Can the sensing distance of a fiber optic sensor be adjusted

Distributed sensors are able to sense at any point along a single fiber line, typically every meter over many kilometers of length.

The efficiency of fiber Bragg grating based fiber-optic sensors can be provided by means of central wavelength adjustment of light emitting source in accordance with the current Bragg gratings ...

Target detection is based on the amount of reflected light returned to the receiver. Because the detecting distances range from a couple inches to several meters, adjustment during installation is incredibly ...

Brief theory of sensing principle, fabrication method, applications, advantages and disadvantages of the different fiber-optic sensors, are addressed. Recent progress in numerous ...

By scanning the delay between frequency-modulated probe and pump, any location in the fibre may be addressed, thus enabling the sensing of the entire fibre. Its main limitation is the...

However, the most intriguing property of optical fiber sensors is represented by the possibility to extend the sensing area to the whole length of the optical device.

The NF-DA06 comes with a small spot lens where sensing distance and spot size can be adjusted through the amount of fiber inserted. It is possible to change the spot size between ø0.9 and 1.9 mm ...

For example, in evanescent field sensors and other surface-based sensors, the sensing region is always close to, or actually at, the fiber-medium interface, which makes it necessary to ...

Differential intensity sensors based on optical fibers have been very successful. Nevertheless, an inefficient fiber bundle design limits their ultimate range and sensitivity. This paper ...

In this work, an algorithm for the optimization of the design of an optical fiber bundle displacement sensor for Tip Clearance and Tip Timing measurements is presented.

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