

FOP-C Pressure Sensor



The FOP-C is a fiber optic pressure sensor designed for general industrial applications in harsh and hazardous environments, where very high pressure conditions can be found.

The FOP-C fiber optic pressure sensor offers small size, high accuracy, immunity to EMI/RFI, and resistance to corrosive environments.

Research engineers in 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 manufacturing process, the operation or throughout the lifetime of a product. The use of the FOP-C pressure sensor allows a complete pressure analysis in the most challenging environments.

The FOP-C fiber optic pressure sensor is based on proven Fabry-Perot interferometer technology. The sensor's unique design is based on non-contact deflection measurement of a stainless steel 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 all-welded stainless steel construction, with no epoxy, sealing rubber, or any other sort of polymeric materials.

The FOP-C fiber optic 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 pressure ranges. With a pressure range of up to 10 000 psi, the FOP-C fiber optic pressure sensor is ideal for applications in any research and development field where high pressure 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.

Stainless steel (SS) alloys which are used to fabricate the FOP-C are the SS316L and SS17-4PH (diaphragm). For a better tolerance to corrosion in salted water, the FOP-C can be completely manufactured in SS316L.

Key Features

- Intrinsically safe
- Immune to EMI/RFI
- From 30 to 10 000 psi range
- Accuracy of 0.25%
- Lead cable up to 3 km

Applications

- Industrial environments
- In-situ process monitoring
- Harsh and hazardous environments
- High pressure environments
- Aerospace applications
- Oil well and natural gas pumping station
- Plastic injection molding & extrusion monitoring
- Food packaging



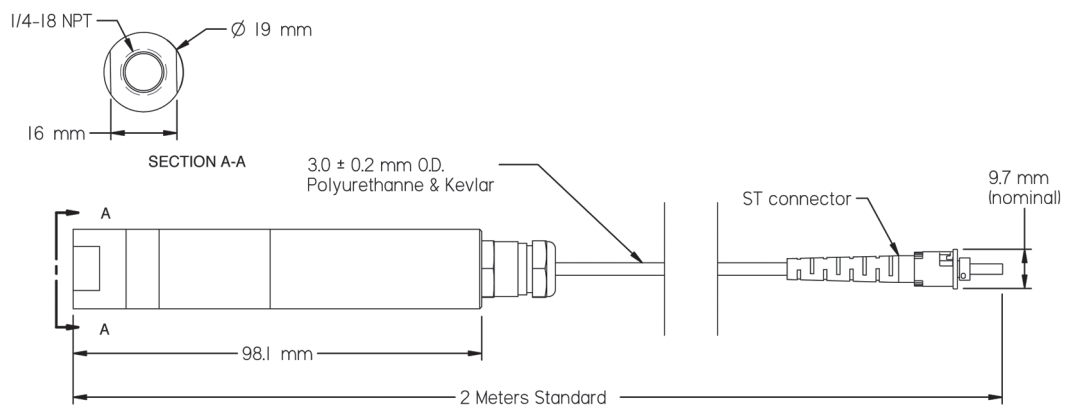
Specifications

Pressure range	From 30 psi to 10 000 psi (170 to 69 000 kPa)
Resolution¹	0.00625% typical with averaging
Accuracy	0.25% of full scale
Connector type	ST connector (optional connector for long range applications)
Operating temperature	-20°C to 60°C (-4°F to 140°F)

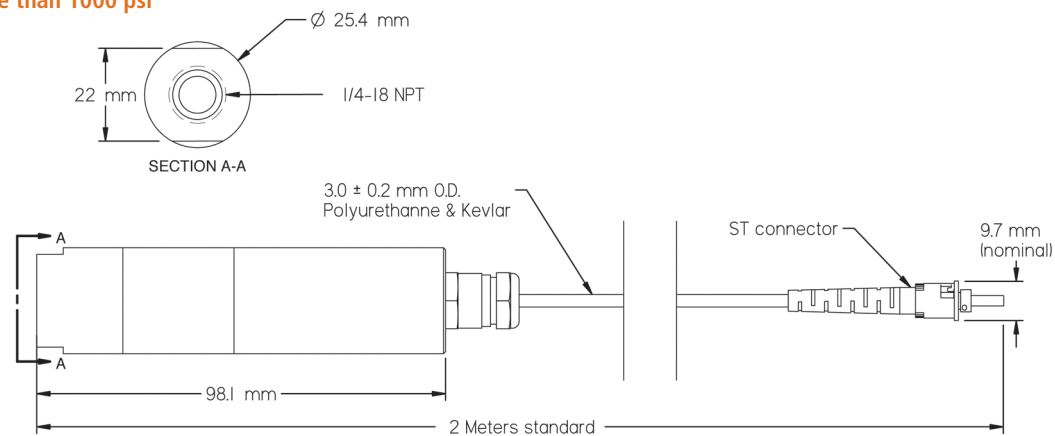
1. Signal conditioner dependent.

FOP-C Dimensions

1000 psi and less



More than 1000 psi



Drawing Numbers SCH-00522 - SCH-00523