

OT140170

Optical sensors • Diffuse reflection sensors with background suppression

Optical sensor, diffuse reflection sensor, 27x14x12mm, Sn: 20-120, 10-30V DC, 1x PNP NO, M8 cable connector 3-pin 0.2m PVC, IP65, plastic ASA+PMMA, 0.5kHz, red light unpolarized, point, manual setting



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 connector M8
Type of switching output	PNP
Rated switching current	100 mA
Setting procedure	Manual adjustment
Short-circuit protection	Yes
No-load current	30 mA
Number of pins	3
Switching distance	20 - 120 mm
Switching frequency	500 Hz
Voltage drop	1.8 V
Scanning function	Light switching
Reverse polarity protection	Yes
Decay time	1 ms
Operating voltage (DC)	10 - 30 V
Interference suppression	Yes

Mechanical features

Number of cores	3
Design	Cuboid
Width	12 mm
Height	27 mm
Cable length	0.2 m
Length	14 mm
Maximum tightening torque	0.5 Nm
Degree of protection (IP)	IP65
Active area material of sensor	Plastic (PMMA)
Housing material	Plastic ASA
Material of cable sheath	Plastic (PVC)
Ambient temperature	-25 - 65 °C

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

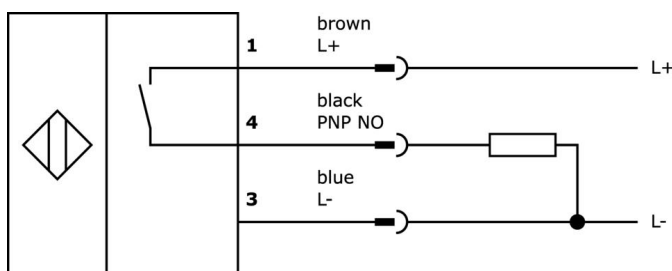
Classification

ETIM 8	EC002719 Photoelectric proximity switch with background suppression
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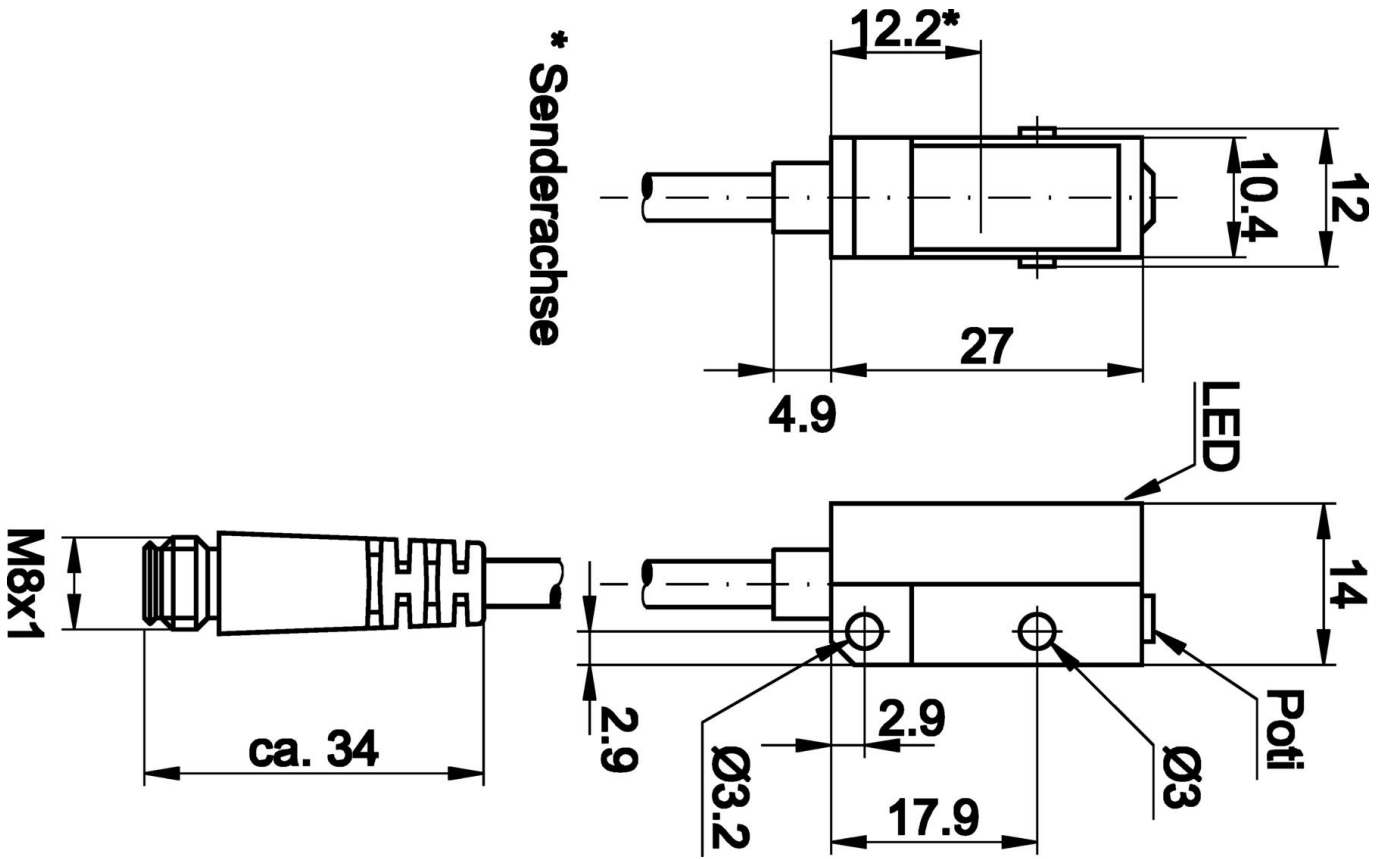
More

IPF Product Group	100 optical sensors
packaging dimensions	123 x 77 x 25 mm
gross weight	20 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

VK030F80



Connection cable, 0.3m, M8 socket 3-pin angular, M12 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

VK030F84




Connection cable, 0.3m, M8 socket 3-pin straight, M12 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

VK003070




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

VK003074




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

VK030F72




Connection cable, 0.3m, M8 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

VK060F72




Connection cable, 0.6m, M8 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

VK200271




Connection cable, 2m, M8 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, Silico...

VK500271



Connection cable, 5m, M8 Female (socket) 3pin Angular, Free conductor end 3pin, 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, S...

VK200071



Connection cable, 2m, M8 Female (socket) 3pin Angular, Free conductor end, 3x0.34mm², PUR (Polyurethane), Ø4.3mm, 60V, -40-90°C, IP67, TPU, 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.