



Color Recognition Sensor

colorCONTROL R30 D

- Up to 31 color memory
- 8x White light LED illumination
- Diffuse illumination (reduction of gloss effect)
- PC-programmable via RS232

Principal features:

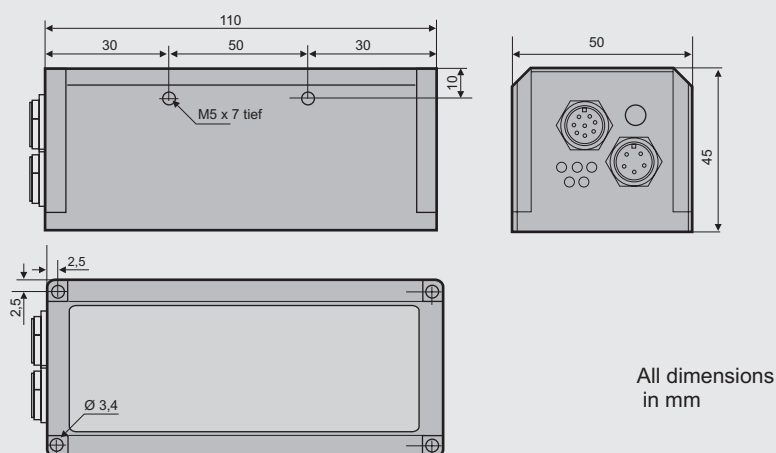
- Measuring range **10-60 mm**
- Detection range
at 20 mm dist. **typ. Ø 12 mm**
at 40 mm dist. **typ. Ø 22 mm**
- Up to 31 colors can be stored
- RS232 - interface
- 8x White light LED, 100 kHz modulated, diffuse
- Autom. tolerance adjustment
- Several teach-functions (via PC, external or push button)
- Various evaluation algorithms can be activated
- Averaging over a maximum of 32768 values
- Switching state display by means of 5 yellow LEDs
- Insensitive to ambient light
- Color grouping
- Sturdy aluminium housing
- Measuring frequency
up to 37,5 kHz
- 12 bit A/D conversion

Typical applications:

- Color and grey scale detection
- Gloss reduction
- Enhanced contrast detection
- Automotive industry (car body and interior parts)
- Detection of color rings on metall- and plastic cases
- Detection of color print marks in printing industry
- Color detection and sorting of tins
- Reading and evaluating of R G B color values

For operating and wiring connections see page #3-5 WLCS (A31-series)

Dimensions




Function

Through an optical diffusor 8 modulated white light LEDs projects a diffuse white light spot onto a surface to be checked. Part of the light that is reflected from the target is then directed through an optical receiver unit onto a color-sensitive detector element. The received light is separated according to the 3-color-range process (red, green, blue). The color sensor can be parameterized (via RS232) under Windows® with the colorCONTROL R software. Up to 31 colors can be stored. The color code is visualized by means of 5 yellow LEDs at the housing of the color sensor and output as 5-bit binary information at the digital outputs OUT0 to OUT4 of the 8-pin connector.

Ordering information

Product	Part No.
colorCONTROL R30 D (colorCONTROL R software included)	10233483
Connection cable 8-pin connector, Binder 712 (to SPC) length 2 m	11232238
5-pin connector, Binder 712 (to PC) length 2 m	11232239

Technical data

Electrical data	Supply voltage	12-30 VDC, reverse polarity and overload protected
	Current consumption	typ. 320 mA
	EMC test	acc. to IEC - 801 
	Interface	RS232, parameterizable under Windows®
	Averaging	over max. 32768 values
	Color memory	non-volatile EEPROM, 31 colors with all parameters
	Connection to SPC	8-pin flange socket (Binder series 712)
	Connection to PC	5-pin flange socket (Binder series 712)
Measuring data	Target distance	typ. 10 mm - 60 mm
	Detection range	at 20 mm distance: typ. Ø 12 mm at 40 mm distance: typ. Ø 20mm
	Reproduceability	in the x,y color range 1 digit at 12 bit A/D A/D conversion (shown with colorCONTROL R)
Light source	White light LED	8 LEDs, modulated 100 kHz, diffuse
Receiver	3-color photodiode	RGB, true color
Outputs	OUT 0 to OUT 4	wiring see connection table NPN/PNP available, bright-/dark-switching selectable
	Switching frequency	max. 800 Hz with 31 teach-in colors
		max. 7,3 kHz with 1 teach-in colors,
		max. 37,5 kHz with contrast detection (intensity values)
	Switching current	max. 100 mA, short-circuit protected
	Pulse lengthening	adjustable under Windows® 0 ms ... 100 ms
Switching state display	Visualisation by means of 5 yellow LEDs	
Data on ambiente conditions	Operating temp.	-20°C ... +55°C
	Storage temp.	-20°C ... +85°C
	Ambient light	up to 5000 Lux
	Protection class	IP64
Housing	Aluminium	anodized in black

Design

