

## OE140170

### OPTICAL SENSORS • THROUGH-BEAM SENSORS RECEIVERS

Optical sensors function contactlessly. They detect objects independent of their characteristics (e.g., shape, color, surface structure, material). The basic operating principle is based on the transmission and reception of light. There are three different versions: 1. The through-beam sensor consists of two separate devices, a transmitter and a receiver that are aligned with one another. If the light beam between the two devices is interrupted, the switching output integrated in the receiver changes its status. 2. With the retro-reflective sensor, the transmitter and receiver are located in one device. The emitted light beam is reflected back to the receiver by a reflector that is to be mounted opposite the device. As soon as the light beam is interrupted, the switching output integrated in the device changes its status. 3. With the diffuse reflection sensor, the transmitter and receiver are in one device. The emitted light beam is reflected by the object that is to be detected. As soon as the receiver detects the reflected light, the switching output integrated in the device changes its status.



#### MECHANICAL DATA

Ambient temperature	-25 °C ... 65 °C
Cable length	0.2 m
Degree of protection (IP)	IP65
Housing design	Cuboid
Housing material	Plastic ASA
Material of cable sheath	PVC
Material of optical surface	PMMA
Number of wires	3
Sensor height	27 mm
Sensor length	14 mm
Sensor width	12 mm
Wire cross section	0.25 mm <sup>2</sup>

#### ELECTRICAL DATA

Decay time	1.4 ms
IO-Link compatible	No
Max. output current	100 mA
Measuring range	5 m
No-load current	16 mA
No-load current, receiver	16 mA
Number of pins	3
Operating voltage	10 V ... 30 V
Rated switching distance	5000 mm
Response time	1.4 ms
Reverse polarity protection	Yes
Scanning function	Dark switching
Setting procedure	Manual adjustment

## ELECTRICAL DATA

Short-circuit-proof	Yes
Switching frequency	350 Hz
Type of electrical connection	Cable connector M8
Type of input voltage	DC
Type of switching function	Normally open contact (NO)
Type of switching output	PNP
Voltage drop	1.8 V
Voltage type	DC
With LED display	Yes
With LED display (functional reserve)	Yes
With LED display (signal)	Yes
With time function	No

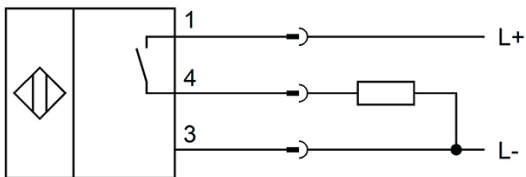
## OPTICAL DATA

Light beam form	Point
Light source	Polarity free red light
Wavelength of the sensor	660 nm

## OTHER DATA

Scope of delivery of the one-way system	Receiver
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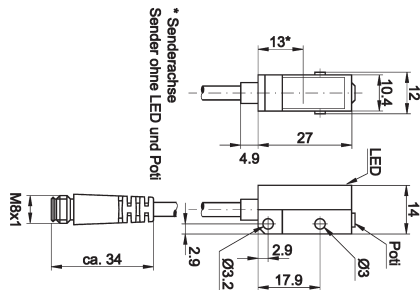
## CONNECTION



**Colors:** 1 = BN (brown), 3 = BU (blue), 4 = BK (black)

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

## DIMENSIONAL DRAWING



## INSTALLATION

## DISPOSAL



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



## SAFETY WARNINGS

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