



For use in:  
Steel, Aluminum, and Paper Mills  
Power Generation Steam Valves  
Material Creep Measurements  
Roadway/Bridge Expansion  
Hydro Power Plants

# LV-45 Series LVIT Linear Position Sensor

Designed Specifically for Heavy Duty Industrial and Civil Engineering Applications

Alliance Sensors Group LV-45 series LVIT (Linear Variable Inductance Transducer) position sensors are specifically targeted for measuring applications requiring rugged devices, whether measuring position of steam turbine valves, mounted in a paper mill head box or calendar roll stand, or operating outdoors fastened to a bridge or structure. LV-45 sensors use a contactless inductive technology that allows them to replace other technology sensors like potentiometers and DC LVDTs in most applications. With a simple coil design, a captive connecting rod, and a thick walled housing, the sensors are both shorter and more robust than their DC-LVDT counter parts while operating over a wider temperature range, so they can withstand the vibration and shock levels found in mills and power plants, as well as the temperature and humidity found in outdoor applications. Once a sensor has been installed, ASG's SenSet™ range adjustment process permits a user to match the sensor's zero and full scale output to the workpiece's actual range of motion. Additional information can be found at [www.alliancesensors.com](http://www.alliancesensors.com)

## Features:

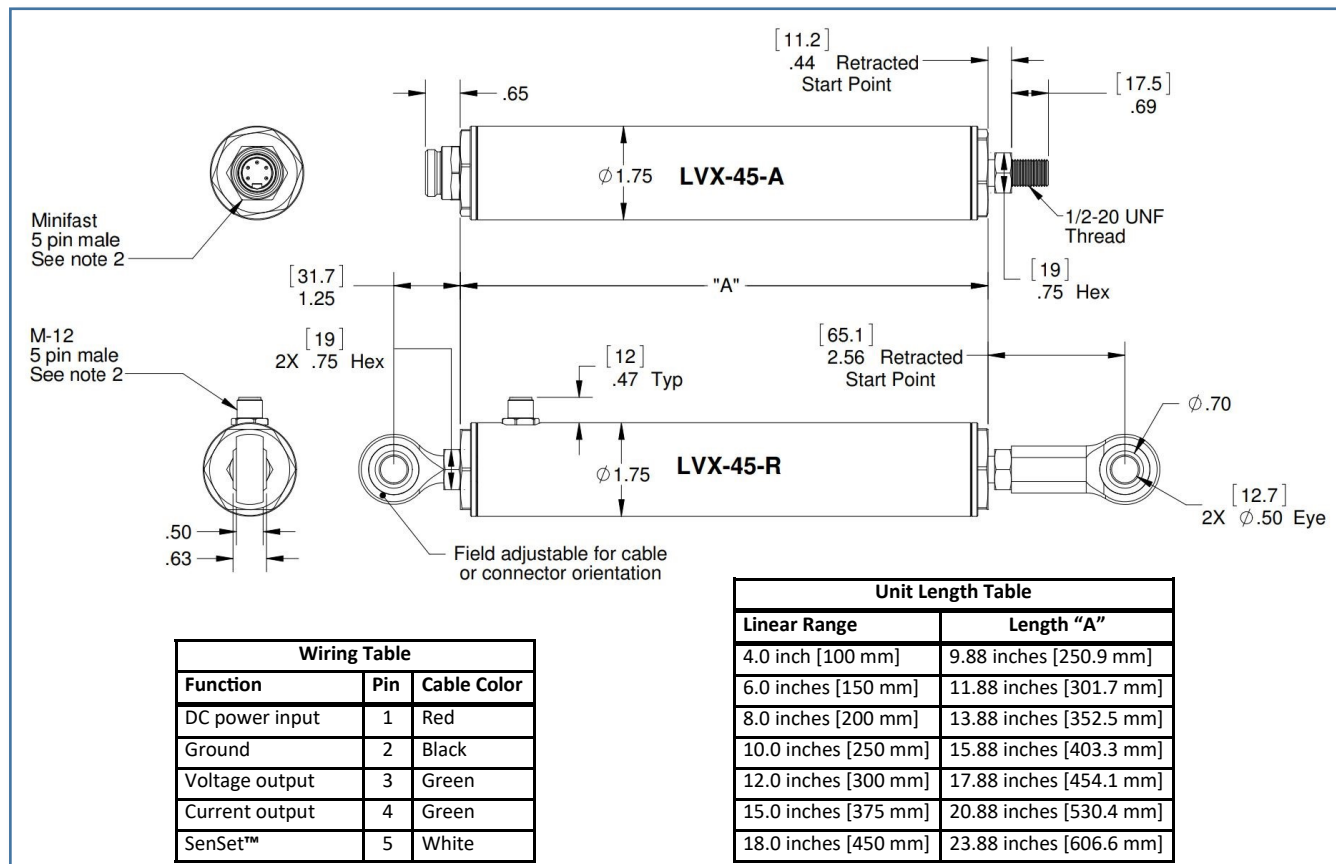
- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation
- Excellent stroke to length ratio
- Proprietary SenSet™ field adjustable range scaling

## 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	100 mm to 450 mm (4 to 18 inches) full scale (nominal)
Linearity Error	$<\pm 0.15\%$ of Full Scale Output (FSO) typical, $\pm 0.25\%$ 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	$<\pm 0.015\%$ of FS/deg C
Vibrations	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

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# LV-45 Series



## Ordering Information:

Series	Output Type	Body Diameter	Range (mm)	Termination Direction	Termination	Output	Housing Material
LV	X-	XX-	XXX-	X-	XX-	XX-	X-
	E- Voltage	45- 45 mm	100	A- Axial	00- 1m cable	05- 0.5-4.5 VDC	A- Aluminum
	I- Current		150	R- Radial	01- 5-pin M12	06- 4.5-0.5 VDC	S- Stainless Steel
			200		03- 3m cable	10- 0-10 VDC	
			250		A: 05- 5-pin Minifast	11- 10-0 VDC	
			300		R: 05- 5m cable	20- 4-20 mA	
			375			21- 20-4 mA	
			450			50- 0-5 VDC	
						51- 5-0 VDC	

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