

SG-LVDT

Subminiature Gauging Displacement Sensor



SG-LVDT- robust and highly accurate displacement sensor with a gauging pin enabling measurement on moving parts

Designed specifically for tight spaces, the SG-LVDT delivers high performance in a small package. 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 can provide cutting-edge features, including micron resolution, linear analog output, flat dynamic response to kHz levels, and/or 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.

Product Highlights

- Unguided armature
- For use with standard LORD DEMOD signal conditioners.
- $\pm 0.2\%$ to $\pm 2\%$ accuracy
- Plug and play usability
- Easily customized to suit specific requirements

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
- Gauging pin enables measurement on moving parts

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

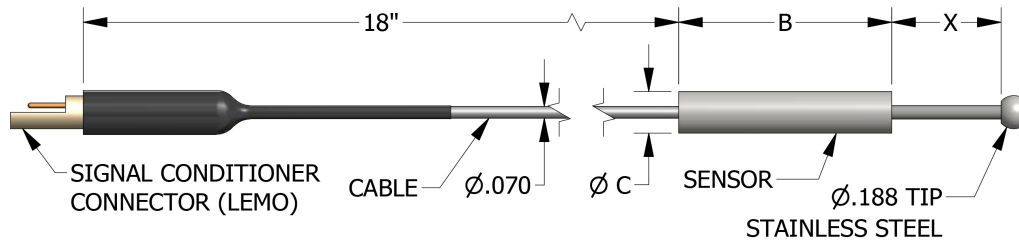


SG-LVDT Subminiature Gauging Displacement Sensor

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/° C (typical) Span: 0.030% FS/° 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
Temperature range	-55 -175° C

Performance Specifications		
	DEM0D-DC	DEM0D-DVRT-2
Resolution	0.25% 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	C - OUTSIDE DIAMETER
SG-LVDT-4	4 mm [.158 in]	30.5 mm [1.201 in]	6 mm [.236 in]
SG-LVDT-8	8 mm [.314 in]	50.5 mm [1.988 in]	6 mm [.236 in]
SG-LVDT-24	24 mm [.945 in]	127 mm [5.000 in]	6 mm [.236 in]
SG-LVDT-38	38 mm [1.496 in]	183 mm [7.205 in]	8 mm [.315 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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