

RIVO MULTITRADE OPTICAL SYSTEMS

How to connect an amplifier to a fiber optic sensor



Overview

Step-by-Step Guide to Wiring Fiber Optic Photoelectric Sensors for. These sensors consist of an amplifier unit and fiber optic cables that transmit light.

Key Takeaways

Installing a fiber optic sensor on an amplifier involves mounting the amplifier, connecting the fiber optics securely, wiring the power and signal lines, and configuring the sensor for proper detection.

Step 1: Mount the Amplifier

- Attach the fiber optic amplifier to a DIN rail by hooking the top and clipping the bottom into place, or use an angle bracket if preferred for stability ().

- Ensure the amplifier is positioned close enough to the sensing area for optimal fiber routing.

Step 2: Insert the Fiber Optics

- Insert the fiber optic cables into the corresponding sensor holes on the amplifier until they reach the end stop, which locks them in place ().

- For 1mm fibers, guide them into the smaller diameter hole deeper in the channel for secure locking.

- If using fibers with screw adapters (e.g., FT-00 or FE-00), use the E21327 adapter to secure them ().

- To remove fibers, press the release button and gently pull them out.

Step 3: Wire the Amplifier

- Connect the brown wire to a 24V DC power supply and the blue wire to 0V (ground) ().
- Connect the black signal wire to the relay or control input of your automation system.
- Verify that the amplifier is powered on; the LED should indicate the current light intensity.

Step 4: Configure the Sensor

- Place the object to be detected at the farthest point from the transmitter and press the SET key to record the baseline light intensity ().
- Move the object closer to the transmitter until the LED shows approximately double the baseline intensity, then press SET again. The amplifier will calculate the trigger light intensity automatically.
- Adjust the output mode (DARK-ON or LIGHT-ON) and detection sensitivity using the MODE key. Options include:
 - FINE: Detects small differences at short distances.
 - TURBO: Extends detection range if FINE is insufficient.
 - SUPER: For harsh environments like dust or vibration ().

Step 5: Test and Verify

- Confirm that the sensor triggers correctly when the object enters the detection zone.
- Check that the LED indicators respond appropriately and that the output signal is correctly received by the connected system.
- Make any necessary adjustments to sensitivity or timing to ensure reliable operation. By following these steps, the fiber optic sensor will be securely installed on the amplifier, properly wired, and configured for accurate detection in industrial automation or other applications ().

Article Content

Step-by-Step Guide to Wiring Fiber Optic Photoelectric Sensors for ...

These sensors consist of an amplifier unit and fiber optic cables that transmit light to and from the sensing area.

How to Setup Fiber Optic Sensor?

Fiber optic amplifier can be used as a type of beam or diffuse sensor. The combination of fiber amplifiers and fiber sensing can meet

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Learn how to install the OCF fiber optic amplifier with step-by-step mounting and fiber connection guidelines for reliable performance.

Digital Fiber Optic Sensor/Amplifier Wiring and Setting

Fiber optic sensor has a digital LED display and 3-wires out lines. Digital fiber optic sensor is used for detection,

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To connect multiple subunits to a FS-V31 main amplifier, firstly, the protection cover on the main unit must be removed. Each subunit

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Keyence Fiber Optic Sensor Setup: A Quick Guide

Here's a step-by-step guide to setting up your Keyence fiber optic sensor. This process generally applies to most

Technical Explanation for Fiber Sensors

What Is a Fiber Sensor? A Fiber Sensor is a type of Photoelectric Sensor that enables detection of objects in narrow locations by

High-Performance Fiber Optic Amplifiers for Industrial Sensing

Fiber Optic Amplifiers Tri-Tronics fiber optic amplifiers deliver precision, reliability, and flexibility for demanding sensing applications.

Tutorial on Fiber Amplifiers

A comprehensive physics-based tutorial on fiber amplifiers. Learn about rare earth ions, gain and pump absorption, steady state,

Fiber Amplifier Sensor Communication Units

Precautions provides general precautions for using a Fiber Amplifier Sensor Communication Unit and related devices. Section 1

Design of Amplifier Circuit of Optical Fiber Sensor and Its Appli ...

In the test, the coupled optical fiber vibration sensor designed with an amplifier circuit and moving coil vibration sensor are placed on

Fiber-optic Sensors: Flexibility, Functionality, Versatility

A through-beam system with a metal M12 threaded sleeve, an optical lens integrated in the fiber-optic head for strong

DF-G3 Series Long Range Fiber Optic Amplifier

Long Range Fiber Optic Amplifier DF-G3 Series Developed to provide world-class long-range detection, DF-G3 fiber amplifiers are

FIBER OPTIC SENSOR GUIDE

What is a Fiber Optic Sensor? ic amplifier and a unit. The amplifier emits and receives light energy and converts it to

Industrial Fiber Optic Amplifier Sensors

Omron Automation industrial fiber optic amplifiers are designed to reliably detect minute target objects, increasing the

Fiber amplifiers

Fiber amplifiers Sensors equipped with fiber optical cables. Small and special sensor heads, optimal for limited & difficult environments.

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What precautions must be taken when setting up the fiber unit connection to the FS-V31 amplifier, and how does this affect sensor

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