

OT181425

Optical sensors • Diffuse reflection sensors with intensity differentiation

Optical sensor, diffuse reflection sensor, M18x1, 64 long, Sn: 40-600, 10–35 V DC, 2x NPN exclusive-OR, 4-pin M12 connector, IP67, chrome-plated brass + glass, 1 kHz, unpolarized red light, spot, manual setting

including Nut, Toothed washer



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	2
Display	LED display
Type of switching function	Exclusive-OR
Type of electrical connection	Connector M12
Type of switching output	NPN
Rated switching current	200 mA
Readiness delay	60 ms
Setting procedure	Manual adjustment
Operating principle	intensity differentiation
Relative hysteresis	10 10 %
No-load current	20 mA
Number of pins	4
Switching distance	40 - 600 mm
Switching frequency	1000 Hz
Protection class	III
Voltage drop	2 V
Clock frequency of the transmitter	15 kHz
Scanning function	Light-/dark-on mode
Decay time	0.5 ms
Operating voltage (DC)	10 - 35 V
protection functions	short circuit protection reverse polarity protection

Mechanical features

Design	Cylinder, screw-thread
Thread length	45 mm
Thread pitch	1 mm
Length	63.5 mm
Surface	Chrome-plated
Degree of protection (IP)	IP67
Active area material of sensor	glass
Housing material	brass
Thread dimension	M18
Ambient temperature	-25 - 55 °C

Optical features

Light source	Polarity free red light
Light exit	axial
Light beam form	Point
Wavelength of the sensor	660 nm

Other features

Reference medium / object	Material with 90% reflectivity
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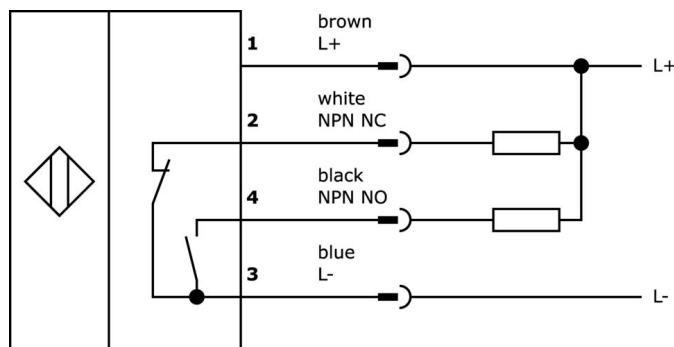
Classification

ETIM 8

More

IPF Product Group	100 optical sensors
packaging dimensions	210 x 180 x 20 mm
gross weight	66 g
customs tariff number	85365019
WEEE number	40951076
Reach-compliant	Yes
RoHS-compliant	Yes

Connection



Extract accessories program

AY000117



accessories sensor, Fixture kit,
Metal, ball joint

AY000162



Accessories, magnetic, Ø43mm,
neodymium-iron-boron, inside
thread M5, rubber

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

VK003021



Cable socket, Angular, Suitable for
self-assembly, Screw connection,
Ø3-6.5mm, 4A, 60V, -25-90°C,
M12 Female (socket) 5pin, IP67,
PBT

VK003025



Cable socket, Straight, Suitable for
self-assembly, Screw connection,
Ø3-6.5mm, 4A, 60V, -25-90°C,
M12 Female (socket) 5pin, IP67,
PBT

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

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.