

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 ± 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.

Standard Features

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

Optional Features

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

Performance

Stroke Ranges

± 0.5 inches to ± 8.0 inches

Linearity

$\pm 0.5\%$ of full stroke max
 $\pm 0.25\%$ or ± 0.1 options on some ranges

Output

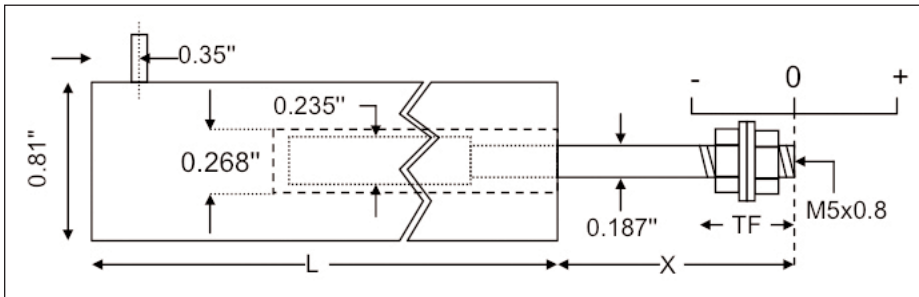
± 2.2 Vdc Nominal
(Isolated from Input Voltage)

LLU62X

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

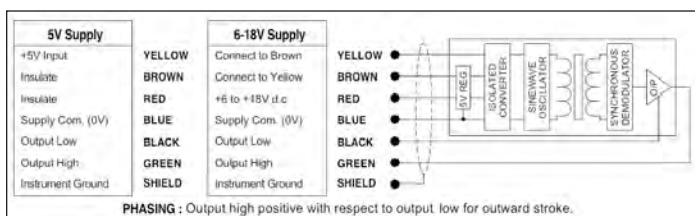
SERIES

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

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