

Linear Variable Differential Transformers

MODEL LMT-50

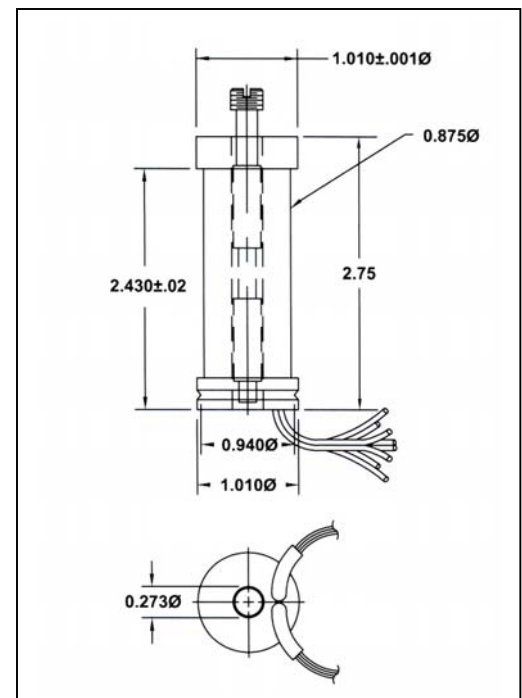
- **DUAL TANDEM LVDT's**
- **LOW POWER CONSUMPTION**
- **RUGGED CONSTRUCTION**
- **COMPLETELY ISOLATED COIL ASSEMBLIES**
- **TEFZEL COATED PROBE ASSEMBLY**
- **DESIGNED FOR HIGH RELIABILITY APPLICATIONS**

The Columbia Series LMT-50 Linear Motion Tandem Transducer is a unitized rugged package consisting of tandem linear variable differential transformers (LVDT's) with probe assembly. These units are designed so that the likelihood of a single failure affecting both output signals is extremely improbable. Primarily used in aircraft and missile control systems where redundant systems are a requirement, the Series LMT-50 Tandem Motion Transducers offer flight proven performance, even in the most severe environments.

The LMT-50 provides high transfer sensitivity of 36 volts per inch at 6VRMS excitation. Ruggedized construction where all material is bonded and swaged including the stainless steel bore liner. Utilizing a premium insulation system for increased margin of safety for high performance reliability, the tandem LVDT provides the redundancy to guarantee the system integrity.

SPECIFICATIONS

Ranges Available	0.10": ±0.05" from electrical zero (EZ) Useable with reduced accuracy to ±0.01.
Excitation	6.0 VRMS Nominal, 400Hz ±5%
Input Current	0.022 Amperes Nominal
Input Power	0.043 Watt Nominal: 0.06w Max.
Input Impedance	270 Ohms ±6%, (88 + j 225)
Primary DC Resistance	85 Ohms ±10%
Output Resistance	2350 Ohms, ±10%
Secondary DC Resistance	2000 Ohms, ±10%
Rated Load Resistance	20 Kilohms
Sensitivity	6,000volts/inch/volts ±5% with rated load resistance
Accuracy	The normalized electrical output of the transducer shall be within ±0.0004" of the true mechanical displacement of the probe assembly from EZ
Phase Shift	+12.5° ±2° with 20 kilohms load
Null Voltage (Total)	0.010 VRMS
Null Tracking	When unit "A" is at electrical zero, unit "B" shall be within ±0.0005" of its electrical zero at +25°C.
Temperature Coefficient of Sensitivity	-(0.06, ±0.005)%/°C
Frequency Coefficient of Sensitivity	+0.015° / Hz Nominal
Temperature Coefficient of Phase Shift	+(0.06, ±0.005)%/°C
Frequency Coefficient of Phase Shift	-0.05° / Hz Nominal
Phasing	Secondaries (Red/Black) shall be in phase with primary (Yellow/Brown) with probe extended from housing.
Dielectric Withstanding Voltage	500 Volts RMS, 60 Hz 50µA max. per MIL-STD-202 Method 301, between each winding and housing for 5 seconds.
Insulation Resistance	100 megohms minimum at 100VDC between any two windings.
Temperature Range	-55°C to +71°C



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