

Article Overview

Leading manufacturers of fiber optic barometric pressure sensors include Luna Innovations, Althen Sensors, Opsens Solutions, FBGS, and Resonetics, each offering specialized sensors for industrial, medical, and harsh-environment applications.

Key Manufacturers and Their Offerings

Luna Innovations produces the os9100 series, which are ultra-sensitive Fiber Bragg Grating (FBG)-based pressure sensors capable of measuring static and dynamic pressure over long distances (up to 10 km). These sensors offer pressure ranges from -3,000 to 13,000 Pa with resolutions down to 2 Pa and can integrate over 300 sensors on the HYPERION platform. They are compatible with Luna's ENLIGHT software and support programming in LabVIEW, Python, Matlab, C++, and C# for advanced data acquisition and analysis (Luna Innovations), . Althen Sensors provides fiber optic pressure sensors designed for high-precision measurements in harsh environments, including oil and gas, aerospace, and medical applications. Their sensors are immune to electromagnetic interference (EMI), resistant to extreme temperatures and corrosive conditions, and offer long-term stability with minimal signal degradation. The lightweight, flexible design allows installation in tight spaces, and the non-conductive nature ensures safety in explosive or high-voltage areas (Althen Sensors), . Opsens Solutions offers the OPP series, including miniature sensors like the OPP-M (0.250 mm OD) for tip pressure measurement, and OPP-B & C for continuous operation in harsh conditions. These sensors are immune to EMI/RFI/MRI, exhibit minimal temperature and moisture-induced drift, and are suitable for industrial, geotechnical, aerospace, and defense applications. They are available in ceramic or metal housings and can measure pressures up to 1000 psi, with higher ranges under development (Opsens Solutions), . FBGS specializes in FBG-based fiber optic pressure sensors with extremely low cross-sensitivity between temperature and pressure. Their sensors are designed for hydrostatic pressure monitoring (0-700 bar) and can operate in shock, vibration, and corrosive environments. FBGS sensors are ideal for oil and gas exploration, pipelines, and other energy applications requiring remote data acquisition and multiplexed sensor networks (FBGS), . Resonetics focuses on medical fiber optic sensors, particularly for catheter pressure measurement. Their sensors are miniature, EMI/MRI immune, and can measure pressure, temperature, and force in minimally invasive procedures. Resonetics offers both standard and custom solutions, ensuring reliable performance in demanding clinical environments (Resonetics), .

Considerations for Selection

- o Pressure Range: Ensure the sensor's range matches your application, from low barometric pressures to high industrial pressures.
- o Environmental Suitability: Choose sensors resistant to EMI, extreme temperatures, moisture, or corrosive conditions.

Fiber Optic Barometric Pressure Sensor Manufacturer

- o Size and Installation: Miniature or flexible sensors may be required for confined spaces or medical applications.
- o Integration and Software: Consider compatibility with data acquisition systems, APIs, and software for analysis.
- o Application Type: Industrial, aerospace, geotechnical, or medical applications may require specialized sensor designs. These manufacturers provide a range of fiber optic barometric pressure sensors suitable for diverse applications, from industrial monitoring to medical diagnostics, ensuring high precision, reliability, and robustness in challenging environments.

Luna's fiber optic os9100 sensors are ultra-sensitive, low profile Fiber Bragg grating (FBG)-based discrete static and dynamic

The OPP-C pressure sensor is compatible with all Opsens Solutions" WLPI (Patent #7,259,862) signal conditioners. This compact

Medical Pressure Monitoring We provide leading-edge fiber optic development capabilities and advanced manufacturing experience

Opsens Solutions OPP series fiber optic pressure transducers are designed to provide accurate pressure measurement in the most

In terms of technology, analyzing and comparing different sensing methods and manufacturing processes can inspire new sensor

Temperature monitoring Robust fiber optic temperature sensor packaged for the most demanding environment. Permanent exposure

OPP series optical pressure sensors from Opsens offer precise, robust fiber optic pressure measurement

Interferometry optical pressure sensor for oil & gas, energy, structural health monitoring, defense & aerospace, geotechnical, civil

Our team of experts is ready to assist you in selecting the ideal fiber optic pressure sensor tailored to your specific application needs.

The prepared fiber Fabry-Perot pressure sensor has the advantages of ultra-thin film thickness, high-pressure

Pressure sensors based on fiber-optic extrinsic Fabry-Perot interferometer (EFPI) have been extensively



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applied in

Fiber optic medical sensors and readout units for catheter pressure sensors, temperature & force. Miniature, EMI/MRI

Fiber optic pressure sensor for oil & gas, energy, structural health monitoring, defense & aerospace, geotechnical, civil engineering,

Explore how optical fiber technology improves pressure sensing with fast, accurate, and interference-free measurements. Discover

Sensing Solutions FISO is a leading developer and manufacturer of fiber optic sensors & signal

Fiber optic pressure sensors use light modulation to measure pressure, offering high sensitivity, EMI immunity, and

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