

**For use in:**  
Packaging Equipment  
Automation Systems  
Assembly Machinery  
Hydraulic Cylinders

# LZ-19 Series LVIT Linear Position Sensor

Through-bore LVIT Linear Position Sensor with Superior Stroke-to-Length Ratio

The LZ-19 series of LVIT (Linear Variable Inductance Transducer) position sensors are contactless devices designed for use in factory automation or assembly machinery applications where space is a premium, as well as for external mounting on pneumatic cylinders to sense rod position.

The LVIT is offered in nominal full scale ranges from 2.5 to 750 mm (0.1 to 30 inches) with an excellent stroke-to-length ratio. The sensor has a 19 mm (3/4 inch) outside diameter stainless steel or optional aluminum body with a 1 m axial cable for I/O connections. The 6 mm (0.236 inch) diameter through-bore of an LZ-19 provides clearance for its 5.2 mm (0.200 inch) diameter, PVDF-sheathed moving rod, 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.

## Features:

- Contactless operation prevents internal wearout from dithering or rapid cycling
- LVIT Technology™ (Linear Variable Inductance Transducer)
- Through-bore design eliminates mechanical overstroking
- Full scale ranges from 2.5 to 700 mm (0.1 to 30 inches)
- Proprietary SenSet™ field adjustable range scaling
- DC in / DC out operation with built-in electronics
- Excellent stroke-to-length ratio

## Specifications:

**Analog I/Os:** 0-5 V or 0.5-4.5 V output with 8 -30 V input, 35 mA max.

0-10 V output with 12—30 V input, 35 mA max.

4-20 mA (3-wire) output with 18-30 V input, 60 mA max (75 C max).

**Measuring Ranges:** 2.5 to 750 mm (0.10 to 30 inches) Full Scale (nominal)

**Linearity Error:**  $\pm 0.15\%$  of FSO typical,  $\pm 0.25\%$  of FSO max.

**Resolution:** 0.025% of FSO

**Update Rate:** 300 Hz nominal

**Operating Temperature:** -20 to 85 C (-40 to 105 C extended temperature range)

**Temperature Coefficient:**  $\leq 0.015\%$  of FS/deg C

**Vibration:** 5-20 Hz, 0.5 inch p-p; 20-2000 Hz, 4.2 g p-p

**Shock:** 1000 g, 11 msec.

**Terminations:** IEC IP-67

**Humidity:** 95% RH, non-condensing

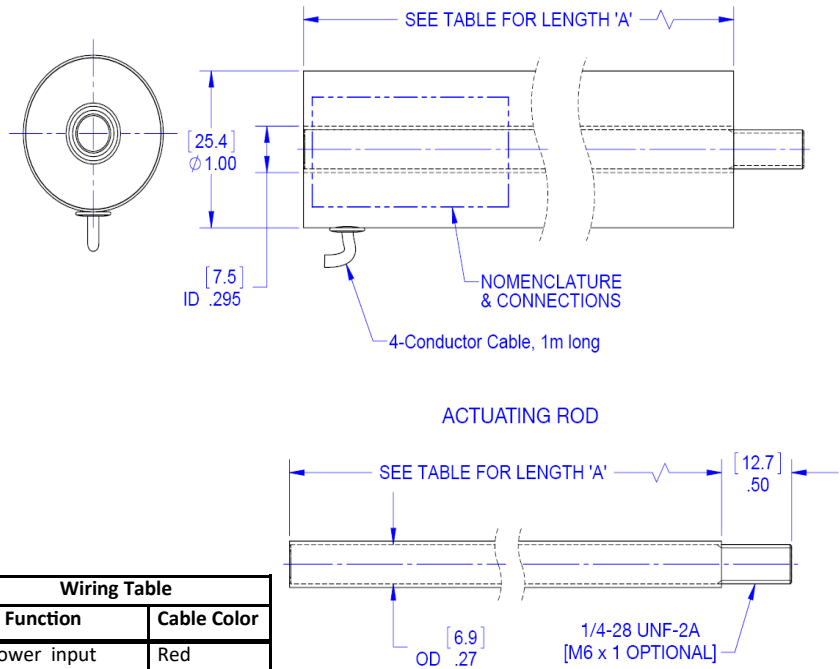
## ALLIANCE SENSORS GROUP

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# LZ-19 Series



Unit Length Table	
Nominal Range	Length "A"
0.10 inches [ 2.5 mm]	1.38 inches [35.0 mm]
0.25 inches [6.4 mm]	1.38 inches [35.0 mm]
0.50 inches [12.7 mm]	1.38 inches [35.0 mm]
0.75 inches [19 mm]	1.38 inches [35.0 mm]
1.00 inches [25 mm]	1.38 inches [35.0 mm]
1.25 inches [32 mm]	1.63 inches [41.3 mm]
2.00 inches [50 mm]	2.38 inches [60.5 mm]
3.00 inches [75 mm]	3.38 inches [85.9 mm]
4.0 inches [100 mm]	4.38 inches [111.1 mm]
6.0 inches [150 mm]	6.50 inches [165.1 mm]
8.0 inches [200 mm]	8.50 inches [215.9 mm]
10.0 inches [250 mm]	10.50 inches [266.7 mm]
12.0 inches [300 mm]	12.50 inches [317.5 mm]
15.0 inches [375 mm]	15.75 inches [400.0 mm]
18.0 inches [450 mm]	18.75 inches [476.2 mm]
24.0 inches [600 mm]	25.00 inches [635.0 mm]
30.0 inches [750 mm]	31.00 inches [787.4 mm]



Wiring Table	
I/O Function	Cable Color
+ Power input	Red
Ground	Black
Analog output	Green
SenSet™	White

## Ordering Information:

Series	Output Type	Body Diameter	Range, Metric	Termination Direction	Termination	Output	Housing Material
LZ	X-	XX-	XXX-	X-	XX-	XX-	X-
	E- Voltage	19- 19 mm	2.5 - 750	A- Axial	00- 1 m cable	05- 0.5 to 4.5 VDC	A- Aluminum
	I- Current		(2.5 mm increments)	R- Radial		06- 4.5 to 0.5 VDC	S- 300 Series SS
						10- 0 to 10 VDC	
						11- 10 to 0 VDC	
						20- 4 to 20 mA	
						21- 20 to 4 mA	
						50- 0 to 5 VDC	
						51- 5 to 0 VDC	

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