

# TH-750-D Series Hermetically Sealed DC LVDT Linear Position Sensor

## Features

- Free Core design
  - 0 to  $\pm 10$  VDC output
  - Stroke lengths from  $\pm 0.05$  to  $\pm 10$  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-D series DC 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.

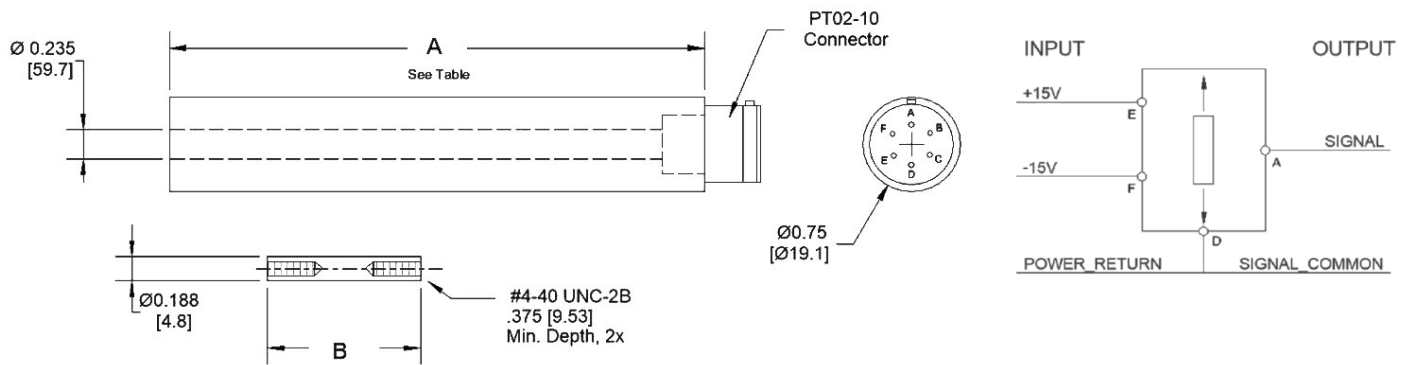
These hermetically sealed sensors are constructed entirely of stainless steel and are resistant to dust, water, and temperature. The coil windings are sealed using an epoxy potting compound providing excellent protection against shock and vibration.

The amplifier electronics are contained within the housing, no need for an external signal conditioner. The  $\pm 10$  VDC output is precalibrated at the factory.

## Specifications

<b>Full Scale Output:</b>	$\pm 10$ VDC
<b>Input Power:</b>	$\pm 15$ VDC, $\pm 25$ mA
<b>Linearity Error:</b>	$\leq \pm 0.15\%$ of FSO typical, $\pm 0.25\%$ maximum
<b>Resolution:</b>	16 bit
<b>Repeatability:</b>	0.01% of FS
<b>Hysteresis:</b>	0.01% of FS
<b>Bandwidth:</b>	125 Hz update rate (analog signal output)
<b>Operating Temperature:</b>	-20 to +85°C (0 to +185°F)
<b>Thermal Coefficient:</b>	$< -0.025\%/^{\circ}\text{C}$ of FS ( $< -0.014\%/^{\circ}\text{F}$ of FS)
<b>Humidity:</b>	90% RH
<b>Housing:</b>	Stainless steel
<b>Mating Connector:</b>	Amphenol PT06A-10-6S(SR) or equivalent
<b>Life Expectancy:</b>	$> 100$ million cycles
<b>Shock Rating:</b>	1000g, 11 mS
<b>Vibration Rating:</b>	20 g to 2 kHz
<b>IP Rating:</b>	IEC IP68
<b>Country of Manufacture:</b>	Made in the USA

# TH-750-D Series Hermetically Sealed DC LVDT Linear Position Sensor



Dimensions in inches [mm]

## Specifications

	TH-750-D-050	TH-750-D-125	TH-750-D-250	TH-750-D-500	TH-750-D-1000	TH-750-D-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]
Scale Factor (V/in) [V/mm]	200 [8.0]	80 [3.3]	40 [1.6]	20 [0.8]	10 [0.4]	5 [0.2]
Dimension A (in) [mm]	2.86 [72.5]	3.48 [88.3]	4.24 [107.7]	6.74 [171.2]	8.24 [209.3]	11.21 [284.7]
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-D-3000	TH-750-D-5000	TH-750-D-7500	TH-750-D-10000
Measuring Range (in) [mm]	± 3.0 [± 75]	± 5.0 [± 125]	± 7.5 [± 190]	± 10.0 [± 250]
Scale Factor (V/in) [V/mm]	3.3 [0.13]	2.0 [0.08]	1.33 [0.05]	1.0 [0.04]
Dimension A (in) [mm]	14.49 [368.0]	19.49 [495.0]	25.00 [635.0]	32.38 [822.5]
Dimension B (in) [mm]	6.20 [157.5]	6.20 [157.5]	7.00 [177.8]	9.50 [241.3]

## Ordering Information

Model	Measuring Range	Options
TH-750-D	- □ □ □	- □
	<b>050</b> ± 0.050 inches <b>125</b> ± 0.125 inches <b>250</b> ± 0.250 inches <b>500</b> ± 0.500 inches <b>1000</b> ± 1.0 inches <b>2000</b> ± 2.0 inches <b>3000</b> ± 3.0 inches <b>5000</b> ± 5.0 inches <b>7500</b> ± 7.5 inches <b>10000</b> ± 10.0 inches	<b>M</b> Metric Core Threads (M3x0.5) <b>T</b> Teflon™ Boreliner

## Wiring Pin Out

	PT02 Connector
±10 VDC Output	A
Output Common	D
Power Common	D
+15 VDC Power In	E
-15 VDC Power In	F

## Ordering Example

TH-750-D-500: ± 10 VDC Output, ± 0.500 inch Measuring Range

