

GPA 750 Series

Spring-Loaded AC-LVDT Position Sensors



Description

Macro Sensors has successfully bridged the gap between price and performance in industrial gaging applications with the GPA 750 Series Spring-Loaded AC-LVDT!

Incorporating customer suggestions, along with the most sought after features of the highly successful GHS 750 Series, the GPA 750 has been designed and packaged to deliver a lower cost gaging alternative, without sacrificing the traditional quality and performance expected from Macro Sensors.

Internally, the sensor consists of a spring loaded probe/shaft assembly (force of 6 to 20 ounces, model dependent), which runs along two precision sleeve bearings. The end of the shaft is connected to the core of an LVDT. The coil of the LVDT is located inside the body. As the probe is depressed, the relative position of the core to the coil changes, thereby increasing the output of the LVDT. The output can then be connected to any standard (differential input) LVDT signal conditioner to create a variety of analog or digital outputs, or directly to the customers own conditioning electronics/system.

Features

- Ranges of ± 0.050 inch to ± 2.0 inch
- Integral 6 conductor, 3 foot shielded cable
- Non-linearity of less than $\pm 0.25\%$
- Interchangeable chrome plated / hardened tool steel tip (#9 AGD)
- Standard $3/4$ inch (19mm) diameter

Applications

- Cost sensitive industrial gaging systems
- Process control monitoring
- Electronic dial indicators
- Motion control

Externally, all machined parts are constructed of stainless steel. The front end of the GPA 750 Series has a $1/2-20$ UNF 2A thread on the housing, allowing the user to install the LVDT into a mating threaded part, or alternatively, can be 'bulkhead' mounted using the two furnished hex nuts. The supplied contact tip on the probe end is an AGD standard number 9 made from chrome plated hardened tool steel, and is fully interchangeable with other AGD contact tips.

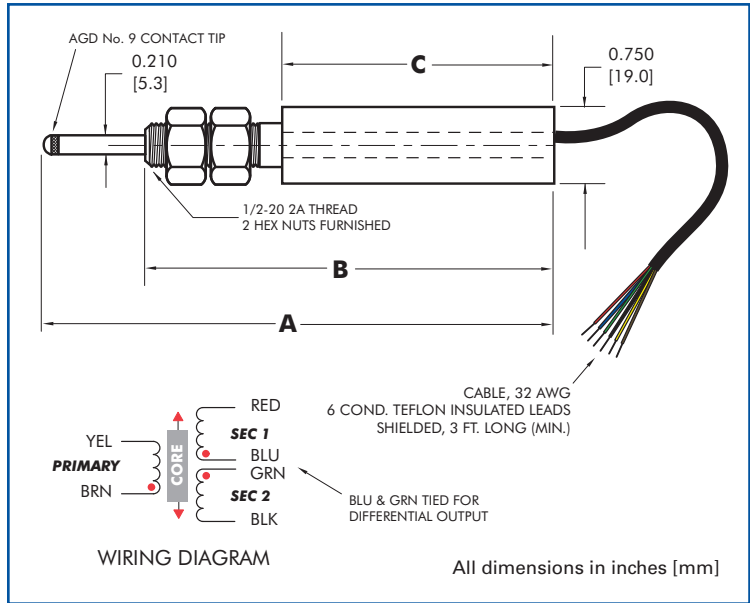
The electrical interface is via a 3 foot long, 32AWG, 6 conductor, teflon insulated/shielded cable. The entire package meets IEC standard IP-61.

Designed specifically to meet the needs of the industrial gaging and OEM market place, the GPA 750 Series is available in a variety of ranges from ± 0.050 inch (± 1.25 mm) to ± 2.00 inches (± 50.0 mm), with a maximum linearity error of $\pm 0.25\%$ of full range output (best-fit / least squares method).

Macro Sensors also offers a full line of LVDT signal conditioners that will deliver optimum performance from any GPA 750 Series Spring Loaded LVDT. Details can be found on our website at www.macrosensors.com.

General Specifications

- Input Voltage:** 3.0 V_{rms} (nominal)
- Input Frequency:** 2.5 kHz
- Linearity Error:** $\leq \pm 0.25\%$ of FRO
- Operating Temperature:** 0°F to +220°F (-18°C to +105°C)
- Vibration Tolerance:** 20 g to 2 kHz
- Shock Survival:** 100 g, 11 ms



Specifications

Model	GPA 750 -050	GPA 750 -125	GPA 750 -250	GPA 750 -500	GPA 750 -1000	GPA 750 -2000
Parameter						
Nominal Range (inches)	±0.050	±0.125	±0.25	±0.50	±1.00	±2.00
Nominal Range (mm)	±1.25	±3.0	±6.3	±12.5	±25.0	±50.0
Sensitivity (mV/V/.001 in)	6.1	3.9	2.5	0.65	0.61	0.37
Sensitivity (mV/V/mm)	240	153	98	26	24	14
Primary Impedance (Ω)	326	735	890	1200	1250	2150
Dimension "A" (inches)	4.66	5.35	6.06	10.6	12.94	20.96
Dimension "A" (mm)	118.4	138.4	153.9	269.2	328.5	532.3
Dimension "B" (inches)	3.56	4.24	4.95	9.1	10.56	16.40
Dimension "B" (mm)	90.3	107.6	125.6	231.1	268.1	416.4
Dimension "C" (inches)	2.02	2.68	3.40	5.93	7.39	10.9
Dimension "C" (mm)	51.2	68.2	86.2	150.5	187.6	277.2
Weight (ounces)	2.9	3.4	4.0	6.0	6.3	10.2
Weight (g)	82	96	113	170	179	290

Ordering Information

Order by model number with range
 For accessories and compatible signal conditioners, please visit our website at www.macrosensors.com.



Innovators in Position Sensing

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