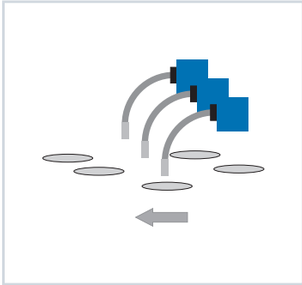
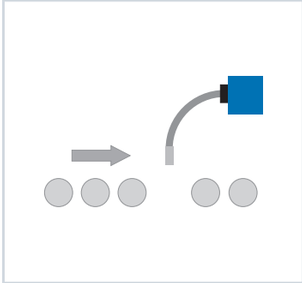
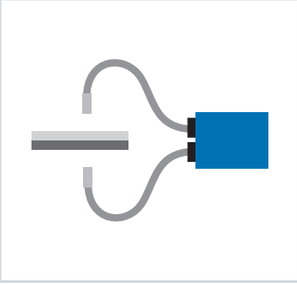
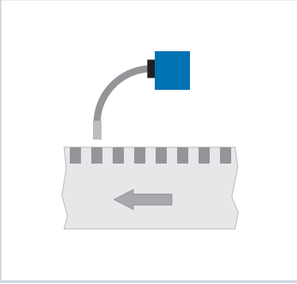
Applications

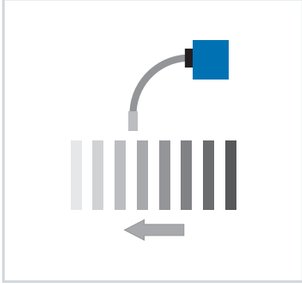
- Presence check of etiquettes in a bottling plant
- Presence check of wafers in a wafer baking systems after the decapper
- Coating inspection of primer (adhesion agent) in the quality assurance of automotive supplier
- Print mark detection for controlling the register controls, in banderoling machines, and in cutting tools
- Color inspection of taillight systems in final assembly
- Color inspection for assurance of color matching of enamel insets for washing basins
- Coating inspection of foam material on one side through color difference sensor, position detection is possible by means of differential principle
- Color inspection of belt buckle, belt and eyelet for color matching before final assembly
- Color inspection of PET-bottle preforms in a bottling plant using through beam principle











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Non-contact measurement with light

Color measurement

Advantages

The CROMLAVIEW® family consists of color sensors that processes colors in a perceptual way (i.e. according to human perception). They are suitable for industrial applications that demand high standards of the sensor technology. The integrated stabilization channel technology CROMLASTAB® ensures reliable operation during the whole life cycle and protects it from temperature drift as well. These qualities are underlined through the visible robustness of the housing.

High performance color sensors
- Finest color differences can be detected (ΔE < 1)
- Long-term stability of color recognition without new teach-in by CROMLASTAB®-technology
- Up to 350 colors can be stored
- Quick response time from 50 µs

Intuitive control concept
- Signal settings and teach-in of colors via buttons
- PC software CR-Tool for parameterization and validation of color recognition
- Easy adjustment to the recognition task through optical fibers and optics

Flexible integration through industrial interfaces
- Up to 12 channels, with binary encoding up to 4096 output combinations
- Push-pull-outputs (24 V / 100 mA)
- Standard interfaces: USB, RS232
- Optional fieldbus interfaces: Profibus DP, Fast Ethernet, CANopen
- Release of color recognition via trigger

Technical Data

	CR10	CR50	CR100	CR200	CR210	CR500
Sensing channels	1 sensing channel, 1 internal drift stabilization channel			2 sensing channels [1]	1 sensing channel, 1 internal drift stabilization channel	
Color processing	perceptive					
Receiving detector	three range photo diode					
Sensitivity steps	7 (1x, 4x, 20x, 40x, 80x, 200x, 400x)	4 (20×, 40×, 80×, 200×)	8 (1×, 4×, 20×, 40×, 80×, 200×, 400×, 800×)			fixed
Light source [2]	power white light LED, 1W			high-Power white light LED, 4W		
Ambient light compensation	permanent		can be switched off			permanent
Distance compensation	no					yes
Standard interfaces	1 switching outputs 5 control inputs	4 switching outputs 1 control input	4 switching outputs, 2 control inputs, serial (RS232)	12 switching outputs 2 control inputs serial (RS232), USB		
Optional interfaces	–			Profibus, Profinet, EtherNet/IP, Ethernet (Telnet)		
Parameterization	1 button for Teach-In	3 buttons for Teach-In	3 buttons for Teach-In, Software CR-Tool			
Color resolution	$\Delta E_{Lab} < 1$					
Response time	500 µs	10 ms, 1 ms	≥ 50 µs			
Color value memory cells	1	4	350	100		100
Color output channels	1	4	4 (15 with binary encoding)	12 (100 with binary encoding)		12 (100 with binary encoding)
Protection class	IP 67	IP 54				
Power supply	10 … 28 VDC, max. 500 mA	18 … 28 VDC, max. 500 mA				
Case temperature during operation	-15 °C … 55 °C	-10 °C … 55 °C				
Coupling in signal path	via optical fiber					
Fixed optic version	–	CR50-FO	CR100-FO	–		
Case size	41 mm × 46 mm × 22 mm	50 mm × 50 mm × 21 mm		100 mm × 70 mm × 30 mm		
Weight	55 g	80 g		260 g		350 g

[1] sensing channel 2 can be used for stabilization
[2] self shining objects can be measured by switching off the illumination