

## OT181106

### Optical sensors • Diffuse reflection sensors with background suppression

sensor optical, diffuse-reflection sensor, M18x1 50long, Sn: 10-120, 10-35V DC, 1x NPN NO (NO), Cable 3pin 2m PVC, IP67, Brass Chrome-plated+Glass, 0.5kHz, Polarity free red light, Point, Manual adjustment

including Nut, Toothed washer



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	1
Display	LED display
Type of switching function	Normally open contact (NO)
Type of electrical connection	Cable
Type of switching output	NPN
Rated switching current	200 mA
Readiness delay	20 ms
Setting procedure	Manual adjustment
Relative hysteresis	10 %
Short-circuit protection	Yes
No-load current	25 mA
Number of pins	3
Switching distance	10 - 120 mm
Switching frequency	500 Hz
Voltage drop	2 V
Scanning function	Light switching
Reverse polarity protection	Yes
Decay time	1 ms
Operating voltage (DC)	10 - 35 V

**Mechanical features**

Conductor cross-section	0.25 mm <sup>2</sup>
Design	Cylinder, screw-thread
Thread length	50 mm
Thread pitch	1 mm
Cable length	2 m
Length	50 mm
Maximum tightening torque	20 Nm
Surface	Chrome-plated
Degree of protection (IP)	IP67
Active area material of sensor	glass
Housing material	Brass
Material of cable sheath	Plastic (PVC)
Thread dimension	M18
Ambient temperature	-25 - 55 °C
Line diameter	5 mm

**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

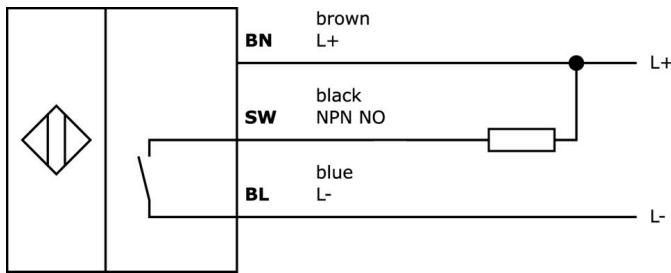
**Classification**

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

IPF Product Group	100 optical sensors
packaging dimensions	215 x 180 x 20 mm
gross weight	128 g
Customs tariff number	85365019
WEEE number	40951076
Reach-compliant	Yes
RoHS-compliant	Yes

**Connection**



**Extract accessories program**

**AO98A353**



accessories optical, Cleaning air nozzle, M18x1, Metal

**AO98E281**



accessories optical, Cleaning air nozzle, M18x1, Metal

**VY850001**



Inverter/signal-inversion/turn-off delay, 85x65x18mm, 0.01-10s, 12-30V DC, 1x NC/NO, Clamp 8pin, IP40, Plastic, Plug-in jumpers

**VY850002**



Inverter/signal-inversion/turn-off delay, 85x65x18mm, 0.01-10s, 12-30V DC, 1x NC/NO, Clamp 8pin, IP40, Plastic, Plug-in jumpers

**VK003026**



Cable connector, Angular, Suitable for self-assembly, Screw connection, Ø3-6.5mm, 4A, 240V, -25-90°C, M12 Male (connector) 4pin, IP67, PBT

**VK003028**



Cable connector, Straight, Suitable for self-assembly, Screw connection, Ø3-6.5mm, 4A, 240V, -25-90°C, M12 Male (connector) 4pin, IP67, PBT

**VK003076**



Cable connector, Angular, Suitable for self-assembly, Soldering connection, 4A, 60V, -40-85°C, M8 Male (connector) 3pin, IP67, Brass

**VK003078**



Cable connector, Straight, Suitable for self-assembly, Soldering connection, Ø3.5-5mm, 4A, 60V, -40-85°C, M8 Male (connector) 3pin, IP67, Brass

**AY000162**



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

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.