
# LCIT SERIES

## OEM Linear Position Transducer

## SPECIFICATIONS

- **Low cost, DC operated**
- **Non-contacting technology**
- **+0.5 to +4.5VDC output**
- **Stroke ranges from ±0.125 to ±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

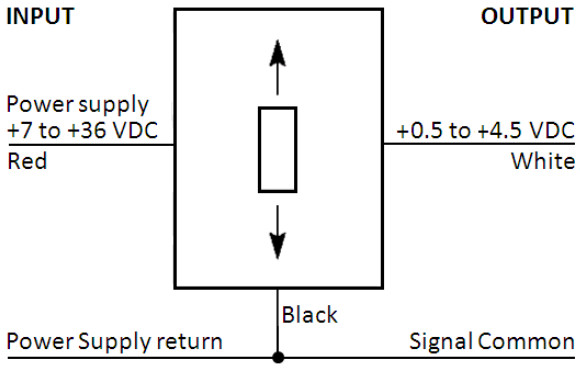
## PERFORMANCE SPECIFICATIONS

| 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%/ºF [0.05%/ºC] | | | | |
| 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 ***Important**: 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 |

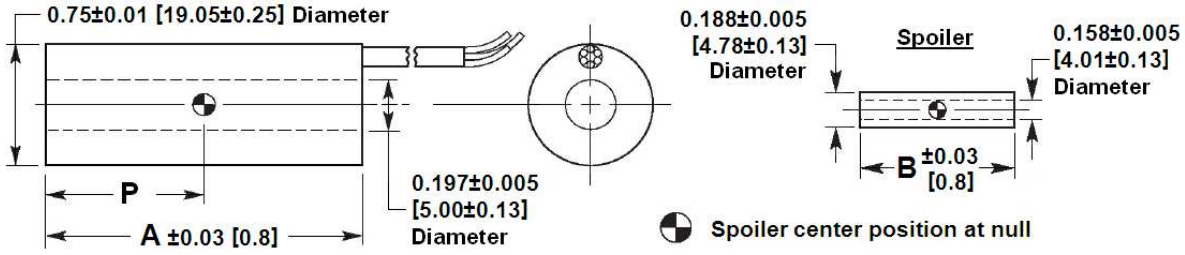
*Notes:*
*All values are nominal unless otherwise noted*
*Dimensions are in inch [mm] unless otherwise noted*
*FR: Full Range is the stroke range, end to end; FR=S for 0 to S stroke range*
*FSO (Full Scale Output): Largest absolute value of the outputs measured at the ends of the range*

## WIRING INFORMATION



## MECHANICAL SPECIFICATIONS

| Parameter | LCIT 250 | LCIT 500 | LCIT 1000 | LCIT 2000 | LCIT 4000 |
|---|---|---|---|---|---|
| Main body length “A” | 2.60 [66.0] | 2.60 [66.0] | 3.54 [89.9] | 5.54 [140.7] | 10.37 [263.4] |
| Spoiler length “B” | 0.85 [21.6] | 1.30 [33.0] | 1.50 [38.1] | 2.70 [68.6] | 5.00 [127.0] |
| Center of spoiler position at null “P” | 1.30 [33.0] | 1.30 [33.0] | 1.77 [45.0] | 2.77 [70.4] | 5.19 [131.8] |
| Body weight, oz [gram] | 1.4 [40] | 1.4 [40] | 1.8 [50] | 2.5 [70] | 4.6 [130] |
| Core weight, oz [gram] | 0.04 [1] | 0.05 [1.5] | 0.07 [2] | 0.07 [2] | 0.14 [4] |




*Dimensions are in inch [mm]*

## ORDERING INFORMATION

| Description | Model | Part Number |
|---|---|---|
| 0.25 inch LVDT | LCIT 250 | 02520000-000 |
| 0.5 inch LVDT | LCIT 500 | 02520001-000 |
| 1 inch LVDT | LCIT 1000 | 02520002-000 |

| Description | Model | Part Number |
|---|---|---|
| 2 inch LVDT | LCIT 2000 | 02520003-000 |
| 4 inch LVDT | LCIT 4000 | 02520004-000 |

| | | | |
|---|---|---|---|
| **ACCESSORIES** | DC power supply (15VDC) | PSD 40-15 | 02291339-000 |
| | Mounting Block | | 04560950-000 |

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