LVDT Position Transducers

**DESCRIPTION**
AMETEK Linear Variable Differential Transformers (LVDTs) are designed for accurate measurement of position in aircraft and missile systems. They are tested to meet the most stringent environmental requirements of MIL-STD-810 and MIL-E-5400.

These single-voltage or dual-voltage output devices are designed for high accuracy and reliability. The LVDT’s welded construction will withstand exposure to extreme environments and many types of fluids and gases. Internal temperature compensation can be included to minimize temperature effects, and accuracy can be specified to ±0.15%.

Where system operation requires dual output signal, AMETEK can provide tandem designs that combine two LVDTs in a single transducer assembly. These special designs utilize single-shaft construction, and provides two outputs of equal amplitude with carefully matched null positions. A special coil design virtually eliminates output-to-output crosstalk. Phase-matching networks can be included within the LVDT assembly to precondition the output signal for direct connection to control and display circuitry.

**SPECIFICATIONS**

**ELECTRICAL CHARACTERISTICS**
- Travel/Electrical: Full scale: ±0.01 in. to ±6.0 in. maximum
- Travel/Mechanical: Maximum Travel: Unlimited
- Excitation Voltage: 5 to 36 VAC maximum
- Excitation Frequency: 350 Hz to 5000 Hz maximum
- Linearity: Typically ±0.5 to ±0.25%, can be as close as ±0.15%
- Output Voltage: As required, up to 20 VAC F.S.
- Null Voltage: Typically 15 mV to 30 mV, can be as low as 5 mV
- Phase Shift: Per requirements, can be as low as 0°
- Temperature Effect: Typically less than 0.07%/°F, can be internally compensated
- Dielectric Strength: 500 VAC, 60 Hz minimum
- Insulation Resistance: 100 Megohms at 500 VDC minimum

**ENVIRONMENTAL CHARACTERISTICS**
- Temperature Range: -65 to 275°F (-54 to 135°C)
- Vibration: ±10 g, 10 to 2000 Hz per Mil-Std-810
- Altitude: 0 to 100,000 feet
- External Media: Can be hermetically sealed against all external environments, including high pressure hydraulic fluids and high temperature gases.