

ILPS-19S SERIES SPRING LOADED LINEAR INDUCTIVE POSITION SENSOR

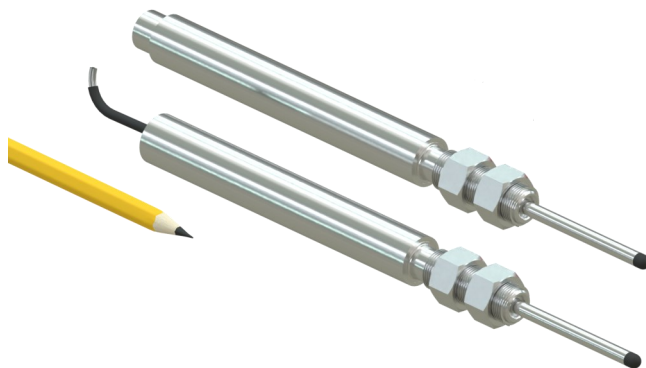
Rugged Spring-Loaded LVIT Linear Position Sensor

FEATURES

- Sensing element is wear-free
- Excellent stroke-to-length ratio
- Stroke lengths from 6.5 to 100 mm (0.25 to 4 inches)
- 19 mm (0.75 inch) diameter housing sealed to IP67
- A more robust alternative to Linear Potentiometers

APPLICATIONS

- Laboratory R&D Testing
- Industrial Test Stands
- Factory Automation



OVERVIEW

The HGSI ILPS-19S series Spring Loaded Linear Variable Inductive Transducer (LVIT) Position Sensor are used to monitor and track the linear motion or position of a target. These spring-loaded ruggedized sensors are ideal for use in industrial and laboratory applications including automotive R&D, motorsports, industrial, motion control, medical, military and aerospace.

The inductive coil and spoiler combination is a contactless solution, eliminating the wear and dithering issues commonly experienced with Potentiometer type sensors. The amplifier electronics are contained within the housing, no need for an external signal conditioner.

The ILPS-19S series sensor is made from industrial duty materials for resistance to dust, water, temperature, shock, and vibration.

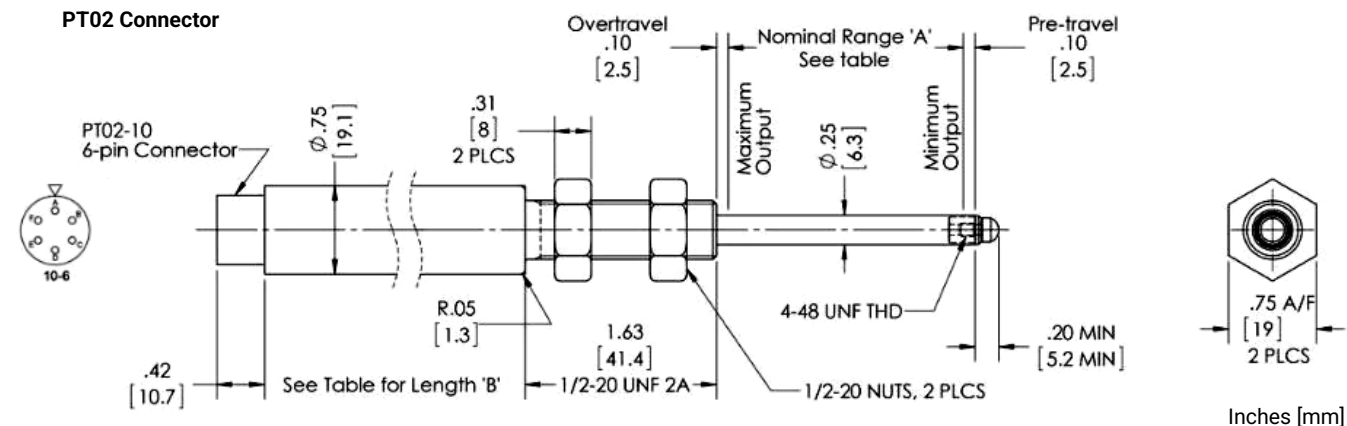
SPECIFICATIONS

| | | |
|------------------------------------|--|------------------------------------|
| Analog I/Os: | 0 to 3 VDC output | (5 to 30 VDC power, ≤ 35 mA) |
| | 0.5 to 4.5 VDC output | (8 to 30 VDC power, ≤ 35 mA) |
| | 0 to 5 VDC output | (8 to 30 VDC power, ≤ 35 mA) |
| | 0 to 10 VDC output | (12 to 30 VDC power, ≤ 35 mA) |
| | 4 to 20 mA output | (18 to 30 VDC power, ≤ 60 mA) |
| Linearity Error: | $\leq \pm 0.15\%$ of FSO typical, $\pm 0.25\%$ maximum | |
| Resolution: | 0.025% of FS | |
| Repeatability: | 0.025% of FS | |
| Bandwidth: | 300 Hz update rate (analog signal output), 10 Hz (mechanical) | |
| Pretravel: | 2.5 mm (0.100") (nominal) | |
| Overtravel: | 2.5 mm (0.100") (nominal) | |
| Operating Temperature: | Voltage Output: -40 to +105°C (-40 to +220°F) Current Output: -20 to +75°C (-5 to +167°F) | |
| Temperature Coefficient: | $\leq \pm 0.015\%$ of FS / °C | |
| Life Expectancy: | > 100 million cycles | |
| Integral Cable Temp Rating: | -40 to +85°C (-40 to +185°F) | |
| Shock Rating: | 1000g, 11 ms | |
| Vibration Rating: | 5 to 20 Hz, 0.5 inch p-p; 20 to 2000 Hz, 4.2 g p-p | |
| IP Rating: | IEC IP67 | |
| Country of Manufacture: | Made in the USA | |



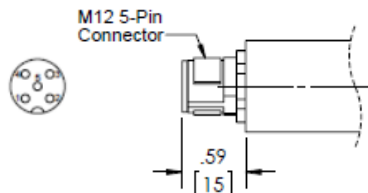
ILPS-19S SERIES SPRING LOADED LINEAR INDUCTIVE POSITION SENSOR

Rugged Spring-Loaded LVIT Linear Position Sensor

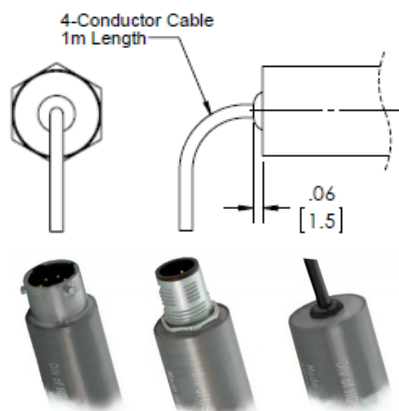


Inches [mm]

M12 Connector



Integral Cable



DIMENSIONS

| Measuring Range 'A' | Length 'B' | Spring Rate |
|---------------------|------------------------|---------------------------|
| 0.25 inch [6.5 mm] | 3.25 inches [82.6 mm] | 0.75 lbf/in [0.13 kgf/cm] |
| 0.5 inch [12.5 mm] | 3.50 inches [88.9 mm] | 0.75 lbf/in [0.13 kgf/cm] |
| 1.0 inch [25 mm] | 4.00 inches [101.6 mm] | 0.75 lbf/in [0.13 kgf/cm] |
| 2.0 inches [50 mm] | 5.08 inches [129.0 mm] | 0.43 lbf/in [0.08 kgf/cm] |
| 3.0 inches [75 mm] | 6.16 inches [156.5 mm] | 0.30 lbf/in [0.05 kgf/cm] |
| 4.0 inches [100 mm] | 7.25 inches [184.1 mm] | 0.23 lbf/in [0.04 kgf/cm] |

WIRING PIN OUT

| | M12 Connector | PT02 Connector | Integral Cable |
|----------------------|---------------|----------------|----------------|
| DC Power In | Pin #1 | E | Red |
| Ground | Pin #2 | D | Black |
| Output (Voltage) | Pin #3 | A | Green |
| Output (Current) | Pin #4 | A | Green |
| SenSet (Calibration) | Pin #5 | B | White |

ORDERING INFORMATION

| Model | Range | Position | Termination | Output | Housing |
|----------|--|----------|--|--|-------------------|
| ILPS-19S | - □ □ □ | - A | - □ □ | - □ □ | - S |
| | 006 6.5 mm 013 12.5 mm 025 25 mm 050 50 mm 075 75 mm 100 100 mm | A Axial | 00 Cable, 1 m 01 M12 Connector 02 PT02 Connector | 03 0 to 3 VDC 05 0.5 to 4.5 VDC 10 0 to 10 VDC 20 4 to 20 mA 50 0 to 5 VDC | S Stainless Steel |

ORDERING EXAMPLE

ILPS-19S-025-A-02-50-S: 0 to 25 mm Range, Axial PT02 Connector, 0 to 5 VDC Output, Stainless Steel Housing

