

FLOSENSE

FS MULTI SENSORS



Technical Description:

The FS sensor is a combined flow, pressure, and temperature sensor (three-in-one). The sensor is based on the principle of vortex shedding behind a bluff body. The sensor is fully compatible with wet, aggressive liquids. The sensor is based on MEMS sensing technology in combination with the corrosion resistant Silicoat® coating technology on the sensor chip.

Sensor Materials:

Sensor:	Silicon-based MEMS sensor
Sealing:	FKM
Housing:	Composite (PPS, PA66)
Wetted materials:	Corrosion resistant coating FKM

Directives:

The vortex flow sensors are in conformity with these council directives on the approximation of the laws of the EC member states:

- Low voltage directive (2014/35/EU)
 - Standards used: EN 61010-1:2010
- EMC Directive (2014/30/EU)
 - Standards used: EN 61326-1:2006 and EN 61326-2-3:2013

The vortex sensors are exempted from the Pressure Equipment Directive (PED) according to Article 4, paragraph 3 in the PED 2014/68/EU.



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Properties:

Flow

Measurement range:	2 – 20 L/min 4 – 40 L/min 10 – 100 L/min 20 – 200 L/min 40-400 L/min
Accuracy:	± 1 % FS (in 0-120°C range)
Resolution:	Max flow/16384 L/min

Temperature

Measurement range:	0 - 120°C
Accuracy (±1σ):	± 0.5 °C (in 15-90°C range) ± 1.0 °C (in 0-120°C range)
Resolution:	0.006°C

Pressure

Measuring range:	0-10 Bar
Accuracy:	± 2.0 % (in 15-90°C range) ± 2.5 % (in 0-120°C range)
Resolution:	0.6 mbar

System conditions and environment

System temperature, operation:	0-120°C
Ambient temperature, operation:	-25 to +60°C
Ambient temperature, peak:	-55 to +90°C
Maximum operating pressure:	16 bar at 100°C 8 bar at 120°C
Humidity, relative:	0-95%, non-condensing

Power supply requirements:

- 5 VDC ± 5 %, PELV
- Ratiometric
- Max. 10 mV ripple: 50 Hz
- Min. output current: 25 mA
- Power consumption: 75 mW
- Load impedance >47 k
- Separated from hazardous live circuitry by double or reinforced insulation
- Grounding of the sensor supply is required