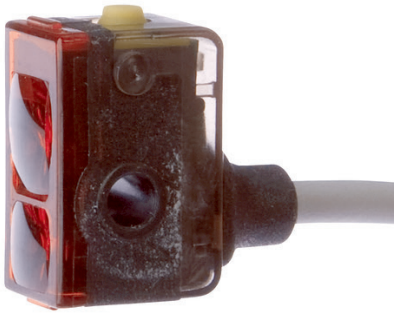
OTQ90175

OPTICAL SENSORS • DIFFUSE REFLECTION SENSORS WITH BACKGROUND SUPPRESSION



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)	50 °C
Ambient temperature (MIN)	-20 °C
Cable length	0.2 m
Degree of protection (IP)	IP65
Housing design	Cuboid
Housing material	PMMA
Material of cable sheath	PUR (Polyurethane)
Material of optical surface	PMMA
Number of wires	4
Reflector included in the scope of delivery	No
Sensor height	16.2 mm
Sensor length	15.8 mm
Sensor width	9.2 mm
Wire cross section	0.1 mm²

ELECTRICAL DATA

Adjustment range (MAX)	60 mm
Adjustment range (MIN)	2 mm
Analogue output 0 mA ... 20 mA	No
Analogue output 0 V ... 10 V	No
Analogue output -10 V ... +10 V	No
Analogue output 4 mA ... 20 mA	No
Decay time	0.5 ms
Interference suppression	Yes
Max. output current	100 mA
Max. switching distance	60 mm
No-load current	25 mA

ELECTRICAL DATA

Number of pins	4
Number of switching outputs	1
Operating voltage (MAX)	30 V
Operating voltage (MIN)	10 V
Rated switching distance	60 mm
Response time	0.5 ms
Reverse polarity protection	Yes
Scanning function	Light-/dark-on mode
Sensing range (MAX)	60 mm
Sensing range (MIN)	2 mm
Setting procedure	Teach-In
Short-circuit-proof	Yes
Switching frequency	1000 Hz
Type of electrical connection	Cable connector M8
Type of switching function	Programmable/configurable
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 (reception)	Yes
With LED display (signal)	Yes
With other analog output	No

OPTICAL DATA

Background suppression	Yes
Light beam form	Point
Light source	Polarity free red light
Small light beam diameter	Yes
Triangulation	Background suppression
Wavelength of the sensor	660 nm

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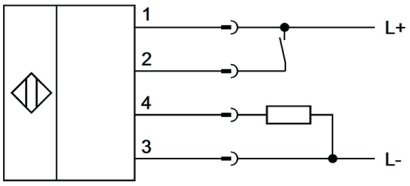
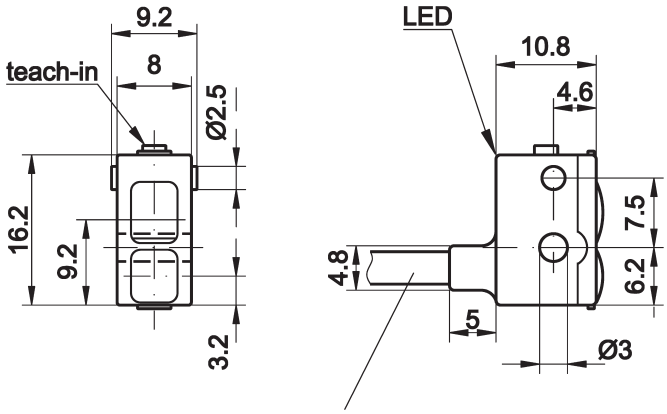
CONNECTION



Colors: 1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black)
Functions: 1 = L+, 2 = teach-in, 3 = L-, 4 = PNP NO/NC

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.