

PT190420

Laser sensors • Diffuse reflection sensors with background suppression

sensor laser, diffuse-reflection sensor, 50x50x17mm, Sn: 50-300, 10-30V DC, 2x PNP NC/NO, M12-connector 4pin, IP67, plastic ABS+PMMA, 2.5kHz, laser diode, 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	0.2 ms
Number of switching outputs	2
Display	LED display
Type of switching function	Normally closed contact/normally open contact
Type of electrical connection	Connector M12
Type of switching output	PNP
Rated switching current	200 mA
Setting procedure	Manual adjustment
Short-circuit protection	Yes
Laser power	0.4 mW
No-load current	50 mA
Number of pins	4
Reaction time	0.2 ms
Switching distance	50 - 300 mm
Switching frequency	2500 Hz
Voltage drop	2.4 V
Scanning function	Light-/dark-on mode
Reverse polarity protection	Yes
Decay time	0.2 ms
Operating voltage (DC)	10 - 30 V
Interference suppression	Yes

Mechanical features

Design	Cuboid
Width	17 mm
Height	50 mm
Length	50 mm
Degree of protection (IP)	IP67
Active area material of sensor	Plastic (PMMA)
Housing material	Plastic (ABS)
Ambient temperature	-20 - 45 °C

Optical features

Laser class	Class 1
Light source	Laser diode, red light
Light beam form	Point
Wavelength of the sensor	650 nm
Light spot diameter at focal point	1 mm

Other features

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

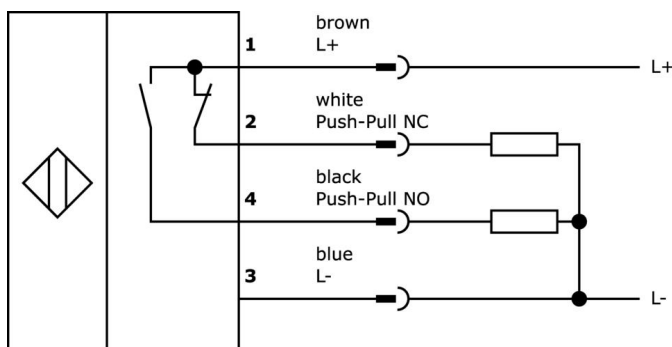
Classification

ETIM 8	EC002719 Photoelectric proximity switch with background suppression
--------	---

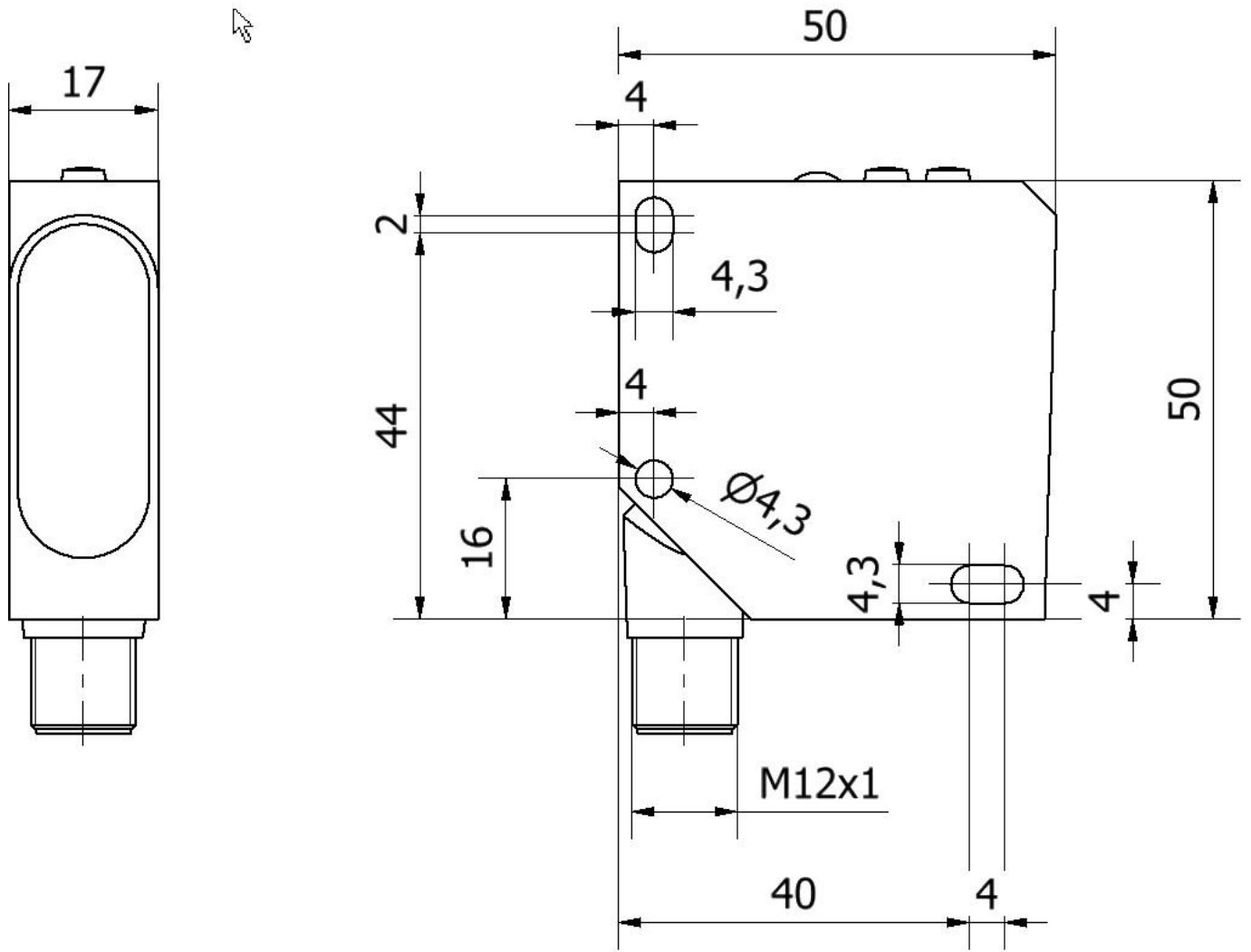
More

IPF Product Group	160 laser sensor
packaging dimensions	91 x 60 x 30 mm
gross weight	44 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

VK200421




Connection cable, 2m, M12
Female (socket) 4pin Angular, Free conductor end, 4x0.34mm², PUR (Polyurethane), Ø4.7mm, -30-90°C, IP67, With LED display, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silic...

VK500421




Connection cable, 5m, M12
Female (socket) 4pin Angular, Free conductor end 4pin, 4x0.34mm², PUR (Polyurethane), Ø4.7mm, -30-90°C, IP67, With LED display, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, ...

AY000119




accessories sensor, Fixture kit, Metal, ball joint

VK205321




Connection cable, 2m, M12
Female (socket) 4pin Angular, Free conductor end, 4x0.34mm², PUR (Polyurethane), Ø5.5mm, 250V, -25-90°C, IP67, Shielded, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silicon...

VK205325




Connection cable, 2m, M12
Female (socket) 4pin Straight, Free conductor end, 4x0.34mm², PUR (Polyurethane), Ø5.5mm, 250V, -25-90°C, IP67, Shielded, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silico...

VK003020




Cable socket, angular, self-assembly, screw connection, Ø3-6.5mm, 4A, 240V, -25-90°C, M12 socket 4-pin, IP67, PBT

VK003024



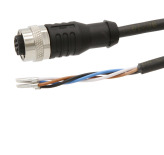
Cable socket, Straight, Suitable for self-assembly, Screw connection, Ø3-6.5mm, 4A, 240V, -25-90°C, M12 Female (socket) 4pin, IP67, PBT

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

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.