

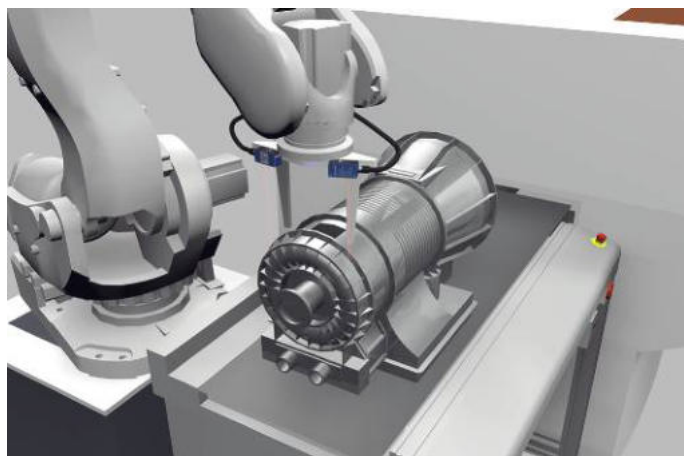
Reflex Sensor with Background Suppression

P1KH030 LASER



- Condition monitoring
- Detect extremely small parts starting at 0.1 mm
- High switching frequency
- IO-Link 1.1

The reflex sensor with background suppression works with laser light according to the angle measurement principle and is designed to detect objects against any background. The sensor always has the same switching distance, regardless of the color, shape and surface of the objects. The fine laser beam means that even the smallest parts, starting at 0.1 mm in size, can be reliably detected. The IO-Link interface can be used to configure the reflex sensors (PNP/NPN, NC/NO, switching distance), as well as for reading out switching statuses and distance values.



Optical Data

| | |
|---------------------------|-------------|
| Range | 120 mm |
| Adjustable Range | 30...120 mm |
| Switching Hysteresis | < 10 % |
| Light Source | Laser (red) |
| Wavelength | 655 nm |
| Service Life (T = +25 °C) | 100000 h |
| Laser Class (EN 60825-1) | 2 |
| Max. Ambient Light | 10000 Lux |
| Light Spot Diameter | see Table 1 |

Electrical Data

| | |
|--|--------------|
| Supply Voltage | 10...30 V DC |
| Supply Voltage with IO-Link | 18...30 V DC |
| Current Consumption (U _b = 24 V) | < 15 mA |
| Switching Frequency | 2000 Hz |
| Switching Frequency (interference-free mode) | 1000 Hz |
| Response Time | 0,25 ms |
| Response time (interference-free mode) | 0,5 ms |
| Temperature Drift | < 5 % |
| 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 and Overload Protection | yes |
| Reverse Polarity Protection | yes |
| Lockable | yes |
| Interface | IO-Link V1.1 |
| Protection Class | III |
| FDA Accession Number | 1710987-000 |

Mechanical Data

| | |
|----------------------|---------------|
| Setting Method | Potentiometer |
| Housing Material | Plastic |
| Degree of Protection | IP67/IP68 |
| Connection | M8 × 1; 4-pin |
| Optic Cover | PMMA |

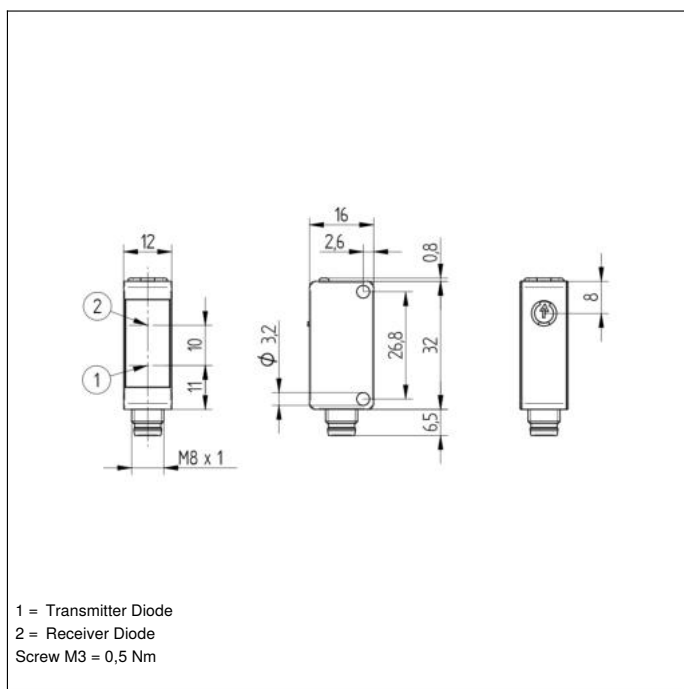
Safety-relevant Data

| | |
|------------------------|-----------|
| MTTFd (EN ISO 13849-1) | 1641,23 a |
|------------------------|-----------|

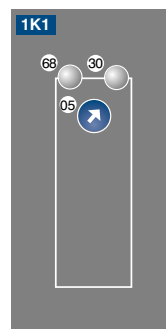
| | |
|-----------------------------------|-----|
| NPN NO/NC antivalent | ● |
| IO-Link | ● |
| Connection Diagram No. | 213 |
| Control Panel No. | 1K1 |
| Suitable Connection Equipment No. | 7 |
| Suitable Mounting Technology No. | 400 |

Complementary Products

| |
|----------------|
| IO-Link Master |
| Software |



Ctrl. Panel



05 = Switching Distance Adjuster
30 = Switching Status/Contamination Warning
68 = Supply Voltage Indicator

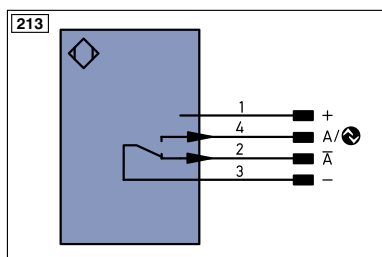
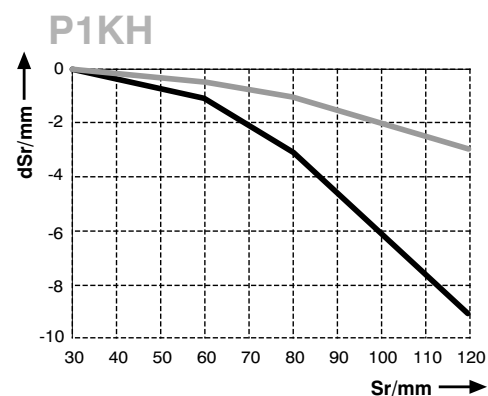


Table 1

| Detection Range | 40 mm | 80 mm | 120 mm |
|---------------------|--------|--------|--------|
| Light Spot Diameter | 2,5 mm | 1,5 mm | 1 mm |

Switching Distance Deviation

Typical characteristic curve based on white, 90 % remission



Sr = Switching Distance

dSr = Switching Distance Change

— black 6 % remission

— grey 18 % remission

