

# OT160401

## Optical sensors • Diffuse reflection sensors with background suppression

sensor optical, diffuse-reflection sensor, 35x35x12mm, Sn: 15-300, 10-30V DC, 2x PNP Anticoincidence, Cable 5m PVC, IP67, Zinc die-cast+PMMA, 0.5kHz, Polarity free red light, Point, Manual adjustment



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	1 ms
Number of switching outputs	2
Display	LED display
Type of switching function	Exclusive-OR
Type of electrical connection	Cable
Type of switching output	PNP
Rated switching current	100 mA
Setting procedure	Manual adjustment
Short-circuit protection	Yes
No-load current	35 mA
Switching distance	15 - 300 mm
Switching frequency	500 Hz
Voltage drop	1.8 V
Scanning function	Light-/dark-on mode
Reverse polarity protection	Yes
Decay time	1 ms
Operating voltage (DC)	10 - 30 V
Interference suppression	Yes

**Mechanical features**

Number of cores	4
Conductor cross-section	0.25 mm <sup>2</sup>
Design	Cuboid
Width	12.4 mm
Height	35 mm
Cable length	5 m
Length	35 mm
Degree of protection (IP)	IP67
Active area material of sensor	Plastic (PMMA)
Housing material	Zinc die-cast
Material of cable sheath	Plastic (PVC)
Ambient temperature	-25 - 65 °C

**Optical features**

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

**Other features**

Operational mode	Background suppression
Reference medium / object	Material with 90% reflectivity

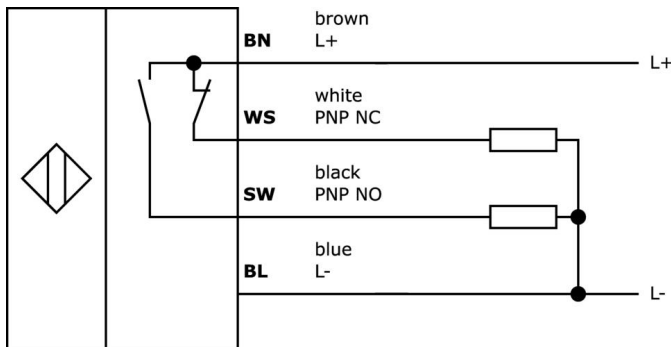
**Classification**

ETIM 8	EC002719 Photoelectric proximity switch with background suppression
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**More**

IPF Product Group	100 optical sensors
packaging dimensions	125 x 70 x 40 mm
gross weight	172 g
Customs tariff number	85365019
WEEE number	40951076
OzDS-compliant	Yes
POP-compliant	Yes
Reach-compliant	Yes
RoHS-compliant	Yes

**Connection**



**Extract accessories program**

**VY000004**



DC power supply, sensor tester, 120x26x72mm, 18V, 0.04A, Spring clamp connection 4pin, IP20, Plastic

**VK003079**



Cable connector, Straight, Suitable for self-assembly, Soldering connection, Ø3.5-5mm, 4A, 30V, -40-85°C, M8 Male (connector) 4pin, IP67, Brass

**VK003179**



Cable connector, Straight, Suitable for self-assembly, Screw connection, Ø3.5-5mm, 4A, 30V, -40-85°C, M8 Male (connector) 4pin, IP67, Brass

**AY000118**



accessories sensor, Fixture kit, Metal, ball joint

**AY000162**



Accessories, magnetic, Ø43mm, neodymium-iron-boron, inside thread M5, rubber

**AO000067**



accessories optical, Mounting angle bracket, 34x20x26mm, Angle, Steel, 90°

**NG530002**



DC power supply, single-phase, 99x114x22mm, 24V, 0.1A, Number of relay outputs 2, 100-264V AC 50Hz, 100-264V AC 60Hz, Screw connection, IP20, Plastic, Stabilized, Output voltage, pulsed

**NG400501**



DC power supply, 1-phase, 125x114x40mm, 24-28V, 5A, 90-264V AC 50Hz, 90-264V AC 60Hz, 127-370V DC, screw connection, IP20, aluminum, stabilized, pulsed output voltage

**VL250100**



Logic module, 49x80x26mm, AND, 4fold, 10-35V DC, sensor side Clamp, control side Clamp, IP40, Plastic

You can find further accessories on our homepage



**Installation**

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



**Disposal**

WEEE number according to § 6 para. 3 ElektroG: 40951076

**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.