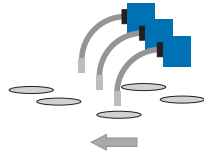
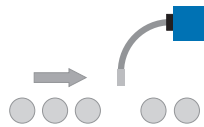


## Applications

- 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



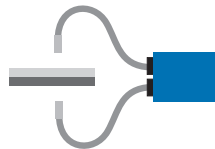
- Print mark detection for controlling the register controls, in banderoling machines, and in cutting tools

- Color inspection of taillight systems in final assembly



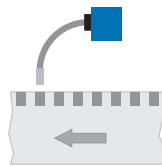
- Color inspection for assurance of color matching of enamel insets for washing basins

- 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,<br>1 internal stabilization channel |  | 2 sensing channels <sup>1)</sup>                               | 1 sensing channel,<br>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,<br>1 control input                   | 4 switch outputs,<br>2 control inputs,<br>serial (RS232) | 12 switch outputs,<br>2 control inputs,<br>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