

MicroStrain Sensing Product Datasheet

MG-LVDT

Microminiature Gauging Displacement Sensor



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

The MG-LVDT delivers high performance in a tiny package and is designed specifically for tight spaces. A sapphire bearing and ruby ball guide the spring-loaded tip, providing an exceptionally smooth static and dynamic response. Configuration options provide cutting-edge features, including sub-micron resolution, linear analog output, flat dynamic response to kHz levels, and 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.

NOTE: This sensor is designed for use with LORD Sensing DEMOD signal conditioners.

PRODUCT HIGHLIGHTS

- For use with LORD DEMOD signal conditioners
- Easily customized to suit specific requirements
- Signal conditioning options for any application
- World's smallest linear displacement sensor
- Plug and play usability

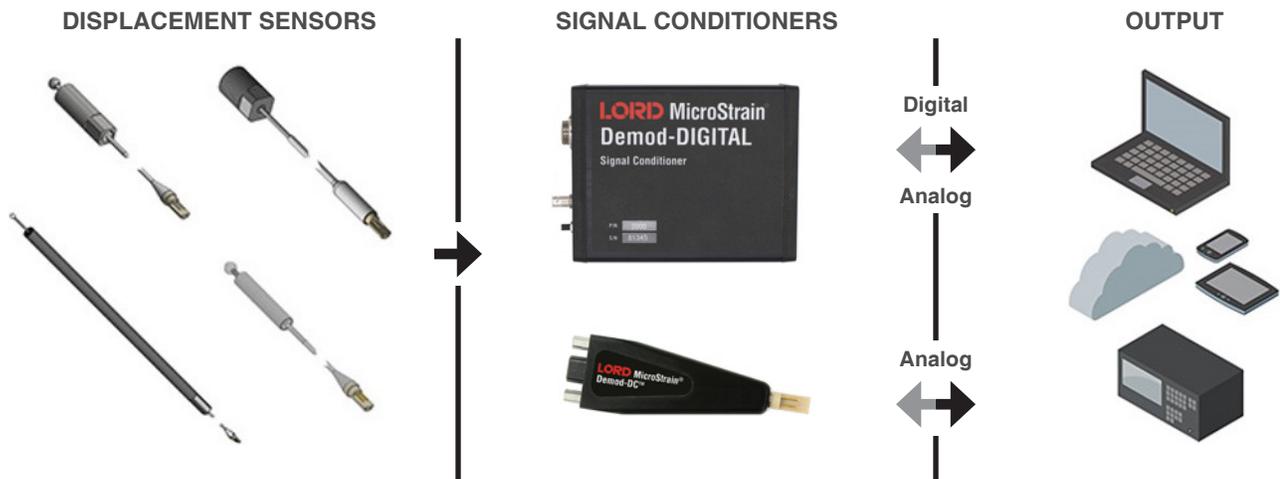
FEATURES AND BENEFITS

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

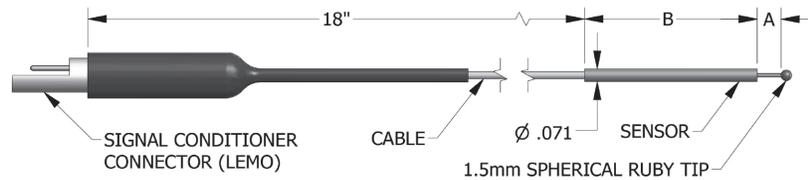


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Specifications

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
Operating Temperature range	-55 – 175°C

Performance Specifications		
	DEM0D-DC	DEM0D-DVRT-2
Resolution	0.16% FS typical	0.05% FS typical
Sensitivity	0-5 VDC FS	0-10 VDC FS
Accuracy @25°	±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	



MODEL	X - LINEAR STROKE*	A - MAXIMUM TRAVEL	B - SENSOR LENGTH	PART NUMBER
HMG-LVDT-1.5	1.5 mm [.059 in]	2.5 mm [.098 in]	24 mm [.944 in]	6112-0000
MG-LVDT-3	3 mm [.188 in]	4 mm [.157 in]	24 mm [.944 in]	6103-0000
MG-LVDT-6	6 mm [.236 in]	7 mm [.276 in]	40 mm [1.575 in]	6103-0100
MG-LVDT-9	9 mm [.354 in]	10 mm [.394 in]	50 mm [1.969 in]	6103-0200

*Linear stroke position varies within maximum travel.

NOTE:

For more information on mechanical dimension and threaded options, go to:

www.microstrain.com/displacement/nodes

Select the sensor > "Documentation" > "Mechanical Drawing".



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