Reflex Sensor
with Background Suppression

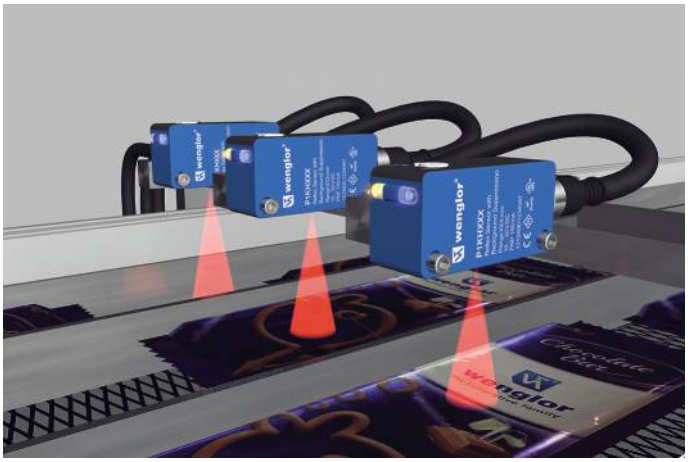
P1KH033

PNG smart



- **Condition monitoring**
- **IO-Link 1.1**
- **Low switching distance deviation for black/white**
- **Reliably detect objects against any background**

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	30...300 mm
Switching Hysteresis	< 5 %
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	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 (0 °C < Tu < 40 °C)	< 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	Multi-turn
Housing Material	Plastic
Degree of Protection	IP67/IP68
Connection	Cable, 4-wire, 2 m
Cable Length	2 m
Optic Cover	PMMA
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	2035,82 a
PNP NO/NC antivalent	●
IO-Link	●
Connection Diagram No.	214
Control Panel No.	1K3
Suitable Connection Equipment No.	2
Suitable Mounting Technology No.	400

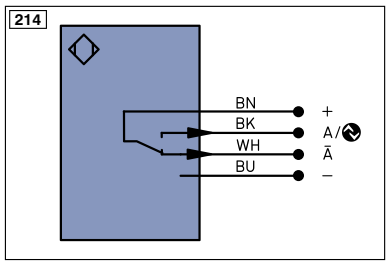
* See operating instructions for further information

* Temperature range with permanently installed cable, bending radius: > 40 mm

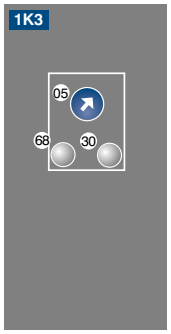
Complementary Products

IO-Link Master
Software

Screw M3 = 0,5 Nm



Ctrl. Panel



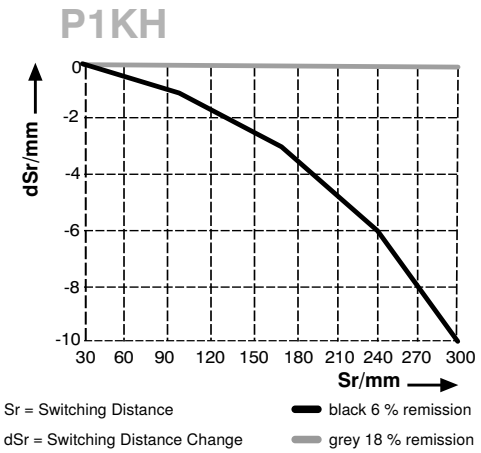
05 = Switching Distance Adjuster
30 = Switching Status/Contamination Warning
68 = Supply Voltage Indicator

Table 1

Detection Range	30 mm	130 mm	300 mm
Light Spot Diameter	8 mm	7 mm	18 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