



**For use in:**

Steam and Hydroelectric Power Plants  
Industrial Fluid Power Equipment  
Factory Automation Systems



# LA-27-A Series LVDT Linear Position Sensors

Designed Specifically for Power Generations and Harsh Industrial Environments

Alliance Sensors Group's LA-27-A series LVDT linear position sensors are designed to handle extreme industrial environments. This robust linear sensor has a thick wall aluminum housing (also available in stainless steel), a core enclosed inside of the core extension rod assembly that cannot break loose, while offering a sturdy male thread for easy mechanical connection, and a pair of double contact shaft seals to keep fluids and solid contaminants out of its bore. The sensor's electrical termination includes the choice of an axial connector or a cord grip with a cable.

An LA-27-A LVDT is ideal for roller gap positioning, head box feedback, process valve displacement, and actuator position feedback with the durability to withstand the harsh environments found in steam and hydro power plants; paper, steel, and aluminum mills; and industrial automation and fluid power systems. It can operate in such hostile factory environments as lubricant mist, cutting oil spray, and airborne grit or dust, and it survives typical industrial steam cleaning and wash downs.

When mated with ASG's SC-200 industrial LVDT DIN-rail-mountable signal conditioner, the LA-27-A LVDT becomes an ideal solution for heavy duty industrial applications requiring position sensing. For operating an LA-27-A as a steam valve position sensor in a power plant, ASG's model S2A signal conditioner, which is designed specifically for that application, is recommended.

## Features:

- Stock ranges: 3, 6, 9, 12, 15, or 16 inches (75 mm to 400 mm) Full Scale
- Works in 3-wire, 4-wire, 5-wire, 6-wire, and ratiometric (A-B/A+B) systems
- 5/16 or M8 x 1.25 male threaded shaft end
- Core totally enclosed in 3/8 inch (9.5 mm) diameter core extension rod
- Two double contact shaft seals keep out contaminants
- Continuous operation to 250 °F (120 C)
- Environmentally sealed to IEC IP-68

## Electrical Specifications:

|                          |  |
|--------------------------|--|
| Available Ranges:        | 0 to 3, 6, 9, 12, 15, or 16 inches (0 to 75, 150, 225, 330, 375, or 400 mm)  |
| Excitation Frequency:    | 3 kHz nominal  |
| Excitation Voltage:      | 3 V ACrms nominal  |
| Linearity Error:         | ≤±0.5% of FSO  |
| Operating Temperature:   | -40 to 120 C   |
| Temperature Coefficient: | ≤0.025% FSO/degree C   |
| Humidity:                | 95% RH, non-condensing   |
| Shock:                   | 1000 g, 11 msec.   |
| Vibration:               | 5-20 Hz, 0.5 inch p-p; 20-2000 Hz, 4.2 g p-p   |
| Full Scale Output:       | 0.9 V ACrms output (nom.) from differentially connected (S1-S2) secondaries (ref: 3 Vrms excitation); sum of secondaires output is constant over range for ratiometric (S1-S2)/(S1+S2) operation |

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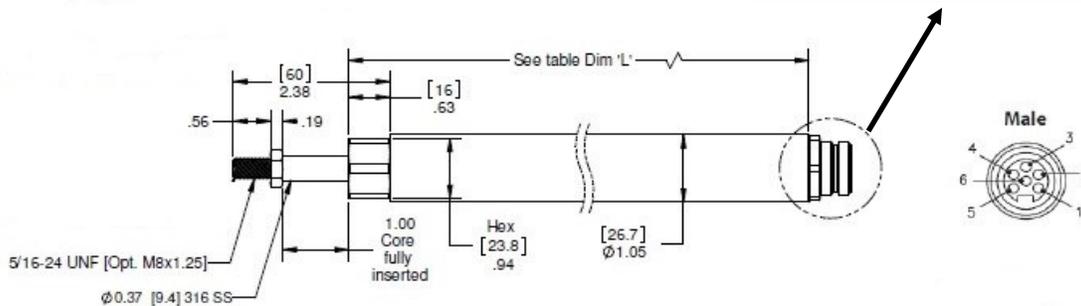
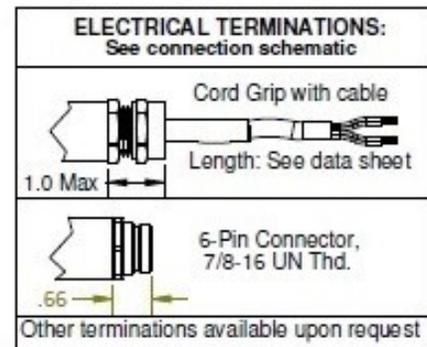
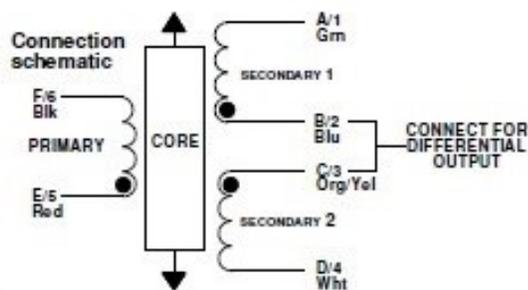
## Ordering Information:

| Series   | Range inches | Termination                       |
|----------|--------------|-----------------------------------|
| LA-27-A- | XX-          | XX-                               |
|          | 03 – 3"      | 00– cord grip with 1 m cable      |
|          | 06 – 6"      | 06– 6-pin Turk minifast connector |
|          | 09 – 9"      |                                   |
|          | 12 – 12"     |                                   |
|          | 15 – 15"     |                                   |
|          | 16 – 16"     |                                   |

## Options:

- Stainless steel body
- Alternate termination for up to 350 °F (175 C) operation
- Mild radiation resistant version for nuclear power plants (3 Mrads for 40 years)
- Mounting hardware including flanges, single hole mounting kits, swivel rod eye ends, ball joints, extension rods, hold down clamps, and tie bars for dual-mounted LVDTs
- Auxiliary shaft seals

| LA-27-A-XX Configurations |        |         |         |         |         |         |
|---------------------------|--------|---------|---------|---------|---------|---------|
| LA-27-A-XX                | -03    | -06     | -09     | -12     | -15     | -16     |
| Dim 'L'                   | 8.12"L | 11.87"L | 14.87"L | 18.87"L | 22.87"L | 22.87"L |



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