SFMS
SENSORS AND FLUID MANAGEMENT SYSTEMS

AMETEK



POSITION, SPEED & PROXIMITY

LVDT POSITION TRANSDUCERS

Overview

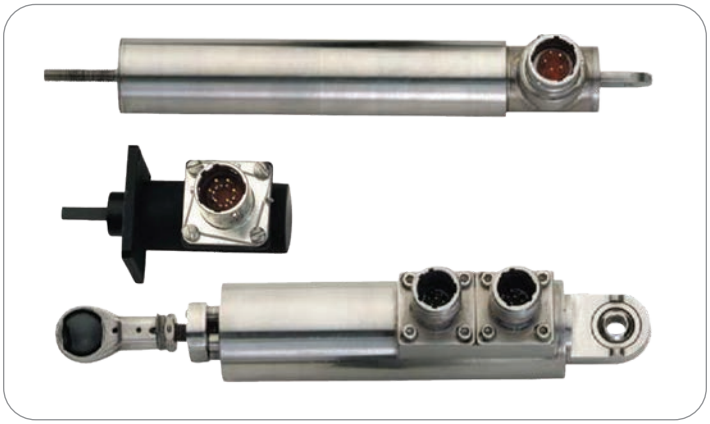
AMETEK Linear Variable Differential Transformers (LVDTs) are designed for accurate measurement of position in aircraft and missile systems. They are tested to meet the most stringent environmental requirements of MIL-STD-810 and MIL-E-5400.

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.

Features

- Wide range of operating frequencies to match aircraft and missile systems requirements
- Full range motions for +0.01 inches to +6.0 inches
- Performance and construction to meet extreme operation conditions
- Single-voltage and dual- voltage outputs are available for redundant or dual-function systems
- Case and fitting configurations can be custom designed to fit actuator and control surface requirements



Specifications

Electrical Characteristics

Travel/Electrical:	Full scale: +0.01 in. to +6.0 in. max.
Travel/Mechanical:	Maximum Travel: Unlimited Excitation
Voltage:	5 to 36 VAC max.
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 0O
Temperature Effect:	Typically less than 0.07%/OF, 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 275OF (-54 to 135OC)
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

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