Series LPA601
Precision Gaging LVDT Displacement Transducer, AC/AC, Air Push Armature

Description
The Series LPA601 displacement transducer is designed for precision displacement and position measurements where the LVDT’s armature tip must be retracted to allow components to move. This is accomplished by using air to both push the armature to its extended position and then retract it as required. The armature is supported with precision linear ball bearings which ensures excellent repeatability and overall performance. This series of displacement sensors can be adapted to many quality assurance applications in industrial environments. They are constructed of stainless steel and have a non-rotational armature with ball tip. This position sensor requires separate signal conditioning and provides optimum performance when powered with between 0.5 V and 7V at 5KHz. The compact size of the LPA601 series makes it ideal for applications requiring limited space. All Series LPA601 displacement transducers are shipped with traceable calibration certificates.

Standard Features
- Stroke ranges from ±0.04 inches to ±0.20 inches
- Air Push Armature
- ±0.25% Linearity
- Precision Linear Ball Bearings
- AC power
- Broad Temperature Range
- All Stainless Steel Construction
- Traceable Calibration Certificate

Optional Features
- 0.1% Linearity
- Expanded Operating Temperature Range
- Special Cable Lengths
- Mounting Blocks
- Alternative Probe Tips

Performance

| Stroke Ranges | ± 0.04 inches to ± 0.2 inches |
| Linearity | ± 0.25% ± 0.1 of full stroke max |
| Output (Full scale rms) | (0.8 to 3.7) Volts/Volt (dependent on stroke) |

Your Application-Solution Source℠
Series LPA601
Specifications

Baseline Configuration Specs Represented.
Modifications Encouraged - See Below
Custom Designs Available

Dimensions (inches)

<table>
<thead>
<tr>
<th>Range</th>
<th>L&quot;</th>
<th>X&quot;</th>
<th>B&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>±0.04&quot;</td>
<td>2.8</td>
<td>1.02</td>
<td>0.6</td>
</tr>
<tr>
<td>±0.1&quot;</td>
<td>3.0</td>
<td>0.79</td>
<td>0.7</td>
</tr>
<tr>
<td>±0.2&quot;</td>
<td>4.4</td>
<td>0.87</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Linearity Error Total Air Pressure Inward Outward Sensitivity

<table>
<thead>
<tr>
<th>Range</th>
<th>Total Weight</th>
<th>Air Pressure Minimum</th>
<th>Air Pressure Maximum</th>
<th>Inward Over-Travel</th>
<th>Outward Over-Travel</th>
<th>Sensitivity (Nom)</th>
</tr>
</thead>
<tbody>
<tr>
<td>±0.04&quot;</td>
<td>0.4oz</td>
<td>6psi</td>
<td>9psi</td>
<td>0.06&quot;</td>
<td>0.01&quot;</td>
<td>150mV/V</td>
</tr>
<tr>
<td>±0.1&quot;</td>
<td>0.5oz</td>
<td>7psi</td>
<td>9psi</td>
<td>0.03&quot;</td>
<td>0.01&quot;</td>
<td>375mV/V</td>
</tr>
<tr>
<td>±0.2&quot;</td>
<td>0.6oz</td>
<td>7psi</td>
<td>8psi</td>
<td>0.05&quot;</td>
<td>0.01&quot;</td>
<td>700mV/V</td>
</tr>
</tbody>
</table>

Mechanical Characteristics

Resolution
Infinite.

Repeatability
0.000006 inches.

Residual Null Output
0.1% of full stroke output.

Case Material
Stainless Steel.

Armature Type
Air-push with linear ball bearings.

Probe End
Ball end.

Probe Material
Hardened Tungsten Carbide.

Air filter
≤ 0.00002 inches.

Relative humidity
≤ 60%.

Air pressure
Minimum 6 psi to Maximum 9 psi.

Electrical Characteristics

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

Electrical Termination
High Quality Polyurethene Shield Cable (6 ft.) (Optional cable lengths available).

Phase Shift
10° (Typical).

Output Load (Optimum)
100K Ohms.

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

L P A 6 0 1

SERIES
ELECTRICAL TERMINATIONS

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

Due to the nature of technology, changes are inevitable. For latest technical specifications, see our website.

ISO 9001/AS9100

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