

PT12E114

LASER 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 | -10 °C ... 60 °C |
| Degree of protection (IP) | IP65 |
| Housing design | Cylinder, screw-thread |
| Housing material | Stainless steel |
| Material of optical surface | PMMA |
| Reflector included in the scope of delivery | No |
| Sensor length | 72 mm |
| Storage temperature | 60 °C |
| Storage temperature | -10 °C |
| Thread length | 45 mm |
| Thread pitch | 1 mm |
| Thread size, metric | 8 |

ELECTRICAL DATA

| | |
|---------------------------------------------------------|-----------------|
| Adjustment range | 5 mm ... 150 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 | 150 mm |
| Number of pins | 4 |
| Number of semiconductor outputs with signaling function | 1 |
| Number of switching outputs | 1 |
| Operating voltage | 10 V ... 30 V |
| Rated control supply voltage U_s at DC | 10 V ... 30 V |

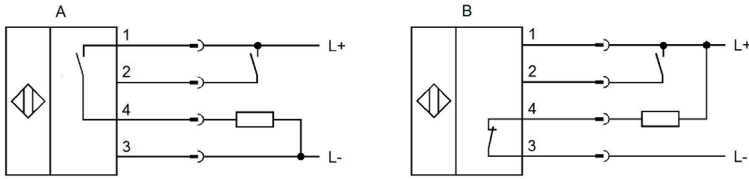
ELECTRICAL DATA

| | |
|-------------------------------|-------------------|
| Rated switching distance | 150 mm |
| Response time | 20 ms |
| Reverse polarity protection | Yes |
| Scanning function | Light switching |
| Sensing range | 5 mm ... 150 mm |
| Setting procedure | Manual adjustment |
| Short-circuit-proof | Yes |
| Switching frequency | 25 Hz |
| Type of electrical connection | M12-connector |
| 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 (signal) | Yes |
| With other analog output | No |
| With time function | No |

OPTICAL DATA

| | |
|--------------------------|-----------------------------|
| Background suppression | Yes |
| Laser class | 1 |
| Laser protection class | Class 1 |
| Light beam form | Point |
| Light source | Laser diode, infrared light |
| Triangulation | Background suppression |
| Wavelength of the sensor | 880 nm |

CONNECTION

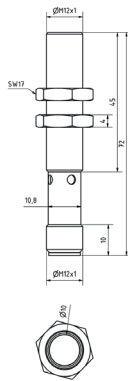


Colors: A: 1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black)

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

B: 1 = L+, 2 = teach-in, 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!