

ORQ80100

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) | 55 °C |
| Ambient temperature (MIN) | -25 °C |
| Cable length | 2 m |
| Degree of protection (IP) | IP67 |
| Housing design | Cuboid |
| Housing material | Plastic ABS |
| Material of cable sheath | PUR (Polyurethane) |
| Number of wires | 3 |
| Reflector included in the scope of delivery | Yes |
| Sensor height | 22 mm |
| Sensor length | 12.3 mm |
| Sensor width | 8.2 mm |
| Shock resistance | 50 g |
| Storage temperature | 70 °C |
| Storage temperature | 30 °C |

ELECTRICAL DATA

| | |
|--------------------------|--------|
| Alarm output | Yes |
| Decay time | 0.5 ms |
| Max. output current | 50 mA |
| Max. switching distance | 200 mm |
| No-load current | 20 mA |
| Operating voltage (MAX) | 24 V |
| Operating voltage (MIN) | 12 V |
| Rated switching distance | 200 mm |
| Relative repeat accuracy | 0.5 mm |
| Residual ripple | 10 % |

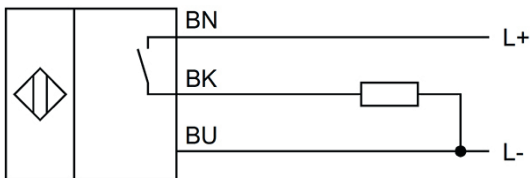
ELECTRICAL DATA

| | |
|-------------------------------|----------------------------|
| Response time | 0.5 ms |
| Reverse polarity protection | Yes |
| Scanning function | Dark switching |
| Setting procedure | Manual adjustment |
| Short-circuit-proof | Yes |
| Switching frequency | 1000 Hz |
| Type of alarm output | PNP |
| Type of electrical connection | Cable |
| Type of switching function | Normally open contact (NO) |
| Type of switching output | PNP |
| Voltage drop | 1 V |
| Voltage type | DC |
| With LED display | Yes |
| With polarizing filter | Yes |
| With time function | No |

OPTICAL DATA

| | |
|--------------------------|-------------------------|
| Light beam form | Point |
| Light source | Polarity free red light |
| Min. object size | 15 mm |
| Min. reflector distance | 30 mm |
| Wavelength of the sensor | 680 nm |

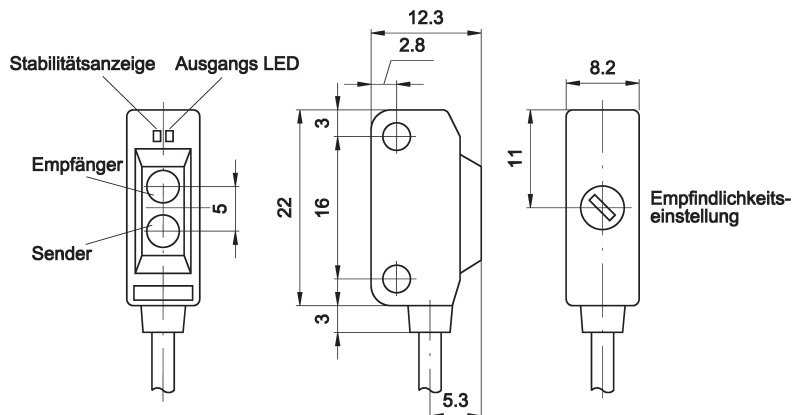
CONNECTION



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

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

DIMENSIONAL DRAWING



INSTALLATION

DISPOSAL



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!

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