FLOSENSE
FS-4 AND FSE FLOW SENSORS

FLOW

TEMPERATURE

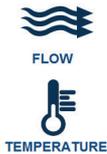## Technical Description:

The FS-4/FSE sensor is a combined flow and temperature sensor (two-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:	FFKM
Housing:	Composite (PPS, PA66)
Wetted materials:	Corrosion resistant coating
	FFKM
	PPS

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 (2014/357EU)
  - 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:	0.5 – 10 L/min
	1 – 20 L/min
	2 – 40 L/min
	5 – 100 L/min
	10 – 200 L/min
	20-400 L/min
Accuracy:	± 1 % FS (in 0-120°C range)
	± 2 % FS (in 120-160°C range)
Resolution:	Max flow/16384 L/min

Temperature

Measurement range:	0 - 120°C
	0 - 160°C
Accuracy (±1σ):	± 0.5 °C (in 15-90°C range)
	± 1.0 °C (in 0-120°C range)
	± 2.0 °C (in 120-160°C range)
Resolution:	0.006°C

System conditions and environment

System temperature, operation:	0-120°C
	0-160°C
Ambient temperature, operation:	-25 to +60°C
Ambient temperature, peak:	-55 to +90°C
Maximum operating pressure:	16 bar at 100°C
	10 bar at 160°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 impendance >47 k
- Separated from hazardous live circuitry by double or reinforced insulation
- Grounding of the sensor supply is required