

QLF Series

In-Line Low Flow Liquid Ultrasonic Flow Meter

Description

The QLF Series in-line ultrasonic flow meter has been specifically designed for low flow rate applications that require excellent accuracy & reliability. The compact QLF Series has no moving parts, non-wetted sensors and no obstructions in the flow stream to cause an increase in pressure drop; this results in a very rugged, reliable and accurate flow meter.

High accuracy & repeatability is achieved through the unique measurement section within the flow meter where the flow is conditioned and delta T is measured along the axis of the flow meter. The small footprint, lightweight device is ideal for low viscosity liquid applications including water based products, oils, and its all plastic construction makes it the meter of choice for many corrosive fluids.

The QLF Series flow meter principle of operation measures the time difference of an ultrasonic wave traveling with and against the flowing medium. The time difference is directly proportional to the fluid's flow rate. Temperature is measured via an RTD embedded into the flow meter body.

Features

- High accuracy
- 3500:1 turndown
- Minimum flow 0.001gpm
- No moving parts
- Compact & lightweight design
- Low pressure drop
- All plastic construction



Specifications

Flow Range	0.001 to 3.5 gpm
Accuracy	
Calibrated	±0.5% of reading plus zero stability ¹
Zero Stability	±0.0025% of full scale
Repeatability	±0.2% over 10:1 turndown
Turndown	3500:1
Nominal Line Sizes	1/8"
Materials of Construction	
Meter Body	PA12 - Biocompatible USP Class VI
Temperature	Class A RTD
Temperature Range	-10°C to 80°C (14°F to 176°F)
Max Pressure	275 psi (19 bar)
End Connections	NPT, Hosebarb, DIN 10
Rating	Designed to IP 66
Power	9-30 VDC ²
Outputs	
Analog	4-20mA
Scaled Frequency	10 to 8,000 Hz
Communications	Modbus RTU over EIA485
Baud Rate	115200, 57600, 38400, 19200, 9600 bps

1. Calibrated conditions are defined as water at ~25°C. Calibration sold separately.
2. 24-30 VDC power required when using analog output.



Ordering Information

Model Number	End Fitting	Minimum Flow	Maximum Flow	Weight (g)	Dim A (in)	Dim B (in)	Dim C (in)	Dim D (in)
QLF013-2FA0	1/4" NPT	0.001 gpm	3.5 gpm	175	13	1.61	1.57	2.42
QLF013-3FA0	Hosebarb			171				
QLF013-4FA0	DIN 10			181				

Cable

19-102374-101 Connector to flying leads cable, 5 meters

Calibration

90-103380-101

15 pts in water 0.001 to 0.4 gpm

90-103380-102

5 pts in water 0.4 to 3.5 gpm

90-103380-103

Custom calibration based on customer specification

*Calibration must be ordered separately.

*Calibrations above include 3 pt verification over stated range.

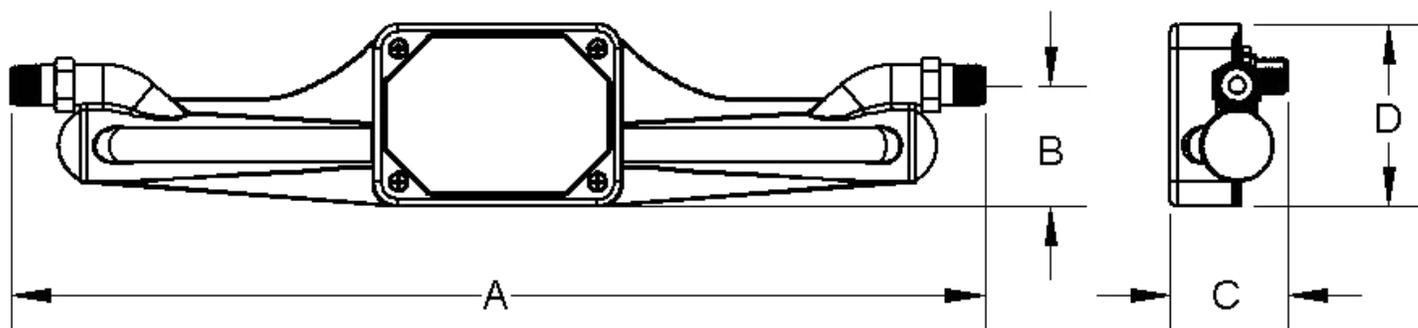
Wiring

Pin #	Function	Wire Color
1	Current Output (+)	Yellow
2	Power (9-32VDC)	Red
3	Factory Use	Green
4	EIA-485 A	Blue
5	EIA-485 B	White
6	Frequency Output	Orange
7	Current Output (-)	Brown
8	Power Return	Black

Pressure Drop as % Full Scale Flow

Line Size	10% (psi)	25% (psi)	50% (psi)	100% (psi)
1/8"	0.31	2.08	8.73	38.23

Dimensions



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