Recommended Manufacturers of Miniature Fiber Optic Sensors

Overview

This buyer''s guide for fiber-optic sensors provides technical background, comparison of major types, selection criteria, and an overview of suppliers.

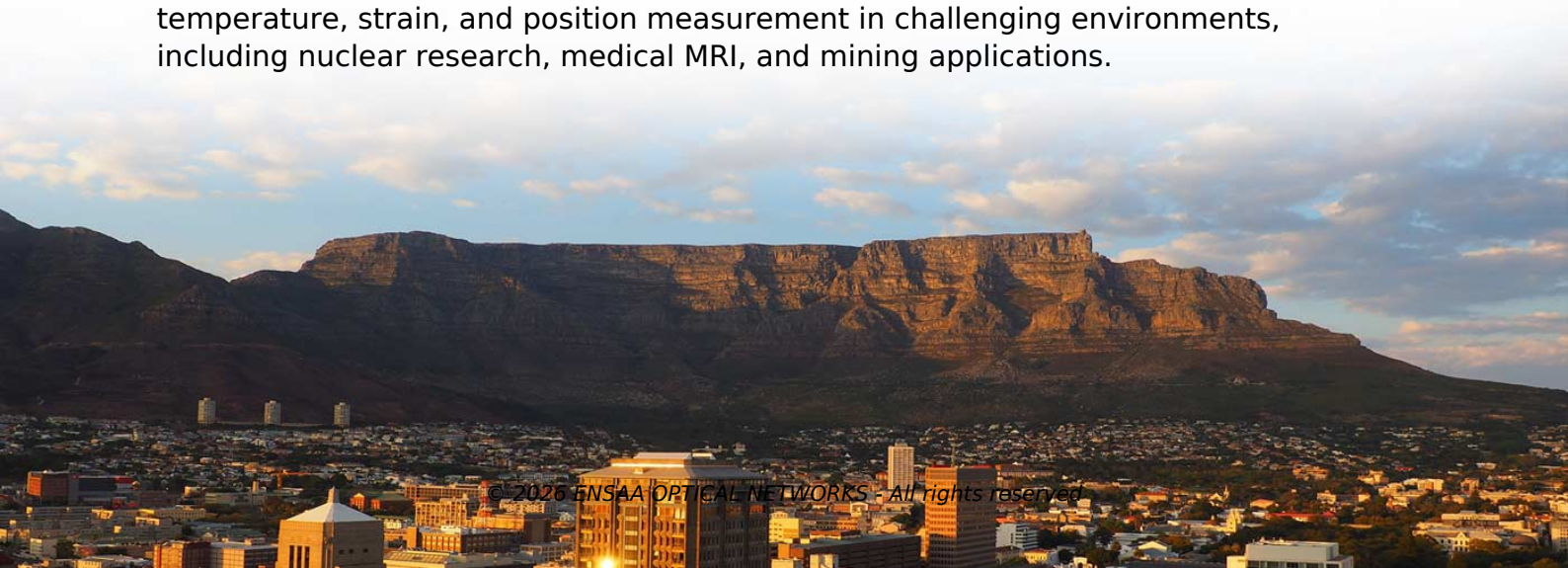
Key Takeaways

Leading manufacturers of miniature fiber optic sensors include Duomy, Ocean Optics, Micronor, fionec, Littelfuse, Omega Engineering, and Advanced Energy Industries.

Key Manufacturers and Their Capabilities

Duomy specializes in miniature fiber optic sensors for micro-automation, semiconductor, medical device, and electronics manufacturing. Their sensors offer extreme miniaturization, immunity to electromagnetic interference, and micron-level precision, suitable for spaces as small as 0. 5 mm.

Ocean Optics provides miniature spectrometers and industrial photonics systems, supporting applications in research, biomedical, semiconductor, and industrial quality assurance. They focus on precise optical solutions for material inspection and chemical identification. Micronor Sensors Inc. develops fiber optic solutions for temperature, strain, and position measurement in challenging environments, including nuclear research, medical MRI, and mining applications.



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They combine fiber optics with electronics and mechanical engineering for custom sensor solutions. fionec offers custom-made miniature fiber-optic probes for metrology, testing, telecommunications, and life sciences. Their probes can be as small as 50 µm in diameter, enabling fast, contactless scanning of microstructures and cavities. Other notable manufacturers listed on Metoree include Littelfuse, Omega Engineering, Advanced Energy Industries, and Wenglor Sensoric, providing a range of industrial automation and precision sensing solutions suitable for miniature fiber optic applications.

Applications

Miniature fiber optic sensors are widely used in: Semiconductor and electronics manufacturing: wafer processing, wire bonding, die attach, and SMT inspection. Medical device manufacturing: catheter production, syringe inspection, and implantable device assembly. Industrial automation: object detection, position monitoring, and process control in confined spaces.

Research and life sciences: precise measurement in metrology, microscopy, and laboratory instrumentation.

Considerations for Selection

When choosing a manufacturer, consider: Sensor size and miniaturization for confined spaces. Environmental resistance, including EMI immunity, chemical resistance, and high-temperature capability. Customization options for specific applications or probe geometries.

Support and integration services for industrial or research setups. These manufacturers provide both off-the-shelf and custom miniature fiber optic sensors suitable for high-precision, compact, and challenging environments.

Article Content

Fiber-optic Sensors – Buyer''s Guide & Supplier List | RP Photonics

This buyer''s guide for fiber-optic sensors provides technical background, comparison of major types, selection criteria, and an overview of suppliers.

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Explore 72 top manufacturers and suppliers of Fiber Optic Sensors in our comprehensive photonics buyers'' guide. A fiber optic sensor is a device that uses optical fibers to detect and measure physical,

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Fiber-optic miniature probes | fionec fiber optics

We offer custom fiber optic solutions tailored to your specific application. Highly miniaturized fiber-optic probes with diameters starting from 50 µm. For metrology and testing, telecommunications and life

18 Fiber Optic Sensor Manufacturers in 2026

This section provides an overview for fiber optic sensors as well as their applications and principles. Also, please take a look at the list of 18 fiber optic sensor manufacturers and their company rankings.

FIBER-OPTIC SENSORS

OMRON''s precise manufacturing processes with inspection system supported alignment of the fibers and lenses achieve minimal tolerance variations in all standard models and allow the detection of the

Miniature Optical Sensors | Products & Suppliers | GlobalSpec

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Fiber Optic Sensors

Pepperl+Fuchs'' fiber optic sensors offer an ideal solution for detecting small targets under challenging conditions. These sensors and cables can be employed in spaces too small for conventional

Fiber optic sensors

Both plastic and glass fiber optic cables are characterized by their transmission accuracy and speed. Various heads (diameter from 2 to 8 mm, square from 5 x 4 mm to 23 x 55 mm, ...) with straight,

Optical miniature sensors from di-soric

Learn more about miniature optical sensors for detecting the presence, position and orientation of small, fast-moving objects in limited installation space.

Miniature fiber optic pressure probe for inlet flow field measurements ...

Abstract Pressure monitoring of high-speed vehicles during ground and flight testing is critically important for aerodynamic characterization. In this study, we demonstrate a miniature

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Vocabulary list of GPT-4o (o200k_base) and GPT-4/GPT-3.5 (cl100k_base) tokenizers. Special tokens are excluded. - kaisugi/gpt4_vocab_list

Fiber-Optic Pressure Sensors: Recent Advances in

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

Fiber Optic Sensors

Medical Pressure Monitoring We provide leading-edge fiber optic development capabilities and advanced manufacturing experience to support high-volume production of complex fiber optic

Fiber Optic Sensors Manufacturers and Suppliers in the USA

Manufacturer of fiberopticsensor heads for general, robot, special object and installation and environmental resistance applications. Types include chemical, vacuum, oil and heat resistant,

Top 10 Distributed Fiber Optic Sensor Manufacturers in 2025: A ...

– May have a narrower product range compared to some other manufacturers. This guide provides a comprehensive overview of the leading distributed fiber optic sensor manufacturers.

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Learn more about fiber optic sensors → Clear All Filters x Fiber Optic Sensors x Baumer Ltd. - Bristol, CT Manufacturer of sensors, encoders, measuring instruments, and components for automated

Advancements in optical fiber sensors for in vivo applications – A ...

Optical fiber sensors (OFSs) offer unique advantages over conventional electrical solutions due to their small size, flexibility, and biocompatibility. OFSs are ideal for integration with surgical

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