

OF210120

OPTICAL SENSORS • COLOR SENSORS

The functioning of the color sensors is based on the evaluation of the red, green and blue components of the light reflected by the objects to be measured, or from the emitted radiation of the 'self-luminous' object (for example, LEDs, automobile tail lights, halogen lamps, fluorescent lamps, etc.). For this purpose, a so-called 3-fold receiver is integrated in the unit next to an on / off switchable white light or UV-light. This receiver works according to the True Color principle. This means that the evaluation of the light hitting the receiver is similar to the color perception of the human eye. This is a prerequisite for the reliable differentiation of objects or luminous objects by their color and brightness. For testing fluorescent materials the use of sensors with UV-light source is recommended. The use under adverse environmental conditions is possible through the use of additional fiber optics. The interaction between a precise detection and a high switching frequency distinguishes the devices. Thus, they are an ideal tool for process and quality control.



MECHANICAL DATA

Ambient temperature	-5 °C ... 55 °C
Degree of protection (IP)	IP67
For damp environments	Yes
Housing design	Cuboid
Housing material	PBTP
Material of optical surface	Glass
Sensor height	50 mm
Sensor length	40 mm
Sensor width	15 mm

ELECTRICAL DATA

EMC test in acc. with	DIN EN 60947-5-2
Equipment protection class	Protection class 3
Max. output current	200 mA
No-load current	180 mA
Number of LEDs	3
Number of pins	5
Number of switching outputs	3
Operating voltage	10 V ... 30 V
Overload protection	Yes
Rated control supply voltage Us at DC	10 V ... 30 V
Reverse polarity protection	Yes
Sensing range	30 mm ... 40 mm
Setting procedure	Teach-In
Switching frequency	4000 Hz
Type of electrical connection	Connector M12
Type of switching function	Normally open contact (NO)

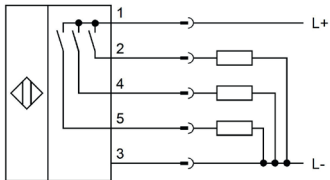
ELECTRICAL DATA

Type of switching output	PNP
Voltage type	DC
With LED display	Yes
With time function	Yes

OPTICAL DATA

Light focus distance	35
Light source	White light
Light spot	12.57 mm ²
Light spot diameter	4 mm
Measuring method for color detection	Active tristimulus method
Nominal sensing range	35 mm

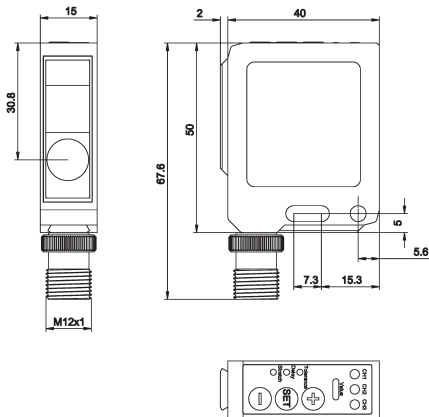
CONNECTION



Colors: 1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black), 5 = GY (gray)

Functions: 1 = L+, 2 = PNP NO, 3 = L-, 4 = PNP NO, 5 = PNP NO

DIMENSIONAL DRAWING



INSTALLATION



Mounting / Installation may only be carried out by a qualified electrician!

DISPOSAL



SAFETY WARNINGS

Before initial operation, please make sure to follow all safety instructions that may be provided in the product information!

