WayCon
Positionsmesstechnik

MAGNETOSTRICTIVE TRANSDUCERS

Powerful sensors to meet growing demands

Magnetostrictive Transducer MAB / MAP

Features

- Measurement range of 50 to 2500 mm
- Linearity up to ±0.01 %
- Resolution up to 5 µm
- Repeatability <0.01 mm
- Displacement speed up to 10 m/s
- Output: analog, SSI
- Protection class IP67
- Operating temperature -30...+90 °C
- Contactless measurement
- Sliding or floating magnetic cursor

Description

The MAB and MAP series magnetostrictive transducer sensors consist of two components. The profile, which also contains the electronics, is bolted to a fixed surface. The position magnet, available in a sliding or free-floating style, is secured to the moving measurement object. This contactless, wear-free measuring method will accurately reflect distances with minimal effort.

Technical Data

SERIES ▶ CHARACTERISTICS ▼	MAB	MAP
Measurement range max.	2500 mm	1500 mm
Linearity max.[1)]	±0.01 %	≤±0.04 % (min. ±0.09 mm)
Resolution max.	5 µm	limited by noise
Repeatability	<0.01 mm	
Displacement speed	≤10 m/s	
Output analog	0...10 V, 4...20 mA	0.1...10.1 V, 4...20 mA
Output digital	SSI	-
Protection class max.	IP67	IP65
Operating temperature	-30...+90 °C	-20...+75 °C
Housing material	anodised Aluminium	
Measured dimension	position, speed	position

[1)] based on the measurement range

Magnetostrictive Transducer MAZ / MSB

Features

- Measurement range of 50 to 2500 mm
- Linearity up to ±0.02 %
- Resolution up to 5 µm
- Repeatability <0.01 mm
- Displacement speed up to 10 m/s
- Output: analog, SSI, RS422
- Protection class IP67
- Operating temperature -30...+90 °C
- Operating pressure up to 350 bar
- Contactless measurement
- Different ring magnets or floating cursor for liquids

Description

The magnetostrictive measuring principle is particularly suited for determining the position of the piston in small and medium sized hydraulic cylinders. The plug-in or threaded flange sensors are mounted all the way in the cylinder for this purpose. MAZ and MSB sensors are further used to measure container fill levels. A special float style magnet provides a reliable measurement of the fluid level.

Technical Data

SERIES ▶ CHARACTERISTICS ▼	MAZ	MSB
Measurement range max.	2500 mm	
Linearity max.[1)]	≤±0.02 % (min. ±0.06 mm)	
Resolution max.	5 µm	10 µm
Repeatability	<0.01 mm	
Displacement speed	≤10 m/s	
Output analog	0...10 V, 4...20 mA, 0...20 mA	0.1...5.1 V, 0.1...10.1 V, 4...20 mA
Output digital	SSI	RS422
Protection class max.	IP67	
Operating temperature	-30...+90 °C	
Housing material	stainless steel	
Measured dimension	position, speed	position
Operating pressure max.	350 bar	

[1)] based on the measurement range

Product Overview

Draw Wire Sensors

- Measurement ranges 50 mm to 42.5 m
- Linearity up to ±0.02 %
- Resolution up to ±0.02 %

Inductive Sensors LVDT

- Measurement ranges 2 mm to 500 mm
- Linearity up to ±0.1 %
- Resolution up to 0.8 µm

Laser Sensors

- Measurement ranges 0.5 mm to 500 m
- Linearity up to ±1 µm
- Resolution up to 0.2 µm

Linear Potentiometer

- Measurement ranges 10 mm to 2000 mm
- Linearity up to ±0.05 %
- Output: potentiometer, analog

Digital Magnetic Scales

- Measurement ranges up to 99.99 m
- Linearity up to ±2 µm
- Resolution up to 0.5 µm

Inductive Sensors

- Measurement ranges 2 mm to 24 mm
- Linearity up to ±25 µm
- Resolution up to 0.012 µm

Eddy Current Probes

- Measurement ranges 0.8 mm to 4 m
- Linearity up to ±8 µm
- Resolution up to 0.4 µm

Magnetostrictive Transducer

- Measurement ranges 50 mm to 4000 mm
- Linearity up to ±0.02 %
- Resolution up to 2 µm

Encoder

- Singleturn and Multiturn
- Solid-, hollow- and through hollow shaft
- Outputs: analog, digital, incremental

Ultrasonic Sensors

- Measurement ranges 100 mm to 6000 mm
- Linearity up to ±0.3 %
- Resolution up to 0.125 mm

Capacitive Sensors

- Measurement ranges 0.05 mm to 10 mm
- Linearity up to ±0.2 %
- Resolution up to 0.01 %

Digital Length Gauges

- Measurement ranges 10 mm to 50 mm
- Linearity up to 0.8 µm
- Resolution up to 0.1 µm

Digital Linear Scales

- Measurement ranges 150 mm to 2000 mm
- Linearity up to ±20 µm
- Resolution up to 10 µm

Signal Conditioners and Displays

- Amplifiers for LVDTs
- Teaching of potentiometer outputs
- Multifunctional displays

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