



MEMS-BASED FIBER OPTIC PRESSURE SENSOR AND PIEZOMETER FOR THE HARSHTEST ENVIRONMENTS

Use with any of Opsens' WLPI series of signal conditioners

Key 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 environment
- Static or dynamic pressure measurements conducted under confined space, hazardous and strong EMI/RFI/MRI environments

Description

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

The OPP-C sensor delivers long term accuracy, durability and high fidelity pressure measurement with a pressure operating range up to 7000 kPa.

The sensor 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 might be present in the sensing environment.

The OPP-C pressure sensor is compatible with all Opsens' WLPI signal conditioners. The compact and very robust probe can be customized according to specific client needs. The fiber optic cable lead can be extended up to 3 kilometers long.

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Preliminary specifications

Pressure range	100 PSI (690 kPa)	500 PSI (350 kPa)	1000 PSI (7000 kPa)
Resolution	< 0.02 % F.S. (Range dependant)		
Precision	± 0.1% F.S.**		
Thermal coefficient of Zero	< 0.02% F.S / °C		
Proof pressure	200% F.S.		
Operating temperature	-20 to +85 °C		
EMI/RF/Lightning	Complete immunity		
Housing	Stainless steel (8 mm x 57 mm)		
Optical connector	SC standard		
Cable sheathing	4 mm O.D.rugged tight-buffered fiber optic cable with aramid strength member and polyurethane jacket		
Cable length	Up to 3 kilometers		
Signal conditioner compatibility	All Opsens WLPI signal conditioners		

* Excluding thermal effect

All specifications are subject to change without prior notifications