

# ULTRASONIC WATER METER

## QALCOSONIC FLOW 3



### APPLICATION

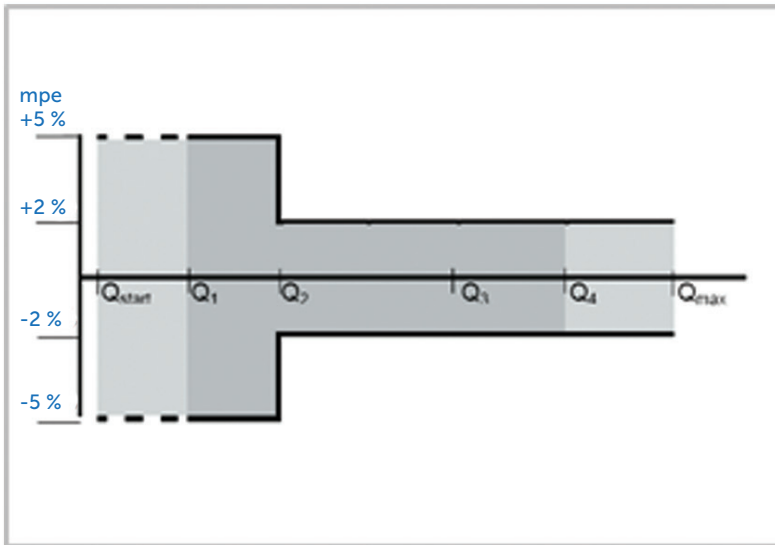
Ultrasonic water meter QALCOSONIC FLOW 3 is designed for measurement of cold and hot water consumption in households and blocks of flats, as well for industrial applications.

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

### SPECIAL FEATURES

- Temperature class T30, T30/90, T90
- Nominal flow 1.6 / 2.5 / 4.0 / 6.3 / 10 / 16 / 25 m<sup>3</sup>/h
- Dynamic range up to Q<sub>3</sub>/Q<sub>1</sub> = R 250/400
- No straight sections required
- No measurement of air
- Ambient class B
- Protection class IP 65/67
- Nominal pressure PN16/25 bar
- Pressure  $\Delta P_{25/63}$
- Temperature measurement Pt500, 0° C ... 180° C
- Metering archive
- Battery lifetime > 12 years
- Power supply options: Battery/External
- Optional communication modules
- Mounting in any installation position

## MEASURING ACCURACY CLASS 2



### APPROVALS

MID  
OIML R49  
EN 14154

### AMR Interfaces

Optical  
Radio 868 MHz  
M-Bus/CL  
LON  
MiniBus  
Pulse output

### OPTICAL INTERFACE

Integrated into the front panel of calculator. It is designed for data reading via M-bus protocol and parameterization of the meter.

### RADIO INTERFACE

The internal radio provides **data** reading via WMBUS telegram:

- Current total volume
- Current flow
- Current date and time
- Accounting date information
- Error date

### Wired M-BUS INTERFACE

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

### DATA REGISTRATION

Hourly, daily and monthly parameter values

- Integral volume of liquid
- Integrated pulse value in pulse input 1
- Integrated pulse value in pulse input 2
- Maximum flow rate value and date
- Operating time without an error
- Total error code
- Time when the flow rate exceeded 1.2 Q<sub>4</sub>
- Time when the flow rate was less than Q<sub>1</sub>

### UNIVERSAL PULSE INPUTS/OUTPUTS

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

### ERROR CODES

ERROR code indication in case of errors.

## 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):

- AA battery 3,6 V 2,4 Ah (Li-SOCl<sub>2</sub>) battery, operation time at least 11 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-SOCl<sub>2</sub>), operation time at least 11 years (without reading data through digital interfaces).
- 230 V (+ 10% - 30%) 50 / 60Hz AC power supply, current consumption is not more than 10 mA, the meter should be equipped with external power supply unit and an external transformer TRS.

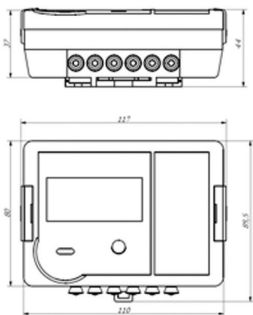
## TECHNICAL DATA

|                        |   |   |
|------------------------|---|---|
| Flow rate sensor       | Q3 [m <sup>3</sup> /h]  | 1.6 / 2.5 / 4.0 / 6.3 / 10 / 16 / 25                                      |
|                        | R Q3 / Q1 [m <sup>3</sup> /h]                                     | Q3 1.6: 250<br>Q3 2.5: 250 / 400<br>Q3 4.0, 6.3, 10, 16, 25: 250 / 400    |
|                        | Medium Temp. (operating temperature)                              | 0,1 ... 90°C  |
| Technical data         | LCD-Display   | 8-digit   |
|                        | Protection class [IP]   | IP65/67   |
|                        | 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   |
|                        | Flow sensor cable length  | 1,2m (2,5m or 5 m – special order)  |
|                        | Temperature sensor, two-wired connection, cable length (optional) | Up to 5m.   |
|                        | Battery lifetime  | 10-12 years   |
| Mounting of calculator | Mounting on standard DIN-rail                                     |   |

| $Q_{3'}$<br>m <sup>3</sup> /h | R<br>$Q_3/Q_1$ | $Q_{4'}$<br>m <sup>3</sup> /h | $Q_{1'}$<br>m <sup>3</sup> /h | $Q_{2'}$<br>m <sup>3</sup> /h | Threshold<br>value of flow<br>rate, m <sup>3</sup> /h | Joining to the pipeline<br>(Thread – G, flange–<br>DN) | Overall length<br>L, mm | $\Delta P$ (bar x 100)       |
|-------------------------------|----------------|-------------------------------|-------------------------------|-------------------------------|---|--|-------------------------|------------------------------|
| 1,6                           | R250           | 2                             | 0,0064                        | 0,01                          | 0,003   | G3/4"  | 110, 165                | $\Delta P$ 63, $\Delta P$ 25 |
|                               |                |                               |                               |                               |   | G1" or DN20  | 190                     | $\Delta P$ 25                |
| 2,5                           | R250           | 3,125                         | 0,01                          | 0,016                         | 0,005   | G3/4"  | 110, 165                | $\Delta P$ 63                |
|                               |                |                               |                               |                               |   | G1" or DN20  | 190                     | $\Delta P$ 63, $\Delta P$ 25 |
| 2,5                           | R400           | 3,125                         | 0,0063                        | 0,01                          | 0,003   | G1"  | 130                     | $\Delta P$ 25                |
|                               |                |                               |                               |                               |   | G3/4"  | 110, 165                | $\Delta P$ 63                |
| 4                             | R250           | 5                             | 0,016                         | 0,026                         | 0,008   | G1" or DN20  | 190                     | $\Delta P$ 63, $\Delta P$ 25 |
|                               |                |                               |                               |                               |   | G1"  | 130                     | $\Delta P$ 63                |
| 4                             | R400           | 5                             | 0,01                          | 0,016                         | 0,005   | G1"  | 130                     | $\Delta P$ 63                |
|                               |                |                               |                               |                               |   | G1" or DN20  | 190                     | $\Delta P$ 63, $\Delta P$ 25 |
| 6,3                           | R250           | 7,875                         | 0,0252                        | 0,04                          | 0,012   | G1" or DN20  | 190                     | $\Delta P$ 63                |
|                               |                |                               |                               |                               |   | G1 1/4" or DN25  | 260                     | $\Delta P$ 25                |
| 6,3                           | R400           | 7,875                         | 0,016                         | 0,026                         | 0,008   | G1" or DN20  | 190                     | $\Delta P$ 63                |
|                               |                |                               |                               |                               |   | G1 1/4" or DN25  | 260                     | $\Delta P$ 63                |
| 10                            | R250           | 12,5                          | 0,04                          | 0,064                         | 0,02  | G1 1/4" or DN25  | 260                     | $\Delta P$ 63                |
|                               |                |                               |                               |                               |   | G2" or DN40  | 300                     | $\Delta P$ 25                |
| 10                            | R400           | 12,5                          | 0,025                         | 0,04                          | 0,012   | G1 1/4" or DN25  | 260                     | $\Delta P$ 63                |
|                               |                |                               |                               |                               |   | G2" or DN40  | 300                     | $\Delta P$ 63                |
| 16                            | R250           | 20                            | 0,064                         | 0,1                           | 0,03  | DN50   | 270                     | $\Delta P$ 25                |
|                               |                |                               |                               |                               |   | G2" or DN40  | 300                     | $\Delta P$ 63                |
| 16                            | R400           | 20                            | 0,04                          | 0,064                         | 0,02  | G2" or DN40  | 300                     | $\Delta P$ 63                |
| 25                            | R250           | 31,25                         | 0,1                           | 0,16                          | 0,05  | DN50   | 270                     | $\Delta P$ 63                |
| 25                            | R400           | 31,25                         | 0,063                         | 0,1                           | 0,03  | DN50   | 270                     | $\Delta P$ 63                |

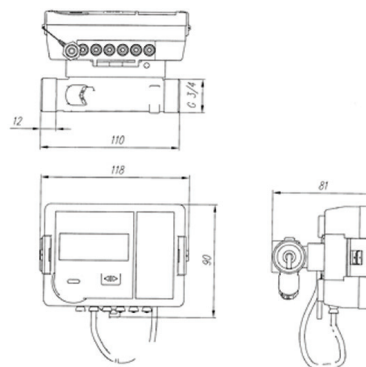
### Dimensions of calculator

117 mm x 44 mm x 89,5 mm,



### Sizes and dimensions of water meter

Example – flow sensor Q3= 1,6/2,5m<sup>3</sup>/h, Threaded end connections G3/4", mounting length L=110 mm.



|              |           |             |                 |             |      |
|--------------|-----------|-------------|-----------------|-------------|------|
| DN [mm]      | 15        | 20          | 25              | 40          | 50   |
| L [mm]       | 110 / 165 | 130/ 190    | 260             | 300         | 270  |
| H [mm]       | 81        | 85          | 123/134         | 141/163     | 167  |
| G/ Flange DN | G3/4"     | G1" or DN20 | G1 1/4" or DN25 | G2" or DN40 | DN50 |