

Qalcosonic W1

■ Cold and hot water meters with ultrasonic technology

Applications

Approved for drinking water. Integrated communication for wireless communication. Suitable for most hot and cold water applications. For water up to +90 °C. Battery operation 16 years. The meter is made of composite.



Characteristics

- Ultrasonic meter for hot and cold water
- Certified accuracy acc. 2014/32 / EU and OIML R 49
- Environmental class C for industrial use
- Wireless communication
- Large data memory for logged measurements
- 16-year battery life
- Dynamic measuring range 1: 250 (alternatively 1: 400 or 1: 800)
- IP68 (submersible), made of composite

Benefits

- Static measurement without moving parts - insensitive to particles
- Accurate water measurement for both cold and hot water
- Cost-effective remote reading via wired and wireless communication
- Versatile data storage
- All mounting directions possible



Intended use

Qalcosonic W1 is a compact ultrasonic meter for measuring flow in water. It fits most applications where you need to measure cold or hot water, approved according to the measuring instrument directive (MID) OIML R49.

Meters for billing must be validated within a time period specified by local legislation.

Certified according to: 2014/32/EU, ACS, OIML R49, RoHS, WRAS, KTW.

Qalcosonic W1 requires no straight line. However, straight pipes should always be preferred.

Function and measurement principle

The meter is an ultrasonic flow sensor for water. Can be mounted horizontally or vertically upwards. The meter is constructed in composite for low weight and easier recycling.

The meter is fully encapsulated with IP68 and is thus submersible.

The meter is equipped with an optical port with EN 1434 M-bus protocol.

Communication

The Qalcosonic W1 has a radio protocol and can be configured via NFC with any mobile phone or tablet. The meter is prepared for the Internet of Things.

The unit's parameters can also be set via the IR port with advanced software.

Communication protocol

Several of the following protocols can be combined in the same meter.

- Wireless M-bus S1
- Wireless M-bus T1
- Lora
- NB-IoT
- NFC
- Sigfox (on the way)
- M-bus and pulse via external converter

Options

The following options are available today.

Software options

- Customer-specific programming such as logging time and transmission time.
- Different payloads with LoRa.

Hardware options

- Temperature sensor for measuring liquid or air temperature
- Customer-specific labeling

External accessories

- Optical eye for IR reading
- Software for programming
- Clutches
- Check valve
- Lora equipment
- Wireless M-bus equipment

Data logger

The flow meter has a built-in data logger that saves:

- hourly values
- daily values
- monthly values

The archive is saved for 360 months. Measurement values remain even if the voltage is broken for at least 15 years.

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Classification

Specification	Data
Metrological class	2014/32/EU / EN4064 Klass 2 vid 0,1-30 °C (T30) Klass 3 vid 30-90 °C (T90)
Mechanical class	M1 acc. 2014/32/EU
Electrical class	E1 acc. 2014/32/EU
Environmental class	B acc. 2014/32/EU
Protection class	IP 68
Others	OIML R 49 Approved for drinking water PN 16

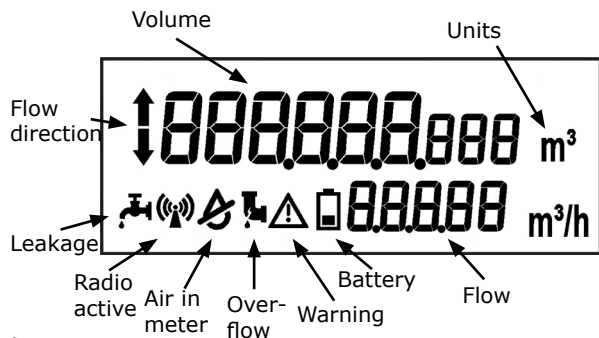
Counter

Specification	Data
Power source	16 year Lithium-battery (depends on datacommunications)
Communication	See Options
Display	9-value LCD with symbols
Unit, volume	Volume: 000000,001 m ³

Temperatures

Specification	Data
Ambient temperature	+5...65 °C (condensation free)
Medium temperature	+0,1...90 °C
Temperature sensor	Pt500 (Option)

Display



Values in each measuring point

- Total volume
- Volume, forward
- Volume, backwards
- Max flow rate and date
- Min flow rate and date
- Operating time without an error
- Operating time
- Info code (error code)
- Temperature

Technical data

Nominal diameter / length (mm)	Nominal flow rate Q3 (m ³ /h)	Max flow rate Q4 (m ³ /h)	Threshold flow rate Q2 (m ³ /h)	Min flow rate Q1 (m ³ /h)	Starting flow rate (m ³ /h)	Pressure class ΔP	Measurement range	Connection	Wt (kg)
DN15 / 80	1,6	2,0	0,010	0,0064	0,001	25	R250	G20/G¾	0,3
	1,6	2,0	0,008	0,005	0,001	25	R315		
	2,5	3,125	0,016	0,01	0,001	40	R250		
	2,5	3,125	0,010	0,0062	0,001	40	R400		
DN15 / 110	1,6	2,0	0,010	0,0064	0,001	25	R250	G20/G¾	0,3
	1,6	2,0	0,008	0,005	0,001	25	R315		
	2,5	3,125	0,016	0,01	0,001	40	R250		
	2,5	3,125	0,010	0,0062	0,001	40	R400		
DN20 / 130	2,5	3,125	0,016	0,01	0,001	25	R250	G25/G1	0,3
	2,5	3,125	0,010	0,0062	0,001	25	R400		
	4,0	5,0	0,025	0,016	0,002	40	R250		
	4,0	5,0	0,016	0,01	0,002	40	R400		
	4,0	5,0	0,008	0,005	0,002	40	R800		
DN20 / 165	2,5	3,125	0,016	0,01	0,001	25	R250	G25/G1	0,3
	2,5	3,125	0,010	0,0062	0,001	25	R400		
	4,0	5,0	0,025	0,016	0,002	40	R250		
	4,0	5,0	0,016	0,01	0,002	40	R400		
	4,0	5,0	0,008	0,005	0,002	40	R800		
DN20 / 190	2,5	3,125	0,016	0,01	0,001	25	R250	G25/G1	0,3
	2,5	3,125	0,010	0,0062	0,001	25	R400		
	2,5	5,0	0,025	0,016	0,002	40	R250		
	4,0	5,0	0,016	0,01	0,002	40	R400		
	4,0	5,0	0,008	0,005	0,002	40	R800		

Pressure drop

- Coming later -

Ordering information

QW1	-	1	45	-	0	X1	2	-	0	1	1	1
Max temperature												
Code												
T30 (cold water)				1				T90 (warm water)				3
Protection class												
Code												
IP68				1								
Pressure class												
Code												
PN16				1								
Additional communication												
Code												
None				0								
Activation												
Code												
N/A (without LoRa)				0				OTAA				3
ABP				1								
Communication												
Code												
Wireless M-bus S1				1X				LoRa and wireless M-bus				X3
Wireless M-bus T1 OMS				2X								
LoRa				X1								
Kommunikationsfrekvens												
Code												
868 MHz				0								
Flow Q3 m³/h												
Length, mm												
Connection												
Code												
Code												
1,6		80		G ³ / ₄				2,5		165		G1
2,5		80		G ³ / ₄				4,0		165		G1
1,6		110		G ³ / ₄		13		2,5		190		G1
2,5		110		G ³ / ₄		23		4,0		190		G1
2,5		130		G1		33						
4,0		130		G1		43						
Measurement range (Q₃/Q₁)												
Code												
R250				1				R315				2
R400				3				R800				4

About Ambiductor

Ambiductor focus in the following areas:

- Energy meter
- Water meters
- Oil meters and meters for industrial liquids
- Smart metering and measurement collection
- Lora products

Ambiductor is an engineering company with many years of experience in measurement technology, automation and remote reading. With us, you experience a high level of service and wide range with the possibilities of solving all possible applications.

See instructional videos and assembly guides on www.ambiductor.se/support

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