

OT310301

Optical sensors • Diffuse reflection sensors with background suppression

Optical Sensor, Diffuse Reflection Sensor, 36x20x12 mm, Sn: 30–100, 10–30 V DC, 1x PNP NC/NO, 2 m 4-wire cable, IP67, ABS+PMMA plastic, 0.5 kHz, unpolarized red light, point, teach-in

- / plastic housing
- / compact design
- / Setting by teach-in
- / cable connection



background suppression visible red light

Optical sensors operate contactless. They detect objects regardless of their characteristics (e.g., shape, color, surface texture, material). Their basic principle of operation 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	1 ms
Number of switching outputs	1
Display	LED display
Type of switching function	Normally closed contact/normally open contact
Type of electrical connection	Cable
Type of switching output	PNP
Rated switching current	100 mA
Setting procedure	Teach-In
Operating principle	background suppression
No-load current	20 mA
Reaction time	1 ms
Residual ripple	10 %
Switching distance	30 - 100 mm
Switching frequency	500 Hz
Protection class	III
Voltage drop	2 V
Scanning function	Light-/dark-on mode
Decay time	1 ms
Operating voltage (DC)	10 - 30 V
protection functions	short circuit protection reverse polarity protection

Mechanical features

Number of cores	4
Wire cross section	0,14 mm ²
Design	Cuboid
Width	12 mm
Height	36.1 mm
Cable length	2 m
Storage temperature	-20 - 70 °C
Length	20 mm
Maximum tightening torque	0.5 Nm
Shock resistance	30 g
Degree of protection (IP)	IP67
Vibration resistance	55 Hz
Active area material of sensor	Plastic (PMMA)
Housing material	plastic (ABS)
material of cable sheath	plastic (PVC)
Ambient temperature	-20 - 55 °C
Line diameter	3.6 mm

Optical features

Light source	Polarity free red light
Light beam form	Point
Wavelength of the sensor	632 nm

Other features

Reference medium / object	Material with 90% reflectivity
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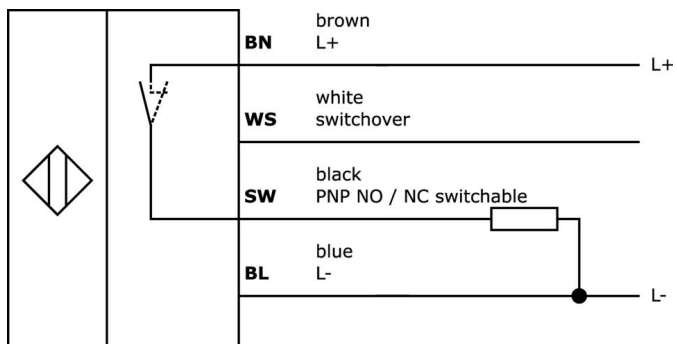
Classification

ETIM 8

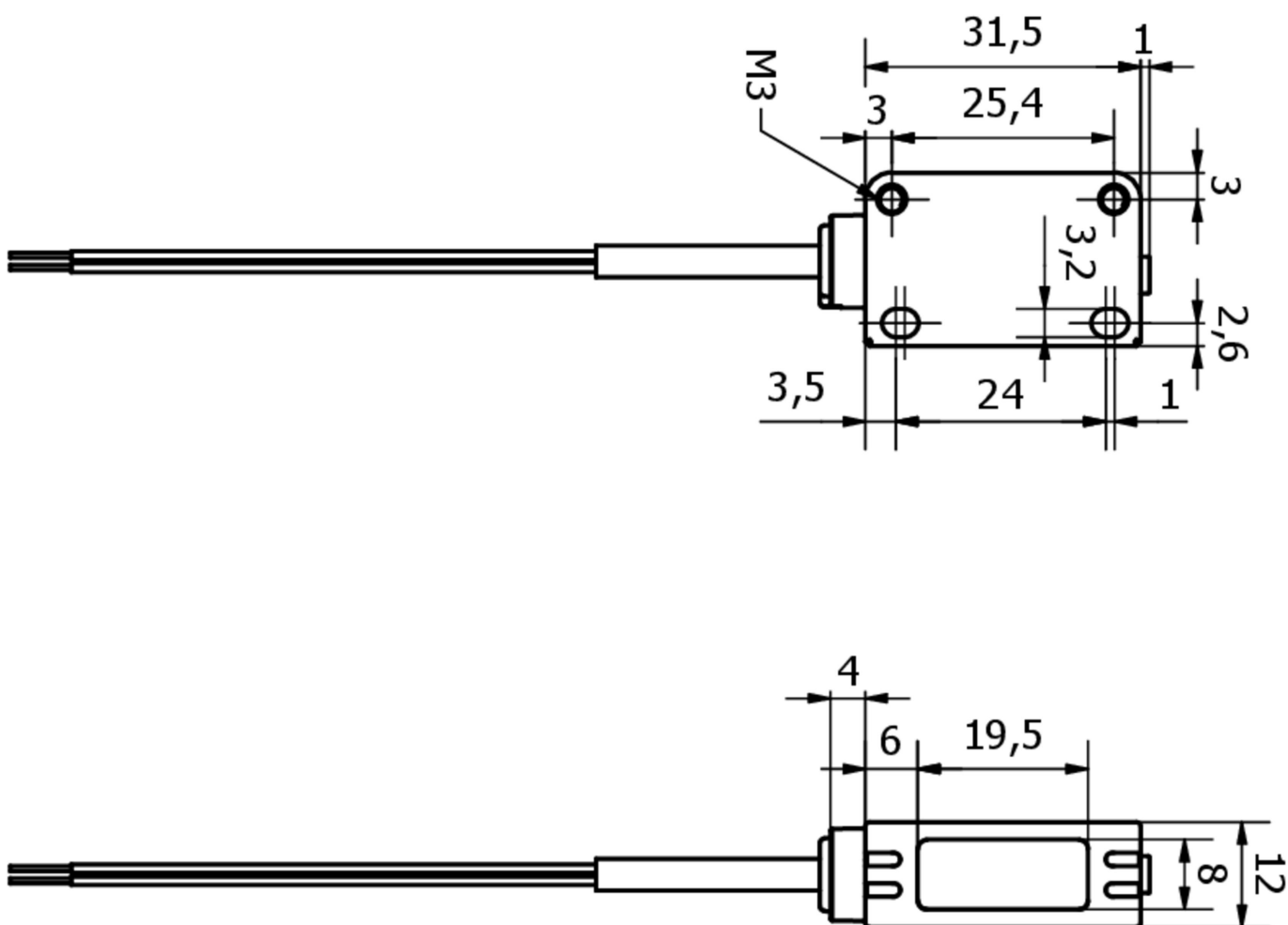
More

IPF Product Group	100 optical sensors
packaging dimensions	185 x 170 x 17 mm
gross weight	48 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

VY000004



DC power supply, sensor tester, 120x26x72mm, 18V, 0.04A, Spring clamp connection 4pin, IP20, Plastic

NG530002



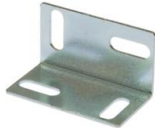
DC power supply, single-phase, 99x114x22mm, 24V, 0.1A, Number of relay outputs 2, 100-264V AC 50Hz, 100-264V AC 60Hz, Screw connection, IP20, Plastic, Stabilized, Output voltage, pulsed

AY000118



accessories sensor, Fixture kit, Metal, ball joint

AO000473



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

VK003079



Cable connector, Straight, Suitable for self-assembly, Soldering connection, Ø3.5-5mm, 4A, 30V, -40-85°C, M8 Male (connector) 4pin, IP67, Brass

VK003179



Cable connector, Straight, Suitable for self-assembly, Screw connection, Ø3.5-5mm, 4A, 30V, -40-85°C, M8 Male (connector) 4pin, IP67, Brass

VK003026



Cable connector, Angular, Suitable for self-assembly, Screw connection, Ø3-6.5mm, 4A, 240V, -25-90°C, M12 Male (connector) 4pin, IP67, PBT

VK003028



Cable connector, Straight, Suitable for self-assembly, Screw connection, Ø3-6.5mm, 4A, 240V, -25-90°C, M12 Male (connector) 4pin, IP67, PBT

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.