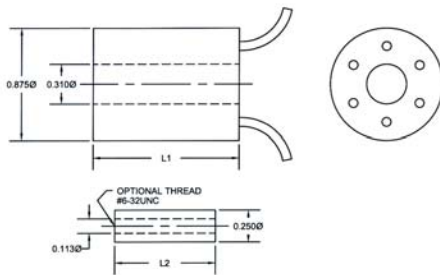


Linear Variable Differential Transformers

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

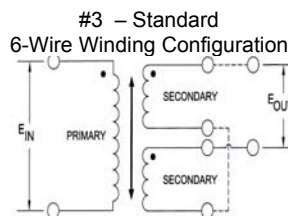
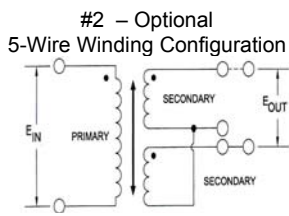
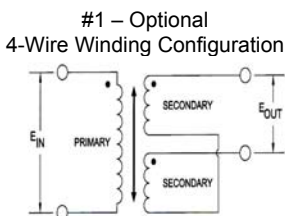
Environmental Specifications:

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

