

Fiber Optic Pressure Sensor Series



Summary of Content

Fiber optic pressure sensors are available in multiple models, including Luna's os9100, Opsens OPP-B, and Resonetics M200/M260, each offering unique features for high-sensitivity, EMI-resistant pressure measurement.

Overview of Fiber Optic Pressure Sensors

Fiber optic pressure sensors (FOPS) use light as the information carrier, offering high sensitivity, immunity to electromagnetic interference, and suitability for harsh environments such as high temperature, high pressure, or chemically aggressive conditions . They are widely applied in biomedical monitoring, industrial automation, aerospace, and energy exploration . FOPS can be categorized by sensing mechanism:

- Fiber Bragg Grating (FBG) sensors: Detect pressure-induced changes in the grating period or refractive index, resulting in wavelength shifts that are analyzed to measure pressure. They allow easy multiplexing and networked sensor integration .
- Interferometric sensors: Measure pressure by detecting changes in optical interference patterns caused by variations in cavity length or refractive index, offering extremely high sensitivity .

Notable Sensor Models

Luna os9100

- Type: FBG-based discrete static and dynamic pressure sensor.
- Key Features: Ultra-sensitive, low-profile, capable of deployment over 10 km, and supports integration of over 300 sensors on the HYPERION platform.
- Pressure Range: -3,000 to 13,000 Pa with resolution down to 2 Pa.

Article Content

Compact and plug-in fiber pressure sensor based on Vernier

Abstract A novel fiber-optic pressure sensor based on Vernier-enhanced parallel microbubble Fabry-Perot

Optical pressure sensors

The optical pressure sensors in the OPP series from Opsens deliver outstanding measurement results

Highly sensitive fiber-optic sensor for dynamic pressure

Highly sensitive fiber-optic sensor for dynamic pressure measurements Abstract: A new type of fiber-optic pressure sensor based on

Pressure sensor based on the fiber-optic extrinsic Fabry-Perot ...

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

Distributed optical fiber pressure sensors

While single-point optical fiber pressure sensors have reached a solid level of technology maturity, showing to be very

Fiber Optic Sensors | KEYENCE America

The FU Series offers a wide variety of options including thru-beam, reflective, retro-reflective and definite

OPP-C fiber optic pressure sensor, probe and transducer

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

Dual-Parameter Fiber Optic Sensor for Pressure and Temperature

This study presents a miniaturized fiber-optic sensing device that concurrently leverages Fabry-Pérot (FP)

Fiber-Optic Pressure Sensors: Recent Advances in

This review further examines current manufacturing technologies for fiber-optic pressure

os9100 | Optical Pressure Sensor | Luna Innovations

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

(PDF) Review of fiber-optic pressure sensors for biomedical and ...

Companies commercializing fiber-optic sensors (FOS) for biomechanical and biomedical applications. Schematic

A ground-breaking Distributed fiber-optic Pressure Sensor for ...

Distributed fiber optic (DFO) technology has provided significant insight into various engineering problems by enabling

(PDF) Fiber-Optic Pressure Sensors: Recent Advances in Sensing ...

Fiber-optic pressure sensors have become key sensing technologies in multidisciplinary applications due to their

How Optical Fiber Technology Enhances Pressure Sensing

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

Review of high sensitivity fibre-optic pressure sensors for low ...

Abstract Fibre Bragg grating (FBG) pressure sensors show a great potential in replacing conventional electrical

Fiber-Optic Pressure Sensors: Recent Advances in Sensing

This review holds important academic and practical value. From a scholarly perspective, it systematically addresses the entire

Pressure Sensing

Fiber optic pressure sensing as turn-key solution. The fiber optic pressure sensor is a medium range

OPP-C Series

The WaterSense solution using Opsens Solutions fiber optic pressure sensors has been designed

High-Sensitivity Optic Fiber Pressure Sensor Based on Balloon-Like ...

A high-sensitivity optic fiber pressure sensor based on balloon-like single-mode fiber (SMF) is proposed and thoroughly investigated.

Fiber-Optic Pressure Sensors: Recent Advances in Sensing

Fiber-optic sensing (FOS) technology has emerged as a cutting-edge research focus in the sensor field due to its miniaturized

Fiber optic pressure sensors

Explore Althen's fiber optic pressure sensors for precise, EMI-resistant measurements in harsh environments. Expert support for your

Fiber Optic Pressure Sensors

OpSens OPP series fiber optic pressure transducers are designed to provide accurate pressure

Fiber Optic Pressure Sensor

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

Review of fiber-optic pressure sensors for biomedical and

As optical fibers revolutionize the way data is carried in telecommunications, the same is happening in the world of sensing. Fiber

Recent Progress in MEMS Fiber-Optic Fabry-Perot Pressure Sensors

Pressure sensing plays an important role in many industrial fields; conventional electronic pressure sensors struggle to

Optical Pressure Sensors | The Design Engineer's Guide

This is one of the best optical sensor technologies. It is simple, accurate and easily scaled for different sizes and pressure ranges. An

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