



# 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  $\pm 2$ Vdc 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.

## Performance

### Stroke Ranges

$\pm 0.5$  inches to  $\pm 8.0$  inches

### Linearity

$\pm 0.5\%$  of full stroke max

$\pm 0.25\%$  or  $\pm 0.1$  options on some ranges

### Output

$\pm 2.2$  Vdc Nominal

(Isolated from Input Voltage)

## Standard Features

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

## Optional Features

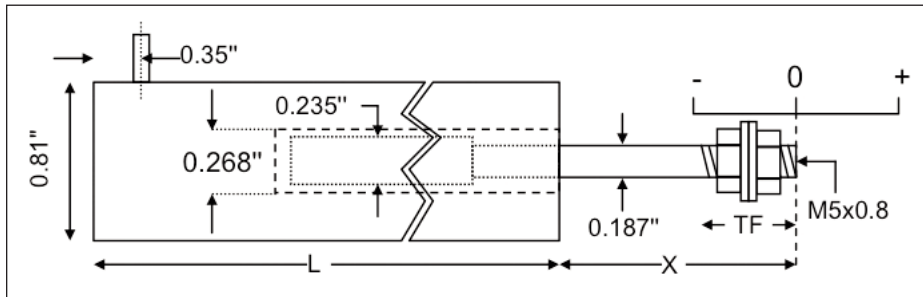
- Improved Linearity (Some ranges)
- Cable Lengths
- Mounting Blocks

# Series LLU62X

## Specifications

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

### Dimensions (inches)



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

### 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 Impedance

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

**L L U 6 2 X**

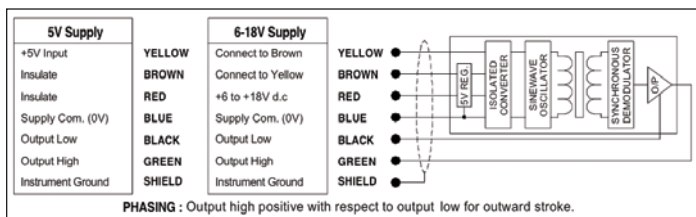
SERIES

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



### 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.



ISO 9001/AS9100

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

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