

# OT590585

## Optical sensors • Diffuse reflection sensors with background suppression

Optical sensor, diffuse reflection sensor, 68x68x26mm, with time function, Sn: 200-2500, 12-24V DC, 2x PNP+NPN NC/NO, terminal, IP67, plastic ABS+plastic PC, 0.25kHz, infrared light, dot, manual setting

including Screwdriver



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	2 ms
Number of switching outputs	2
Display	LED display
Type of switching function	Normally closed contact/normally open contact
Type of electrical connection	Clamped terminal connection
Type of switching output	PNP/NPN
Turn-off delay	0,1 - 5 ms
Rated switching current	100 mA
Turn-on delay	0,1 - 5 s
Setting procedure	Manual adjustment
Relative hysteresis	10 %
Short-circuit protection	Yes
No-load current	45 mA
Switching distance	200 - 2500 mm
Switching frequency	250 Hz
Voltage drop	1 V
Scanning function	Light-/dark-on mode
Reverse polarity protection	Yes
Operating voltage (DC)	12 - 24 V
Dead zone	0 - 100
Time function	Yes

**Mechanical features**

Design	Cuboid
Width	26 mm
Height	68 mm
Length	68 mm
Shock resistance	50 g
Degree of protection (IP)	IP67
Vibration resistance	55 Hz
Active area material of sensor	Plastic (PC)
Housing material	Plastic (ABS)
Strong vibration / motion	Yes
Ambient temperature	-25 - 55 °C

**Optical features**

Light source	Infrared light
Light beam form	Point
Wavelength of the sensor	880 nm

**Other features**

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

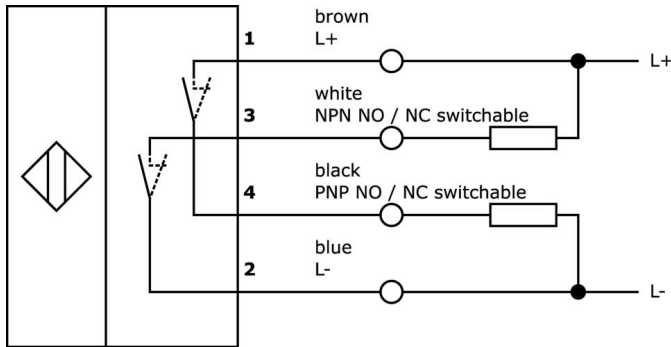
**Classification**

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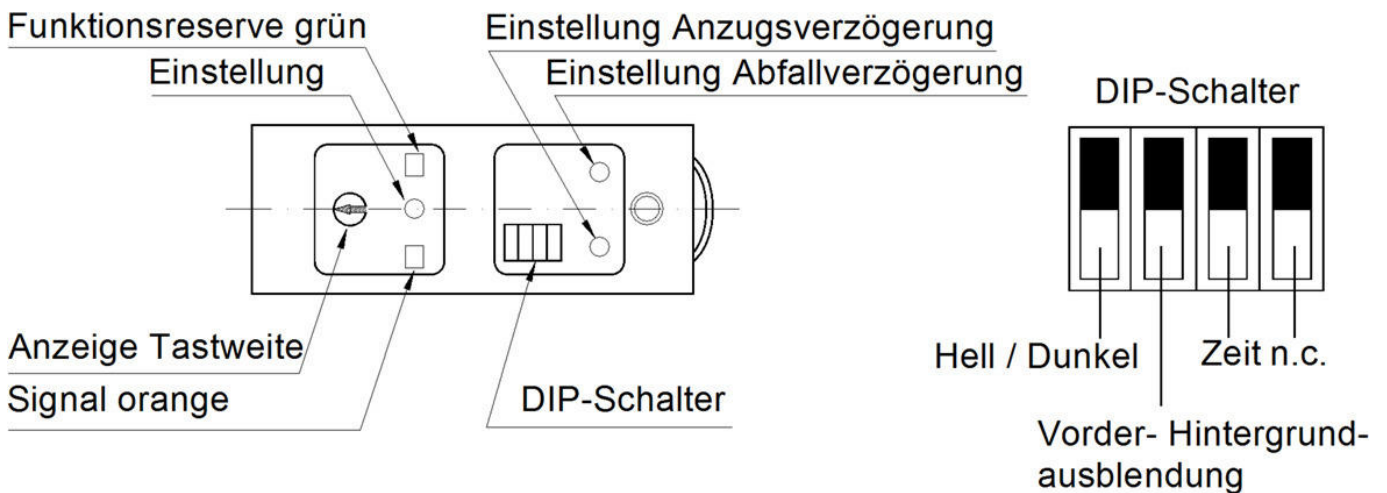
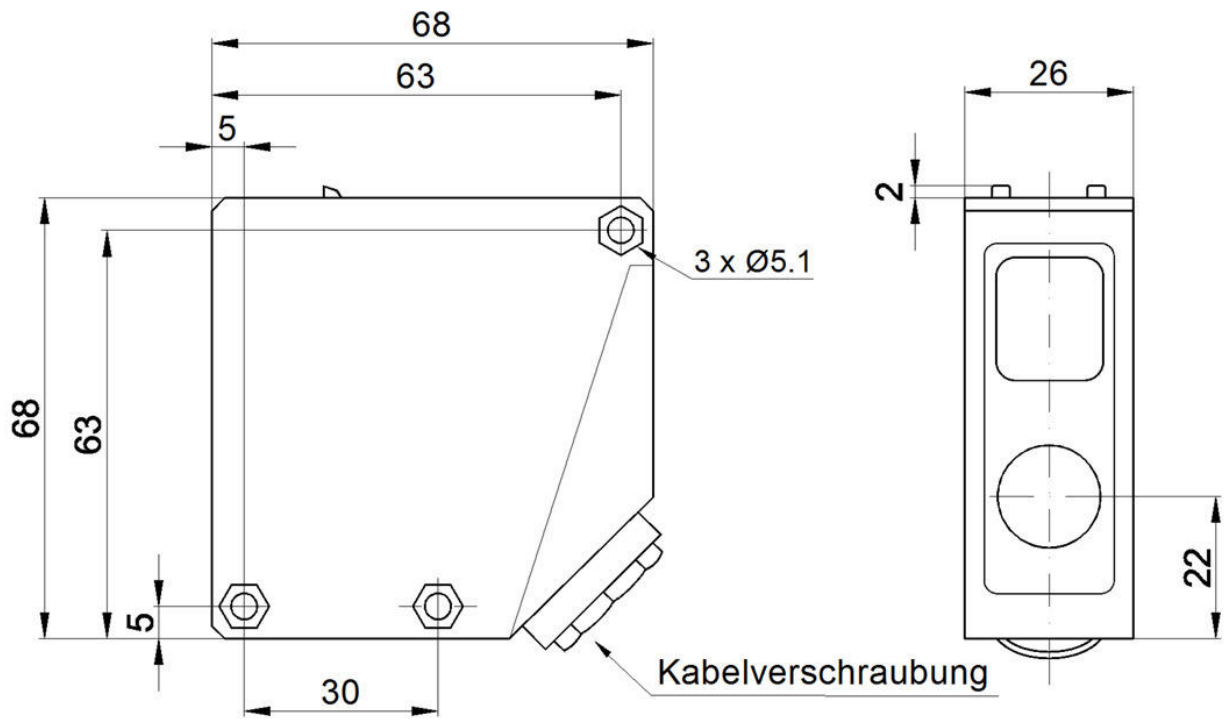
**More**

IPF Product Group	100 optical sensors
packaging dimensions	160 x 99 x 60 mm
gross weight	120 g
Customs tariff number	85365019
WEEE number	40951076
OzDS-compliant	Yes
POP-compliant	Yes
Reach-compliant	Yes
RoHS-compliant	Yes

**Connection**



**Dimensional drawing**



**Extract accessories program****AV000018**

Accessories, cable, 4x0.  
34mm<sup>2</sup>, PUR (polyurethane),  
suitable for trailing chain, oils  
and cooling lubricants, sold  
by the meter

**AV000118**

Accessories, cable tail, 4x0.  
34mm<sup>2</sup>, PUR (polyurethane),  
shield, suitable for trailing chain,  
oils and cooling lubricants, sold by  
the meter

**AY000129**

Accessories, magnetic, Ø66mm,  
neodymium-iron-boron, inside  
thread M6, rubber

**AY000144**

accessories sensor, Adapter plate,  
3x30x85mm, Stainless steel 1.  
4305

**AO000038**

accessories optical, Mounting  
angle bracket, M5x0.5 29long,  
Mounting material for sensor,  
brackets, Steel, 90°

**AY000143**

accessories sensor, Holder,  
56x55x26mm, Aluminum  
Anodised, ball joint

**AO000293**

accessories optical, Infrared  
spotfinder, Plastic, With LED  
display, Signal tone

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.