

## GP911 Series



- ✓ Spring- or Pneumatic-Actuated Models
- ✓ Exceptional Linearity Across Full Range
- ✓ Stainless Steel Body
- ✓ NEMA 12 (IP65) Environmental Rating

The GP911 Series analog gaging probes use proven LVDT technology to provide excellent linearity and repeatability in a compact, reliable unit. All analog probe heads carry a NEMA 12 (IP65) environmental rating that makes them suitable for use in harsh industrial environments.

In an analog gage probe, 2 small transformers share a common magnetic core. As the core moves, the output of one transformer increases and that of the other decreases. The out-of-balance current provides the measure of the core's position. LVDTs operate on an AC energizing voltage and require special signal conditioning.

GP911-5-P,  
shown approximately  
2.5x actual size.

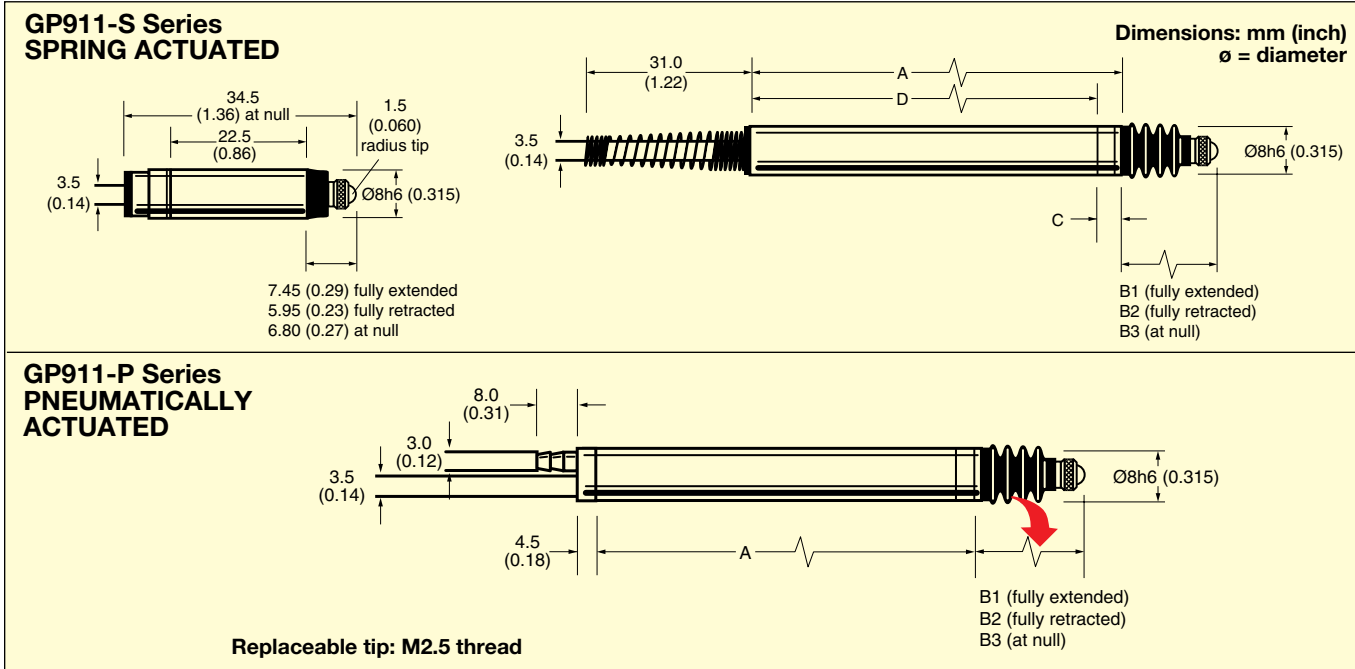
GP911-2.5-P,  
shown actual size.

**SPRING ACTUATED Dimensions: mm (inch)**

MODEL	GP911-1-S	GP911-2.5-S	GP911-5-S
A	46.0 (1.8)	72.5 (2.8)	91 (3.6)
B1	14.15 (0.56)	17.65 (0.70)	25.65 (1.01)
B2	11.65 (0.46)	11.65 (0.46)	14.65 (0.58)
B3	12.65 (0.50)	14.75 (0.58)	20.25 (0.80)
C	3.5 (0.14)	4.0 (0.16)	4.0 (0.16)
D	42.5 (1.67)	68.5 (2.70)	87.0 (3.43)

**PNEUMATICALLY ACTUATED Dimensions: mm (inch)**

MODEL	GP911-1-P	GP911-2.5-P	GP911-5-P
A	51.0 (2.01)	73.0 (2.88)	98.0 (3.86)
B1	14.05 (0.55)	17.55 (0.69)	25.55 (1.01)
B2	11.05 (0.44)	11.55 (0.45)	14.55 (0.57)
B3	12.75 (0.50)	14.75 (0.58)	20.25 (0.80)



**SPECIFICATIONS**

- Excitation Voltage:** 1 to 10 Vrms
- Excitation Frequency:** 2 to 20 kHz
- Linearity:** 0.5% rdg or 0.1% FS, whichever is greater
- Repeatability:** 0.15 microns
- Calibration Voltage:** 3 Vrms
- Calibration Frequency:** 5 kHz
- Calibration Load:** 10 kΩ
- Storage Temp:** -40 to 100°C (-40 to 212°F)
- Operating Temp:** -10 to 80°C (14 to 176°F)
- Temp Coefficient:** 0.01% FS/°C (0.03% for 0.5 mm model)

<b>To Order Visit <a href="http://omega.com/gp911">omega.com/gp911</a> for Pricing and Details</b>		
MODEL NO.	RANGE: mm (inch)	ACTUATION
GP911-0.5-S	±0.5 (0.02)	Spring loaded
GP911-1-S	±1 (0.04)	Spring loaded
GP911-2.5-S	±2.5 (0.10)	Spring loaded
GP911-5-S	±5 (0.20)	Spring loaded
GP911-1-P	±1 (0.04)	Pneumatic
GP911-2.5-P	±2.5 (0.10)	Pneumatic
GP911-5-P	±5 (0.20)	Pneumatic

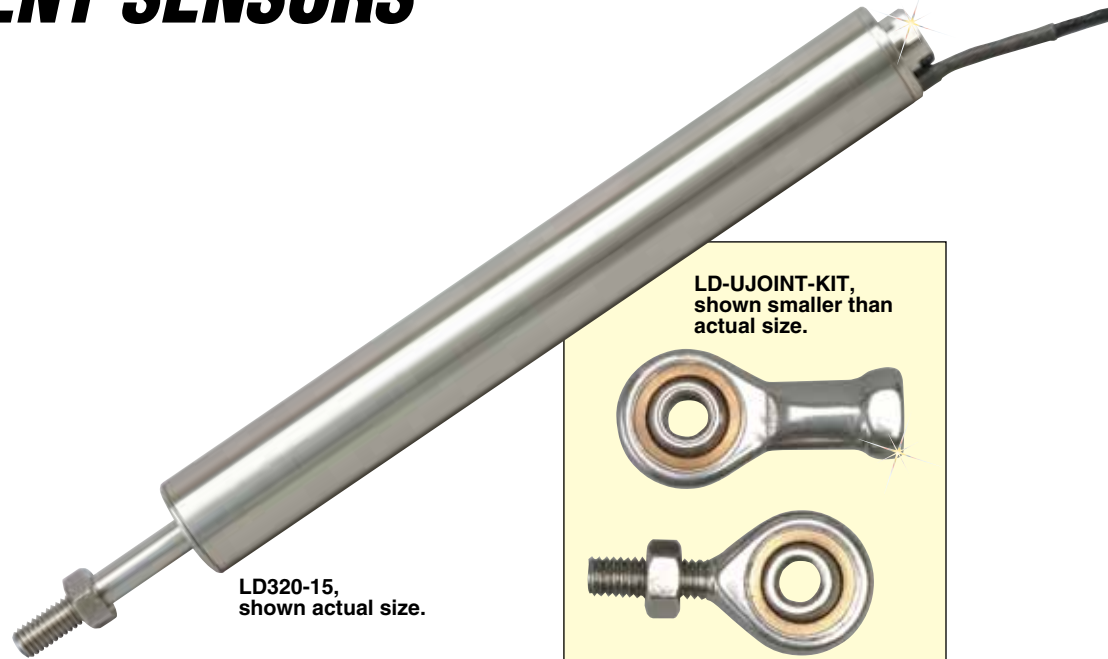
Comes complete with operator's manual.  
Ordering Example: GP911-5-S spring-loaded analog gaging probe with +5 mm (0.20") stroke

# LD320 Series DISPLACEMENT SENSORS

## LD320 Series



- ✓ ±2.5 to ±150 mm travel
- ✓ <0.2% Linearity
- ✓ Rugged 19 mm Dia. Stainless Steel Body
- ✓ Rigid Stainless Steel Carrier
- ✓ Guided Core with Removable Spring
- ✓ IP67 Protection

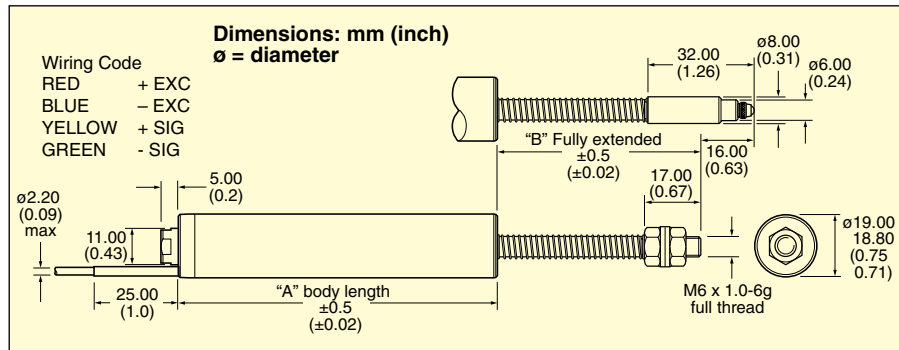


LD320-15, shown actual size.

LD-UJOINT-KIT, shown smaller than actual size.

The LD320 Series displacement sensors have a stainless steel body with improved IP67-rated sealing, coupled with new polymer guides with rigid carriers. These transducers are accurate and reliable, especially in wet and corrosive conditions.

An unusually large bore-to-core clearance is maintained throughout the range, even on transducers fitted with on-board signal conditioning. This makes installation easier and helps prevent misalignment.



### SPECIFICATIONS

- Linearity:** <0.2% FSO
- Excitation:**  $3 \pm 1$  Vrms
- Excitation Frequency:**  $5 \pm 0.5$  kHz
- Residual Voltage at Null Position:** <0.5% FSO
- Storage Temp:** -40 to 120°C (-40 to 248°F)
- Operating Temp:** -40 to 120°C (-40 to 248°F)
- Protection Rating:** IP67
- Vibration (Sinusoidal Frequency):**
  - 10 to 50 Hz: 1 to 10 g rms linear
  - 50 Hz to 1 kHz: 10 g rms linear

- Shock:**
  - Drop Testing:** 1 m (3') onto hard surface
  - Topple Testing:** 10 times each end onto hard surface

- Case Material:** 300 SS
- Cable:** PFA, 2 m (6') long
- Core Material:** Nickel-iron

### To Order

MODEL NO.	RANGE: mm (inch)	"A" DIM mm (inch)	"B" DIM mm (inch)	COMPATIBLE INSTRUMENTATION
LD320-2.5	±2.5 (±0.1)	55.0 (2.2)	31.5 (1.2)	LDX-D, LDX-2, LDX-3A, LDX-4, DPL53
LD320-5	±5 (±0.2)	74.5 (2.9)	39.0 (1.5)	LDX-D, LDX-2, LDX-3A, LDX-4, DPL53
LD320-7.5	±7.5 (±0.3)	81.7 (3.2)	41.9 (1.7)	LDX-D, LDX-2, LDX-3A, LDX-4, DPL53
LD320-10	±10 (±0.4)	96.0 (3.8)	48.8 (1.9)	LDX-D, LDX-2, LDX-3A, LDX-4, DPL53
LD320-15	±15 (±0.5)	110.4 (4.4)	58.3 (2.3)	LDX-D, LDX-2, LDX-3A, LDX-4, DPL53
LD320-25	±25 (±1.0)	131.9 (5.2)	71.1 (2.8)	LDX-D, LDX-2, LDX-3A, LDX-4, DPL53
LD320-50	±50 (±2.0)	189.5 (7.5)	106.0 (4.2)	LDX-D, LDX-2, LDX-3A, LDX-4, DPL53
LD320-75	±75 (±3.0)	239.7 (9.4)	151.9 (6.0)	LDX-D, LDX-2, LDX-3A, LDX-4, DPL53
LD320-100	±100 (±3.9)	297.2 (11.7)	291.2 (11.5)	LDX-D, LDX-2, LDX-3A, LDX-4, DPL53
LD320-150	±150 (±5.9)	412.0 (16.2)	457.3 (18.0)	LDX-D, LDX-2, LDX-3A, LDX-4, DPL53

**Ordering Examples:** LD320-7.5, LVDT displacement transducer, range of ±7.5 mm (±0.3"). LD-UJOINT-KIT, U-joint kit.

### ACCESSORIES

MODEL NO.	DESCRIPTION
LD-TIP	Tip adaptor/ball tip
LD-UJOINT-KIT	U-joint retro fit kit

## WITH GUIDED CORE



### LD340 Series



- ✓ Rugged Construction
- ✓ Small Body Diameter, Only 9.52 mm (0.37")
- ✓ Good Measurement Range to Body Length Ratio
- ✓ High Performance
- ✓ Guide Core

The LD340 Series miniature AC LVDT is the ideal choice for applications requiring precision linear positioning measurement within a restricted space. They have a guided core and IP65 rated for use in harsh environments.

#### SPECIFICATIONS

**Linearity:** <0.25% FSO

**Excitation Voltage:** 1 to 10 Vrms

**Current Draw at 5 kHz:** <7 ma/V

**Sensitivity at 5 kHz  $\pm 10\%$  (mV/V/mm):**

$\pm 1.5$  mm = 108

$\pm 6$  mm = 78

$\pm 12.5$  mm = 69

**Storage Temp:** -40 to 150°C

(-40 to 302°F)

**Operating Temp:** -40 to 150°C

(-40 to 302°F)

**Temperature Coefficient:**

<0.05% FSO/°C (0.03%/°F)

**Total Mechanical Travel:**

$\pm 1.5$  mm = 3.6

$\pm 6$  mm = 15.2

$\pm 12.5$  mm = 29.8

**Environmental Sealing:** IP65

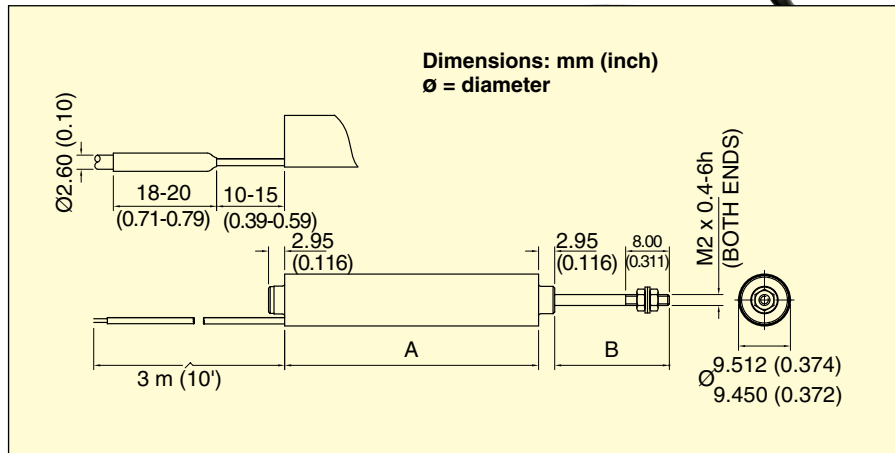
**Cable:** 3 m (10') FEP shielded cable

**Case Material:** 400 series stainless steel

**Body Diameter:** 9.52 mm (0.37")



LD340-12.5  
shown actual size.



DISPLACEMENT

**To Order** Visit [omega.com/ld340](http://omega.com/ld340) for Pricing and Details

MODEL NO.	RANGE mm (inch)	A DIMENSION mm (inch)	B DIMENSION mm (inch)	COMPATIBLE SIGNAL CONDITIONERS
LD340-1.5	$\pm 1.5$ (0.06)	20.60 (0.811)	14.10 (0.555)	LDX-2, LDX-3A, LDX-4, LDX-D
LD340-6	$\pm 6$ (0.24)	46.50 (1.831)	21.00 (0.827)	LDX-2, LDX-3A, LDX-4, LDX-D
LD340-12.5	$\pm 12.5$ (0.49)	83.50 (3.287)	31.70 (1.248)	LDX-2, LDX-3A, LDX-4, LDX-D

Comes complete with operator's manual.

**Ordering Examples:** LD340-1.5, miniature AC LVDT with  $\pm 1.5$  mm (0.06") stroke.

LD340-6, miniature AC LVDT with  $\pm 6$  mm (0.24") stroke.

# DISPLACEMENT TRANSDUCERS WITH ACETAL BEARINGS

**±1 to ±5 mm  
 (±0.04 to ±0.20")**

## LD400 Series



- ✓ High-Output Miniature Transducers
- ✓ Acetal Bearings for Precise Motion
- ✓ Infinite Resolution
- ✓ Rugged, Low-Mass Construction
- ✓ Compatible with Standard DC Signal
- ✓ Conditioning Modules and Instruments

The LD400 Series miniature DC to DC transducers can measure displacements up to ±5 mm (±0.20") with very high accuracy and infinite resolution. Their free-guided armature incorporates acetal bearings, which provide near-frictionless motion to detect the smallest movement the associated instrumentation is capable of identifying.

These transducers use a precision linear variable differential transformer as the measuring source, along with hybrid ICs, including an oscillator, demodulator, and filter. Together, they make up a self-contained unit that accepts DC input and provides DC output relative to armature position. The unit's high linearity and low mass of moving parts are ideal for applications in civil, mechanical, chemical, and production engineering.



LD400-5, shown actual size.

### SPECIFICATIONS

#### ELECTRICAL

**Linearity:** 0.3% FS  
**Sensitivity:** (mV/V/mm) see chart below (actual output supplied with each unit)  
**Excitation:** 10 to 24 Vdc regulated  
**Energizing Current at 10 Vdc:**  
 LD400-1, 10 mA; LD400-25, 10 mA;  
 LD400-5, 13 mA  
**Response Time:** LD400-1 and LD400-2.5 = 5 ms; LD400-5 = 3 ms  
**Frequency Response:** 50 Hz for -3 dB  
**Ripple:** <1% FS  
**Thermal Effect:** Zero: LD400-1 <0.02% FS/°C; LD400-2.5 and LD400-5 <0.01% FC/°C; sensitivity: <0.025% FC/°C  
**Compensated Temperature Range:** -20 to 80°C (-4 to 176°F)  
**Operating Temperature Range:** -20 to 80°C (-4 to 176°F)

**Electrical Connection:** 2.9 m (9') shielded, color-coded cable  
**Sensitivity and Linearity Data:** Provided with a transducer output impedance of 2.4 kΩ into a calibration load of 20 kΩ at 20°C (68°F); variations in these parameters will change performance

#### MECHANICAL

**Threaded Core:** M2 thread  
**Core Material:** Ni/Fe—Radio Metal 50  
**Case Material:** 400 Series stainless steel  
**Weight:** See chart on next page

#### CONNECTIONS

##### Electrical Connections:

- Red:** + Excitation
- Blue:** – Excitation
- White:** + Signal\*
- Green:** – Signal
- Yellow:** No connection

\* White and red in phase for positive inward displacement.

**To Order Visit [omega.com/ld400](http://omega.com/ld400) for Pricing and Details**

MODEL NO.	STROKE	SENSITIVITY	COMPATIBLE METERS
LD400-1	±1.0 mm (0.06")	75 mV/V/mm	DP41-S, DP25B-S
LD400-2.5	±2.5 mm (0.10")	75 mV/V/mm	DP41-S, DP25B-S
LD400-5	±5.0 mm (0.20")	54 mV/V/mm	DP41-S, DP25B-S

Ordering Example: LD400-5, stroke of ±5 mm.

## MINIATURE DC DISPLACEMENT TRANSDUCERS



DP25B-S.



DP41-S.

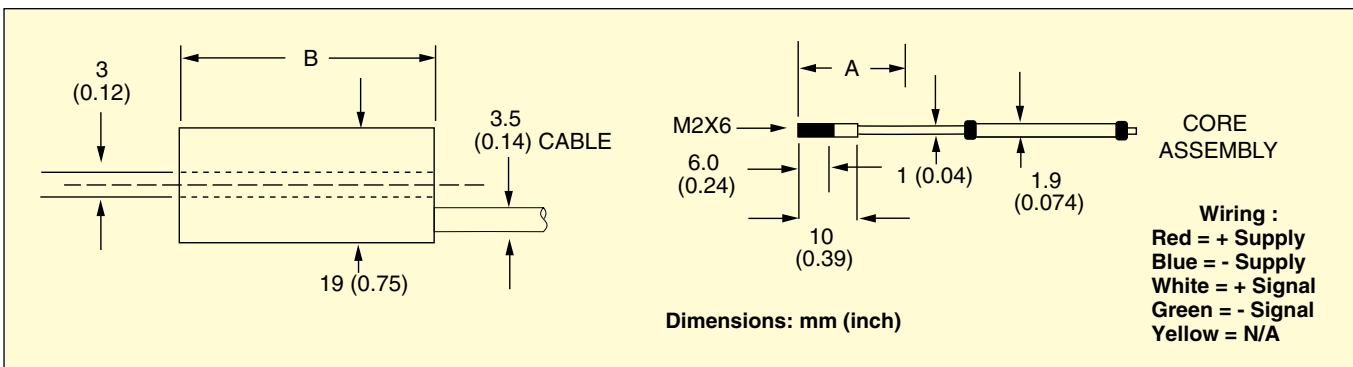
Both meters shown slightly smaller than actual size.



LD400-5, shown actual size.

### COMPATIBLE INSTRUMENTS, VISIT OMEGA.COM

MODEL NO.	DESCRIPTION
DP25B-S	Ratiometric voltage and current input meter with excitation
DP41-S	115 Vac powered strain gage indicator



MODEL NO.	LINEAR STROKE mm (inch)	DIMENSIONS*: mm (inch)		WEIGHT g (oz)	
		A	B	BODY	CORE (GUIDED)
LD400-1	±1.0 (0.04)	21.5 (0.85)	37 (1.46)	26 (1.02)	1.0 (0.04)
LD400-2.5	±2.5 (0.10)	21.5 (0.85)	37 (1.46)	26 (1.02)	1.0 (0.04)
LD400-5	±5.0 (0.20)	20.5 (0.81)	43 (1.69)	30 (1.18)	1.2 (0.04)

\* At electrical zero.

**±1 to ±5 mm**  
**(±0.04 to ±0.20")**

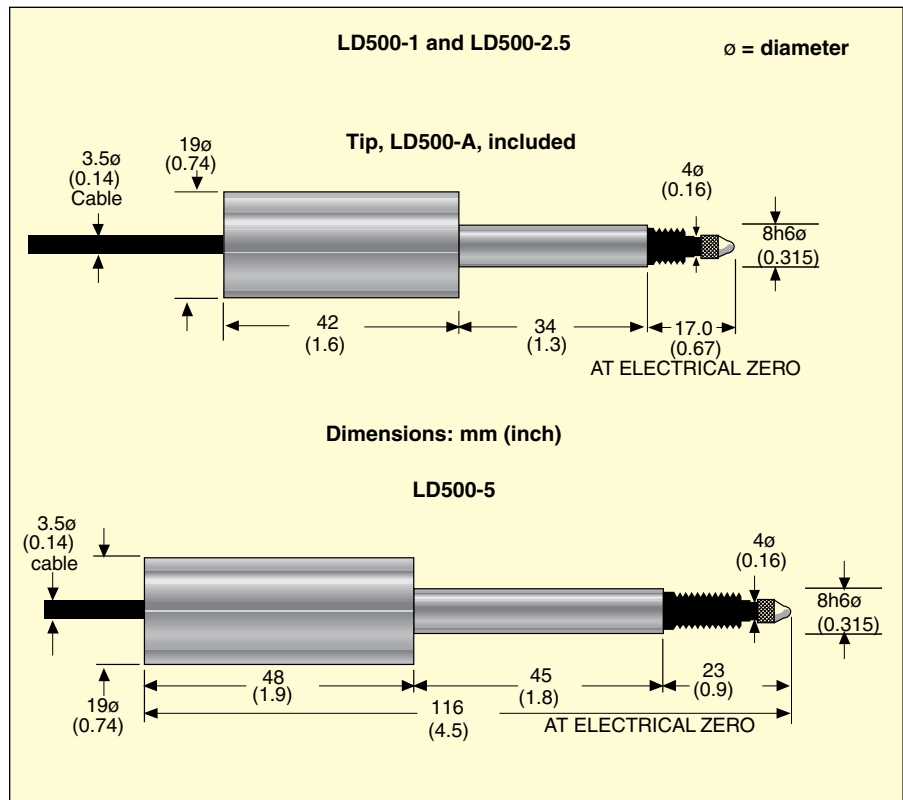


**LD500 Series**

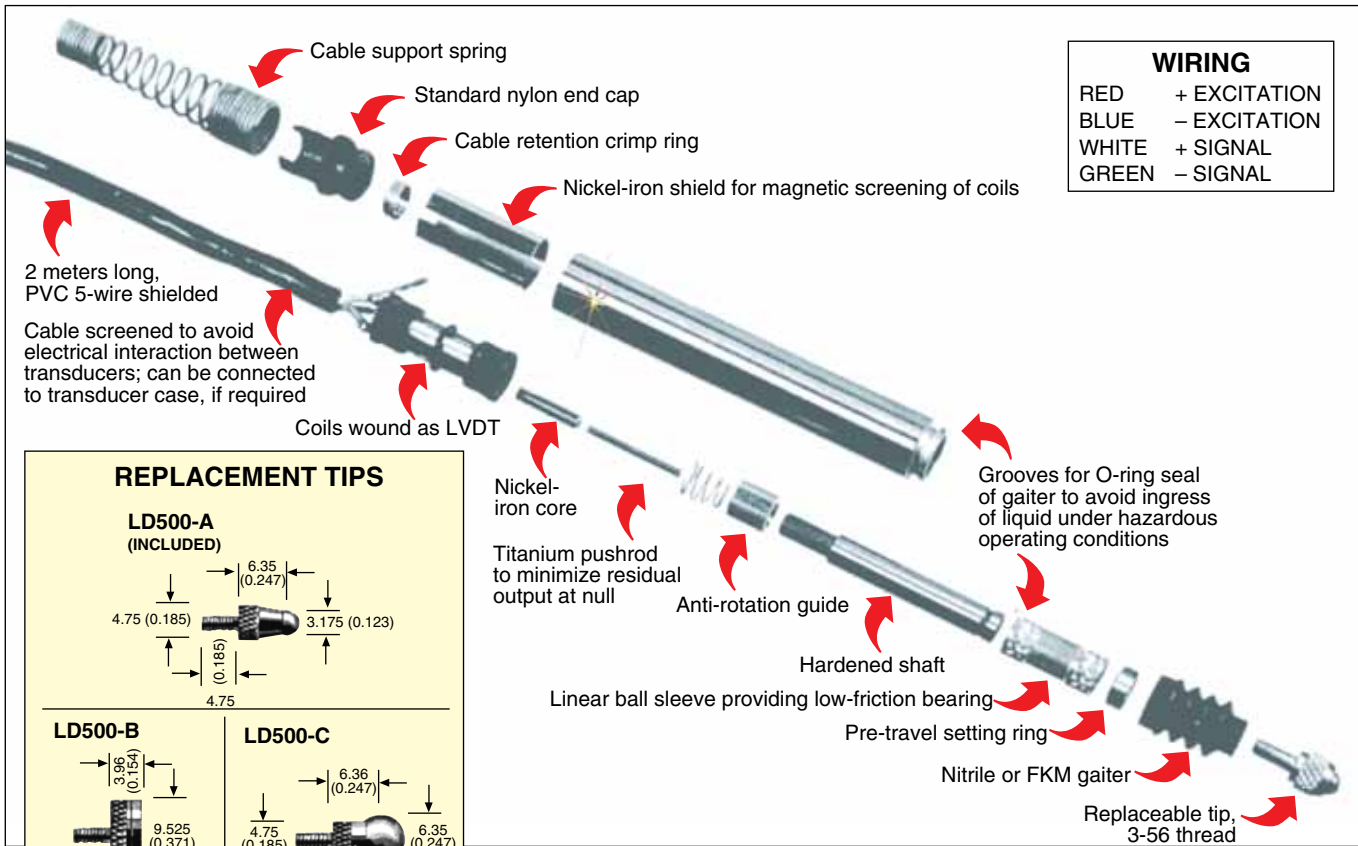


- ✓ High Accuracy and Repeatability
- ✓ Rugged Industrial Construction
- ✓ Replaceable Tips
- ✓ Repeatability Better Than 0.15 μm
- ✓ Linear Ball-Bearing Actuator

These precision-manufactured displacement transducers can be mounted to most production lines to perform automatic gaging for quality, sorting, or go/no-go applications. The hardened steel shaft, O-ring seals, and titanium pushrod can withstand most industrial conditions. The hybrid IC module produces a linear mV/V/mm (or inch) output that will interface with most standard DC input meters, recorders, data interfaces, and industrial controllers.



# DC GAGING TRANSDUCERS



**REPLACEMENT TIPS**

**LD500-A (INCLUDED)**

**LD500-B**

**LD500-C**

**LD500-D**

**Dimensions: mm (inch)**

**To Order Visit [omega.com/ld500](http://omega.com/ld500) for Pricing and Details**

MODEL NO.	STROKE, ±mm (inch)	COMPATIBLE METERS
LD500-1	±1.0 (0.04)	DP41-S, DP25B-S
LD500-2.5	±2.5 (0.10)	DP41-S, DP25B-S
LD500-5	±5.0 (0.20)	DP41-S, DP25B-S

**Ordering Example:** LD500-2.5, DC gaging probe with a range of ±2.5 mm (0.10") and LD500-A tip included.

## SPECIFICATIONS: MECHANICAL

MODEL NO.	LINEAR STROKE mm (inch)**	SPRING RATE	REPEATABILITY	TEMPERATURE RANGE	TEMP COEFFICIENTS		LINEARITY
					ZERO	SENSITIVITY	
LD500-1	±1.0 (0.04)	13 g/mm	<0.15 μm (6 μin)	-20 to 80°C	<0.01%/°C	<0.01%/°C	0.25%
LD500-2.5	±2.5 (0.10)	13 g/mm	<0.15 μm (6 μin)	-20 to 80°C	<0.005%/°C	<0.01%/°C	0.25%
LD500-5	±5.0 (0.20)	10 g/mm	<0.10 μm (4 μin)	-20 to 80°C	<0.005%/°C	<0.01%/°C	0.25%

\*\* Output nulls in mechanical middle.

## SPECIFICATIONS: ELECTRICAL

MODEL NO.	CURRENT	INPUT VOLTAGE	OUTPUT RIPPLE (TYPICAL)	TIME	FREQUENCY RESPONSE	SENSITIVITY†	CABLE
LD500-1	10 mA	10 to 24 Vdc	<1% FS	1.5 ms	100 Hz for -3 dB	78 mV/V/mm (1.98 mV/V/0.001 inch)	2 m (6') long, PVC 5-wire shielded
LD500-2.5	10 mA	10 to 24 Vdc	<1% FS	1.5 ms	100 Hz for -3 dB	78 mV/V/mm (1.98 mV/V/0.001 inch)	2 m (6') long, PVC 5-wire shielded
LD500-5	13 mA	10 to 24 Vdc	<1% FS	1.5 ms	100 Hz for -3 dB	56 mV/V/mm (1.98 mV/V/0.001 inch)	2 m (6') long, PVC 5-wire shielded



# DISPLACEMENT TRANSDUCERS

## LD620 Series



- Less Than 0.2% Linearity
- 5 to 300 mm Travel Lengths Available
- Rugged 19 mm Dia. Stainless Steel Body
- Rigid Stainless Steel Carriers
- Guided Core with Removable Spring
- IP67 Environmental Rating
- Large Bore-to-Core Clearance

The LD620 DC output displacement transducers have improved IP67-rated sealing, coupled with new polymer guides with rigid carriers. These transducers are accurate and reliable, especially in wet and corrosive conditions.

Output options are either  $\pm 5$  Vdc (LD620) or 0 to 10 Vdc (LD621). An unusually large bore-to-core clearance is maintained throughout the range. This makes installation easier and helps prevent misalignment.

### SPECIFICATIONS

**Linearity:** <0.2% FSO

**Excitation Voltage:** 10 to 30 Vdc @ 25 mA maximum

**Output:** LD620,  $\pm 5$  Vdc; LD621, 0 to 10 Vdc

**Output Ripple:** 0.2% FSO

**Bandwidth:** 500 Hz (-3 dB)

**Storage Temp:** -20 to 85°C (-4 to 185°F)

**Operating Temp:** 0 to 65°C (32 to 149°F)

**Sealing:** IP67

**Vibration (Sinusoidal Frequency):**

10 to 50 Hz: 1 to 10 g rms linear amplitude

50 Hz to 1 kHz: 10 g rms amplitude

**Shock:**

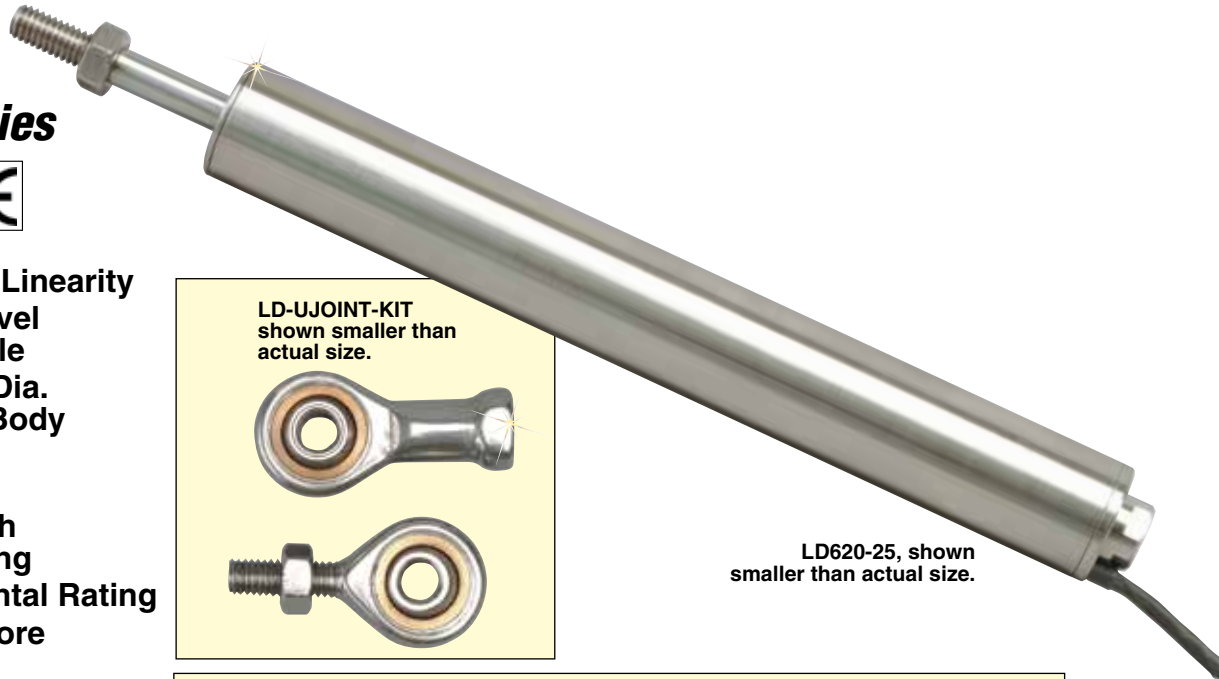
**Drop Testing:** 1 m (3') onto hard surface

**Topple Testing:** 10 times each end onto hard surface

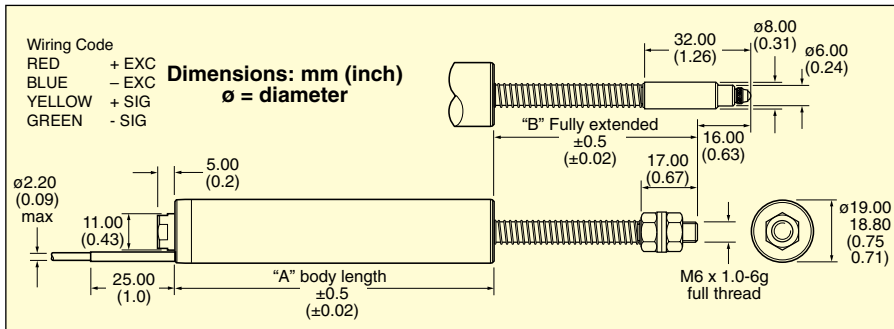
**Case Material:** 300 SS

**Cable:** PFA, 2 m (6') long

**Core Material:** Nickel-iron



LD620-25, shown smaller than actual size.



### To Order

MODEL NO. $\pm 5$ Vdc	RANGE mm (inch)	MODEL NO. 0 to 10 Vdc	RANGE mm (inch)	"A" DIM mm (inch)	"B" DIM mm (inch)
LD620-2.5	$\pm 2.5$ ( $\pm 0.1$ )	LD621-5	0 to 5 (0 to 0.2)	94.0 (3.7)	35.3 (1.4)
LD620-5	$\pm 5$ ( $\pm 0.2$ )	LD621-10	0 to 10 (0 to 0.4)	113.5 (4.5)	46.3 (1.8)
LD620-7.5	$\pm 7.5$ ( $\pm 0.3$ )	LD621-15	0 to 15 (0 to 0.6)	120.7 (4.8)	50.3 (2.0)
LD620-10	$\pm 10$ ( $\pm 0.4$ )	LD621-20	0 to 20 (0 to 0.8)	135.0 (5.3)	61.3 (2.4)
LD620-15	$\pm 15$ ( $\pm 0.6$ )	LD621-30	0 to 30 (0 to 1.2)	149.4 (5.9)	79.3 (3.1)
LD620-25	$\pm 25$ ( $\pm 1.0$ )	LD621-50	0 to 50 (0 to 2.0)	170.9 (6.7)	102.3 (4.0)
LD620-50	$\pm 50$ ( $\pm 2.0$ )	LD621-100	0 to 100 (0 to 3.9)	228.5 (9.0)	160.3 (6.3)
LD620-75	$\pm 75$ ( $\pm 3.0$ )	LD621-150	0 to 150 (0 to 5.9)	278.7 (11.0)	231.3 (9.1)
LD620-100	$\pm 100$ ( $\pm 3.9$ )	—	—	336.2 (13.2)	291.2 (11.5)
LD620-150	$\pm 150$ ( $\pm 5.9$ )	—	—	450.9 (17.8)	457.3 (18.0)
—	—	LD621-200	0 to 200 (7.9)	336.2 (13.2)	291.2 (11.5)
—	—	LD621-300	0 to 300 (11.8)	450.9 (17.8)	457.3 (18.0)

**Ordering Example:** LD620-2.5, DC displacement sensor with range of  $\pm 2.5$  mm ( $\pm 0.1$  in) with  $\pm 5$  Vdc output.

### ACCESSORIES

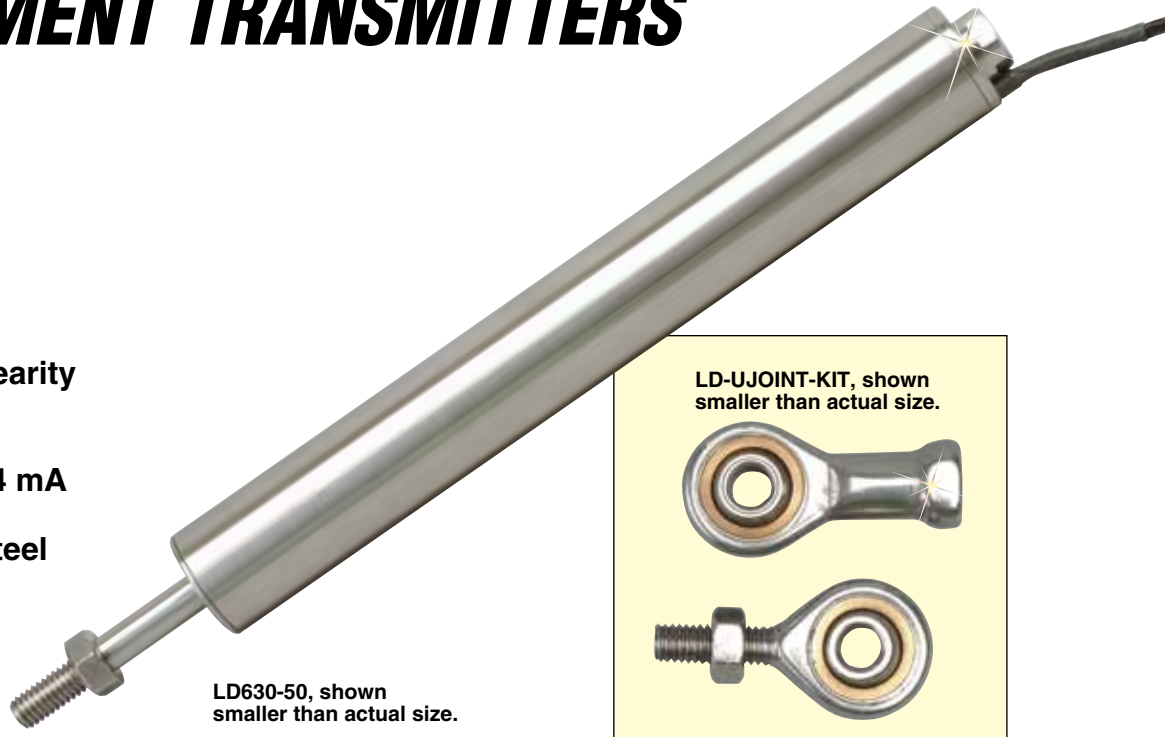
MODEL NO.	DESCRIPTION
LD-TIP	Tip adaptor/ball tip
LD-UJOINT-KIT	U-joint retro fit kit

# DISPLACEMENT TRANSMITTERS

## LD630 Series



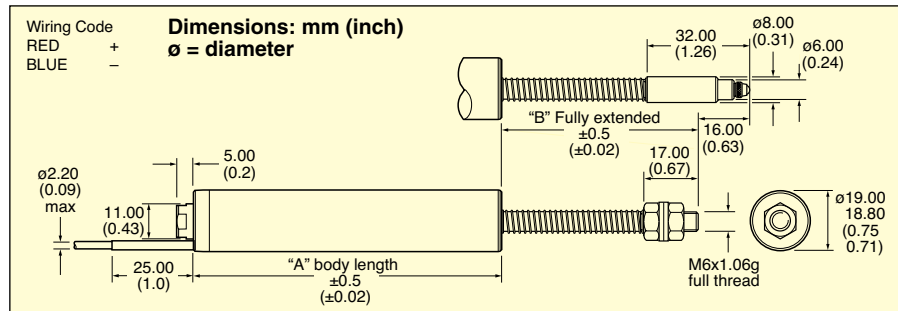
- ✓ Less Than 0.2% Linearity
- ✓ 5 to 300 mm Travel Lengths Available
- ✓ 4 to 20 mA or 20 to 4 mA Versions Available
- ✓ Rugged Stainless Steel Body Construction
- ✓ Guided Core with Removable Spring
- ✓ IP67 Environmental Rating



LD630-50, shown smaller than actual size.

LD-UJOINT-KIT, shown smaller than actual size.

The LD630 Series current output displacement transmitters have improved IP67-rated sealing, coupled with polymer guides with rigid carriers. These transmitters are accurate and reliable, especially in wet and corrosive conditions. Output options are either direct-acting 4 to 20 mA or reverse-acting 20 to 4 mA. The direct-acting model will have 4 mA output when the guided core is fully out, and the output will increase to 20 mA when fully in.



### SPECIFICATIONS

- Linearity:** <0.2% FSO
- Excitation Voltage:** 10 to 30 Vdc
- Output:** 4 to 20 mA
- Output Ripple:** 0.02% FSO
- Bandwidth:** 500 Hz (-3 dB)
- Storage Temp:** -20 to 85°C (-4 to 185°F)
- Operating Temp:** 0 to 65°C (32 to 149°F)
- Vibration (Sinusoidal Frequency):**
  - 10 to 50 Hz: 1 to 10 g rms linear amplitude
  - 50 Hz to 1 kHz: 10 g rms amplitude
- Shock:**
  - Drop Testing:** 1 m (3') onto hard surface
  - Topple Testing:** 10 times each end onto hard surface
- Cable:** PFA, 2 m (6') long
- Core Material:** Nickel-iron

### To Order

MODEL NO.	RANGE: mm (inch)	"A" DIM mm (inch)	"B" DIM mm (inch)
LD630-5	0 to 5 (0 to 0.2)	94.0 (3.7)	35.3 (1.4)
LD630-10	0 to 10 (0 to 0.4)	113.5 (4.5)	46.3 (1.8)
LD630-15	0 to 15 (0 to 0.6)	120.7 (4.8)	50.3 (2.0)
LD630-20	0 to 20 (0 to 0.8)	135.0 (5.3)	61.3 (2.4)
LD630-30	0 to 30 (0 to 1.2)	149.4 (5.9)	79.3 (3.1)
LD630-50	0 to 50 (0 to 2.0)	170.9 (6.7)	102.3 (4.0)
LD630-100	0 to 100 (0 to 3.9)	228.5 (9.0)	160.3 (6.3)
LD630-150	0 to 150 (0 to 5.9)	278.7 (11.0)	231.3 (9.1)
LD630-200	0 to 200 (0 to 7.9)	336.2 (13.2)	291.2 (11.5)
LD630-300	0 to 300 (0 to 11.8)	450.9 (17.8)	457.3 (18.0)

To order reverse-acting version (20 to 4 mA), add suffix "-R" to model number, no additional charge.

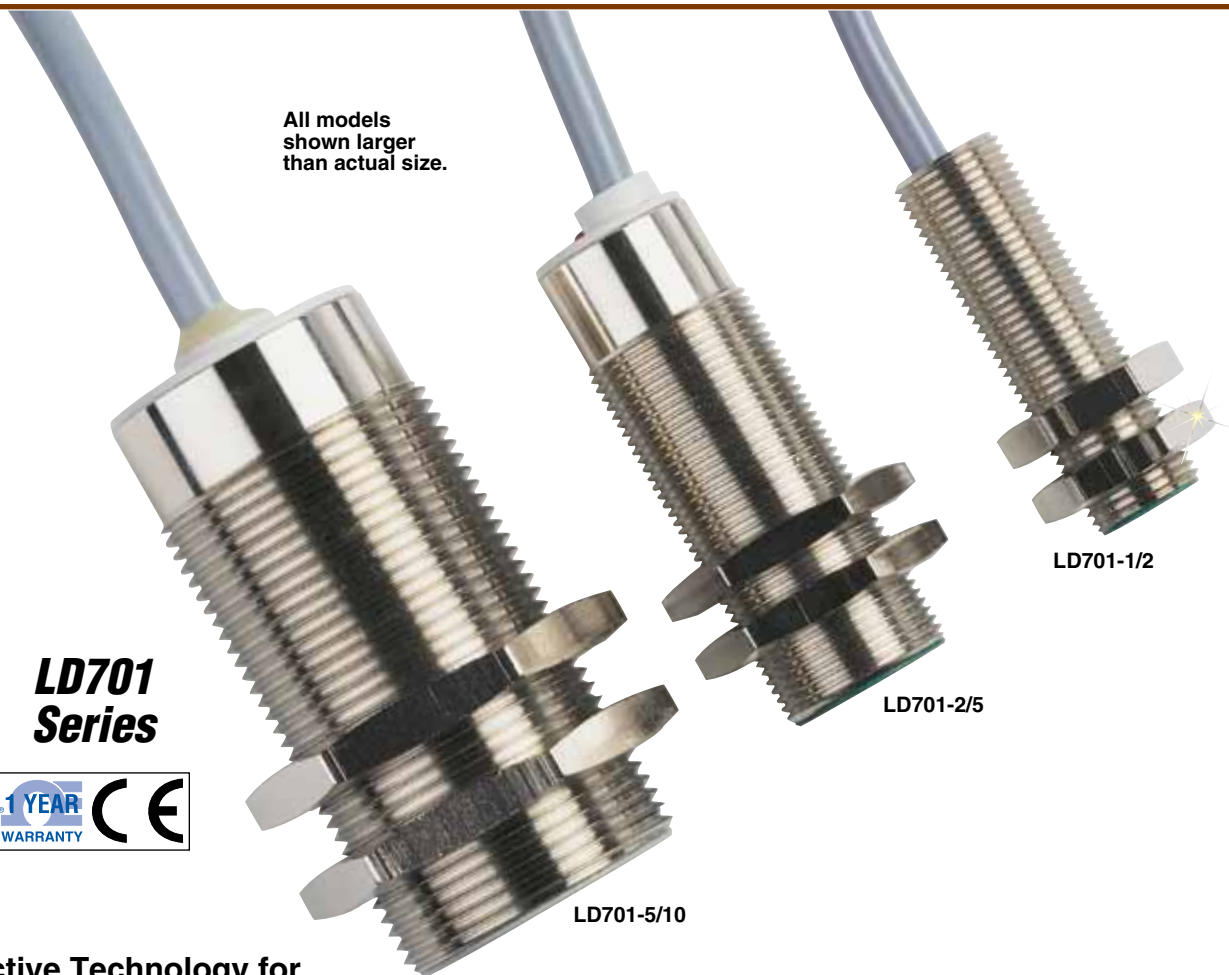
Ordering Example: LD630-10-R, 0 to 10 mm (0 to 0.4") displacement transmitter with reverse 20 to 4 mA output.

### ACCESSORIES

MODEL NO.	DESCRIPTION
LD-TIP	Tip adaptor/ball tip
LD-UJOINT-KIT	U-joint retro fit kit

# DISPLACEMENT SENSORS

## 12, 18 AND 30 mm HOUSINGS



### LD701 Series



- ✓ Inductive Technology for Sensing Metal Targets
- ✓ Insensitive to Dust, Dirt, and Oils—Ideal for Industrial Applications
- ✓ Compact Design
- ✓ IP67 Protection Rating

Non-contact linear sensors have an analog output that is proportional to the damping target distance. Their compact yet sturdy design makes them suitable for industrial, robotics, and laboratory use.

These sensors use inductive technology, which means they can sense any metal target. The sensing distance, however, is influenced by the metal target. Ranges are calibrated using a standard square target. The target is mild steel (Fe 360), 1 mm (0.04") thick. The side lengths are the larger of either the sensor's face diaphragm or 3 times the sensing distance.

Sensing distances are influenced by metals other than mild steel. The "Correction Factors" chart, shown below, shows the reduction that occurs when brass or other target metals are used. For example, if the target were brass, the LD701-1/2 would sense 0.5 to 1 mm (0.02 to 0.04").

The voltage output generated is directly linear to the distance being measured. The output can be read by panel meters, recorders, computer boards, or data loggers, all of which are available from OMEGA®.

#### SPECIFICATIONS

**Excitation:** 14 to 30 Vdc @ 20 mA; unregulated, reverse polarity and short circuit protected

**Output:** 1 to 9 Vdc

**Output Load:** 20 mA maximum

**Repeatability:** 0.01 mm (0.0004")  
**Compensated Temperature:** 0 to 60°C (32 to 140°F)  
**Total Thermal Effects:** 1µm/°C/mm  
**Housing:** Nickel-plated brass  
**Electrical Connection:** 1.8 m (6'), 3-conductor, 22 AWG pigtail leads (20 AWG for 30 mm)

CORRECTION FACTORS	
MATERIAL	APPROX.
Mild steel	1.0
Stainless steel	0.75
Brass	0.50
Aluminum	0.40
Copper	0.35

## NON-CONTACT LINEAR DISPLACEMENT SENSORS



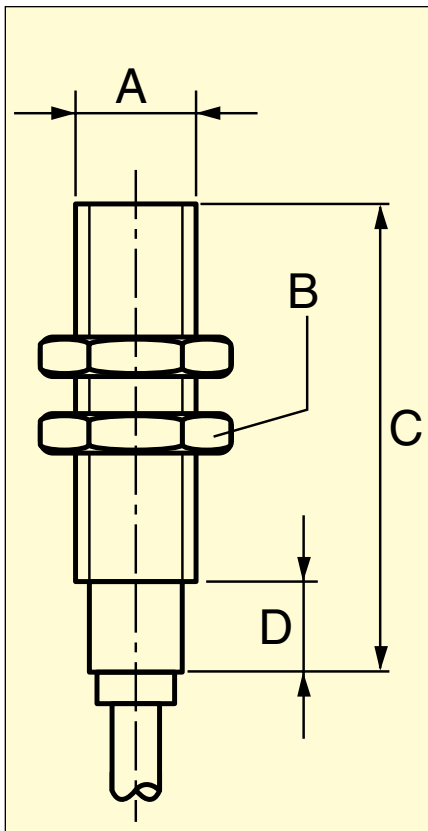
LD701-5/10, shown smaller than actual size, with MBL-18/30, mounting bracket, and DP25B-E, meter.

DISPLACEMENT

Dimensions: mm (inch)

MODEL NO.	THREAD A	NUT B	C	D
LD701-1/2	M12x1	SW17	51 (2.01)	10 (0.39)
LD701-2/5	M18x1	SW24	65 (2.55)	10 (0.39)
LD701-5/10	M30x1.5	SW36	60 (2.36)	10 (0.39)

Wiring: brown +exc; black +out; blue common.



### To Order

MODEL	LD701-1/2	LD701-2/5	LD701-5/10
RANGE mm (inch)	1 to 2 (0.04 to 0.08)	2 to 5 (0.08 to 0.19)	5 to 10 (0.19 to 0.39)
REPEATABILITY	±10 µm (0.4 µin)	±10 µm (0.4 µin)	±10 µm (0.4 µin)
LINEARITY	±4%	±2%	±4%
SWITCHING FREQUENCY (-3 dB)	1000 Hz	1000 Hz	500 Hz
HOUSING SIZE	12 mm (0.47")	18 mm (0.71")	30 mm (1.2")
COMPATIBLE METERS	DP25B-E, DP41-E, DP3002-E, DP24-E		

### ACCESSORIES

MODEL NO.	DESCRIPTION
MBL-8/12	Mounting bracket for LD701-1/2
MBL-18/30	Mounting bracket for LD701-2/5 or LD701-5/10

Comes complete with operator's manual.

Ordering Example: LD701-1/2, non-contact displacement sensor with 1 to 2 mm (0.04 to 0.08") range.



# Linear Variable Inductive Transducers for Position Sensing

**0 to 10V Output with  
12 to 30V Input  
4 to 20 mA (3-Wire) Output with  
18 to 30V Input**

**LDI-119 Series**

**LDI-119-150-A010A  
shown smaller than  
actual size.**



The LDI-119 Series LVIT (Linear Variable Inductive Transducer) position sensors from OMEGA® are contactless devices designed for factory automation and a variety of industrial and commercial applications such as motor sport vehicles, automotive testing, solar cell positioners, wind turbine prop pitch and brakes, and packing equipment. With their compact device, superior performance, and excellent stroke-to-length ratio, the LDI-119 sensors are ideal for both industrial testing, laboratories, and OEM applications.

LDI-119 sensors are offered in 6 full scale ranges from 25 to 200 mm (1 to 8"). Operating from a variety of DC voltages, these sensors offer a choice of outputs and all include the field programmability calibration feature. LDI-119 products come with radial exiting cable and two swivel rod eye ends for easy installation.

The LDI series also include a larger body version, the LDI-127, for those applications needing a heavier duty unit.

- ✓ **Low Cost, Robust Construction**
- ✓ **Contactless Operation Prevents Wearout from Dithering or Cycling**
- ✓ **Excellent Stroke-to-Length Ratio**
- ✓ **19 mm (0.75") Diameter Anodized Aluminum Housing Sealed to IP67**
- ✓ **Wide Choice of Range: 25 to 200 mm (1 to 8") Full Scale**
- ✓ **High Accuracy with Low Linearity Error**
- ✓ **Radial Cable Exit with Swivel Rod Eye Ends**
- ✓ **Designed to Operate Under Adverse Temperature, Vibration, Shock, and Humidity Conditions**

## Specifications

### Analog I/Os:

0 to 10V output with 12 to 30V input, 35 mA max;  
4 to 20 mA (3-wire) output with 18 to 30V input,  
60 mA max 75°C (167°F max)

**Measuring Range:** 25 to 200 mm (1 to 8") full scale

**Linearity Error:** ±0.15% of Full Scale Output (FSO) typical, ±0.25% max

**Resolution:** 0.025% of FS

**Update Rate:** 300 Hz nominal

**Operating Temperature:** -20 to 85°C (-4 to 185°F)

**Temperature Coefficient:** 0.015% of FS/degree°C

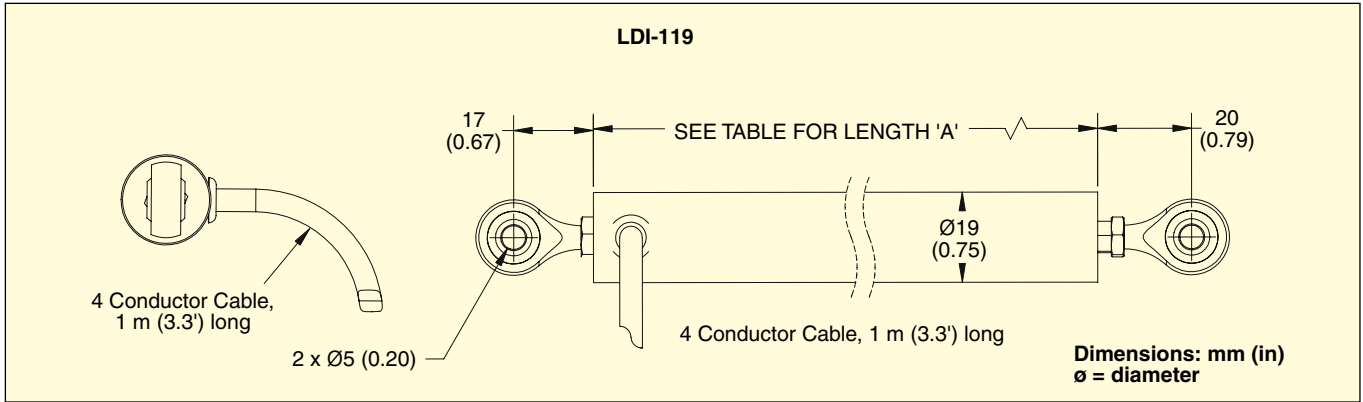
**Vibration:** 5 to 20 Hz, 0.5" p-p; 20 to 2000 Hz, 4.2 g p-p

**Shock:** 1000 g, 11 ms

**Terminations:** IEC IP67

**Humidity:** 95% RH, non-condensing

**Housing Material:** Aluminum



Wiring Table	
Function	Cable Code
+ Power Input	Red
Ground	Black
Analog Output	Green
Field Programmability	White

Unit Length Table, Dimensions: mm (in)	
Linear Range	Length "A"
25 (1)	89 (3.5)
50 (2)	114 (4.5)
75 (3)	140 (5.5)
100 (4)	165 (6.5)
150 (6)	216 (8.5)
200 (8)	267 (10.5)

To Order	
Model No.	Description
<b>LDI-119-025-A010A</b>	Linear sensor, 25 mm range, 19 mm housing, radial cable, rodeye ends, 0 to 10 Vdc output
<b>LDI-119-050-A010A</b>	Linear sensor, 50 mm range, 19 mm housing, radial cable, rodeye ends, 0 to 10 Vdc output
<b>LDI-119-075-A010A</b>	Linear sensor, 75 mm range, 19 mm housing, radial cable, rodeye ends, 0 to 10 Vdc output
<b>LDI-119-100-A010A</b>	Linear sensor, 100 mm range, 19 mm housing, radial cable, rodeye ends, 0 to 10 Vdc output
<b>LDI-119-150-A010A</b>	Linear sensor, 150 mm range, 19 mm housing, radial cable, rodeye ends, 0 to 10 Vdc output
<b>LDI-119-200-A010A</b>	Linear sensor, 200 mm range, 19 mm housing, radial cable, rodeye ends, 0 to 10 Vdc output
<b>LDI-119-025-A020A</b>	Linear sensor, 25 mm range, 19 mm housing, radial cable, rodeye ends, 4 to 20 mA output
<b>LDI-119-050-A020A</b>	Linear sensor, 50 mm range, 19 mm housing, radial cable, rodeye ends, 4 to 20 mA output
<b>LDI-119-075-A020A</b>	Linear sensor, 75 mm range, 19 mm housing, radial cable, rodeye ends, 4 to 20 mA output
<b>LDI-119-100-A020A</b>	Linear sensor, 100 mm range, 19 mm housing, radial cable, rodeye ends, 4 to 20 mA output
<b>LDI-119-150-A020A</b>	Linear sensor, 150 mm range, 19 mm housing, radial cable, rodeye ends, 4 to 20 mA output
<b>LDI-119-200-A020A</b>	Linear sensor, 200 mm range, 19 mm housing, radial cable, rodeye ends, 4 to 20 mA output

**Ordering Examples:** **LDI-119-150-A010A**, 150 mm range, 19 mm housing, radial cable, rodeye ends, 0 to 10 Vdc output, aluminum housing.  
**LDI-119-025-A020A**, 25 mm range, 19 mm housing, radial cable, rodeye ends, 4 to 20 mA output, aluminum housing.

# Linear Variable Inductive Transducers for Position Sensing (Heavy-Duty)

**0 to 10V Output with 12 to 30V Input**  
**4 to 20 mA (3-Wire) Output with**  
**18 to 30V Input**

**LDI-127 and LDI-128 Series**



**LDI-127-150-A010A**  
shown smaller than  
actual size.

The LDI-127/LDI-128 Series LVIT (Linear Variable Inductive Transducer) position sensors from Omega are contactless devices designed for factory automation and a variety of industrial and commercial applications such as solar cell positioners, wind turbine prop pitch and brakes, chute or gate positions on off-road or agri-vehicles and packing equipment.

With their compact device, superior performance, and excellent stroke-to-length ratio, the LDI-127/LDI-128 sensors are ideal for both industrial testing, laboratories, and in-plant or mobile equipment OEM applications.

LDI-127/LDI-128 sensors are offered in 10 full scale ranges from 25 to 450 mm (1 to 18"). Operating from a variety of DC voltages, these sensors offer a choice of outputs and all include the Field Programmability calibration feature. LDI-127/LDI-128 models come with radial exiting cable and two swivel rod eye ends for easy installation.

The LDI series also includes a smaller body version, the LDI-119, for those applications not requiring a heavy-duty unit.

- ✓ **Heavy-Duty, Long Lasting, Contactless Device**
- ✓ **Excellent Stroke-to-Length Ratio**
- ✓ **27 mm (1.05") Diameter Anodized Aluminum Housing Sealed to IP67**
- ✓ **Wide Choice of Range: 25 to 450 mm (1 to 18") Full Scale**
- ✓ **High Accuracy with Low Linearity Error**
- ✓ **Radial Cable Exit with Swivel Rod Eye Ends**
- ✓ **Designed to Operate Under Adverse Temperature, Vibration, Shock, and Humidity Conditions**

## Specifications

### Analog I/Os:

0 to 10V output with 12 to 30V input, 35 mA max;  
4 to 20 mA (3-wire) output with 18 to 30V input,  
60 mA max 75°C (167°F max)

**Measuring Range:** 25 to 450 mm (1 to 18") full scale

**Linearity Error:** ±0.15% of Full Scale Output (FSO) typical, ±0.25% max

**Resolution:** 0.025% of FS

**Update Rate:** 300 Hz nominal

**Operating Temperature:** -20 to 85°C (-4 to 185°F)

**Temperature Coefficient:** 0.015% of FS/degree°C

**Vibration:** 5 to 20 Hz, 0.5" p-p; 20 to 2000 Hz, 4.2 g p-p

**Shock:** 1000 g, 11 ms

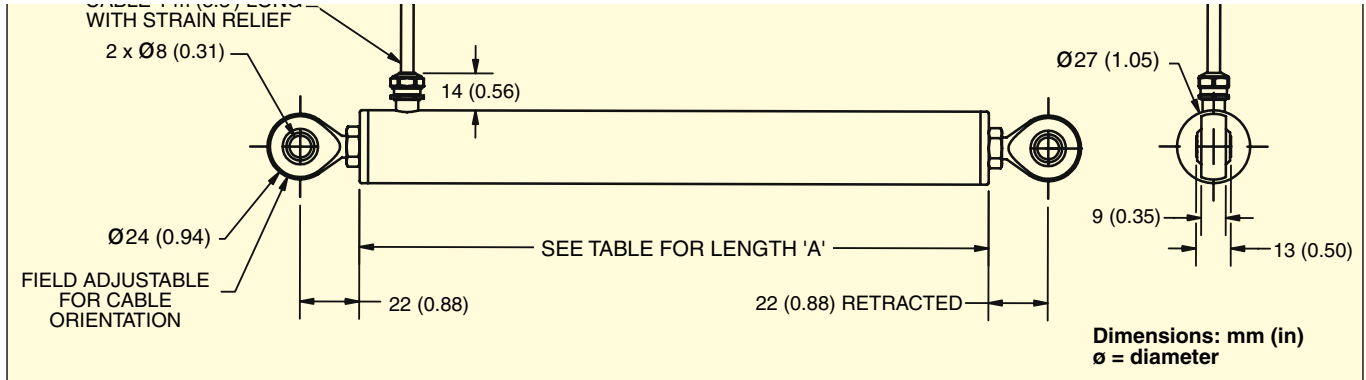
**Terminations:** IEC IP67

**Humidity:** 95% RH, non-condensing

**Housing Material:** Aluminum

LDI-127 and LDI-128

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Wiring Table	
Function	Cable Code
+ Power Input	Red
Ground	Black
Analog Output	Green
Field Programmability	White

Unit Length Table, Dimensions: mm (in)	
Linear Range	Length "A"
25 (1)	114.3 (4.5)
50 (2)	139.7 (5.5)
100 (4)	190.5 (7.5)
150 (6)	241.3 (9.5)
200 (8)	292.1 (11.5)
250 (10)	342.9 (13.5)
300 (12)	393.7 (15.5)
350 (14)	444.5 (17.5)
400 (16)	495.3 (19.5)
450 (18)	546.1 (21.5)

The LDI models come with radial exiting cable and two swivel rod eye ends for easy installation.

To Order	
Model No.	Description
<b>LDI-127-025-A010A</b>	Linear Sensor, 25 mm range, 27 mm housing, 0 to 10 Vdc output
<b>LDI-127-050-A010A</b>	Linear Sensor, 50 mm range, 27 mm housing, 0 to 10 Vdc output
<b>LDI-127-100-A010A</b>	Linear Sensor, 100 mm range, 27 mm housing, 0 to 10 Vdc output
<b>LDI-127-150-A010A</b>	Linear Sensor, 150 mm range, 27 mm housing, 0 to 10 Vdc output
<b>LDI-127-200-A010A</b>	Linear Sensor, 200 mm range, 27 mm housing, 0 to 10 Vdc output
<b>LDI-128-250-A010A</b>	Linear Sensor, 250 mm range, 27 mm housing, 0 to 10 Vdc output
<b>LDI-128-300-A010A</b>	Linear Sensor, 300 mm range, 27 mm housing, 0 to 10 Vdc output
<b>LDI-128-350-A010A</b>	Linear Sensor, 350 mm range, 27 mm housing, 0 to 10 Vdc output
<b>LDI-128-400-A010A</b>	Linear Sensor, 400 mm range, 27 mm housing, 0 to 10 Vdc output
<b>LDI-128-450-A010A</b>	Linear Sensor, 450 mm range, 27 mm housing, 0 to 10 Vdc output
<b>LDI-127-025-A020A</b>	Linear Sensor, 25 mm range, 27 mm housing, 4 to 20 mA output
<b>LDI-127-050-A020A</b>	Linear Sensor, 50 mm range, 27 mm housing, 4 to 20 mA output
<b>LDI-127-100-A020A</b>	Linear Sensor, 100 mm range, 27 mm housing, 4 to 20 mA output
<b>LDI-127-150-A020A</b>	Linear Sensor, 150 mm range, 27 mm housing, 4 to 20 mA output
<b>LDI-127-200-A020A</b>	Linear Sensor, 200 mm range, 27 mm housing, 4 to 20 mA output
<b>LDI-128-250-A020A</b>	Linear Sensor, 250 mm range, 27 mm housing, 4 to 20 mA output
<b>LDI-128-300-A020A</b>	Linear Sensor, 300 mm range, 27 mm housing, 4 to 20 mA output
<b>LDI-128-350-A020A</b>	Linear Sensor, 350 mm range, 27 mm housing, 4 to 20 mA output
<b>LDI-128-400-A020A</b>	Linear Sensor, 400 mm range, 27 mm housing, 4 to 20 mA output
<b>LDI-128-450-A020A</b>	Linear Sensor, 450 mm range, 27 mm housing, 4 to 20 mA output

Comes complete with radial exiting cable and two swivel rod eye ends.

Ordering Example: LDI-127-100-A010A, 100 mm range, 27 mm housing, radial cable, rodeye ends, 0 to 10 Vdc output, aluminum housing.

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# TRANSMITTERS WITH EXCITATION WORKS WITH AC LVDT TRANSDUCERS

**LVDT Signal Conditioner  
 Loop Powered**

**LDX-2**



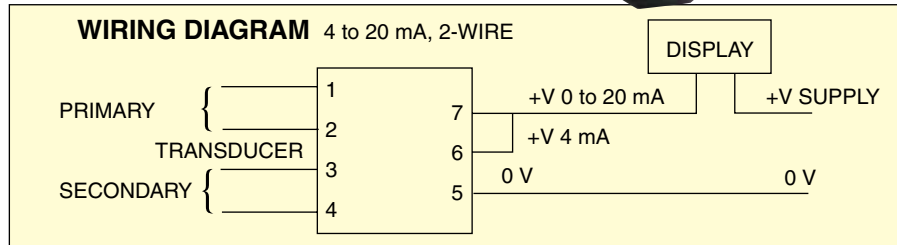
LDX-2, shown smaller than actual size.

- ✓ **Wide Input Range of 30 to 530 mV/V**
- ✓ **Rugged Sealed Housing**
- ✓ **2-Wire, 4 to 20 mA Signal for Remote Locations**
- ✓ **0.02% of Reading Accuracy**
- ✓ **Powers AC LVDTs and Converts Signal to Standard 4 to 20 mA Signal**

The LDX-2 linear displacement transmitter is a 2-wire, 4 to 20 mA conditioner for AC LVDT transducers. It is designed for use where long transmission distances are required before the signal can interface with a controller or meter. A feature of 2-wire operation is its low susceptibility to noise and cable resistance, ideal for industrial environments.

Two-wire operation enables both power and signal to use the same pair of wires. The position of the transducer is indicated by the amount of current, from 4 to 20 mA full scale. If a cable break occurs, zero current is indicated, thereby showing a fault.

The LDX-2 is housed in an ABS impact-resistant plastic case with 2 water-resistant ports for the transducer cable and supply cable. The box is sealed to NEMA 12 (IP65) standards and is supplied with mounting nuts for a DIN 46277-1 rail, or it can be bolted to any surface without affecting the seal.



**SPECIFICATIONS ELECTRICAL**

- Power Supply:** 13 to 48 Vdc, up to 30 mA
- Supply Protection:** Reverse polarity protected
- Transducer Drive:** 0.9 Vrms @ 5 kHz nominal, 13 kHz switchable
- Oscillator Protection:** Open and short circuit protected
- Transducer Sensitivity Range:** 30 to 530 mV/V in 2 coarse gain positions
- Range of Gain Control:** 3.5 to 1 switched, 5 to 1 adjustable
- Range of Zero Control:** Up to 100% on max gain
- Output Current:** 4 to 20 mA 2-wire or 0 to 20 mA 3-wire
- Output Impedance:** Effectively infinite
- Output Protection:** Open and short circuit protected
- Output Ripple:** <50  $\mu$ A p-p @ 10 kHz

- Output Filter:** Cutoff frequency -3 dB @ 25 Hz second-order linearity: <0.02%
- Operating Temperature Range:** 0 to 70°C (32 to 158°F)
- Storage Temperature Range:** -40 to 80°C (-40 to 176°F)
- Temperature Coefficient:**
  - Zero:** Better than 0.01% FS/°C
  - Gain:** Better than 0.01% FS/°C
- Long-Term Stability:**
  - Zero:** 0.2%/year typical
  - Gain:** 0.3%/year typical
- Effect of Supply Change:** Negligible
- Terminations:** Screw terminals; access through 2 cable ports for wires 1 to 5 mm (0.04 to 0.2") diameter
- MECHANICAL**
- Weight:** 220 g (7.7 oz)
- Mounting:** Through holes in base by 2 screws and nuts; can be mounted to DIN 46277-1 rail
- Accessories:** 2 fixing screws and nuts
- Environment:** Sealed to NEMA 12 (IP65)
- Dimensions:** 120.65 H x 80 W x 54.86 mm D (4.75 x 3.14 x 2.16")

<b>To Order Visit <a href="http://omega.com/ldx-2">omega.com/ldx-2</a> for Pricing and Details</b>	
MODEL NO.	DESCRIPTION
<b>LDX-2</b>	Loop-powered signal conditioner for AC LVDTs

*Comes complete with operator's manual.*  
**Ordering Example:** LDX-2, loop-powered signal conditioner for AC LVDTs.

# FOR AC LVDTs PROVIDE TRANSDUCER EXCITATION AND DC VOLTAGE OR CURRENT OUTPUT



DP25B-E meter.

LDX-3A, shown smaller than actual size.



LD320 sensor.

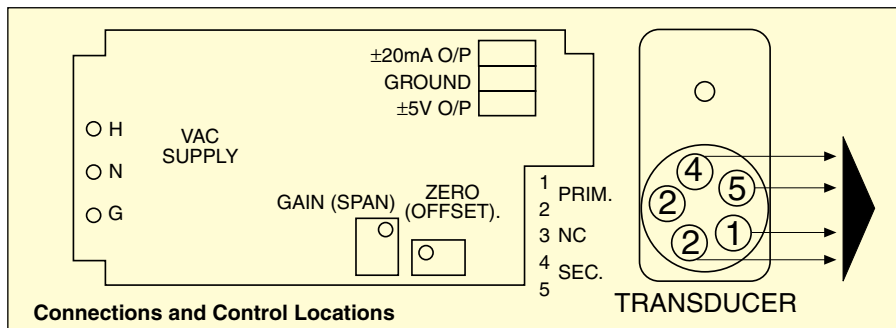
## LDX-3A



- ✓ Works Well with LD200 and LD300 Series Transducers
- ✓ Oscillator/Demodulator Provides 0.05% FS Linearity
- ✓ Selectable Outputs of  $\pm 5$  V or  $\pm 20$  mA
- ✓ Interfaces with Standard Laboratory Instruments
- ✓ Adjustable Zero, Span, and Phase Controls
- ✓ Rugged Metal Case
- ✓ Transducer Drive: 3 Vrms, Selectable at 2.5 or 5 kHz

The LDX-3A is a compact oscillator/demodulator unit with adjustable span, zero, and phase controls for use with any OMEGA® (as well as most other manufacturers') AC LVDT transducers. The device is housed in a die-cast aluminum box that provides a high degree of mechanical and environmental protection. The LDX-3A incorporates its own regulation for operation from AC power of 120V. A 2.7 m (9') power cable is standard.

The unit can drive outputs of 0 to  $\pm 5$  V into 10 k $\Omega$ , or  $\pm 20$  mA into 100  $\Omega$  max. This, together with a 10:1 range of span controls, makes the LDX-3A a versatile single-channel conditioner for a wide range of transducers.



## SPECIFICATIONS

### MECHANICAL

**Weight:** 400 g (14 oz)  
**Mounting:** 2 fixing straps and screws  
**Accessories:** Connector and mounting hardware included  
**Dimensions:** 130 H x 96 W x 35 mm D (5.1 x 3.8 x 1.4")

### ELECTRICAL

**Power Supply:** 120/250 Vac, 50 to 60 Hz  
**Transducer Drive:** 3 Vrms at 2.5 or 5 kHz @ 20 mA  
**Loading:** 4 W max  
**Fuse Rating:** 63 mA slow blow  
**Oscillator Protection:** Open and short circuit protected

**Range of Zero Control:** 0 to 100% adjustable  
**Output Voltage:**  $\pm 5$  V into 10 k $\Omega$  min  
**Output Current:**  $\pm 20$  mA into 100  $\Omega$  max  
**Output Protection:** Open and short circuit protected  
**Output Ripple:** 10 mV p-p at 10 kHz  
**Output Filter:** Second-order low pass at 250 Hz or 110 Hz  
**Linearity:** 0.05% FS  
**Temp Range:** 0 to 60°C (32 to 140°F)  
**Temp Coefficient:**  
**Zero:** 0.02% FS/°C (0.011% FS/°F)  
**Span:** 0.02% FS/°C (0.011% FS/°F)  
**Terminations:** 5-pin DIN connector

**To Order Visit [omega.com/idx-3](http://omega.com/idx-3) for Pricing and Details**

MODEL NO.	DESCRIPTION
LDX-3A	AC-powered signal conditioner for AC LVDTs

Comes complete with power cord and operator's manual.

Ordering Example: LDX-3A, signal conditioner.

# DC POWERED SIGNAL CONDITIONED

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## PROVIDES TRANSDUCER EXCITATION AND SELECTABLE ANALOG OUTPUTS; WORKS WITH LD320 SERIES TRANSDUCERS

**LDX-4**



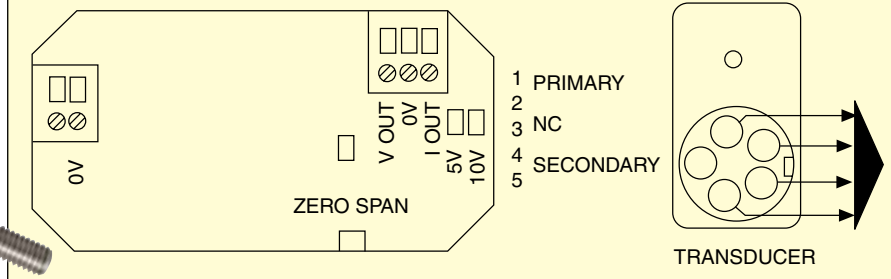
DP2000-P digital display.

LDX-4, shown smaller than actual size.



LD320

### CONNECTIONS AND CONTROL LOCATIONS



- ✓ Operates on 10 to 30 Vdc
- ✓ +5V, ±10V, or 20 mA Selectable Outputs
- ✓ Adjustable Zero and Span
- ✓ High-Accuracy Oscillator/Demodulator Circuits Provide 3V @ 5 kHz

The LDX-4 is a DC-powered signal conditioning amplifier and power supply for AC LVDTs. Its compact, rugged case can withstand industrial installations and protect laboratory-grade electronics. Complete zero and span adjustments allow use with any LVDT with an output between 45 and 450 mV/V full scale. Selectable outputs of ±5V or ±10V interface with recorders, displays, and other instruments. For the ±5V output range, a second 0 to 20 mA signal can be used to retransmit the signal over long distances.

### SPECIFICATIONS

**Supply Voltage:** 10 to 30 Vdc  
**Supply Current (Voltage Output):** 140 mA max with 10 Vdc supply voltage; 60 mA max with 30 Vdc supply voltage  
**Supply Current (Current Output):** 180 mA max with 10 Vdc supply voltage; 70 mA max with 30 Vdc supply voltage  
**Noise on Power Supply (Typical):** 20 mV p-p @ 100 kHz  
**Input Protection:** Overvoltage, reverse connection  
**Transducer Energization:** 3 Vrms @ 5 kHz  
**Transducer Range:** 45 to 450 mV/V full scale

**Output Voltage (Selectable):** ±5 Vdc or ±10 Vdc full scale  
**Load Resistance:** 1 kΩ minimum  
**Analog Output Current:** 20 mA full scale into 1500 Ω maximum (only with 5 V range selected)  
**Offset Range:** 0 to 100%  
**Gain Temperature Coefficient:** <200 ppm/°C  
**Output Temperature Coefficient:** <200 ppm/°C output  
**Noise:** <20 mV p-p @ 10 to 100 kHz  
**Non-Linearity:** <0.1% BSL  
**Temperature Range:** 0 to 60°C (-18 to 140°F)  
**Weight (Approx.):** 300 g (11 oz)  
**Dimensions:** 40 W x 65 H x 120 mm L (1.57 x 2.56 x 4.72")

**To Order Visit [omega.com/ldx-4](http://omega.com/ldx-4) for Pricing and Details**

MODEL NO.	DESCRIPTION
LDX-4	10 to 30 Vdc powered signal conditioner for AC LVDTs

Comes complete with operator's manual.

**Ordering Example:** LDX-4, 10 to 30 Vdc powered signal conditioner for AC LVDTs.

## SIGNAL CONDITIONER FOR AC TRANSDUCERS

### LDX-D



- ✓ Operates on 10 to 30 Vdc
- ✓ ±10 Vdc or 20 mA Selectable Output
- ✓ Compatible with AC LVDTs

The LDX-D is a DC-powered conditioning module that can accept a wide range of analog inductive transducer types owing to its wide input gain. The signal polarity, span, and offset are adjustable. Output is selectable: ±10 Vdc voltage or ±20 mA current.

The housing is a standard DIN rail enclosure that can clip directly to a 35 mm top-hat rail (TS35 EN50022).

Transducers are connected via the screw terminals on the front of the LDX-D. Internal links and front-panel fine-adjustment potentiometers facilitate setup.

By linking 2 LDX-D modules, users can perform some analog arithmetic functions, such as  $A + B$ ,  $A - B$ ,  $(A + B)/2$  and  $(A - B)/2$ .

### SPECIFICATIONS

**Power Requirement:** 10 to 30 Vdc

**Supply Current:**

**Voltage Range:** 140 mA @ 10 Vdc,

60 mA @ 30 Vdc

**Current Range:** 160 mA @ 10 Vdc,

70 mA @ 30 Vdc

**Transducer Excitation:**

**Primary Voltage:** 3 Vrms nominal

**Primary Frequency (kHz):** 5-, 10- or 13-link selectable

**Signal Input:**

**Input Range:** 55 to 5000 mV

**Input Load Resistance:** 100 k $\Omega$

**Signal Output:**

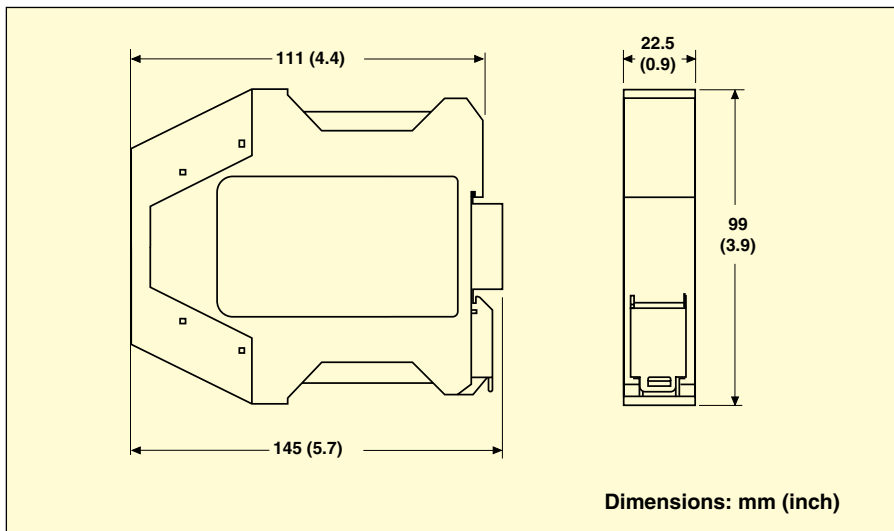
**Voltage Output:** Up to ±10 Vdc

**Current Output:** Up to 20 mA into 150  $\Omega$  load

**Output Ripple:** <1 mVrms



LDX-D, shown smaller than actual size.



**Output Offset:** Up to 100%

**Temp Coefficient Gain:** <0.01% FSO/ $^{\circ}$ C

**Temp Coefficient Offset:** <0.01% FSO/ $^{\circ}$ C

**Warm-Up:** 15 minutes recommended

**Linearity:** <0.1% FSO

**Bandwidth (-3 dB):** 500 Hz or 1 kHz, link selectable

### ENVIRONMENTAL

**Operating Temp:** 0 to 60 $^{\circ}$ C (32 to 140 $^{\circ}$ F)

**Storage Temp:** -20 to 85 $^{\circ}$ C (-4 to 185 $^{\circ}$ F)

### MECHANICAL

**Transducer:** Screw terminals

**Power Supply:** Screw terminals

**Output Signal:** Screw terminals

**Weight:** 120 g (4.2 oz)

**Case Material:** Green polyamide

**To Order Visit [omega.com/ldxd](http://omega.com/ldxd) for Pricing and Details**

MODEL NO.	DESCRIPTION
LDX-D	DC-powered signal conditioner for AC LVDT (DIN rail)

Comes complete with operator's manual.

**Ordering Example:** LDX-D, DC-powered signal conditioner for AC LVDTs (DIN rail).

# LONG STROKE LINEAR POTENTIOMETERS

Rometec srl - [www.rometec.it](http://www.rometec.it) - [info@rometec.it](mailto:info@rometec.it) - Rometec srl - [www.rometec.it](http://www.rometec.it) - [info@rometec.it](mailto:info@rometec.it)

## FOR DISPLACEMENT MEASUREMENT

150 mm to 1.2 m  
(6 to 48") Ranges



### LP801 Series

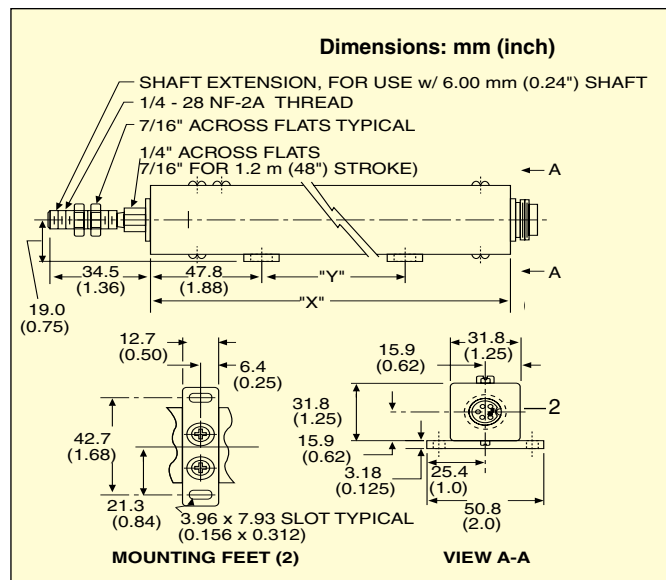
- ✓ Rugged Construction and Shaft Seals for Protection in Factory Environments
- ✓ Precious-Metal Wipers Ensure High Performance and Low Noise
- ✓ Plastic Film Element Reduces Wear for Extremely Long Life

The OMEGA® LP801 Series linear potentiometers can measure linear position or displacement up to 1.2 m (48") in a wide variety of manufacturing and process applications. With their long life, front and rear bearings, anodized extruded aluminum housings, stainless steel shafts, and precious-metal wipers and contacts, these devices are suitable for harsh factory environments. Based on a conductive plastic film element, the LP801 provides high resolution and absolute position measurement without using external signal conditioners.

### SPECIFICATIONS

- Total Resistance:** 5000 Ω ± 20%
- Linearity:** ±1% FS
- Hysteresis:** ±0.025 mm (0.001")
- Repeatability:** ±0.012 mm (0.0005")

- Incremental Sensitivity:** 0.0013 mm (0.00005")
- Power Rating:** 0.75 W/stroke inch
- Temp. Range:** -65 to 105°C (-85 to 221°F)
- Operating Force:** 450 g (1 lb) max
- Shaft:** 6 mm (0.236") diameter with 1/4-28 threaded-end adaptor
- Weight:** 0.36 to 2.2 kg (0.8 to 4.9 lb)
- Life:** 100 million operations up to 300 mm (12") stroke—derated proportionally for longer units [standard rate of travel 50 mm/s (2"/s)]



DISPLACEMENT

To Order Visit [omega.com/lp801](http://omega.com/lp801) for Pricing and Details

MODEL NO.	ELECTRICAL TRAVEL		MECHANICAL TRAVEL		"X" DIMENSION (NOMINAL)		"Y" DIMENSION (NOMINAL)		COMPATIBLE METERS
	mm	inch	mm	inch	mm	inch	mm	inch	
LP801-150	152	6.0	155	6.10	233	9.19	127	5.00	DP25B-E, DP41-E
LP801-300	305	12.0	307	12.10	380	15.19	279	11.00	DP25B-E, DP41-E
LP801-450	457	18.0	460	18.12	533	21.19	432	17.00	DP25B-E, DP41-E
LP801-600	610	24.0	613	24.13	685	27.19	584	23.00	DP25B-E, DP41-E
LP801-750	762	30.0	765	30.13	838	33.19	737	29.00	DP25B-E, DP41-E
LP801-900	914	36.0	918	36.13	990	39.19	889	35.00	DP25B-E, DP41-E
LP801-1200	1219	48.0	1224	48.18	1295	51.19	1194	47.00	DP25B-E, DP41-E

Comes complete with operator's manual.  
Ordering Example: LP801-150, 152 mm (6") stroke linear potentiometer.