



**For use in:**  
 PV Solar Cell Positioner  
 Wind Energy Systems  
 Packaging Machinery  
 Motorsport Vehicles  
 Automotive Testing  
 Factory Automation  
 OEM Test Stands

# LR-19 Series

## LVIT Linear Position Sensor

Long Lasting, Contactless, Inductive Sensors

The LR-19 series LVIT (Linear Variable Inductance Transducer) position sensors by Alliance Sensors Group are contactless devices designed for factory automation and a variety of industrial and commercial applications such as motor sport vehicles, automotive testing, solar cell positioners, wind turbine prop pitch and brake position, and packing equipment. With their compact device, superior performance, and excellent stroke-to-length ratio, the LR-19 sensors are ideal for both industrial testing, laboratories, and OEM applications.

LR-19 series sensors are offered in 6 full scale ranges from 25 to 200 mm (1 to 8 inches). Operating from a variety of DC voltages, these sensors offer a choice of four analog outputs and all include ASG's proprietary SenSet™ field calibration feature. LR-19 series products are available with axial cable or connector terminations, or with radial exiting cable and two swivel rod eye ends for easy installation.

The LR series also include a larger body version, the LR-27, for those applications needing a heavier duty unit. 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:

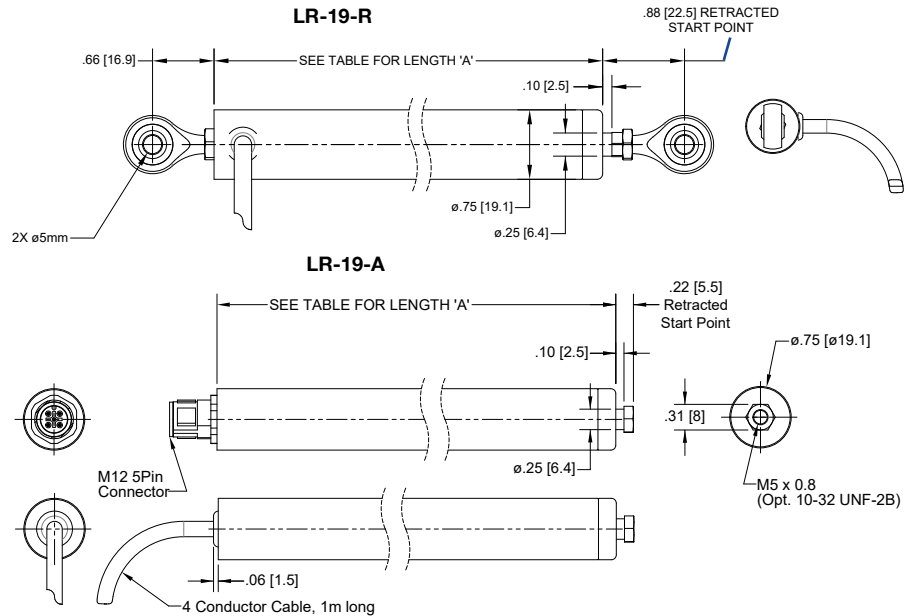
|                                |   |
|--------------------------------|---|
| <b>Analog I/Os</b>             | 0 – 5 V or 0.5 – 4.5 V output with 8 – 30 V input, 35 mA max.<br>0 – 10 V output with 12 – 30 V input, 35 mA max.<br>4 – 20 mA (3-wire) output with 18 – 30 V input, 60 mA max. (75 C max.) |
| <b>Measuring Range</b>         | 25 mm to 200 mm (1 to 8 inches) full scale (nominal)  |
| <b>Linearity Error</b>         | ±0.15% of Full Scale Output (FSO) typical, ±0.25% max.  |
| <b>Resolution</b>              | 0.025% of FS  |
| <b>Update Rate</b>             | 300 Hz nominal  |
| <b>Operating Temperature</b>   | -20 C to 85 C (-40 C to 105 C Extended Range)   |
| <b>Temperature Coefficient</b> | ±±0.015% of FS/deg C  |
| <b>Vibration</b>               | 5-20 Hz 0.5 inch p-p; 20-2000 Hz 4.2 g p-p  |
| <b>Shock</b>                   | 1000 g, 11 ms   |
| <b>Terminations</b>            | IEC IP-67   |
| <b>Humidity</b>                | 95% RH, non-condensing  |

# LR-19 Series



| Wiring Table       |     |             |
|--------------------|-----|-------------|
| Function           | Pin | Cable Color |
| DC power input     | 1   | Red         |
| Ground             | 2   | Black       |
| LRE voltage output | 3   | Green       |
| LRI current output | 4   | Green       |
| SenSet™            | 5   | White       |

| Unit Length Table   |                         |
|---------------------|-------------------------|
| Linear Range        | Length "A"              |
| 1.0 inch [25 mm]    | 3.74 inches [95.0 mm]   |
| 2.0 inches [50 mm]  | 4.74 inches [120.4 mm]  |
| 3.0 inches [75 mm]  | 5.74 inches [145.8 mm]  |
| 4.0 inches [100 mm] | 6.74 inches [171.2 mm]  |
| 6.0 inches [150 mm] | 8.74 inches [222.0 mm]  |
| 8.0 inches [200 mm] | 10.74 inches [272.8 mm] |



Rod Eye Ends



5 MM Threaded End (standard)



Cable (standard)



Axial M-12 Connector

## Ordering Information:

| Series | Output      | Housing Diameter | Range (mm) | Electrical Termination  |                | Output            | Housing Material |
|--------|-------------|------------------|------------|-------------------------|----------------|-------------------|------------------|
|        |             |                  |            | Axial or Radial         | Termination    |                   |                  |
| LR     | X-          | XX-              | XXX-       | X-                      | XX-            | XX-               | X-               |
|        | E - Voltage | 19 - 19mm        | 025        | A - Axial               | 00 - 1 m cable | 05 - 0.5 to 4.5 V | A - Aluminum     |
|        | I - Current |                  | 050        | R - Radial (cable only) | 01 - 5-pin M12 | 06 - 4.5 to 0.5 V | S - 300 Series   |
|        |             |                  | 075        |                         |                | 10 - 0 to 10.0 V  |                  |
|        |             |                  | 100        |                         |                | 11 - 10.0 to 0 V  |                  |
|        |             |                  | 150        |                         |                | 20 - 4 to 20 mA   |                  |
|        |             |                  | 200        |                         |                | 21 - 20 to 4 mA   |                  |
|        |             |                  |            |                         |                | 50 - 0 to 5 V     |                  |
|        |             |                  |            |                         |                | 51 - 5 to 0 V     |                  |

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