

Reflex Sensor with Background Suppression

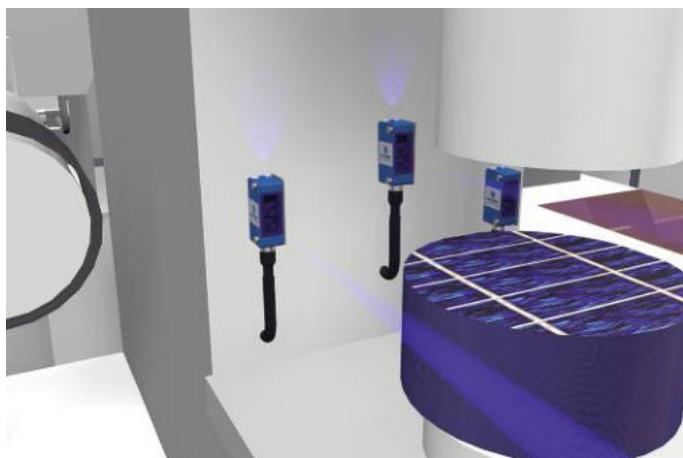
P1KH019

PNG//smart



- Blue light for dark, shiny objects
- Condition monitoring
- IO-Link 1.1
- Reliably detect objects against any background

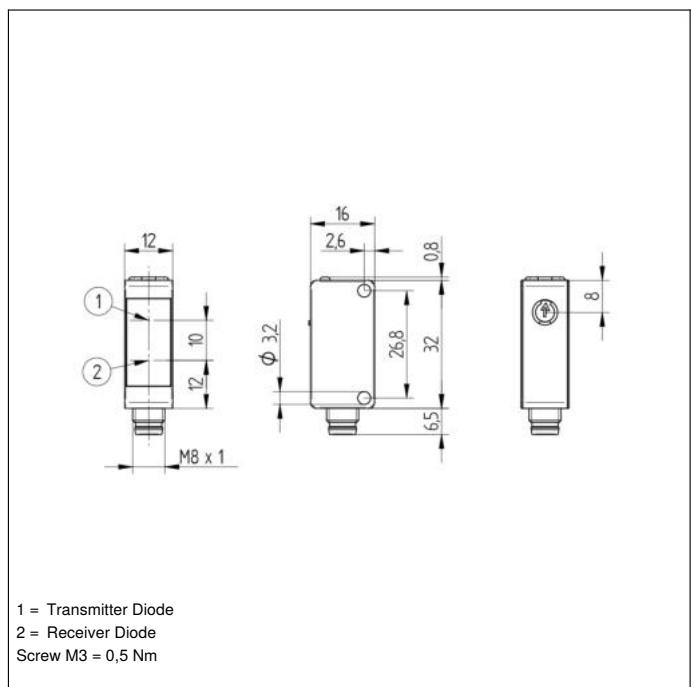
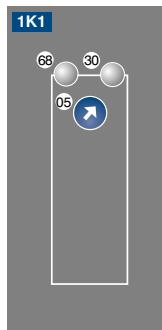
The reflex sensor with background suppression works with blue light according to the angle measurement principle and is designed to detect objects against any background. The sensor always has the same switching distance, regardless of the color, shape and surface of the objects. The reflect sensor with blue light is specially designed for applications with dark shiny objects, such as when manufacturing solar wafers. 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.



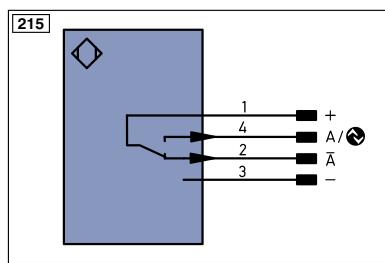
| Optical Data | |
|--|---------------|
| Range | 150 mm |
| Adjustable Range | 30...150 mm |
| Switching Hysteresis | < 10 % |
| Light Source | Blue Light |
| Service Life (T = +25 °C) | 100000 h |
| Risk Group (EN 62471) | 1 |
| Max. Ambient Light | 10000 Lux |
| Light Spot Diameter | see Table 1 |
| Electrical Data | |
| Supply Voltage | 10...30 V DC |
| Supply Voltage with IO-Link | 18...30 V DC |
| Current Consumption (Ub = 24 V) | < 20 mA |
| Switching Frequency | 1000 Hz |
| Switching Frequency (interference-free mode) | 500 Hz |
| Response Time | 0,5 ms |
| Response time (interference-free mode) | 1 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 |
| Mechanical Data | |
| Setting Method | Potentiometer |
| Housing Material | Plastic |
| Degree of Protection | IP67/IP68 |
| Connection | M8 x 1; 4-pin |
| Optic Cover | PMMA |
| Safety-relevant Data | |
| MTTFd (EN ISO 13849-1) | 1717,03 a |
| PNP NO/NC antivalent | ● |
| IO-Link | ● |
| Connection Diagram No. | 215 |
| Control Panel No. | 1K1 |
| Suitable Connection Equipment No. | 7 |
| Suitable Mounting Technology No. | 400 |

Complementary Products

IO-Link Master
Software


Ctrl. Panel


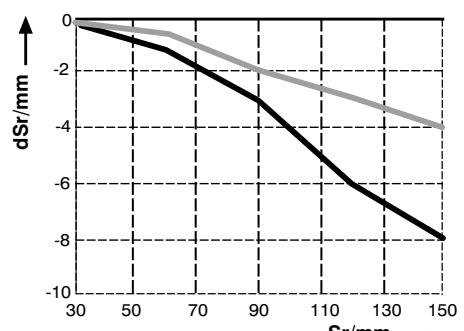
05 = Switching Distance Adjuster
30 = Switching Status/Contamination Warning
68 = Supply Voltage Indicator


Table 1

| Detection Range | 50 mm | 100 mm | 150 mm |
|---------------------|-------|--------|--------|
| Light Spot Diameter | 4 mm | 6 mm | 10 mm |

Switching Distance Deviation

Typical characteristic curve based on white, 90 % remission

P1KH BLUE


Sr = Switching Distance

dSr = Switching Distance Change

black 6 % remission
grey 18 % remission

