Series 210-220
Long Stroke AC LVDTs
The Series 210-220 AC LVDTs offer precision linear displacement measurements for applications with strokes from 0.5 to 60 inches. The transducers have been designed with an extremely low temperature coefficient, and non-linearity of less than ±0.25% F.S. Variable pitch secondary windings are incorporated into the design with computer controlled winding machines to minimize package length to stroke ratio, and assure a uniform product.

KEY FEATURES
- Ranges from ±0.25” to 60”
- Stainless Steel Construction
- Non-linearity ≤ 0.25%
- High Sensitivity
- Low Temperature Coefficient
- Splashproof

TRANSDUCER SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>FULL STROKE ± Inches (mm)</th>
<th>MAX. USABLE STROKE ± Inches (mm)</th>
<th>BODY LENGTH, Lc, Inches (mm)</th>
<th>CORE P/N</th>
<th>CORE LENGTH, Lc, Inches (mm)</th>
<th>CORE MASS Grams</th>
<th>INPUT IMPEDANCE Ohms</th>
<th>DC INPUT IMPEDANCE Ohms</th>
<th>OUTPUT IMPEDANCE Ohms</th>
<th>PHASE ANGLE Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>0215-0000</td>
<td>0.25 (6.4)</td>
<td>0.65 (16.5)</td>
<td>2.50 (63.5)</td>
<td>0005-0100</td>
<td>1.00 (25.4)</td>
<td>5.1</td>
<td>255</td>
<td>22</td>
<td>265</td>
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<td>0216-0000</td>
<td>0.50 (12.7)</td>
<td>0.95 (24.1)</td>
<td>3.25 (82.6)</td>
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<td>1.00 (25.4)</td>
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<td>31</td>
<td>310</td>
<td>17</td>
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<td>1.00 (25.4)</td>
<td>1.45 (36.8)</td>
<td>4.50 (114.3)</td>
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<td>36</td>
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<tr>
<td>0218-0000</td>
<td>2.00 (50.8)</td>
<td>2.70 (68.9)</td>
<td>7.50 (190.5)</td>
<td>0005-0107</td>
<td>1.50 (38.1)</td>
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<td>40.00 (1016)</td>
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<td>50.00 (1270)</td>
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</table>

(SPECIFICATIONS AT REFERENCE FREQUENCY)

- Non-linearity: ±0.25% F.S (BEST FIT STRAIGHT LINE)
- Reference Frequency: Models 0215-0000 through 0226-0000, 7.0 kHz; Models 0223-0000 through 0226-0000, 3.0 kHz
- Sensitivity: 0.50 V/V ±10% at Full Scale
- Input Voltage: ±0.1 RMS, Max.
- Null Voltage: ±1.0% Excitation Voltage
- Temperature Coefficients: ±0.001% F.S/F Zero, ±0.01% Reading/F Span
- Operating Temperature Range: -67°F to +257°F (-55°C to +125°C)
- Storage Temperature Range: -67°F to +275°F (-55°C to +135°C)
- Outer Housing and Bore Liner: 300 Series Stainless Steel
- Core: Chrome Plated Iron/Nickel Alloy

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S012-0069 Revision 1
CORE EXTENSION RODS (Sold Separately)

The recommended core extension rods are made of nonmagnetic stainless steel and are sized to allow the transducers to operate over their full range. Extension rods from models with longer strokes may be used to facilitate installation. Using extension rods shorter than recommended may reduce the LVDT's usable measurement range.

DC-DC OPERATION WITH OPTIONAL OSCILLATOR/DEMODULATOR

To facilitate prototyping, or in instances where a DC in – DC out system is preferred, any of the standard, high temperature or vented Series 210-220 can be used in conjunction with the Series 1000 Oscillator/Demodulator. The DC system provides the same level of performance as a standalone AC LVDT. The high level DC output voltage can be directly interfaced with analog circuits as well as data acquisition cards, PLCs, or A/D converters. Each Oscillator/Demodulator can be customized to provide a zero-offset and nonstandard gain, meeting specific user requirements. Detailed connection information can be found in the Sales portion of the datasheet.
SERIES 210-220 MODIFIED FOR USE IN HIGH PRESSURE ENVIRONMENTS

The high pressure version of the Series 210-220 is suitable for operation in nonconductive and noncorrosive fluids or gasses at pressures up to 5000 P.S.I. The vented housing eliminates pressure differentials between the environment and the transducer’s interior, allowing rapid and extreme pressure changes without damage or degradation in performance.

NOTE: All electrical and physical specifications are the same as the standard Series 210-220 LVDTs.

SERIES 210-220 MODIFIED FOR USE IN HIGH TEMPERATURE ENVIRONMENTS

The high temperature version of the Series 210-220 has been designed to operate in temperatures from -67°F to +400°F. The LVDTs are identical electrically and mechanically to the standard Series 210-220 transducers, providing the same high level of performance and reliability. To achieve the elevated operating temperature, materials such as the epoxy, solder, and magnet wire have been replaced by their high temperature equivalents.

NOTE: All electrical and physical specifications are the same as the standard Series 210-220 LVDTs.

SALES OPTIONS

The following options are available with this series of transducer. The option must be specified at the time an order is placed.

For more detailed information about these options, please contact the factory.

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