

ILPS-45 Series Linear Variable Inductive Position Sensor

Features

- Sensing element is wear-free
- Excellent stroke-to-length ratio
- Stroke lengths from 100 to 450 mm (4 to 18 inches)
- 45 mm (1.75 inch) diameter housing sealed to IP67
- A more robust alternative to Linear Potentiometers

Applications

- Civil Engineering: Bridge and Railway monitoring
- Military and Off Highway Vehicles
- Power Generation: Steam Valves



Overview

Harold G. Schaevitz Industries (HGS) ILPS-45 series Linear Variable Inductive Transducer (LVIT) Position Sensor with Rod End Joints are used to monitor and track the linear motion or position of a target. These ruggedized sensors are ideal for use in heavy industrial applications including automotive R&D, structural monitoring, factory automation, power generation, agricultural vehicles, 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-45 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:	+/- 0.15% of FSO typical, +/- 0.25% FSO max
Resolution:	0.025% of FS
Repeatability:	0.025% of FS
Bandwidth:	300 Hz update rate (nominal)

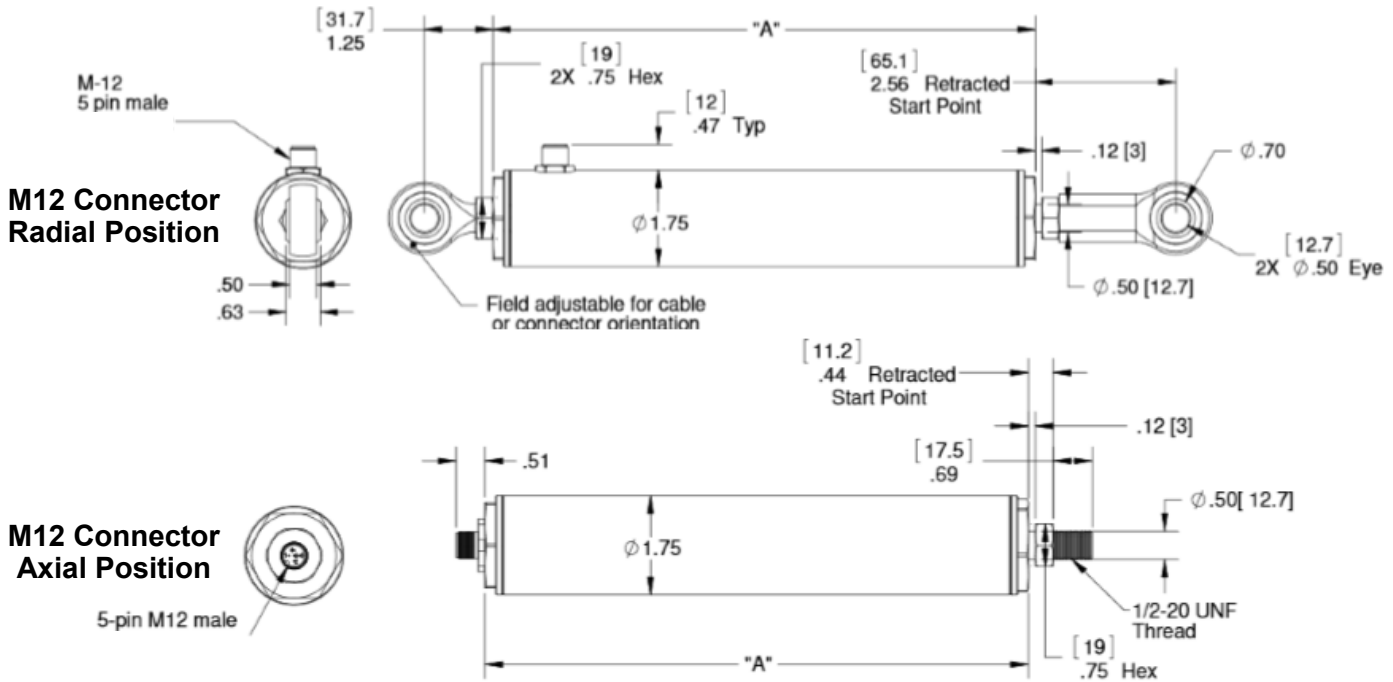
Pretravel:	3mm (0.120") (nominal)
Overtravel:	3mm (0.120") (nominal)

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
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
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Dimensions

Measuring Range	Length 'A'	Housing O.D.
4.0 inches [100 mm]	9.63 inches [244.5 mm]	1.75 inches [45.0 mm]
6.0 inches [150 mm]	11.63 inches [295.4 mm]	1.75 inches [45.0 mm]
8.0 inches [200 mm]	13.63 inches [346.2 mm]	1.75 inches [45.0 mm]
10.0 inches [250 mm]	15.63 inches [397.0 mm]	1.75 inches [45.0 mm]
12.0 inches [300 mm]	17.63 inches [447.8 mm]	1.75 inches [45.0 mm]
15.0 inches [375 mm]	20.63 inches [524.0 mm]	1.75 inches [45.0 mm]
18.0 inches [450 mm]	23.63 inches [600.2 mm]	1.75 inches [45.0 mm]

Wiring Pin Out

	Connector	Integral Cable
DC Power In	Pin #1	Red
Ground	Pin #2	Black
Output (Voltage)	Pin #3	Green
Output (Current)	Pin #4	Green
SenSet (Calibration)	Pin #5	White

Ordering Information

Model	Range	Position	Termination	Output	Housing
ILPS-45	-□□□	-□	-□□	-□□	- S
	100 100 mm 150 150 mm 200 200 mm 250 250 mm 300 300 mm 375 375 mm 450 450 mm	A Axial R Radial	00 Cable, 1m 01 M12 Connector 03 Minifast 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-45-100-R-01-05-S: 0 to 100 mm Range, M12 Connector, 0 to 5 VDC Output, Stainless Steel Housing