

Article Overview

Right angle fiber optic sensors are compact, high-precision sensors designed for space-constrained industrial applications, offering adjustable detection distances and durable construction.

Overview

Right angle fiber optic sensors are specialized sensors where the fiber optic cable exits at a 90-degree angle from the sensor head. This design allows for installation in tight spaces and easy mounting with a single nut, making them ideal for applications like wafer mapping, IC pin detection, and other precision automation tasks .

Key Features

- o Thread Sizes and Fiber Lengths: Common thread sizes include M30.5mm, M40.75mm, and M6*0.75mm, with fiber lengths of 1m or 2m .
- o Detection Distance: Adjustable sensing distances range from 0 to 64mm, with some models capable of detecting targets as small as 0.1mm in diameter .
- o Material and Durability: Sensor heads are made from stainless steel or nickel-plated copper for pressure resistance, aging resistance, and corrosion protection .
- o Fiber Core: Highly transmissive plastic or glass fibers ensure stable signal transmission, low loss, and flexibility .
- o Environmental Resistance: Many sensors are designed to withstand high temperatures (-55°C to 350°C), vibration, oil, and ambient light interference .

Applications

Right angle fiber optic sensors are widely used in industrial automation, including:

- o Detecting small components like IC pins or wafers .
- o Position control, counting, and high-precision detection in confined spaces .
- o Situations requiring fast response times (up to 1ms) and high switching frequencies (up to 1kHz), .

Selection Considerations

When choosing a right angle fiber optic sensor, consider:

- o Detection Distance: Ensure the sensor's range meets your application requirements.
- o Light Characteristics: Choose models with high sensitivity or interference immunity depending on the environment.

Right-angle fiber optic sensor

- o Environmental Conditions: Evaluate temperature, humidity, vibration, and oil exposure.
- o Fiber Material: Plastic fibers offer flexibility and durability, while glass fibers provide higher precision.
- o Signal Processing: Some sensors include amplifiers or multi-function outputs (NPN/PNP, NO/NC) for enhanced performance .

Advantages

- o Space-saving design for compact installations.
- o High precision for detecting very small targets.
- o Durable construction suitable for harsh industrial environments.
- o Versatile mounting options with adjustable sensing distances. Right angle fiber optic sensors provide a reliable solution for high-precision, space-constrained industrial applications, combining durability, flexibility, and fast response capabilities .

A fiber optic sensor operates with an optical fiber cable connected to a dedicated light source. These sensors offer great mounting

Fiber Optic Sensor Cable, 2M Array-type, Thru-beam, R25 POF with Rectangular Sensing End and 50 mm Wide Right Angle Beam Exit

Ffrc-310tz Right Angle Fiber Optic Sensor M3 SUS304 Diffuse Reflection, Find Details and Price about Packaging Sensor from Ffrc

ATO's high quality right angle fiber optic sensors are available in a variety of

A fiber-optic sensor is a sensor that uses optical fiber either as the sensing element ("intrinsic sensors"), or as a means of relaying

Allen-Bradley PHOTOSWITCH®; ClearSight(TM) RightSight(TM) 42EF-G1SCA-G4 Large Aperture Right Angle Fiber Optic Photoelectric

Watch this video for a brief right angle fiber optic product demonstration. An angle fiber requires less space

Right Angle Fiber 1. Right-angle fiber optic tube, used to detect IC pins; 2. New patented products; 3. A variety of models and types

Through-beam fiber optic sensor uses a right-angle head design for easy installation in narrow or restricted

Abstract This paper proposes a temperature sensor based on surface plasmon resonance (SPR) technology



Right-angle fiber optic sensor

utilizing a

ATO's high quality right angle fiber optic sensors are available in a variety of sizes: M3*0.5mm, M4*0.75mm, and M6*0.75mm thread

The fiber-optic angle sensor based on an EFPC described here can measure infinite angles and small angles

The right-angle 2.2mm fiber sensor ends make them compatible with industry standard amplifier ports, making interchanging quick

SUCH fiber optic probe features stainless steel or copper housings for durability and a plastic fiber core

This work proposes an all-optical fiber sensing architecture with in-sensor computing that achieves < 3 ns

Manufactured By: SUNX LTD Manufacturer Part Number: FT-R80 IMS Product Code: 1762619 Packaging: Sold Individually

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