

ULTRASONIC WATER METER

QALCOSONIC W1



APPLICATION

Ultrasonic water meter QALCOSONIC W1 is designed for accurate measurement of cold and hot water consumption in households, apartment buildings and small 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 1l/h
- IoT and AMR, NFC, LoRa technology ready

APPROVALS

- MID 2014/32/EU
- ACS (France)
- DL 174/2004 (Italy)
- KIWA (The Netherlands)
- PHZ (Poland)
- NMI 14/3/43 (Australia)

- OIML R49 Compliant
- RoHS Directive Reach

APPROVALS IN PROGRESS

- WRAS (UK)
- KTW / DVGW (D)
- NSF61 (USA)
- AWWA (USA)
- WaterMark (Australia)

TECHNICAL FEATURES

- Temperature class T30, T50, T30/90, T90
- Nominal flow 1.6 / 2.5 / 4.0 m³/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
- Metering archive registration
- Maintenance free device, battery lifetime > 16 years
- Bi-directional flow measurements

- Flow direction indication
- Meter parametrisation and archive reading via NFC or optical interface
- Durable composite body
- Measurement units: m^3-m^3/h , Gal-GPM, ft^3-ft^3/h (optional)
- Strainer and back flow valve (optional)

AMR READY

- W-MBus 868 MHz, OMS T1; S1
- LoRa WAN
- NFC

PARAMETRISATION OF THE METER

- NFC and optical interface is integrated into the top front panel of calculator. It is designed for data reading via M-bus protocol and parameterisation of the meter

RADIO INTERFACE

- The internal radio provides data reading via WMBUS telegram: 868 MHz. S1, T1 OMS mode, LoRa WAN

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
- Temperature indication

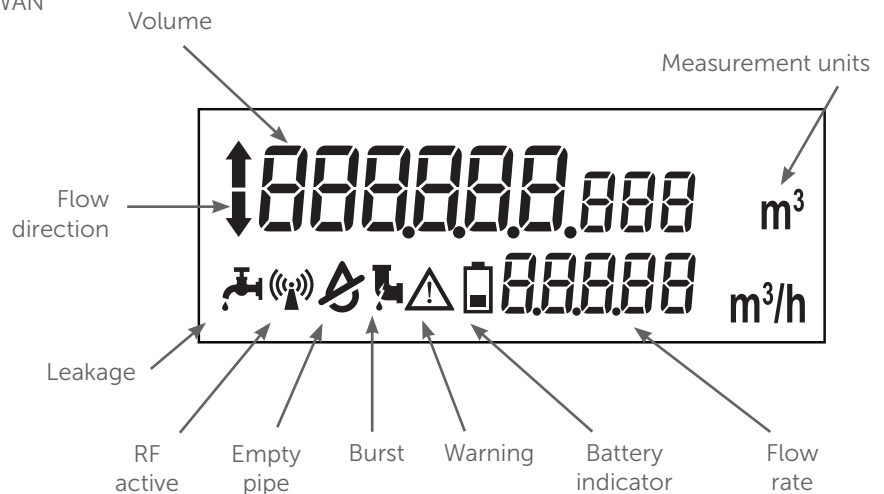
DATA LOGGER – HISTORY VALUES

- Hourly, daily, monthly values of the measured parameters are stored in internal memory
- All data from archive can be read by means of the remote reading

LCD INDICATIONS AND ALARM

MULTIPLE ALARMS AND EVENTS, INCLUDING:

- Flow direction indication
- Battery level indication
- Leakage
- Burst
- Backflow
- Empty pipe
- Radio communication
- Warning indication
- Temperature indication (special configuration)



TECHNICAL DATA:

| | | |
|------------------|--------------------------------------|---|
| Flow rate sensor | Q3 [m^3/h] | 1.6 / 2.5 / 4.0 |
| | R Q3 / Q1 | Q3 1.6: 250 / 315 Q3 2.5: 250 / 400 Q3 4.0: 250 / 400 / 800 |
| | Medium Temp. (operating 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 |
| | Pressure loss | 0.25 / 0.40 |
| | Battery lifetime | 16 years |
| | Units | m^3/h - l/h - m^3 , (GAL - ft^3 - GMP - ft^3/h optional) |

TECHNICAL DATA:

| Permanent Q_3 , m ³ /h | R Q_3/Q_1 | Maximum Q_4 , m ³ /h | Minimum Q_1 , m ³ /h | Transitional Q_2 , m ³ /h | Starting flow m ³ /h | Connections | Overall length, mm | ΔP |
|-------------------------------------|-------------|-----------------------------------|-----------------------------------|--|---------------------------------|--------------|-------------------------|---------------|
| 1,6 | R250 | 2 | 0,0064 | 0,010 | 0,001 | G3/4" (DN15) | 80, 105, 110, 165, 170 | $\Delta P 25$ |
| 1,6 | R315 | 2 | 0,005 | 0,008 | 0,001 | G3/4" (DN15) | 80, 105, 110, 165, 170 | $\Delta P 25$ |
| 1,6 | R400 | 2 | 0,004 | 0,0064 | 0,001 | G3/4" (DN15) | 80, 105, 110, 165, 170 | $\Delta P 25$ |
| 2,5 | R250 | 3,125 | 0,010 | 0,016 | 0,001 | G3/4" (DN15) | 80, 105, 110, 165, 170 | $\Delta P 40$ |
| 2,5 | R400 | 3,125 | 0,0063 | 0,010 | 0,001 | G3/4" (DN15) | 80, 105, 110, 165, 170 | $\Delta P 40$ |
| 2,5 | R800 | 3,125 | 0,0031 | 0,005 | 0,001 | G3/4" (DN15) | 80, 105, 110, 165, 170 | $\Delta P 40$ |
| 2,5 | R250 | 3,125 | 0,010 | 0,016 | 0,001 | G1" (DN20) | 105, 110, 130, 165, 190 | $\Delta P 25$ |
| 2,5 | R400 | 3,125 | 0,0063 | 0,010 | 0,001 | G1" (DN20) | 105, 110, 130, 165, 190 | $\Delta P 25$ |
| 4 | R250 | 5 | 0,016 | 0,026 | 0,002 | G1" (DN20) | 105, 110, 130, 165, 190 | $\Delta P 40$ |
| 4 | R400 | 5 | 0,010 | 0,016 | 0,002 | G1" (DN20) | 105, 110, 130, 165, 190 | $\Delta P 40$ |
| 4 | R800 | 5 | 0,005 | 0,008 | 0,002 | G1" (DN20) | 105, 110, 130, 165, 190 | $\Delta P 40$ |

SIZE AND DIMENSIONS:

| DN [mm] | 15 | 20 |
|---------|------------------------|-------------------------|
| L [mm] | 80, 105, 110, 165, 170 | 105, 110, 130, 165, 190 |
| H [mm] | 69,5 | 74,1 |
| G | 3/4" | 1" |

