

M-LVDT

Microminiature Displacement Sensor



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

Ideal for critical linear displacement measurements, the M-LVDT delivers high performance in a tiny package. Advanced materials and electronics have resulted in a rugged, fast, and sensitive instrument, capable of submersion in aqueous environments. 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. Its free-sliding cores are extremely lightweight and utilize flexible, elastic, bio-compatible alloys to provide resistance to kinking and permanent deformation.

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

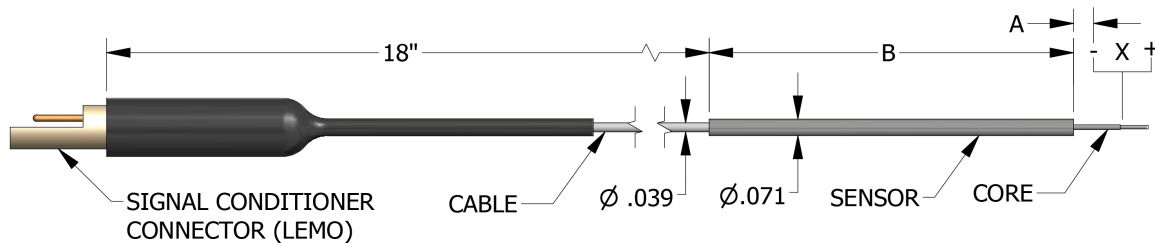


M-LVDT Microminiature Displacement Sensor

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 - STROKE	B - SENSOR LENGTH
M-LVDT-3	+/- 1.5 mm [.059 in]	11.3 mm [.445 in]
M-LVDT-6	+/- 3 mm [.118 in]	18.7 mm [.736 in]
M-LVDT-9	+/- 4.5 mm [.177 in]	26.8 mm [1.055 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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If a core length ("A") is specified at the time of the order, it will be cut to that length by LORD Sensing. If unspecified, the core will be left untrimmed and cut to the desired length by the user.