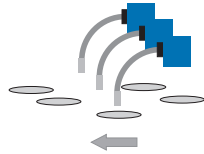
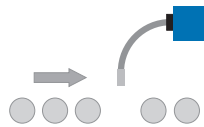


## Applications

- 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



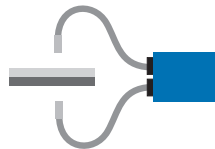
- Print mark detection for controlling the register controls, in banderoling machines, and in cutting tools

- Color inspection of taillight systems in final assembly



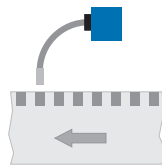
- Color inspection for assurance of color matching of enamel insets for washing basins

- 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



## Contact

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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 ( $\Delta E < 1$ )
- 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  $\mu$ s

### 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

	CR50	CR100	CR200	CR210	CR500
<b>Sensing channels</b>	1 sensing channel, 1 internal stabilization channel		2 sensing channels <sup>1)</sup>	1 sensing channel, 1 internal stabilization channel	
<b>Distance compensation</b>	no				yes
<b>Color processing</b>	perceptive				
<b>Receiving detector</b>	three range photo diode				
<b>Sensitivity steps</b>	20, 40, 80, 200	1, 4, 20, 40, 80, 200, 400, 800			fixed
<b>Light source <sup>2)</sup></b>	power white light LED, 1 W		high-power white light LED, 4 W		
<b>Ambient light compensation</b>	permanent	can be switched off			permanent
<b>Standard interfaces</b>	4 switch outputs, 1 control input	4 switch outputs, 2 control inputs, serial (RS232)	12 switch outputs, 2 control inputs, serial (RS232), USB		
<b>Optional interfaces</b>	-		Profibus, Profinet, Ethernet		
<b>Parameterization</b>	3 button teach-in	3 button teach-in, Software CR-Tool			
<b>Color resolution</b>	$\Delta E_{\text{Lab}} < 1$				
<b>Response time</b>	10 ms, 1 ms	$\geq 50 \mu$ s			$\geq 250 \mu$ s
<b>Color value memory cells</b>	4	350			100
<b>Color output channels</b>	4	4 (15 bin. cod.)	12 (350 bin. cod.)		12 (100 bin. cod.)
<b>Protection class</b>	IP 54				
<b>Power supply</b>	18 ... 28 VDC, max. 500 mA				
<b>Acceptable case temp.</b>	-10 °C ... 55 °C				
<b>Coupling in signal path</b>	via optical fiber				
<b>Fixed optic version</b>	CR50-FO	CR100-FO	-		
<b>Case size</b>	50 mm × 50 mm × 21 mm		100 mm × 70 mm × 30 mm		
<b>Weight</b>	80 g		260 g	350 g	

<sup>1)</sup> sensing channel 2 can be used for stabilization

<sup>2)</sup> self shining objects can be measured by switching off the illumination