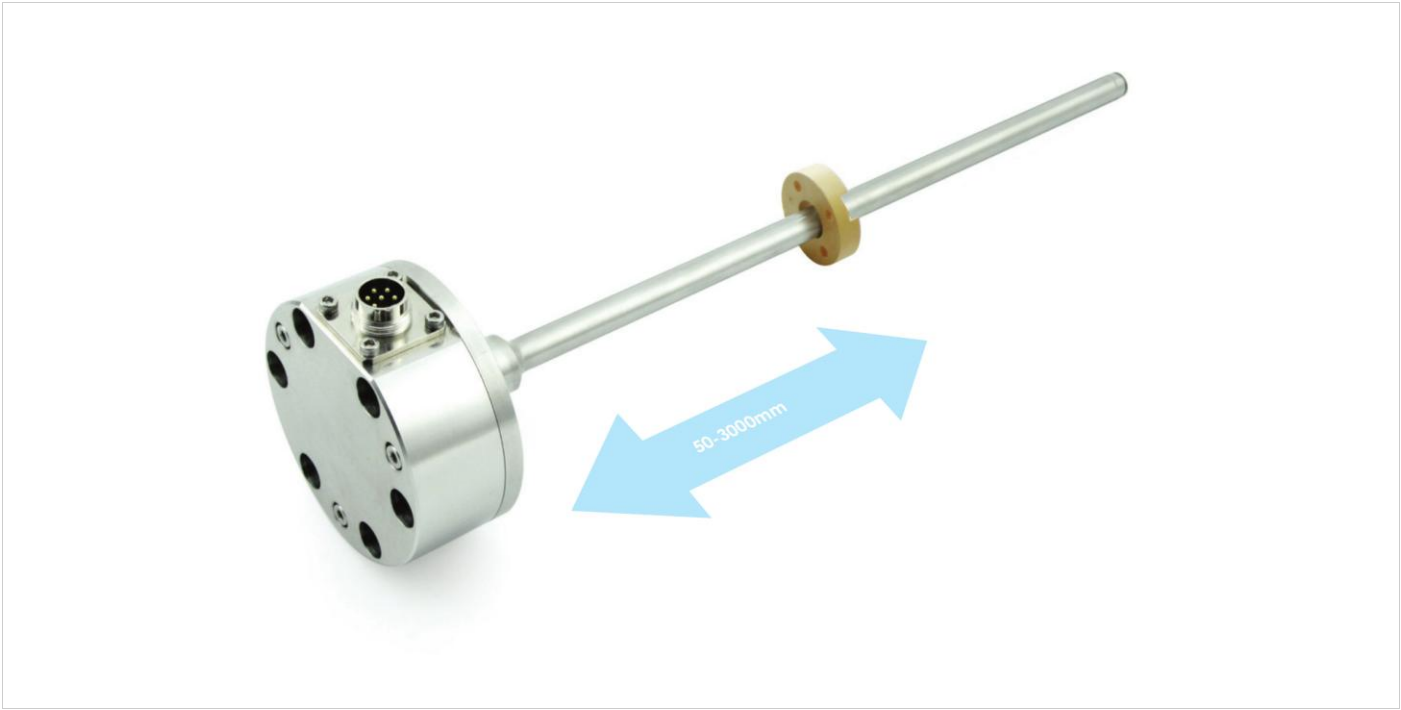
SensorsX

SX-DMNSB Series

Magnetostrictive Displacement Sensor

Industrial Position / Displacement Sensor

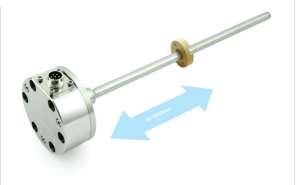


< ±0.02 % FS Nonlinearity	**50 – 3000 mm** Stroke Length (1.97 – 118.11 in)	**4-20 mA / 0-10 V / SSI** Output (also 0-5 V, Modbus, Profibus, CANopen)
IP67 Ingress Protection	**Up to 700 bar** Pressure Resistance (10,153 psi)	**24 V DC** Power Supply

Non-Contact Linear Position Measurement | Hydraulic Cylinders | Mechanical Equipment | Hydraulic & Pneumatic Transmission

■ PRODUCT OVERVIEW

The SX-DMNSB Series is a magnetostrictive linear position sensor for non-contact, absolute position measurement in industrial machinery and hydraulic systems. It is available with measuring strokes from 50 to 3,000 mm and is designed for installation inside hydraulic cylinders.
Analog output and digital interface options are available, depending on the selected model. The sensor has an IP67 ingress protection rating, and the sensor tube is rated for 35 MPa (350 bar), with a peak pressure rating of 70 MPa (700 bar).



■ KEY FEATURES

◆ **Non-Contact Measurement**	◆ **Nonlinearity Accuracy up to 0.02 % FS**
◆ **Multiple Signal Outputs** 0–5 V, 0–10 V, 4–20 mA, Synchronous Serial Interface (SSI)	◆ **High Pressure Resistance & IP67** Pressure resistance up to 700 bar (10,153 psi); protection rating IP67
◆ **Designed for installation inside hydraulic cylinders**	

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■ TYPICAL APPLICATIONS

- Mechanical Equipment
- Hydraulic & Pneumatic Transmission Equipment
- Inside Hydraulic Cylinders

■ PERFORMANCE SPECIFICATIONS

Measurement	
Measuring Principle	Magnetostrictive, non-contact
Stroke Length	0 – 50 … 100 … 200 … 300 … 1000 … 3000 mm (0 – 1.97 … 3.94 … 7.87 … 11.81 … 39.37 … 118.11 in)
Position Measurement	Absolute
Accuracy	
Nonlinearity	< ±0.02 % FS
Repeatability	0.005 mm (0.0002 in)
Fluctuation	< ±0.01 % FS
Response	
Update Time	< 1 ms

■ ELECTRICAL SPECIFICATIONS

Power	
Operating Voltage	24 V DC
Current Consumption	50 – 140 mA (depending on stroke range)
Output Signal	
Output Signal	4 – 20 mA, 0 – 5 V, 0 – 10 V, Profibus, Modbus, CANopen, SSI
Electrical Connection	
Electrical Connection	6-pin DIN male connector; direct cable outlet
Protection	
Electric Shock	500 V (between electrical ground and machine ground)

■ ENVIRONMENTAL SPECIFICATIONS

Temperature	
Operating Temperature	−40 to +75 °C (−40 to +167 °F)
Mechanical & Environmental	
Ingress Protection	IP67
Vibration Proof	20 g (5 … 2000 Hz)
Shock Resistance	100 g

■ PROCESS CONNECTIONS & MATERIALS

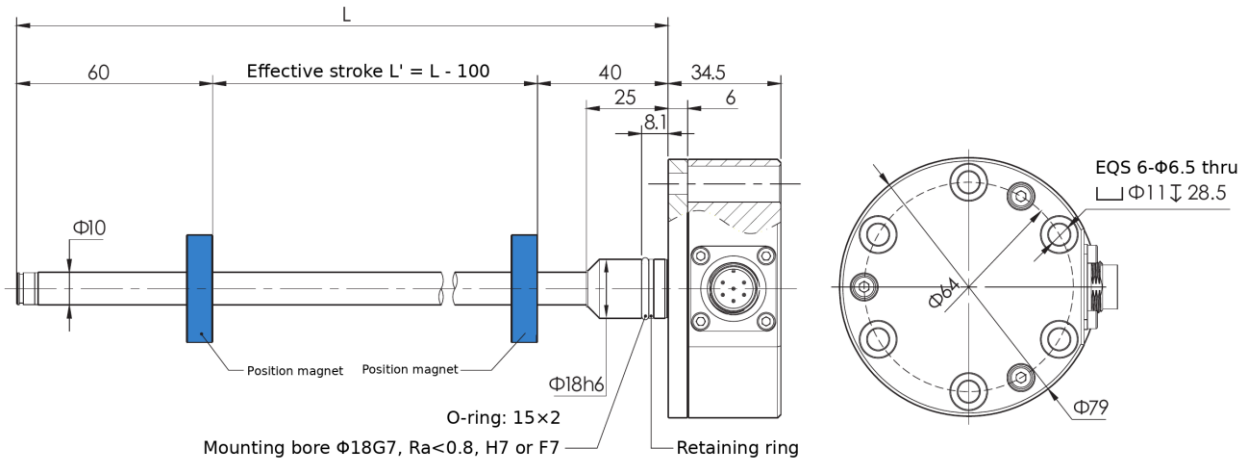
Process Connection / Mounting	
Flange Mounting	Φ79 mm (Φ3.11 in) flange; 6 × Φ6.5 mm (Φ0.26 in) through holes, equally spaced on Φ64 mm (Φ2.52 in); counterbore Φ11 mm (Φ0.43 in) × 28.5 mm (1.12 in) deep
Spigot / Mounting Bore	Spigot Φ18h6; mounting bore Φ18G7, Ra < 0.8, H7 or F7
Sealing	O-ring 15 × 2 mm (0.59 × 0.08 in)

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Endurance Pressure (Tube)	35 MPa (5,076 psi); 70 MPa (10,153 psi) peak
Materials	
Sensor Head	304 stainless steel and aluminum
Sensor Rod	316 stainless steel

■ MECHANICAL DIMENSIONS

Sensor Dimensions (side view and flange end view)



※ *All dimensions in mm.*

■ ORDERING INFORMATION — SX-DMNSB

Complete model number example: SX-DMNSB1000mmBI510

Linear Stroke	
50mm	0 – 50 mm (0 – 1.97 in)
100mm	0 – 100 mm (0 – 3.94 in)
200mm	0 – 200 mm (0 – 7.87 in)
300mm	0 – 300 mm (0 – 11.81 in)
1000mm	0 – 1000 mm (0 – 39.37 in)
3000mm	0 – 3000 mm (0 – 118.11 in)
Electrical Connection	
0	Direct cable outlet
B	M16×1 male, 6-pin
Output Signal	
I	4 – 20 mA, 4-wire
V2	0 – 10 V, 4-wire
V1	0 – 5 V, 4-wire
K	CANopen
M	Modbus
P	Profibus
S	Synchronous Serial Interface (SSI)

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Housing Mounting Type	
4	End support (stroke below 400 mm / 15.75 in)
5	End with M4 threaded hole (stroke above 400 mm / 15.75 in)
Overall Accuracy	
10	0.10 % FS
25	0.25 % FS
50	0.50 % FS
Customized (Optional)	
D	Customized — specify requirements in order remarks

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