

Matrix-type through-beam fiber optic sensor



Article Overview

Matrix-type through-beam fiber optic sensors detect objects by interrupting a light beam transmitted through fiber optics, offering high precision, long-range detection, and suitability for harsh industrial environments.

Operating Principle

Matrix-type through-beam fiber optic sensors consist of a separate transmitter and receiver, connected via optical fibers. The transmitter emits light through the fiber, which is directed toward the receiver fiber. When an object interrupts the light beam, the receiver detects a drop in light intensity, triggering a switching signal (). Unlike diffuse sensors, these sensors do not rely on reflected light from the object, making them highly reliable for detecting opaque, glossy, or dark surfaces ().

Fiber Optic Materials

- Plastic fibers (PMMA): Lightweight, flexible, and suitable for small bending radii (down to 1 mm). Ideal for dynamic applications such as cable carriers ().
- Glass fibers: Offer low signal attenuation, broad-spectrum light transmission (visible, IR, UV), and high resistance to chemicals, heat, and UV radiation. Glass fibers are preferred for harsh or chemically aggressive environments ().

Matrix and Array Configurations...

Article Content

Jun 05, 2026

Fiber optic through beam sensor

For installation with limited mounting space Operation as through-beam sensor Very long range For cutting to size Small bending radius

Jul 02, 2026

Luoshida Through-Beam Matrix Fiber Optic Sensor High-Precision ...

Luoshida Through-Beam Matrix Fiber Optic Sensor High-Precision Detection Multi-Specification Matrix Fiber

Aug 04, 2025

Through-beam Sensors for Ex-Zones | Tippkemper Matrix

When standard retro-reflective sensors reach their physical limits, through-beam photoelectric sensors are the superior choice for

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Matrix Fiber Optic Sensor Through Beam Series High Precision Detect ...

Description Matrix Fiber Optic Sensor Through Beam Type Mounting Type with Fiber Amplifier Features Precise and Sensitive

Sep 02, 2025

Through Beam Fiber Optic Sensors - Mouser

Through Beam Fiber Optic Sensors are available at Mouser Electronics. Mouser offers inventory, pricing, & datasheets for Through

May 30, 2026

Matrix Optical Fiber Through Beam

It can detect long distances (tens of meters) with high detection accuracy and can detect small objects.

Jul 10, 2026

Through-Beam Fiber Optic Sensors

Fiber optic sensors detect the presence of objects using highly focused light transmitted through a fiber optic cable and detected with

Aug 23, 2025

Fiber optic through beam sensor

All information about the E20823 at a glance. We assist you with your requirements.
Technical data Mounting and Installation

Sep 25, 2025

Fiber Optic Sensor & Amplifier | ATO

Fiber optic sensors, especially through-beam and selected reflective types, can reliably detect transparent materials such as glass,

Apr 09, 2026

Photoelectric Through Beam with Fiber-Optics

Challenge: Photoelectric sensors are often used with fiber-optic cables in the through-beam/opposed mode. While there are

Jan 02, 2026

Through-beam sensors

Through-beam sensors from Balluff serve to detect objects reliably, regardless of surface, color, material -

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Thru-Beam Sensors

Thru-beam sensing is the most efficient sensing mode which results in the longest sensing ranges and highest excess gain. This

Apr 26, 2026

Fiber optic through beam sensor

For installation with limited mounting space Operation as through-beam sensor With 90° deflection of the light beam for use where

Sep 21, 2025

How to Specify Fiber Optic Sensors |Library tomatonDirect

Photoelectric sensors come with a variety of light emission types (infrared, visible red, laser Class 1 and 2), sensing

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Fiber Optic Sensors | KEYENCE America

This is a series of fiber optic sensor heads designed to be connected to a fiber optic sensor amplifier. The

Sep 06, 2025

Through beam fiber-F& C sensors

Through beam fiber 1. The amplifier is equipped with optical fiber, which can detect the presence or absence of opaque or

May 27, 2026

Fiber Optic Sensor Cable, 2M Array-type, Thru-beam,

Our thru-beam fiber optic sensor cable can detect an object with a minimum size of 30 mm. This 2M array

May 30, 2026

Through Beam Fiber Optic Proximity Sensors | GlobalSpec

Fiber optic through beam sensor -- E20059 from ifm efector inc. For installation with limited mounting space. Operation as through

Mar 30, 2026

FT-42 PANASONIC, Fiber Optic Sensor, Through Beam, Threaded Type ...

Buy FT-42 - PANASONIC - Fiber Optic Sensor, Through Beam, Threaded Type. element14 India offers fast quotes, same day

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Thru-Beam/Opposed Mode Sensors | TRI-TRONICS

AC/DC Sensor with Timer, Relay, or Triac Output Self-contained, easy-to-use sensors available in a wide variety of sensing models

May 26, 2026

Fiber optic sensors and fiber optics | Baumer USA

A fiber optic sensor and two fiber optics made of plastic or glass fibers make up a fiber optic system. The sensor contains a light

Feb 18, 2026

Through Beam Matrix Fiber Optic Sensor with CE

HF.CGQ-FFT-30ML Array type Through Beam fiber unit work with Digital fiber amplifier HF.CGQ-FF-403, which is a

Apr 19, 2026

Through Beam Fiber Optic Sensor, M3/M4/M6

This through beam fiber optic sensor has high performance and professional design, thread size M3, M4,

Jan 05, 2026

Through-Beam

Through-beam photoelectric sensors consist of an emitter and a receiver in separate housings. The emitter

Dec 22, 2025

Through-Beam Matrix Fiber Optic Sensor | Bags Etc, Inc.

Through-Beam Matrix Fiber Optic Sensor Sensing Type: Through Beam Width: 1.73" Thickness:

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Through-beam sensors | Balluff

Through-beam sensors from Balluff serve to detect objects reliably, regardless of surface, color, material -

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Matrix Fiber Optic Sensor Through Beam Series High Precision Detect ...

High Precision Detection: Precise and sensitive optical fiber sensor designed to detect tiny objects with high accuracy. Wide Voltage

Jan 11, 2026

Fft-12mld Through Beam Matrix Fiber Optic Sensor with CE

Fft-12mld Through Beam Matrix Fiber Optic Sensor with CE, Find Details and Price about Switch Machine from Fft-12mld Through

Dec 01, 2025

KEYENCE FIBER OPTIC SENSORS | KEYENCE America

Industry Leader KEYENCE fiber optic sensors became the industry standard because of their high performance and how easy they

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Through Beam Rectangular Fiber Optic Sensor

Choosing ATO's through beam rectangular fiber optic sensors to enjoy top performance! This fiber optic sensor has a

May 17, 2026

FIBER OPTIC SENSOR GUIDE

Sensing type Select a fiber optic unit in consideration of the installation environment.
Through-beam type,

Contact Us

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