

Reflex Sensor

Energetic

P1KT001

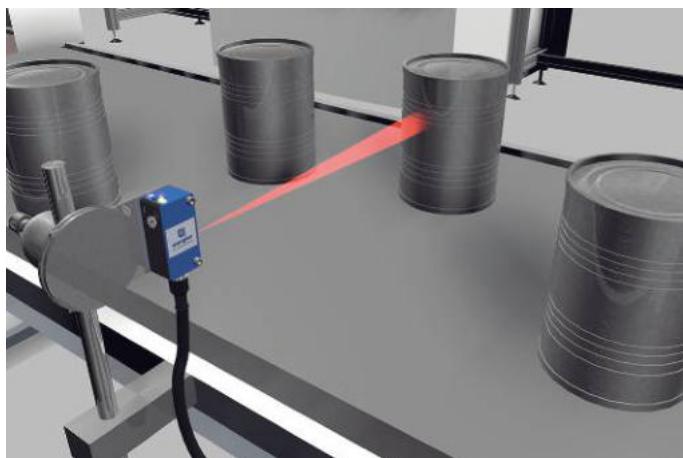
Part Number

PNG//smart



- 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

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	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

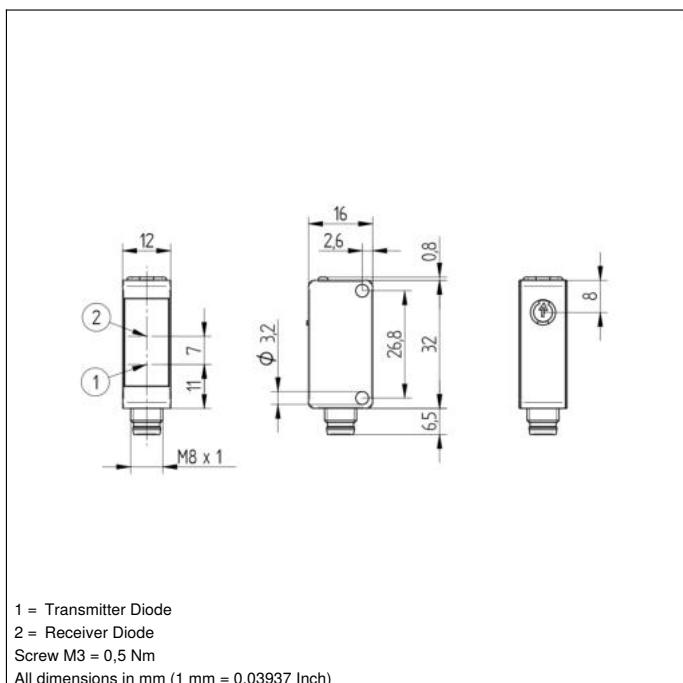
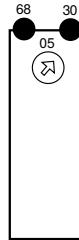
Setting Method	Potentiometer
Housing Material	Plastic
Degree of Protection	IP67/IP68
Connection	M8 x 1; 4-pin
Optic Cover	PMMA

Safety-relevant Data

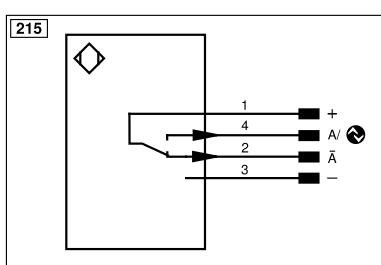
MTTFd (EN ISO 13849-1)	2630,72 a
IO-Link	●
PNP NO/NC antivalent	●
Connection Diagram No.	215
Control Panel No.	1K1
Suitable Connection Equipment No.	7
Suitable Mounting Technology No.	400

Complementary Products

IO-Link Master
Software


Ctrl. Panel
K


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



Legend		Wire Colors according to DIN IEC 60757	
+	Supply Voltage +	nc	Not connected
-	Supply Voltage 0 V	U	Test Input
~	Supply Voltage (AC Voltage)	Ü	Test Input inverted
A	Switching Output (NO)	W	Trigger Input
Ä	Switching Output (NC)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
Ý	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach Input	AmV	Valve Output
Z	Time Delay (activation)	a	Valve Control Output +
S	Shielding	b	Valve Control Output 0 V
RxD	Interface Receive Path	SY	Synchronization
TxD	Interface Send Path	SY-	Ground for the Synchronization
RDY	Ready	E+	Receiver-Line
GND	Ground	S+	Emitter-Line
CL	Clock	±	Grounding
E/A	Output/Input programmable	SnR	Switching Distance Reduction
IO-Link		Rx+/-	Ethernet Receive Path
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)
OSSD	Safety Output	La	Emitted Light disengageable
Signal	Signal Output	Mag	Magnet activation
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
EN0_RS422	Encoder 0-pulse 0/Ü (TTL)	EDM	Contactor Monitoring
PT	Platinum measuring resistor	ENARS422	Encoder A/Ä (TTL)
		Encoder B/Ä (TTL)	
		Encoder A	
		Encoder B	
		AMIN	
		AMAX	
		Aok	
		SY In	
		SY OUT	
		Ol	
		Brightness output	
		M	
		Maintenance	
		rsv	
		Reserved	
		BK	
		Black	
		BN	
		Brown	
		RD	
		Red	
		OG	
		Orange	
		YE	
		Yellow	
		GN	
		Green	
		BU	
		Blue	
		VT	
		Violet	
		GY	
		Grey	
		WH	
		White	
		PK	
		Pink	
		GNYE	
		Green/Yellow	

Table 1

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

