GDR Telecom Site Energy Systems

Fiber optic sensor for temperature and humidity measurement

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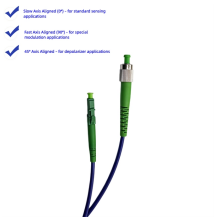


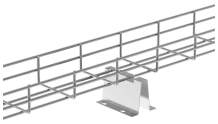
In this paper, a demonstration of a fiber optic sensor for the simultaneous measurement of relative humidity and temperature based on integrated FPIs was proposed.

Sensors based on optical fibers present several advantages over electronic sensors and great research efforts have been made in recent years in this field. The present paper reports the ...

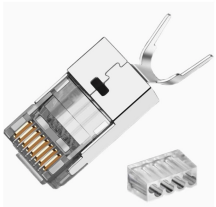
The contribution of the current work is to develop more reliable and advanced fiber optic based on FBG humidity and temperature sensors, which could have an essential influence on ...

A high-sensitive fiber-optic Fabry–Perot sensor with parallel polymer-air cavities based on Vernier effect for simultaneous measurement of pressure and temperature.

Multi-Parameter Sensing: Advanced fiber-optic sensors are being developed that can simultaneously measure multiple environmental parameters, such as humidity, temperature, and ...



By this design, optical fiber humidity sensors achieve high sensitivity, rapid response and recovery, low hysteresis, and temperature crosstalk as well as excellent repeatability and stability in ...



In this work, we design a fiber optic sensor that can simultaneously measure temperature and relative humidity based on surface plasmon resonance. One channel i.

A SPR optical fiber sensor coated with carboxymethyl cellulose (CMC) and polydimethylsiloxane (PDMS) was proposed for the simultaneous measurement of RH and temperature.

To meet the needs of bridge structural health monitoring, we design a optical fiber sensor capable of simultaneous measurement of temperature, humidity, and strain, and utilize GO-PVA hybrid ...

This chapter reviews optical fiber sensors designed for measuring temperature and humidity, covering their fundamental principles, advanced architectures, and functionalized designs.

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