The NewTek R-812 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 0.812 inch (20.6mm) diameter housing with a separate moving core. The ¼ 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-812 Series can be designed with a number of standard options including mild radiation resistance, teflon bore, metric threaded core and high temperature (400°F).

**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

**Features**

- Rugged 0.812 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
### Specifications

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<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>
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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>
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<td>Sensitivity (mV/V/.001 Inch)</td>
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<td>16</td>
<td>8</td>
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<td>1960</td>
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<td>Body Weight (grams)</td>
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<td>Core Weight (grams)</td>
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</table>

### Dimensions and Wiring

![Dimensions and Wiring Diagram]

**Ordering Info**

**NT – R – 812 – XXX – XXX**

General Purpose LVDT Series

Range (See Table)

Options
- H: 400°F Temperature
- R: Mild Radiation Hardened
- L: ± 0.1% Linearity
- M: Metric Threads
[none]: Standard Product

### 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.