Series LLU62X
Long Stroke LVDT Displacement Transducer, DC/DC with Isolated Output, Unguided Armature

Description
The Series LLU62X is a high performance long stroke DC powered LVDT displacement transducer with an unguided armature. It is identical to the LLU61X but operates from either +5Vdc regulated or +6 to 18Vdc unregulated supply and generates an output signal of ±2Vdc that is isolated from the input voltage. The unguided armature is loose fit in the bore of the LVDT and is attached to the moving part by a male thread. Precise alignment along the bore results in a frictionless movement. The Series LLU62X is ideal for mechanical vibration measurements. In addition, the armature can be separated from the body without disconnecting either part. The Series LLU62X displacement transducers can be used for both static and dynamic applications. These displacement transducers are ruggedly constructed of all stainless steel. All Series LLU62X displacement transducers are shipped with traceable calibration certificates.

Standard Features
- Stroke ranges from ±0.5 inches to ±8.0 inches
- Unguided Armature
- Frictionless Configuration (Zero Wear)
- DC/DC Isolated Voltage Output
- ±0.5% Linearity
- Output of ±2.2Vdc
- Encapsulated Integral Electronics
- All Stainless Steel Construction
- Traceable Calibration Certificate

Optional Features
- Improved Linearity (Some ranges)
- Cable Lengths
- Mounting Blocks

Performance

<table>
<thead>
<tr>
<th>Stroke Ranges</th>
<th>± 0.5 inches to ± 8.0 inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linearity</td>
<td>± 0.5% of full stroke max</td>
</tr>
<tr>
<td></td>
<td>± 0.25% or ± 0.1 options on some ranges</td>
</tr>
<tr>
<td>Output</td>
<td>± 2.2 Vdc Nominal (Isolated from Input Voltage)</td>
</tr>
</tbody>
</table>
### Dimensions (inches)

<table>
<thead>
<tr>
<th>Range</th>
<th>Linearity error (% F.S.)</th>
<th>L</th>
<th>X</th>
<th>Weight Total</th>
<th>Armature Weight</th>
<th>TF</th>
<th>Inward over-travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>±0.5&quot;</td>
<td>±0.5</td>
<td>6.9&quot;</td>
<td>1.7&quot;</td>
<td>8oz</td>
<td>0.6oz</td>
<td>0.6&quot;</td>
<td>0.63&quot;</td>
</tr>
<tr>
<td>±1&quot;</td>
<td>±0.5</td>
<td>8.0&quot;</td>
<td>2.7&quot;</td>
<td>10oz</td>
<td>0.8oz</td>
<td>0.6&quot;</td>
<td>0.87&quot;</td>
</tr>
<tr>
<td>±2&quot;</td>
<td>±0.5</td>
<td>12.5</td>
<td>3.2&quot;</td>
<td>13oz</td>
<td>1.3oz</td>
<td>0.6&quot;</td>
<td>0.63&quot;</td>
</tr>
<tr>
<td>±3&quot;</td>
<td>±0.5</td>
<td>16.9</td>
<td>4.7&quot;</td>
<td>1.1lb</td>
<td>1.9oz</td>
<td>0.6&quot;</td>
<td>1.14&quot;</td>
</tr>
<tr>
<td>±4&quot;</td>
<td>±0.5</td>
<td>18.7</td>
<td>5.2&quot;</td>
<td>1.4lb</td>
<td>2.5oz</td>
<td>0.6&quot;</td>
<td>0.63&quot;</td>
</tr>
<tr>
<td>±6&quot;</td>
<td>±0.5</td>
<td>26.2</td>
<td>7.2&quot;</td>
<td>3.5oz</td>
<td>1.2&quot;</td>
<td>1.2&quot;</td>
<td>1.06&quot;</td>
</tr>
<tr>
<td>±8&quot;</td>
<td>±0.5</td>
<td>33.7</td>
<td>10.2&quot;</td>
<td>2.8lb</td>
<td>4.9oz</td>
<td>1.2&quot;</td>
<td>1.06&quot;</td>
</tr>
</tbody>
</table>

#### Mechanical Characteristics

- **Case Material**: Stainless steel.
- **Armature Type**: Unguided.
- **Probe Thread**: M5 x 0.8.

#### Electrical Characteristics

- **Excitation / Supply**: 5 Vdc ±10% regulated. 6 to 18Vdc unregulated, 100 mA (typical).
- **Output Load (Minimum)**: 2K Ohms.
- **Output Ripple**: 30mV peak to peak.
- **Output Bandwidth**: 200 Hz (flat).
- **Output Impedence**: 2 Ohms.
- **Electrical Termination**: Polyurethane Shield Cable (6 ft.). Longer cable lengths (available option). Radial Exit.

#### Environmental Characteristics

- **Operating Temperature Range**: -60°F to +160°F
- **Temperature Effect on Zero**: ±0.006% F.S./°F (typical).
- **Temperature Effect on Span**: ±0.017% F.S./°F (typical).

#### Model Identification

**SERIES**

L L U 6 2 X

**ELECTRICAL TERMINATIONS**

Please specify termination required:

- X = 1 Axial Cable Exit (Optional)
- 2 Radial Cable Exit (Standard)
- 3 Axial Connector (Optional)
- 4 Radial Connector (Optional)

#### Connection Details

- **PHASING**: Output high prewired with respect to output low for outward stroke.

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**Modifications and Warranty**

**MODIFICATIONS**: We realize transducer applications vary greatly and as such our designs are flexible. Choice of pressure port, electrical termination, material compatibility and performance characteristics are a few of the many options available. Specifications on this datasheet represent the standard configuration only. Product and company names listed are trademarks of their respective companies. Specifications subject to change without notice.

**WARRANTY**: Stellar Technology warrants that its product shall be free from defective workmanship and/or material for a twelve month period from the date of shipment, provided that Stellar Technology’s obligation hereunder shall be limited to correcting any defective material FOB our factory. No allowance will be made for any expenses incurred for correcting any defective workmanship and/or material without written consent by Stellar Technology. This warranty is in lieu of all other warranties expressed or implied.

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**Stellar Technology**

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ISO 9001/AS9100

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