



| PFS SERIES

AEROSPACE PRESSURE SENSORS, 0-50 AND 0-600 BAR

The PFS series pressure sensor is the ideal solution challenging aerospace pressure measurements. The heart of the sensor is Sensata's industry leading automotive Microfused Strain Gauge (MSG) sense element. This provides the best combination of performance, reliability, and value. The PFS series operating range is from 0-50 bar and 0-600 bar, with up to four redundant outputs and a wide range of sealed pressure ports. The 17-4-PH or 316L stainless steel construction is compatible with most media, including hydrogen systems.



Features

- Single- and multi-channel output (up to four redundant circuits)
- Fully hermetic or environmentally sealed, welded designs
- RTCA DO-160 and MIL-STD-810 tested
- MSG sense elements ideal for low and mid-range pressures
- Proprietary ASIC technology for highly accurate, temperature compensated performance with diagnostic capability
- EMC, lightning, and ESD protected

Applications

- Hydraulic actuation
- Hydrogen pressure sensing, including fuel cell stacks and storage tanks
- Engine monitoring and control
- Bleed air
- Flight control
- Health and Usage Monitoring Systems (HUMS)
- Cabin air and climate controls
- Landing gear



SPECIFICATIONS

Performance

Pressure Ranges	0-50 bar (0-725 psi) 0-600 bar (0-8700 psi)
Pressure Reference	Absolute, Differential, or Gauge
Accuracy (Best Fit Straight Line)^(a)	+/-0.25% FS @ 25 °C
Accuracy (Total Error Band)^(b)	+/-1.5% FS @ -20 °C to +85 °C
Operating Endurance	>10 million cycles
Operating Ambient Temperature	-40 °C to +100 °C
Operating Media Temperature	-40 °C to +125 °C
Storage Temperature	-40 °C to +125 °C

Electrical

Supply Voltage / Output	8-32VDC for 4-20mA output 5±0.25VDC for 0.5-4.5VDC output 8-32VDC for 0-5VDC output 12-32VDC for 0-10VDC output 8-32VDC for 1-5VDC output 8-32VDC for 0.5-4.5VDC output
Output Load	≥ 4.7 kΩ for voltage output ≤ (Vsup-8)/20mA for current supply
Output Response Time	<2ms
Overvoltage Protection	36 VDC
Reverse Voltage Protection	Yes
Short Circuit Protection	Yes
Insulation Resistance	>100 MΩ at 500V
EMC	IEC 61326-1 and EN 61326-2-3
Dielectric	500VAC
Enhanced Radiate Immunity	100V/m (80-200MHz) 200V/m (200-2700MHz)
Enhanced ESD	+/-8KV Contact; +/-15KV Air

Physical

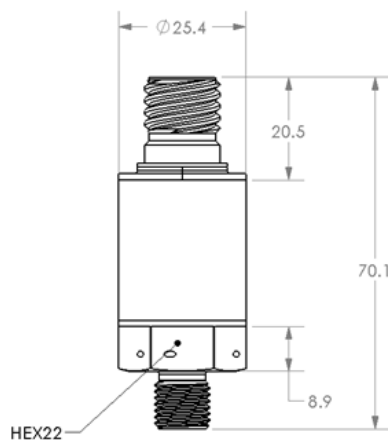
Proof Pressure	2X full scale pressure ^(c)
Burst Pressure	20X for full scale pressure = 50 – 100 bar 10x for full scale pressure = 101 – 400 bar 4000 bar for full scale pressure = 401 – 600 bar
Random Vibration	30g, 10-2000 Hz
Mechanical Shock	500g
Media Compatibility	Fluids, gases compatible with 17-4PH / 316L stainless steel



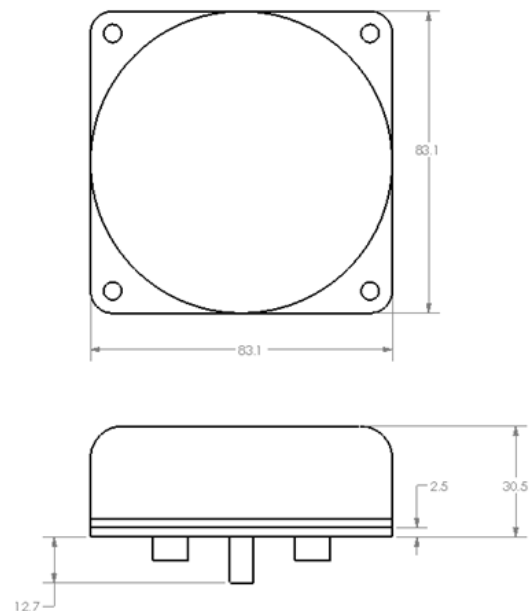
DIMENSIONS

All dimensions are in millimeters

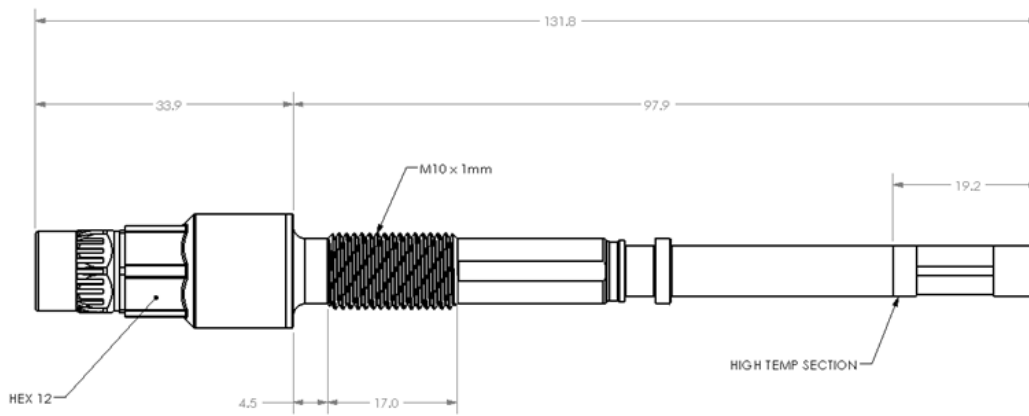
1PFS1-01 Single Channel Pressure Sensor



1PFS2-02 Differential Pressure Sensor

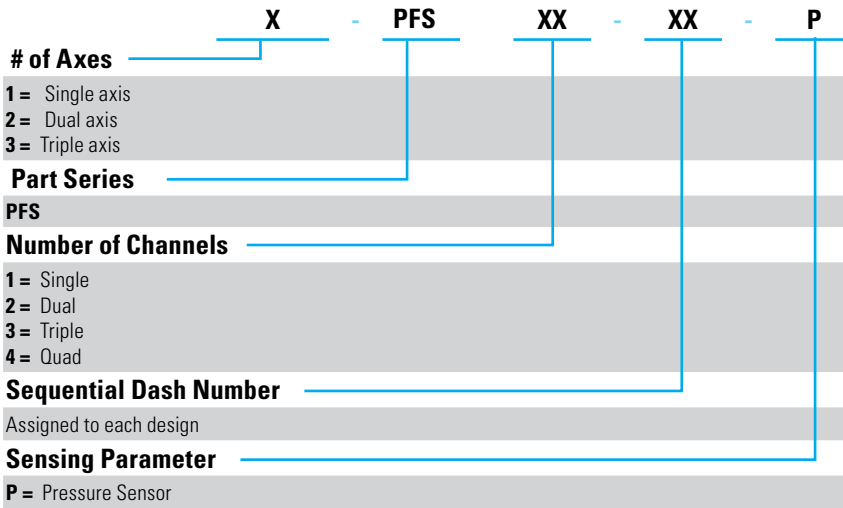


1PFS1-02 Cylinder Pressure Sensor



ORDERING OPTIONS

Example :



GENERAL NOTES

- ^(a) Best fit straight line accuracy includes errors from non-linearity, non-repeatability, and hysteresis
- ^(b) Total error band accuracy includes errors from non-linearity, non-repeatability, hysteresis, zero offset, full span offset, and thermal effects
- ^(c) Full Scale Pressure = Pmax – Pmin



WARNINGS



RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.



HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions can result in death or serious injury.

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