

OT98E193

Optical sensors • Diffuse reflection sensors with background suppression

sensor optical, diffuse-reflection sensor, 42x18x11mm, Sn: 5-450, 10-30V DC, -35-60°C, 2x PNP/NPN Anticoincidence, Connector M8 4pin, IP67 / IP69k, PC-ABS+PMMA, 1kHz, Polarity free 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	0.5 ms
Number of switching outputs	1
Display	LED display
Type of switching function	Exclusive-OR
Type of electrical connection	Connector M8
Type of switching output	PNP/NPN
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
Reaction time	0.5 ms
Residual ripple	15 %
Switching distance	15 - 415 mm
Switching frequency	1000 Hz
Voltage drop	2 V
Scanning function	Light-/dark-on mode
Reverse polarity protection	Yes
Operating voltage (DC)	10 - 30 V

Mechanical features

Design	Cuboid
Width	11.4 mm
Height	41.9 mm
Storage temperature	-40 - 70 °C
Length	18.3 mm
Degree of protection (IP)	IP67 / IP69k
Active area material of sensor	Plastic (PMMA)
Housing material	PC-ABS
Ambient temperature	-35 - 60 °C

Optical features

Light source	Polarity free red light
Light beam form	Point
Wavelength of the sensor	633 nm
focus	200 mm

Other features

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

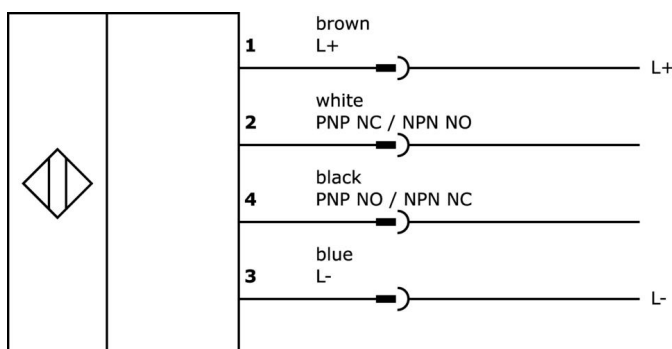
Classification

ETIM 8	EC002719 Photoelectric proximity switch with background suppression
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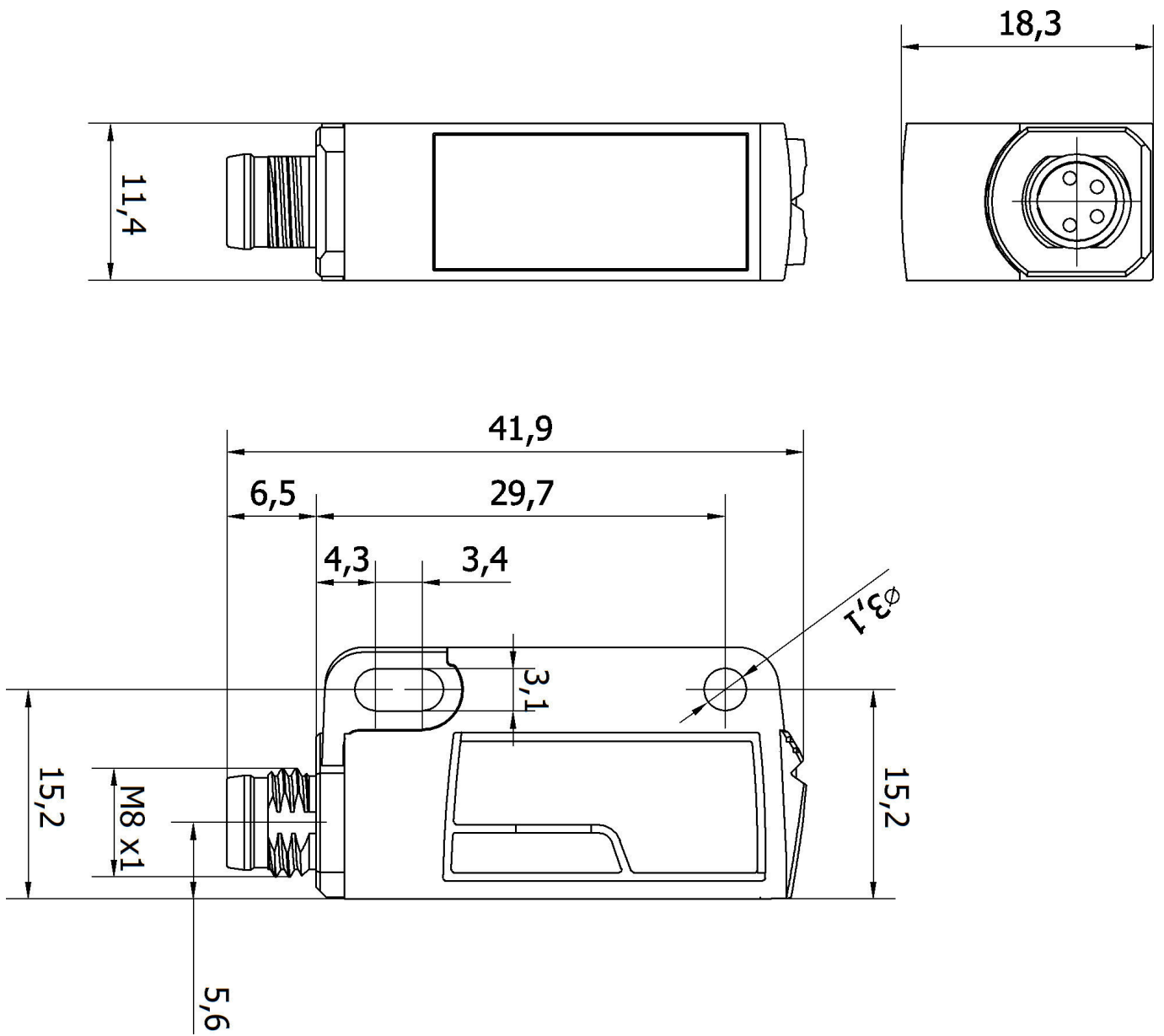
More

IPF Product Group	100 optical sensors
packaging dimensions	123 x 77 x 25 mm
gross weight	19 g
Customs tariff number	85365019
WEEE number	40951076
POP-compliant	Yes
Reach-compliant	Yes
RoHS-compliant	Yes

Connection




Dimensional drawing




Extract accessories program

VK200371




Connection cable, 2m, M8 Female (socket) 4pin Angular, Free conductor end, 4x0.34mm², PUR (Polyurethane), Ø4.7mm, 30V, -30-90°C, IP67, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silicone-free

VK200375




Connection cable, 2m, M8 Female (socket) 4pin Straight, Free conductor end, 4x0.34mm², PUR (Polyurethane), Ø4.7mm, 30V, -30-90°C, IP67, Suitable for trailing chain and torsion resistant, Oil and cooling lubricants, Welding area, Silicone-free

VK030F71




Connection cable, 0.3m, M8 socket 4-pin angular, M8 connector 4-pin straight, 4-core, PUR (polyurethane), suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK030F75




Connection cable, 0.3m, M8 socket 4-pin straight, M8 connector 4-pin straight, 4-core, PUR (polyurethane), suitable for trailing chain and torsion-resistant, oils and cooling lubricants, welding area, silicone-free

VK030F81



Connection cable, 0.3m, M8 socket 4-pin angular, M12 connector 4-pin straight, 4x0.34mm², PUR (polyurethane), 60V, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK030F85



Connection cable, 0.3m, M8 socket 4-pin straight, M12 connector 4-pin straight, 4x0.34mm², PUR (polyurethane), 60V, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

AY000118



accessories sensor, Fixture kit, Metal, ball joint

AO000473



accessories optical, Mounting angle bracket, 19x19x34mm, Mounting material for sensor, brackets, Steel

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.