

PRODUCT DATASHEET

FOP-MH High-Temperature Pressure Sensor



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

Designed to operate in extreme temperature conditions, where standard sensors fail, the FOP-MH pressure sensor offers immunity to EMI/RFI, a small size, reliable measurements under harsh conditions, high accuracy, resistance to corrosive environments, and high endurance to extreme temperatures.

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 that 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-MH pressure sensor allows a complete pressure analysis in the most challenging environments, especially those characterized by high temperatures.

The FOP-MH 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. The mechanical robustness is assured by the epoxy-free, all glass construction.

This new 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 450°C (842°F), the FOP-MH fiber optic sensor is ideal for aerospace and defense applications, and any other field where extreme temperature conditions can be found.

Key Features

- Designed to operate in extreme temperature conditions, where standard sensors fail
- Operating temperature up to 450°C (842°F)
- Intrinsically safe
- Immune to EMI/RFI

Applications

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

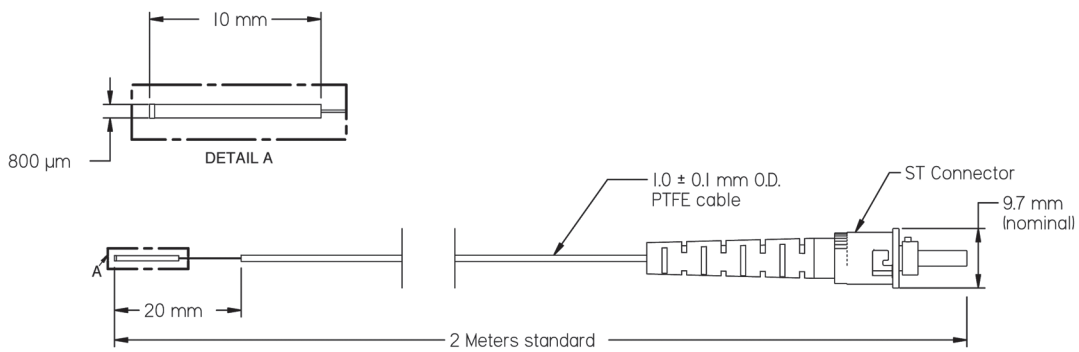
PRELIMINARY

Specifications

Pressure range	0–150 psi, 0–1000 psi, 0–3000 psi ¹ 0–50 psi ²
Resolution ³	0.1% of full scale
Accuracy ⁴	±1% of full scale
Connector type	ST connector
Operating temperature	–20°C to 450°C (–4°F to 842°F) ⁵

1. At a temperature range of –20°C to 450°C
2. At a temperature range of –20°C to 300°C
3. Signal conditioner dependent.
4. Relative to atmospheric pressure.
5. For the following pressure ranges: 0–150 psi, 0–1000 psi, 0–3000 psi

FOP-MH Dimensions



Drawing Number: SCH-00500