Wiring of Korean through-beam fiber optic sensor

Article Overview

Through-beam fiber optic sensors are wired with separate emitter and receiver units, typically using 3-wire DC connections, ensuring correct polarity and alignment for reliable object detection.

Basic Wiring Principles

Through-beam fiber optic sensors consist of two main components: the emitter and the receiver. The emitter sends a modulated light beam (infrared, red LED, or laser) to the receiver. When an object interrupts the beam, the receiver detects the change and triggers an output signal ( ).

o 3-Wire DC Wiring: Most sensors use a 3-wire configuration:
o Brown wire: Positive supply voltage (V+)
o Blue wire: Ground (0V)
o Black wire: Output signal (PNP or NPN)

o Polarity Verification: Always check the sensor datasheet to confirm PNP (sourcing) or NPN (sinking) output. Incorrect wiring can damage the sensor or prevent operation ( ).

Installation and Alignment

o Emitter and Receiver Placement: Position the emitter and receiver facing each other along the detection path. Ensure the beam is unobstructed and aligned for maximum sensitivity ( ).
o Fiber Handling: Avoid bending the fiber below the minimum bend radius (typically 4-10 mm) to prevent light loss or damage ( ).
o Distance Considerations: Install the sensor as close as possible to the target for long-distance detection, and avoid running fiber cables alongside high-voltage lines to prevent interference ( ).
o Environmental Protection: Many sensors are rated IP65-IP69K, making them suitable for dusty, wet, or high-pressure environments. Ensure the sensor housing and fiber sheath are compatible with the operating conditions ( ).

Practical Tips

o Output Selection: Some models allow selectable NPN/PNP outputs, providing flexibility without stocking multiple variants ( ).
o Response Time: Standard models respond in 1-5 ms, while high-speed versions can reach 0.5 ms, suitable for fast-moving objects ( ).
o Non-Contact Sensing: Fiber optic sensors detect objects without physical contact, reducing wear and

damage to both the sensor and the target ( ). By following these wiring and installation guidelines, a Korean through-beam fiber optic sensor can be reliably integrated into industrial automation systems for precise object detection.

Fiber Optic Korea is a leading specialized company in the global optical fiber industry.

As a result, self-contained thru-beam sen-sor designs are superior to traditional thru-beam and more complex fiber optic mul-tipiece

Examine the Omron E32-T16WR fiber optic through-beam sensor. Learn its specs, features, amplifier options, and

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

All information about the E20703 at a glance. We assist you with your requirements. Technical data Mounting and Installation

When they first arrived on the scene, photoelectric sensors debuted as thru-beam devices using bulky transmitters and receivers.

Through-beam sensors from Balluff serve to detect objects reliably, regardless of surface, color, material - even with a heavy gloss

The fiber optic cable can include the emitter and receiver in one optical sensor head, a

Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

Plastic fiber-optic cables are very flexible and suitable for use in confined spaces. The fiber optics are supplied in 2 m lengths.

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

This article explains in detail the working principle of through-beam photoelectric sensors, their comparison with other

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

cable and detected with

Available in three sizes--M3, M4, and M6--it ensures seamless compatibility with all standard fiber optic amplifiers on the market.

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

The sensing section of a Fiber Unit has no electric circuits. This makes it highly reliable even under severe environmental conditions,

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