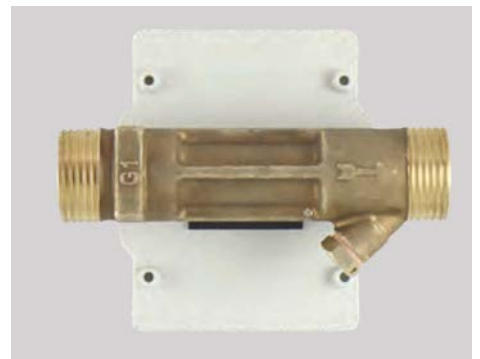


# ULTRASONIC WATER METER QALCOSONIC F1 (IP68)



## APPLICATION

Ultrasonic water meter QALCOSONIC F1 (IP68) 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

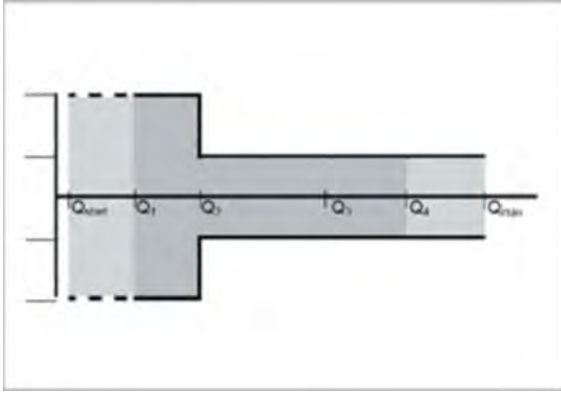
## AMR INTERFACES, OPTIONAL.

M-Bus module  
CL module  
MODBUS RS485  
RF868 MHz module (Default)  
MiniBus module + LoRa

## SPECIAL FEATURES

- Temperature class T30, T30/90, T90
- Nominal flow 1.6 / 2.5 / 4.0 / 6.3 / 10 / 16 / 25 / 40 / 63 / 100 m<sup>3</sup>/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, Lora.

## 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 (optional)
- Volume of pulse input 2 (optional)
- 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 ( $<3^{\circ}C$ ) 2 – meter overload temperature alarm ( $>90^{\circ}C$ ) 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-SOCl<sub>2</sub>) 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-SOCl<sub>2</sub>) (Optional).

## TECHNICAL DATA

<b>Flow rate sensor</b>	Q <sub>3</sub> [m <sup>3</sup> /h]	1.6 / 2.5 / 4.0 / 6.3 / 10 / 16 / 25 / 40 / 63 / 100
	R Q <sub>3</sub> / Q <sub>1</sub> [m <sup>3</sup> /h]	Q <sub>3</sub> 1.6: 250 Q <sub>3</sub> 2.5: 250 / 400 Q <sub>3</sub> 4.0, 6.3, 10, 16, 25, 40, 63, 100: 250 / 400
<b>Technical data</b>	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 <sub>3</sub> , m <sup>3</sup> /h	R Q <sub>3</sub> /Q <sub>1</sub>	Q <sub>4</sub> , m <sup>3</sup> /h	Q <sub>1</sub> , m <sup>3</sup> /h	Q <sub>2</sub> , m <sup>3</sup> /h	Threshold value, m <sup>3</sup> /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
						G1"	130	ΔP 63
4	R400	5	0,01	0,016	0,003	G1" or DN20	190	ΔP 63 or ΔP 25
						G1" or DN20	190	ΔP 63
						G1 1/4" or DN25	260	ΔP 25
6,3	R250	7,875	0,0252	0,04	0,012	G1 1/4" or DN25	260	ΔP 25
						G1" or DN20	190	ΔP 63
6,3	R400	7,875	0,016	0,026	0,007	G1 1/4" or DN25	260	ΔP 25
						G1 1/4" or DN25	260	ΔP 25
10	R250	12,5	0,04	0,064	0,02	G1 1/4" or DN25	260	ΔP 63
						G2" or DN40	300	ΔP 25

