

PE120120

LASER SENSORS • THROUGH-BEAM SENSORS RECEIVERS

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) | 50 °C |
| Ambient temperature (MIN) | -20 °C |
| Aperture diameter | 1 mm |
| Degree of protection (IP) | IP67 |
| Housing coating | Nickel-plated |
| Housing design | Cylinder, screw-thread |
| Housing material | Brass |
| Material of optical surface | Plastic PK |
| Storage temperature | 85 °C |
| Storage temperature | -20 °C |
| Thread length | 45 mm |
| Thread pitch | 1 mm |
| Thread size, metric | 12 |

ELECTRICAL DATA

| | |
|-----------------------------|---------------------|
| Max. output current | 100 mA |
| Measuring range | 5 m |
| No-load current | 30 mA |
| No-load current, receiver | 30 mA |
| Number of pins | 4 |
| Operating voltage (MAX) | 32 V |
| Operating voltage (MIN) | 12 V |
| Rated switching distance | 5000 mm |
| Relative repeat accuracy | 20 µm |
| Reverse polarity protection | Yes |
| Scanning function | Light-/dark-on mode |
| Short-circuit-proof | Yes |

ELECTRICAL DATA

| | |
|-------------------------------|---------------|
| Switching frequency | 25000 Hz |
| Type of analog output | 0 V ... 10 V |
| Type of electrical connection | Connector M12 |
| Type of input voltage | DC |
| Type of switching output | PNP/NPN |
| Voltage drop | 2 V |
| Voltage type | DC |

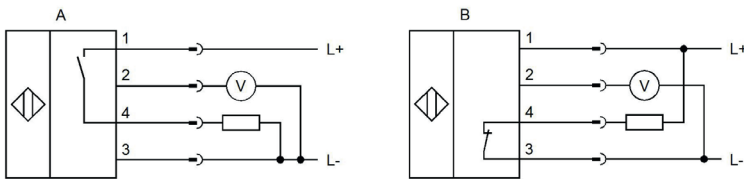
OPTICAL DATA

| | |
|--------------------------|-------------------------|
| Filter | Interference filter |
| Light beam form | Point |
| Light source | Polarity free red light |
| Resolution | 20 µm |
| Wavelength of the sensor | 670 nm |

OTHER DATA

| | |
|---|----------|
| Scope of delivery of the one-way system | Receiver |
|---|----------|

CONNECTION

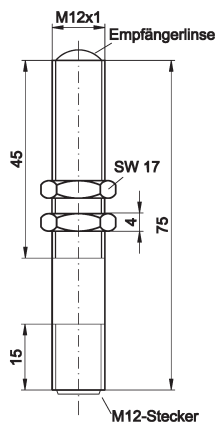


Colors: A: 1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black)

B: 1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black) **Functions:** A: 1 = L+, 2 = 0-10V, 3 = L-, 4 = PNP NO

B: 1 = L+, 2 = 0-10V, 3 = L-, 4 = NPN NC

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!

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