# IPF ELECTRONIC

DATA SHEET OR130270 • Subject to alteration! Version: 03.05.2019

## OR130270

### 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 | 5 °C ... 70 °C |
| Degree of protection (IP) | IP65 |
| Housing coating | Nickel-plated |
| Housing design | Cuboid |
| Housing material | Brass |
| Increased ambient temperatures >70°C | Yes |
| Material of optical surface | Plastic |
| Reflector included in the scope of delivery | No |
| Sensor height | 74 mm |
| Sensor length | 12 mm |
| Sensor width | 12 mm |

### ELECTRICAL DATA

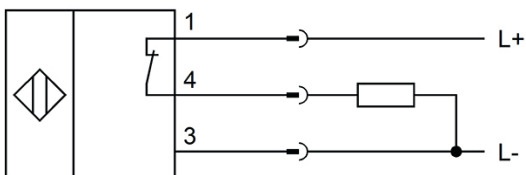| | |
|---|---|
| IO-Link compatible | No |
| Max. output current | 200 mA |
| Max. switching distance | 4000 mm |
| No-load current | 30 mA |
| Number of pins | 3 |
| Operating voltage | 10 V ... 35 V |
| Rated control supply voltage Us at DC | 10 V ... 35 V |
| Rated switching distance | 4000 mm |
| Readiness delay | 15 ms |
| Reverse polarity protection | Yes |
| Scanning function | Light switching |
| Short-circuit-proof | Yes |
| Switching frequency | 100 Hz |
| Type of electrical connection | Connector M8 |

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## ELECTRICAL DATA

| | |
|---|---|
| Type of input voltage | DC |
| Type of switching function | Breaker contact (NC) |
| Type of switching output | PNP |
| Voltage drop | 2 V |
| Voltage type | DC |
| With communication interface, analog | No |
| With communication interface, AS-Interface | No |
| With communication interface, CANOpen | No |
| With communication interface, DeviceNet | No |
| With communication interface, Ethernet | No |
| With communication interface, INTERBUS | No |
| With communication interface, PROFIBUS | No |
| With communication interface, RS-232 | No |
| With communication interface, RS-422 | No |
| With communication interface, RS-485 | No |
| With communication interface, SSD | No |
| With communication interface, SSI | No |
| With LED display | Yes |
| With time function | No |

## OPTICAL DATA

| | |
|---|---|
| Light beam form | Point |
| Light source | Infrared light |
| Wavelength of the sensor | 880 nm |

## CONNECTION



**Colors:** 1 = BN (brown), 3 = BU (blue), 4 = BK (black)
**Functions:** 1 = L+, 3 = L-, 4 = PNP 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!

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