

OTQ30170

Optical sensors • Diffuse reflection sensors with intensity differentiation

Optical Sensor, Diffuse Reflection Sensor, 20x3.5x13 mm, Sn: 2–25, 12–24 V DC, 1x PNP NO, M8 3-pin cable connector, 0.3 m PVC, IP67, PET plastic + plastic, 1 kHz, unpolarized red light, point

including Spring washer, Nut



Optical sensors operate contactless. They detect objects regardless of their characteristics (e.g., shape, color, surface texture, material). Their basic operating principle is based on the transmission and reception of light. There are three versions: 1. The through-beam sensor consists of two separate devices—a transmitter and a receiver—that are aligned with each other. When the light beam between the two devices is interrupted, the switching output integrated into the receiver changes its status. 2. In a reflective light barrier, the transmitter and receiver are housed in a single device. The transmitted light beam is reflected toward the receiver by a reflector mounted opposite it. As soon as the light beam is interrupted, the switching output integrated into the device changes its status. 3. In a diffuse reflection sensor, the transmitter and receiver are housed in a single device. The emitted light beam is reflected by the object to be detected. As soon as the receiver detects the reflected light, the switching output integrated into 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	Normally open contact (NO)
Type of electrical connection	Cable connector M8
Type of switching output	PNP
Rated switching current	50 mA
Operating principle	intensity differentiation
Relative hysteresis	15 15 %
No-load current	20 mA
Number of pins	3
Residual ripple	10 %
Switching distance	2 - 25 mm
Switching frequency	1000 Hz
Protection class	III
Voltage drop	1 V
Scanning function	Light switching
Decay time	0.5 ms
Operating voltage (DC)	12 - 24 V
protection functions	short circuit protection reverse polarity protection

Mechanical features

Number of cores	3
Conductor cross-section	0.1 mm ²
Design	Cuboid
Width	13 mm
Height	20.5 mm
Cable length	0.3 m
Storage temperature	-30 - 70 °C
Length	3.5 mm
Shock resistance	50 g
Degree of protection (IP)	IP67
Vibration resistance	500 Hz
Active area material of sensor	Plastic
Housing material	plastic PET
material of cable sheath	plastic (PVC)
Ambient temperature	-25 - 55 °C

Optical features

Light source	Polarity free red light
Light exit	axial
Light beam form	Point
Wavelength of the sensor	680 nm

Other features

Reference medium / object	Material with 90% reflectivity
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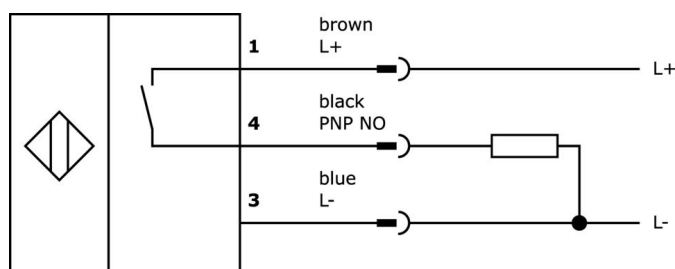
Classification

ETIM 8

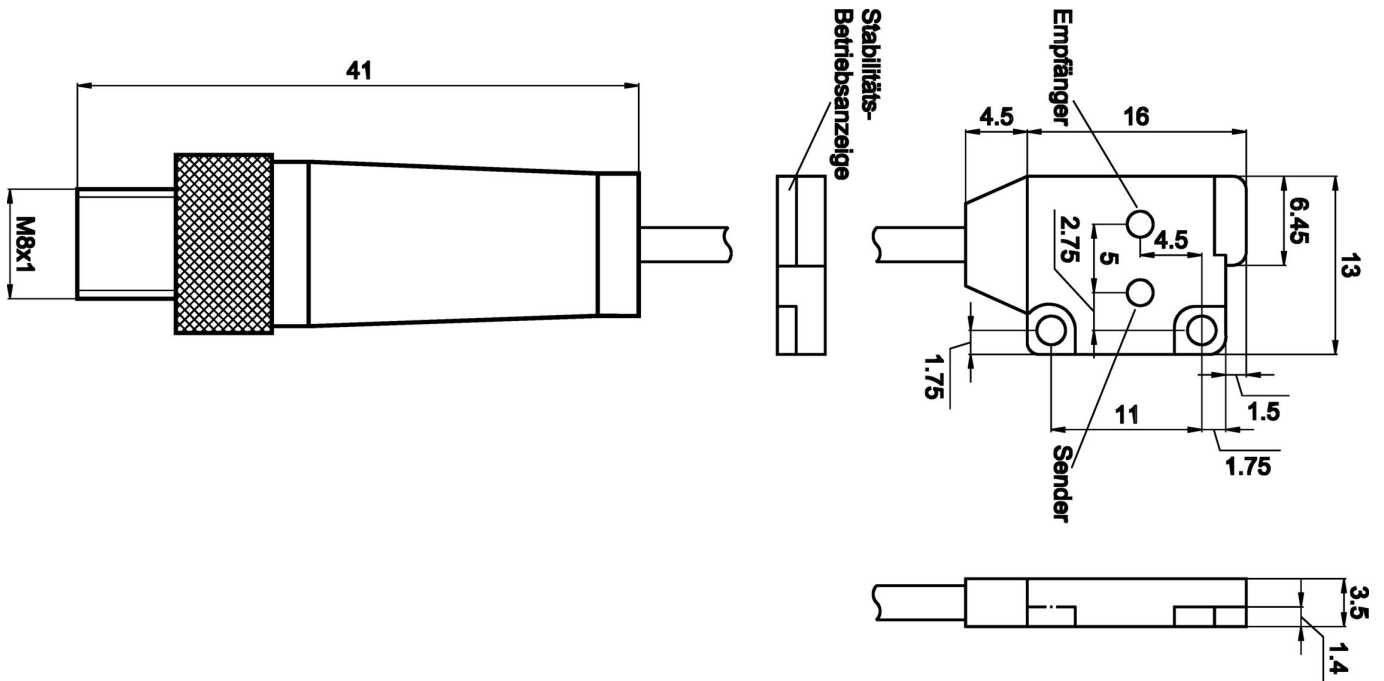
More

IPF Product Group	100 optical sensors
packaging dimensions	123 x 77 x 25 mm
gross weight	38 g
customs tariff number	85365019
WEEE number	40951076
Reach-compliant	Yes
RoHS-compliant	Yes

Connection

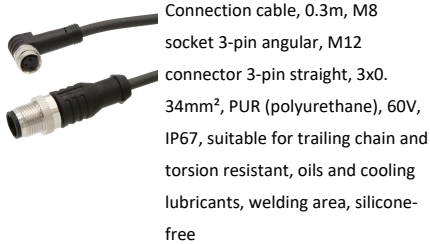


Dimensional drawing



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

AV000142



accessories cable socket, Mounting clip, 8.5mm, PPO, Packaging unit 5, Accessories for Cable socket/connector M8

AY000141



Plastic sheath, Ø17mm, Inner diameter 10mm, -40-250°C, Glass fiber with silicone rubber, Short-term resistance to weld spatter 1200°C, Tensile strength 400N, Flexible, Flame retardant, yard good

VK000038



Adaption, M8 Female (socket) 3pin Straight, M8 Male (connector) 4pin Straight, 24V, -25-85°C, IP67, Oil and cooling lubricants, Welding area

AY98C293



accessories sensor, Teflon cap, M8x1 5long, Polytetrafluorethylene (PTFE)

VK030F82



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

VK060F82



Connection cable, 0.6m, M8 socket 3-pin angular, M12 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

VK030F72



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

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.