

ILPS-19S Series Spring Loaded LVIT Linear Inductive 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 HGS I 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.

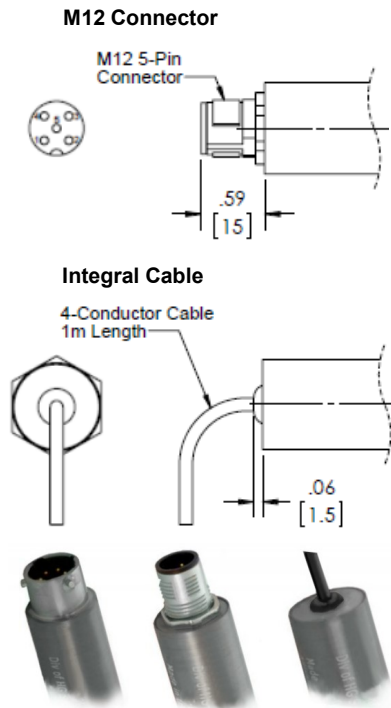
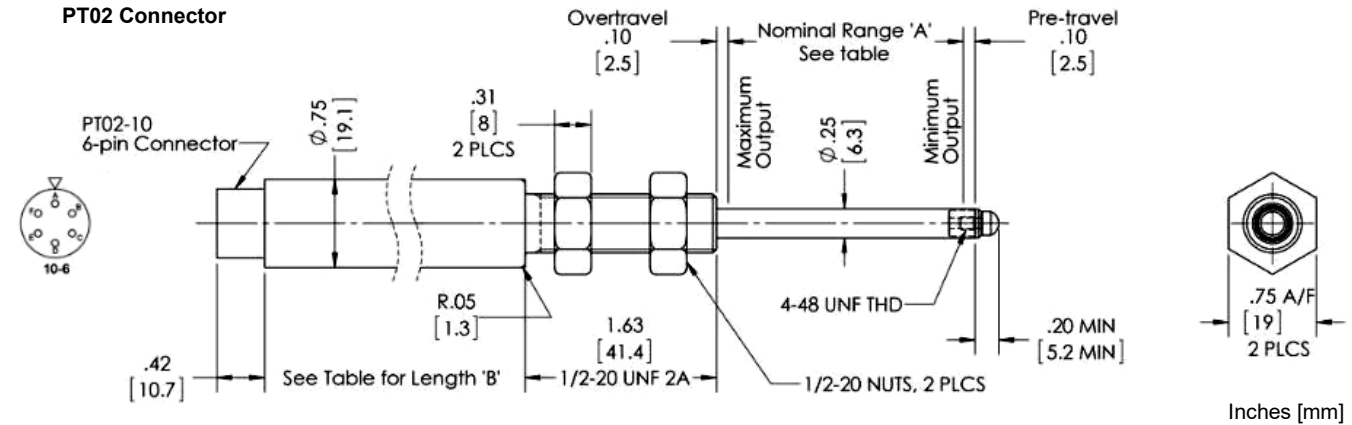
The ILPS-19S series sensor is made from industrial duty materials for resistance to dust, water, temperature, shock, and vibration.

The SenSet Field Programmability feature allows for quick and easy recalibration of the units' zero and full scale electrical output.

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 $+105^{\circ}\text{C}$ (-40 to $+220^{\circ}\text{F}$) Current Output: -20 to $+75^{\circ}\text{C}$ (-5 to $+167^{\circ}\text{F}$)	
Temperature Coefficient:	$\leq \pm 0.015\%$ of FS / $^{\circ}\text{C}$	
Life Expectancy:	> 100 million cycles	
Integral Cable Temp Rating	-40 to $+85^{\circ}\text{C}$ (-40 to $+185^{\circ}\text{F}$)	
Shock Rating:	1000g, 11 ms	
Vibration Rating:	5 to 20 Hz, 0.5 inch p-p; 20 to 200 Hz, 4.2 g p-p	
IP Rating:	IEC IP67	
Country of Manufacture:	Made in the USA	

ILPS-19S Series Spring Loaded Linear Variable Inductive Position Sensor



Dimensions

Measuring Range 'A'	Length 'B'	Spring Rate
0.25 inch [6.5 mm]	3.50 inches [88.9 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]	0.45 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