46CLR ColorSight™ True Color Sensor

Advanced, high-performance color sensing

Features and Benefits

- Three models to address your needs:
  - Glare suppression
  - Small spot size (for small object detection)
  - Long range
- Built-in distance correction technology confirms consistent color detection
- Internally stores up to seven colors in color match mode and unlimited colors by using IO-Link when connected to CompactLogix™
- Access true RGB color and intensity values using IO-Link
- Nine adjustable tolerance levels provide additional flexibility in installation
- Three discrete outputs with auto PNP/NPN
- IP67 and IP69 zinc die cast rated enclosure
- Embedded IO-Link communication protocol helps minimize downtime and increase productivity

What is IO-Link?

IO-Link is a worldwide open-standard peer-to-peer serial communication protocol (IEC 61131-9) 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
- Device specific parameters

The new Allen-Bradley® 46CLR ColorSight™ True Color Sensor – like its ColorSight counterparts – was designed to perform the sensing operations commonly found in the automotive, food and beverage, pharmaceutical, and plastics, among other industries. This sensor offers enhanced performance in a compact, cost-effective package and addresses an even wider range of your applications.

The 46CLR is a color sensing solution featuring patent pending distance correction technology that confirms consistent color detection at ranges up to 65 mm. Additional features include internal storage of up to seven colors and nine adjustable tolerance levels for optimal application flexibility.

The 46CLR is also a smart sensing solution with embedded IO-Link functionality that easily integrates into The Connected Enterprise. That means the 46CLR can deliver sensor health and application data directly into a control system to help minimize downtime and increase productivity.

46CLR ColorSight IO-Link Features and Benefits

Triggered for Seven Color Channels: provides indication on each of the available color channels – three discrete outputs and four virtual outputs

Two Data Process Maps: data map 0 indicates the individual status of internally stored colors within the sensor, while data map 1 displays the RGB+I information

Red, Green, Blue and Intensity: provides the raw value of red, green, blue and intensity as a process data map

Signal Strength: provides the raw signal strength value reflected by the color target

Location Indication: helps distinguish sensors in applications where you may need to identify in a large machine

Multiple Profiles: can be set up and stored to support multiple machine configurations. Multiple profiles enable configuring the sensor one time and having the capability to change products instantly without manual intervention.

Internal Temperature: helps you determine if the sensor is operating close to its minimum and maximum temperature range

Counter: counts the number of times the target has been detected

Timers: indicates the amount of time the target was present or absent, which can be used to determine how fast your system is operating

Averaging Filter: this parameter changes the number of samples that the sensor takes to stabilize the measurement. This averaging operation provides a consistent representation of the measurement.

User Interface Locks: helps prevent undesired or unauthorized changes of the sensor settings

Product Selection

Model	Operating Voltage	Light Source	Sensing Distance	Outputs	Inputs	Catalog No.
Glare Suppression			18…32 mm			46CLR-D5LAC1-D5
Small Spot Size	18…30V DC	White LED	18…60 mm	3 x PNP	Configurable Trigger and Push Button Lock	46CLR-D5LAC2-D5
Long Range			20…150 mm			46CLR-D5LAC3-D5

Product Specification

Specifications			
Certifications	cULus and CE marked for all applicable directives		
User Interface		**IO-Link**	
Status Indicators	LCD display with Green and Red LED backlights	Communications Mode	COM2
Electrical		Cycle Time, min	4 ms min.
Adjustments	3 push buttons	Process Data Bit Length	48 bits (6 bytes)
Operating Voltage	18…30V DC	Specifications	IO-Link 1.1
Output Mode	Programmable Light Operate or Dark Operate	**Mechanical**	
Output Type	PNP or NPN programmable	Enclosure Rating	IP67 and IP69 rated enclosure
Response Time	0.3…0.333 ms	Enclosure Material	Zinc die-cast, matt chrome
		Operating Temperature	-20…+55 ℃ (-4…+131℉)

Accessories

Description	Catalog No.
L-Shaped Mounting Bracket	60-BDMS-LS
5-pin M12 (Micro) QD Shielded Cordset, 2 m	889D-F5EC-2

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