

PRODUCT DATASHEET

LWT-LVDT-IE-500

Precision AC Linear Displacement Sensor

AC Linear Variable Differential Transformer (LVDT)

The LWT-LVDT-IE-500 is a high-performance AC Linear Variable Differential Transformer (LVDT) engineered for accurate, repeatable, and non-contact linear displacement measurement.

Designed for demanding industrial environments, it combines robust mechanical construction with reliable electrical performance, making it suitable for automation, testing, and precision motion applications.

WHY CHOOSE LWT-LVDT-IE-500

- High measurement accuracy
- Frictionless, wear-free sensing
- Stable output across wide temperatures
- Rugged industrial design
- High noise immunity
- Long service life

TYPICAL APPLICATIONS

- Industrial automation
- CNC & machine tools
- Servo & motion control
- Aerospace test equipment
- Robotics
- Hydraulic position feedback
- Material testing
- Automotive test systems

TECHNICAL SPECIFICATIONS

Parameter	Specification
Model	LWT-LVDT-IE-500
Sensor type	AC Linear Variable Differential Transformer
Electrical stroke	±12.7 mm
Mechanical stroke	±14 mm
Sensitivity	26.8 mV/V/mm
Excitation voltage	3 Vrms
Excitation frequency	50 Hz – 10 kHz
Calibration frequency	2.5 kHz
Null output	20.42 mV RMS (Max.)
Input impedance	408 Ω



Parameter	Specification
Output load resistance	50 k Ω
Phase angle	+6°
Accuracy	±0.75% FRO
Operating temperature	-65°F to +200°F [-55°C to 95°C]
Shock survival	500 g (11ms half-sine)
Vibration tolerance	20 g up to 2kHz
Housing material	AISI 400 Series stainless steel
Electrical connection	Six lead-wires, 28 AWG, PTFE insulated, 1 foot [0.3m] long
IEC 60529 rating	IP61

Notes: Unless otherwise specified, all values are nominal.

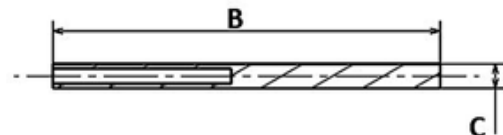
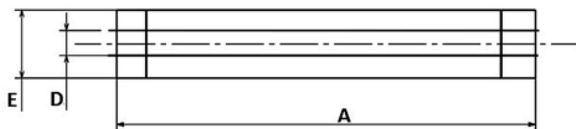
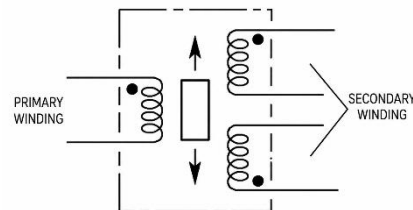
Electrical specifications apply at the test frequency stated above.

Full Range (FR) refers to the total end-to-end stroke and is equal to $2 \times S$ for a $\pm S$ stroke range.

Full Range Output (FRO) is defined as the algebraic difference between the output values measured at the two ends of the full stroke range.

MECHANICAL SPECIFICATIONS

Parameter	IE-500
Body length "A"	117 mm
Core length "B"	76 mm
Core diameter "C"	4.8 mm
Bore diameter "D"	7 mm
Body diameter "E"	19 mm



KEY PERFORMANCE ADVANTAGES

Reliable Position Measurement: Provides precise and repeatable linear displacement feedback.

Contactless Operation: No mechanical wear between sensing elements.

Industrial Durability: Designed for continuous operation in demanding environments.

Signal Stability: Consistent output with excellent resistance to electrical interference.

Easy Integration: Suitable for AC-based LVDT signal conditioning systems.