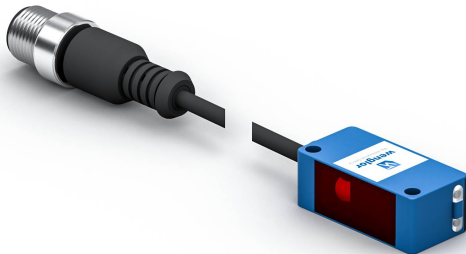


# Through-Beam Sensor

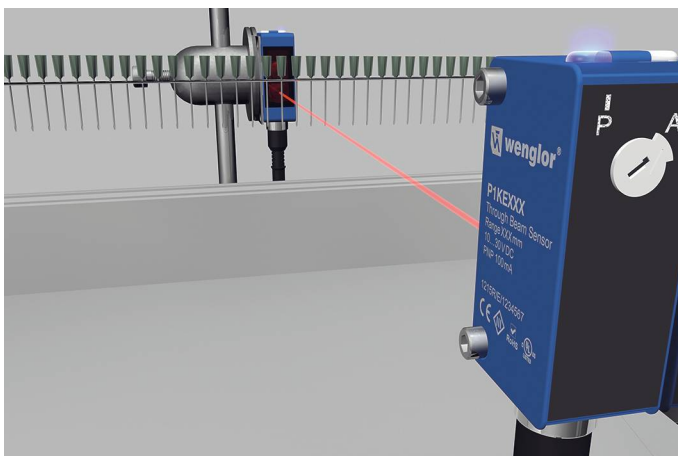
## P1KS006

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

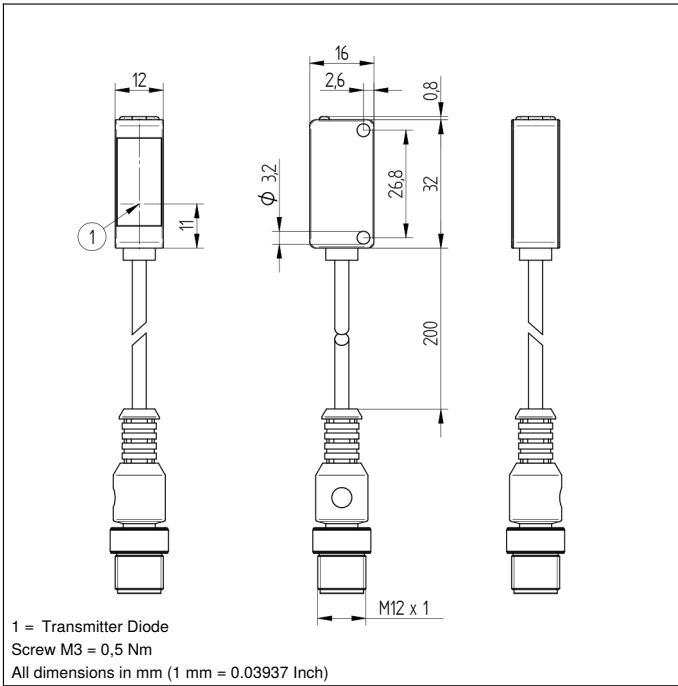
Optical Data	
Range	10000 mm
Light Source	Laser (red)
Wavelength	680 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Light Spot Diameter	see Table 1
Electrical Data	
Sensor Type	Emitter
Supply Voltage	10...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 15 mA
Temperature Drift (-10 °C < T <sub>u</sub> < 40 °C)	10 % *
Temperature Range	-40...50 °C
Reverse Polarity Protection	yes
Test input	yes
Protection Class	III
FDA Accession Number	1710976-001
Mechanical Data	
Housing Material	Plastic, ABS/PC
Degree of Protection	IP67
Degree of Protection	IP68
Connection	M12 × 1; 4-pin
Cable length (L)	200 mm
Cable Jacket Material	Plastic, PUR
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.	<b>1018</b>
Suitable Connection Equipment No.	<b>2</b>
Suitable Mounting Technology No.	<b>400</b>

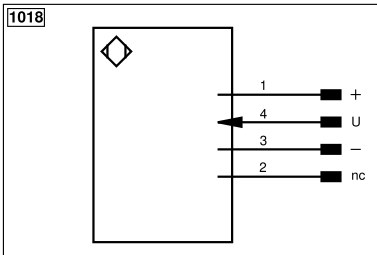
### Suitable Receiver


P1KE013
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\* See operating instructions for further information

\* Temperature range with permanently installed cable, bending radius: > 20 mm


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

 04 = Function Indicator  
 68 = Power LED


Legend					
+	Supply Voltage +	PT	Platinum measuring resistor	ENAR5422	Encoder A/Ä (TTL)
-	Supply Voltage 0 V	nc	Not connected	ENBR5422	Encoder B/B̄ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	ENa	Encoder A
A	Switching Output (NO)	Ū	Test Input inverted	ENb	Encoder B
Ā	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
Ṽ	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	Out	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
QSSD	Safety Output	La	Emitted Light disengageable	GY	Grey
Signal	Signal Output	Mag	Magnet activation	WH	White
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contacting Monitoring	GNYE	Green/Yellow

**Table 1**

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

