Reflex Sensor

P1KT003

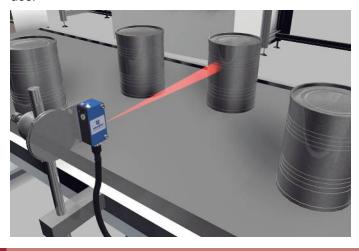
Part Number





- Condition monitoring
- High switching frequency
- IO-Link 1.1
- Large detection range

The reflex sensor works with red light according to the principle of energy and is designed to detect objects without a background. The switching distance is set for a given object. Note that: Bright objects reflect transmitted light better than dark objects. Dark (matte) objects can also be differentiated from bright (glossy) objects. This means that presence or stack height checks can be conducted or counting tasks carried out. 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.



Technical Data

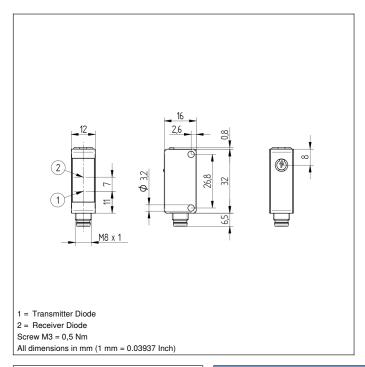
Range 700 mm Switching Hysteresis < 10 % Light Source Red Light Service Life (T = +25 °C) 100000 h Max. Ambient Light 100000 Lux Light Spot Diameter see Table Electrical Data 1030 V DC Supply Voltage with IO-Link 1830 V DC Current Consumption (Ub = 24 V) < 20 mA Switching Frequency 500 Hz Switching Frequency (speed mode) 1000 Hz Response Time 1 ms Response time (speed mode) 0,5 ms Temperature Drift < 10 % Temperature Range -4060 °C Switching Output Voltage Drop < 2 V Switching Output Voltage Drop < 2 V Switching Output/Switching Current 100 mA Residual Current Switching Output < 50 µA Short Circuit and Overload Protection yes Lockable yes Interface IO-Link V1.1 Protection Class III Mechanical Data Setting Method Potentiometer	Optical Data				
Light Source Red Light Service Life (T = +25 °C) 100000 h Max. Ambient Light 10000 Lux Light Spot Diameter see Table Electrical Data 1030 V DC Supply Voltage with IO-Link 1830 V DC Current Consumption (Ub = 24 V) < 20 mA	Range	700 mm			
Service Life (T = +25 °C) 100000 h Max. Ambient Light 10000 Lux Light Spot Diameter see Table Electrical Data 1030 V DC Supply Voltage with IO-Link 1830 V DC Current Consumption (Ub = 24 V) < 20 mA	Switching Hysteresis	< 10 %			
Max. Ambient Light 10000 Lux Light Spot Diameter see Table Electrical Data 1030 V DC Supply Voltage with IO-Link 1830 V DC Current Consumption (Ub = 24 V) < 20 mA	Light Source	Red Light			
Light Spot Diameter see Table Electrical Data Supply Voltage 1030 V DC Supply Voltage with IO-Link 1830 V DC Current Consumption (Ub = 24 V) < 20 mA	Service Life (T = +25 °C)	100000 h			
Electrical Data Supply Voltage 1030 V DC Supply Voltage with IO-Link 1830 V DC Current Consumption (Ub = 24 V) < 20 mA	Max. Ambient Light	10000 Lux			
Supply Voltage	Light Spot Diameter	see Table			
Supply Voltage with IO-Link Current Consumption (Ub = 24 V) Switching Frequency Switching Frequency (speed mode) Response Time Response time (speed mode) Temperature Drift Temperature Range Switching Output Voltage Drop Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Lockable Interface Interfa	Electrical Data				
Current Consumption (Ub = 24 V) < 20 mA Switching Frequency 500 Hz Switching frequency (speed mode) 1000 Hz Response Time 1 ms Response time (speed mode) 0,5 ms Temperature Drift < 10 % Temperature Range -4060 °C Switching Output Voltage Drop < 2 V Switching Output Voltage Drop < 50 µA Short Circuit and Overload Protection yes Interface Polarity Protection yes Interface IO-Link V1.1 Protection Class III Mechanical Data Setting Method Potentiometer Housing Material Plastic Degree of Protection IP67/IP68 Connection M8 × 1; 4-pin Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) 2630,72 a IO-Link NPN NO/NC antivalent Connection Diagram No. 213 Control Panel No. 1K1 Suitable Connection Equipment No. 7	Supply Voltage	1030 V DC			
Switching Frequency Switching frequency (speed mode) Response Time Response time (speed mode) Temperature Drift Temperature Range -4060 °C Switching Output Voltage Drop Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Lockable Interface Interface Interface Interface Interface Retain All Bestice Setting Method Potentiometer Housing Material Degree of Protection Protection Safety-relevant Data MTTFd (EN ISO 13849-1) Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Supply Voltage with IO-Link	1830 V DC			
Switching frequency (speed mode) Response Time Response time (speed mode) Temperature Drift Temperature Prift Zefange Switching Output Voltage Drop Switching Output Voltage Drop Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Lockable Interface Interf	Current Consumption (Ub = 24 V)	< 20 mA			
Response Time	Switching Frequency	500 Hz			
Response time (speed mode) 0,5 ms Temperature Drift < 10 %	Switching frequency (speed mode)	1000 Hz			
Temperature Drift Temperature Range Switching Output Voltage Drop Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Lockable Interface I	Response Time	1 ms			
Temperature Range -4060 °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 × 1; 4-pin Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) 2630,72 a IO-Link NPN NO/NC antivalent Connection Diagram No. 213 Control Panel No. 1K1 Suitable Connection Equipment No. 7	Response time (speed mode)	0,5 ms			
Switching Output Voltage Drop Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Lockable Interface Interfa	Temperature Drift	< 10 %			
Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Lockable Interface Inter	Temperature Range	-4060 °C			
Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Lockable Interface Interfac	Switching Output Voltage Drop	< 2 V			
Short Circuit and Overload Protection Reverse Polarity Protection Lockable Interface	Switching Output/Switching Current	ut/Switching Current 100 mA			
Reverse Polarity Protection Lockable Interface Inter	Residual Current Switching Output	< 50 μA			
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 × 1; 4-pin Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) 2630,72 a IO-Link NPN NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 7	Short Circuit and Overload Protection	yes			
Interface IO-Link V1.1 Protection Class III Mechanical Data Setting Method Potentiometer Housing Material Plastic Degree of Protection IP67/IP68 Connection M8 × 1; 4-pin Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) 2630,72 a IO-Link NPN NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 7	Reverse Polarity Protection	yes			
Protection Class Mechanical Data Setting Method Potentiometer Housing Material Plastic Degree of Protection IP67/IP68 Connection M8 × 1; 4-pin Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) 2630,72 a IO-Link NPN NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 7	Lockable	yes			
Mechanical Data Setting Method Potentiometer Housing Material Plastic Degree of Protection IP67/IP68 Connection M8 × 1; 4-pin Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) 2630,72 a IO-Link NPN NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 7	Interface	IO-Link V1.1			
Setting Method Potentiometer Housing Material Plastic Degree of Protection IP67/IP68 Connection M8 × 1; 4-pin Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) 2630,72 a IO-Link NPN NO/NC antivalent Connection Diagram No. 213 Control Panel No. 1K1 Suitable Connection Equipment No. 7	Protection Class	III			
Housing Material Plastic	Mechanical Data				
Degree of Protection IP67/IP68 Connection M8 × 1; 4-pin Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) 2630,72 a IO-Link IO-Link NPN NO/NC antivalent INO-Link Connection Diagram No. INO-Link Control Panel No. INI-Link Suitable Connection Equipment No. 7	Setting Method	Potentiometer			
Connection M8 × 1; 4-pin Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) 2630,72 a IO-Link IO-Link NPN NO/NC antivalent IO-Link Connection Diagram No. 213 Control Panel No. 1K1 Suitable Connection Equipment No. 7	Housing Material	Plastic			
Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) 2630,72 a IO-Link NPN NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 7	Degree of Protection	IP67/IP68			
Safety-relevant Data MTTFd (EN ISO 13849-1) IO-Link NPN NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 7	Connection	M8 × 1; 4-pin			
MTTFd (EN ISO 13849-1) IO-Link NPN NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 7	Optic Cover	PMMA			
IO-Link NPN NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 7	Safety-relevant Data				
NPN NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 7	MTTFd (EN ISO 13849-1)	2630,72 a			
Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 7	IO-Link				
Control Panel No. Suitable Connection Equipment No. 1K1 7	NPN NO/NC antivalent				
Suitable Connection Equipment No.	Connection Diagram No.	213			
	Control Panel No.	1K1			
Suitable Mounting Technology No. 400	Suitable Connection Equipment No.	7			
	Suitable Mounting Technology No.	400			

Complementary Products

IO-Link Master

Software



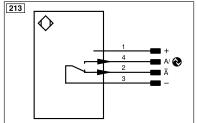


Ctrl. Panel

K



- 05 = Switching Distance Adjuster
- 30 = Switching Status/Contamination Warning
- 68 = supply voltage indicator



Legend					_	
+	Supply Voltage +	nc	Not connected	ENBRS422	Encoder B/B (TTL)	
-	Supply Voltage 0 V	U	Test Input	ENa	Encoder A	
~	Supply Voltage (AC Voltage)	0	Test Input inverted	ENB	Encoder B	
Д	Switching Output (NO)	W	Trigger Input	Amin	Digital output MIN	
Ā	Switching Output (NC)	W-	Ground for the Trigger Input	AMAX	Digital output MAX	
V	Contamination/Error Output (NO)	0	Analog Output	Аок	Digital output OK	
⊽	Contamination/Error Output (NC)	0-	Ground for the Analog Output	SY In	Synchronization In	
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT	
Γ	Teach Input	Аму	Valve Output	OLT	Brightness output	
Z	Time Delay (activation)	а	Valve Control Output +	M	Maintenance	
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved	
RxD	Interface Receive Path	SY	Synchronization	Wire Colo	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY-	Ground for the Synchronization	BK	Black	
RDY	Ready	E+	Receiver-Line	BN	Brown	
GND	Ground	S+	Emitter-Line	RD	Red	
CL	Clock	±	Grounding	OG	Orange	
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow	
3	IO-Link	Rx+/-	Ethernet Receive Path	GN	Green	
PoE	ower over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue	
N	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet	
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey	
Signal	Signal Output	Mag	Magnet activation	WH	White	
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink	
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow	
PT	Platinum measuring resistor	ENARS422	Encoder A/Ā (TTL)		•	

Table 1

Detection Range	100 mm	300 mm	700 mm
Light Spot Diameter	20 mm	40 mm	80 mm









