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the innovative family

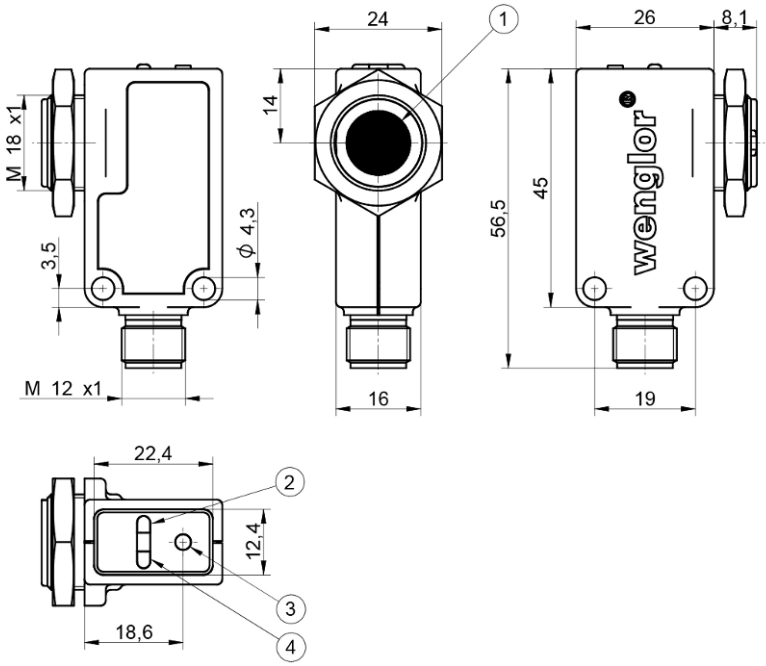
# Technical Data

# P1RL003

# Retro-Reflex Sensor

Universal




| Symbol | Key |
|---|---|
| 1 | Optical axis |
| 2 | Switching status indicator/contamination warning |
| 3 | Teach-in button |
| 4 | Power LED |

EN

Dimensions in mm
Subject to change without notice
Version 0
**www.wenglor.com**

## Technical data

| Optical Data | |
|---|---|
| Range | 12000 mm |
| Reference Reflector/Reflector Foil | RQ100BA |
| Smallest Recognizable Part | see table 2 |
| Switching Hysteresis | < 5 % |
| Light Source | Laser, red |
| Light spot geometry | Focused |
| Wavelength | 655 nm |
| Polarization Filter | yes |
| Service Life (T = +25 °C) | 100000 h |
| Laser Class (EN 60825-1) | 1 |
| Max. Ambient Light | 10000 Lux |
| Light Spot Diameter | see table 1 |
| Optics | Single-Lens Optic |

| Electrical Data | |
|---|---|
| Supply Voltage | 10...30 V DC |
| Supply Voltage with IO-Link | 18...30 V DC |
| Current Consumption (Ub = 24 V) | < 40 mA |
| Switching Frequency | 1000 Hz |
| Switching frequency (speed mode) | 2000 Hz |
| Response Time | 0.5 ms |
| Response time (speed mode) | 0.25 ms |
| Temperature Drift | < 5 % |
| Temperature Range | -25...60 °C |
| Switching Output Voltage Drop | < 2 V |
| NPN Switching Output/Switching Current | 100 mA |
| Residual Current Switching Output | < 50 µA |
| Short Circuit Protection | yes |
| Reverse Polarity Protection | yes |
| Overload Protection | yes |
| Lockable | yes |
| Teach Mode | NT, MT |
| Interface | IO-Link V1.1 |
| Protection Class | III |
| FDA Accession Number | 2411239-000 |

| Mechanical Data | |
|---|---|
| Setting Method | Teach-In |
| Housing Material | Plastic, PBT<br>Brass, nickel-plated |
| Full Encapsulation | yes |
| Degree of Protection | IP67<br>IP68 |
| Connection Type | Plug variant |
| Connection | M12 × 1; 4-pin |

| Safety-relevant Data | |
|---|---|
| MTTFd (EN ISO 13849-1) | 2817.28 a |

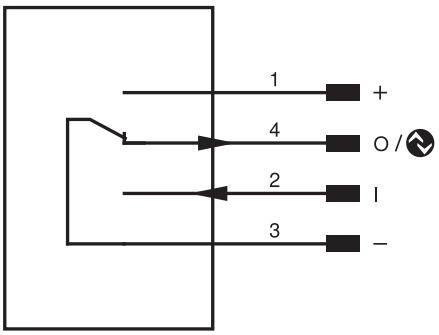
| General Data | |
|---|---|
| Scope of delivery | 1 × initial start-up instructions<br>1 × MUTTER-M18-E012 hex nut<br>1 × sensor |

| Adjustable parameters | |
|---|---|
| Output | Push-pull<br>NPN<br>PNP |
| Circuit | NC<br>NO |
| Other parameters | Off-delay<br>On-delay<br>Mode of operation<br>Hysteresis<br>Switching point<br>Emitted light<br>Teach-in mode |

All other parameters can be found in the product documentation.

| BMECat data | |
|---|---|
| eCl@ss 5.1.4 | 27-27-09-02 Reflection light barrier |
| eCl@ss 6.x | 27-27-09-02 Reflection light barrier |
| eCl@ss 7.0 | 27-27-09-02 Reflection light barrier |
| eCl@ss 7.1 | 27-27-09-02 Reflection light barrier |
| eCl@ss 8.x | 27-27-09-02 Reflection light barrier |
| eCl@ss 10.0.1 | 27-27-09-02 Reflection light barrier |

## Technical illustrations




| Pin | Pin function | Polarity | Circuit |
|---|---|---|---|
| 1 | Supply Voltage + | | |
| 2 | | High activ | |
| 3 | Supply voltage 0 V | | |
| 4 | Switching output IO-Link | NPN | NC |

| Table 1 | | | |
|---|---|---|---|
| Working Distance | 1,2 m | 6 m | 12 m |

| Table 1 | | | |
|---|---|---|---|
| Light Spot Diameter | 10 mm | 60 mm | 70 mm |

| Table 2 | | | |
|---|---|---|---|
| Distance, Sensor to Reflector | 1,2 m | 6 m | 12 m |
| Smallest Recognizable Part | 1 mm | 2 mm | 2 mm |

| Reflector data | |
|---|---|
| RQ100BA | 0...12 m |
| RE18040BA | 0...8 m |
| RQ84BA | 0...12 m |
| RR84BA | 0...11 m |
| RE9538BA | 0...3.5 m |
| RE6151BM | 0...9 m |
| RR50_A | 0...9 m |
| RE6040BA | 0...9 m |
| RE8222BA | 0...6 m |
| RE3220BM | 0...3.5 m |
| RE6210BM | 0...3.5 m |
| RR25_M | 0...5 m |
| RR25KP | 0...1.5 m |
| RR21_M | 0...5 m |
| ZRAE02B01 | 0...3.5 m |
| ZRME01B01 | 0...2 m |
| ZRME03B01 | 0...3 m |
| ZRMR02K01 | 0...2 m |
| ZRMS02_01 | 0...4 m |
| RF505 | 0...2 m |
| RF508 | 0...2 m |
| RF258 | 0...2 m |
| ZRAF08K01 | 0...2 m |
| ZRDF03K01 | 0...7 m |

Reflector type, mounting distance

