

OE050175

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 (MAX)	65 °C
Ambient temperature (MIN)	-25 °C
Cable length	0.3 m
Degree of protection (IP)	IP67
Housing design	Cylinder, screw-thread
Housing material	Stainless steel V2A
Material of cable sheath	PUR (Polyurethane)
Material of optical surface	PMMA
Max. tightening torque	1 Nm
Number of wires	3
Sensor length	36 mm
Thread length	30 mm
Thread pitch	0.5 mm
Thread size, metric	5
Wire cross section	0.14 mm ²

ELECTRICAL DATA

Decay time	0.5 ms
IO-Link compatible	Yes
Max. output current	100 mA
Measuring range	0.6 m
No-load current	10 mA
No-load current, receiver	10 mA
Number of pins	3
Operating voltage (MAX)	30 V
Operating voltage (MIN)	10 V
Rated control supply voltage U_s at DC (MAX)	30 V

ELECTRICAL DATA

Rated control supply voltage U_s at DC (MIN)	10 V
Rated switching distance	500 mm
Readiness delay	20 ms
Residual ripple	10 %
Response time	0.5 ms
Reverse polarity protection	Yes
Scanning function	Dark switching
Short-circuit-proof	Yes
Switching frequency	1000 Hz
Type of electrical connection	Cable connector M8
Type of switching function	Normally open contact (NO)
Type of switching output	PNP
Voltage drop	2 V
Voltage type	DC
With LED display	Yes
With LED display (functional reserve)	Yes
With LED display (signal)	Yes
With time function	No

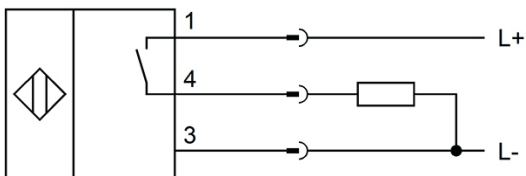
OPTICAL DATA

Light beam form	Point
Light source	Polarity free red light

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



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!

Never use these devices in applications where the safety of a person depends on their functionality.