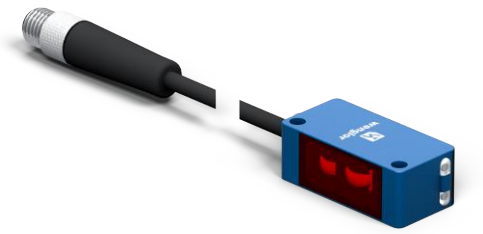
wenglor
the innovative family

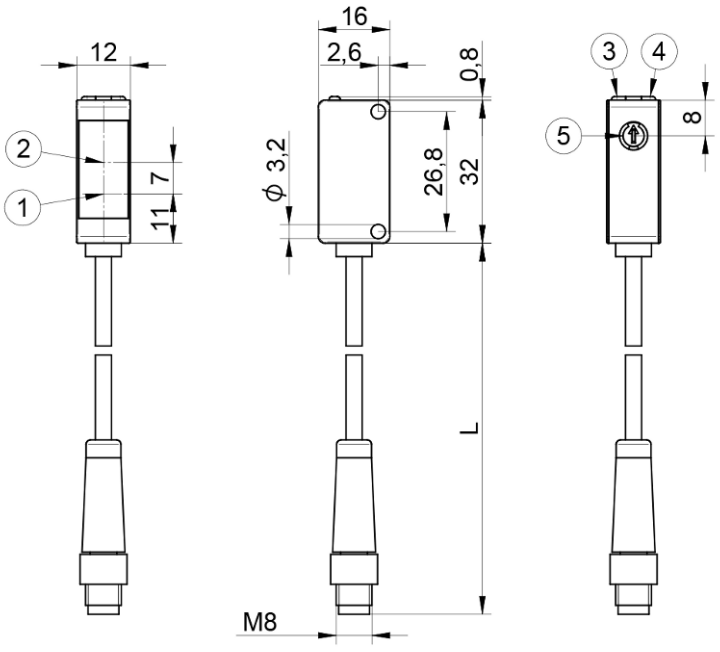
# Technical Data

# P1KL029

# Retro-Reflex Sensor

Universal






| Symbol | Key |
|---|---|
| 1 | Emitter diode |
| 2 | Receiver diode |
| 3 | Power LED |
| 4 | Switching status indicator/contamination warning |
| 5 | Switching distance adjuster |
| L | Cable length |

EN

Dimensions in mm
Subject to change without notice
Version 2
**www.wenglor.com**

## Technical data

| Optical Data | |
|---|---|
| Range | 5000 mm |
| Reference Reflector/Reflector Foil | RQ100BA |
| Smallest Recognizable Part | see table 2 |
| Switching Hysteresis | < 10 % |
| Light Source | LED, red |
| Polarization Filter | yes |
| Service Life (T = +25 °C) | 100000 h |
| Max. Ambient Light | 10000 Lux |
| Light Spot Diameter | see table 1 |
| Optics | Two-Lens Optic |
| Optical axis | Aligned |
| Switching point | Calibrated |

| Electrical Data | |
|---|---|
| Supply Voltage | 10...30 V DC |
| Supply Voltage with IO-Link | 18...30 V DC |
| Current Consumption (Ub = 24 V) | < 20 mA |
| Switching Frequency | 2000 Hz |
| Switching frequency (speed mode) | 3500 Hz |
| Response Time | 0.25 ms |
| Response time (speed mode) | 0.14 ms |
| Temperature Drift | < 10 % |
| Temperature Range | -30...60 °C |
| Switching Output Voltage Drop | < 2 V |
| 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 |
| Interface | IO-Link V1.1 |
| Protection Class | III |

| Mechanical Data | |
|---|---|
| Setting Method | Potentiometer |
| Housing Material | Plastic, ABS/PC |
| Degree of Protection | IP65 |
| Connection Type | 1 plug with cable |
| Connection | M8 × 1; 4-pin |
| Cable length (L) | 600 mm |
| Cable Jacket Material | Plastic, PVC |
| Optic Cover | Plastic, PMMA |

| Safety-relevant Data | |
|---|---|
| MTTFd (EN ISO 13849-1) | 2808.97 a |

| General Data | |
|---|---|
| Scope of delivery | 1 × initial start-up instructions<br>1 × sensor |

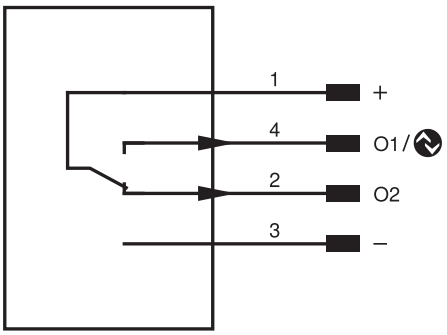
| Adjustable parameters | |
|---|---|
| Output | Push-pull<br>NPN<br>PNP |
| Circuit | NC<br>NO<br>inactive<br>Error output<br>NC+NO |
| Other parameters | Off-delay<br>On-delay<br>Mode of operation<br>Hysteresis<br>Emitted light<br>Switching point |

All other parameters can be found in the product documentation.

* Temperature range with permanently installed cable, bending radius: > 15 mm

| 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 | Switching Output 2 | PNP | Antivalent |
| 3 | Supply voltage 0 V | | |
| 4 | Switching Output 1 IO-Link | PNP | NO |

| Table 1 | | | |
|---|---|---|---|
| Working Distance | 0,2 m | 2 m | 5 m |
| Light Spot Diameter | 30 mm | 180 mm | 400 mm |

| Table 2 | | | |
|---|---|---|---|
| Distance, Sensor to Reflector | 1 m | 2,5 m | 5 m |
| Smallest Recognizable Part | 10 mm | 20 mm | 30 mm |

| Reflector data | |
|---|---|
| RQ100BA | 0.01...5 m |
| RE18040BA | 0.01...4.5 m |
| RQ84BA | 0.01...4.5 m |
| RR84BA | 0.01...4.5 m |
| RE9538BA | 0.01...2 m |
| RE6151BM | 0.01...3.5 m |
| RR50_A | 0.01...3 m |
| RE6040BA | 0.01...3.5 m |
| RE8222BA | 0.01...2.5 m |
| RR34_M | 0.01...1.6 m |
| RE3220BM | 0.01...1.5 m |
| RE6210BM | 0.01...1.5 m |
| RR25_M | 0.01...1.3 m |
| RR25KP | 0.01...0.8 m |
| RR21_M | 0.01...1.1 m |
| Z90R004 | 0.15...1.65 m |
| Z90R005 | 0.15...2.3 m |
| ZRAE02B01 | 0.01...2 m |
| ZRME01B01 | 0.01...0.9 m |
| ZRME03B01 | 0.01...1.6 m |
| ZRMR02K01 | 0.01...1 m |
| ZRMS02_01 | 0.01...1 m |
| RF505 | 0.02...1.9 m |
| RF508 | 0.02...1.7 m |
| RF258 | 0.02...1.4 m |
| ZRDF03K01 | 0.03...3 m |
| ZRDF10K01 | 0.03...3.5 m |

Reflector type, mounting distance