Fiber Optic Sensing Network Patent

AI Overview

Fiber optic sensing network patents cover systems and methods for distributed sensing of temperature, strain, and acoustic signals along optical fibers, enabling real-time monitoring across various environments.Key Patents and TechnologiesGB2621779A describes a fiber optic sensing apparatus where a receive unit collects coherent optical radiation from a sensing fiber, forming first and second optical signals separated by a defined time delay. A photodetector detects the interference between these signals, and a processor demodulates the derivative signal to locate disturbances along the fiber. Optical delays, modulators, and dual-end receive units enhance measurement accuracy and spatial resolution . GB202108396D0 focuses on fiber optic sensing methods and apparatus, including classifications and patent family details, providing foundational intellectual property for optical sensing technologies . Patents assigned to Fiber Sense Limited cover distributed fiber optic sensing across multiple fiber ports and paths. Methods include transmitting optical signal trains through a network, using optical switching arrangements, receiving backscattered signals, and processing data to detect low-frequency disturbances. Applications include marine environments with distributed acoustic sensing (DAS) along submarine cables, enabling spatial and temporal classification of sound-producing targets . U.S. Patent Application 20230344544 details distributed temperature sensing (DTS), distributed strain sensing (DSS), and DAS for wellbore monitoring. Techniques include optical time-domain reflectometry (OTDR) and optical frequency-domain reflectometry (OFDR) to assign measurements along the fiber. Fiber Bragg gratings (FBGs) can be integrated with transducers for pressure, voltage, current, or chemical sensing, reducing downhole electronic complexity by shifting processing to surface interrogator units .ApplicationsIndustrial and Oil & Gas: Real-time monitoring of wellbore temperature, strain, and pressure f...

Article Content

Distributed Sensing Over Optical Fiber Carrying Live, High-speed Data

Aspects of the present disclosure describe optical fiber sensing systems, methods and structures disclosing a distributed fiber sensor network constructed on an existing, live network, data carrying,

GB202108396D0

G01D5/35303 Mechanical means for transferring the output of a sensing member; Means for converting the output of a sensing member to another variable where the form or nature of the sensing...

Communications Test & Photonic Control Products | Luna

Explore Luna''s communications test and photonic control products for optical component characterization, fiber network testing, polarization control, and

Fiber Optic Security System | Future Fibre Technologies

Future Fibre Technologies is a leader in intrusion detection systems, offering fibre optic security system solutions for pipeline, fence, and perimeter.

EP2867626B1

This application relates to fibre optic sensing, such as fibre optic distributed acoustic sensing, with detection/monitoring of the characteristics of the environment surrounding the...

Optical Fiber Sensing Landscape 2026 — PatSnap Eureka

Explore the 2026 optical fiber sensing technology landscape: DAS, FBG, OTDR, AI-ML integration, submarine cable monitoring, and key patent assignees. Powered by PatSnap Eureka.

Semiconductor & System Solutions | Infineon Technologies

Transaction successful Infineon strengthens its position as a leader in sensors by acquiring ams OSRAM''s non-optical analog/mixed-signal sensor portfolio.

LONG RANGE OPTICAL FIBER SENSING SYSTEMS

Description Technical Field The present invention relates to optical fiber sensing systems, such as optical time domain reflectom-eters (OTDRs), as well as optical fiber distributed acous-tic sensors

Nokia launches suite of application-optimized optical

Nokia introduces a new suite of application-optimized coherent transport solutions enabling significant improvements in network efficiency and providing up to 70%

Photonics

Photonics Spectra is a global photonics resource and magazine with news, products, research, and applications covering optics, lasers, imaging, and sensing.

Method and system for distributed fibre optic sensing

This application is directed to distributed fiber optic sensing particularly across multiple fiber optic ports with multiple corresponding fiber optic paths.

Nanosecond-latency all-optical fiber sensing with in-sensor computing

This work proposes an all-optical fiber sensing architecture with in-sensor computing that achieves & lt;3 ns demodulation latency, sub-nano strain resolution, and multi-parameter sensing

Patents | Optical Networking | Research | NEC Labs America

Fiber Sensing Using Supervisory Path of Submarine CablesAccurate Measurement For Guided Acoustic-Wave Brillouin ScatteringIntegrated 3-Way Branching Unit Switch Module Having Small Foot PrintDynamic Anomaly Localization of Utility Pole WiresMethod For Reducing GAWBS Noise by Reducing Polarization Diffusion LengthStreet Light Operating Status Monitoring Using Distributed Optical Fiber SensingThree-Way Branching Unit Switch Module Having A Small FootprintHybrid Distributed Fiber Optic SensingOptical Fiber Sensing Systems, Methods, Structures, and ApplicationMulticore Fiber Amplifier with High Power EfficiencyPatent Number: 11,391,622 Junqiang Hu; Philip Ji; Yaowen Li; Ezra Ip; Shuji Murakami; Yue-Kai Huang July 19, 2022See more on nec-labs Justia Patents Search

Patents Assigned to Fiber Sense Limited

Abstract: Described herein are methods and systems of distributed acoustic sensing, such as in an urban or metropolitan area involving a dedicated and established fibre optic communications network

Lightweight Fiber Optic Sensors for Real-Time Monitoring of ...

Innovators at NASA''s Armstrong Flight Research Center have developed a lightweight, robust fiber optic sensing system (FOSS) that represents a major breakthrough in sensing technology. The sensors,

U.S. Patent Application for Fiber Optic Sensing And Communication ...

Additionally, fiber optic sensing may eliminate downhole electronic complexity by shifting all electrical and electro-optical systems to the surface within the interrogator unit (s).

Distributed fiber sensor network using telecom cables as sensing

Distributed fiber optic sensing (DFOS) is a rapidly evolving field that allows the existing optical fiber infrastructure for telecommunications to be reused for wide-area sensing. Using the

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: https://umele-pestovani.eu
Email: info@umele-pestovani.eu
Phone: +49 152 287 6349
Address: Neue Mainzer Straße 66-68, 60311 Frankfurt am Main, Germany

This document is for informational purposes only. Specifications subject to change without notice.