

Through-Beam Sensor

P1KS003 LASER

Part Number



- Detect smallest parts until 0,6 mm
- IO-Link 1.1
- Test input for high operational reliability
- Very high switching frequency

Technical Data

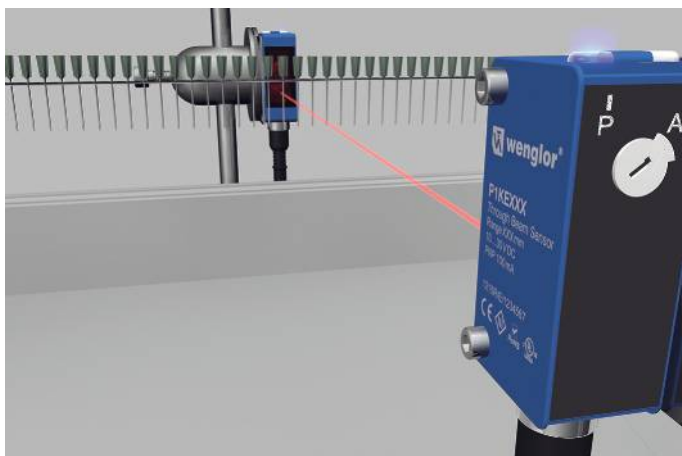
Optical Data	
Range	10000 mm
Light Source	Laser (red)
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Light Spot Diameter	see Table 1
Electrical Data	
Sensor Type	Emitter
Supply Voltage	10...30 V DC
Current Consumption (U _b = 24 V)	< 15 mA
Temperature Drift (-10 °C < T _u < 40 °C)	10 % *
Temperature Range	-40...60 °C
Reverse Polarity Protection	yes
Test input	yes
Protection Class	III
FDA Accession Number	1710976-001
Mechanical Data	
Housing Material	Plastic
Degree of Protection	IP67/IP68
Connection	M8 × 1; 3-pin
Optic Cover	PMMA
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	2993,84 a
Connection Diagram No.	703
Control Panel No.	1K2
Suitable Connection Equipment No.	8
Suitable Mounting Technology No.	400

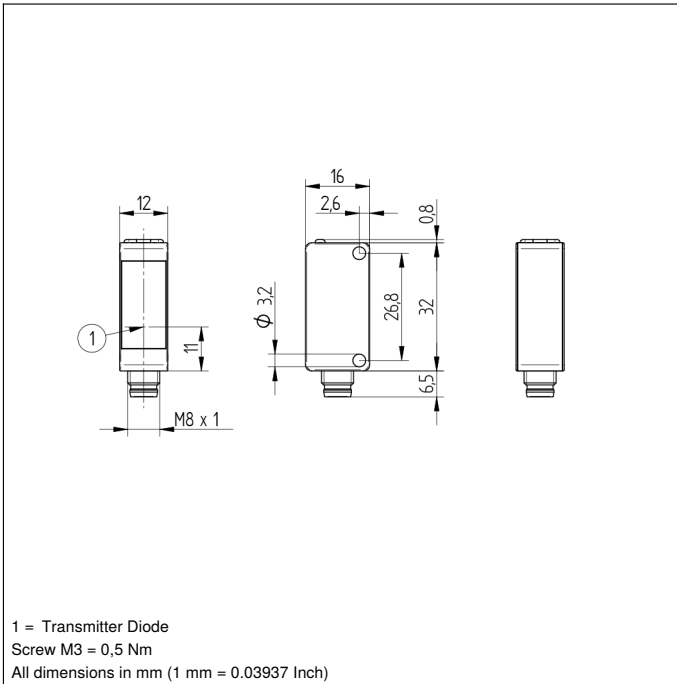
Suitable Receiver

P1KE007

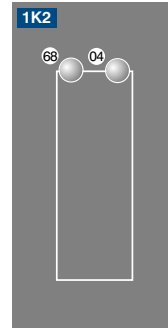
* See operating instructions for further information

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 0,6 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.

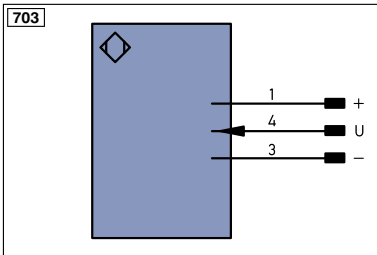




Ctrl. Panel



04 = Function Indicator
 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)	Ū	Test Input inverted
Ā	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input
Ṽ	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
EN0.6542	Encoder 0-pulse 0-0 (TTL)	RES	Input confirmation
		EDM	Contacting Monitoring
		EN0.6542	Encoder A/Ā (TTL)
		EN0.6542	Encoder B/B̄ (TTL)
		ENa	Encoder A
		ENb	Encoder B
		AMIN	Digital output MIN
		AMAX	Digital output MAX
		AOk	Digital output OK
		SY_in	Synchronization In
		SY_OUT	Synchronization OUT
		OLt	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
		GNYE	Green/Yellow

Table 1

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

