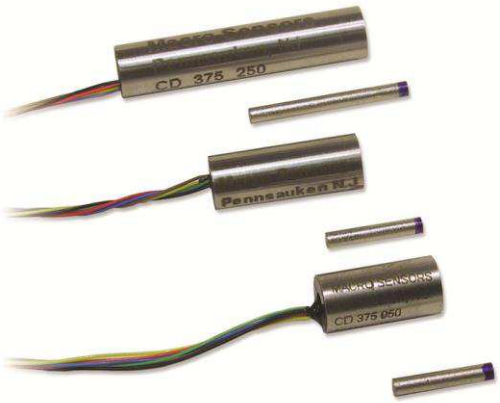


MINIATURE

LVDT Position Sensors
MACRO CD 375

Overview

Macro Sensors' LVDT CD 375 Series of 3/8 inch (9.5 mm) diameter AC-operated LVDTs are small size contactless linear position sensors for both OEM and end user applications. They are available in full scale measuring ranges from ±0.025 inch (±0.63 mm) to ±1.0 inches (±25 mm). The low mass of their cores makes these miniature LVDTs well suited for high response dynamic measurements. CD 375 Series sensors feature the high resolution, excellent repeatability, and low hysteresis associated with LVDT technology, as well as high sensitivity consistent with good linearity. The maximum linearity error for a CD 375 sensor is ±0.25% of full range output, using a statistically best-fit straight line derived by the least squares method.

The proven reliability of CD 375 Series LVDTs is a direct result of manufacturing processes and assembly techniques developed and optimized by Macro Sensors personnel over many years of making LVDTs. Their environmental robustness stems from the materials of their construction, such as glass-filled polymer coil forms for thermal stability and stainless steel housings that act as magnetic shields to reduce the effects of any external AC magnetic fields. Their external sealing meets IEC standard IP-61.

Macro Sensors offers several standard options that permit a user to customize CD 375 LVDTs, including Teflon® bore liners and metric threaded cores. In addition to these standard options, Macro Sensors can design and produce special CD 375 LVDTs, including units with different lead wire exit points and connectors; vented units for operation in pressurized fluids; units for higher ambient temperatures; and units constructed of materials resistant to mild nuclear radiation. Contact the highly experienced Applications Engineers at Macro Sensors for help with any special requirements.

All CD 375 Series LVDTs will operate properly with any conventional differential input LVDT signal conditioners, but operation with ratiometric LVDT signal conditioning circuits is not recommended. Macro Sensors offers a full line of LVDT signal conditioners that will deliver optimum performance from any CD 375 Series LVDTs.

Benefits

- Miniature 3/8 inch size, low core mass
- Ranges of ±0.025" to ±1.0" [±0.63 mm to ±25 mm]
- Non-linearity less than ±0.25% of FRO
- 220°F (105°C) operating temperature
- Coil assembly sealed to IEC IP-61
- Magnetically shielded SS housing

Applications

- Machine tools
- Robotic grippers
- Medical equipment
- Valve position sensing
- ATMs and copy machines
- Pneumatic cylinder position

General Specifications

***Also Available in High Pressure & Temperature Configurations**

Input Voltage	3.0 Vrms (nominal)
Input Frequency	2.5 to 3.0 kHz
Linearity Error	< ±0.25% of FRO
Repeatability Error	< 0.01% of FSO
Hysteresis Error	< 0.01% of FSO
Operating Pressure *	20 kpsi
Operating Temperature *	-65 °F to +220 °F -55 °C to +105 °C -65 °F to +400 °F -55 °C to +200 °C
Thermal Coefficient of Scale Factor:	-0.01%/°F (nominal) -0.02%/°C (nominal)
Vibration Tolerance	20 g to 2 kHz
Shock Survival	1000 g, 11 ms

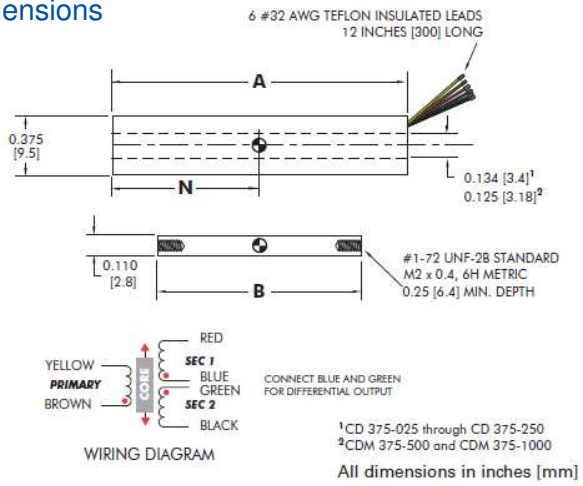
Ordering Information

- For standard CD 375 or CDM 375, 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 for CDM 375-500 or CDM 375-1000
- For both options, add -016 after model number with range.

Specifications

Model ▶ / Parameter ▼	CD 375 025	CD 375 -050	CD 375 -100	CD 375 -250	CDM 375 -500	CDM 375 -1000
Nominal Range (inches)	±0.025	±0.050	±0.100	±0.250	±0.500	±1.00
Nominal Range (mm)	±0.63	±1.25	±2.50	±6.25	±12.5	±25
Sensitivity (mV/V/.001 in)	3.3	1.6	1.6	2.2	1.6	0.7
Sensitivity (mV/V/mm)	130	63	63	87	63	28
Impedance, Primary (Ω)	90	340	340	500	125	235
Dimension "A" (inches)	0.50	0.75	1.00	1.75	3.30	5.60
Dimension "A" (mm)	12.7	19.1	25.4	44.5	83.8	142.2
Dimension "B" (inches)	0.40	0.63	0.64	1.13	2.00	3.00
Dimension "B" (mm)	10.2	16.0	16.3	28.6	50.8	76.2
Dimension "N" (inches)	0.25	0.38	0.50	0.88	1.65	2.8
Dimension "N" (mm)	6.35	9.5	12.7	22.1	41.9	71.1
Weight, Body (ounces)	0.10	0.20	0.21	0.40	0.63	0.95
Weight, Body (grams)	2.8	5.7	6.0	11.3	18.0	27.0
Weight, Core (ounces)	0.008	0.014	0.015	0.033	0.056	0.088
Weight, Core (grams)	0.23	0.40	0.42	0.94	1.60	2.50

Dimensions



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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