

# HIGH-ACCURACY AC LONG-STROKE DISPLACEMENT TRANSDUCERS

## LD300 Series

$\pm 15$  to  $\pm 300$  mm  
( $\pm 0.6$  to  $\pm 12$ " )



DISPLACEMENT

- ✓ Rugged Stainless Steel Case
- ✓ LVDT—Infinite Resolution
- ✓ 0.25% Linearity
- ✓ Spring-Loaded Armature
- ✓ Works with Standard AC LVDT Signal Conditioning Modules

The LD300 Series provides our longest stroke length—up to  $\pm 300$  mm (12")—in accordance with the linear variable differential transformer principle. These AC LVDTs are highly accurate.

Special winding techniques ensure excellent linearity. The components are then packaged in a rugged housing and the transformer core is fitted with an extension rod and

very-low-friction nylon bearings that act as guides. The transducer features a spring-return armature.

With their long life, infinite resolution, versatility, and excellent repeatability, these units are suitable for many demanding industrial applications.

### SPECIFICATIONS

**Linearity:** 0.25% full scale

**Sensitivity:** (mV/V/mm) see chart on next page (actual output supplied with each unit)

**Excitation:** 1 to 10 Vrms

**Excitation Frequency:** 1 to 10 kHz

**Energizing Current:**

See chart on next page

**Frequency Response:** 2 ms

**Zero Offset:** 0.5% full scale

**Thermal Effect:**

**Zero Sensitivity:** 0.008%/°C,  
0.005%/°C

**Compensated Temperature Range:**

-40 to 100°C (-40 to 212°F)

**Operating Temperature Range:**

-40 to 100°C (-40 to 212°F)

**Electrical Connection:** 2.7 m (9') shielded cable

**Calibration:** Calibrated at 5 V, 5 kHz with 100K load at 20°C (68°F)

### Mechanical

**Threaded Core:** LD300-15 (M3); LD300-25, -50 (M4); LD300-100, -150, -250, -300 (M5)

**Core Material:** Ni/Fe—Radio Metal 50

**Case Material:** 400 Series SS

**Weight:** See chart on next page

**Electrical Connections:**

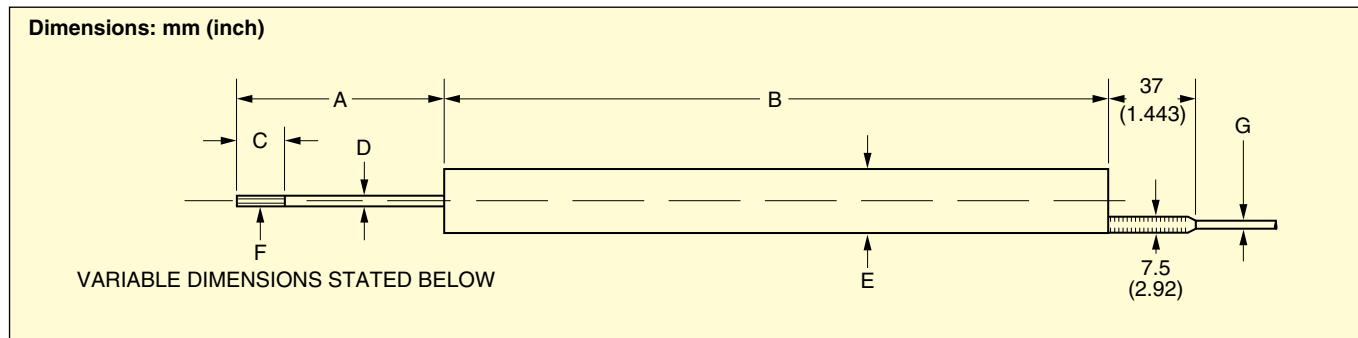
**Red and Blue:** Excitation (AC)

**White:** Signal

**Green:** Signal ground

**Red and White:** In phase for inward displacement

# AC-POWERED LVDT TRANSDUCERS



MODEL NO.	LINEAR STROKE mm (inch)	DIMENSIONS: mm (inch) AT ELECTRICAL ZERO						
		A	B	C	D	E	F	G
LD300-15	±15 (0.6)	45 (1.76)	97 (3.78)	20.6 (0.78)	3.17 (0.12)	19 (0.74)	M3	3.5 (0.14)
LD300-25	±25 (1.0)	60 (2.34)	156 (6.08)	20.6 (0.78)	4.0 (0.16)	19 (0.74)	M4	3.5 (0.14)
LD300-50	±50 (2.0)	85 (3.32)	280 (10.92)	20.6 (0.78)	4.0 (0.16)	19 (0.74)	M4	3.5 (0.14)
LD300-100	±100 (4.0)	145 (5.66)	450 (17.55)	20.6 (0.78)	4.75 (0.19)	25 (0.98)	M5	4.5 (0.18)
LD300-150	±150 (6.0)	197 (7.68)	552 (21.53)	19 (0.74)	4.75 (0.19)	25 (0.98)	M5	4.5 (0.18)
LD300-250	±250 (10.0)	298 (11.62)	755 (29.45)	19 (0.74)	4.75 (0.19)	25 (0.98)	M5	4.5 (0.18)
LD300-300	±300 (12.0)	349 (13.61)	857 (33.42)	19 (0.74)	4.75 (0.19)	25 (0.98)	M5	4.5 (0.18)

To Order		
MODEL NO.	LINEAR STROKE mm (inch)	COMPATIBLE INSTRUMENTS
LD300-15	±15 (0.6)	DP-LVDT, LDX-2, LDX-3A, LDX-4
LD300-25	±25 (1.0)	DP-LVDT, LDX-2, LDX-3A, LDX-4
LD300-50	±50 (2.0)	DP-LVDT, LDX-2, LDX-3A, LDX-4
LD300-100	±100 (4.0)	DP-LVDT, LDX-2, LDX-3A, LDX-4
LD300-150	±150 (6.0)	DP-LVDT, LDX-3A, LDX-4
LD300-250	±250 (10.0)	DP-LVDT, LDX-2, LDX-3A, LDX-4
LD300-300	±300 (12.0)	DP-LVDT, LDX-3A, LDX-4

Comes with complete operator's manual.

Ordering Example: LD300-100, 100 mm (4.0") stroke LVDT with spring-loaded core.

## SPECIFICATIONS

MODEL NO.	MAXIMUM STROKE mm (inch)	WEIGHT		SPRING RATE	FORCE*	SENSITIVITY mV/V/mm	ENERGIZING CURRENT	OUTPUT IMPED.	I/O PHASE
		BODY/ LEADS	CORE ASSEMBLY						
LD300-15	±22 (.886)	60 g	10 g	3.30 g/mm	110	34.0	6 mA	220 Ω	7°
LD300-25	±35 (1.378)	96 g	18 g	2.34 g/mm	150	20.0	4 mA	210 Ω	9°
LD300-50	±62 (2.441)	170 g	25 g	1.95 g/mm	185	9.3	4 mA	160 Ω	10°
LD300-100	±125 (4.921)	600 g	54 g	1.19 g/mm	120	5.0	6 mA	160 Ω	7°
LD300-150	±178 (7.007)	900 g	78 g	1.00 g/mm	120	3.5	5 mA	150 Ω	7°
LD300-250	±279 (10.884)	1300 g	106 g	CANNOT BE SPRING LOADED		2.1	6 mA	110 Ω	5°
LD-300-300	±330 (12.992)	1600 g	122 g			1.7	9 mA	90 Ω	2°

\* At electrical zero, in grams.