Description
The Series LPS60X LVDT’s are designed for precision displacement and position measurement for quality assurance applications in industrial environments. These displacement sensors are constructed of stainless steel, utilize a ball probe and have a spring guided armature supported with precision linear ball bearings which ensures excellent repeatability and overall performance. Series LPS60X LVDT’s are available covering measuring ranges from ± 0.02 inches to ±0.2 inches. All Series LPS60X displacement transducers are shipped with traceable calibration certificates.

Standard Features
• Displacements From ± 0.02 in. to ± 0.2 in.
• 0.25% Linearity
• AC Input/Output
• High Cycle Life
• Precision Linear Bearings
• Very High Accuracy
• Infinite Resolution
• Stainless Steel Construction
• Compact Size
• Polyurethane Insulated Cable (Resistant to oils and chemicals)

Optional Features
• Radial Cable Orientation
• Mounting Brackets
• Probe Tips
• Tungsten Carbide Probe Tip
• Electrical Connectors

Performance
<table>
<thead>
<tr>
<th>Excitation/Supply (acceptable)</th>
<th>0.5V to 7V rms, 2kHz to 10kHz (sinusoidal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitation/Supply (calibrated)</td>
<td>5V rms, 5kHz (sinusoidal)</td>
</tr>
<tr>
<td>Output Load</td>
<td>100k Ohms</td>
</tr>
<tr>
<td>Repeatability</td>
<td>0.000006” max.</td>
</tr>
<tr>
<td>Temperature Coefficient (zero)</td>
<td>±0.006% F.S./°F (typical)</td>
</tr>
<tr>
<td>Temperature Coefficient (span)</td>
<td>±0.006% F.S./°F (typical)</td>
</tr>
<tr>
<td>Operating Temperature range</td>
<td>-40°F to 212°F</td>
</tr>
<tr>
<td>Electrical Termination</td>
<td>6.6ft (integral cable)</td>
</tr>
</tbody>
</table>

Longer available to order.

Your Application-Solution Source™
Series LPS601
Specifications

Dimensions (inches)

0.31"

AXIAL CABLE

<table>
<thead>
<tr>
<th>Range</th>
<th>L&quot;</th>
<th>X&quot;</th>
<th>B&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>±0.02&quot;</td>
<td>1.0</td>
<td>0.29</td>
<td>0.2</td>
</tr>
<tr>
<td>±0.04&quot;</td>
<td>2.10</td>
<td>0.56</td>
<td>0.55</td>
</tr>
<tr>
<td>±0.1&quot;</td>
<td>2.26</td>
<td>0.80</td>
<td>0.71</td>
</tr>
<tr>
<td>±0.2&quot;</td>
<td>3.41</td>
<td>0.87</td>
<td>1.18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Range</th>
<th>Linearity Error (%F.S.)</th>
<th>Total Weight</th>
<th>Spring Force at X</th>
<th>Spring Rate</th>
<th>Inward Over-Travel</th>
<th>Outward Over-Travel</th>
<th>Sensitivity (Nom)</th>
</tr>
</thead>
<tbody>
<tr>
<td>±0.02&quot;</td>
<td>&lt;± 0.25</td>
<td>0.2 oz</td>
<td>3.4 oz</td>
<td>15.7oz/inch</td>
<td>0.01&quot;</td>
<td>0.01&quot;</td>
<td>110mV/V</td>
</tr>
<tr>
<td>±0.04&quot;</td>
<td>&lt;± 0.25</td>
<td>0.4 oz</td>
<td>3.0 oz</td>
<td>24.0oz/inch</td>
<td>0.05&quot;</td>
<td>0.01&quot;</td>
<td>150mV/V</td>
</tr>
<tr>
<td>±0.1&quot;</td>
<td>&lt;± 0.25</td>
<td>0.4 oz</td>
<td>4.1 oz</td>
<td>24.0oz/inch</td>
<td>0.03&quot;</td>
<td>0.01&quot;</td>
<td>375mV/V</td>
</tr>
<tr>
<td>±0.2&quot;</td>
<td>&lt;± 0.25</td>
<td>0.5 oz</td>
<td>5.4 oz</td>
<td>13.9oz/inch</td>
<td>0.05&quot;</td>
<td>0.01&quot;</td>
<td>700mV/V</td>
</tr>
</tbody>
</table>

Mechanical Characteristics

Stroke Ranges
± 0.02" to ± 0.2".

Non-Linearity (Max.)
± 0.25 FSO.

Output Sensitivity
See dimensions table (above).

Resolution
Infinite.

Case Material
Stainless steel.

Probe Material
Hardened Tungsten Carbide.

Armature Type
Spring.

Electrical Characteristics

Element Type
AC-AC LVDT.

Excitation Supply
0.5V to 7V rms, 2kHz to 10kHz, sinusoidal.
(Calibrated at 5V rms, 5kHz, sinusoidal).

Electrical Termination
6 ft. (integral cable)
(For connectors, consult factory)

Environmental Characteristics

Operating Temperature Range
-40°F to 212°F.

Temperature Effect on Zero
±0.006% F.S./°F (typical).

Temperature Effect on Span
±0.006% F.S./°F (typical).

MODEL IDENTIFICATION

LPS 60 X

Please specify termination required:
X = 1 Axial Cable Exit (Standard)
2 Radial Cable Exit (Optional)

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.
**Series LPS602**

**Specifications**

### Dimensions (inches)

<table>
<thead>
<tr>
<th>Range</th>
<th>L”</th>
<th>X”</th>
<th>B”</th>
</tr>
</thead>
<tbody>
<tr>
<td>±0.02”</td>
<td>1.3</td>
<td>0.29</td>
<td>0.2”</td>
</tr>
<tr>
<td>±0.04”</td>
<td>2.25</td>
<td>0.56</td>
<td>0.5</td>
</tr>
<tr>
<td>±0.1”</td>
<td>2.41</td>
<td>0.80</td>
<td>0.7</td>
</tr>
<tr>
<td>±0.2”</td>
<td>3.58</td>
<td>0.87</td>
<td>1.2</td>
</tr>
</tbody>
</table>

### RADIAL CABLE

#### Connection Details

![Connection Diagram]

### Mechanical Characteristics

- **Stroke Ranges**
  
  ± 0.02” to ± 0.2”.

- **Non-Linearity (Max.)**
  
  ± 0.25 FSO.

- **Output Sensitivity**
  
  See dimensions table (above).

- **Resolution**
  
  Infinite.

- **Case Material**
  
  Hardened Tungsten Carbide.

- **Probe Material**
  
  Stainless steel.

- **Armature Type**
  
  Spring.

### Electrical Characteristics

- **Element Type**
  
  AC-AC LVDT.

- **Excitation Supply**
  
  0.5V to 7V rms, 2kHz to 10kHz, sinusoidal. (Calibrated at 5V rms, 5kHz, sinusoidal).

- **Electrical Termination**
  
  6 ft. (integral cable) Longer available to order. (For connectors, consult factory)

### Environmental Characteristics

- **Operating Temperature Range**
  
  -40°F to 212°F.

- **Temperature Effect on Zero**
  
  ±0.006% F.S./°F (typical).

- **Temperature Effect on Span**
  
  ±0.006% F.S./°F (typical).

### MODELS

**SERIES L P S 6 0 X**

**ELECTRICAL TERMINATIONS**

Please specify termination required:

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

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**ISO 9001/AS9100**

**Sensing**

Stellar Technology

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**CE**