The NewTek R Series AC LVDTs satisfy numerous applications in which LVDT performance and reliability are required. These linear displacement sensors are available in ranges of ±0.50 inch (±1.27mm) to ±10 inches. Sensor construction consists of a coil assembly potted and mechanically swaged into a 3/4 inch (19mm) diameter housing with a separate moving core. The ¾ inch (6.35mm) diameter core allows a radial clearance of 1/16 inch (1.58mm) between the movable core and the bore of the coil assembly. The large core-to-bore radial clearance provides for ample installation misalignments. The R Series can be designed with a number of standard options including mild radiation resistance, teflon bore, metric threaded core and high temperature (400°F).

### Features
- Rugged 3/4 inch stainless steel housing
- Measurement ranges from ±0.05 to ±10 inches
- Linearity ±0.15% of Full Range Typical
- Shock and vibration tolerant
- Wide operating temperature range (-65°F to 275°F)
- Choice of imperial or metric threaded core
- Standard and custom models available

### Applications
- Factory Automation
- Food process control
- Materials testing
- Fluid level measurement

### Electrical Specifications
- **Input Voltage**: 3 Vrms (Nominal)
- **Input Frequency**: 400Hz to 10KHz
- **Linearity**: < ± 0.15% Full Range Typical
- **Extended Operating Range**: 1.5 X Linear Range
- **Null Voltage**: 0.5% Full Range
- **Hysteresis**: <0.01% of Full Range Typical
- **Repeatability**: <0.01% of Full Range Typical

### Environmental Specifications
- **Operating Temperature**: -65°F to 275°F (-55°C to 135°C)
- **Thermal Coefficient**: < -0.01%/°F (< -0.02%/°C) of Full Range
- **Humidity**: 90% R.H., 240 Hours
- **Shock Survival**: 1000 g, 11 ms
- **Vibration**: 20 g to 2 KHz

### Materials Specifications
- **Housing**: Corrosion-resistant nickel-iron alloy
- **Core**: Hi-permeability nickel-iron alloy
- **Coil Form**: Ceramic/Plastic
- **Magnet Wire**: Film insulated copper
- **Lead Wires**: # 28 AWG Teflon insulated, 12" long
**Specifications**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Nominal Range (Inches)</td>
<td>± 0.050</td>
<td>± 0.100</td>
<td>± 0.200</td>
<td>± 0.500</td>
<td>± 1.00</td>
<td>± 2.00</td>
<td>± 3.00</td>
<td>± 4.00</td>
<td>± 5.00</td>
<td>± 7.5</td>
<td>± 10.00</td>
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<tr>
<td>Nominal Range (mm)</td>
<td>± 1.25</td>
<td>± 2.5</td>
<td>± 5.0</td>
<td>± 12.5</td>
<td>± 25</td>
<td>± 50</td>
<td>± 75</td>
<td>± 100</td>
<td>± 125</td>
<td>± 190</td>
<td>± 250</td>
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<tr>
<td>Sensitivity (mV/V/.001 inch)</td>
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<td>6.7</td>
<td>7.0</td>
<td>0.70</td>
<td>0.72</td>
<td>0.40</td>
<td>0.20</td>
<td>0.15</td>
<td>0.19</td>
<td>0.09</td>
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<td>Primary Impedance (Ω)</td>
<td>264</td>
<td>168</td>
<td>100</td>
<td>28</td>
<td>29</td>
<td>16</td>
<td>12</td>
<td>8</td>
<td>6</td>
<td>7.6</td>
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<td>Dimension &quot;A&quot; (inches)</td>
<td>4.10</td>
<td>10.10</td>
<td>19.10</td>
<td>1410</td>
<td>1660</td>
<td>1885</td>
<td>1960</td>
<td>435</td>
<td>1060</td>
<td>1390</td>
<td>1060</td>
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<tr>
<td>Dimension &quot;B&quot; (inches)</td>
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<td>1.65</td>
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<td>3.45</td>
<td>3.45</td>
<td>5.30</td>
<td>6.20</td>
<td>6.20</td>
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<td>7.00</td>
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<td>Body Weight (grams)</td>
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<td>41</td>
<td>45</td>
<td>82</td>
<td>105</td>
<td>140</td>
<td>215</td>
<td>275</td>
<td>330</td>
<td>475</td>
<td>580</td>
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<tr>
<td>Core Weight (grams)</td>
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<td>20.2</td>
<td>20.2</td>
<td>35.0</td>
<td>41.8</td>
<td>41.8</td>
<td>41.8</td>
<td>43.0</td>
<td>63.0</td>
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</table>

**Dimensions and Wiring**

**Ordering Info**

**NT – R – 750 – XXX – XXX**

General Purpose LVDT Series

Range (See Table)

Options
- M : Metric threaded core
- S : Small diameter core
- R : Mild radiation resistant
- T : Teflon bore liner

**Notes**

- Electrical specifications measured at 3KHz excitation frequency.
- Additional options are available. Please consult factory for custom designs.
- Specifications subject to change.

**Warranty**

NewTek products are warranted against defective materials and workmanship for a period of one year from the date of delivery to the original purchaser. NewTek accepts no liability for damages in the misuse of our products.