

# **CR100** Color Sensor

The recognition of finest color differences on surfaces of all kinds is the strength of the CROMLAVIEW® CR100 color sensor. Due to an optical fiber connection the sensor can be adapted to a large number of applications. Thus, the size of the measuring spot and the working distance are variable. Through a sophisticated control concept the sensor can be comfortably be parameterized via buttons. For more complex tasks a PC tool is provided which visualizes all settings and manages the 350 colors that can be stored in the sensor and be exported in a CSV file if required.

The functional principle of the CR100 is based on the three range procedure. The measuring light is assessed with the tristimulus value functions and assigned to the three wave length ranges red, green and blue. Through the assessment with these tristimulus value functions the sensor is able to perceive colors similar to the human eye.

The sensor contains an own white light source clocked with a frequency of up to 10 kHz. Sampling takes place in both, the light and the dark phase. Additive ambient light cannot change the difference between the light and dark phase, so that the sensor is independent from ambient light.

## **Key Features**

- Up to 350 colors can be stored
- Quick response time from 50 μs
- 4 channels, with binary encoding 15 channels
- Long-term stability of color recognition without new teach-in by CROMLASTAB<sup>®</sup>technology
- Finest color differences can be detected (ΔE < 1)</li>
- Easy adjustment to the recognition task through optical fibers and optics
- Release of color recognition via trigger
- Signal settings and teach-in of colors via buttons
- PC software CR-Tool for parameterization and validation of color recognition

## Applications

- Presence check
- Print mark detection in Printing machines, banderoling machines, register controls
- Color inspection in final assembly
- Abrasion measurement
- PET preform inspection

#### **Options and accessory**

- CR-COMBox
- CR-TBox
- Fiber optics
- Optics
- Mounting Bracket



#### **Technical Data**

Internal stabilization channelDrift stabilizationCROMLASTAB*, can be switched offReceiving detectorThree range photo diodeSensitivityAdjustable by userSensitivity steps8 (1x, 4x, 20x, 40x, 80x, 200x, 400x, 800x)Receiving signal resolution3 x 4096 StepsObject illuminationPower white light LED, Adjustable (4096 steps) Can be switched offAmbient light compensationCan be switched offStandard interfaces4 Switching outputs Serai (RS23)Displays9 LEDs for switching outputs and statusButtonsSolutions (SS35 msColor resolutionSci SS35 msAnystersis0%	Sensing channels	1 Sensing channel
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Case temperature during operation-10 °C 55 °CCoupling in signal pathVia optical fiber	Protection standard	IP 54
Coupling in signal path Via optical fiber	Power supply	18 28 VDC, max. 500 mA
	Case temperature during operation	-10 °C 55 °C
Case material Aluminium anodized	Coupling in signal path	Via optical fiber
	Case material	Aluminium, anodized
Case Size 50 mm × 50 mm × 21 mm	Case Size	50 mm × 50 mm × 21 mm
Weight Approx. 80 g	Weight	Approx. 80 g

<sup>1)</sup> Limited functionality

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