

Reflex Sensor

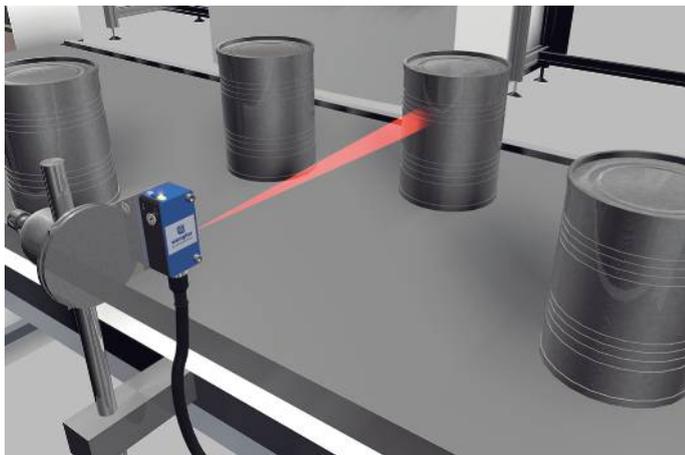
P1KT003

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

Optical Data	
Range	700 mm
Switching Hysteresis	< 10 %
Light Source	Red Light
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1

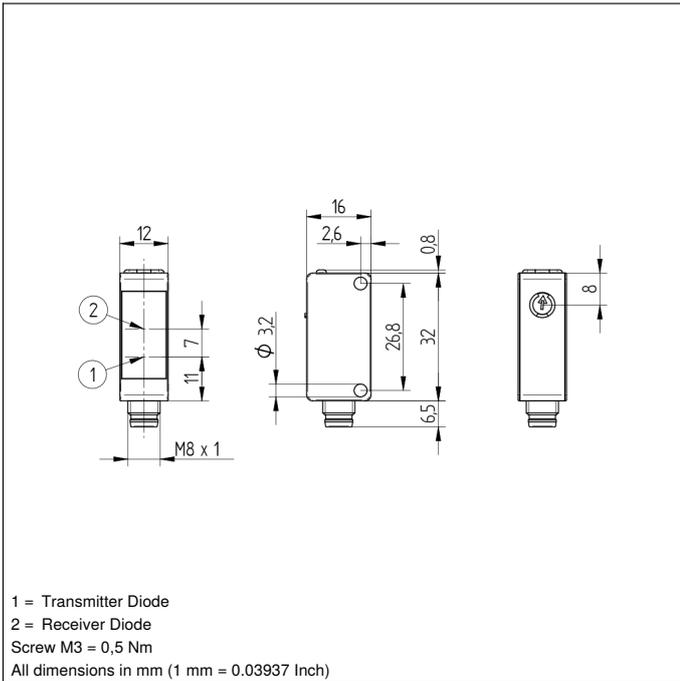
Electrical Data	
Supply Voltage	10...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (U _b = 24 V)	< 20 mA
Switching Frequency	500 Hz
Switching frequency (speed mode)	1000 Hz
Response Time	1 ms
Response time (speed mode)	0,5 ms
Temperature Drift	< 10 %
Temperature Range	-40...60 °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 × 1; 4-pin
Optic Cover	PMMA

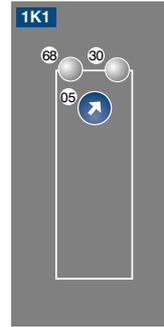
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	2630,72 a
IO-Link	●
NPN NO/NC antivalent	●
Connection Diagram No.	213
Control Panel No.	1K1
Suitable Connection Equipment No.	7
Suitable Mounting Technology No.	400

Complementary Products

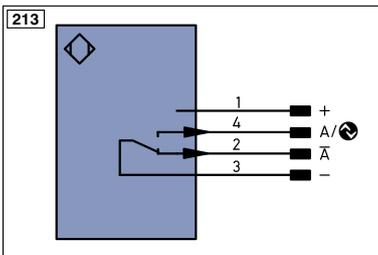
IO-Link Master Software



Ctrl. Panel



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



Legend			
+	Supply Voltage +	PT	Platinum measuring resistor
-	Supply Voltage 0 V	nc	not connected
~	Supply Voltage (AC Voltage)	U	Test Input
A	Switching Output (NO)	U	Test Input inverted
Ā	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input
V̄	Contamination/Error Output (NC)	O	Analog Output
E	Input (analog or digital)	O-	Ground for the Analog Output
T	Teach Input	BZ	Block Discharge
Z	Time Delay (activation)	AMV	Valve Output
S	Shielding	a	Valve Control Output +
RxD	Interface Receive Path	b	Valve Control Output 0 V
TxD	Interface Send Path	SY	Synchronization
RDY	Ready	SY-	Ground for the Synchronization
GND	Ground	E+	Receiver-Line
CL	Clock	S+	Emitter-Line
E/A	Output/Input programmable	±	Grounding
	IO-Link	SnR	Switching Distance Reduction
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path
IN	Safety Input	Tx+/-	Ethernet Send Path
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)
Signal	Signal Output	La	Emitted Light disengageable
BL-D +/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation
EN0	Encoder 0-pulse 0-0 (TTL)	RES	Input confirmation
		EDM	Contacting Monitoring
		EN ^{A/RS422}	Encoder A/Ā (TTL)
		EN ^{B/RS422}	Encoder B/B̄ (TTL)
		EN ^A	Encoder A
		EN ^B	Encoder B
		A ^{MIN}	Digital output MIN
		A ^{MAX}	Digital output MAX
		A ^{OK}	Digital output OK
		SY ^{In}	Synchronization In
		SY ^{OUT}	Synchronization OUT
		OL ^T	Brightness output
		M	Maintenance
		rsv	reserved
			Wire Colors according to DIN IEC 757
		BK	Black
		BN	Brown
		RD	Red
		OG	Orange
		YE	Yellow
		GN	Green
		BU	Blue
		VT	Violet
		GY	Grey
		WH	White
		PK	Pink
		GNVE	Green/Yellow

Table 1

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

