

# Through-Beam Sensor

## P1KS001

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 <sub>b</sub> = 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	Cable, 3-wire, 2 m
Optic Cover	PMMA

#### Safety-relevant Data

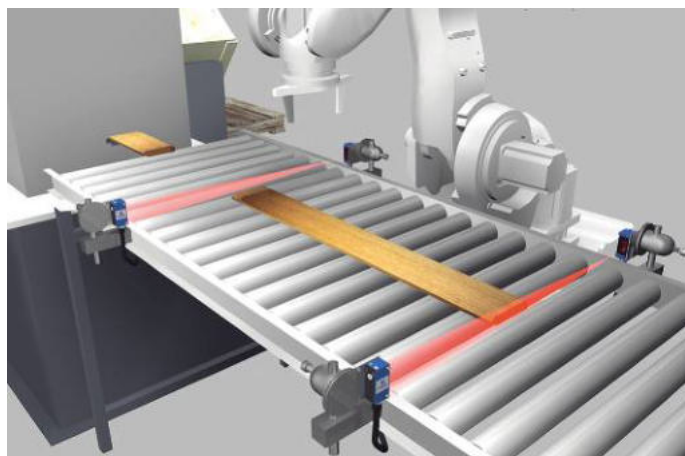
MTTFd (EN ISO 13849-1)	3063,75 a
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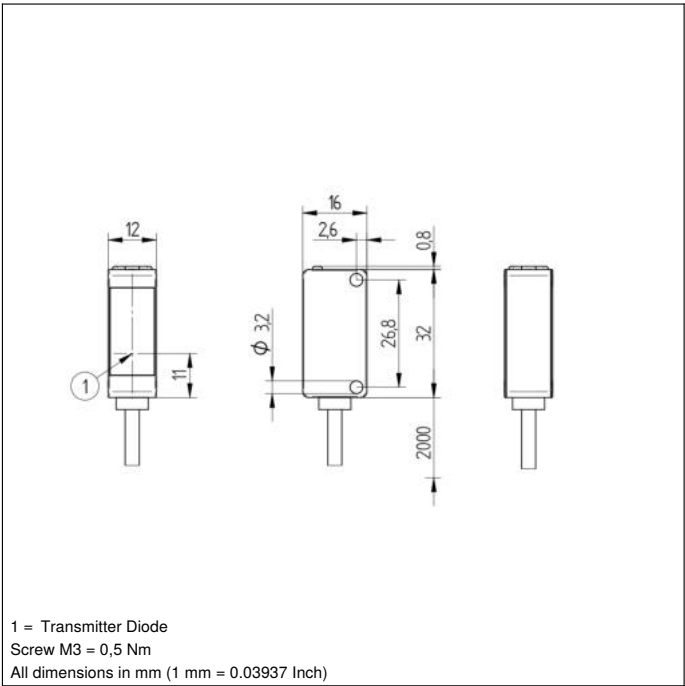
Connection Diagram No.	803
Control Panel No.	1K2
Suitable Mounting Technology No.	400

### Suitable Receiver

P1KE001  
P1KE003

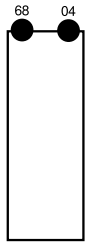
The through-beam sensor works with red light as well as a transmitter and a receiver. Thanks to their high light intensity, the sensor provides a high degree of operational reliability even with interferences like steam, fog or dust. The transmitter can be deactivated using test input in order to test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



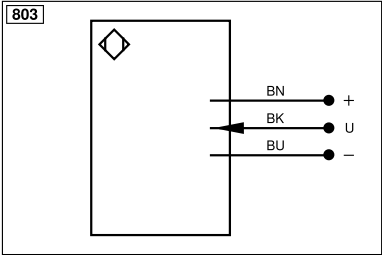


### Ctrl. Panel

1K2



04 = Function Indicator  
68 = supply voltage indicator



Legend			
+	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
Ȳ	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	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
BL_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
ENo RS422	Encoder 0-pulse 0/Ü (TTL)	EDM	Contact Monitoring
PT	Platinum measuring resistor	ENARIS422	Encoder A/Ä (TTL)
		ENBRIS422	Encoder B/B (TTL)
		ENA	Encoder A
		ENB	Encoder B
		AMIN	Digital output MIN
		AMAX	Digital output MAX
		ACK	Digital output OK
		SY In	Synchronization In
		SY OUT	Synchronization OUT
		OLT	Brightness output
		M	Maintenance
		rsv	Reserved
		Wire Colors according to DIN IEC 60757	
		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	2 m	6 m
Light Spot Diameter	70 mm	140 mm	500 mm

