

MicroStrain Sensing Product Datasheet

LS-LVDT

Compact Linear Displacement Sensor



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

The miniature LS-LVDT provides fast response and rugged packaging and is ideal for linear control and precision measurement applications. 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 free sliding transducer core is lightweight, strong, and corrosion-resistant. Cores are precision ground to ensure a close sliding fit within the open bore of the stainless steel lined LS-LVDT body. This precision allows the LS-LVDT to achieve extremely high repeatability. The sensing head is capable of total submersion in aqueous environments.

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

PRODUCT HIGHLIGHTS

- For use with LORD DEMOD signal conditioners
- Extremely compact packaging with sensor body only 25 mm longer than the stroke length
- 50 mm, 100 mm, and 150 mm stroke lengths available
- $\pm 0.1\%$ to $\pm 2\%$ accuracy

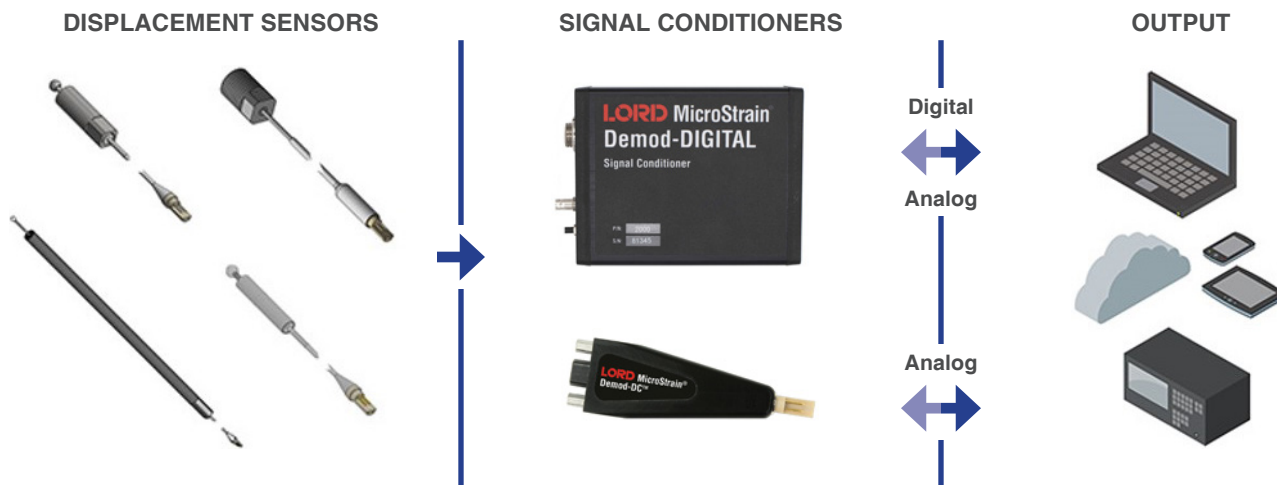
FEATURES AND BENEFITS

HIGH PERFORMANCE

- Frictionless design for robust use over millions of cycles
- Suitable for use in harsh fluids and environments
- High dynamic range for difficult measurements
- High-resolution with large stroke/size ratio

APPLICATIONS

- Measure strain and deflection in materials and structures
- Process control for production line monitoring
- Dimensional gauging for quality control
- Position control elements



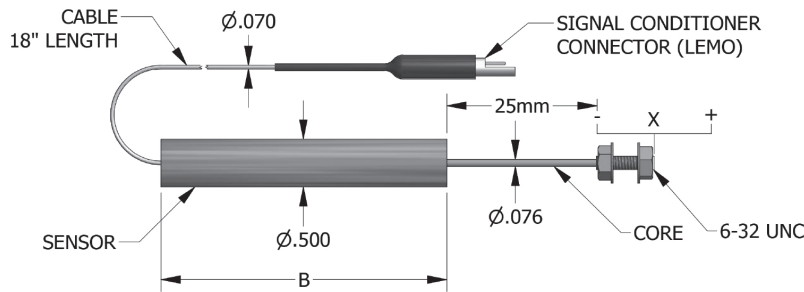
ENGINEERING YOUR SUCCESS.

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Specifications

Mechanical Specifications	
Linear stroke lengths	±25 mm, ±50 mm, ±75 mm
Temperature coefficients	Offset: 0.002% FS/°C (typical) Span: 0.04% FS/°C (typical)
Housing material	316 Stainless steel (see drawing)
Core material	316 stainless steel shell with ferrous core
Cable material	Teflon coated
Electrical connector	4 Pin PEEK LEMO connector
Operating Temperature range	-55 – 150°C

Performance Specifications		
	DEMODO-DC	DEMODO-DVRT-2
Resolution (800 Hz Low Pass Filter)	0.2% FS typical	0.04% 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
LS-LVDT-50	±25 mm [.984 in]	75 mm [2.935 in]	6132-0002
LS-LVDT-100	±50 mm [1.969 in]	125 mm [4.921 in]	6132-0001
LS-LVDT-150	±75 mm [2.953 in]	175 mm [6.890 in]	6132-0000

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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