

HIGH TEMPERATURE

Hermetically Sealed
AC-LVDT Position Sensors
MACRO HPGS 750

Overview

Macro Sensors' HPGS 750 Series of 3/4 inch (19 mm) diameter AC-operated LVDTs is designed for a wide range of position measurement applications. These are rugged hermetically sealed sensors, constructed entirely of stainless steel, and intended for use at high temperatures (400°F). The coil windings are IP-68 sealed against hostile environments and electrical termination is through a sealed radial screw on style 38999 connector (mating connector included).

The screw on radial connector offers three important benefits. First, it results in a through-bore design, which permits access to either or both ends of the LVDT's core for better mechanical support and core guidance, and easier cleanout in dusty or dirty locations. The second advantage of the radial connector is shorter installed length compared to units of the same range with axial connectors. Third, units withstand higher vibration.

Macro Sensors offers several standard options, including *Teflon® bore liners and metric threaded cores. In addition, Macro Sensors can provide a range of mounting accessories and core extension rods. HPGS LVDT's series can also be supplied to withstand exposure to mild radiation ($3x10^7$ Rads). On special order, the HPGS 750 Series can also be constructed for immersion in pressurized fluids.

All HPGS 750 Series LVDTs will operate properly with any conventional differential input LVDT signal conditioner. Macro Sensors offers a full line of LVDT signal conditioners that will deliver optimum performance from any HPGS 750 Series LVDT.

* Teflon® is a registered trademark of DuPont

Benefits

- Ranges of ±0.050 inch to ±10.0 inches
- Long term high vibration survivability
- 400°F (200°C) operating temperature
- Screw on radial connector; through-bore operation
- IP-68
- Non-linearity less than ±0.25% of FRO

Applications

- Hydraulic cylinder position
- Steam valve positioning
- Power generation equipment
- Corrosive environments

Performance

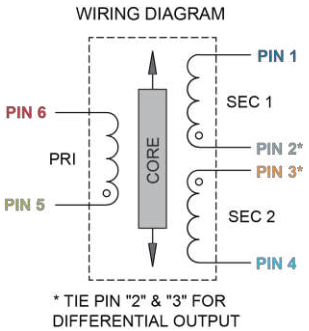
Linearity Error	<±0.25% of FRO
Repeatability Error	<±0.01% of FSO
Hysteresis Error	<±0.01% of FSO

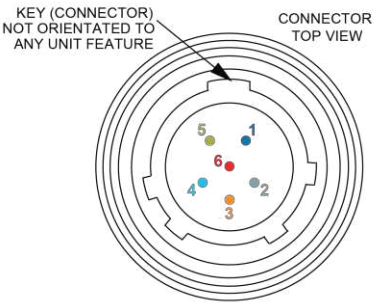
Environmental Data

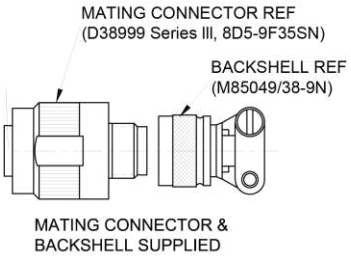
Operating Temperature	-65°F to +400°F (-55°C to +200°C)
Temperature Sensitivity	-0.01%/°F (nominal) (-0.02%/°C nominal)
Vibration Tolerance	20 g to 2 kHz
Shock Survival	1000 g, 11 ms

Electrical Data

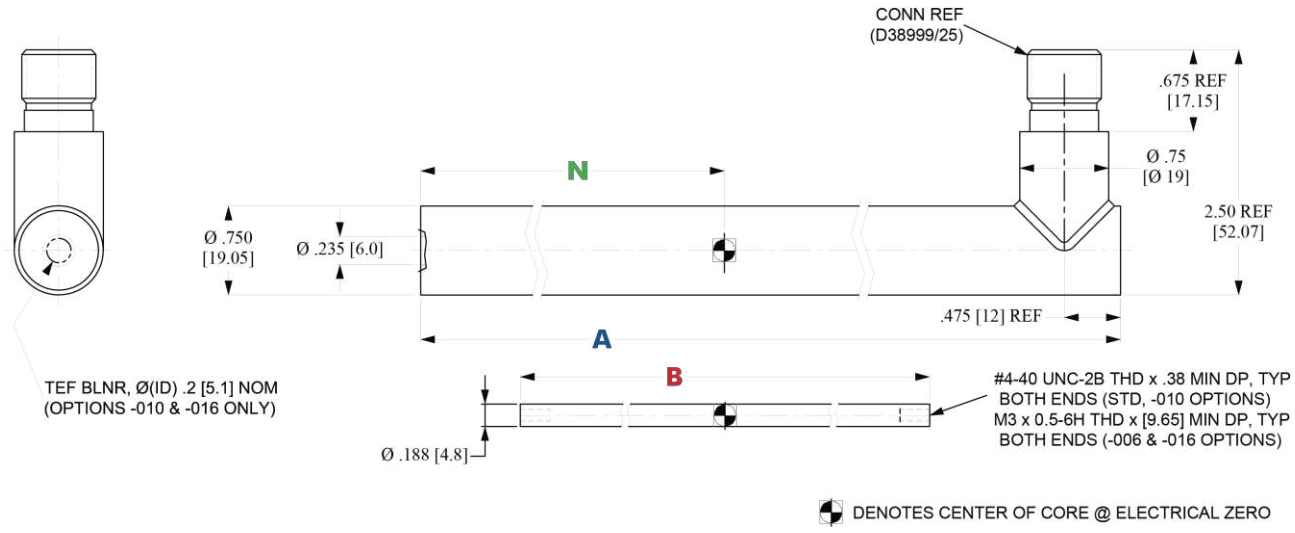
Input Voltage	3.0 Vrms (nominal)
Input Frequency	2.5 to 3.0 kHz







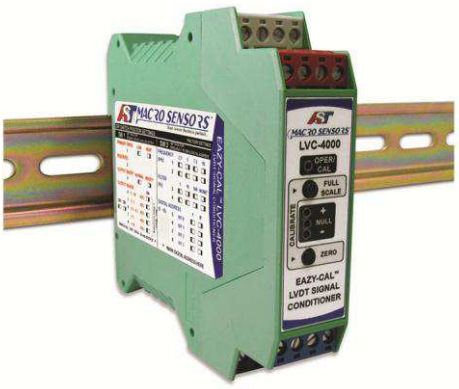
Dimensions



Parameter ▼	Range Code ▶	050	125	250	500	1000	2000	3000	4000	5000	7500	10000
Nominal Range	inches	± 0.050	± 0.125	± 0.25	± 0.50	± 1.00	± 2.00	± 3.00	± 4.00	± 5.00	± 7.50	± 10.00
	mm	± 1.3	± 3.0	± 6.3	± 12.5	± 25	± 50	± 75	± 100	± 125	± 190	± 250
Sensitivity	mV/V/.001 in	6.1	3.9	2.4	0.63	0.61	0.37	0.25	0.17	0.12	0.11	0.07
	mV/V/mm	240	154	96	25	24	15	9.8	6.7	4.9	4.3	2.8
Primary Impedance (Ω)	ohms	325	735	1400	1200	1250	2150	2150	420	600	775	620
Dimension "A"	inches	2.01	2.64	3.35	5.92	7.38	10.91	13.65	16.17	18.65	23.85	31.66
	mm	51.1	67.1	85.1	150.4	187.5	277.1	346.1	411	473.7	606	804
Dimension "B"	inches	0.8	1.25	1.65	3.45	3.45	5.3	6.2	6.2	6.2	7	9.5
	mm	20.3	31.7	41.9	87.6	87.6	134.6	157.5	157.5	157.5	177.8	241.3
Dimension "N"	inches	0.63	0.94	1.32	2.57	3.32	5.07	6.29	7.65	8.94	11.52	15.42
	mm	16	24	33	65	84	129	160	194	227	293	392
Weight - Body	ounces	1.6	2.1	2.5	3.3	4.3	6.2	8.2	9.2	10	14.2	18.3
	grams	45	59	71	93	122	176	232	260	283	402	519
Weight - Core	ounces	0.08	0.12	0.18	0.4	0.4	0.65	0.8	0.8	0.8	0.9	1.2
	grams	2.4	3.7	4.8	11.6	11.6	18	22	22	22	25.5	34

Ordering Information

- Mild radiation resistant -080 option
- For standard HPGS 750, order by model number with range.
- For metric threaded core option, add -006 after model number with range.
- For Teflon® bore liner option, add -010 after model number with range (not available with -080 option).



Macro Sensors also offers a full line of LVDT signal conditioners, controllers and indicators that deliver optimum performance from any AC operated LVDT.

ABOUT MACRO SENSORS

Macro Sensors, founded by Howard A. Schaevitz, has more than three hundred man-years of experience in just one thing: the design and manufacture of LVDTs. We believe that you need solutions, not simply products. When you call us, you get the benefit of our experience and our commitment.

Most products listed are in stock for immediate delivery, and we strive to offer the finest customer service in the industry: technical support from people who understand LVDTs and how to apply them to your benefit, and a commitment to excellent pricing, quality products, and deliveries that you can truly rely on. Macro Sensors also has a comprehensive network of representatives and distributors in the U.S. and around the world to provide you with local support.

We manufacture an enormous array of LVDTs, from modified standards to complete custom designs. Our customers consistently tell us it is Macro Sensors? quality and service that keeps them coming back. Let our experience go to work for you.

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