Q2, m³/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, m³/h	0,001					0,001						0,001				0,002					
Maximum flow rate Q4, m³/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 AND DIMENSIONS:

DN [mm]	15	20
L [mm]	80, 105, 115,110, 165, 170	105, 110, 130, 165, 190
Connection	3/4"	1"