

OT181405

Optical sensors • Diffuse reflection sensors with intensity differentiation

Optical Sensor, Diffuse Reflection Sensor, M18x1 50 long, Sn: 40-600, 10–35 V DC, 2x NPN exclusive-OR, 2-meter PVC cable, 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	Cable
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
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

Number of cores	4
Conductor cross-section	0.25 mm ²
Design	Cylinder, screw-thread
Thread length	50 mm
Thread pitch	1 mm
Cable length	2 m
Length	50 mm
Maximum tightening torque	20 Nm
Surface	Chrome-plated
Degree of protection (IP)	IP67
Active area material of sensor	glass
Housing material	brass
material of cable sheath	plastic (PVC)
Thread dimension	M18
Ambient temperature	-25 - 55 °C
Line diameter	5 mm

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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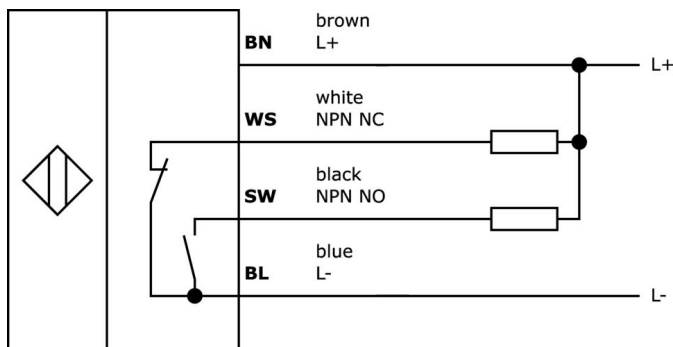
Classification

ETIM 8

More

IPF Product Group	100 optical sensors
packaging dimensions	210 x 180 x 200 mm
gross weight	124 g
customs tariff number	85365019
WEEE number	40951076
Reach-compliant	Yes
RoHS-compliant	Yes

Connection



Extract accessories program

VL250100



Logic module, 49x80x26mm, AND, 4fold, 10-35V DC, sensor side
Clamp, control side Clamp, IP40, Plastic

VL250120



Logic module, 49x80x26mm, OR, 4fold, 10-35V DC, sensor side
Clamp, control side Clamp, IP40, Plastic

AY000014



accessories sensor, Reduction sleeve, M18, Plastic

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

AY000162



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

AY000159



Accessories sensor, mounting tube, Ø12mm 200long, aluminum anodized/anodized

AO98A353



accessories optical, Cleaning air nozzle, M18x1, Metal

AO98E281



Accessories Optical, cleaning air nozzle, M18x1, metal

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.