



## E SERIES

### Economy Series AC LVDT

#### SPECIFICATIONS

- ♦ 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

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.

#### 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                         |                          |                          |                          |                        |                        |

| 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

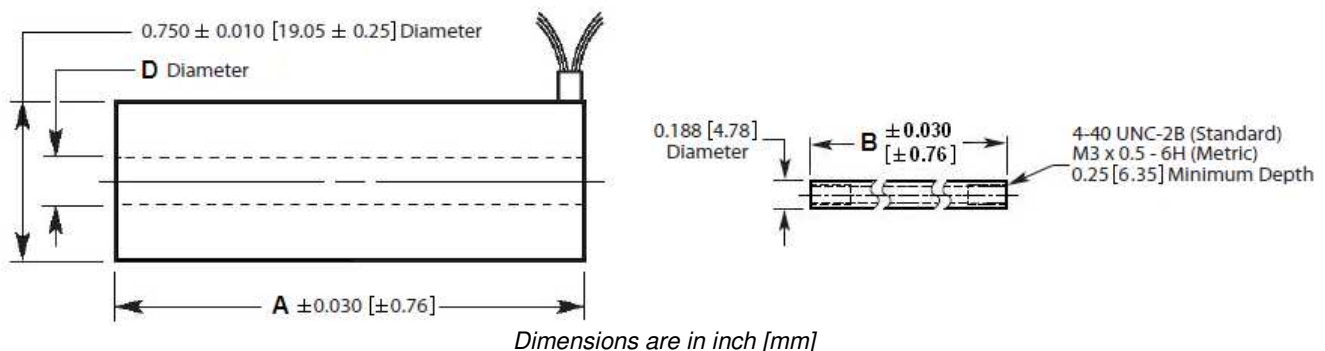
(\*): Unit for output at stroke ends is millivolt per volt of excitation (input voltage)

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

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

## MECHANICAL SPECIFICATIONS

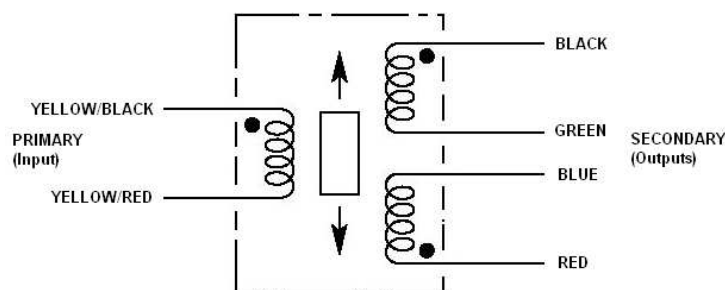
| Parameter              | E 100        | E 200        | E 300        | E 500        | E 1000       | E 2000        |
|------------------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Body length "A"        | 1.75 [44.5]  | 2.25 [57.2]  | 2.77 [70.4]  | 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]     |



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Economy Series AC LVDT

## WIRING INFORMATION



Connect Blue to Green for differential output

## 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 |

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