

# Series LPS60X

Precision Gaging LVDT Displacement Transducer,  
AC/AC, Spring Armature



## 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  $\pm 0.02$  inches to  $\pm 0.2$  inches. All Series LPS60X displacement transducers are shipped with traceable calibration certificates.

## Standard Features

- Displacements From  $\pm 0.02$  in. to  $\pm 0.2$  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

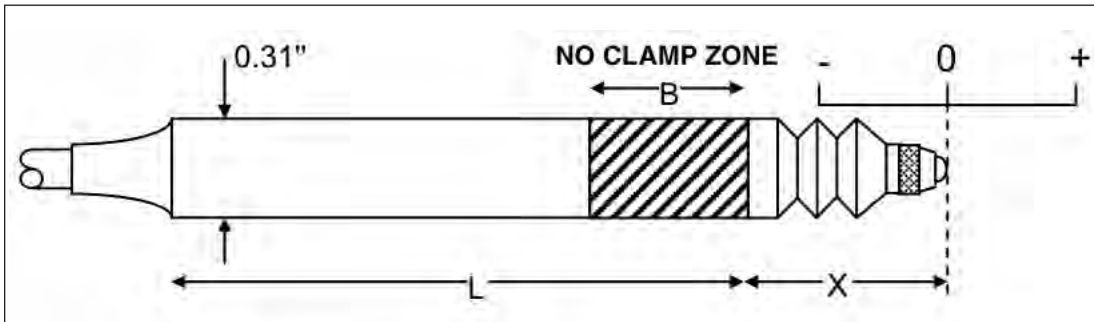
<b>Excitation/Supply (acceptable)</b>	0.5V to 7V rms, 2kHz to 10kHz (sinusoidal)
<b>Excitation/Supply (calibrated)</b>	5V rms, 5kHz (sinusoidal)
<b>Output Load</b>	100k Ohms
<b>Repeatability</b>	0.000006" max.
<b>Temperature Coefficient (zero)</b>	$\pm 0.006\%$ F.S./ $^{\circ}$ F (typical)
<b>Temperature Coefficient (span)</b>	$\pm 0.006\%$ F.S./ $^{\circ}$ F (typical)
<b>Operating Temperature range</b>	-40 $^{\circ}$ F to 212 $^{\circ}$ F
<b>Electrical Termination</b>	6.6ft (integral cable) <i>Longer available to order.</i>

LPS60X

# Series LPS601 Specifications

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

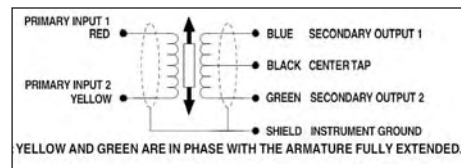
## Dimensions (inches)



### AXIAL CABLE

Range	L"	X"	B"
±0.02"	1.0	0.29	0.2'
±0.04"	2.10	0.56	0.55
±0.1"	2.26	0.80	0.71
±0.2"	3.41	0.87	1.18

### Connection Details



Range	Linearity Error (%F.S.)	Total Weight	Spring Force at X	Spring Rate	Inward Over-Travel	Outward Over-Travel	Sensitivity (Nom)
±0.02"	≤± 0.25	0.2 oz	3.4oz	15.7oz/inch	0.01"	0.01"	110mV/V
±0.04"	≤± 0.25	0.4 oz	3.0oz	24.2oz/inch	0.05"	0.01"	150mV/V
±0.1"	≤± 0.25	0.4 oz	4.1oz	24.2oz/inch	0.03"	0.01"	375mV/V
±0.2"	≤± 0.25	0.5 oz	5.4oz	13.9oz/inch	0.05"	0.01"	700mV/V

## 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)  
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).

## MODEL IDENTIFICATION

**L P S 6 0 X**

SERIES

ELECTRICAL TERMINATIONS

Please specify termination required:

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



MODIFICATIONS: We realize LVDT applications vary greatly and as such our designs are flexible. Choice of 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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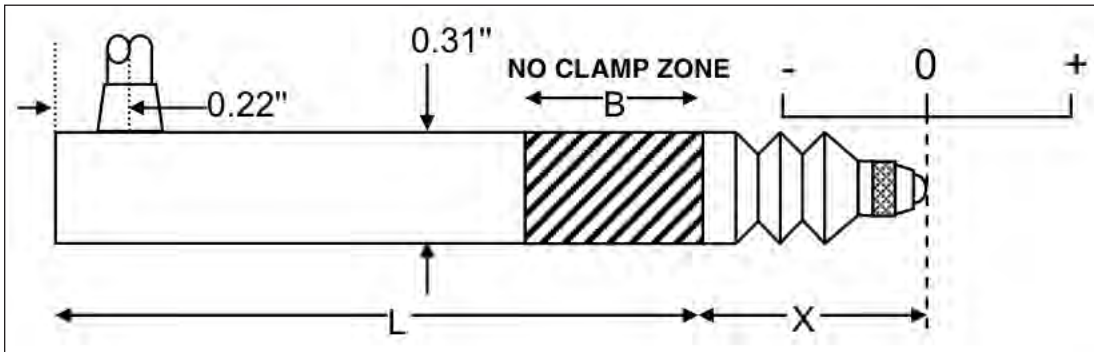
ISO 9001:2000



# Series LPS602 Specifications

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

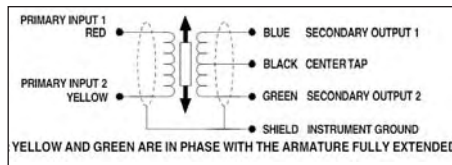
## Dimensions (inches)



## RADIAL CABLE

Range	L"	X"	B"
±0.02"	1.3	0.29	0.2"
±0.04"	2.25	0.56	0.5
±0.1"	2.41	0.80	0.7
±0.2"	3.58	0.87	1.2

## Connection Details



Range	Linearity Error (%F.S.)	Total Weight	Spring Force at X	Spring Rate	Inward Over-Travel	Outward Over-Travel	Sensitivity (Nom)
±0.02"	<± 0.25	0.2oz	3.4oz	15.7oz/inch	0.01"	0.01"	110mV/V
±0.04"	<± 0.25	0.4oz	3.0oz	24.2oz/inch	0.05"	0.01"	150mV/V
±0.1"	<± 0.25	0.6oz	4.1oz	24.2oz/inch	0.03"	0.01"	375mV/V
±0.2"	<± 0.25	0.7oz	5.4oz	13.9oz/inch	0.05"	0.01"	700mV/V

## 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).

## MODEL IDENTIFICATION

**L P S 6 0 X**

SERIES

ELECTRICAL TERMINATIONS

Please specify termination required:

X = 1 Axial Cable Exit (Optional)

2 Radial Cable Exit (Standard)



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