

TH-750-A Series Hermetically Sealed AC LVDT Linear Position Sensor

Features

- Free Core design
 - AC LVDT
 - Stroke lengths from ± 0.05 to ± 10 inches
 - Non-Linearity better than $\pm 0.25\%$ of FS
- Stainless steel housing sealed to IP68



Applications

- Laboratory R&D Materials Testing
- Valve Position Sensing
- Factory Automation

Overview

The HGSI TH-750-A series AC Linear Variable Differential Transformer (LVDT) Position Sensors are used to monitor and track the linear motion or position of a target. These ruggedized sensors are ideal for use in industrial and laboratory applications including automotive R&D, motorsports, industrial, motion control, medical, military and aerospace.

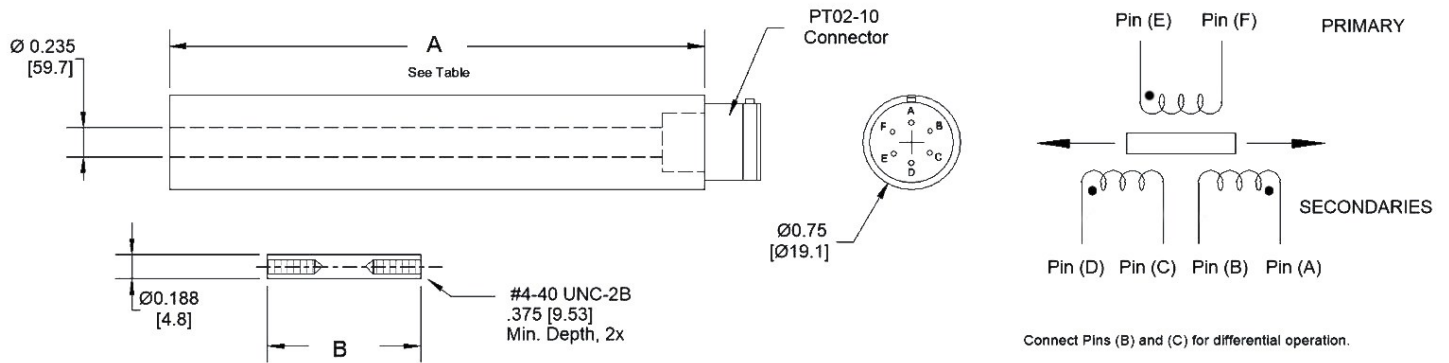
These hermetically sealed sensors are constructed entirely of stainless steel and are resistant to dust, water, and temperature. The coil windings are sealed using an epoxy potting compound providing excellent protection against shock and vibration.

The TH-750-A series will operate with most any conventional differential input AC LVDT signal conditioner, but operation with ratiometric signal conditioning is not recommended. HGSI offers a full line of compatible AC LVDT signal conditioners. Please contact us for a recommendation.

Specifications

Input Voltage:	3 Vrms (nominal)
Input Frequency:	400 Hz to 10 kHz
Linearity Error:	$\leq \pm 0.15\%$ of FSO typical, $\pm 0.25\%$ maximum
Null Voltage:	0.5% of FS
Repeatability:	0.01% of FS
Hysteresis:	0.01% of FS
Operating Temperature:	-54 to +135°C (-65 to +275°F) - Standard Temperature Version -54 to +204°C (-65 to +400°F) - High Temperature Version
Thermal Coefficient:	$< -0.02\%/^{\circ}\text{C}$ of FS ($< -0.01\%/^{\circ}\text{F}$ of FS)
Humidity:	90% RH
Housing:	Stainless steel
Mating Connector:	Amphenol PT06A-10-6S(SR) or equivalent
Life Expectancy:	> 100 million cycles
Shock Rating:	1000g, 11 mS
Vibration Rating:	20 g to 2 kHz
IP Rating:	IEC IP68
Country of Manufacture:	Made in the USA

TH-750-A Series Hermetically Sealed AC LVDT Linear Position Sensor



Dimensions in inches [mm]

Specifications

	TH-750-A-050	TH-750-A-125	TH-750-A-250	TH-750-A-500	TH-750-A-1000	TH-750-A-2000
Measuring Range (in) [mm]	± 0.050 [± 1.2]	± 0.125 [± 3.2]	± 0.250 [± 6.3]	± 0.500 [± 12.5]	± 1.0 [± 25]	± 2.0 [± 50]
Sensitivity (mV/V/0.001 in) [mm]	6.1 [240]	3.9 [154]	2.4 [96]	0.63 [25]	0.61 [24]	0.37 [15]
Dimension A (in) [mm]	2.01 [51.1]	2.64 [67.1]	3.35 [85.1]	5.92 [150.4]	7.38 [187.5]	10.91 [277.1]
Dimension B (in) [mm]	0.80 [20.3]	1.25 [31.7]	1.65 [41.9]	3.45 [87.6]	3.45 [87.6]	5.30 [134.6]

	TH-750-A-3000	TH-750-A-4000	TH-750-A-5000	TH-750-A-7500	TH-750-A-10000
Measuring Range (in) [mm]	± 3.0 [± 75]	± 4.0 [± 100]	± 5.0 [± 125]	± 7.5 [± 190]	± 10.0 [± 250]
Sensitivity (mV/V/0.001 in) [mm]	0.25 [9.8]	0.17 [6.7]	0.12 [4.7]	0.11 [4.3]	0.07 [2.8]
Dimension A (in) [mm]	13.65 [346.1]	16.17 [411]	18.65 [473.7]	23.85 [606]	31.66 [804]
Dimension B (in) [mm]	6.20 [157.5]	6.20 [157.5]	6.20 [157.5]	7.00 [177.8]	9.50 [241.3]

Ordering Information

Model	Measuring Range	Options
TH-750-A	- □ □ □	- □
	050 ± 0.050 inches 125 ± 0.125 inches 250 ± 0.250 inches 500 ± 0.500 inches 1000 ± 1.0 inches 2000 ± 2.0 inches 3000 ± 3.0 inches 4000 ± 4.0 inches 5000 ± 5.0 inches 7500 ± 7.5 inches 10000 ± 10.0 inches	H High Temperature (400°F) M Metric Core Threads (M3x0.5) R Mild Radiation Resistance (3x10 ⁷ Rads) T Teflon™ Boreliner

Wiring Pin Out

	PT02 Connector
Secondary 1 V+	A
Secondary 1 V-	B
Secondary 2 V-	C
Secondary 2 V+	D
Primary V+	E
Primary V-	F

Ordering Example

TH-750-A-500: AC LVDT, ± 0.500 inch Measuring Range

