

# NON-CONTACT LINEAR DISPLACEMENT SENSORS

## 12, 18 AND 30 mm HOUSINGS

### LD701 Series

All models  
shown larger  
than actual size.

Starts at  
**\$225**



- ✓ 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 max

LD701-1/2, \$225.

LD701-2/5, \$245.

LD701-5/10, \$290.

**Repeatability:** 0.01 mm (0.0004")

**Compensated Temperature:** 0 to 60°C (32 to 140°F)

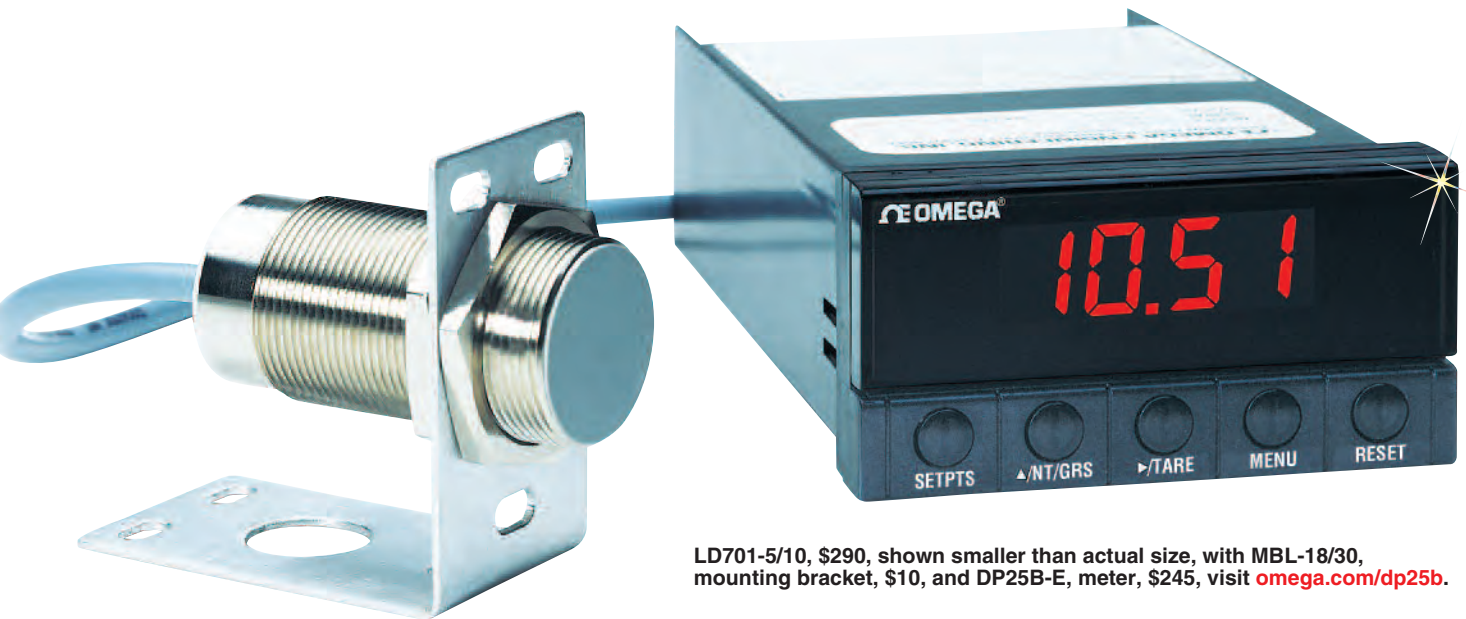
**Total Thermal Effects:** 1µm/°C/mm

**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, \$290, shown smaller than actual size, with MBL-18/30, mounting bracket, \$10, and DP25B-E, meter, \$245, visit [omega.com/dp25b](http://omega.com/dp25b).

Dimensions: mm (in)

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.

**AVAILABLE FOR FAST DELIVERY!**

## To Order (Specify Model Number)

MODEL	LD701-1/2	LD701-2/5	LD701-5/10
PRICE	\$225	\$245	\$290
RANGE mm (in)	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		

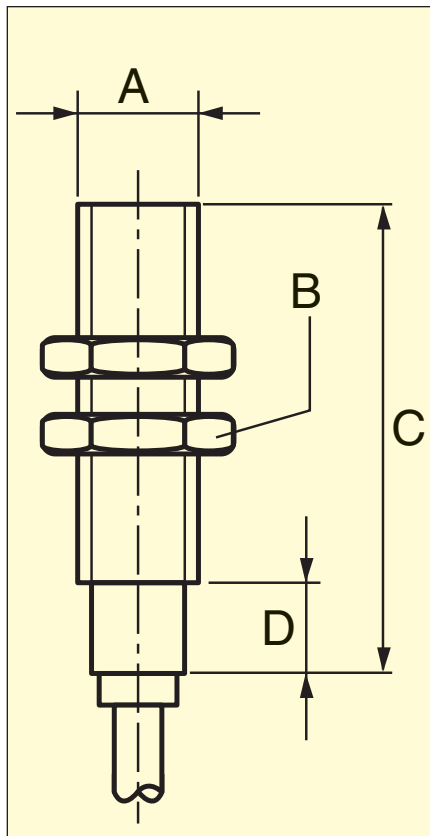
## ACCESSORIES

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

Comes complete with operator's manual.

\* See section D for compatible meters.

**Ordering Example:** LD701-1/2, non-contact displacement sensor with 1 to 2 mm (0.04 to 0.08") range, \$225.



Recommended Reference Book:  
Measurement Instrumentation and Sensors Handbook, **EE-2590, \$210**  
See Section Y For Additional Books





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