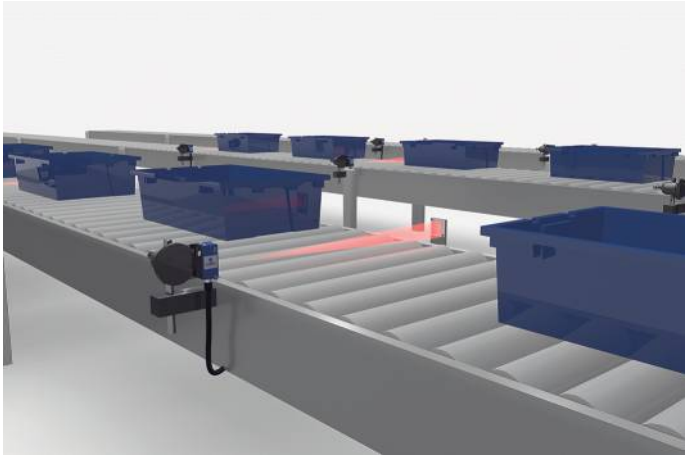
Retro-Reflex Sensor

P1KL003

PNG smart

- **Also suitable for glossy and reflective objects**
- **Condition monitoring**
- **High switching frequency**
- **IO-Link 1.1**

The retro-reflex sensor works with red light and a reflector. It also reliably detects objects with reflective or glossy surfaces at high speeds. Thanks to its great range, the sensor can, for example, be used to manage feed and presence controls as well as to detect objects on wide feed belts. The IO-Link interface can be used to configure retro-reflective barriers (PNP/NPN, NC/NO, switching distance), as well as for reading out switching statuses and signal values.

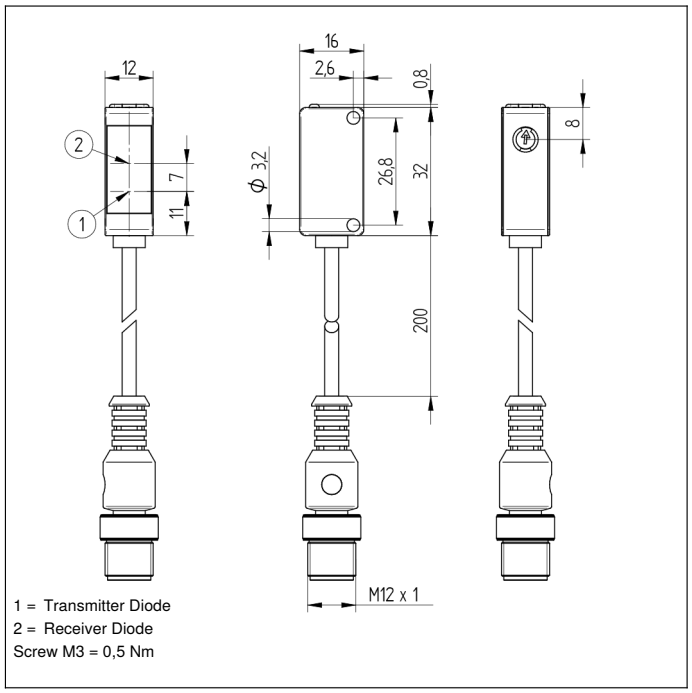


Optical Data	
Range	5000 mm
Reference Reflector/Reflector Foil	RQ100BA
Smallest Recognizable Part	see Table 2
Switching Hysteresis	< 10 %
Light Source	Red Light
Polarization Filter	yes
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1
Two-Lens Optic	yes
Electrical 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	2000 Hz
Switching frequency (speed mode)	3500 Hz
Response Time	0,25 ms
Response time (speed mode)	0,14 ms
Temperature Drift	< 10 %
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	M12 × 1; 4-pin
Cable Length	20 cm
Optic Cover	PMMA
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	2808,97 a
IO-Link	●
PNP NO/NC antivalent	●
Connection Diagram No.	215
Control Panel No.	1K1
Suitable Connection Equipment No.	2
Suitable Mounting Technology No.	400

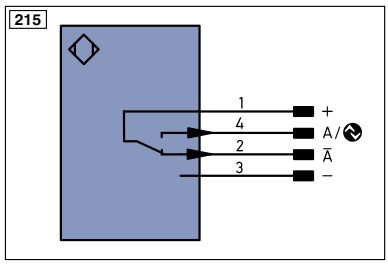
* Temperature range with permanently installed cable, bending radius: > 20 mm

Complementary Products

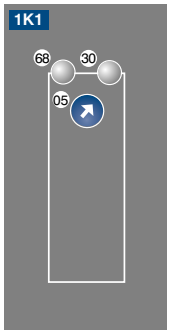
IO-Link Master
Reflector, Reflector Foil
Software



1 = Transmitter Diode
2 = Receiver Diode
Screw M3 = 0,5 Nm



Ctrl. Panel



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

Table 1

Working Distance	0,2 m	2 m	5 m
Light Spot Diameter	30 mm	180 mm	400 mm

Table 2

Distance, Sensor to Reflector	1 m	2,5 m	5 m
Smallest Recognizable Part	10 mm	20 mm	30 mm

Feasible reflector distance

Reflector type, mounting distance

RQ100BA	0,01...5 m	RR25KP	0,01...0,8 m
RE18040BA	0,01...4,5 m	RR21_M	0,01...1,1 m
RQ84BA	0,01...4,5 m	ZRAE02B01	0,01...2 m
RR84BA	0,01...4,5 m	ZRME01B01	0,01...0,9 m
RE9538BA	0,01...2 m	ZRME03B01	0,01...1,6 m
RE6151BM	0,01...3,5 m	ZRMR02K01	0,01...1 m
RR50_A	0,01...3 m	ZRMS02_01	0,01...1 m
RE6040BA	0,01...3,5 m	RF505	0,02...1,9 m
RE8222BA	0,01...2,5 m	RF508	0,02...1,7 m
RR34_M	0,01...0,6 m	RF258	0,02...1,4 m
RE3220BM	0,01...1,5 m	ZRDF03K01	0,03...3 m
RE6210BM	0,01...1,5 m	ZRDF10K01	0,03...3,5 m
RR25_M	0,01...1,3 m		