Through-Beam Sensor

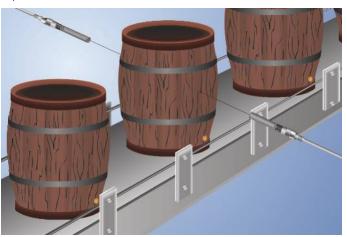
EO98VD3

Part Number



- Ample performance reserves
- Infrared light
- Insensitive to contamination

These through-beam sensors are best suited for use in industrial environments. Thanks to their large working range, the devices demonstrate excellent functional reliability in highly contaminated environments. The sensors can be checked for correct functioning via the test input.



Technical Data

Optical Data 10000 mm Switching Hysteresis < 15 % Light Source Infrared Light Service Life (T = +25 °C) 100000 h Max. Ambient Light 10000 Lux Opening Angle 8 ° Electrical Data 8 ° Sensor Type Receiver Supply Voltage 1030 ∨ DC Current Consumption (Ub = 24 V) < 40 mA Switching Frequency 250 Hz Response Time 2 ms Temperature Drift < 10 % Temperature Range -1060 °C Switching Output Voltage Drop < 2,5 ∨ Switching Output/Switching Current 200 mA Residual Current Switching Output < 50 μA Short Circuit and Overload Protection yes Reverse Polarity Protection yes Protection Class III Mechanical Data CuZn, nickel-plated Full Encapsulation yes Degree of Protection IP67 Connection M12 × 1; 4-pin Safety-relevant Data MTTG (EN ISO	rechnical Data				
Switching Hysteresis < 15 % Light Source Infrared Light Service Life (T = +25 °C) 100000 h Max. Ambient Light 10000 Lux Opening Angle 8 ° Electrical Data 8 Sensor Type Receiver Supply Voltage 1030 V DC Current Consumption (Ub = 24 V) < 40 mA Switching Frequency 250 Hz Response Time 2 ms Temperature Drift < 10 % Temperature Range -1060 °C Switching Output Voltage Drop < 2,5 V Switching Output/Switching Current 200 mA Residual Current Switching Output < 50 μA Short Circuit and Overload Protection yes Reverse Polarity Protection yes Protection Class III Mechanical Data Setting Method Potentiometer Housing Material CuZn, nickel-plated Full Encapsulation yes Degree of Protection IP67 Connection M12 × 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) 4226,24 a<	Optical Data				
Light Source	Range	10000 mm			
Service Life (T = +25 °C) 100000 h Max. Ambient Light 10000 Lux Opening Angle 8 ° Electrical Data Sensor Type Receiver Supply Voltage 1030 V DC Current Consumption (Ub = 24 V) < 40 mA Switching Frequency 250 Hz Response Time 2 ms Temperature Drift < 10 % Temperature Range -1060 °C Switching Output Voltage Drop < 2,5 V Switching Output Voltage Drop < 250 µA Short Circuit and Overload Protection yes Protection Class III Mechanical Data Setting Method Potentiometer Housing Material Curcent Protection Pegree of Protection Pegree of Protection Pafety -1060 °C Connection M12 × 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) 4226,24 a PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Switching Hysteresis	< 15 %			
Max. Ambient Light Opening Angle Electrical Data Sensor Type Supply Voltage Current Consumption (Ub = 24 V) Switching Frequency Response Time Temperature Drift Temperature Range Switching Output Voltage Drop Switching Output/Switching Current Pesidual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Protection Class III Mechanical Data Setting Method Housing Material Full Encapsulation Degree of Protection M12 × 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Equipment No. 113 Control Panel No. Suitable Connection Equipment No.	Light Source	Infrared Light			
Electrical Data Sensor Type Supply Voltage Current Consumption (Ub = 24 V) Switching Frequency Response Time Temperature Drift Temperature Range Switching Output Voltage Drop Switching Output/Switching Current Short Circuit and Overload Protection Reverse Polarity Protection Protection Class Betting Method Housing Material Full Encapsulation Degree of Protection Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Service Life (T = +25 °C)	100000 h			
Electrical Data Sensor Type Supply Voltage Supply Voltage Current Consumption (Ub = 24 V) Switching Frequency Response Time 2 ms Temperature Drift Temperature Range -1060 ° C Switching Output Voltage Drop Switching Output Voltage Drop Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Protection Class III Mechanical Data Setting Method Potentiometer Housing Material Full Encapsulation Degree of Protection Perotection Perotection Perotection Perotection Perotection Perotection Perotection Perotection Perotection Potentiometer August 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Max. Ambient Light	10000 Lux			
Sensor Type Supply Voltage Current Consumption (Ub = 24 V) Switching Frequency Response Time 2 ms Temperature Drift Temperature Range -1060 °C Switching Output Voltage Drop Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Protection Class Reverse Polarity Protection Protection Class III Mechanical Data Setting Method Potentiometer Housing Material Full Encapsulation Degree of Protection Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Opening Angle	8 °			
Supply Voltage Current Consumption (Ub = 24 V) Switching Frequency Response Time 2 ms Temperature Drift Cemperature Range -1060 °C Switching Output Voltage Drop Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Protection Class III Mechanical Data Setting Method Housing Material Full Encapsulation Degree of Protection Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Electrical Data				
Current Consumption (Ub = 24 V) < 40 mA Switching Frequency	Sensor Type	Receiver			
Switching Frequency Response Time 2 ms Temperature Drift 2 10 % Temperature Range -1060 °C Switching Output Voltage Drop Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Protection Class III Mechanical Data Setting Method Potentiometer Housing Material Full Encapsulation Degree of Protection Perotection Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Supply Voltage	1030 V DC			
Response Time 2 ms Temperature Drift < 10 %	Current Consumption (Ub = 24 V)	< 40 mA			
Temperature Drift Connection Diagram No. Control Panel No. Current pout put Voltage Drop Connection Diagram No. Control Panel No. Current pout put Voltage Drop Connection Diagram No. Control Panel No. Current pout voltage Drop Connection Class Connection Class Connection Diagram No. Control Panel No. Connection Diagram No. Connection Equipment No. Connection Equipment No.	Switching Frequency	250 Hz			
Temperature Range -1060 °C Switching Output Voltage Drop <2,5 V Switching Output/Switching Current 200 mA Residual Current Switching Output <50 μA Short Circuit and Overload Protection yes Reverse Polarity Protection yes Protection Class III Mechanical Data Setting Method Potentiometer Housing Material CuZn, nickel-plated yes Pegree of Protection IP67 Connection M12 × 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) 4226,24 a PNP NC Connection Diagram No. 113 Control Panel No. 01 Suitable Connection Equipment No. 2	Response Time	2 ms			
Switching Output Voltage Drop < 2,5 V Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Protection Class III Mechanical Data Setting Method Potentiometer Housing Material Full Encapsulation Degree of Protection Degree of Protection M12 × 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 200 mA 200 mA 201 mA 202 mA 203 mA 204 mA 205 mA 206 mA 207 mA 208 mA	Temperature Drift	< 10 %			
Switching Output/Switching Current Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Protection Class III Mechanical Data Setting Method Potentiometer Housing Material Full Encapsulation Degree of Protection Degree of Protection Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Temperature Range	-1060 °C			
Residual Current Switching Output Short Circuit and Overload Protection Reverse Polarity Protection Protection Class III Mechanical Data Setting Method Housing Material Full Encapsulation Degree of Protection Connection Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Switching Output Voltage Drop	< 2,5 V			
Short Circuit and Overload Protection Reverse Polarity Protection Protection Class III Mechanical Data Setting Method Potentiometer Housing Material Full Encapsulation Degree of Protection Connection Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Switching Output/Switching Current	200 mA			
Reverse Polarity Protection Protection Class III Mechanical Data Setting Method Potentiometer CuZn, nickel-plated Full Encapsulation Degree of Protection Connection Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No.	Residual Current Switching Output	< 50 μA			
Protection Class III Mechanical Data Setting Method Potentiometer Housing Material CuZn, nickel-plated Full Encapsulation yes Degree of Protection IP67 Connection M12 × 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) 4226,24 a PNP NC Connection Diagram No. 113 Control Panel No. 01 Suitable Connection Equipment No. 2	Short Circuit and Overload Protection	yes			
Mechanical Data Setting Method Potentiometer Housing Material CuZn, nickel-plated Full Encapsulation yes Degree of Protection IP67 Connection M12 × 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) 4226,24 a PNP NC Connection Diagram No. 113 Control Panel No. 01 Suitable Connection Equipment No. 2	Reverse Polarity Protection	yes			
Setting Method Potentiometer Housing Material CuZn, nickel-plated Full Encapsulation yes Degree of Protection IP67 Connection M12 × 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) 4226,24 a PNP NC Connection Diagram No. 113 Control Panel No. 01 Suitable Connection Equipment No. 2	Protection Class	III			
Housing Material CuZn, nickel-plated Full Encapsulation yes Degree of Protection IP67 Connection M12 × 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) 4226,24 a PNP NC Connection Diagram No. 1113 Control Panel No. O1 Suitable Connection Equipment No. 2	Mechanical Data				
Full Encapsulation yes Degree of Protection IP67 Connection M12 × 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) 4226,24 a PNP NC Connection Diagram No. Control Panel No. 01 Suitable Connection Equipment No. 2	Setting Method	Potentiometer			
Degree of Protection IP67 Connection M12 × 1; 4-pin Safety-relevant Data MTTFd (EN ISO 13849-1) 4226,24 a PNP NC Connection Diagram No. 113 Control Panel No. 01 Suitable Connection Equipment No. 2	Housing Material	CuZn, nickel-plated			
Connection M12 × 1; 4-pin Safety-relevant Data M12 × 1; 4-pin MTTFd (EN ISO 13849-1) 4226,24 a PNP NC Connection Diagram No. Control Panel No. 01 Suitable Connection Equipment No. 2	Full Encapsulation	yes			
Safety-relevant Data MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 2	Degree of Protection	IP67			
MTTFd (EN ISO 13849-1) PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 2	Connection	M12 × 1; 4-pin			
PNP NC Connection Diagram No. Control Panel No. Suitable Connection Equipment No. 2	Safety-relevant Data				
Connection Diagram No. 113 Control Panel No. 01 Suitable Connection Equipment No. 2	MTTFd (EN ISO 13849-1)	4226,24 a			
Control Panel No. Suitable Connection Equipment No. 2	PNP NC	•			
Suitable Connection Equipment No.	Connection Diagram No.	113			
• •	Control Panel No.	01			
Suitable Mounting Technology No. 170	Suitable Connection Equipment No.	2			
	Suitable Mounting Technology No.	170			

Suitable Emitter

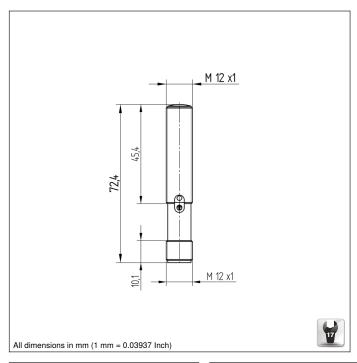
SO983

Complementary Products

Path-Folding Mirror LA9

PNP-NPN Converter BG2V1P-N-2M

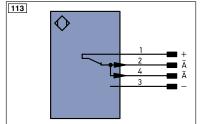




Ctrl. Panel



- 01 = Switching Status Indicator
- 05 = Switching Distance Adjuster



Legend PT Platinum massuring resistor FNew Encoder A/Ā (TTI.)							
Legen		PT	Platinum measuring resistor		Encoder A/Ā (TTL)		
+	Supply Voltage +	nc	not connected		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	Амах	Digital output MAX		
V	Contamination/Error Output (NO)	0	Analog Output	Аок	Digital output OK		
V	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		
Т	Teach Input	Awv	Valve Output	OLT	Brightness output		
Z	Time Delay (activation)	а	Valve Control Output +	М	Maintenance		
S	Shielding	b	Valve Control Output 0 V	rsv	reserved		
RxD	Interface Receive Path	SY	Synchronization	Wire Co	Colors according to DIN IEC 757		
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		Yellow		
②	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		
	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink		
	Encoder 0-pulse 0-0 (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow		







