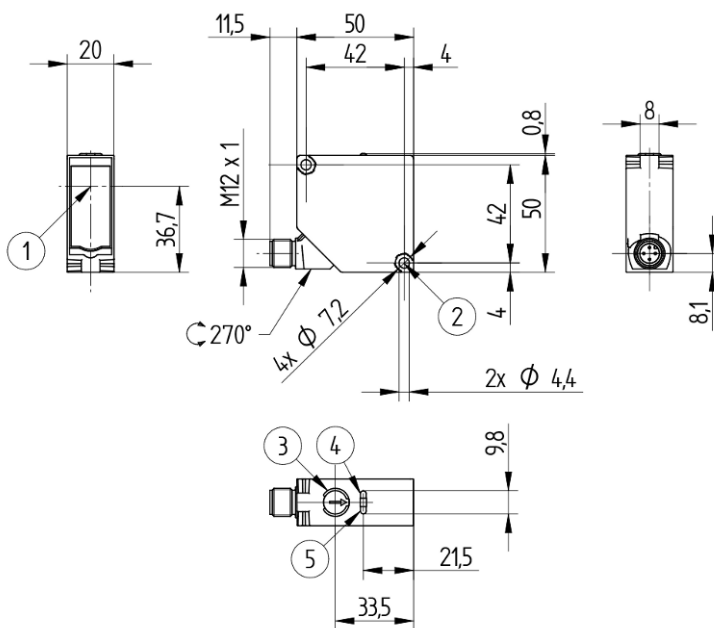


## Technical Data

### P1PK101

### Retro-Reflex Sensor

for Transparent Objects



| Symbol | Key                                              |
|--------|--------------------------------------------------|
| 1      | Optical axis                                     |
| 2      | Wrench width 7                                   |
| 3      | Switching distance adjuster                      |
| 4      | Power LED                                        |
| 5      | Switching status indicator/contamination warning |

EN



## Technical data

| Optical Data                       |                   |
|------------------------------------|-------------------|
| Range                              | 2600 mm           |
| Reference Reflector/Reflector Foil | RQ100BA           |
| Clear Glass Recognition            | yes               |
| Smallest Recognizable Part         | see table 2       |
| Switching Hysteresis               | < 5 %             |
| 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                             | Single-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 (U <sub>b</sub> = 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                           | < 3 %        |
| Temperature Range                           | -40...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          |
| Interface                                   | IO-Link V1.1 |
| Protection Class                            | III          |

| Mechanical Data      |                 |
|----------------------|-----------------|
| Setting Method       | Potentiometer   |
| Housing Material     | Plastic, ABS/PC |
| Degree of Protection | IP67<br>IP68    |
| Connection Type      | Plug variant    |
| Connection           | M12 × 1; 4-pin  |
| Optic Cover          | Plastic, PMMA   |

| Safety-relevant Data   |          |
|------------------------|----------|
| MTTFd (EN ISO 13849-1) | 2394.2 a |

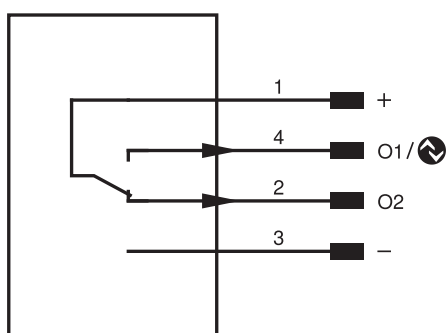
| General Data      |                                                                             |
|-------------------|-----------------------------------------------------------------------------|
| Scope of delivery | 1 × Z1PE002 mounting set<br>1 × initial start-up instructions<br>1 × sensor |

| 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>Switching point<br>Emitted light |

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

| Table 1             |       |       |       |
|---------------------|-------|-------|-------|
| Working Distance    | 0,5 m | 1,3 m | 2,6 m |
| Light Spot Diameter | 30 mm | 45 mm | 80 mm |

**Table 2**

|                               |        |       |       |
|-------------------------------|--------|-------|-------|
| Distance, Sensor to Reflector | 0,5 m  | 1,3 m | 2,6 m |
| Smallest Recognizable Part    | 1,5 mm | 4 mm  | 15 mm |

**Reflector data**

|           |            |
|-----------|------------|
| RQ100BA   | 0...2.6 m  |
| RE18040BA | 0...1.5 m  |
| RQ84BA    | 0...1.8 m  |
| RR84BA    | 0...2.2 m  |
| RE9538BA  | 0...0.85 m |
| RE6151BM  | 0...2 m    |
| RR50_A    | 0...1.55 m |
| RE6040BA  | 0...1.8 m  |
| RE8222BA  | 0...1.1 m  |
| RR34_M    | 0...1.2 m  |
| RE3220BM  | 0...0.9 m  |
| RE6210BM  | 0...0.5 m  |
| RR25_M    | 0...0.65 m |
| RR25KP    | 0...0.35 m |
| RR21_M    | 0...0.65 m |
| ZRAE02B01 | 0...0.9 m  |
| ZRME01B01 | 0...0.25 m |
| ZRME03B01 | 0...1.1 m  |
| ZRMR02K01 | 0...0.3 m  |
| ZRMS02_01 | 0...0.5 m  |
| RF505     | 0...0.4 m  |
| RF508     | 0...0.4 m  |
| RF258     | 0...0.4 m  |
| ZRAF07K01 | 0...0.4 m  |
| ZRAF08K01 | 0...0.4 m  |
| ZRDF03K01 | 0...1.3 m  |
| ZRDF10K01 | 0...1.4 m  |

Reflector type, mounting distance