# Fiber Optic Sensor Color Mark



## Overview

R55F Series Fiber Optic Registration Mark SensorAdvanced fiber optic color-mark sensor for the toughest color contrasts, available with white, blue, green.

## Key Takeaways

Fiber optic color mark sensors detect color differences on objects using light transmitted through fiber optics, enabling precise recognition in harsh or confined industrial environments.

### How It Works

A fiber optic color mark sensor emits light from a built-in LED (white, blue, green, or infrared) through a fiber optic probe. The light reflects off or passes through the target object and returns via the fiber to a photodiode or optoelectronic detector. The sensor analyzes the intensity of reflected light at different wavelengths to determine the color components (red, green, blue), allowing it to distinguish subtle color differences or specific marks on moving objects ( ).

This setup enables detection in high-temperature, high-humidity, or space-constrained areas where conventional sensors may fail ( ).

### Key Features

High color resolution for detecting tough color contrasts ( ). Adjustable detection range typically 5–50mm with spot sizes from 3–10mm ( ). Fast response time, often as low as 50 microseconds, suitable for high-speed production lines ( ).

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### Multiple LE

D options (white, blue, green, infrared) for optimal contrast detection ( ). Flexible output modes including NPN/PNP, NO/NC switching, and synchronous input ( ). Memory and bank functions to store multiple setups for different production lots, reducing downtime due to false detection ( ).

Fiber optic probes allow installation in confined or harsh environments, enhancing durability and heat resistance ( ).

### Applications

Fiber optic color mark sensors are widely used in: Printing and packaging for color mark recognition and label alignment ( ). Textile industry for color consistency inspection ( ). Plastic and bottle cap sorting where objects vary in color and size ( ).

High-speed assembly lines to verify part placement or detect defects ( ).

### Advantages

Reliable detection even with minor color differences or reflective surfaces ( ). Adaptable to frequent line changes due to adjustable parameters and memory storage ( ). Compact and flexible installation using fiber optics, suitable for tight spaces or harsh conditions ( ).

Enhanced productivity by reducing false detections and minimizing equipment downtime ( ). Fiber optic color mark sensors combine precision, speed, and environmental adaptability, making them ideal for modern industrial automation and quality control applications.

## Article Content

R55F Series Fiber Optic Registration Mark Sensor

Advanced fiber optic color-mark sensor for the toughest color contrasts, available with white, blue, green or infrared LED. The R55F high color resolution sensor

R55F Fiber-Optic Color Mark Sensors

Mounting ConsiderationsStatic TEACH MethodDynamic TEACH MethodDynamic TEACH AdjustmentPush Button Enable/DisableSupply Protection CircuitryOutput Protection CircuitryBanner Engineering Corp. Limited WarrantyUse Dynamic TEACH to configure sensitivity during actual machine run conditions. During a Dynamic TEACH adjustment, the sensor samples many color marks against their background material and automatically sets the sensitivity at the optimum level. Dynamic TEACH activates the sensor''s adaptive threshold system, which continuously tracks minimum and m...See more on info.bannerengineering Omron

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E3NX-CA Color Mark Fiber Amplifier - Omron

High performance white light digital fiber amplifier for colormark detection. Colormark fiber amplifier with two outputs capable of detecting minute differences between

R55F Fiber-Optic Color Mark Sensors Datasheet

The R55F Fiber-Optic Sensor was developed to provide simplicity of operation and access to tight areas for color mark (registration) sensing applications. R55F sensors feature TEACH sensitivity

Fiber Optic Color Code: The Ultimate TIA-598-C Guide

What is the standard 12-color sequence for fiber optics? Under the TIA/EIA-598-C standard, the universal 12-color sequence is: 1-Blue, 2-Orange, 3-Green, 4

Color Mark Sensors

For the new Color Mark Sensors, the Photoelectric Sensor uses RGB three-color LEDs as the light source, and the Fiber Sensor uses a white LED that has a broad wavelength range.

Color Sensors & Mark Sensors | Photoelectric Sensors

Passive, fiber-type color sensor that identifies the color proportions and brightness of LEDs by analyzing light into the three primary colors: red, green, and blue.

E3S-DC Color Mark Photoelectric Sensor/Features

When the Sensor makes false detection, values can be checked to determine whether color variation from lot to lot in packaging material has

BA-999/Color Mark Brochure

The R55E color mark sensor is able to reliably detect very small color marks and small color contrasts. Here, the R55E senses a color mark printed on the rear seam of the foil top wrap.

COLOR MARK Sensors

sensor technology. The sensor''s solid- state light source reliably detects all colors used in today''s print jobs, including marks with extremely low contrast, such as 20% yello

R55F Series Fiber-Optic Color Mark Sensors

R55F Series Sensor Overview The R55F Fiber-Optic Sensor was developed to provide simplicity of operation and access to tight areas for color mark (registration) sensing applications. The R55F is a

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Banner Engineering R55FVQ Sensor Photoelectric R55

R55F Series fiber Optic Color Mark SensorsThe Turck Banner R55F series fiber-Optic Sensors are designed to provide simplicity of operation and access to tight

Color Sensors & Mark Sensors | Photoelectric Sensors

Discontinued Series Passive, fiber-type color sensor that identifies RGB composition values of color proportions by analyzing light into the three primary colors: red,

Banner R55F Fiber Optic User Manual

The R55F Fiber-Optic Sensor was developed to provide simplicity of operation and access to tight areas for color mark (registration) sensing applications. The R55F is a technological advancement from

R55FVQ | R55F Series Fiber Optic Registration Mark Sensor

R55 Color Mark: Glass Fiber w/ Red LED, Range: Depends on Fiber; Input: 10-30 V dc, Outputs: Bipolar NPN/PNP, 5-pin M12 Integral QD

SmartEye Color Mark II CMSB-1BF1

COLORMARK II, 10ms Pulse Stretcher, Blue LED, F1 Optical Block. 12-24 VDC polarity protected. Fiberoptic. Maximum Sensing Range is depending on fiber optics. The SMARTEYE®

Tri-Tronics Registration Mark Sensors for Precision Detection

Fiber Optic Registration Mark Sensors Fiber optic registration mark sensors are highly versatile for use in tight spaces and can be easily customized with different lenses, fibers, or mounting configurations

Fiber-optic sensor

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

E3S-DC Color Mark Photoelectric Sensor/Features

The high luminance white LED of the Fiber Amplifier Unit, and the high luminance RGB three-color LEDs and high efficiency optical system design of the Photoelectric Sensor deliver high

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

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