

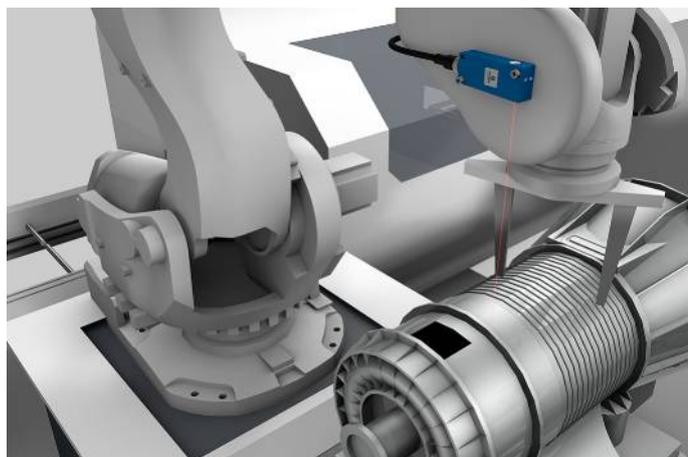
# Reflex Sensor with Background Suppression

## P1NH802 LASER



- Collimated laser beam
- Condition monitoring
- IO-Link 1.1
- Laser class 1

The reflex sensor with background suppression works with red light according to the angle measurement principle and is suitable for the detection of objects against any background. The sensor always has the same switching distance, regardless of the color, shape and surface of the objects. Minimal height differences can be detected with the sensors and, for example, various parts can be reliably differentiated from each other. The IO-Link interface can be used to configure the reflex sensors (PNP/NPN, NC/NO), as well as for reading out switching statuses.



### Optical Data

Range	400 mm
Adjustable Range	65...400 mm
Switching Hysteresis	< 1 %
Light Source	Laser (red)
Wavelength	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	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 (U <sub>b</sub> = 24 V)	< 15 mA
Switching Frequency	600 Hz
Switching Frequency (interference-free mode)	300 Hz
Response Time	0,83 ms
Response time (interference-free mode)	1,7 ms
Temperature Drift	< 2 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2 V
Switching Output/Switching Current	100 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Interface	IO-Link V1.1
Protection Class	III

### Mechanical Data

Setting Method	Single-turn
Housing Material	Plastic
Degree of Protection	IP67/IP68
Connection	M12 × 1; 4-pin
Optic Cover	PMMA

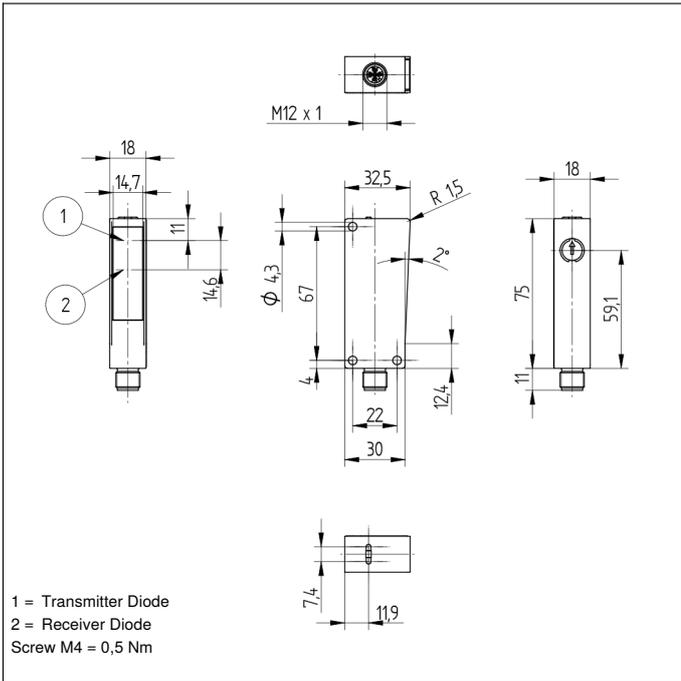
### Safety-relevant Data

MTTFd (EN ISO 13849-1)	2096,76 a
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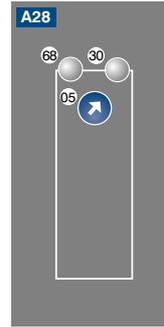
PNP NO/NC antivalent	●
IO-Link	●
Connection Diagram No.	<b>215</b>
Control Panel No.	<b>A28</b>
Suitable Connection Equipment No.	<b>2</b>
Suitable Mounting Technology No.	<b>350</b>

### Complementary Products

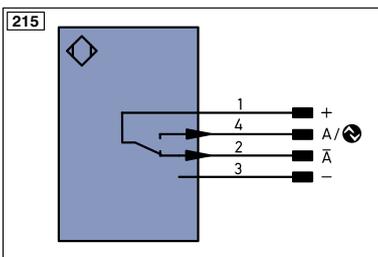
Dust Extraction Tube STAUBTUBUS-03
IO-Link Master
Set Protective Housing Z1NS001
Software



### Ctrl. Panel



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

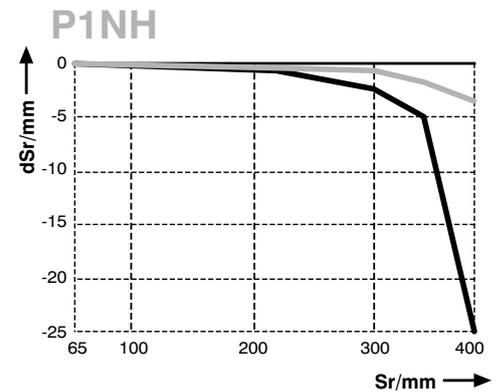


**Table 1**

Detection Range	60 mm	200 mm	400 mm
Light Spot Diameter	3 mm	3 mm	3 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

