

GBT-375-A Series Spring Loaded LVDT Gauging Probe

Features

- Spring loaded probe
- AC LVDT
- Stroke lengths from ± 0.040 to ± 0.200 inches
- Non-Linearity better than $\pm 0.5\%$ of FS
- Threaded Stainless steel housing sealed to IP65



Applications

- Laboratory R&D Materials Testing
- Industrial Gauging Test Stands
- Factory Automation

Overview

The HGSi GBT-375-A series Spring Loaded Linear Variable Differential Transformer (LVDT) gauging probes are 3/8 inch diameter pencil-type gauging probes used for ultra-precise dimensional measurement. These spring-loaded sensors are ideal for use in industrial and laboratory applications including QC, SPC, metrology, & dimensional gauging.

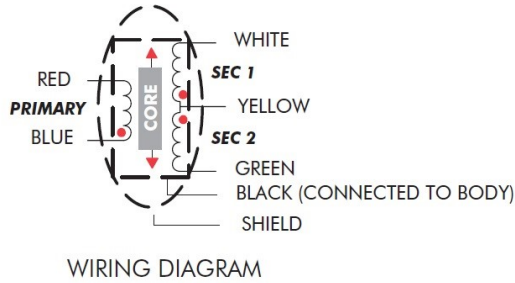
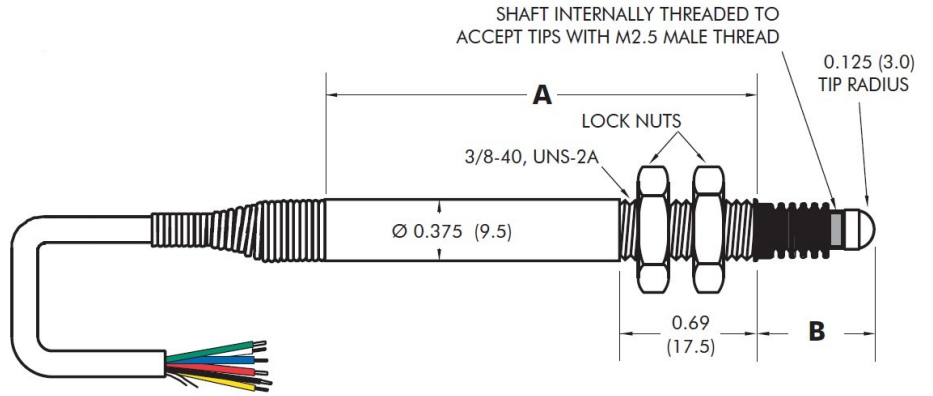
The sensor shaft is spring loaded and guided by a precision linear ball bearing assembly. The non-rotating probe shaft minimizes radial play and effects of side loading. These sensors are constructed of stainless steel and are resistant to dust, temperature, shock, and vibration.

The GBT-375-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:	3 kHz (nominal)
Linearity Error:	$\leq \pm 0.5\%$ of reading typical
Repeatability:	≤ 0.000006 inches (0.15 μm)
Operating Temperature:	5 to 80°C (40 to 176°F)
Thermal Coefficient:	$< -0.01\%/^{\circ}\text{C}$ of FS
Housing:	Stainless steel
Contact Tip:	AGD #9 hardened tool steel, chrome plated, M2.5 male thread, interchangeable
Bellows:	Fluoroelastomer
Integral Cable:	6.5 foot (2 m) long, foil shielded, with drain wire, PUR polyurethane outer jacket
Life Expectancy:	> 10 million cycles
Shock Rating:	1000g, 11 mS
Vibration Rating:	20 g to 2 kHz
IP Rating:	IEC IP65

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All dimensions in inches (mm)

Specifications

	GBT-375-A-040	GBT-375-A-100	GBT-375-A-200
Measuring Range (in) [mm]	± 0.040 [± 1.0]	± 0.100 [± 2.5]	± 0.200 [± 5.0]
Sensitivity (mV/V/0.001 in) [mm]	5.3 [210]	3.8 [150]	2.7 [105]
Pretravel (in) [mm]	0.006 [0.15]	0.006 [0.15]	0.006 [0.15]
Overtravel (in) [mm]	0.014 [0.35]	0.033 [0.85]	0.033 [0.85]
Dimension A (in) [mm]	1.89 [48.0]	2.68 [68.0]	3.58 [91.0]
Dimension B (in) [mm]	0.56 [14.2]	0.69 [17.7]	1.01 [25.7]
Spring Force (ozf) [N] ± 20%	2.5 [0.7]	2.5 [0.7]	2.5 [0.7]

Ordering Information

Model	Measuring Range	Options
GBT-375-A	- □ □ □	- □ □ □
	040 ± 0.040 inches 100 ± 0.100 inches 200 ± 0.200 inches	Consult Factory for custom designs

Ordering Example

GBT-375-A-100: AC LVDT, ± 0.100 inch Measuring Range