

Preview

This research presents a low-cost sensor for measuring liquid levels using plastic optical fibers (POF). In this paper, a novel liquid level sensing system is proposed to enhance the capacity of the sensing system, as well as reduce the cost and increase the sensing accuracy. The sensor reduces the scattering-based optical losses in the fiber, which increase linearly with the liquid height.

A fiber optic liquid level sensor system comprising multiple multiplexed probes has been successfully demonstrated. Optical time domain reflectometer (OTDR) is the primary tool for installing and

Commercial accounting for petroleum products requires more precise measurements and more stable operation of the liquid level gauges set up for factory conditions and spark-explosion

Compared with the circular and racetrack structures, the newly designed spiral structure optical fiber sensor introduces more measurement points in each circle, which improves the accuracy

A novel fiber-optic liquid level sensor based on a cross-correlation optical time-domain Fresnel reflection technology is proposed and demonstrated. By processing a single-mode fiber (SMF) to create

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In this paper, a dual-parameter liquid level and refractive index (R.I.) sensor is fabricated using three pieces of bare polymer optical fibers (POFs), which can independently and...

An experimental realization of a simple all-fiber-optic sensor for liquid level measurement is demonstrated. It is an intensity-modulated on-off switching

Therefore, according to the basic working principle of optical fiber macro-bending loss, a new type of spiral plastic optical fiber (POF) liquid level sensor was designed.

Schematics of fiber optic liquid level sensor system based on a combination of optical interferometry and leverage principle. (a) Lever based

Spiral Fiber Optic Liquid Level Sensor

In this context, a review of POF liquid level sensing is presented. Several POF materials are introduced, including polymethyl methacrylate (PMMA) and perfluorinated polymer (CYTOP). In

In this paper, we proposed a new liquid level sensor based on macro-bending coupling of plastic optical fiber, which is composed of twisted-pair plastic fibers intertwined on the base of

An optical fiber liquid level sensor based on two twisted polymer optical fibers twining around a racetrack column is demonstrated in this study.

In this letter, we develop a novel fiber-optic sensor based on a hollow-core Bragg fiber (HCBF) for high-precision detection of liquid level. The intensity responses of anti-resonance reflecting optical

The WaterSens solution for monitoring liquid levels can be applied to almost any environment, while delivering reliable results for decades. Its "Plug & Forget" design means that the sensors can be

Design and construction of an optical fiber sensor for liquid level detection are reported. This sensor operates based on light intensity modulation, and such modulation results from alteration

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