

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, NB-IoT and Sigfox\* 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
- 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.

### 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

### TECHNICAL FEATURES

- Temperature class T30, T50, T30/90, T90
- Nominal flow 6.3 / 10 / 16 / 25 / 40 m<sup>3</sup>/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: m<sup>3</sup>-m<sup>3</sup>/h

### 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.

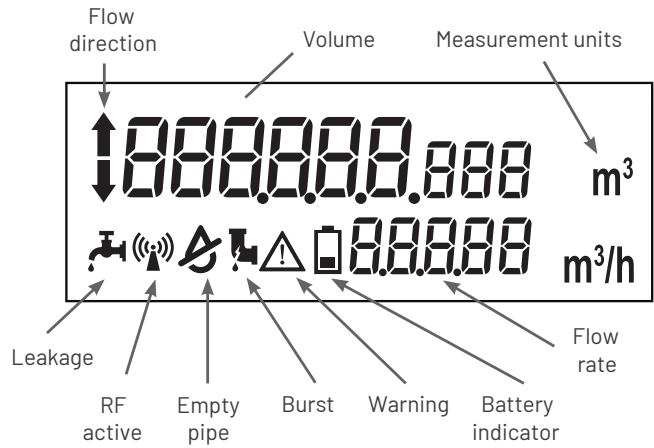
### AMR INTERFACES, OPTIONAL



## 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 <sup>3</sup> /h]	6.3 / 10 / 16 / 25 / 40
	R Q3 / Q1	80 / 160 / 250 / 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, 13 years NB-IoT version (depending on communication settings)
Units	m <sup>3</sup> /h - m <sup>3</sup>	

Nominal flow rate Q3, m <sup>3</sup> /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	800*	80	160	400	800*
Minimum flow rate Q1, m <sup>3</sup> /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	0,0125
Transitional flow rate Q2, m <sup>3</sup> /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	0,020
Starting flow rate, m <sup>3</sup> /h	0,003					0,005					0,003				0,005				
Maximum flow rate Q4, m <sup>3</sup> /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 <sup>3</sup> /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*	80	160	250	400	800*	
Minimum flow rate Q1, m <sup>3</sup> /h	0,125	0,0625	0,0625	0,200	0,100	0,064	0,040	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 <sup>3</sup> /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	0,050	0,050	0,050	0,050		
Starting flow rate, m <sup>3</sup> /h	0,01					0,01							0,016					0,01				
Maximum flow rate Q4, m <sup>3</sup> /h	12,5					20,0							20,0					31,25				
Pressure loss class Δp, bar x 100**	Δp16					Δp16							Δp16					Δp16				

\* - T30 temperature class only    \*\* - Without optional strainer

## TECHNICAL DATA:

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

\* - T30 temperature class only

\*\* - Without optional strainer

## SIZE AND DIMENSIONS:

<b>DN [mm]</b>	25	32	40	50**
<b>L [mm]</b>	260	260	300	200
<b>Connection</b>	G 1 1/4"	G 1 1/2"	G 2	DN50

\* - T30 temperature class only

\*\* - Available from 2023 Q1