

CR50-FO

Color Sensor

Due to its make as a color sensor with fixed optics the CROMLAVIEW® CR50-FO color sensor is very compact. The sensor recognizes finest color differences on all kinds of surfaces. The working distance lies in a range of 30 mm to 60 mm, depending on this distance the diameter of the measuring spot varies between 5 mm and 10 mm. The sensor can easily be programmed using the intuitive and simple button operation.

The functional principle of the CR50-FO 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 2 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 4 colors can be stored
- Response time from 10 ms and 1 ms (selectable)
- 4 color output channels
- Long-term stability of color recognition without new teach-in by CROMLASTAB®-technology
- Fixed optics with a working distance of 30 - 60 mm
- Measuring spot diameter 5 - 10 mm
- Color recognition released via trigger
- Signal settings and teach-in of colors via buttons

Applications

- Check the presence and correct position of assembly parts
- Control task in printing machines

Options and accessory

- CR-TBox
- Fiber optics
- Optics
- Mounting bracket

Technical Data

Sensing channels	1 Sensing channel 1 internal stabilization channel
Drift stabilization	CROMLASTAB®
Receiving detector	Three range photo diode
Sensitivity	Adjustable
Sensitivity steps	4 (20x, 40x, 80x, 200x)
Receiving signal resolution	3 x 4096 steps
Object illumination	High-power white light LED, adjustable (4096 steps)
Ambient light compensation	Always activated
Standard interfaces	4 Switching outputs 1 Control input
Displays	9 LEDs for outputs and/or status
Buttons	3 buttons for Teach-In
Color resolution	$\Delta E_{Lab} < 1$
Response time	10 ms, 1 ms
Off-Delay	0 ms, 50 ms
Hysteresis	10 % fixed
Color value memory cells	4
Color output channels	4
Protection standard	IP 54
Power supply	18 ... 28 VDC, max 500 mA
Case temperature during operation	-10 °C ... 55 °C
Coupling in signal path	Fixed optics
Working distance	30 mm ... 60 mm
Measuring spot diameter	5 mm ... 10 mm
Case material	Aluminium, anodized
Case Size	50 mm × 50 mm × 21 mm
Weight	Approx. 80 g

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