

MG-LVDT

Microminiature Gauging Displacement Sensor



MG-LVDT- robust and highly accurate displacement sensor with micron resolution and large stroke-body length ratio

Designed specifically for tight spaces, the MG-LVDT delivers high performance in a tiny package. A sapphire bearing and ruby ball guide the spring-loaded tip, providing an exceptionally smooth static and dynamic response. Configuration options can provide cutting-edge features, including micron resolution, linear analog output, flat dynamic response to kHz levels, and/or very low temperature coefficients. The Extremely lightweight, captive cores are tiny yet rugged. Super-elastic, corrosion-resistant alloys provide resistance to kinking and permanent deformation, and allow complete submersion of the instrument.

Product Highlights

- World's smallest linear displacement sensor
- Plug and play usability
- Easily customized to suit specific requirements
- Signal conditioning options for any application

Features and Benefits

High Performance

- Frictionless design for robust use over millions of cycles
- Suitable for use in harsh fluids and environments
- Micron resolution with large stroke/size ratio

Applications

- Process control for production line monitoring
- Miniature position control elements
- Linear and angular motion control
- Dimensional gauging for quality control

DISPLACEMENT SENSORS



SIGNAL CONDITIONERS



Digital



Analog

Analog



OUTPUT

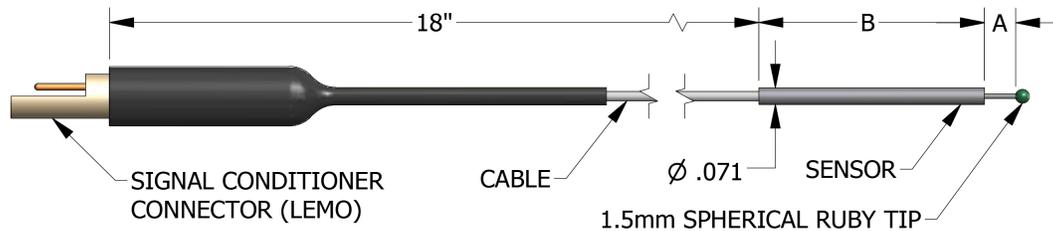


MG-LVDT Microminiature Gauging Displacement Sensor

Specifications

Mechanical Specifications	
Linear stroke lengths	3 mm, 6 mm, 9 mm (standard) 1.5 mm (high resolution)
Temperature coefficients	Offset: 0.0029% FS/° C (typical) Span: 0.030% FS/° C (typical)
Housing material	316 Stainless steel ;400 series stainless steel body optional (see drawing)
Core material	316 stainless steel Super elastic NiTi alloy
Cable material	Teflon coated
Electrical connector	4 Pin PEEK LEMO connector
Temperature range	-55 -175° C

Performance Specifications		
	DEMOD-DC	DEMOD-DVRT-2
Resolution	0.16% FS typical	0.05% FS typical
Sensitivity	0-5 VDC FS	0-10 VDC FS
Accuracy	±1% Peak (typical), (±2% max) with straight line 0.2% RMS with multi-segment 0.1% RMS with polynomial	
Frequency response	800 Hz standard, 10 Hz -20 kHz optional	
Hysteresis	±1 Micron (typical)	
Repeatability	±1 Micron	



MODEL	X - LINEAR STROKE	A - MAXIMUM TRAVEL	B - SENSOR LENGTH
HMG-LVDT-1.5	1.5 mm [.059 in]	2.5 mm [.098 in]	24 mm [.944 in]
MG-LVDT-3	3 mm [.118 in]	4 mm [.157 in]	24 mm [.944 in]
MG-LVDT-6	6 mm [.236 in]	7 mm [.276 in]	40 mm [1.575 in]
MG-LVDT-9	9 mm [.354 in]	10 mm [.394 in]	50 mm [1.969 in]

NOTE:

For more information on mechanical dimension and threaded options, go to: www.microstrain.com/displacement/nodes, select the sensor > "Documentation" > "Mechanical Drawing".

LORD SENSING

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