

45CRM Color Registration Mark Sensor



Three Emitter LEDs and High-speed Response Time

Features and Benefits

- Embedded IO-Link communication protocol helps minimize downtime and increase productivity
- Three emitter LEDs (red, green and blue) to solve any target/background combination
- Fast 40 μ s response time
- Three simple setup methods: dynamic teach, static teach, or IO-Link configurable
- Adjustable-position micro (M12) quick disconnect (QD) for mounting flexibility
- 2 x PNP/NPN (Push-Pull) complementary outputs minimize confusion in sensor selection

What is IO-Link?

IO-Link is a worldwide open-standard protocol that allows sensors to easily integrate into The Connected Enterprise. Benefits of IO-Link technology include:

- Reduced inventory and operating costs
- Increased uptime/productivity
- Simplified design, installation, setup and maintenance
- Enhanced flexibility and scalability

IO-Link enabled sensors offer advanced features and diagnostics that can only be accessed through an IO-Link master.

- Real-time diagnostics and sensor health
- Automatic device configuration (ADC)
- Multiple profiling
- Descriptive tags
- Device specific parameters



1732 ArmorBlock[®]
IO-Link Master



Rockwell Automation announces enhancements to the 45CRM Color Registration Mark Sensor family to include embedded IO-Link functionality. IO-Link allows sensors to easily integrate into The Connected Enterprise, delivering data from the sensor directly into a control system in a very cost-efficient and easy-to-use manner via an IO-Link Master and EtherNet/IP[™].

The high-speed Allen-Bradley[®] 45CRM sensor utilizes three emitter LED colors (red, green and blue) to reliably discern between registration marks and the background of a web. With a high-speed response time of 40 μ s, the 45CRM allows manufacturers to reliably track targets at higher speeds, thus increasing overall production. And when connected to an IO-Link master the 45CRM can take advantage of advanced functionality including real-time diagnostics, automatic device configuration (ADC) and multiple job-specific profiles. Not only do these features make the 45CRM easy to apply in challenging packaging and assembly applications, but they help optimize your supply chain by reducing the number of models to be stocked by 50%.

The rugged, compact housing of the 45CRM (49 mm x 42 mm) can be mounted in very tight spaces and features a rotatable 90° M12 connector for additional flexibility. The 45CRM is also easy to get up and running thanks to quick and simple rotary switch setup that allows one-step dynamic teach (for applications where it is not possible to shut down the line) and a two-step precision teach for more difficult applications.

LISTEN.
THINK.
SOLVE.™

45CRM, IO-Link Version 1.0

- IO-Link is a worldwide open-standard peer-to-peer serial communication protocol (IEC 61131-9) that allows sensors and actuators to easily integrate into The Connected Enterprise.
- The IO-Link enabled 45CRM sensor—when connected to an IO-Link master—shares device identity, parameters, real-time diagnostics and process data with the control system to optimize machine setup, maintenance and troubleshooting.
- By combining simple implementation with powerful data and diagnostics, IO-Link sensors provide simplified integration and seamless visibility of your processes to increase uptime and productivity.



1734 POINT IO Master for POINT I/O™

45CRM IO-Link Benefits

- Teaching the sensor** can be accomplished with IO-Link via the Add-On-Profile through Studio 5000® software or by using the teach button on the sensor.
- Multiple Profiles** can be setup and stored in Studio 5000 to support multiple machine configurations. Therefore, the sensor can be taught and programmed to detect multiple products/packages. Multiple profiles enable setting up the sensor one time and having the capabilities to change products instantly without manual intervention.
- Location Indication** helps the user to identify the location of the sensor on the machine by temporarily increasing the LEDs to flash in a specific rhythm.
- Locking** options are available to lock local settings when operating in IO-Link mode, and therefore any user changes will not change the settings of the sensor.

Product Selection

Description	Spot Size [mm (in.)]	Cat. No.
Parallel beam	1 x 3 (0.04 x 0.12)	45CRM-4LHT1-D4
Perpendicular beam	3 x 1 (0.12 x 0.04)	45CRM-4LHT2-D4

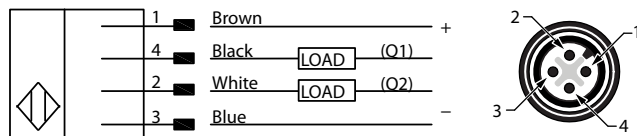
Note: IO-Link Master Module (Catalog No. 1734-4IO1 or 1732-8IOLM12R) is required for premier IO-Link integration experience.

IO-Link enabled.

Cordsets and Accessories

Description	Cat. No.
IO-Link Master Module for POINT I/O	1734-4IOL
ArmorBlock IO-Link Master	1732E-8IOLM12R
DC micro QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
Mounting Bracket	45CRM-BRK1-ADAPT

Wiring Diagrams



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www.rockwellautomation.com

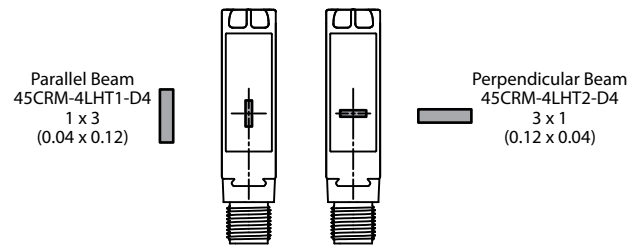
Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

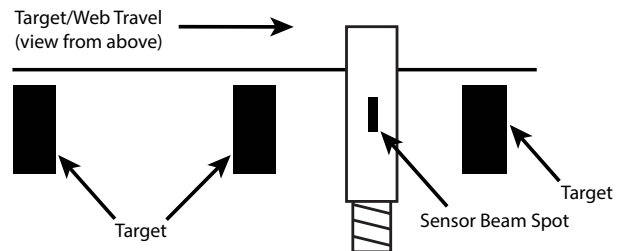
Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Light Spot Orientation [mm (in.)]

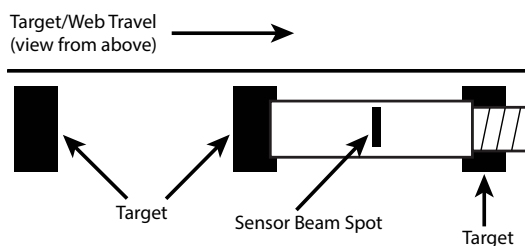


Parallel Orientation



Select the 45CRM-4LHT1-D4 (parallel beam) when the sensor will be mounted perpendicular to the web travel.

Perpendicular Orientation



Select the 45CRM-4LHT2-D4 (perpendicular beam) when the sensor will be mounted parallel to the web travel.