

FOP-M Pressure Sensor



The FOP-M is a fiber optic pressure sensor designed mainly for applications where high temperature conditions can be found such as in aerospace and defense. It is also a useful tool for general industrial applications in harsh and hazardous environments.

Designed to operate in high-temperature conditions, the FOP-M pressure sensor offers immunity to EMI/RFI, a small size, reliable measurements under harsh conditions, high accuracy, and resistance to corrosive environments.

Research engineers in aerospace, defense, and different industrial areas may now improve process and product technology by monitoring the performance of specific properties over time. This will provide accurate information on changes in pressure during the operation, the manufacturing process or throughout the lifetime of a product. The use of the FOP-M pressure sensor allows a complete pressure analysis in the most challenging environments, especially those characterized by high temperatures.

The FOP-M fiber optic pressure sensor is based on proven Fabry-Perot interferometer technology. The sensor's unique design is based on deflection measurement of a silicon diaphragm, as opposed to more conventional stress measurement techniques. Pressure creates a variation in the length of the Fabry-Perot cavity and our fiber optic signal conditioners can consistently measure the cavity length with high accuracy under all adverse conditions of temperature, EMI, humidity and vibration.

This pressure sensor provides the industry with better and more reliable pressure measurements for existing applications, and with extended capabilities for new applications requiring high operating temperature ranges.

With a temperature range of up to 150°C (302°F), the FOP-M fiber optic sensor is ideal for applications in any research and development field where high temperature conditions can be found. For those extreme conditions, the fiber optic lead cable is available in different types and may be delivered up to several kilometers long.

Key Features

- Intrinsically safe
- Immune to EMI/RFI
- Up to 150°C (302°F)
- 0 to 1000 psi range

Applications

- Aerospace
- Defense
- Metallurgy
- Industrial in-situ process monitoring
- High temperature
- Harsh and hazardous environments
- High temperature environments
- Oil well and natural gas pumping station
- Plastic injection molding & extrusion monitoring
- Food packaging

Specifications

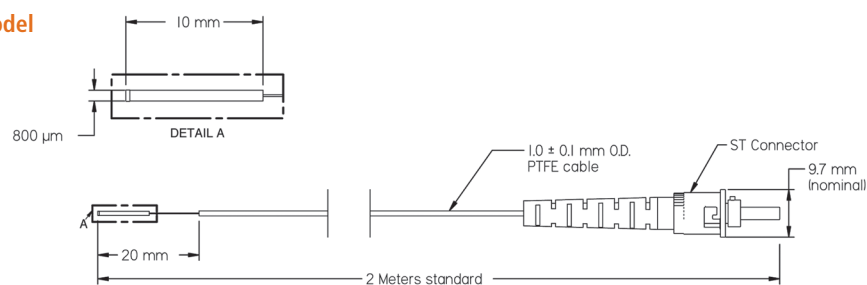
Pressure range	0–5 psi, 0–50 psi, 0–150 psi, 0–1000 psi
Resolution ¹	<0.2% of full scale
Accuracy ²	±0.5% of full scale
Connector type	ST connector
Operating temperature	–20°C to 150°C (–4°F to 302°F)

1. Signal conditioner dependent.

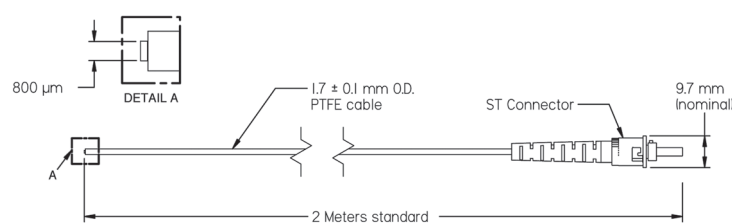
2. Atmospheric pressure dependent.

FOP-M Dimensions

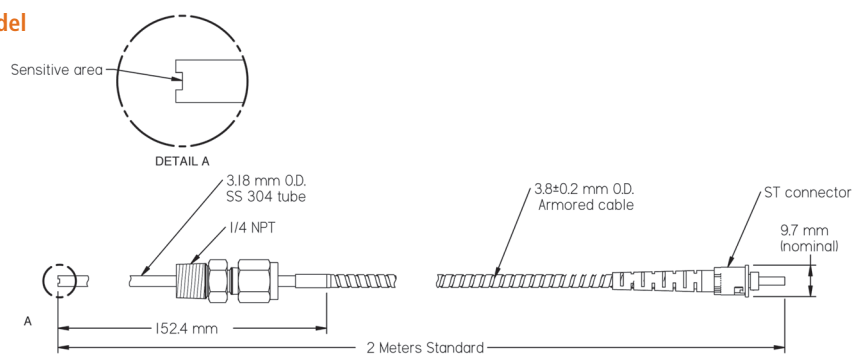
FOP-M-BA Model



FOP-M-PK Model



FOP-M-NP Model



Drawing Numbers SCH-00500 – SCH-00515 – SCH-00514