OT181106

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 ... 55 °C
Degree of protection (IP)	IP67
Housing coating	Chromium-plated
Housing design	Cylinder, screw-thread
Housing material	Brass
Material of cable sheath	PVC
Material of optical surface	Glass
Max. tightening torque	20 Nm
Reflector included in the scope of delivery	No
Sensor length	50 mm
Thread length	50 mm
Thread pitch	1 mm
Thread size, metric	18
Wire cross section	0.25 mm²

ELECTRICAL DATA

Adjustment range	10 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
Decay time	1 ms
Hysteresis	10 %
IO-Link compatible	No
Max. output current	200 mA
Max. switching distance	120 mm
No-load current	25 mA

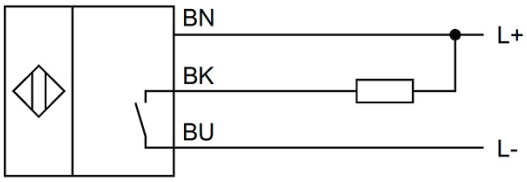
ELECTRICAL DATA

Number of pins	3
Number of switching outputs	1
Operating voltage	10 V ... 35 V
Rated switching distance	120 mm
Readiness delay	20 ms
Response time	1 ms
Reverse polarity protection	Yes
Scanning function	Light switching
Sensing range	10 mm ... 120 mm
Setting procedure	Manual adjustment
Short-circuit-proof	Yes
Switching frequency	500 Hz
Type of electrical connection	Cable
Type of switching function	Normally open contact (NO)
Type of switching output	NPN
Voltage drop	2 V
Voltage type	DC
With LED display	Yes
With LED display (reception)	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	Background suppression
Wavelength of the sensor	660 nm

CONNECTION



Colors: BN (brown), BU (blue), BK (black)
Functions: BN = L+, BU = L-, BK = NPN NO

DIMENSIONAL DRAWING

INSTALLATION

DISPOSAL

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

SAFETY WARNINGS

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