

# E Series – Economy Series AC LVDT



- Economical
- Stroke ranges from  $\pm 0.1$  to  $\pm 2$  inch
- AC operation, 50Hz to 10kHz
- Magnetically shielded case
- Available with imperial or metric core

## DESCRIPTION

The **E Series** of LVDTs is highly economical, satisfying numerous applications in which LVDT performance and reliability are desired, but where budgets are limited. With a linearity of just  $\pm 0.5\%$  of full range (E 2000,  $\pm 1.0\%$ ), the E Series is suitable for most applications with moderate operating temperature environments. Housed in magnetic stainless steel for protection against electromagnetic and electrostatic interference, the E Series rugged construction is capable of resisting the shock and vibration of most industrial applications.

Like in most of our LVDTs, the E Series windings are vacuum impregnated with a specially formulated, high temperature, flexible resin, and the coil assembly is potted inside its housing with a two-component epoxy. This provides excellent protection against hostile environments such as high humidity, vibration and shock.

Measurement Specialties, Inc. (NASDAQ MEAS) offers many other types of sensors and signal conditioners. Data sheets can be downloaded from our web site at: <http://www.meas-spec.com/datasheets.aspx>

MEAS acquired Schaevitz Sensors and the **Schaevitz™** trademark in 2000.

## FEATURES

- Customary LVDT performance
- AISI 400 Series stainless steel case
- Imperial or metric core

## APPLICATIONS

- General industrial
- Moderate operating temperature environments
- Cost sensitive applications

## PERFORMANCE SPECIFICATIONS

ELECTRICAL SPECIFICATIONS						
Parameter	E 100	E 200	E 300	E 500	E 1000	E 2000
Stroke range	$\pm 0.1$ [ $\pm 2.54$ ]	$\pm 0.2$ [ $\pm 5.08$ ]	$\pm 0.3$ [ $\pm 7.62$ ]	$\pm 0.5$ [ $\pm 12.7$ ]	$\pm 1$ [ $\pm 25.4$ ]	$\pm 2$ [ $\pm 50.8$ ]
Sensitivity, V/V/inch	2.40	1.57	1.20	0.68	0.76	0.46
Sensitivity, mV/V/mm	94.5	61.8	47.2	26.8	29.9	18.1
Output at stroke ends (*)	240mV/V	314mV/V	360mV/V	340mV/V	760mV/V	920mV/V
Non-linearity (maximum)	$\pm 0.5\%$ of FR	$\pm 0.5\%$ of FR	$\pm 0.5\%$ of FR	$\pm 0.5\%$ of FR	$\pm 0.5\%$ of FR	$\pm 1.0\%$ of FR
Phase shift	-3°	-5°	-8.5°	+6°	+4°	0°
Input impedance (PRI)	660 $\Omega$	970 $\Omega$	960 $\Omega$	408 $\Omega$	525 $\Omega$	585 $\Omega$
Output impedance (SEC)	960 $\Omega$	1010 $\Omega$	1005 $\Omega$	162 $\Omega$	690 $\Omega$	875 $\Omega$
Input voltage & frequency	3 VRMS @ 50Hz to 10kHz, sine wave					
Test input frequency	2.5kHz					
Null voltage (maximum)	1% of FRO					

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## ENVIRONMENTAL SPECIFICATIONS & MATERIALS

Operating temperature	-65°F to +200°F [-55°C to 95°C]
Shock survival	500 g (11ms half-sine)
Vibration tolerance	20 g up to 2kHz
Housing material	AISI 400 Series stainless steel
Electrical connection	Six lead-wires, 28 AWG, PTFE insulated, 1 foot [0.3m] long
IEC 60529 rating	IP61

**Notes:**

All values are nominal unless otherwise noted

Electrical specifications are for the test frequency indicated in the table

Dimensions are in inch [mm] unless otherwise noted

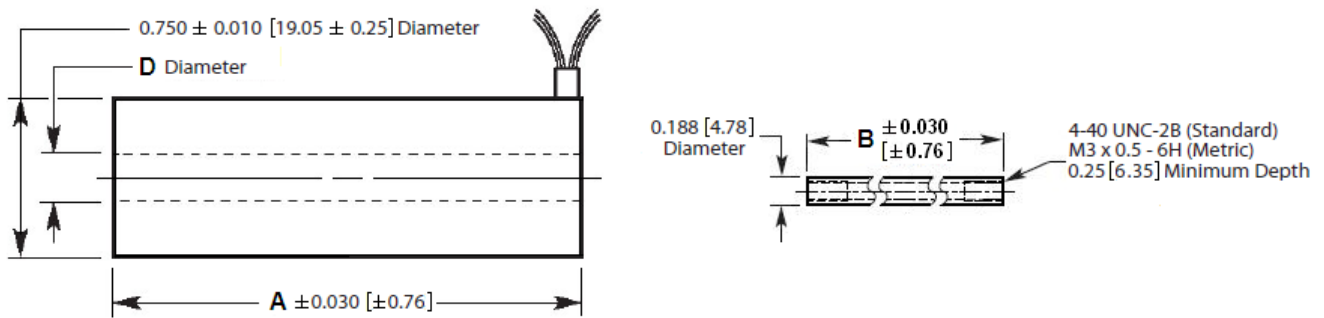
(\*): Unit for output at stroke ends is millivolt per volt of excitation (input voltage)

FR: Full Range is the stroke range, end to end; FR=2xS for ±S stroke range

FRO (Full Range Output): Algebraic difference in outputs measured at the ends of the range

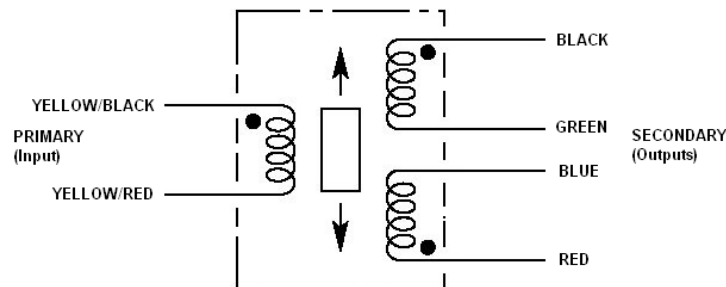
## MECHANICAL SPECIFICATIONS

Parameter	E 100	E 200	E 300	E 500	E 1000	E 2000
Body length "A"	1.75 [44.5]	2.25 [57.2]	2.77 [70.4]	4.56 [115.8]	7.05 [179.1]	10.57 [268.5]
Core length "B"	1.25 [31.8]	1.48 [37.6]	1.62 [41.2]	3.00 [76.2]	3.80 [96.5]	6.20 [157.5]
Bore diameter "D"	0.236 [6.00]	0.236 [6.00]	0.236 [6.00]	0.220 [5.59]	0.220 [5.59]	0.220 [5.59]
Body weight, oz [gram]	1.09 [31]	1.27 [36]	1.59 [45]	1.98 [56]	2.43 [69]	4.48 [127]
Core weight, oz [gram]	0.12 [3.4]	0.13 [3.8]	0.17 [4.8]	0.30 [8.4]	0.39 [11]	0.60 [17]



Dimensions are in inch [mm]

## WIRING INFORMATION



Connect Blue to Green for differential output

# E Series – Economy Series AC LVDT

## ORDERING INFORMATION

Description	Model	Part Number
±0.1 inch LVDT	E 100	02560541-000
±0.2 inch LVDT	E 200	02560542-000
±0.3 inch LVDT	E 300	02560543-000
±0.5 inch LVDT	E 500	02560544-000
±1 inch LVDT	E 1000	02560545-000
±2 inch LVDT	E 2000	02560546-000
Metric core option (M3x0.5-6H threads)	All	XXXXXXXX-006

ACCESSORIES	
Core connecting rod, 6 inches long, 4-40 threads	05282946-006
Core connecting rod, 12 inches long, 4-40 threads	05282946-012
Core connecting rod, 24 inches long, 4-40 threads	05282946-024
Core connecting rod, 36 inches long, 4-40 threads	05282946-036
Core connecting rod, 6 inches long, M3x0.5 metric threads	05282977-006
Core connecting rod, 12 inches long, M3x0.5 metric threads	05282977-012
Mounting block	04560950-000

Refer to our "[Accessories for LVDTs](#)" brochure for our LVDT signal conditioning instrumentation and other accessories

## TECHNICAL CONTACT INFORMATION

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