

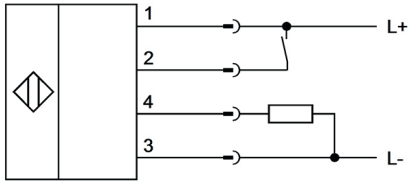
Optical sensors function contactlessly. They detect objects independent of their characteristics (e.g., shape, color, surface structure, material). The basic operating principle is based on the transmission and reception of light. There are three different versions: 1. The through-beam sensor consists 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.


**TECHNICAL DATA**

|   |                     |
|---|---------------------|
| Ambient temperature (min/max)               | -20 °C / 50 °C      |
| Cable length                                | 0.2 m               |
| Degree of protection (IP)                   | IP65                |
| Housing design                              | Cuboid              |
| Housing material                            | PMMA                |
| Increased ambient temperatures >70°C        | NO                  |
| Material of cable sheath                    | PUR (Polyurethane)  |
| Material of optical surface                 | PMMA                |
| Number of wires                             | 4                   |
| Reflector included in the scope of delivery | NO                  |
| Sensor height                               | 21.4 mm             |
| Sensor length                               | 10.8 mm             |
| Sensor width                                | 9.2 mm              |
| Wire cross section                          | 0.1 mm <sup>2</sup> |
| Adjustment range (min/max)                  | 2 mm / 60 mm        |
| Alarm output                                | NO                  |
| Analogue output -10 V ... +10 V             | NO                  |
| Analogue output 0 V ... 10 V                | NO                  |
| Analogue output 0 mA ... 20 mA              | NO                  |
| Analogue output 4 mA ... 20 mA              | NO                  |
| Decay time                                  | 0.5 ms              |
| Function test                               | NO                  |
| Interference suppression                    | YES                 |
| Max. output current                         | 100 mA              |
| Max. switching distance                     | 60 mm               |
| No-load current                             | 25 mA               |
| Number of pins                              | 4                   |
| Number of switching outputs                 | 1                   |

**TECHNICAL DATA**

|                                       |                           |
|---------------------------------------|---------------------------|
| Operating voltage (min/max)           | 10 V / 30 V               |
| Rated switching distance              | 60 mm                     |
| Response time                         | 0.5 ms                    |
| Reverse polarity protection           | YES                       |
| Scanning function                     | Light-/dark switching     |
| Sensing range (min/max)               | 2 mm / 60 mm              |
| Setting procedure                     | Teach-In                  |
| Short-circuit-proof                   | YES                       |
| Switching frequency                   | 1000 Hz                   |
| Type of electrical connection         | Cable connector M8        |
| Type of switching function            | Programmable/configurable |
| Type of switching output              | PNP                       |
| Voltage drop                          | 1.8 V                     |
| Voltage type                          | DC                        |
| With LED display                      | YES                       |
| With LED display (functional reserve) | YES                       |
| With LED display (reception)          | YES                       |
| With LED display (signal)             | YES                       |
| With other analog output              | NO                        |
| Background suppression                | YES                       |
| Light beam form                       | Point                     |
| Light source                          | Polarity free red light   |
| Small light beam diameter             | YES                       |
| Triangulation                         | Background fade-out       |
| Wavelength of the sensor              | 660 nm                    |

**CONNECTION**


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

**Functions:** 1 = L+, 2 = Teach-In, 3 = L-, 4 = pnp no/nc

**DIMENSIONAL DRAWING**
