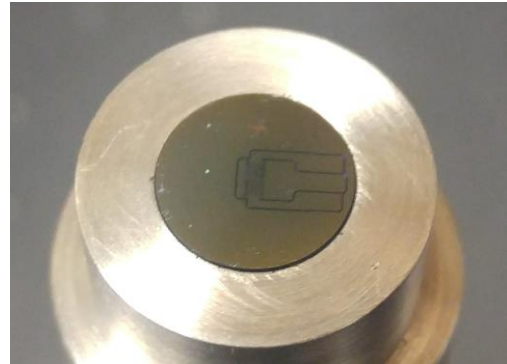


Data Sheet – Type CS-A10

Description

The IC2 type CS-A10 Capacitive Shear Stress Sensor is a micromachined, floating element device that enables time-resolved, one-dimensional, direct mean and fluctuating wall shear stress measurements. The sensor is packaged on a PCB endcap and installed in a cylindrical stainless steel housing. A shielded 6-pin cable is used to connect the sensor head to a designated Sensor Control Unit (SCU).



Key Features and Benefits

- Time-resolved, direct mean and fluctuating wall shear stress measurements
- Large dynamic range – < 5 mPa to 1 kPa
- Small sensing element – 0.5 mm x 0.15 mm
- Non-intrusive – minimal flow disturbance
- Shoulder and key for precision alignment
- Removable 6-pin shielded sensor cable

Typical Performance Specifications

Maximum shear stress	1 kPa
Bandwidth	DC – 10 kHz
Dynamic sensitivity @ 1 kHz	300 μ V/Pa
Minimum resolution @ 1 kHz	< 5 mPa
Dynamic range @ 1 kHz	> 110 dB
DC measurement accuracy	< 0.1% Full Scale / 10 min
DC offset (20°C, 70% RH)	2.6 V

General Specifications

Operating temperature range	0 – 50°C (32 – 122°F)
Sensing element dimensions	0.5 mm x 0.15 mm
Sensor head dimensions/weight	Diameter (head): 12.7 mm (0.5 in) Length (head): 6.4 mm (0.25 in) Diameter (shoulder): 15.9 mm (0.63 in) Total length: 52.3 mm (2.1 in) Weight: 50 g (0.11 lb)
Sensor flushness	< \pm 25 μ m (\pm 0.001 in)
Cable length	2 m (6.6 ft) standard – custom lengths available

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