

Portuguese Fiber Optic Temperature Sensor Technology



Summary of Content

Fiber optic temperature sensors offer precise, EMI-immune temperature monitoring for harsh and high-voltage environments, suitable for industrial and research applications in Portugal.

Overview

Fiber optic temperature sensors use optical fibers to transmit temperature information from the measurement point to a processing unit. Because the signal path is fully dielectric, these sensors are immune to electromagnetic interference (EMI), radiofrequency interference (RFI), and ground loops, making them ideal for high-voltage, magnetic, or electrically noisy environments. They are available in point-type sensors for discrete measurements and distributed temperature sensing (DTS) for continuous monitoring along kilometers of fiber.

Sensor Technologies

- Fluorescent Fiber Optic Sensors
- Use a fluorescent coating at the fiber tip that emits light when excited.
- Temperature is derived from the decay time or intensity ratio of the emitted light.
- Suitable for high-temperature industrial processes, hydropower stations, and switchgear monitoring.
- Operating range typically -40°C to $+260^{\circ}\text{C}$ with long service life and zero calibration.

Article Content

Fiber-optic temperature sensing System with extended measurement

This work introduces a fiber-optic temperature sensing system that synergistically combines a Sagnac interferometer

FiberSight

We have developed the first fiber optic sensor capable of measuring simultaneously temperature and humidity. Every kilometer of

Sensor de temperatura de fibra óptica: Guia completo para tecnologia ...

This comprehensive guide explores optical temperature sensors, sistemas de detecção de temperatura distribuída,

Portuguese Fiber Optic Temperature Sensor Factory

Founded in 2004 in Porto, Portugal, as FiberSensing, the company offers the most complete portfolio of FBG sensors to measure

(PDF) Optical Fiber Sensor Technology in Portugal

A general overview of the R& D activity in fiber optic sensing developed over the last fifteen years in Portugal is given.

Fiber Optic Temperature Sensing and Measurement

Luna's distributed and multipoint fiber optic temperature sensing systems provide precise thermal measurements in environments

Optical Fiber Temperature Sensors and Their Biomedical Applications

This paper reviews achievements in the area of temperature optical fiber sensors, different configurations of the

Optical Fiber Based Temperature Sensors: A Review

Recognizing the major developments in the field of optical fibers, this article provides recent progress in temperature

Fibersight

Our technology can measure temperature, humidity, and strain along optical fibres by analysing how light propagates through the

Contact Us

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