

# Reflex Sensor with Background Suppression

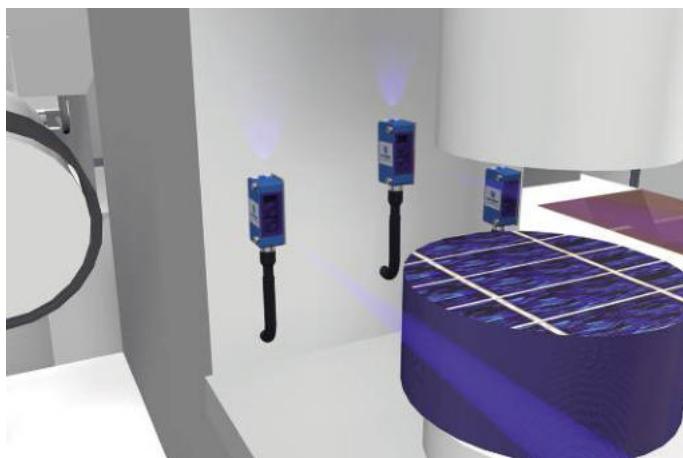
## P1KH022

PNG//smart



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

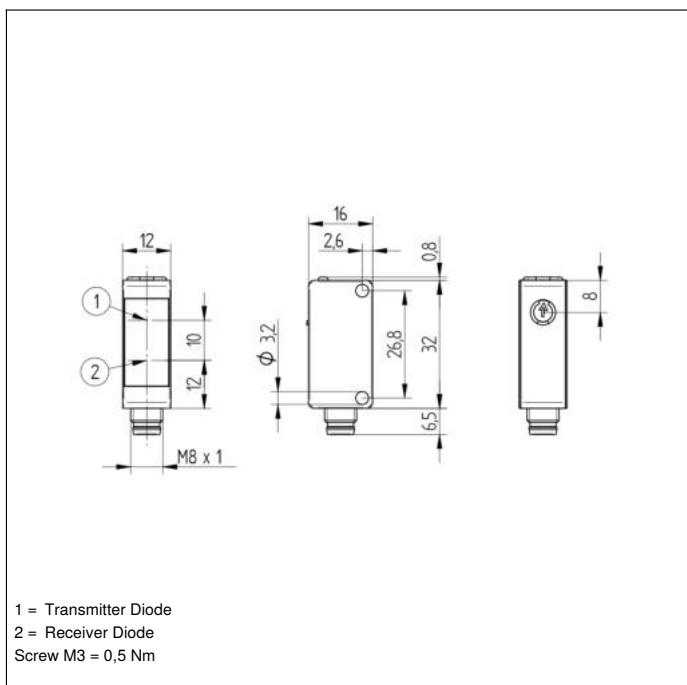
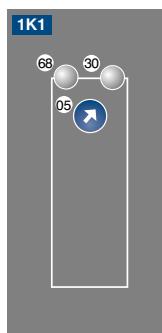
The reflex sensor with background suppression works with blue light according to the angle measurement principle and is designed to detect objects against any background. The sensor always has the same switching distance, regardless of the color, shape and surface of the objects. The reflect sensor with 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.



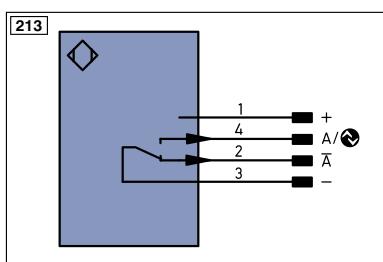
Optical Data	
Range	150 mm
Adjustable Range	30...150 mm
Switching Hysteresis	< 10 %
Light Source	Blue Light
Service Life (T = +25 °C)	100000 h
Risk Group (EN 62471)	1
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1
Electrical Data	
Supply Voltage	10...30 V DC
Supply Voltage with IO-Link	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
NPN NO/NC antivalent	●
IO-Link	●
Connection Diagram No.	213
Control Panel No.	1K1
Suitable Connection Equipment No.	7
Suitable Mounting Technology No.	400

### Complementary Products

IO-Link Master  
Software


**Ctrl. Panel**


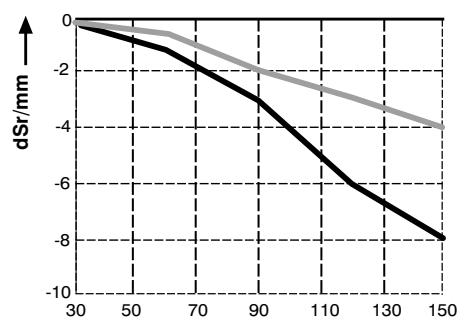
05 = Switching Distance Adjuster  
30 = Switching Status/Contamination Warning  
68 = Supply Voltage Indicator


**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

