

# Reflex Sensor with Background Suppression

## P1KH024



- Data storage
- High-end
- IO-Link 1.1
- Teach-in
- Two independent switching outputs

The reflex sensor with background suppression works with red light according to the angle measurement principle. It has a IO-Link interface with a data storage function as well as additional configuration and diagnostic options. The interface can also be used to configure the sensors (PNP/NPN, NC/NO, switching distance, error output), as well as for reading out switching statuses and distance values. The teach-in function also provides another configuration option. Two independent switching outputs can be used, for instance, to monitor minimum and maximum values of distances or fill levels and stack heights.



### Optical Data

Range	200 mm
Adjustable Range	30...200 mm
Switching Hysteresis	< 10 %
Light Source	Red Light
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1

### Electrical Data

Supply Voltage	15...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 20 mA
Switching Frequency	100 Hz
Switching Frequency (1 Switching Output)	1000 Hz
Response Time	5 ms
Response time (1 switching output)	0,5 ms
Temperature Drift	< 5 %
Temperature Range	-40...60 °C
Number of Switching Outputs	2
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
Data Storage	yes
Protection Class	III

### Mechanical Data

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

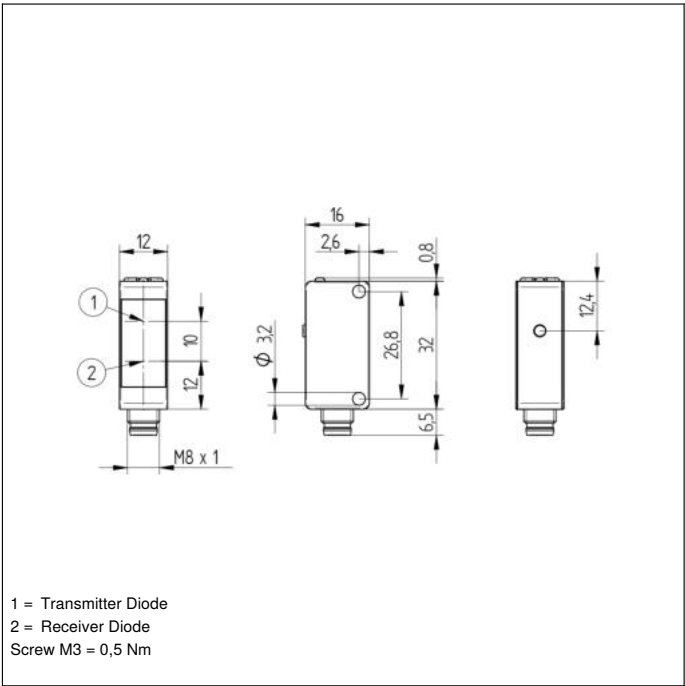
### Safety-relevant Data

MTTFd (EN ISO 13849-1)	1511,45 a
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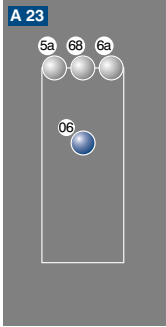
NPN NO	●
IO-Link	●
Connection Diagram No.	221
Control Panel No.	A23
Suitable Connection Equipment No.	7
Suitable Mounting Technology No.	400

### Complementary Products

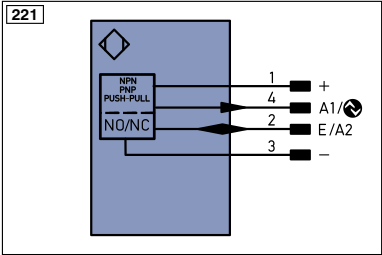
IO-Link Master



### Ctrl. Panel



06 = Teach Button  
5a = Switching Status Display, O1  
68 = Supply Voltage Indicator  
6a = Switching Status Display, O2



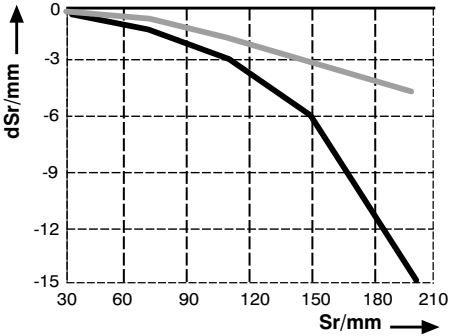
**Table 1**

Detection Range	30 mm	120 mm	200 mm
Light Spot Diameter	9 mm	7 mm	10 mm

### Switching Distance Deviation

Typical characteristic curve based on white, 90 % remission

**P1KH**



Sr = Switching Distance  
dSr = Switching Distance Change  
— black 6 % remission  
— grey 18 % remission

