ALLIANCE SENSORS GROUP A DIVISION OF H.G. SCHAEVITZ LLC

LRSE18/LRSI18 LVIT Linear Position Sensors





Low cost, compact, high performance gauging probes

The LRSE-18/LRSI-18 series of LVIT (Linear Variable Inductance Transducer) spring loaded position sensors by Alliance Sensors Group are contactless devices designed for dimension or position measuring applications in factory automation and in various industrial and commercial applications where the sensing element cannot be attached to the object being measured. Typical applications include the following:

- Automotive testing
- Robotic arms
- · Packaging equipment
- · Mil/aero test stands

LRSE-18/LRSI-18 Linear Variable Inductance Transducers are offered in full scale ranges from 0.5 to 4.0 in [12.7 to 101.6 mm] with excellent resolution and high stroke-to-body-length ratios. The maximum tip force on the item being measured is 1lbf [0.454 kgf].

LRSE-18/LRSI-18 series sensors have a 0.75 in [19mm] diameter aluminum or stainless steel body with an M18x1 thread. These sensors are supplied with two hex jam nuts for easy installation.

These sensors use a 0.25 in [6.35 mm] diameter probe equipped with an AGD No. 9 contact tip and are offered with an axial cable. Operating from a variety of DC voltages, models are available with either 0-10 V or 4-20 mA output (see table below). All include ASG's proprietary SenSet™ field calibration feature.

Features

- Spring loaded LVIT Technology™ (Linear Variable Inductance Transducer)
- Ranges from 0.5 to 4.0 in [12.7 to 101.6 mm]
- Contactless operation prevents internal wear out from dithering or rapid cycling
- Excellent stroke-to-body-length ratio
- Proprietary SenSet[™] field adjustable range scaling



LRSE18/LRSI18 Series Linear Position Sensors Selection Chart								
Part Number	Price	Drawing Link	Nominal Range (in [mm])	Body Length (in [mm])	Spring Rate (lbf/in [kgf/cm])	Maximum Force (lbf [kgf])		
0-10V models								
LRSE18-013A-00-10A	\$459.00	PDF	0.5 [12.7]	3.04 {77.2]	0.75 [0.134]	0.9 [0.41]		
LRSE18-025A-00-10A	\$484.00	PDF	1.0 [25.4]	3.54 [89.9]	0.75 [0.134]	0.9 [0.41]		
LRSE18-050A-00-10A	\$509.00	PDF	2.0 [50.8]	4.62 [117.3]	0.43 [0.077]	1.0 [0.45]		
LRSE18-075A-00-10A	\$534.00	PDF	3.0 [76.2]	5.69 [144.5]	0.30 [0.054]	1.0 [0.45]		
LRSE18-100A-00-10A	\$559.00	PDF	4.0 [101.6]	6.80 [172.7]	0.23 [0.041]	1.0 [0.45]		
4-20mA models								
LRSI18-013A-00-20A	\$459.00	PDF	0.5 [12.7]	3.04 [77.2]	0.75 [0.134]	0.9 [0.41]		
LRSI18-025A-00-20A	\$484.00	PDF	1.0 [25.4]	3.54 [89.9]	0.75 [0.134]	0.9 [0.41]		
LRSI18-050A-00-20A	\$509.00	PDF	2.0 [50.8]	4.62 [117.3]	0.43 [0.077]	1.0 [0.45]		
LRSI18-075A-00-20A	\$534.00	PDF	3.0 [76.2]	5.69 [144.5]	0.30 [0.054]	1.0 [0.45]		
LRSI18-100A-00-20A	\$559.00	<u>PDF</u>	4.0 [101.6]	6.80 [172.7]	0.23 [0.041]	1.0 [0.45]		

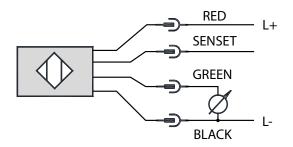
LRSE18/LRSI18 Series Linear Position Sensors Specifications					
Analog I/Os	0-10VDC output with 12-30V power source, 35mA max; 4-20mA (3-wire) output with 18-30V power source, 60mA max, 167°F [75°C] max				
Measuring Ranges	0.5 to 4.0 in [12.7 to 101.6 mm] full scale				
Linearity Error	±0.15% of full scale output (FSO) typical, ±0.25% max				
Resolution	0.025% of full scale				
Operating Temperature	-4 to 185°F [-20 to +85°C]; -40 to +221°F [-40 to +105°C] extended range				
Temperature Coefficient	±0.015% of FS/K				
Vibration	5-20 Hz, 0.5 in peak-to-peak; 20-2000 Hz, 4.2 g peak-to-peak				
Shock	1000g, 11ms				
Terminations	IEC IP-67				
Humidity	95% RH, non-condensing				
Connection	1M, PUR, 4 conductor, 24AWG				

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Wiring Diagram



Wiring Table				
Function	Cable Color			
+DC Power Input	Red			
Common Ground	Black			
Analog Output	Green			
SenSet™	White			

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