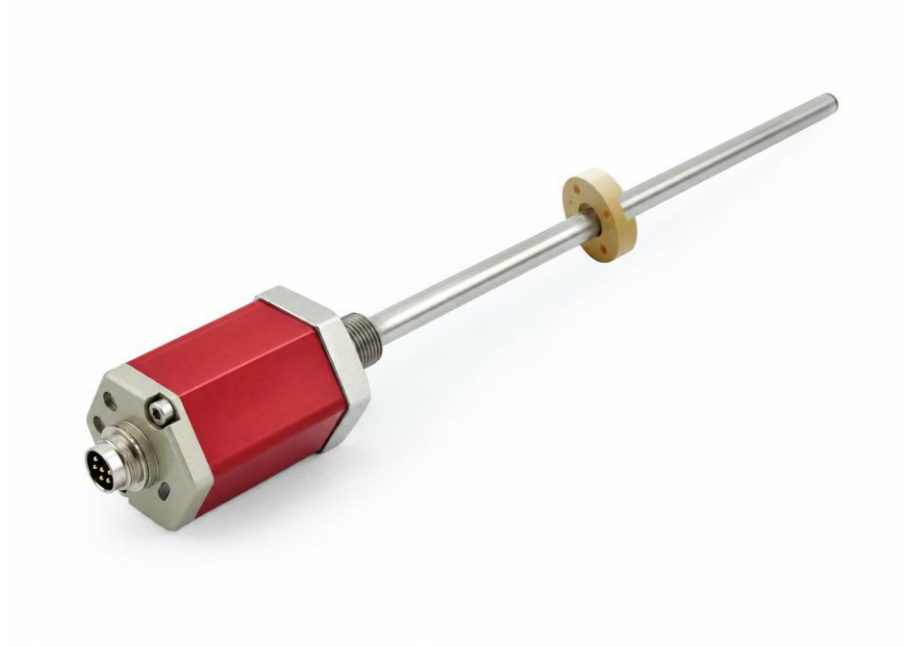
SensorsX

SX-DMNNB Series

Magnetostrictive Displacement Sensor

Industrial Position / Displacement Sensor



< ±0.02% F.S. Nonlinearity	**50 – 5,000 mm** Stroke Length (1.97 – 196.85 in)	**4–20 mA / 0–10 V / SSI** Additional options: 0–5 V, Modbus, PROFIBUS, CANopen
IP67 Ingress Protection	**350 bar / 700 bar peak** Pressure Rating	**24 V DC** Power Supply

■ PRODUCT OVERVIEW

The SX-DMNNB Series is a magnetostrictive displacement sensor for displacement measurement in industrial machinery and hydraulic systems. It uses a position magnet for non-contact position sensing and is available with measuring strokes from 50 to 5,000 mm.
The rod-style design supports installation inside hydraulic cylinders. Analog output and digital interface options are available, depending on the selected model. The sensor tube has a pressure rating of 35 MPa (350 bar), with a peak pressure rating of 70 MPa (700 bar).



■ KEY FEATURES

◆ Resistance to electromagnetic interference	◆ IP67 ingress protection rating
◆ Multiple analog and digital output options	◆ Pressure rating of 350 bar, with a peak pressure of 700 bar

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■ TYPICAL APPLICATIONS

● Industrial machinery position measurement ● Hydraulic and pneumatic systems ● Hydraulic cylinder position measurement

■ PERFORMANCE SPECIFICATIONS

Measurement	
Measuring Principle	Magnetostrictive
Stroke Length	50–5,000 mm
Accuracy	
Nonlinearity	< ±0.02% F.S.
Repeatability	0.002 mm (0.00008 in)
Fluctuation	< ±0.01% F.S.
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	Direct cable outlet / M12×1 male, 4-pin / M16×1 male, 6-pin (model-dependent)
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 Resistance	20 g (5 … 2,000 Hz)
Shock Resistance	100 g

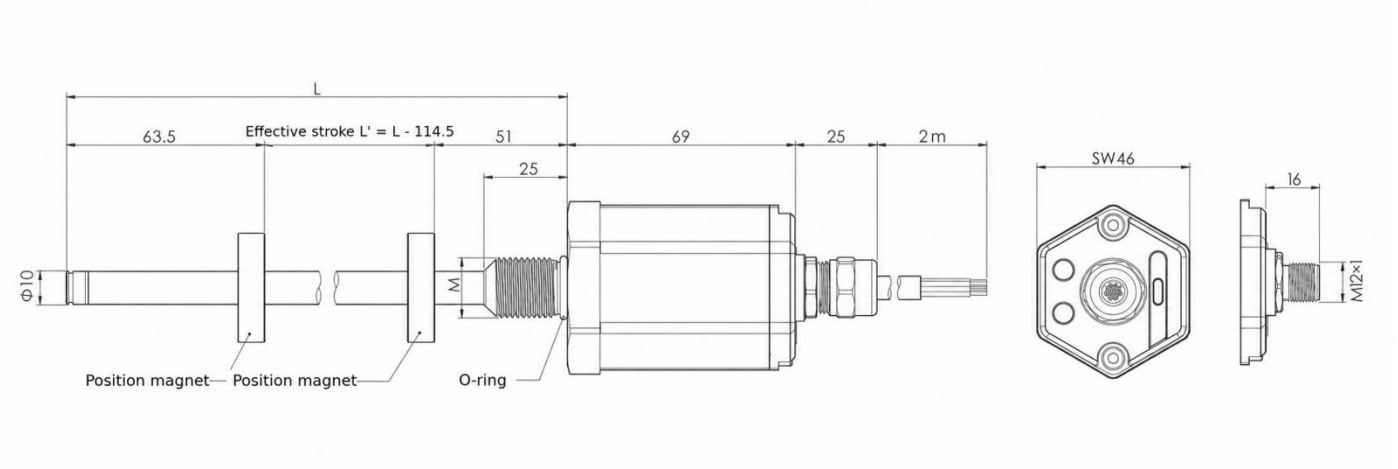
■ PROCESS CONNECTIONS & MATERIALS

Process Connection	
Thread Connection	M18×1.5-6g / M22×1.5-6g / 3/4"-16 UNF-3A (see Ordering Information)
Pressure Rating (Sensor 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
Sealing	O-ring (at thread connection, see dimension drawing)

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■ MECHANICAL DIMENSIONS

Sensor Dimensions (with direct cable outlet / M12×1 connector views)



Note: All dimensions are in millimeters unless otherwise specified. The drawing shows two position magnets, an O-ring seal, process thread M, and an M12×1 connector configuration.

■ ORDERING INFORMATION — SX-DMNNB

Complete model number example: SX-DMNNB1000mmKBI510

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	0–1,000 mm (0–39.37 in)
5000mm	0–5,000 mm (0–196.85 in)
Thread Connection	
K	M18×1.5-6g
L	M22×1.5-6g
N	3/4"-16 UNF-3A
Electrical Connection	
0	Direct cable outlet
6	M12×1 male, 4-pin
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

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S	Synchronous Serial Interface (SSI)
Housing Mounting Type	
4	End support mounting (stroke below 400 mm / 15.75 in)
5	End mounting with M4 threaded hole (stroke above 400 mm / 15.75 in)
Overall Accuracy	
10	0.10% F.S.
25	0.25% F.S.
50	0.50% F.S.
Customization Options	
D	Custom configuration — specify requirements when ordering

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