

Laser Distance Sensor

Triangulation

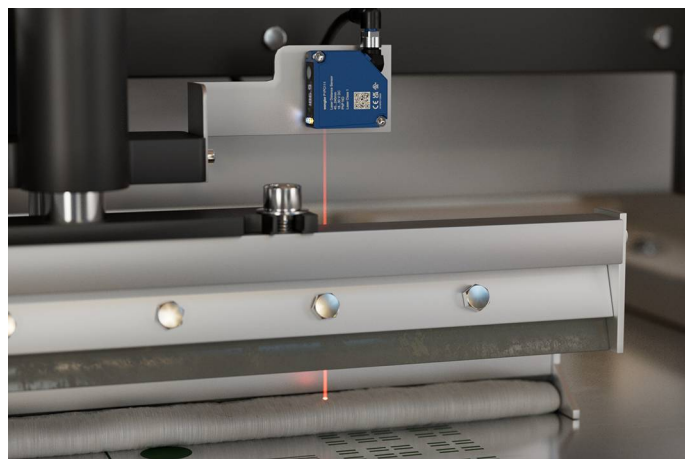
P1PC311

Part Number



- Analog output: 4...20 mA
- Integrated jump detection
- Intuitive operating concept
- Switching point independent of material, color and brightness
- Wireless settings via NFC

These laser distance sensors work with a fine red light beam and a high-resolution CMOS line. They determine the distance between the sensor and the object by means of the triangulation principle. They are designed to fulfill applications in a wide range of industries intuitively, reliably and economically. Innovative functions simplify initial start-up and make the sensors versatile all-rounders. Extensive condition monitoring functions also enable predictive maintenance and trouble-free operation. The display shows the current measured values, which allows the sensor to be set up quickly and intuitively. Settings are entered via IO-Link or conveniently using the weCon app via NFC.



Technical Data

Optical Data

Working Range	60...660 mm
Measuring Range	60...660 mm
Reproducibility maximum	1000 μ m
Reproducibility: 1 Sigma	100 μ m
Linearity Deviation	2400 μ m
Switching Hysteresis	< 1 %
Light Source	Laser (red)
Wavelength	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1

Electrical Data

Supply Voltage	18...30 V DC
Current Consumption (U _b = 24 V)	< 35 mA
Switching Frequency	650 Hz
Measuring Rate	2500 /s
Response Time	< 0,77 ms
Temperature Drift	< 150 μ m/K
Temperature Range	-25...50 °C
Number of Switching Outputs	1
Switching Output Voltage Drop	< 1,5 V
Switching Output/Switching Current	100 mA
Analog Output	4...20 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Interface	IO-Link V1.1
IO-Link Version	1.1.4
IO-Link transmission speed	COM3
Protection Class	III
FDA Accession Number	2512215-000

Mechanical Data

Setting Method	NFC
Setting Method	Teach-In
Housing Material	Plastic, ABS
Degree of Protection	IP67
Degree of Protection	IP68
Connection	M12 × 1; 5-pin
Optic Cover	Plastic, PMMA

Safety-relevant Data

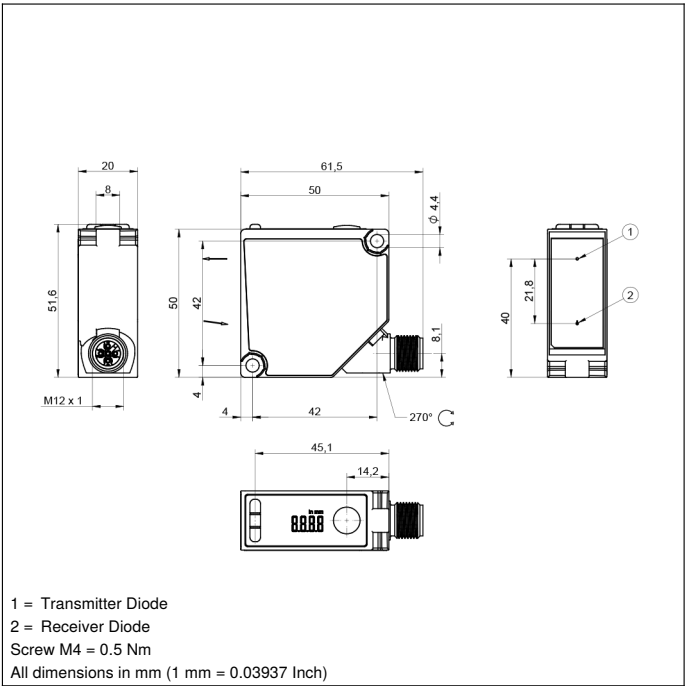
MTTFd (EN ISO 13849-1)	569,23 a
Scope of delivery	1 × initial start-up instructions 1 × sensor 1 × Z1PE002 mounting set

PNP NO	●
Analog Output	●
IO-Link	●
NFC interface	●

Connection Diagram No.	242
Control Panel No.	X12
Suitable Connection Equipment No.	2 35
Suitable Mounting Technology No.	380

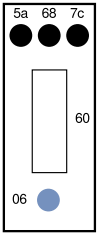
Complementary Products

Dust extraction tube	
IO-Link Master	
Protective housing	
Protective Screen	
Software	

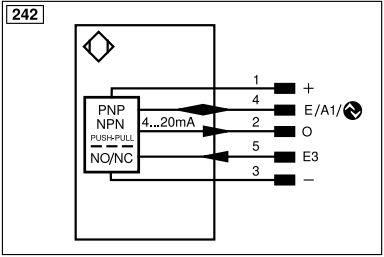


Ctrl. Panel

X12



06 = Teach Button
5a = Switching Status Indicator, O1
60 = display
68 = Power LED
7c = Analog Output Indicator, AO



Legend					
+	Supply Voltage +	PT	Platinum measuring resistor	ENAR5422	Encoder A/Ä (TTL)
-	Supply Voltage 0 V	nc	Not connected	ENBR5422	Encoder B/ß (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	ENa	Encoder A
A	Switching Output (NO)	Ü	Test Input inverted	ENb	Encoder B
Ä	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
Û	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	OLt	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		
RDY	Ready	E+	Receiver-Line	BK	Black
GND	Ground	S+	Emitter-Line	BN	Brown
CL	Clock	≡	Grounding	RD	Red
E/A	Output/Input programmable	SnR	Switching Distance Reduction	OG	Orange
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path	YE	Yellow
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	GN	Green
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	BU	Blue
QSSD	Safety Output	La	Emitted Light disengageable	VT	Violet
Signal	Signal Output	Mag	Magnet activation	GY	Grey
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	WH	White
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contact Monitoring	PK	Pink
				GNYE	Green/Yellow

Table 1

Working Distance	60 mm	360 mm	660 mm
Spot Size	1,5 × 3,5 mm	1,3 × 5 mm	1,1 × 6,7 mm

