

Reflex Sensor with Background Suppression

P1NH701 LASER



- Condition monitoring
- IO-Link 1.1
- Laser class 1
- Recognition of small parts

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	300 mm
Adjustable Range	65...300 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 _b = 24 V)	< 15 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	< 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

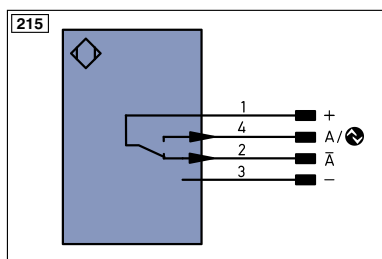
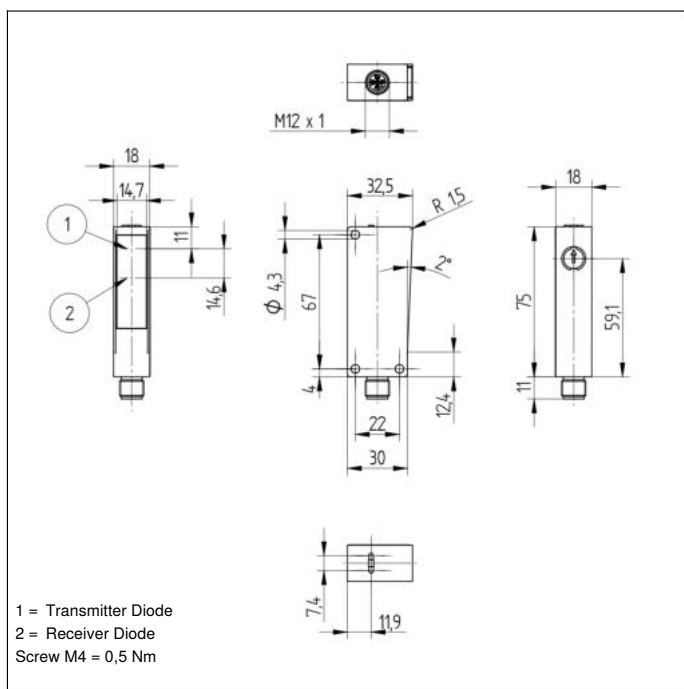
Setting Method	Single-turn
Housing Material	Plastic
Degree of Protection	IP67/IP68
Connection	M12 × 1; 4-pin
Optic Cover	PMMA

Safety-relevant Data

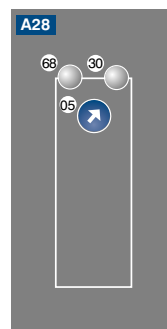
MTTFd (EN ISO 13849-1)	2096,76 a
PNP NO/NC antivalent	●
IO-Link	●
Connection Diagram No.	215
Control Panel No.	A28
Suitable Connection Equipment No.	2
Suitable Mounting Technology No.	350

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	65 mm	150 mm	300 mm
Light Spot Diameter	3 mm	2,5 mm	1,5 mm

Switching Distance Deviation

Typical characteristic curve based on white, 90 % remission

