HBM Fiber Optic Sensors

Overview

newLight Optical Temperature Sensor FS63 for accurate and reliable temperature measurement The newLight FS63 optical temperature sensors are based on Fiber B ...

Key Takeaways

HBM's fiber optic sensors, particularly the newLight series, use Fiber Bragg Grating (FBG) technology for precise, multipoint measurements of strain, temperature, acceleration, and tilt.

Overview of HB

M Fiber Optic SensorsHBM's newLight sensor line is designed for structural health monitoring and industrial applications, offering high long-term stability, large strain measurement ranges, and resistance to environmental factors such as humidity, rust, and salt over long distances. These sensors are compatible with standard telecom cables, making them cost-efficient for medium-to-high channel applications. Fiber Bragg Grating (FBG) TechnologyThe sensors are based on FBG technology, which allows for accurate and stable measurements.

Key types include: Strain sensors: FBG-based for precise strain monitoring. Temperature sensors: Provide clean and accurate thermal mapping or compensation. Displacement sensors: Use two FBGs for temperature-compensated linear position measurements.

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Tilt sensors: Measure small inclination variations using a push-pull FBG configuration. Accelerometers: FBG-based for low-frequency vibration measurements. Multipoint Measurement with FS70The FS70 series offers configurable arrays of FBGs for multipoint mechanical stress measurements in laboratories and industrial environments.

Options include: FS70FBG: Single-mode optical fiber with high-performance coating for optimal stress transfer. FS70PKF: Adds a PEEK filament coating for enhanced durability. Integration and ApplicationsHBM FiberSensing, now fully integrated into HBM, combines over a decade of optical sensing expertise with HBM's 60+ years in test and measurement.

This integration strengthens HBM's ability to provide customized optical monitoring solutions for applications where traditional technologies may fail. The sensors can be used in: Structural health monitoring of bridges, buildings, and industrial machinery. Laboratory experiments requiring multipoint strain or temperature measurements.

Harsh environments where conventional sensors may degrade. System CompatibilityHBM provides a complete ecosystem including sensors, optical data acquisition modules, and software for monitoring and analysis, ensuring seamless integration and efficient installation. In summary, HBM's fiber optic sensors offer robust, precise, and versatile solutions for industrial and research applications, leveraging FBG technology for reliable multipoint measurements under challenging environmental conditions.

Article Content

HBM FiberSensing

By adding FiberSensing to HBM''s brand, the Group has strengthened the company''s already existing positions in particular markets and has filled in a gap

Optical Interrogator | Fiber Optic Sensing | FBG Sensor

Suitable for large scale sensing networks, HBM''s optical interrogators provide precise and high resolutionstatic and dynamic measurements 24/7 through

Sensors based on optical strain gauges | HBM

newLight Optical Temperature Sensor FS63 for accurate and reliable temperature measurement The newLight FS63 optical temperature sensors are based on Fiber B ...

HBM FiberSensing

Specializes in the development and production of advanced monitoring systems based on optical fiber Bragg grating (FBG) technology. Certified ISO 9001 standards. Provides optical sensors,

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HBM Launches New Range of Robust and Reliable Sensors

The sensors are suitable for glass and carbon fibre composite materials often used for highly stressed structures, such as airplanes and wind power turbines.

Optical Fiber Sensors vs. Conventional Electrical Strain Gauges for ...

HBM FiberSensing was created in 2014 after HBM group acquired FiberSensing, an INESC Porto spin-off company developing fiber optic sensors and systems for different markets, such as structural

Optical Measurement Solutions

HBM FiberSensing''s optical sensors are based on Fiber Bragg Grating (FBG) technology, a suitable and reliable solution for long term structural health monitoring in the most demanding applications.

newLight | Optical Fiber Sensor | Fiber Optic | FBG

Optical sensors for demanding testing and monitoring applications. Combine them with HBM''s optical interrogators for a complete measurement chain.

Optical Sensor Market Size, Share, Forecast, 2029

Optical Sensor Market Size, Share & Trends Analysis Report by Type (Intrinsic, Extrinsic), By Product (Fiber Optic Sensor, Ambient Light Sensor, Photoelectric Sensors, Others (Infrared sensors,

Optical Measurement Solutions

Optical Measurement Solutions Bringing Light to Measurement Take advantage of the many new possibilities offered by optical sensors based on Fiber Bragg Grating (FBG) technology: Determine

Turning Fiber into a Sensing System: The Magic of

Imagine a world where the Internet doesn''t just connect but senses—detecting earthquakes, monitoring battery health, or safeguarding

Optical Interrogator | Fiber Optic Sensing | FBG Sensor

Optical Interrogators and Data Acquisition Modules FBG sensors are easy to install, electromagnetically safe and can also be used in highly explosive atmospheres, but having the right interrogator in place

HBM GEN3I USER MANUAL Pdf Download

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FS61DSP: Optical Displacement Sensor | HBM

FS61DSP: Optical Displacement Sensor for Linear Variation of Position Based on the newLight® technology, FS61DSP Displacement Sensor is a ruggedized Fiber

Fiber Bragg Grating Sensor

Canada''s extreme temperature swings make optical sensors a logical choice for remote transmission lines prone to ice loading. Mexico adopts fiber arrays in automotive factories to reduce

Top Companies in Distributed Fiber Optic Sensors 2034

Delve into the world of cutting-edge sensing technology as we unveil the top companies revolutionizing the field of distributed fiber optic sensors. Discover precision and innovation at its finest.

FBG Arrays (FS70)

Explore FBG Arrays FS70 fiber optic strain sensors for high-resolution structural monitoring and distributed sensing applications. Request a quote.

How Does an Optical Strain Gauge Work? | HBM

Optical Strain Gauges: What You Need to Know Optical strain gauges are strain sensors based on optical fibers. There are several optical technologies that fit the same classification, but this article

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This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

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