

MINIATURE DC DISPLACEMENT TRANSDUCERS WITH DELRIN® BEARINGS

LD400 Series

±1 to ±5 mm
(±0.04 to ±0.20")

Starts at
\$335



- ✓ High-Output Miniature Transducers
- ✓ Delrin® 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 Delrin® 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, \$370, shown larger than 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, previous page

CONNECTIONS

Electrical Connections:

Red: + Excitation

Blue: - Excitation

White: + Signal*

Green: - Signal

Yellow: No connection

*White and red in phase for positive inward displacement.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

MODEL NO.	STROKE	PRICE	SENSITIVITY	COMPATIBLE METERS*
LD400-1	±1.0 mm (0.06")	\$335	75 mV/V/mm	DP41-S, DP25B-S
LD400-2.5	±2.5 mm (0.10")	365	75 mV/V/mm	DP41-S, DP25B-S
LD400-5	±5.0 mm (0.20")	370	54 mV/V/mm	DP41-S, DP25B-S

* See section D for compatible meters.

Ordering Example: LD400-5, stroke of ±5 mm, \$370.

MINIATURE DC DISPLACEMENT TRANSDUCERS



DP25B-S, \$245, see section C for details.



DP41-S, \$545, see section D for details.

LD400-5, \$360, shown smaller than actual size.

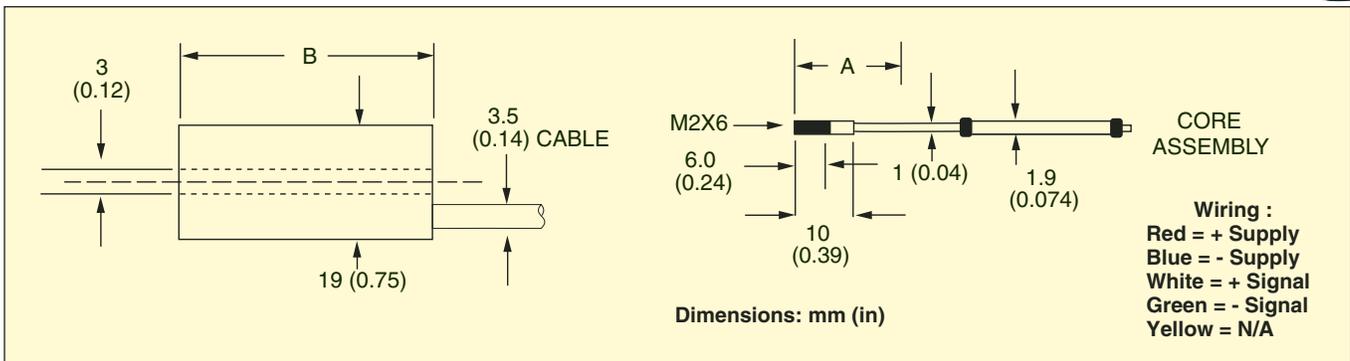
COMPATIBLE INSTRUMENTS

MODEL NO.	PRICE	DESCRIPTION
DP25B-S	\$245	Input meter (ratiometric voltage and current) with excitation
DP41-S	545	115 Vac powered strain gage indicator

Search omega.com for companion meters and transmitters.

ACCESSORY

MODEL NO.	PRICE	DESCRIPTION
CH-5667	\$110	Reference Book: Handbook of Mass Measurement



MODEL NO.	LINEAR STROKE mm (in)	DIMENSIONS*: mm (in)		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.

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