

Through-Beam Sensor

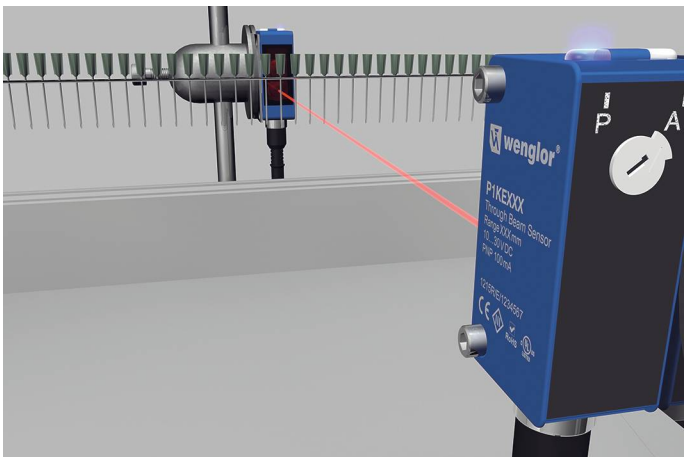
P1KS003

Part Number



- Detect extremely small parts starting at 1 mm
- IO-Link 1.1
- Test input for high operational reliability
- Very high switching frequency

The through-beam sensor works with a fine laser beam as well as a transmitter and a receiver. The collimated laser beam of laser class 1 detects objects, for instance, when conducting installation, feed or presence controls, starting at a size of just 1.0 millimeters. The transmitter can be deactivated using test input in order to test the functionality of the through-beam sensor. The IO-Link interface can be used to configure the sensor (PNP/NPN, NC/NO, switching distance), as well as for reading out switching statuses and signal values.



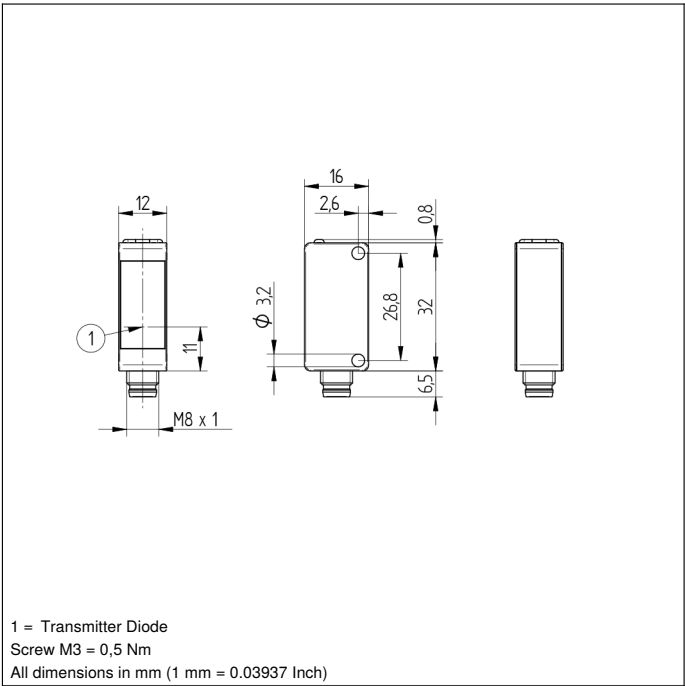
Technical Data

Optical Data	
Range	10000 mm
Light Source	Laser (red)
Wavelength	680 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Light Spot Diameter	see Table 1
Electrical Data	
Sensor Type	Emitter
Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 15 mA
Temperature Drift (-10 °C < Tu < 40 °C)	10 % *
Temperature Range	-40...50 °C
Reverse Polarity Protection	yes
Test input	yes
Protection Class	III
FDA Accession Number	1710976-004
Mechanical Data	
Housing Material	Plastic, ABS/PC
Degree of Protection	IP67
Degree of Protection	IP68
Connection	M8 × 1; 3-pin
Optic Cover	Plastic, PMMA
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	2993,84 a
Scope of delivery	1 × initial start-up instructions 1 × sensor
Connection Diagram No.	703
Suitable Connection Equipment No.	8
Suitable Mounting Technology No.	400

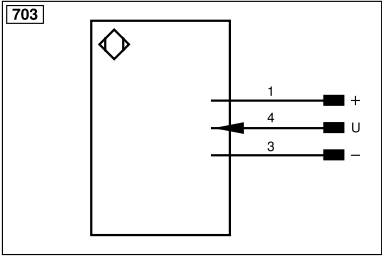
Suitable Receiver

P1KE007
P1KE010
P1KE019

* See operating instructions for further information



1 = Transmitter Diode
Screw M3 = 0,5 Nm
All dimensions in mm (1 mm = 0.03937 Inch)



Legend					
+	Supply Voltage +	PT	Platinum measuring resistor	ENAR5422	Encoder A/Ä (TTL)
-	Supply Voltage 0 V	nc	Not connected	ENBR5422	Encoder B/ß (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	ENa	Encoder A
A	Switching Output (NO)	Ü	Test Input inverted	ENb	Encoder B
Ä	Switching Output (NC)	W	Trigger Input	AMIN	Digital output MIN
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input	AMAX	Digital output MAX
Ï	Contamination/Error Output (NC)	O	Analog Output	AOK	Digital output OK
E	Input (analog or digital)	O-	Ground for the Analog Output	SY In	Synchronization In
T	Teach Input	BZ	Block Discharge	SY OUT	Synchronization OUT
R	Reset input	Amv	Valve Output	OLt	Brightness output
Z	Time Delay (activation)	a	Valve Control Output +	M	Maintenance
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved
RxD	Interface Receive Path	SY	Synchronization	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY-	Ground for the Synchronization		
RDY	Ready	E+	Receiver-Line	BK	Black
GND	Ground	S+	Emitter-Line	BN	Brown
CL	Clock	±	Grounding	RD	Red
E/A	Output/Input programmable	SnR	Switching Distance Reduction	OG	Orange
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path	YE	Yellow
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	GN	Green
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	BU	Blue
QSSD	Safety Output	La	Emitted Light disengageable	VT	Violet
Signal	Signal Output	Mag	Magnet activation	GY	Grey
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	WH	White
ENo RS422	Encoder 0-pulse 0/1 (TTL)	EDM	Contact Monitoring	PK	Pink
				GNYE	Green/Yellow

Ctrl. Panel

1K2



04 = Function Indicator
68 = Power LED

Table 1

Working Distance	1 m	6 m	10 m
Light Spot Diameter	2,5 mm	25 mm	40 mm

