

MicroStrain Sensing Product Datasheet

M-LVDT Microminiature Displacement Sensor



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

The M-LVDT delivers high performance in a tiny package and is ideal for critical linear displacement measurements. Advanced materials and electronics have resulted in a rugged, fast, and sensitive instrument, capable of submersion in aqueous environments. Configuration options provide cutting-edge features, including sub-micron resolution, linear analog output, flat dynamic response to kHz levels, and very low temperature coefficients. Free-sliding cores are extremely lightweight and utilize flexible, elastic, bio-compatible alloys to provide resistance to kinking and permanent deformation.

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

PRODUCT HIGHLIGHTS

- For use with LORD DEMOD signal conditioners
- World's smallest linear displacement sensor
- Plug and play usability
- Easily customized to specific requirements

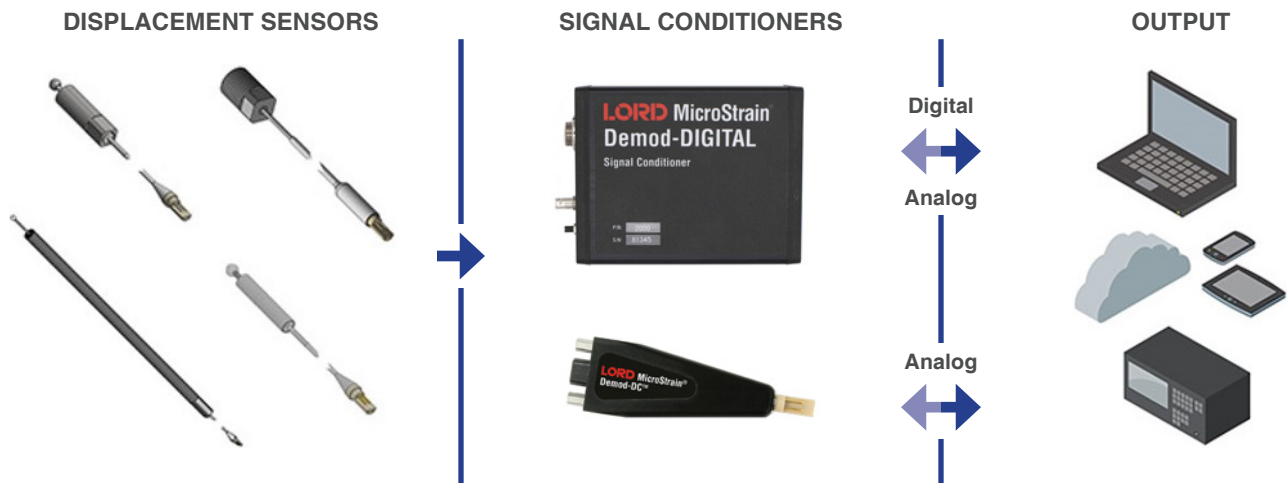
FEATURES AND BENEFITS

HIGH PERFORMANCE

- Frictionless design for robust use over millions of cycles
- Suitable for use in harsh fluids and environments
- Sub-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

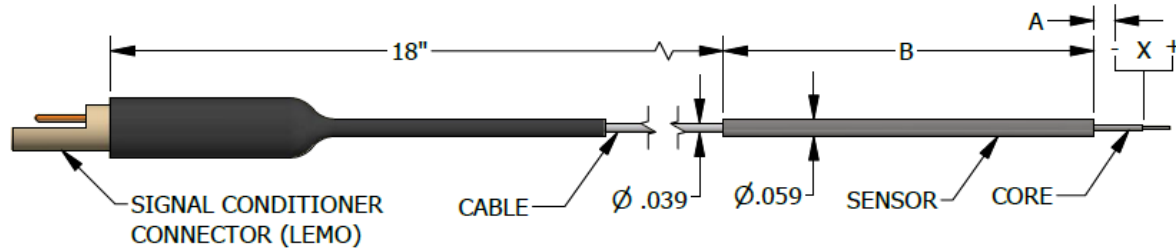


Microminiature Displacement Sensor

Specifications

Mechanical Specifications	
Linear stroke lengths	±1.5 mm, ±3 mm, ±4.5 mm (standard) ±0.75 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
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		
	DEMODO-DC	DEMODO-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 - STROKE	B - SENSOR LENGTH	PART NUMBER
HM-LVDT-1.5	±0.75 mm	11.3 mm [.445 in]	6110-0000
M-LVDT-3	±1.5 mm [.059 in]	11.3 mm [.445 in]	6101-0100
M-LVDT-6	±3 mm [.118 in]	18.7 mm [.736 in]	6101-0200
M-LVDT-9	±4.5 mm [.177 in]	26.8 mm [1.055 in]	6101-0300

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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