

**OT180528**

**OPTICAL SENSORS • DIFFUSE REFLECTION SENSORS WITH BACKGROUND SUPPRESSION**

Optical sensors function contactlessly. They detect objects independent of their characteristics (e.g., shape, color, surface structure, material). The basic operating principle is based on the transmission and reception of light. There are three different versions: 1. The through-beam sensor consists of two separate devices, a transmitter and a receiver that are aligned with one another. If the light beam between the two devices is interrupted, the switching output integrated in the receiver changes its status. 2. With the retro-reflective sensor, the transmitter and receiver are located in one device. The emitted light beam is reflected back to the receiver by a reflector that is to be mounted opposite the device. As soon as the light beam is interrupted, the switching output integrated in the device changes its status. 3. With the diffuse reflection sensor, the transmitter and receiver are in one device. The emitted light beam is reflected by the object that is to be detected. As soon as the receiver detects the reflected light, the switching output integrated in the device changes its status.



**MECHANICAL DATA**

Ambient temperature	-25 °C ... 65 °C
Degree of protection (IP)	IP67
Housing design	Cylinder, screw-thread
Housing material	Stainless steel 1.4404
Material of optical surface	Polycarbonate
Reflector included in the scope of delivery	No
Sensor length	61.5 mm
Storage temperature	70 °C
Storage temperature	-40 °C
Thread pitch	1 mm
Thread size, metric	18

**ELECTRICAL DATA**

Adjustment range	1 mm ... 120 mm
Analogue output 0 mA ... 20 mA	No
Analogue output 0 V ... 10 V	No
Analogue output -10 V ... +10 V	No
Analogue output 4 mA ... 20 mA	No
IO-Link compatible	No
Max. output current	100 mA
Max. switching distance	120 mm
No-load current	15 mA
Number of pins	4
Number of switching outputs	1
Operating voltage	10 V ... 30 V
Rated switching distance	120 mm
Readiness delay	100 ms

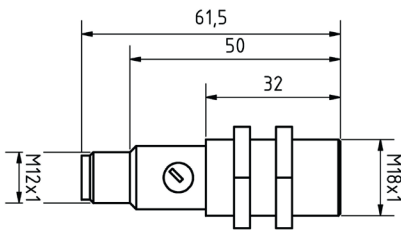
**ELECTRICAL DATA**

Residual ripple	10 %
Scanning function	Light-/dark-on mode
Sensing range	1 mm ... 120 mm
Setting procedure	Manual adjustment
Switching frequency	1000 Hz
Type of electrical connection	Connector M12
Type of switching function	Push-pull
Type of switching output	PNP/NPN
Voltage drop	2 V
Voltage type	DC
With LED display	Yes
With LED display (operation)	Yes
With LED display (signal)	Yes
With other analog output	No

**OPTICAL DATA**

Background suppression	Yes
Light beam form	Point
Light source	Polarity free red light
Triangulation	Foreground suppression / background suppression
Wavelength of the sensor	625 nm

**DIMENSIONAL DRAWING**



**INSTALLATION**



Mounting / Installation may only be carried out by a qualified electrician!

**DISPOSAL**



**SAFETY WARNINGS**

Before initial operation, please make sure to follow all safety instructions that may be provided in the product information!

