

# ILPS-18S Series Spring Loaded LVIT Linear Position Sensor

## Features

- Sensing element is wear-free
- Excellent stroke-to-length ratio
- Stroke lengths from 12.5 to 100 mm (0.5 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 ILPS-18S 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-18S series sensor is made from industrial duty materials for resistance to dust, water, temperature, shock, and vibration.

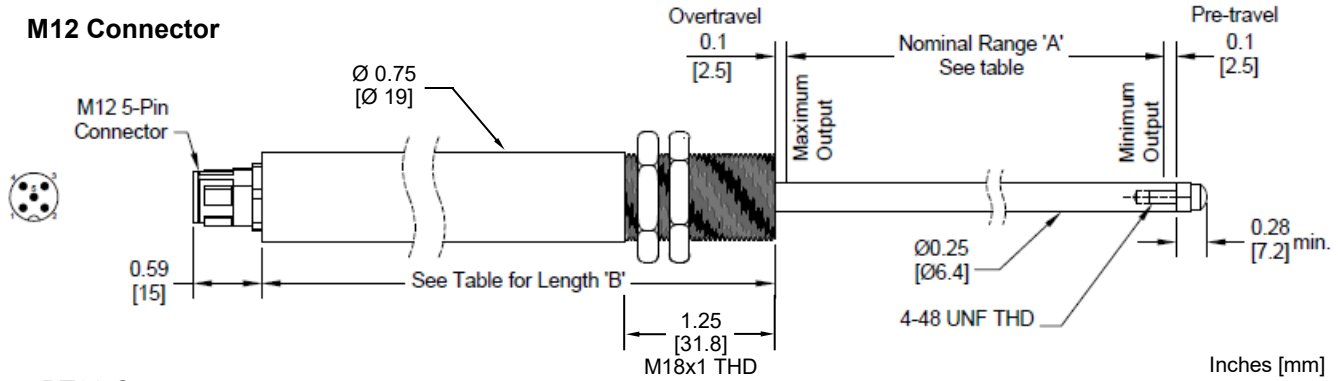
The SenSet Field Programmability feature allows for quick and easy recalibration of the units' zero and full scale electrical output.

## Specifications

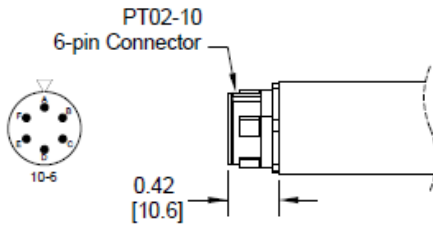
<b>Analog I/Os:</b>	0 to 3 VDC output (5 to 30 VDC power, $\leq 35$ mA) 0.5 to 4.5 VDC output (8 to 30 VDC power, $\leq 35$ mA) 0 to 5 VDC output (8 to 30 VDC power, $\leq 35$ mA) 0 to 10 VDC output (12 to 30 VDC power, $\leq 35$ mA) 4 to 20 mA output (18 to 30 VDC power, $\leq 60$ mA)
<b>Linearity Error:</b>	$\leq \pm 0.15\%$ of FSO typical, $\pm 0.25\%$ maximum
<b>Resolution:</b>	0.025% of FS
<b>Repeatability:</b>	0.025% of FS
<b>Bandwidth:</b>	300 Hz update rate (analog signal output), 10 Hz (mechanical)
<b>Spring Force:</b>	1.0 Lbf (0.45 kgf) maximum
<b>Operating Temperature:</b>	Voltage Output: $-40$ to $+105^{\circ}\text{C}$ ( $-40$ to $+220^{\circ}\text{F}$ ) Current Output: $-20$ to $+75^{\circ}\text{C}$ ( $-5$ to $+167^{\circ}\text{F}$ )
<b>Temperature Coefficient:</b>	$\leq \pm 0.015\%$ of FS / $^{\circ}\text{C}$
<b>Life Expectancy:</b>	$> 100$ million cycles
<b>Integral Cable:</b>	28 AWG, stranded, FEP insulated, foil shielded, with drain wire, PUR polyurethane outer jacket
<b>Integral Cable Temp Rating:</b>	$-40$ to $+85^{\circ}\text{C}$ ( $-40$ to $+185^{\circ}\text{F}$ )
<b>Shock Rating:</b>	1000g, 11 ms
<b>Vibration Rating:</b>	5 to 20 Hz, 0.5 inch p-p; 20 to 200 Hz, 4.2 g p-p
<b>IP Rating:</b>	IEC IP67
<b>Country of Manufacture:</b>	Made in the USA

# ILPS-18S Series Spring Loaded Linear Variable Inductive Position Sensor

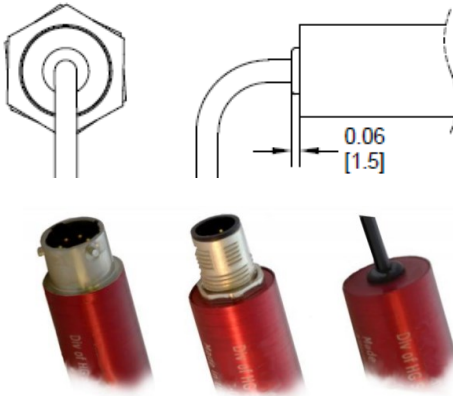
## M12 Connector



## PT02 Connector



## Integral Cable



## Dimensions

Measuring Range 'A'	Length 'B'	Spring Rate
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-18S	- □ □ □	- A	- □ □	- □ □	- □
	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	A Aluminum S Stainless Steel

## Ordering Example

ILPS-18S-025-A-00-50-A: 0 to 25 mm Range, 1 m Axial Cable, 0 to 5 VDC Output, Aluminum Housing