Reflex Sensor

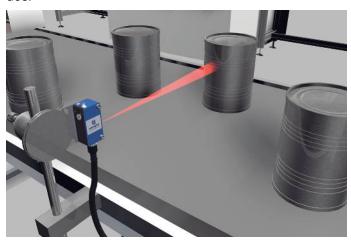
P1KT001

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.



PNG smart

Technical Data

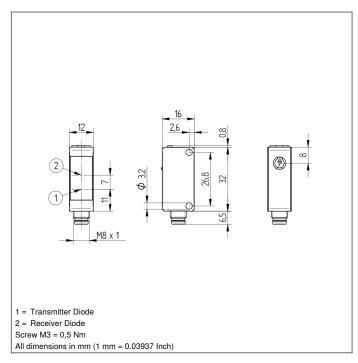
Range 700 mm Switching Hysteresis < 10 % Light Source Red Light Service Life (T = +25 °C) 100000 h Max. Ambient Light 10000 Lux see Table 1 Electrical Data Supply Voltage 1030 V DC Supply Voltage with IO-Link 1830 V DC Current Consumption (Ub = 24 V) 20 mA Switching Frequency 500 Hz Switching frequency (speed mode) 1000 Hz Response Time 1 nm Response time (speed mode) 0,5 ms Temperature Drift 10 mA Temperature Range -4060 °C Switching Output Voltage Drop 2 V Switching Output Voltage Drop 3 V Switching Output Voltage Drop 4 V Switching Output Voltage Drop 5 V Switching Output Voltage Drop 7 V Switching Output Voltage Drop 8 V Switching Output Voltage Drop 8 V Switching Output Voltage Drop 9 V Switching Output V	Optical Data			
Light Source Red Light Service Life (T = +25 °C) 100000 h Max. Ambient Light 10000 Lux Light Spot Diameter see Table 1 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 1 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 Light Spot Diameter See Table 1 Electrical Data Supply Voltage 1030 V DC Supply Voltage with IO-Link 1830 V DC Current Consumption (Ub = 24 V) Switching Frequency Switching Frequency Switching frequency (speed mode) Response Time 1 ms Response time (speed mode) Temperature Drift Temperature Pange -4060 ° C Switching Output Voltage Drop Switching Output Voltage Drop Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Lockable Interface	Light Source	Red Light		
Light Spot Diameter Electrical Data Supply Voltage 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 Short Circuit and Overload Protection Reverse Polarity Protection Lockable Interface Interface Interface Interface Interface Setting Method Potentiometer Housing Material Degree of Protection Connection Safety-relevant Data MTTFd (EN ISO 13849-1) Connection Equipment No. 20 mA 1030 V DC 1830 V DC 1830 V DC 20 mA 1830 V DC 20 mA 20 m	Service Life (T = +25 °C)	Ţ.		
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			
Supply Voltage Supply Voltage with IO-Link Supply Voltage with IO-Link Current Consumption (Ub = 24 V) Switching Frequency Switching Frequency Switching frequency (speed mode) Response Time Response time (speed mode) Temperature Drift Temperature Range Switching Output Voltage Drop Switching Output Voltage Drop Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Severse Polarity Protection Lockable Interface	Light Spot Diameter	see Table 1		
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/Switching Current 100 mA Residual Current Switching Output < 50 µA 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 PNP NO/NC antivalent Connection Diagram No. 215 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 Lockable Interface I	Supply Voltage with IO-Link	1830 V DC		
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 In	Current Consumption (Ub = 24 V)	< 20 mA		
Response Time	Switching Frequency	500 Hz		
Response time (speed mode) Temperature Drift 7 cmperature 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 Int	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 PNP NO/NC antivalent Connection Diagram No. 215 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	100 mA		
Reverse Polarity Protection Lockable Interface Interface Protection Class III Mechanical Data Setting Method Potentiometer Housing Material Degree of Protection IP67/IP68 Connection Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) IO-Link PNP NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	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 PNP NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	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 PNP NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	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 PNP 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 PNP 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 PNP NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Protection Class	III		
Housing Material Degree of Protection IP67/IP68 Connection Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) IO-Link PNP NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Mechanical Data			
Degree of Protection	Setting Method	Potentiometer		
Connection M8 x 1; 4-pin Optic Cover PMMA Safety-relevant Data MTTFd (EN ISO 13849-1) 2630,72 a IO-Link PNP NO/NC antivalent Connection Diagram No. 215 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 PNP NO/NC antivalent Connection Diagram No. 215 Control Panel No. 1K1 Suitable Connection Equipment No. 7	Degree of Protection	IP67/IP68		
Safety-relevant Data MTTFd (EN ISO 13849-1) IO-Link PNP 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 PNP NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 215 TK1 7	Optic Cover	PMMA		
IO-Link PNP NO/NC antivalent Connection Diagram No. Control Panel No. Suitable Connection Equipment No. Total	Safety-relevant Data			
PNP 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. 215 Control Panel No. 1K1 Suitable Connection Equipment No. 7	IO-Link			
Control Panel No. 1K1 Suitable Connection Equipment No. 7	PNP NO/NC antivalent			
Suitable Connection Equipment No.	Connection Diagram No.	215		
	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

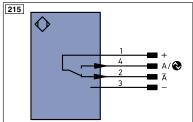




Ctrl. Panel



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



Leger	nd	PT	Platinum measuring resistor	ENARS422	Encoder A/Ā (TTL)
+	Supply Voltage +	nc	not connected	ENBRS422	Encoder B/B (TTL)
_	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	ENB	Encoder B
Α	Switching Output (NO)	W	Trigger Input	Amin	Digital output MIN
Ā	Switching Output (NC)	W -	Ground for the Trigger Input	Амах	Digital output MAX
V	Contamination/Error Output (NO)	0	Analog Output	Аок	Digital output OK
V	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
Т	Teach Input	Awv	Valve Output	OLT	Brightness output
Z	Time Delay (activation)	а	Valve Control Output +	М	Maintenance
S	Shielding	b	Valve Control Output 0 V	rsv	reserved
RxD	Interface Receive Path	SY	Synchronization	Wire Co	olors according to DIN IEC 757
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
•	IO-Link	Rx+/-	Ethernet Receive Path	GN	Green
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue
IN	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		Pink
ENors4	Encoder 0-pulse 0-0 (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow

Table 1

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











