

OR140404

OPTICAL SENSORS • RETRO-REFLECTIVE SENSORS

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 (MAX)	65 °C
Ambient temperature (MIN)	-25 °C
Cable length	2 m
Degree of protection (IP)	IP65
Housing design	Cuboid
Housing material	Plastic ASA
Material of cable sheath	PVC
Material of optical surface	PMMA
Number of wires	4
Reflector included in the scope of delivery	No
Sensor height	27 mm
Sensor length	16.3 mm
Sensor width	12 mm

ELECTRICAL DATA

Clock frequency of the transmitter	15 kHz
Decay time	0.5 ms
Interference suppression	Yes
Max. output current	100 mA
Max. switching distance	4000 mm
No-load current	25 mA
Operating voltage (MAX)	30 V
Operating voltage (MIN)	10 V
Rated switching distance	4000 mm
Residual ripple	20 %
Response time	0.5 ms
Reverse polarity protection	Yes

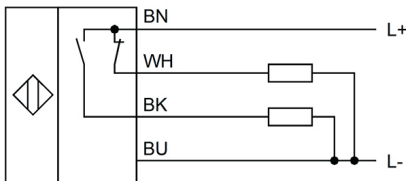
ELECTRICAL DATA

Scanning function	Light-/dark-on mode
Short-circuit-proof	Yes
Switching frequency	1000 Hz
Type of electrical connection	Cable
Type of switching function	Anticoincidence
Type of switching output	PNP
Voltage drop	1.8 V
Voltage type	DC
With LED display	Yes
With polarizing filter	Yes
With time function	No

OPTICAL DATA

Light beam form	Point
Light source	Polarized red light
Wavelength of the sensor	660 nm

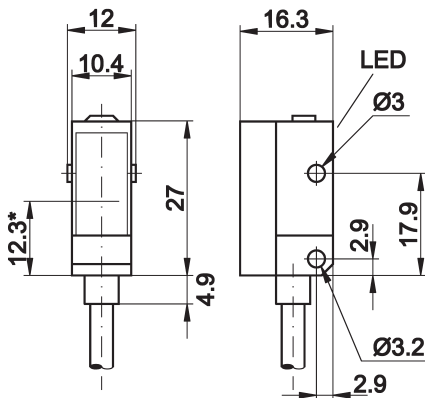
CONNECTION



Colors: BN (brown), WH (white), BU (blue), BK (black)

Functions: BN = L+, WH = PNP NC, BU = L-, BK = PNP NO

DIMENSIONAL DRAWING



* Senderachse

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!

Never use these devices in applications where the safety of a person depends on their functionality.