

Through-Beam Sensor

P1KS002

Part Number



- Condition monitoring
- High light intensity with large switching reserve
- IO-Link 1.1
- Test input for high operational reliability

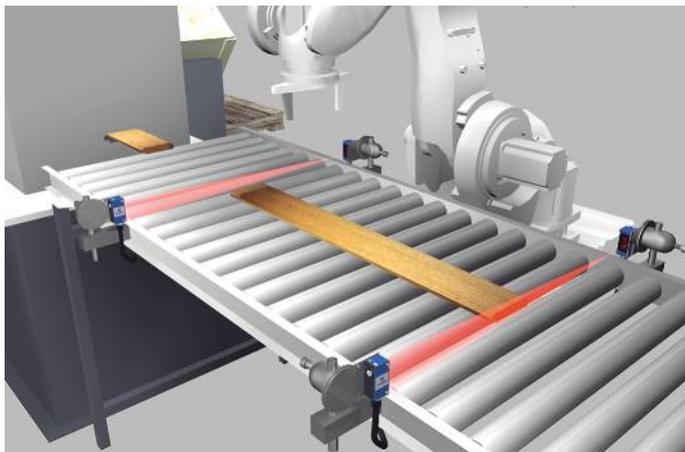
Technical Data

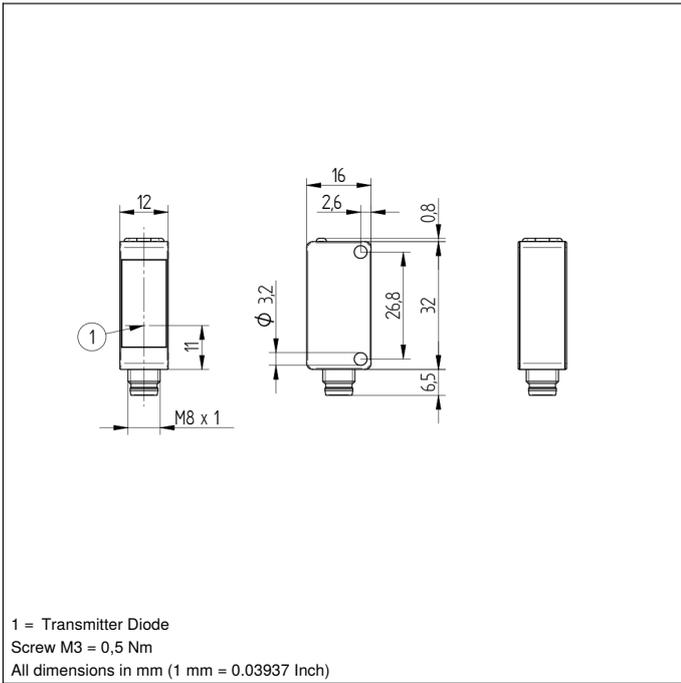
Optical Data	
Range	6000 mm
Light Source	Red Light
Service Life (T = +25 °C)	100000 h
Light Spot Diameter	see Table 1
Electrical Data	
Sensor Type	Emitter
Supply Voltage	10...30 V DC
Current Consumption (U _b = 24 V)	< 20 mA
Temperature Drift	< 10 %
Temperature Range	-40...60 °C
Reverse Polarity Protection	yes
Lockable	yes
Test input	yes
Protection Class	III
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)	3063,75 a
Connection Diagram No.	703
Control Panel No.	1K2
Suitable Connection Equipment No.	8
Suitable Mounting Technology No.	400

Suitable Receiver

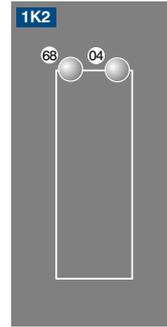
P1KE002
P1KE004

The through-beam sensor works with red light as well as a transmitter and a receiver. Thanks to their high light intensity, the sensor provides a high degree of operational reliability even with interferences like steam, fog or dust. 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.

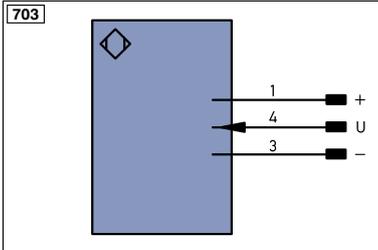




Ctrl. Panel



04 = Function Indicator
 68 = Supply Voltage Indicator



Legend		Legend		Legend	
+	Supply Voltage +	PT	Platinum measuring resistor	EN ^A ES42Z	Encoder A/Ā (TTL)
-	Supply Voltage 0 V	nc	not connected	EN ^B ES42Z	Encoder B/B̄ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	EN ^A	Encoder A
A	Switching Output (NO)	Ū	Test Input inverted	EN ^B	Encoder B
Ā	Switching Output (NC)	W	Trigger Input	A _{MIN}	Digital output MIN
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input	A _{MAX}	Digital output MAX
Ṽ	Contamination/Error Output (NC)	O	Analog Output	A _{OK}	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
Z	Time Delay (activation)	AMV	Valve Output	OLT	Brightness output
S	Shielding	a	Valve Control Output +	M	Maintenance
RxD	Interface Receive Path	b	Valve Control Output 0 V	rsv	reserved
TxD	Interface Send Path	SY	Synchronization	Wire Colors according to DIN IEC 757	
RDY	Ready	SY-	Ground for the Synchronization	BK	Black
GND	Ground	E+	Receiver-Line	BN	Brown
CL	Clock	S+	Emitter-Line	RD	Red
E/A	Output/Input programmable	±	Grounding	OG	Orange
	IO-Link	S _n R	Switching Distance Reduction	YE	Yellow
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path	GN	Green
IN	Safety Input	Tx+/-	Ethernet Send Path	BU	Blue
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
Signal	Signal Output	L _a	Emitted Light disengageable	GY	Grey
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation	WH	White
EN ⁰ ES42Z	Encoder 0-pulse 0-0̄ (TTL)	RES	Input confirmation	PK	Pink
		EDM	Contacting Monitoring	GNYE	Green/Yellow

Table 1

Working Distance	1 m	2 m	6 m
Light Spot Diameter	70 mm	140 mm	500 mm

