How to adjust the threshold of a fiber optic sensor



Overview

This document provides instructions for setting sensitivity and calibrating digital fiber optic sensors.

Key Takeaways

The threshold of a fiber optic sensor can be adjusted using teaching methods, fine-tuning keys, and mode settings to control sensitivity and detection range.

Step-by-

Step Threshold Adjustment1. Power and Mounting Preparation Ensure the sensor amplifier is properly mounted on a DIN rail and the fiber cables are securely inserted into the amplifier in the correct orientation. Incorrect insertion can reduce sensing performance.

2.

Select the Operating Mode

Use the MODE key to switch between modes such as RUN, CUSTOM, or PRO mode.

PR

O mode allows advanced settings like shift amount, emission power, and hysteresis.
3.

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Teaching Methods1-

Point Teaching: Press the SET key when the sensing object is present. The sensor records the incident light intensity. You can then adjust the threshold by pressing the UP key (to increase threshold, lowering sensitivity) or DOWN key (to decrease threshold, increasing sensitivity),.

2-Point Teaching: Press the SET key with the object present, then again with the background (object absent). The sensor sets the threshold between these two points, ensuring accurate detection under varying conditions. 3-Point Teaching: Use three objects with different light intensities to define a threshold range.

The sensor automatically assigns the lowest, middle, and highest values to the threshold points. 4.

Fine Adjustment

In RU

N mode, you can fine-tune the threshold value using the UP/DOWN keys to shift the threshold slightly higher or lower based on the actual sensing environment. The shift amount can be set in PRO mode as a percentage or absolute light intensity, which determines the upper and lower threshold limits. 5.

Switching Mode Selection

Choose between Light-ON or Dark-ON operation depending on whether the sensor should activate when light is detected or blocked. Confirm the selection using the MODE key and ensure the display indicates the correct mode. 6.

Verification

Run the sensing object through the detection area and observe the display. Adjust the threshold until stable sensing is achieved, indicated by a green display or stable output. If the object is small or background interference exists, use the teaching method with shift adjustments to ensure reliable detection.

7. Key Lock (Optional)After setting the threshold, you can enable the key lock function to prevent accidental changes by pressing the SET and MODE keys together for a few seconds. By following these steps, you can accurately adjust the threshold of a fiber optic sensor to match your application requirements, ensuring reliable detection and optimal sensitivity.

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Article Content

DFS11, Digital Fiber Optic Sensor | TRI-TRONICS

Choose between five different settings ranging from fastest speed to highest resolution: Ultra-High-Speed (UHS), High-Speed (HS), Standard (STD), High-Resolution (HR), Long-Range (LR), Ultra

FS-N Series Sensor Setting Guide | PDF | Equipment | Electronics

This document provides instructions for setting sensitivity and calibrating digital fiber optic sensors. It describes several calibration methods including two-point calibration, maximum sensitivity

Digital Fiber Sensor Amplifier FX-505 -C2

This is the method to conduct the 3-point teaching (P-1, P-2, P-3) and to set the threshold range by setting the threshold value (1_SL) of the mid-point between “A” and “B” and the threshold value

SICK WLL180T MANUAL Pdf Download | ManualsLib

The 2-point Teach-in function on the SICK WLL180T sensor allows for exact adjustment of the switching threshold based on both the object and ambient

Sick WLL80 Fiber-optic sensor Operating instructions

Optimal sensor settings depend on the surface reflectivity and sensor type. Adjust parameters like the switching threshold and sensing range. Refer to your device''s manual for specific instructions on

Sensor Setting Guide

Sensor Setting Guide available in all major Asian and European languages. An essential support tool for personnel configuring sensors in any country. Download sensor configuration guides.

FX-500 Series Instructions

When the threshold value follow-up cycle is set, the thresh- old value is adjusted according to the shift based on the incident light intensity detected. However, the threshold value is not stored.

D12 Expert Series TEACH-Mode Fiber Optic Sensor

D12E sensors automatically place the switching threshold just above the dark condition taught to the sensor. This scheme works exceptionally well for sensing a very small sensing contrast, where the

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Photoelectric sensor WLL180T Manual | Manualzz

The ASC feature automatically adapts the switching threshold to compensate for contamination, making it ideal for detecting transparent objects, especially in environments where contamination is a concern.

How-To Guide: DF-G 2-Point Teach Configuration

The display will now show the new switching threshold in green, which is set halfway between the two taught conditions. If you need to manually adjust this threshhold, use the rocker button to increase or

Optical Fiber Sensors: Working Principle, Applications,

Brief theory of sensing principle, fabrication method, applications, advantages and disadvantages of the different fiber-optic sensors, are

Optical Fiber Sensors Guide

Optical fiber sensors offer attractive characteristics that make them very suitable and, in some cases, the only viable sensing solution. Some of the key attributes of fiber sensors are summarized below.

FX-500 Series Instructions

With optical communication it is possible to copy or cancel settings for the display adjustment or the incident light intensity. If the incident light intensity does not have enough margin, an optimum value

Fiber Optic Sensor : Types, Working, Interfacing & Its Applications

The fiber optic sensor working principle is that transducer changes some optical fiber system parameters like wavelength, intensity, phase, polarization, etc. This gives an increase in

Keyence Digital Fiber Optic Sensor (FS-N11CN) Setup

Introduction This guideline explains how to setup and mount the Keyence Digital Fiber Optic Sensor (FS-N11CN). Tool List No tools are necessary to setup the Keyence Digital Fiber Optic

CSM_FiberSensor_TG_E_2_1

Fiber Sensors almost always use LEDs as the light source. The light emitted from LEDs oscillates in the vertical and horizontal directions and is referred to as unpolarized light. There are optical filters that

Digital Fiber Sensor Amplifier FX-500 Series PRO MODE

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Copy of items in display adjustment setting and incident light intensity are conducted or canceled by using optical communication. In case incident light intensity does not have enough margin,

Optical Fiber Sensors for High-Temperature Monitoring: A Review

High-temperature measurements above 1000 °C are critical in harsh environments such as aerospace, metallurgy, fossil fuel, and power production. Fiber-optic high-temperature sensors are

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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