

## OTR49176

### Optical sensors • Diffuse reflection sensors with intensity differentiation

sensor optical, diffuse-reflection sensor, Ø4mm 36long, Sn: 30-100, 10-30V DC, 1x PNP NO (NO), IO-Link, Cable connector M8 4pin 0.3m PUR (Polyurethane), IP67, V2A+PMMA, 1kHz, Polarity free red light, Point



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.

#### Electrical features

Response/decay time	0.5ms
Number of switching outputs	1
Display	LED display
Type of switching function	Normally open contact (NO)
Type of electrical connection	Cable connector M8
Type of switching output	PNP
Rated switching current	100mA
Short-circuit protection	Yes
No-load current	12mA
Number of pins	4
Residual ripple	10%
Switching distance	30 - 100mm
Switching frequency	1000Hz
Protection class	III
Voltage drop	2V
Scanning function	Light switching
Reverse polarity protection	Yes
Decay time	0.5ms
Operating voltage (DC)	10 - 30V

**Mechanical features**

Number of cores	4
Conductor cross-section	0.14mm <sup>2</sup>
Design	Cylinder plain
Diameter	4mm
Cable length	0.3m
Length	36mm
Maximum tightening torque	1Nm
Degree of protection (IP)	IP67
Active area material of sensor	Plastic (PMMA)
Housing material	Stainless steel (V2A)
Material of cable sheath	Plastic (PUR)
Ambient temperature	-25 - 65°C

**Optical features**

Light source	Polarity free red light
Light exit	axial
Light beam form	Point
Wavelength of the sensor	630nm

**Other features**

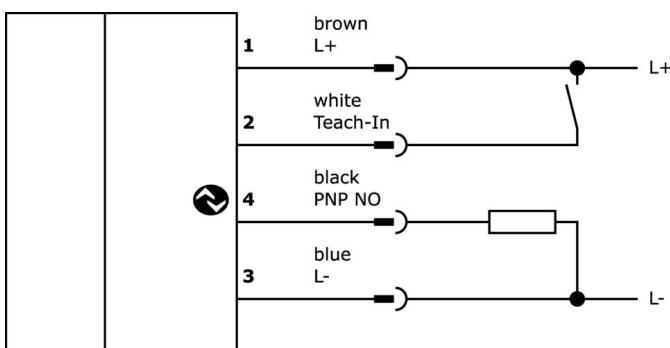
IO-Link version	V1.0.1
Feeding technology	Yes
Reference medium / object	Material with 90% reflectivity
Ambient temperature	-25 - 65°C

**Classification**

ETIM 8	EC001821 Light sensor energetic
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**More**

IPF Product Group	100 optical sensors
packaging dimensions	210 x 180 x 10 mm
gross weight	19 g
Customs tariff number	85365019
WEEE number	40951076
Reach-compliant	Yes
RoHS-compliant	Yes

**Connection****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.

For suitable connection and mounting accessories, please refer to our website [www.ipf-electronic.com](http://www.ipf-electronic.com).

Any software, drivers or IODD files that may be required to operate your device can be downloaded free of charge from our homepage: [www.ipf-electronic.com](http://www.ipf-electronic.com)

**Dimensional drawing**