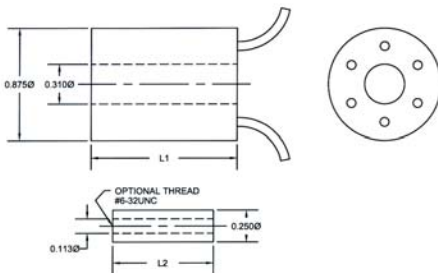


Linear Variable Differential Transformers

Series S

- **Displacement Ranges**
 $\pm 0.04"$ to $\pm 0.30"$
- **Excellent Linearity**
- **Magnetic Shielding**
- **AC Operation**



The Columbia S Series LVDTs are designed to sense linear displacement over the ranges of $\pm 0.04"$ to $\pm 0.30"$ and translate this motion into a precisely proportional voltage for measurement and control. These transducers consist of a coil assembly potted and mechanically swaged into a 7/8" diameter housing with a separate moveable core. The 1/4" diameter core allows a radial clearance of 1/32" between the moveable core and bore of the coil assembly. The corrosion-resistant stainless steel housing provides effective shielding to contain the magnetic flux within the transformer, as well protection against external magnetic fields.

Electrical Specifications:

INPUT VOLTAGE: 5.0V RMS Nominal (1 VA Max.)
FREQUENCY RANGE: 50 Hz To 3KHz
EXTENDED OPERATING RANGE: 1.5X Linear Range
NULL VOLTAGE: 0.5% Full Scale
INSULATION RESISTANCE: 20 Megohms Min. @ 500 VDC

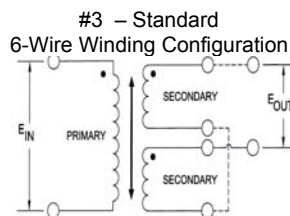
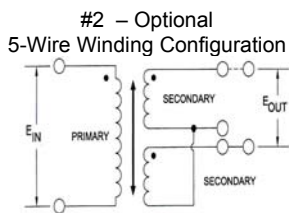
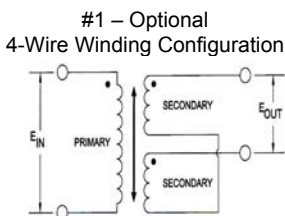
Environmental Specifications:

TEMPERATURE RANGE: -65 Deg F To +275 Deg F
SHOCK: 100 G, 11 mSec
VIBRATION: 20 G, 10 Hz To 2KHz
HUMIDITY: 90% R.H., 240 Hours

Materials:

HOUSING: Corrosion-resistant nickel-iron alloy
CORE: Hi-permeability nickel-iron alloy
COIL FORM: Ceramic / Plastic
LEAD WIRES: #26 AWG Teflon insulated, 8" long
MAGNET WIRE: Film insulated copper

Model	Linear Range (Inch)	Excitation Frequency (Hz)	Sensitivity (mV OUT/V IN) Per 0.001 Inch	Impedance (ohms)		Phase Shift (Degrees)	Linearity (% Full Range)	Length (Inch)		Weight (Gm)	
				Input	Output			Coil L1	Core L2	Coil	Core
S040	0.08	60	1.82	72	1000	+75 Deg	0.2%	1.13	0.78	48	3.7
		1000	6.95	325	4250	+6 Deg					
S050	0.10	60	1.75	55	2800	+7.7 Deg	0.2%	1.25	0.83	50	4.2
		1000	8.0	210	3850	+9.5 Deg					
S080	0.16	60	2.8	70	2450	+65 Deg	0.2%	1.50	1.08	60	5.8
		1000	6.8	475	5000	+2 Deg					
S150	0.30	60	2.9	62	1200	+55 Deg	0.2%	2.00	1.50	80	7.6
		1000	5.1	550	4000	-6 Deg					
S200	0.40	60	4.3	90	1500	+40 Deg	0.2%	2.50	1.88	100	9.5
		1000	6.7	925	6800	-10 Deg					
S300	0.60	60	2.35	110	1100	+25 Deg	0.2%	3.50	2.62	120	14.0
		1000	2.45	1300	6000	-19 Deg					



Ordering Information:

Series	S	xxx	-	Sx	R	C
Stroke: $\pm 0. xxx$ Inch						
Winding Configuration = x						
1 = Optional 4-Wire Winding						
2 = Optional 5-Wire Winding						
3 = Standard 6-Wire Winding						
R = Standard Temperature Range						
Optional Threaded Core (See Outline)						

R51205



Columbia Research Laboratories, Inc. 1925 Mac Dade Blvd. Woodlyn, PA 19094 USA
 Phone: 1.800.813.8471 / Fax: 610.872.3882 / email: sales@columbiaresearchlab.com