

MicroStrain Sensing Product Datasheet

S-LVDT Subminiature Displacement Sensor



S-LVDT Robust, highly accurate displacement sensor with sub-micron resolution and compatible in harsh fluids and environments

The S-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. Its 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 body. This precision allows the S-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
- Easily customized to specific requirements
- $\pm 0.1\%$ to $\pm 2\%$ accuracy
- Plug and play usability
- Unguided armature

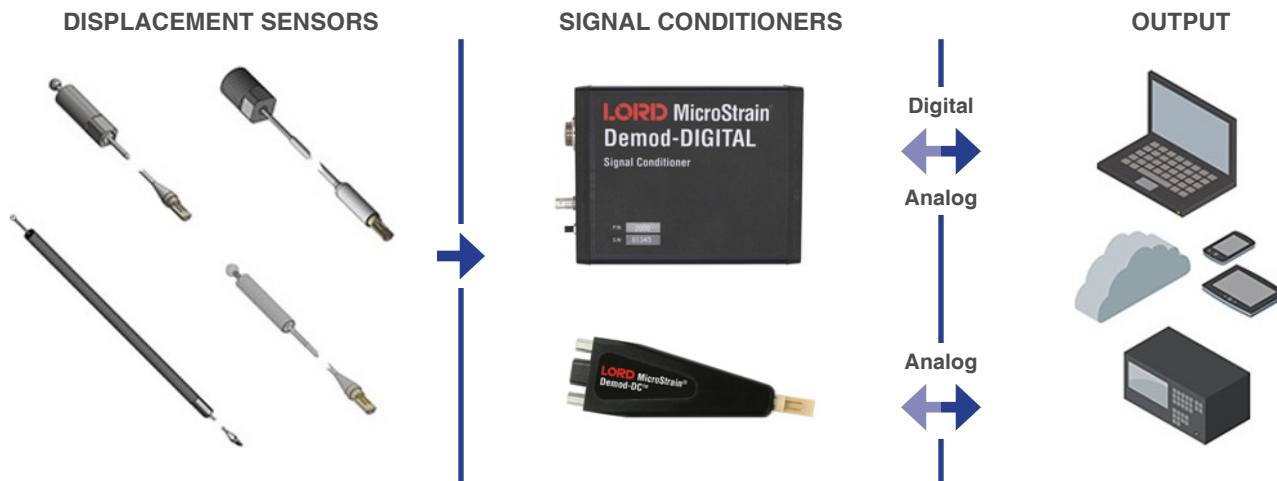
FEATURES AND BENEFITS

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
- 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

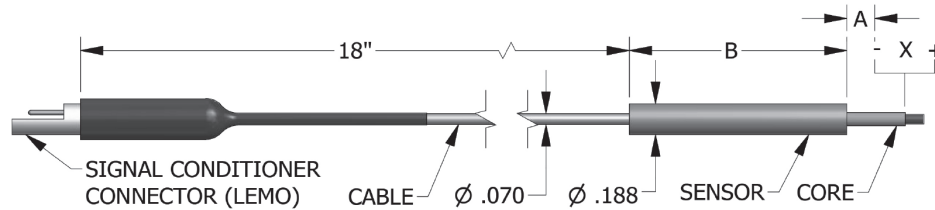


Subminiature Displacement Sensor

Specifications

Mechanical Specifications	
Linear stroke lengths	±2, ±4, ±12, ±19 mm (standard) ±3 mm (high resolution) ±0.25 (nano resolution)
Temperature coefficients	Offset: 0.002% FS/°C (typical) Span: 0.030% FS/°C (typical)
Housing material	316 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°C

Performance Specifications		
	DEMOD-DC	DEMOD-DVRT-2
Resolution	0.25% 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
S-LVDT-4	±2 mm [.079 in]	16.9 mm [.665 in]	6105-0000
S-LVDT-8	±4 mm [.158 in]	33 mm [1.300 in]	6105-0100
S-LVDT-24	±12 mm [.472 in]	81 mm [3.189 in]	6105-0200
S-LVDT-38	±19 mm [.748 in]	108 mm [4.250 in]	6105-0300
HS-LVDT-6	±3 mm [.118 in]	33 mm [1.300 in]	6114-0000
NANO-LVDT-0.5	±0.25 mm [.0098 in]	33 mm [1.300 in]	6118-0000

NOTE:

For more information on mechanical dimension and threaded options, go to:
www.microstrain.com/displacement/nodes

Select the sensor > "Documentation" > "Mechanical Drawing".

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.



Parker Hannifin Corporation
MicroStrain Sensing
459 Hurricane Lane
Williston, VT 05495 · USA

phone: +1.802.862.6629
email: microstrainsales@parker.com
microstrainsupport@parker.com
www.microstrain.com
www.parker.com