



## LCIT SERIES

### OEM Linear Position Transducer

#### SPECIFICATIONS

- ◆ **Low cost, DC operated**
- ◆ **Non-contacting technology**
- ◆ **+0.5 to +4.5VDC output**
- ◆ **Stroke ranges from  $\pm 0.125$  to  $\pm 2$  inches**
- ◆ **0.25% linearity**
- ◆ **High 1kHz frequency response**
- ◆ **Low mass spoiler**
- ◆ **Stainless steel housing**

The LCIT Series DC operated linear position transducers are based on a patented design that features all of the benefits of current LVDT inductive technology, but at a significantly lower cost. Utilizing a simplified coil design and a low-mass conductive spoiler which replaces the traditional ferromagnetic core, the LCIT bridges the gap between price and performance for volume applications.

Like in an LVDT, there is no physical contact between the movable spoiler and the coil structure, thus making the LCIT a frictionless device while offering excellent resolution and repeatability characteristics. The high frequency response of the electronics and the low mass of the spoiler make the LCIT sensor ideal for dynamic applications.

Operating on a wide range of supply voltages (+7 to +36VDC), the LCIT Series delivers an extremely linear and low noise +0.5 to +4.5VDC output. A rugged stainless steel housing and solid internal construction ensures excellent tolerance to shock and vibration.

#### FEATURES

- ◆ Excellent price/performance ratio
- ◆ Single ended DC operation
- ◆ High frequency response
- ◆ Shock and vibration resistant
- ◆ AISI 300 Series stainless steel housing
- ◆ Calibration certificate supplied with each unit

#### APPLICATIONS

- ◆ OEM volume, cost sensitive applications
- ◆ Dynamic measurements
- ◆ Tool position
- ◆ Punch presses / metal stamping
- ◆ Valve position
- ◆ X-Y table position

**PERFORMANCE SPECIFICATIONS**

ELECTRICAL SPECIFICATIONS					
Parameter	LCIT 250	LCIT 500	LCIT 1000	LCIT 2000	LCIT 4000
Stroke range	0.25 [6.35]	0.5 [12.7]	1 [25.4]	2 [50.8]	4 [101.6]
Sensitivity, VDC/inch [VDC/mm]	16 [0.63]	8 [0.31]	4 [0.16]	2 [0.08]	1 [0.04]
Input voltage	+7 to +36VDC				
Line regulation	1mV/VDC maximum; 0.2mV/VDC typical				
Input current	20mA maximum; 15mA typical				
Output voltage	+0.5 to +4.5VDC (Increases when the core is displaced towards the lead-wires)				
Output @ null	+2.5 VDC				
Non-linearity	±0.25% of FR maximum				
Output ripple	10mVRMS maximum				
Stability	0.125% of FSO				
Temp. coefficient of sensitivity	0.028%/°F [0.05%/°C]				
Output impedance	1 Ohm maximum				
Frequency response	1,000 Hertz @ -3dB				
ENVIRONMENTAL SPECIFICATIONS & MATERIALS					
Operating temperature	-13°F to +185°F [-25°C to +85°C]				
Survival temperature	-67°F to +257°F [-55°C to +125°C]				
Shock survival	250 g (11ms half-sine)				
Vibration tolerance	10 g up to 2kHz				
Housing material	AISI 300 Series stainless steel				
Spoiler (core) material	Aluminum <b>Important:</b> Only connect non-conductive extension rods to the spoiler; materials such as plastics or fiberglass are acceptable.				
Electrical connection	3 lead wires, 28AWG, stranded copper, 12 inches [0.3 meter] long				
IEC 60529 rating	IP61				

**Notes:**

All values are nominal unless otherwise noted

Dimensions are in inch [mm] unless otherwise noted

FR: Full Range is the stroke range, end to end; FR=S for 0 to S stroke range

FSO (Full Scale Output): Largest absolute value of the outputs measured at the ends of the range

**WIRING INFORMATION**

