

OT180323

Optical sensors • Diffuse reflection sensors with intensity differentiation

Optical sensor, diffuse reflection sensor, M18x1, 65 long, Sn: 30-200, 10–30 V DC, 1x PNP programmable/configurable, 4-pin M12 connector, IP67, nickel-plated (n-pltd) brass + plastic, 0.5 kHz, infrared light, spot, manual setting

including Nut



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	Programmable/configurable
Type of electrical connection	Connector M12
Type of switching output	PNP
Rated switching current	100 mA
Readiness delay	25 ms
Setting procedure	Manual adjustment
Operating principle	intensity differentiation
No-load current	25 mA
Number of pins	4
Residual ripple	10 %
Switching distance	30 - 200 mm
Switching frequency	500 Hz
Protection class	III
Voltage drop	2.5 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

Design	Cylinder, screw-thread
Thread length	35 mm
Thread pitch	1 mm
Storage temperature	-40 - 70 °C
Length	65.1 mm
Surface	nickel-plated
Degree of protection (IP)	IP67
Active area material of sensor	Plastic
Housing material	brass
Thread dimension	M18
Ambient temperature	-25 - 55 °C

Optical features

Light source	Infrared light
Light exit	axial
Light beam form	Point
Wavelength of the sensor	880 nm

Other features

Reference medium / object	Material with 90% reflectivity
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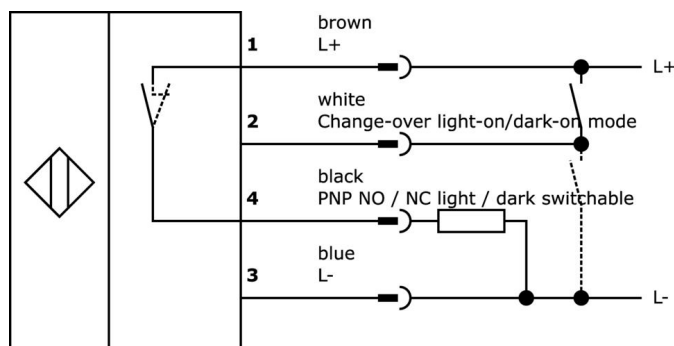
Classification

ETIM 8

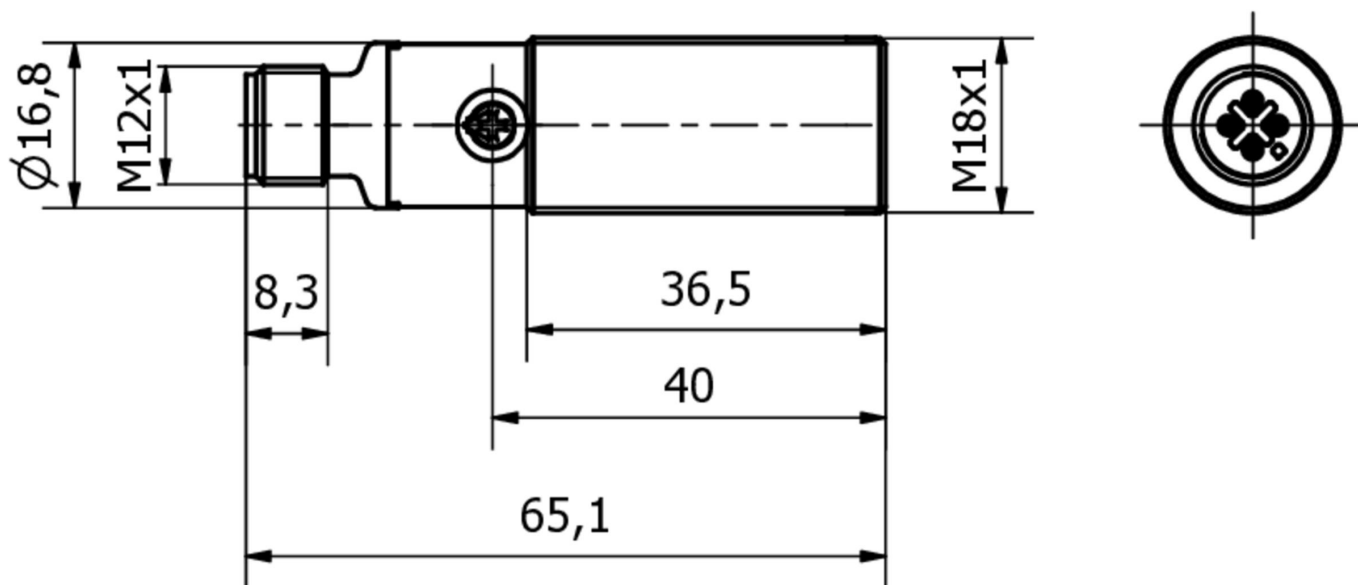
More

IPF Product Group	100 optical sensors
packaging dimensions	123 x 77 x 25 mm
gross weight	70 g
customs tariff number	85365019
WEEE number	40951076
Reach-compliant	Yes
RoHS-compliant	Yes

Connection



Dimensional drawing



Extract accessories program

AO98A353



accessories optical, Cleaning air nozzle, M18x1, Metal

AO98E281



Accessories Optical, cleaning air nozzle, M18x1, metal

VK003020



Cable socket, angular, self-assembly, screw connection, Ø3-6. 5mm, 4A, 240V, -25-90°C, M12 socket 4-pin, IP67, PBT

VK003024



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

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 socket 4-pin angular, free cable end, 4x0.34mm², PUR (polyurethane), Ø4.7mm, 250V, -40-90°C, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK200325



Connection cable, 2m, M12 socket 4-pin straight, free cable end, 4x0.34mm², PUR (polyurethane), Ø4.7mm, 250V, -40-90°C, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

AY000117



accessories sensor, Fixture kit, Metal, ball joint

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.