



For use in:  
Factory Automation  
Part Inspection and Location  
Automation Systems  
Assembly Machinery  
Packaging Equipment

# LZ-13 Series

## LVIT Miniature Linear Position Sensor

Through-bore LVIT linear position sensor for applications where size is a constraint and/or superior stroke-to-body-length ratio is required.

The LZ-13 series of LVIT (Linear Variable Inductance Transducer) miniature position sensors are inductive, contactless devices designed for use in factory automation or assembly machinery applications where space is a premium. The LVIT is offered in nominal full-scale ranges from 2.5 to 300mm (0.1 to 12 inches) with an excellent stroke-to-length ratio. The sensor has 12.7mm (1/2 inch) outside diameter stainless steel body with a 1m cable for I/O connections. The 4.78mm (.188 inch) diameter through-bore of an LZ-13 provides clearance for its 4mm (.157 inch) diameter moving target rod with M4 thread and hex nut, which is made of the same material as its housing. This through-bore feature also means that the sensor is not subject to damage from typical mechanical overstroking.

Technical datasheets and additional information can be found at [www.alliancesensors.com](http://www.alliancesensors.com)

### Features:

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation prevents internal wearout from dithering or rapid cycling
- Excellent stroke-to-body-length ratio
- Full scale ranges from 2.5 to 300 mm (0.1 to 12 inches)
- Through-bore design eliminates mechanical overstroking
- DC in / DC out operation with built in electronics
- Proprietary SenSet™ field adjustable range scaling

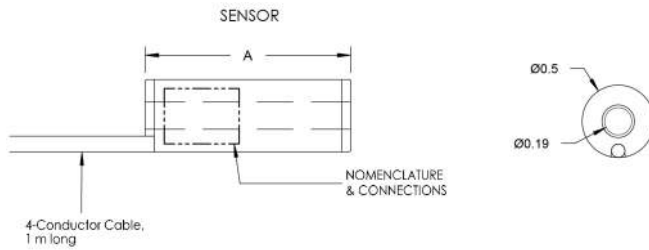
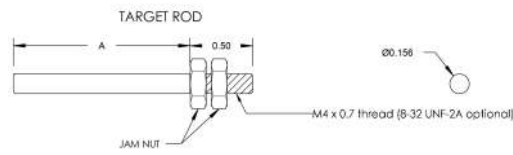
### Specifications:

Analog I/Os	0-5 V or 0.5 - 4.5 V DC output; 8-30 V input, 35 mA max. 0-10 V DC output with 12-30 V input, 35 mA max. Potentiometer output
Measuring Ranges	2.5 to 300mm (0.1 to 12 inches)
Linearity Error	± 0.15% of Full Scale Output (FSO) typical, ±0.25% max
Resolution	0.025% of FSO
Bandwidth	300 Hz nominal
Operating Temperature	-20 to 85 C
Vibration	5-20 Hz, 0.5 inch p-p; 20-2000 Hz, 4.2 g p-p
Shock	1000 g, 11 msec.
Environmental Sealing	IEC IP-67
Humidity	95% RH, non-condensing

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Wiring Table	
I/O Function	Cable Color
+ Power input	Red
Ground	Black
Analog output	Green
SenSet™	White
Shield/Drain*	Shield
*Shield not connected internally	



Unit Length Table	
Linear Range	Length "A"
0.10 inches [2.5 mm]	1.41 inches [35.8 mm]
0.25 inches [6.4 mm]	1.41 inches [35.8 mm]
0.50 inches [12.7 mm]	1.41 inches [35.8 mm]
0.75 inches [19.0 mm]	1.41 inches [35.8 mm]
1.0 inch [25 mm]	1.41 inches [35.8 mm]
2.0 inches [50 mm]	2.41 inches [61.2 mm]
3.0 inches [75 mm]	3.41 inches [86.6 mm]
4.0 inches [100 mm]	4.41 inches [112.0 mm]
6.0 inches [150 mm]	6.50 inches [165.1 mm]
8.0 inches [200 mm]	8.50 inches [215.9 mm]
10 inches [250 mm]	10.50 inches [266.7 mm]
12 inches [300 mm]	12.50 inches [317.5 mm]

## Ordering Information:

Series	Output	Housing Diameter	Range (mm)	Electrical Termination		Output	Housing/Rod Material
					Termination		
LZ	X-	XX-	XXX-	X-	XX-	XX-	X-
	E- Voltage	13-	12.7	2.5	A- Axial	00- 1-m cable	05- 0.5 to 4.5 VDC
	P - Potentiometer		6.4				06- 4.5 to 0.5 VDC
			12.7				10- 0 to 10 VDC
			19				11- 10 to 0 VDC
			25				50- 0 to 5 VDC
			50				51- 5 to 0 VDC
			75				PO- Potentiometer Output
			100				
			150				
			200				
			250				
			300				

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