Laser Distance Sensor Triangulation

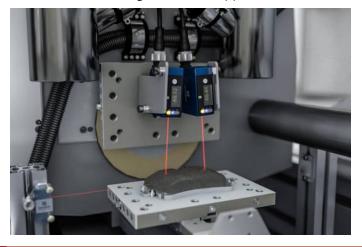
P3PC212 LASER

Part Number



- Analog output 0...10 V
- Graphical display for easy operation
- Measured value independent of material, color and brightness
- Rugged aluminium housing
- Wireless settings via Bluetooth

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. Thanks to the integrated TripleA technology, the sensors offer high precision, temperature stability and material independence. This means they deliver accurate results even with objects of different materials, colors and shapes, as well as in fluctuating light and temperature conditions. Settings are entered via the easy-to-read OLED display or via Bluetooth using the weCon app.



Technical Data

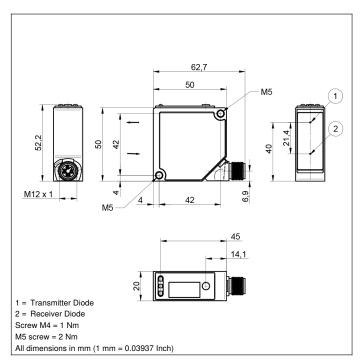
Working Range 50350 mm Setting Range 50350 mm Reproducibility maximum 100 μm Reproducibility: 1 Sigma 10 μm Linearity Deviation 300 μm Light Source Laser (red) Wavelength 655 nm Service Life (T = +25 °C) 100000 h Laser Class (EN 60825-1) 1 Max. Ambient Light 20000 Lux Light Spot Diameter see Table 1 Electrical Data 8 Supply Voltage 1830 V DC Current Consumption (Ub = 24 V) < 60 mA Measuring Rate 2500 /s Response Time < 0,5 ms Temperature Drift < 20 μm/K Temperature Range -3060 °C Analog Output 010 V Short Circuit and Overload Protection yes Reverse Polarity Protection yes Interface IO-Link V1.1 Baud Rate COM3 Protection Class III Mechanical Data (OLED)/Bluetooth menu Settin	Optical Data	
Reproducibility maximum Reproducibility: 1 Sigma Linearity Deviation Light Source Wavelength Service Life (T = +25 °C) Laser Class (EN 60825-1) Max. Ambient Light Light Spot Diameter Electrical Data Supply Voltage Current Consumption (Ub = 24 V) Measuring Rate Response Time Temperature Drift Temperature Range Analog Output Short Circuit and Overload Protection Reverse Polarity Protection Interface Bud Rate COM3 Protection Class Mechanical Data Setting Method Housing Material Degree of Protection Optic Cover Error Output Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Working Range	50350 mm
Reproducibility: 1 Sigma	Setting Range	50350 mm
Linearity Deviation Light Source Wavelength Service Life (T = +25 °C) Laser Class (EN 60825-1) Max. Ambient Light Light Spot Diameter Electrical Data Supply Voltage Current Consumption (Ub = 24 V) Measuring Rate Response Time Temperature Drift Temperature Range Analog Output Short Circuit and Overload Protection Reverse Polarity Protection Baud Rate Protection Class Mechanical Data Setting Method Housing Material Degree of Protection Ontic Cover PMMA Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Reproducibility maximum	100 <i>μ</i> m
Light Source Wavelength Service Life (T = +25 °C) Laser Class (EN 60825-1) Max. Ambient Light Light Spot Diameter Electrical Data Supply Voltage Current Consumption (Ub = 24 V) Measuring Rate Response Time Temperature Drift Temperature Range Analog Output Short Circuit and Overload Protection Reverse Polarity Protection Interface Baud Rate Protection Class Wechanical Data Setting Method Housing Material Degree of Protection Optic Cover PMMA Error Output Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Reproducibility: 1 Sigma	10 μm
Wavelength 655 nm Service Life (T = +25 °C) 100000 h Laser Class (EN 60825-1) 1 Max. Ambient Light 20000 Lux Light Spot Diameter see Table 1 Electrical Data Supply Voltage Supply Voltage 1830 V DC Current Consumption (Ub = 24 V) < 60 mA	Linearity Deviation	300 μm
Service Life (T = +25 °C) 100000 h Laser Class (EN 60825-1) 1 Max. Ambient Light 20000 Lux Light Spot Diameter see Table 1 Electrical Data Supply Voltage 1830 V DC Current Consumption (Ub = 24 V) < 60 mA Measuring Rate 2500 /s Response Time < 0,5 ms Temperature Drift < 20 μm/K Temperature Range 3060 °C Analog Output 010 V Short Circuit and Overload Protection yes Reverse Polarity Protection yes Interface IO-Link V1.1 Baud Rate COM3 Protection Class III Mechanical Data Setting Method (OLED)/Bluetooth menu Aluminum Degree of Protection IP67 Connection M12 × 1; 4/5-pin Optic Cover PMMA Error Output IO-Link Connection Diagram No. 241 Control Panel No. X6 Suitable Connection Equipment No. 2 35	Light Source	Laser (red)
Laser Class (EN 60825-1) Max. Ambient Light Light Spot Diameter Electrical Data Supply Voltage Current Consumption (Ub = 24 V) Measuring Rate Response Time Temperature Drift Temperature Range Analog Output Short Circuit and Overload Protection Reverse Polarity Protection Baud Rate Protection Class Mechanical Data Setting Method Housing Material Degree of Protection Optic Cover PMMA Error Output Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Wavelength	655 nm
Max. Ambient Light Light Spot Diameter Electrical Data Supply Voltage Current Consumption (Ub = 24 V) Measuring Rate Response Time Temperature Drift Temperature Range Analog Output Short Circuit and Overload Protection Reverse Polarity Protection Baud Rate COM3 Protection Class Mechanical Data Setting Method Housing Material Degree of Protection Oncito Cover PMMA Error Output ILI Mechanical Diagram No. Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Service Life (T = +25 °C)	100000 h
Light Spot Diameter Electrical Data Supply Voltage Current Consumption (Ub = 24 V) Measuring Rate Response Time	Laser Class (EN 60825-1)	1
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Measuring Rate 2500 /s Response Time <0,5 ms Temperature Drift <20 \(\textit{pm}/K \) Temperature Range -3060 °C Analog Output 010 V Short Circuit and Overload Protection yes Reverse Polarity Protection yes Interface IO-Link V1.1 Baud Rate COM3 Protection Class III Mechanical Data Setting Method (OLED)/Bluetooth menu Housing Material Aluminum Degree of Protection IP67 Connection Diagram No. Error Output IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 2 35	Supply Voltage	1830 V DC
Response Time	Current Consumption (Ub = 24 V)	< 60 mA
Temperature Drift < 20 \(\mu \) // K Temperature Range -3060 ° C Analog Output 010 V Short Circuit and Overload Protection Reverse Polarity Protection Jess Interface IO-Link V1.1 Baud Rate COM3 Protection Class III Mechanical Data Setting Method Housing Material Degree of Protection Optic Cover PMMA Error Output IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 2 35	Measuring Rate	2500 /s
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Analog Output Short Circuit and Overload Protection Reverse Polarity Protection Baud Rate Protection Class III Mechanical Data Setting Method Housing Material Degree of Protection Optic Cover PMMA Error Output IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Temperature Drift	< 20 μm/K
Short Circuit and Overload Protection Reverse Polarity Protection Interface Interface Baud Rate COM3 Protection Class III Mechanical Data Setting Method Housing Material Degree of Protection Connection Optic Cover PMMA Error Output IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Temperature Range	-3060 °C
Reverse Polarity Protection Interface Interface Baud Rate COM3 Protection Class III Mechanical Data Setting Method Housing Material Degree of Protection Connection Optic Cover PMMA Error Output IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Analog Output	010 V
Interface IO-Link V1.1 Baud Rate COM3 Protection Class III Mechanical Data Setting Method (OLED)/Bluetooth menu Housing Material Aluminum Degree of Protection IP67 Connection M12 × 1; 4/5-pin Optic Cover PMMA Error Output IO-Link Connection Diagram No. 241 Control Panel No. X6 Suitable Connection Equipment No. 2 35	Short Circuit and Overload Protection	yes
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Protection Class Mechanical Data Setting Method Housing Material Degree of Protection Connection Optic Cover PMMA Error Output IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Interface	IO-Link V1.1
Mechanical Data Setting Method Housing Material Degree of Protection Connection Optic Cover PMMA Error Output IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No. (OLED)/Bluetooth menu Aluminum IP67 M12 × 1; 4/5-pin PMMA Error Output IO-Link 241 X6 Suitable Connection Equipment No.	Baud Rate	COM3
Setting Method Housing Material Degree of Protection Connection Optic Cover PMMA Error Output IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No. (OLED)/Bluetooth menu Menu Aluminum IP67 M12 × 1; 4/5-pin PMMA Error Output Connection Diagram No. 241 X6 Suitable Connection Equipment No.	Protection Class	III
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Housing Material Degree of Protection IP67 Connection Optic Cover PMMA Error Output IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Setting Method	
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Optic Cover PMMA Error Output IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 2 35	Degree of Protection	IP67
Error Output IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 2 35	Connection	M12 × 1; 4/5-pin
IO-Link Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 241 X6 Suitable Connection Equipment No. 2 35	Optic Cover	PMMA
Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 241 X6 Suitable Connection Equipment No.	Error Output	•
Control Panel No. X6 Suitable Connection Equipment No. 2 35	IO-Link	
Suitable Connection Equipment No. 2 35	Connection Diagram No.	241
The state of the s	Control Panel No.	X6
Suitable Mounting Technology No. 380	Suitable Connection Equipment No.	2 35
	Suitable Mounting Technology No.	380

Complementary Products

IO-Link Master

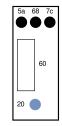
Software





Ctrl. Panel

Х6

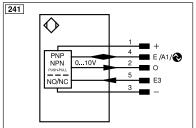


06 = Teach Button

5a = Switching Status Display, O1

68 = supply voltage indicator

7c = Analog output O display



Legend					
+	Supply Voltage +	nc	Not connected	ENB _{RS422}	Encoder B/B (TTL)
-	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	ENB	Encoder B
Α	Switching Output (NO)	W	Trigger Input	Amin	Digital output MIN
Ā	Switching Output (NC)	W-	Ground for the Trigger Input	AMAX	Digital output MAX
V	Contamination/Error Output (NO)	0	Analog Output	Аок	Digital output OK
⊽	Contamination/Error Output (NC)	0-	Ground for the Analog Output	SY In	Synchronization In
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT
Τ	Teach Input	Аму	Valve Output	OLT	Brightness output
Z	Time Delay (activation)	а	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
②	IO-Link	Rx+/-	Ethernet Receive Path	GN	Green
PoE	ower 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
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	ENARS422	Encoder A/Ā (TTL)		

Table 1

Working Distance	50 mm	200 mm	350 mm
Light Spot Diameter	1,5 mm	1 mm	1 mm











