

HYDRAULIC PRESS POSITION SENSORS



MSS

Non-Contact Magnetostrictive Position Sensor

- Measurement stroke 100 to 5000 mm
- 16 bit DAC resolution
- Output 0...10 V, 0...20 mA, 4...20 mA
10...0 V, 20...0 mA, 20...4 mA
- 24 VDC power supply



Technical Specifications

Measurement stroke	100 ... 5000 mm
Resolution	16 bit DAC output
Repeatability	±0,005% (full scale)
Output	0 ... 10 V, 4 ... 20 mA, 0 ... 20 mA, 10 ... 0 V, 20 ... 4 mA, 20 ... 0 mA
Power supply	24 VDC ±10%
Displacement speed	< 10 m/s
Sampling rate	up to 2 kHz (depending on stroke length)
Max. consumption	50 mA - 90 mA (depending on stroke length)
Max. output noise	< 5 mVpp
Max. output value	10.5 Volt
Linearity	±0,02% full scale (min. 100 µm)
Update time	0,5 ms up to 1000 m 0,8 ms up to 2000 m
Reverse polarity protection	Up to -30 VDC
Overvoltage protection	Up to 40 VDC
IP degree	IP 65
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

Applications

Deep Drawing Press



Forming Press



MSW

Non-Contact Magnetostrictive Position Sensor

- Measurement stroke 100 to 5000 mm •
- 16 bit DAC resolution •
- Output 0...10 V, 0...20 mA, 4...20 mA •
- 10...0 V, 20...0 mA, 20...4 mA •
- 24 VDC power supply •



Technical Specifications

Measurement stroke	100 ... 5000 mm
Resolution	16 bit DAC output
Repeatability	±0,005% (full scale)
Output	0 ... 10 V, 4 ... 20 mA, 0 ... 20 mA, 10 ... 0 V, 20 ... 4 mA, 20 ... 0 mA
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Sampling rate	up to 2 kHz (depending on stroke length)
Max. consumption	50 mA - 90 mA (depending on stroke length)
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Linearity	±0,02% full scale (min. 100 µm)
Update time	0,5 ms up to 1000 m 0,8 ms up to 2000 m
Reverse polarity protection	Up to -30 VDC
Overvoltage protection	Up to 40 VDC
IP degree	IP 65
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

Applications

Column Type
Hydraulic Press



Monoblok
Hydraulic Press



MST

In-Cylinder Non-Contact Magnetostrictive Position Sensors

- Measurement stroke 100 to 5000 mm
- 16 bit DAC resolution
- Output 0...10 V, 0...20 mA, 4...20 mA
10...0 V, 20...0 mA, 20...4 mA
- 24 VDC power supply



Technical Specifications

Measurement stroke	100 to 5000 mm
Resolution	16 bit DAC output
Repeatability	±0,005% (full scale)
Output	0 ... 10 V, 4 ... 20 mA, 0 ... 20 mA, 10 ... 0 V, 20 ... 4 mA, 20 ... 0 mA
Power supply	24 VDC ±10%
Displacement speed	< 10 m/s
Sampling rate	up to 2 kHz (depending on stroke length)
Max. consumption	50 mA - 90 mA (depending on stroke length)
Max. output noise	< 5 mVpp
Max. output value	10.5 Volt
Linearity	±0,02% full scale (min. 100 µm)
Update time	0,5 ms up to 1000 m 0,8 ms up to 2000 m
Reverse polarity protection	up to -30 VDC
Overvoltage protection	up to 40 VDC
Pressure rating	< 500 bar
Mounting	M18 x 1.5
Housing material	Profile: Anodized aluminium, Tube: Stainless steel, Caps: Stainless steel
IP protection	IP 65

Applications

Rubber Curing
Presses



Hot Plated
Presses



RPH

Linear Potentiometer

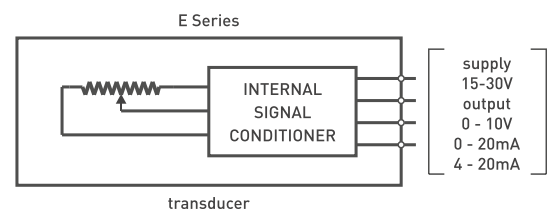
- Measuring range 100 - 1950 mm
- Long mechanical life 100 million movements
- Excellent repeatability <0.01 mm
- Infinite resolution
- 5 kOhm (100 ... 600 mm),
10 kOhm (650 ... 1000 mm),
20 kOhm (1250 ... 1950 mm)



ERPH

Linear Potentiometer Internal Voltage Current Conditioner Circuit

- Internal electronic circuit
- Measuring range 100 - 1950 mm
- Output 4-20 mA, 0-20 mA, 0-10 V
- Very low temperature drift
- Very stable output signal



Technical Specifications

Measurement stroke	100 to 1950 mm
Linearity	$\pm 0,05$ (>200mm), $\pm 0,1$ (130-200mm), $\pm 0,2$ (75-130mm), $\pm 0,5$ (<75mm)
Repeatability	< 0.01 mm
Resolution	Infinite
Resistance	5 kOhm : 100 ... 600 mm 10 kOhm : 650 ... 1000 mm 20 kOhm : 1250 ... 1950 mm
Resistance tolerance	± 20
Load resistance	100 kOhm min.
Recommended cursor current	< 1 μ A
Permissible applied voltage	28 VDC max.
Electrical connections	4 pin connector
Displacement speed	< 1,5 m/s
Mechanical life	100 million movement
Case dimensions	33 mm x 33 mm
Case material	Anodized aluminium
Mechanical fixing	Variable brackets
IP degree	IP 40 (if mounted upside down IP 53)
Operating temperature	-20°C ... +80°C
Storage temperature	-30°C ... +90°C

Applications

Type C



Hydraulic
Rubber Press



MPS

Magnetic Linear Incremental Encoder

- 5 µm resolution (4x mode) as standard.
- Other resolutions optional
- Measuring range 150 - 2000 mm
- Adjustable reference
- LED status indicators
- Full symmetrical
- Protective steel cover for measurement tape
- High precision bearings for smooth movement
- ± 15 µm accuracy



Technical Specifications

Type of measurement	Magnetic incremental non-contact
Measurement stroke	150 to 2000 mm
Resolution	Standard: 5 µm (4x mode), Optional: 2,5 / 5 / 10 / 12,5 / 20 / 25 µm (4x mode)
Repeatability	± 5 µm
Accuracy	±15 µm
Output channels	A,A, B,B, Z,Z
Output type	TTL Linedriver (standard), Push-Pull / HLD Linedriver (optional)
Supply voltage	5 VDC (standard), 8 - 24 VDC (optional)
Power consumption (without load)	< 40 mA (24 VDC)
Electrical connections	DB9 connector with 1 m cable
Max. speed	< 3 m/s
Case material	Anodized aluminium
IP degree	IP 65
Operating temperature	-20°C ... +80°C
Storage temperature	-30°C ... +90°C

Applications

Sheet Metal
Forming Presses



Servo
Presses



Other Production Range

Linear Potentiometers
Long Stroke Serie
(30 - 2000 mm)



Linear Potentiometers
Short Stroke - Compact Serie
(10 - 400 mm)



Linear Potentiometers
Internal Voltage -
Current Conditioner Serie
(Output 4-20mA, 0-20mA, 0-10V)



Non-Contact Magnetostrictive
Position Sensors



Non-Contact Magnetostrictive
Position Sensors
BUS Output



Magnetic Linear Encoders



Optical / Magnetic
Rotary Encoders



Optical Rotary Absolute Encoders
(for synchronous gearless motors)



Draw Wire Potentiometers
(5 - 10 kOhm or
4-20mA, 0-20mA, 0-10V output)

Draw Wire Encoders





WORLDWIDE SALES NETWORK

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