

SG-LVDT

Subminiature Gauging Displacement Sensor



SG-LVDT Robust and highly accurate displacement sensor with a return spring enabling measurement on moving parts

The SG-LVDT delivers high performance in a small package and is designed specifically for tight spaces. A ruby bearing and hardened stainless steel ball guide the spring-loaded tip, providing an exceptionally smooth static and dynamic response and resistance to side load. 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 lightweight, captive cores are small and rugged. Manufactured using corrosion-resistant alloys, the SG-LVDT is suitable for short term submersion in harsh media such as brake fluid and hot saline.

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
- $\pm 0.2\%$ to $\pm 2\%$ accuracy
- Plug and play usability

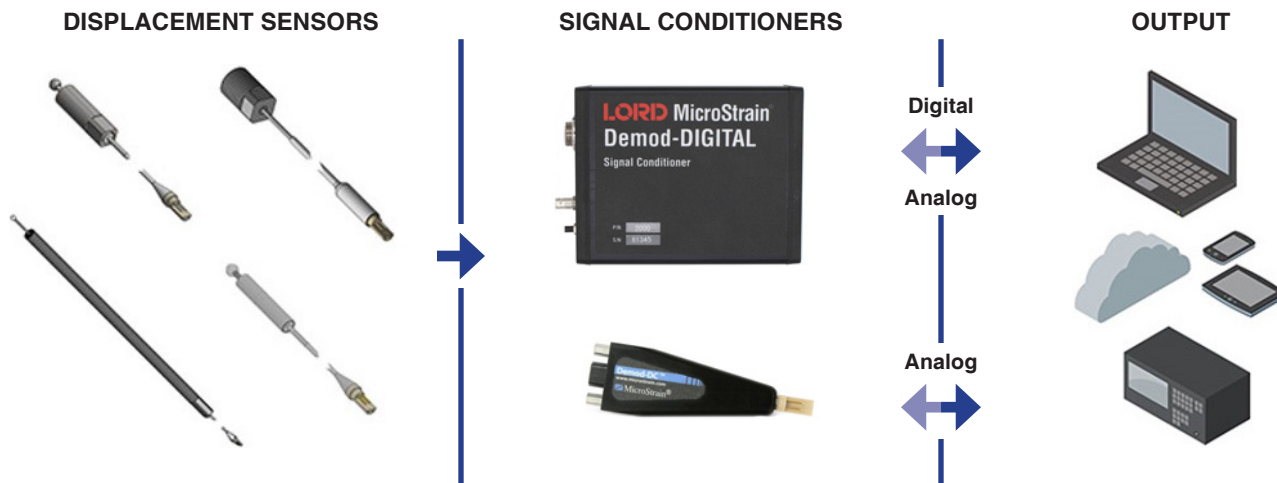
FEATURES AND BENEFITS

HIGH PERFORMANCE

- Ruggedized core enables measurement on moving parts
- 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
- Dimensional gauging for quality control
- Miniature position control elements
- Linear and angular motion control

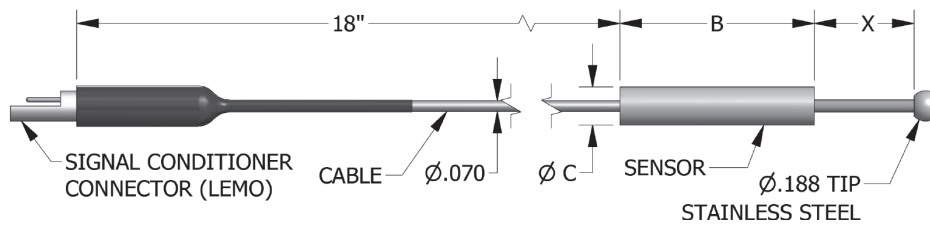


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Specifications

Mechanical Specifications	
Linear stroke lengths	4,8,24,38 mm (standard) 6 mm (high resolution) 500 μm or less (nano resolution)
Temperature coefficients	Offset: 0.002% FS/ $^{\circ}\text{C}$ (typical) Span: 0.030% FS/ $^{\circ}\text{C}$ (typical)
Housing material	400 Stainless steel smooth body 400 Stainless steel threaded body optional (see drawing)
Core material	316 stainless steel
Cable material	Teflon coated
Electrical connector	4 Pin PEEK LEMO connector
Operating Temperature range	-55 – 175 $^{\circ}\text{C}$

Performance Specifications		
	DEMOD-DC	DEMOD-DVRT-2
Resolution	0.2% FS typical	0.04% FS typical
Sensitivity	0-5 VDC FS	0-10 VDC FS
Accuracy @25$^{\circ}$	$\pm 1\%$ Peak (typical) ($\pm 2\%$ 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	C - OUTSIDE DIAMETER	PART NUMBER
SG-LVDT-4	4 mm [.158 in]	30.5 mm [1.201 in]	6 mm [.236 in]	6107-0000
SG-LVDT-8	8 mm [.314 in]	50.5 mm [1.988 in]	6 mm [.236 in]	6107-0100
SG-LVDT-24	24 mm [.945 in]	127 mm [5.000 in]	6 mm [.236 in]	6107-0200
SG-LVDT-38	38 mm [1.496 in]	183 mm [7.205 in]	8 mm [.315 in]	6107-0300
HSG-LVDT-6	6 mm [.236 in]	50.5 mm [1.988 in]	6 mm [.236 in]	6116-0000
NANO-G-LVDT-0.5	0.5 mm [.019 in]	50.5 mm [1.988 in]	6 mm [.236 in]	6120-0000

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 MicroStrain

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