

# Through-Beam Sensor

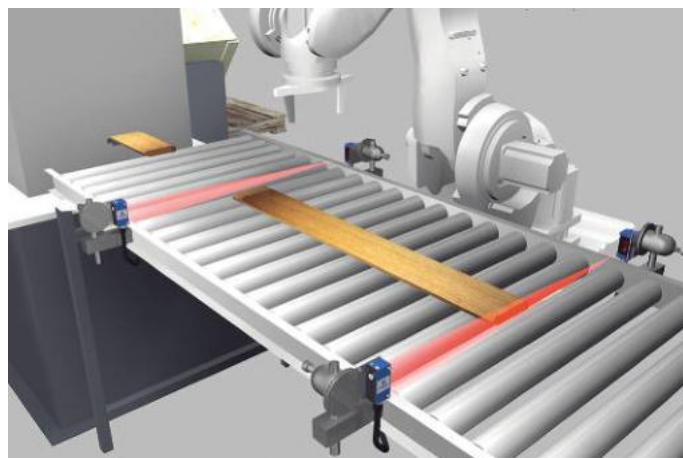
## P1KS001

Part Number



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

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.



### Technical Data

#### Optical Data

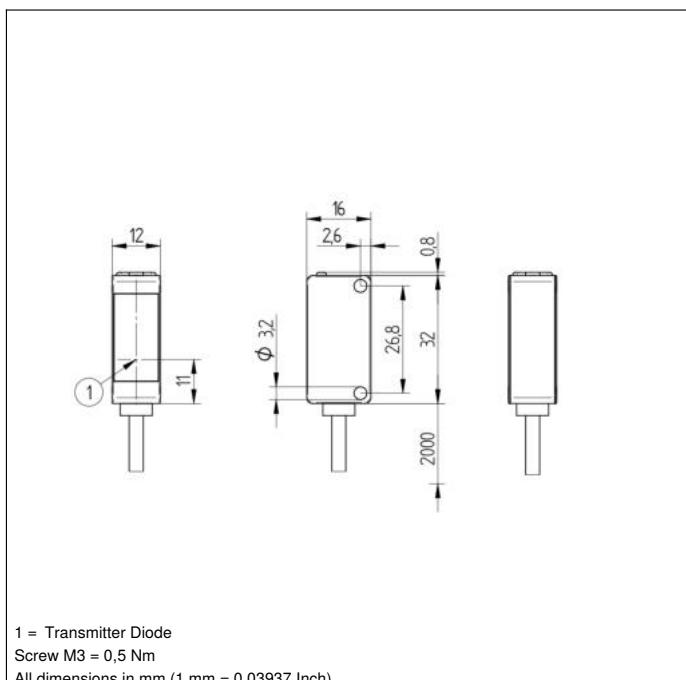
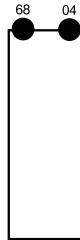
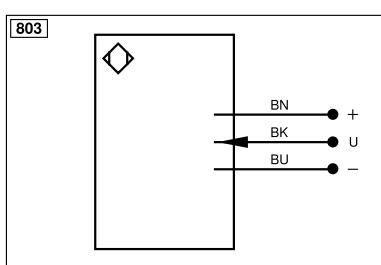
Range	6000 mm
Light Source	Red Light
Service Life (T = +25 °C)	100000 h
Light Spot Diameter	see Table 1

#### Electrical Data

Sensor Type	Emitter
Supply Voltage	10...30 V DC
Current Consumption (Ub = 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
Connection Diagram No.	803
Control Panel No.	1K2
Suitable Mounting Technology No.	400

#### Suitable Receiver

P1KE001  
P1KE003


**Ctrl. Panel**
**1K2**

 04 = Function Indicator  
 68 = supply voltage indicator

**Legend**

+	Supply Voltage +	nc	Not connected	EN <sub>RS422</sub>	Encoder B/B (TTL)
-	Supply Voltage 0 V	U	Test Input	EN <sub>A</sub>	Encoder A
~	Supply Voltage (AC Voltage)	Ü	Test Input inverted	EN <sub>B</sub>	Encoder B
A	Switching Output (NO)	W	Trigger Input	AMIN	Digital output MIN
Ä	Switching Output (NC)	W-	Ground for the Trigger Input	A <sub>MAX</sub>	Digital output MAX
V	Contamination/Error Output (NO)	O	Analog Output	A <sub>OK</sub>	Digital output OK
Ý	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY IN	Synchronization IN
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT
T	Teach Input	AMV	Valve Output	OLR	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	BK	Black
RDY	Ready	E+	Receiver-Line	BN	Brown
GND	Ground	S+	Emitter-Line	RD	Red
CL	Clock	±	Grounding	OG	Orange
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow
IO-Link		Rx+/-	Ethernet Receive Path	GN	Green
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey
Signal	Signal Output	Mag	Magnet activation	WH	White
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink
EN <sub>RS422</sub>	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	EN <sub>RS422</sub>	Encoder A/A (TTL)		

**Table 1**

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

