

# Series LLU65X

Long Stroke LVDT Displacement Transducer, 4-20 mA Output,  
Unguided Armature



## Description

The Series LLU65X is a high performance long stroke DC powered LVDT displacement transducer with a free unguided armature. These units have built-in LVDT electronics which allows for a DC supply of 12 to 36Vdc and a 4-20 mA current output. The unguided armature is loose fit in the bore of the LVDT body and is attached to the moving part by a males thread. Precise alignment along the bore produces a frictionless movement. The Series LLU65X is suited for mechanical vibration measurements. The armature can be separated from the body without disconnecting either part. These LVDT's have stroke ranges from  $\pm 0.5$  inches to  $\pm 8$  inches. The Series LLU65X displacement transducers can be used for both static and dynamic applications. These displacement transducers are ruggedly constructed of all stainless steel. All Series LLU65X displacement transducers are shipped with traceable calibration certificates.

## Standard Features

- Stroke ranges from  $\pm 0.5$  inches to  $\pm 8$  inches
- 4-20 mA Current Output
- Free Unguided Armature
- DC/DC
- $\pm 0.5\%$  Linearity
- Encapsulated Integral Electronics
- All Stainless Steel Construction
- Traceable Calibration Certificate

## Optional Features

- Improved Linearity
- Self Aligning Rod-End Bearings
- Mounting Blocks

## 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 Voltage

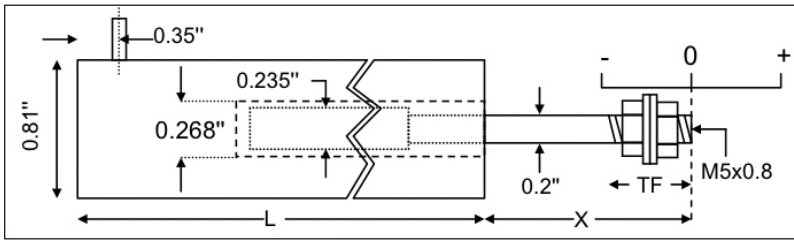
4-20 mA current

LLU65X

# Series LLU65X 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.

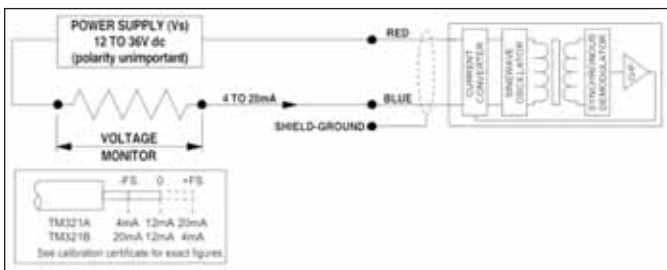
**Probe Thread**  
M5 x 0.8.

## Set-ups

Please Specify Set-up Required:

	(-)	(0)	(+)
Set-ups Position			
1	4mA	12mA	20mA
2	20mA	12mA	4mA

## Connection Details



## Electrical Characteristics

**Supply Voltage**  
12 Vdc to 36 Vdc.

**Max Loop Resistance**  
(Supply Voltage - 11) x 50 Ohms.

**Output Ripple**  
50 µA (peak-to-peak).

**Electrical Output Bandwidth**  
200 Hz.

**Electrical Termination**  
6 ft. Polyurethane Shielded Cable  
(Radial Exit).

## Environmental Characteristics

**Operating Temperature Range**  
+14°F to +160°F.

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

**Temperature Effect on Span**  
±0.017%/°F (typical).

## MODEL IDENTIFICATION

**L L U 6 5 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)

## 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.

**LORD SENSING**  
Stellar Technology

ISO 9001/AS9100

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

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