Through-Beam Sensor

EB77VD7

Part Number

- **Ample performance reserves**
- **Infrared light**
- **Insensitive to contamination**

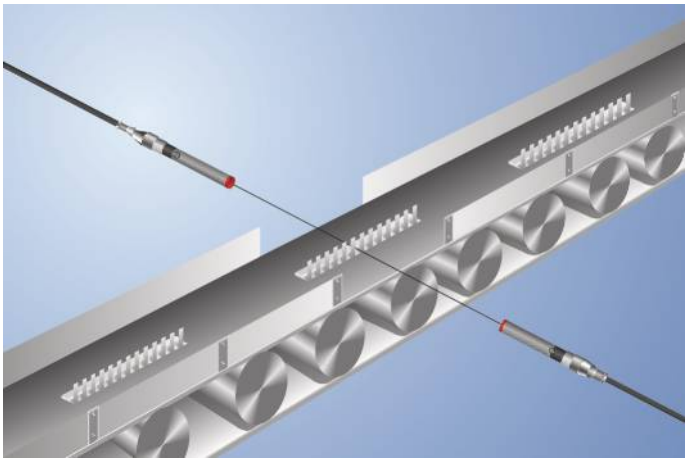
Technical Data

Optical Data	
Range	1500 mm
Switching Hysteresis	< 15 %
Light Source	Infrared Light
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Opening Angle	20 °
Electrical Data	
Sensor Type	Receiver
Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 10 mA
Switching Frequency	500 Hz
Response Time	1 ms
Temperature Drift	< 10 %
Temperature Range	-10...60 °C
Switching Output Voltage Drop	< 2,5 V
Switching Output/Switching Current	100 mA
Residual Current Switching Output	< 50 µA
Short Circuit and Overload Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Mechanical Data	
Housing Material	Stainless Steel
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M8 × 1; 4-pin
PNP NC	●
Connection Diagram No.	106
Control Panel No.	B3
Suitable Connection Equipment No.	7
Suitable Mounting Technology No.	200

Suitable Emitter

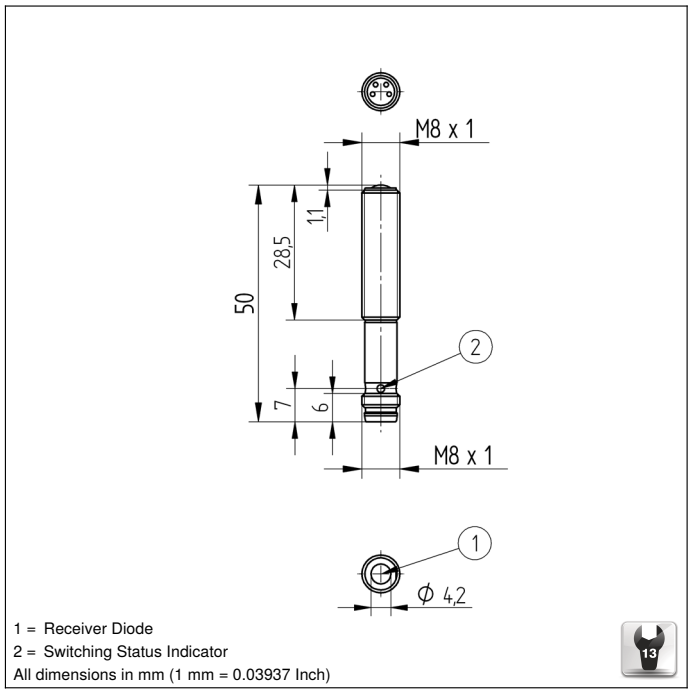
SB777

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.



Complementary Products

PNP-NPN Converter BG7V1P-N-2M



1 = Receiver Diode
2 = Switching Status Indicator
All dimensions in mm (1 mm = 0.03937 Inch)

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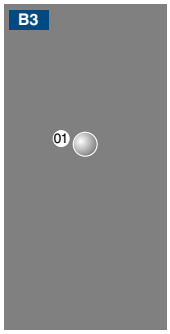
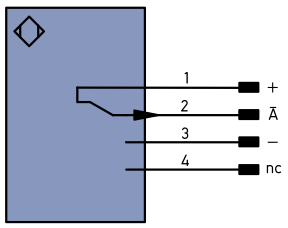
Ctrl. Panel



01 = Switching Status Indicator

106



Legend

+	Supply Voltage +		PT	Platinum measuring resistor		ENARS422	Encoder A/Ā (TTL)
–	Supply Voltage 0 V		nc	not connected		ENBRS422	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
V̄	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
Z	Time Delay (activation)		AMV	Valve Output		OLT	Brightness output
S	Shielding		a	Valve Control Output +		M	Maintenance
RxD	Interface Receive Path		b	Valve Control Output 0 V		rsv	reserved
TxD	Interface Send Path		SY	Synchronization		Wire Colors according to DIN IEC 757	
RDY	Ready		SY–	Ground for the Synchronization		BK	Black
GND	Ground		E+	Receiver-Line		BN	Brown
CL	Clock		S+	Emitter-Line		RD	Red
E/A	Output/Input programmable		⏚	Grounding		OG	Orange
	IO-Link		SnR	Switching Distance Reduction		YE	Yellow
PoE	Power over Ethernet		Rx+/–	Ethernet Receive Path		GN	Green
IN	Safety Input		Tx+/–	Ethernet Send Path		BU	Blue
OSSD	Safety Output		Bus	Interfaces-Bus A(+)/B(–)		VT	Violet
Signal	Signal Output		La	Emitted Light disengageable		GY	Grey
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)		Mag	Magnet activation		WH	White
EN0RS422	Encoder 0-pulse 0-0̄ (TTL)		RES	Input confirmation		PK	Pink
			EDM	Contactor Monitoring		GNYE	Green/Yellow

Specifications are subject to change without notice