

QALCOSONIC

W1

SMART ULTRASONIC WATER METER

DN25-50



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 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 m³/h;
- Wide measurement range Q3/Q1 = 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;
- Environment class E2/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.

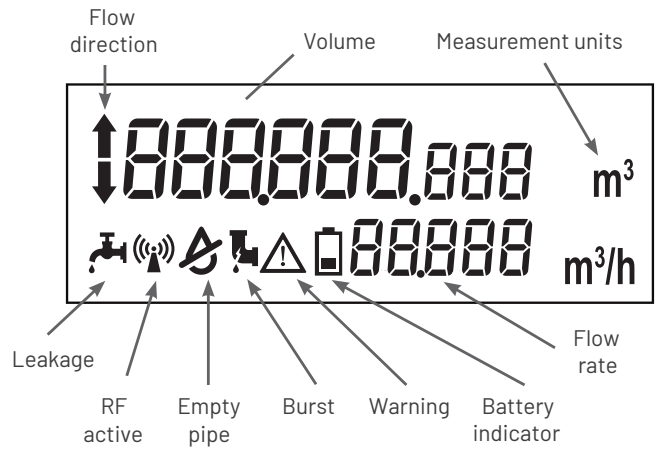
AMR INTERFACES, OPTIONAL



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	Q3 [m ³ /h]	6.3 / 10 / 16 / 25 / 40
	R Q3 / Q1	80 / 160 / 250 / 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 (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	m ³ - m ³ /h

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	800*	80	160	250	400	500	800*	80	160	400	500	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	0,0126	0,0125	0,125	0,0625	0,025	0,0202	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	0,0202	0,020	0,200	0,100	0,040	0,032	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					

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	500	800*	80	160	250	400	80	160	250	400	500	800*	80	160	250	400	500	800*
Minimum flow rate Q1, m ³ /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	0,200	0,100	0,064	0,040	0,3125	0,156
Transitional flow rate Q2, m ³ /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	0,200	0,100	0,064	0,040	0,500	0,250
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 ** - for direct flow, without optional strainer

TECHNICAL DATA:

Nominal flow rate Q3, m³/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	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**	Δp16						Δp16					

* - T30 temperature class only

** - for direct flow, without optional strainer

SIZE AND DIMENSIONS:

DN [mm]	25	32	40	50**
L [mm]	260	260	300	200
Connection	G 1 ¼"	G 1 ½"	G 2	DN50

* - T30 temperature class only