

## 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

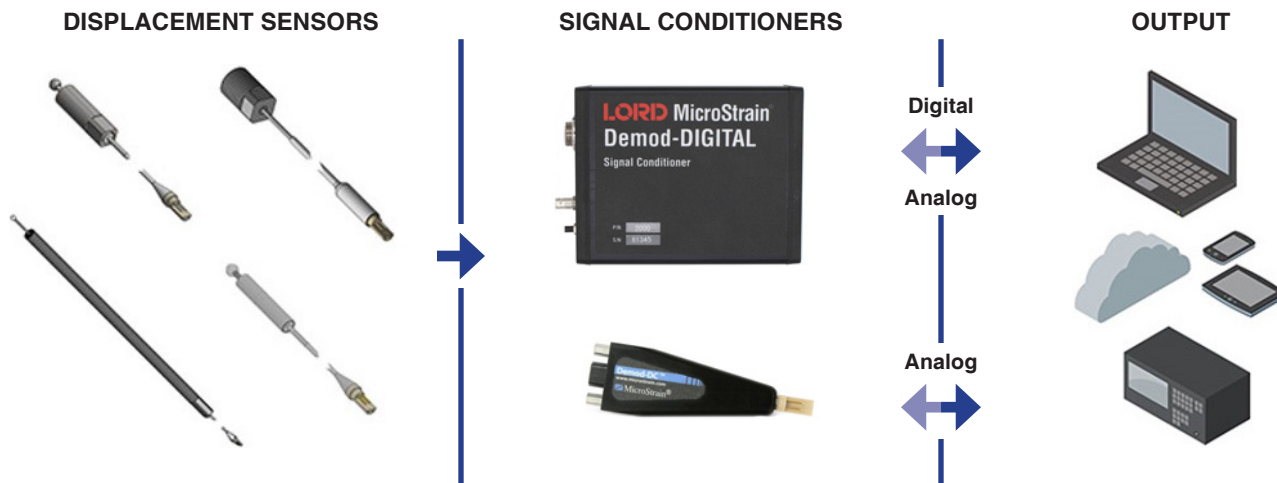
#### FEATURES AND BENEFITS

##### 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

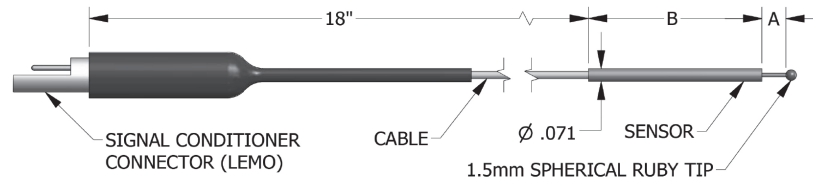


# MG-LVDT Microminiature Gauging Displacement Sensor

## Specifications

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

Performance Specifications		
	DEMOM-DC	DEMOM-DVRT-2
<b>Resolution</b>	0.16% FS typical	0.05% FS typical
<b>Sensitivity</b>	0-5 VDC FS	0-10 VDC FS
<b>Accuracy @25°</b>	±1% Peak (typical) (±2% max) with straight line 0.2% RMS with multi-segment 0.1% RMS with polynomial	
<b>Frequency response</b>	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

### NOTE:

For more information on mechanical dimension and threaded options, go to:  
[www.microstrain.com/displacement/nodes](http://www.microstrain.com/displacement/nodes)

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