

MEMS-Based Fiber Optic Pressure Sensor & Piezometer For The Harshesht Environments

Compatible with Opsens' WLPI series signal conditioners

FEATURES

- Compact and ultra-robust
- 100 to 1000 PSI range
- Excellent accuracy (0.1%)
- Completely sealed for immersed applications
- EMI/RFI/Lightning immunity; intrinsically safe
- Rugged stainless steel body
- Long term reliability

APPLICATIONS

- Geotechnical applications
- In-situ process monitoring
- Harsh subsurface monitoring equipment
- High temperature environment with corrosive chemicals.
- Groudwater elevation surveillance in wells and streams
- Pressure monitoring in pumping stations
- Hazardous environments
- Static or dynamic pressure measurements conducted in confined spaces, hazardous or strong EMI/RFI/MRI environments

DESCRIPTION

Opsens' OPP-C, MEMS-based fiber-optic pressure sensor, is perfectly tailored to meet the challenges of pressure monitoring applications in submerged and/or harsh environments.

The OPP-C sensor delivers long term accuracy, durability and high fidelity pressure measurements with a pressure operating range of up to 7000 kPa. The model is ideal for geotechnical applications. Completely sealed, with a stainless steel body and diaphragm, the OPP-C is designed to work in



adverse conditions of temperature, pressure, and toxic or corrosive atmospheres.

With the inherent advantages of fiber optic, it is not subject to interference from electromagnetic interference, vibrations and lightning that may be present in the sensing environment.

The OPP-C pressure sensor is compatible with all Opsens' WLPI (Patent #7,259,862) signal conditioners. This compact and very robust probe can be customized to specific customer requirements. The fiber optic extension cable can be a maximum length of 1 kilometer.

SPECIFICATIONS

- **Pressure Range:** 50 PSI (345 kPa) 100 PSI (690 kPa) 500 PSI (3500 kPa) 1000 PSI (7000 kPa)
- **Resolution:** < 0.02 % F.S. (Range dependant)
- **Precision:** $\pm 0.1\%$ F.S.*
- **Thermal Coefficient of Zero:** < 0.03% F.S. / °C
- **Proof Pressure:** 200% F.S.
- **Operating Temperature:** -20 to +85 °C
- **EMI/RF/Lightning:** Complete immunity
- **Housing:** Stainless steel (113 mm x 9.5 mm)
- **Mass:** 0.03 Kg
- **Optical Connector:** SC standard
- **Cable Sheath:** 4 mm O.D. rugged tight-buffered fiber optic cable with aramid strength member and polyurethane jacket
- **Cable Length:** Up to 1 kilometer
- **Signal Conditioner Compatibility:** All Opsens WLPI signal conditioners



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