

OT450520

Optical sensors • Diffuse reflection sensors with background suppression

sensor optical, diffuse-reflection sensor, 56x32x18mm, Sn: 30-600, 10-30V DC, 1x PNP/ NPN Push-pull, IO-Link, Connector M12 3pin, IP67, Plastic ASA+PMMA, 1kHz, Polarity free red light, Point, Teach-In

- / Setting by teach-in
- / plastic housing
- / LED display with alignment-aid
- / Suppression of mutual interference



background suppression IO-Link

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	0.49 ms
Number of switching outputs	1
Display	LED display
Type of switching function	Normally closed (n.o. for PNP) Normally closed (n.c. for NPN) - Adjustable
Type of electrical connection	Connector M12
Type of switching output	Push-pull
Rated switching current	100 mA
Setting procedure	Teach-In
Short-circuit protection	Yes
No-load current	30 mA
Number of pins	3
Switching distance	60 - 550 mm
Switching frequency	1000 Hz
Voltage drop	3 V
Scanning function	Light-/dark-on mode
Reverse polarity protection	Yes
Decay time	0.49 ms
Supported communication interface	IO-Link
Operating voltage (DC)	10 - 30 V
Dead zone	0 - 30
Interference suppression	Yes

Mechanical features

Design	Cuboid
Width	18 mm
Height	56.2 mm
Length	32.2 mm
Degree of protection (IP)	IP67
Active area material of sensor	Plastic (PMMA)
Housing material	Plastic ASA
Ambient temperature	-25 - 60 °C

Optical features

Light source	Polarity free red light
Light beam form	Point
Wavelength of the sensor	630 nm

Other features

IO-Link version	V1.1
Operational mode	Background suppression
Reference medium / object	Material with 90% reflectivity

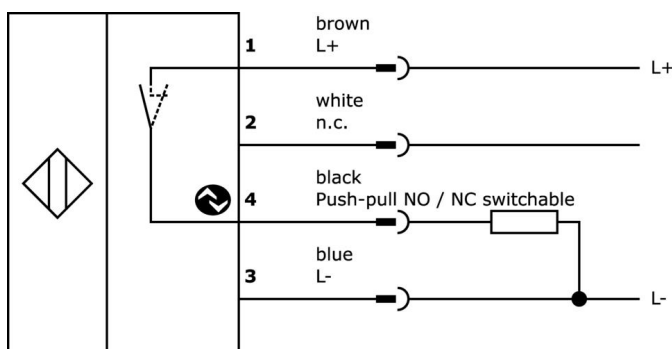
Classification

ETIM 8	EC002719 Photoelectric proximity switch with background suppression
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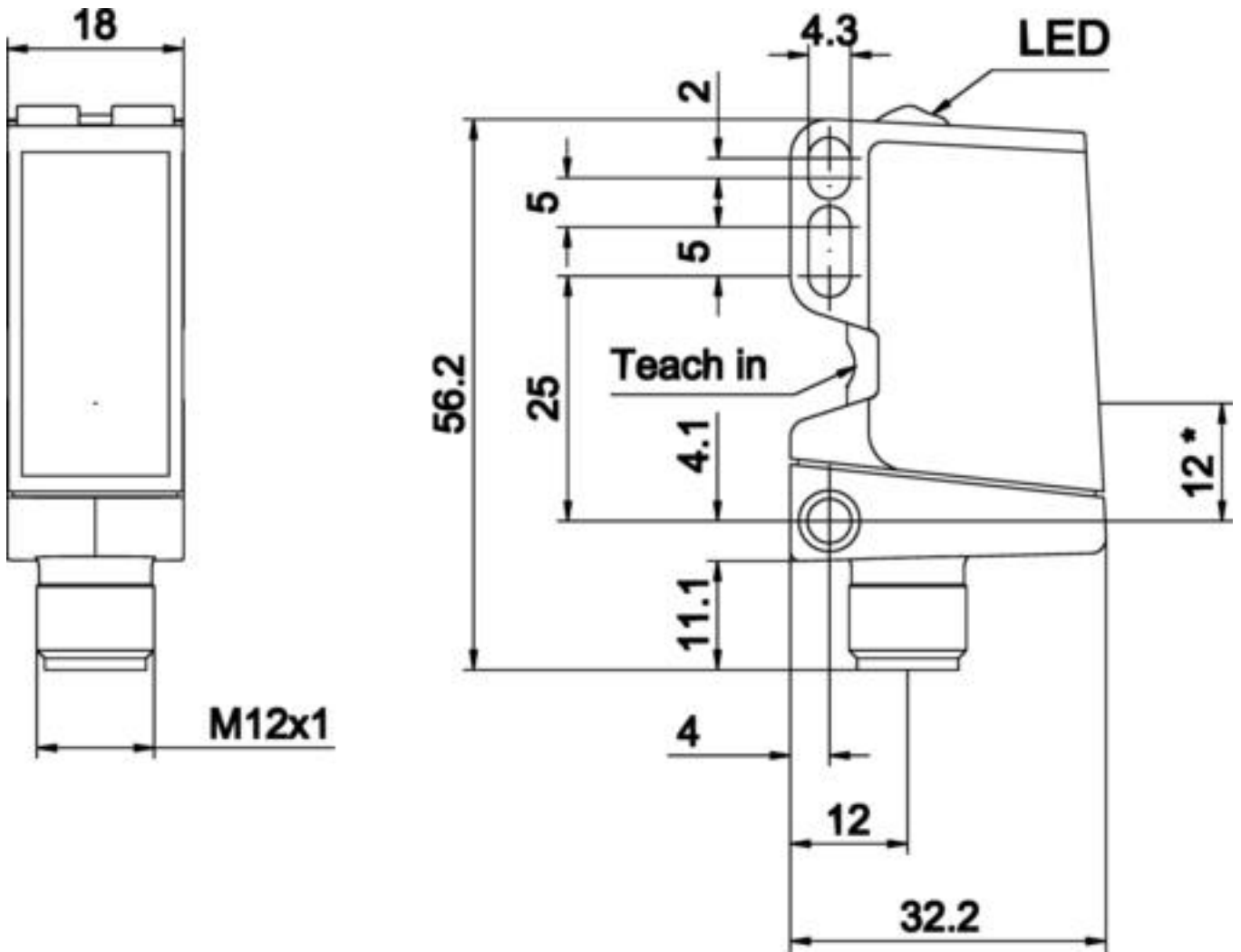
More

IPF Product Group	100 optical sensors
packaging dimensions	123 x 77 x 25 mm
gross weight	40 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

VK200221



Connection cable, 2m, M12 Female (socket) 3pin Angular, Free conductor end, 3x0.34mm², PUR (Polyurethane), Ø4.3mm, -30-90°C, IP67, With LED display, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silic...

VK200225



Connection cable, 2m, M12 Female (socket) 3pin Straight, Free conductor end, 3x0.34mm², PUR (Polyurethane), Ø4.3mm, -30-90°C, IP67, With LED display, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silic...

VK000037



Adaption, M12 Female (socket) 3pin Straight, M8 Male (connector) 3pin Straight, 24V, -25-85°C, IP67, Oil and cooling lubricants, Welding area

VK030F23



Connection cable, 0.3m, M12 socket 4-pin angular, M12 connector 4-pin straight, 4x0.34mm², PUR (polyurethane), IP67, LED, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK030F26



Connection cable, 0.3m, M12 socket 4-pin straight, M12 connector 4-pin straight, 4x0.34mm², PUR (polyurethane), IP67, LED, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK030F62



Connection cable, 0.3m, M12 socket 3-pin angular, M8 connector 3-pin straight, 3x0.34mm², PUR (polyurethane), IP67, LED, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK060F62



Connection cable, 0.6m, M12 socket 3-pin angular, M8 connector 3-pin straight, 3x0.34mm², PUR (polyurethane), IP67, LED, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK030F60



Connection cable, 0.3m, M12 socket 3-pin angular, M8 connector 3-pin straight, 3x0.34mm², PUR (polyurethane), 60V, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK030F64



Connection cable, 0.3m, M12 socket 3-pin straight, M8 connector 3-pin straight, 3x0.34mm², PUR (polyurethane), 60V, IP67, suitable for trailing chain and torsion resistant, oils 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.

/ Any software, drivers or IODD files that may be required to operate your device can be downloaded free of charge from our homepage: www.ipf-electronic.com