

ULTRASONIC WATER METER

QALCOSONIC FLOW4 (IP68)



APPLICATION

Ultrasonic water meter QALCOSONIC FLOW 4 is designed for measurement of cold and hot water consumption in households and blocks of flats, as well for industrial applications.

- Static water meter using ultrasonic technology
- High accuracy
- For residential and commercial use
- Hot and cold water

APPROVALS

MID
OIML R49 Compliant
EN 14154

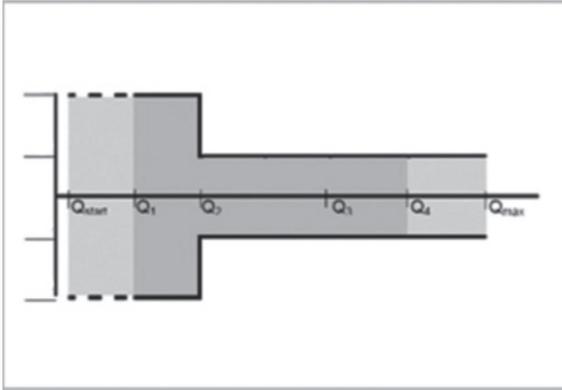
AMR INTERFACES, OPTIONAL

M-Bus module
CL module
LON module
MODBUS RS485
RF868 MHz module
MiniBus module
4-20 mA current output module (is designed for current output (4-20mA) proportionally to flow rate (Q1-Q4))

SPECIAL FEATURES

- Temperature class T30, T30/90, T90
- Nominal flow 1.6 / 2.5 / 4.0 / 6.3 / 10 / 16 / 25 / 40 / 63 / 100 m³/h
- Dynamic range up to $Q_3/Q_1 = R 250/400$
- No straight sections required
- No measurement of air
- Ambient class B/C
- Protection class IP 68
- Nominal pressure PN16/25 bar
- Temperature measurement possibility Pt 500, 0-180°C
- Internal data logger
- Battery lifetime > 16 years
- Power supply options: Battery/External power supply
- Optional communication modules
- Measure reverse flow (to additional register)
- Flow direction indication

MEASURING ACCURACY CLASS 2



OPTICAL INTERFACE

Integrated into the front panel of calculator. It is designed for data reading via M-bus protocol and parameterization of the meter and for volume pulse output in test mode.

RADIO INTERFACE

The internal radio module provides data reading via WMBUS telegram: Axis, S1, T1 OMS mode.

WIRED M-BUS INTERFACE (SPECIAL ORDER)

The internal M-BUS module provides data reading possibility via M-Bus protocol.

DATA REGISTRATION

- Total volume
- Forward volume
- Reverse volume
- Volume of pulse input 1
- Volume of pulse input 2
- Maximum flow rate value and date
- Minimum flow rate value and date
- Maximum temperature value and date (if used)
- Minimum temperature value and date (if used)

MESSAGE INDICATIONS:

| Code | Description |
|---|--|
| Status of calculator | 0 - no error, normal operation 1 - warning - less 6 month.to ending battery life 2 - battery low alarm (ending battery life) 8 - electronics failure (tamper attempt) |
| Status of flow sensor | 0 - no error, normal operation 1 - air measurement alarm (air less 10 min) 2 - reverse flow alarm 4 - meter overload flow alarm (displeed $q=1,2 \cdot Q_4$) |
| Status of flow | 0 - no error, normal operation 1 - meter dry alarm (air more then 10 min) 2 - continuous zero flow alarm (more 24 h) 4 - leak / continuous flow alarm (more 1 h) |
| Status of temperature sensor (if used) | 0 - no error, normal operation 1- low temperature alarm ($<3^\circ \text{C}$) 2 - meter overload temperature alarm ($>90^\circ \text{C}$) 4 - failure of temperature sensor (or disconnected) |

- Operating time without an error
- Error code
- Time when the flow rate exceeded $1.2 Q_4$
- Time when the flow rate was less than Q_1

UNIVERSAL PULSE INPUTS/OUTPUTS (SPECIAL ORDER)

- Pulse cable (optional)
- Two configurable pulse outputs/inputs

ERROR CODES

ERROR and message code indication:

- Battery low alarm
- Air in pipe
- Leak detection

DATA LOGGER – HISTORY VALUES

- Every hour, day and month values of the measured parameters are stored in internal memory
- All data from archive can be read by means of the remote reading.
- In addition data logger records of monthly parameters can be seen on the display.

LCD INDICATOR

- The device is equipped with 8-digits LCD (Liquid Crystal Display) with special symbols to display parameters, measurement units and operation modes.
- The following information can be displayed:
 - Integral and instantaneous measured parameters,
 - Archive data and set day data,
 - Device configuration information.
- Programmable LCD displaying parameters



POWER SUPPLY

Power supply (one of following depending on meter configuration):

- 2 x AA battery 3,6 V 2,4 Ah (Li-SOCl₂) battery, operation time at least 16 years.
- 12..42 V DC or 12...36 V 50/60Hz AC external power supply, used current 10 mA and back up battery AA 3,6 V (Li-SOCl₂).

TECHNICAL DATA

| | | |
|-------------------------|---|---|
| Flow rate sensor | Q ₃ [m ³ /h] | 1.6 / 2.5 / 4.0 / 6.3 / 10 / 16 / 25 / 40 / 63 / 100 |
| | R Q ₃ / Q ₁ [m ³ /h] | Q ₃ 1.6: 250 Q ₃ 2.5: 250 / 400 Q ₃ 4.0, 6.3, 10, 16, 25, 40, 63, 100: 250 / 400 |
| Technical data | LCD Display | 8-digit |
| | Protection class [IP] | IP68 |
| | Ambient class | Class B / EN 14 154 |
| | Ambient temperature | +5 °C...+65 °C |
| | Installation place | indoor, outdoor in a pit or inst. box |
| | Installation position | all installation positions (vertical, horizontal, rising pipe, down pipe) |
| | Nominal pressure [bar] | PN16/25 bar |
| | Pressure loss | 0.63 / (0.25) bar |
| | Temperature sensor, two-wired connection, cable length (optional) | Up to 5m. |
| | Battery lifetime | 10-16 years |

| Q ₃ , m ³ /h | R Q ₃ /Q ₁ | Q ₄ , m ³ /h | Q ₁ , m ³ /h | Q ₂ , m ³ /h | Threshold value, m ³ /h | Joining to the pipeline (Thread – G, flange–DN) | Overall length L, mm | ΔP (bar x 100) |
|------------------------------------|----------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---|----------------------|----------------|
| 1,6 | R250 | 2 | 0,0064 | 0,01 | 0,003 | G3/4" | 110, 165 | ΔP 63 or ΔP 25 |
| | | | | | | G1" or DN20 | 190 | ΔP 25 |
| 2,5 | R250 | 3,125 | 0,01 | 0,016 | 0,005 | G3/4" | 110, 165 | ΔP 63 |
| | | | | | | G1" or DN20 | 190 | ΔP 25 |
| | | | | | | G1" | 130 | ΔP 25 |
| 2,5 | R400 | 3,125 | 0,0063 | 0,01 | 0,002 | G3/4" | 110, 165 | ΔP 63 |
| | | | | | | G1" or DN20 | 190 | ΔP 25 |
| 4 | R250 | 5 | 0,016 | 0,026 | 0,008 | G1" or DN20 | 190 | ΔP 63 or ΔP 25 |
| | | | | | | G1" | 130 | ΔP 63 |
| 4 | R400 | 5 | 0,01 | 0,016 | 0,003 | G1" | 130 | ΔP 63 |
| | | | | | | G1" or DN20 | 190 | ΔP 63 or ΔP 25 |
| 6,3 | R250 | 7,875 | 0,0252 | 0,04 | 0,012 | G1" or DN20 | 190 | ΔP 63 |
| | | | | | | G1 1/4" or G1 1/2" DN25, DN32 | 260 | ΔP 25 |
| 6,3 | R400 | 7,875 | 0,016 | 0,026 | 0,007 | G1" or DN20 | 190 | ΔP 63 |
| | | | | | | G1 1/4" or G1 1/2" DN25, DN32 | 260 | ΔP 25 |
| 10 | R250 | 12,5 | 0,04 | 0,064 | 0,02 | G1 1/4" or G1 1/2" DN25, DN32 | 260 | ΔP 63 |
| | | | | | | G2" or DN40 | 300 | ΔP 25 |

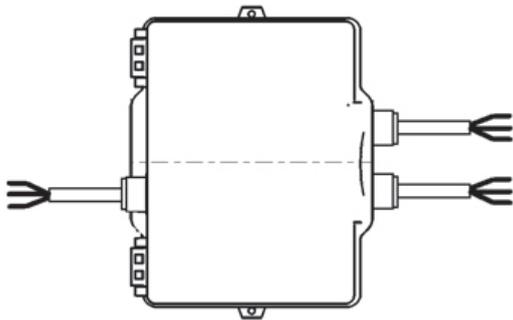
| | | | | | | | | |
|-----|------|-------|-------|-------|------|-------------------------------|----------|-------|
| 10 | R400 | 12,5 | 0,025 | 0,04 | 0,01 | G1 1/4" or G1 1/2" DN25, DN32 | 260 | ΔP 63 |
| | | | | | | G2" or DN40 | 300 | ΔP 25 |
| 16 | R250 | 20 | 0,064 | 0,1 | 0,03 | G2" or DN40 | 300 | ΔP 63 |
| | | | | | | DN50 | 270 | ΔP 25 |
| 16 | R400 | 20 | 0,04 | 0,064 | 0,02 | G2" or DN40 | 300 | ΔP 63 |
| 25 | R250 | 31,25 | 0,1 | 0,16 | 0,05 | DN50 | 270 | ΔP 63 |
| | | | | | | DN65 | 300, 350 | ΔP 25 |
| 25 | R400 | 31,25 | 0,063 | 0,1 | 0,03 | DN50 | 270 | ΔP 63 |
| 40 | R250 | 50 | 0,16 | 0,26 | 0,08 | DN65 | 300, 350 | ΔP 63 |
| | | | | | | DN80 | 300,350 | ΔP 25 |
| 40 | R400 | 50 | 0,1 | 0,16 | 0,05 | DN65 | 300 | ΔP 63 |
| 63 | R250 | 78,75 | 0,252 | 0,4 | 0,12 | DN80 | 300,350 | ΔP 63 |
| | | | | | | DN100 | 350, 360 | ΔP 25 |
| 63 | R400 | 78,75 | 0,16 | 0,26 | 0,08 | DN80 | 300,350 | ΔP 63 |
| 100 | R250 | 125 | 0,4 | 0,64 | 0,2 | DN100 | 350, 360 | ΔP 63 |
| 100 | R400 | 125 | 0,25 | 0,4 | 0,12 | DN100 | 350, 360 | ΔP 63 |

PULSE OUTPUT VALUE DEPENDING ON Q₃, m³/h

| | | |
|--|-------------|------------|
| Pulse output value depending on Q ₃ , m ³ /h | 1,6 ... 6,3 | 10 ... 100 |
| Pulse value, L/imp | 1 | 10 |

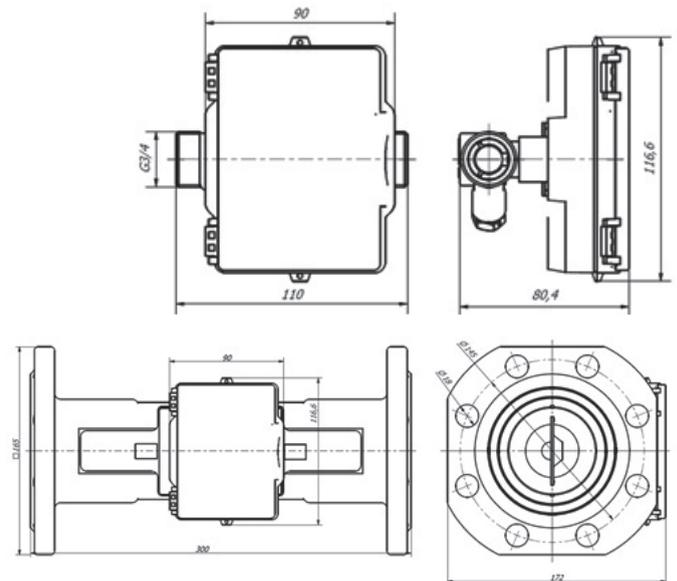
| | | | | | | | | |
|-------------|---------|-------------|-----------------|-------------|------|---------|---------|---------|
| DN [mm] | 15 | 20 | 25 | 40 | 50 | 65 | 80 | 100 |
| L [mm] | 110/165 | 130/190 | 260 | 300 | 270 | 300 | 350 | 350 |
| H [mm] | 81 | 85 | 129/130 | 144/152 | 172 | 180/183 | 197/200 | 222/235 |
| G/Flange DN | G3/4" | G1" or DN20 | G1 1/4" or DN25 | G2" or DN40 | DN50 | DN65 | DN80 | DN100 |

CABLE OUTPUTS (SPECIAL ORDER)



Depending on the order can be up to 3 cables outputs (cable length 1.5 m). The cables can have from two to four core wires. Cable core is identified by number and color for different communication module application.

SIZE AND DIMENSIONS



Axis Industries AB / Kulautuvos str. 45a / Kaunas, Lithuania / info@axis.lt / www.qalcoproducts.com