

OT370525

Optical sensors • Diffuse reflection sensors with background suppression

sensor optical, diffuse-reflection sensor, 36x25x14mm, Sn: 20-100, 10-30V DC, -30-70°C, 2x PNP/NPN Push-pull, Connector M12 4pin 0.2m, IP67 / IP69k, V4A+PMMA, 1kHz, Polarity free red light, Line, 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	0.5 ms
Number of switching outputs	2
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	300 ms
Setting procedure	Manual adjustment
Short-circuit protection	Yes
No-load current	15 mA
Number of pins	4
Residual ripple	15 %
Switching distance	20 - 100 mm
Switching frequency	1000 Hz
Voltage drop	2 V
Scanning function	Light-/dark-on mode
Decay time	0.5 ms
Operating voltage (DC)	10 - 30 V

Mechanical features

Design	Cuboid
Width	14 mm
Height	35.5 mm
Cable length	0.2 m
Storage temperature	-30 - 70 °C
Length	25 mm
Degree of protection (IP)	IP67 / IP69k
Active area material of sensor	Plastic (PMMA)
Housing material	Stainless steel 1.4404
Ambient temperature	-30 - 70 °C

Optical features

Light source	Polarity free red light
Light beam form	Line
Wavelength of the sensor	620 nm
Light spot diameter at focal point	6 mm

Other features

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

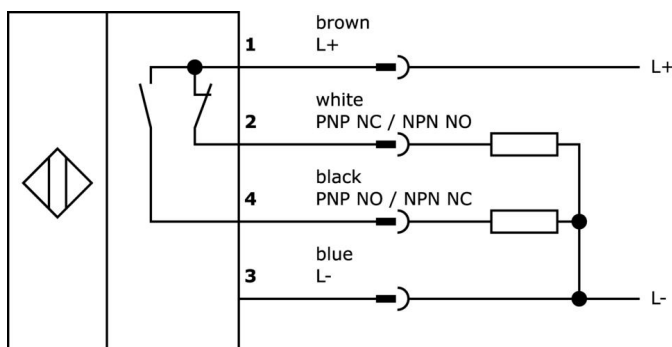
Classification

ETIM 8	EC002719 Photoelectric proximity switch with background suppression
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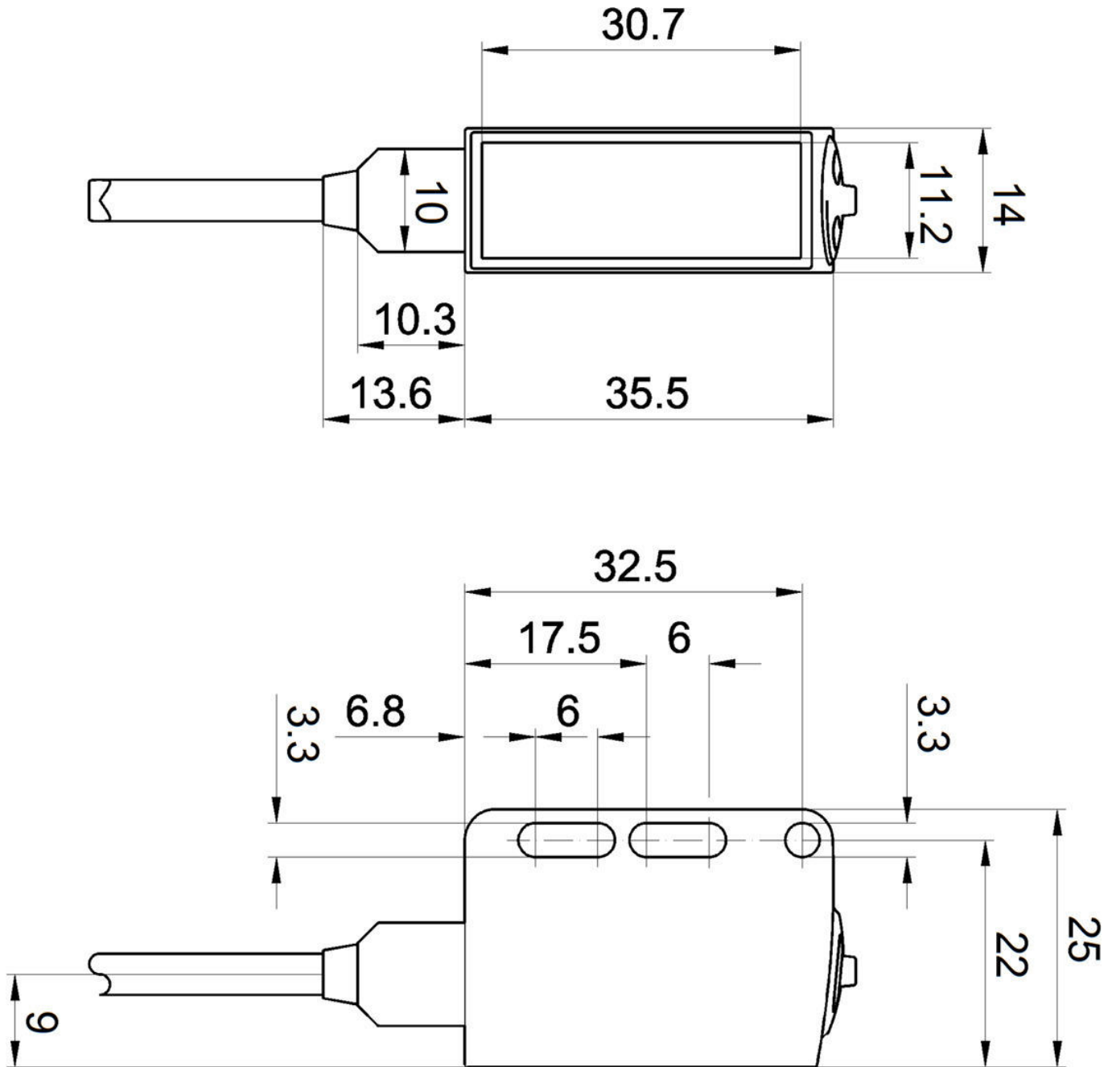
More

IPF Product Group	100 optical sensors
packaging dimensions	123 x 77 x 25 mm
gross weight	80 g
Customs tariff number	85365019
WEEE number	40951076
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, ...

VK20R321



Connection cable, 2m, M12
Female (socket) 4pin Angular, Free conductor end, 4x0.34mm², PUR (Polyurethane) Orange, Ø5.2mm, 250V, -40-90°C, IP67, TPU, 4A, Robotics, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Weldi...

VK20R325



Connection cable, 2m, M12
Female (socket) 4pin Straight, Free conductor end, 4x0.34mm², PUR (Polyurethane) Orange, Ø5.2mm, 250V, -40-90°C, IP67, TPU, Robotics, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding ...

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

VK030F21



Connection cable, 0.3m, M12
socket 4-pin angular, M12 connector 4-pin straight, 4x0.34mm², 240V, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK030F25



Connection cable, 0.3m, M12
socket 4-pin straight, M12 connector 4-pin straight, 4x0.34mm², PUR (polyurethane), 240V, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

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

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.