

OT180528

Optical sensors • Diffuse reflection sensors with background suppression

sensor optical, diffuse-reflection sensor, M18x1 62long, Sn: 1-120, 10-30V DC, 1x PNP/ NPN Push-pull, Connector M12 4pin, IP67, V4A+Plastic PC, 1kHz, Polarity free red light, Point, Manual adjustment

including Nut



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

Number of switching outputs	1
Display	LED display
Type of switching function	Normally open (NO for PNP) Normally closed (NC for NPN) Normally closed (NC for PNP) Normally open (NO for NPN)
Type of electrical connection	Connector M12
Type of switching output	Push-pull
Rated switching current	100 mA
Readiness delay	100 ms
Setting procedure	Manual adjustment
No-load current	15 mA
Number of pins	4
Residual ripple	10 %
Switching distance	1 - 120 mm
Switching frequency	1000 Hz
Voltage drop	2 V
Scanning function	Light-/dark-on mode
Operating voltage (DC)	10 - 30 V

Mechanical features

Design	Cylinder, screw-thread
Thread pitch	1 mm
Storage temperature	-40 - 70 °C
Length	61.5 mm
Degree of protection (IP)	IP67
Active area material of sensor	Plastic (PC)
Housing material	Stainless steel 1.4404
Thread dimension	M18
Ambient temperature	-25 - 65 °C

Optical features

Light source	Polarity free red light
Light beam form	Point
Wavelength of the sensor	625 nm

Other features

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

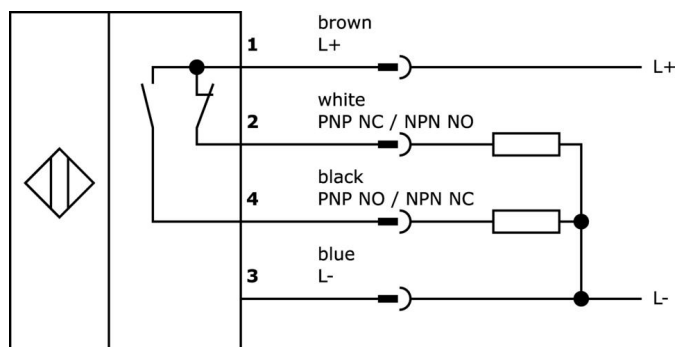
Classification

ETIM 8	EC002719 Photoelectric proximity switch with background suppression
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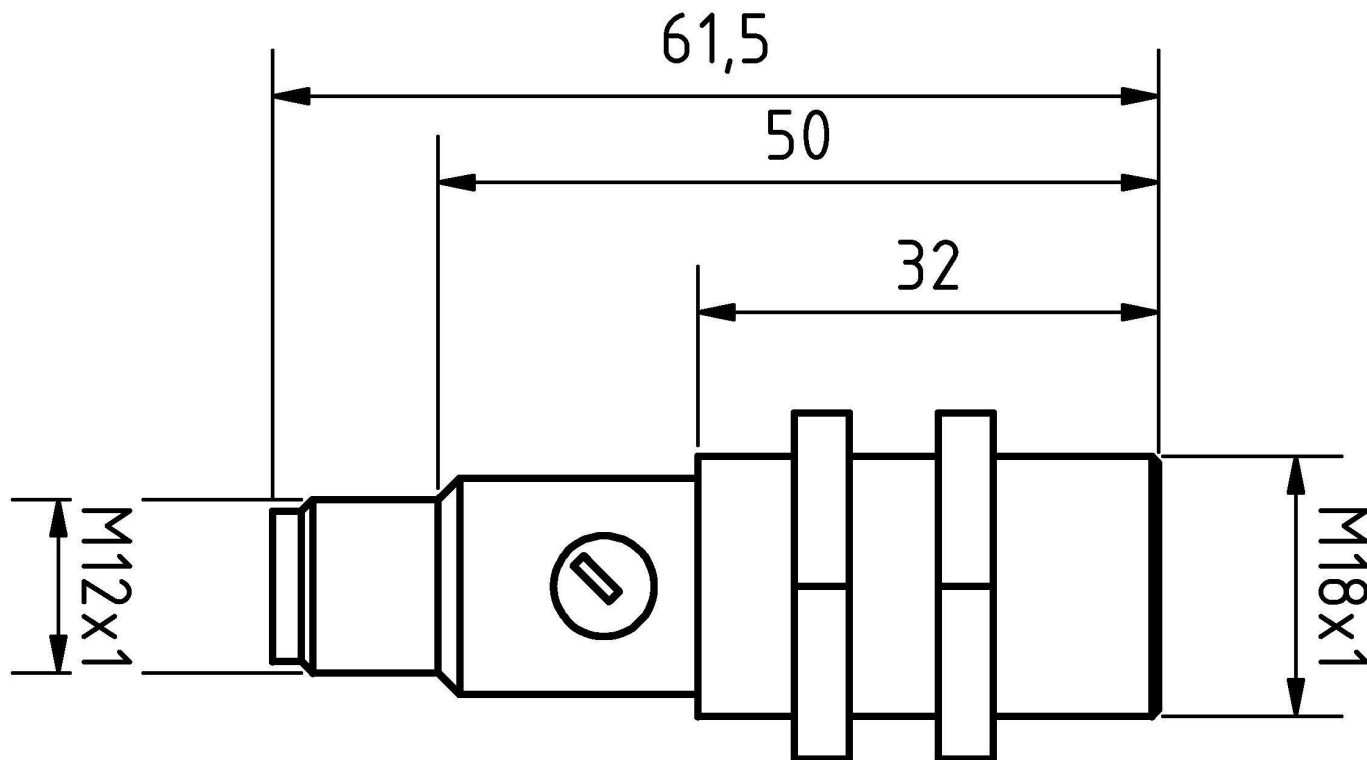
More

IPF Product Group	100 optical sensors
packaging dimensions	105 x 43 x 43 mm
gross weight	50 g
Customs tariff number	85365019
WEEE number	40951076
Reach-compliant	Yes
RoHS-compliant	Yes

Connection



Dimensional drawing



Extract accessories program

AY000014



accessories sensor, Reduction sleeve, M18, Plastic

VK200321



Connection cable, 2m, M12 Female (socket) 4pin Angular, Free conductor end, 4x0.34mm², PUR (Polyurethane), Ø4.7mm, 250V, -40-90°C, IP67, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silicone-free

VK200325



Connection cable, 2m, M12 Female (socket) 4pin Straight, Free conductor end, 4x0.34mm², PUR (Polyurethane), Ø4.7mm, 250V, -40-90°C, IP67, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silicone-free

AO000293



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

AY000117



accessories sensor, Fixture kit, Metal, ball joint

AY000162



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

AY000159



accessories sensor, Mounting pipe, Ø12mm 200long, Aluminum Anodised

VK003021



Cable socket, Angular, Suitable for self-assembly, Screw connection, Ø3-6.5mm, 4A, 60V, -25-90°C, M12 Female (socket) 5pin, IP67, PBT

VK003025



Cable socket, Straight, Suitable for self-assembly, Screw connection, Ø3-6.5mm, 4A, 60V, -25-90°C, M12 Female (socket) 5pin, IP67, PBT

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.