



# Series LLC61X

Long Stroke LVDT Displacement Transducer, DC/DC,  
Captive Guide Armature



## Description

The Series LLC61X is a high performance long stroke DC powered LVDT displacement transducer with a captive guided armature. The armature is captured in the LVDT housing and is guided by a low-friction bearing assembly. These LVDT's have a total stroke range of 1 to 37 inches. The Series LLC61X displacement transducers can be used for both static and dynamic applications. This position sensor operates from unregulated power supplies of +24Vdc to +40Vdc or dual  $\pm 12$ Vdc to  $\pm 20$ Vdc and generates either a  $\pm 5$ Vdc or 0-10Vdc. The compact size of the LLC61X series makes it ideal for applications requiring limited space. These displacement transducers are ruggedly constructed of all stainless steel. All Series LLC61X displacement transducers are shipped with traceable calibration certificates.

## Performance

### Stroke Ranges

$\pm 0.5$  inches to  $\pm 18.5$  inches

### Linearity

$\pm 0.5\%$  of full stroke max

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

### Output Voltage

$\pm 5$ Vdc or 0-10Vdc

## Standard Features

- Stroke ranges from  $\pm 0.5$  inches to  $\pm 18.5$  inches
- Captive Armature
- Low Friction Bearing Assembly
- DC/DC
- $\pm 0.5\%$  Linearity
- $\pm 5$ Vdc or 0-10Vdc
- Encapsulated Integral Electronics
- All Stainless Steel Construction
- Traceable Calibration Certificate

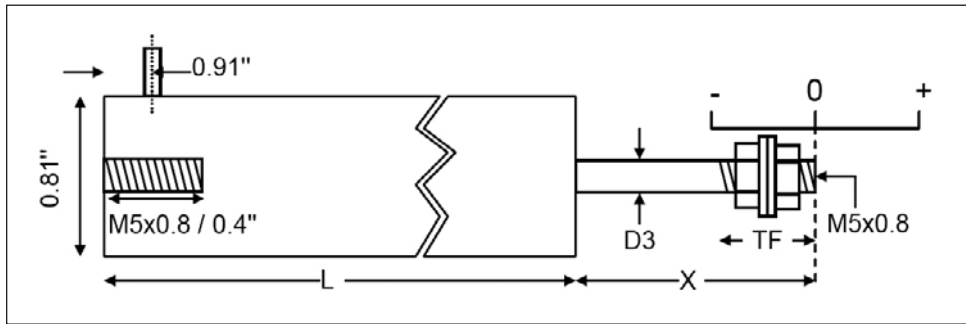
## Optional Features

- Improved Linearity
- Self Aligning Rod-End Bearings
- Sealing Against Moisture Ingress
- Mounting Blocks

# Series LLC61X Specifications

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

## Dimensions (inches)



Range	Linearity error (% F.S.)	L	X	D3	Total Weight	TF	Inward over-travel	Outward over-travel
±0.5"	≤± 0.5	7.6"	1.5"	0.187"	12oz	0.6"	0.39"	0.47"
±1"	≤± 0.5	8.7"	2.5"	0.187"	14oz	0.6"	0.51"	0.39"
±2"	≤± 0.5	13.2"	3.0"	0.187"	1.1lb	0.6"	0.39"	0.55"
±3"	≤± 0.5	17.6"	4.5"	0.187"	1.4lb	0.6"	0.94"	0.6"
±4"	≤± 0.5	19.4"	5.0"	0.187"	1.7lb	0.6"	0.31"	0.6"
±6"	≤± 0.5	26.9"	7.0"	0.187"	2.3lb	0.6"	0.47"	0.67"
±8"	≤± 0.5	34.4"	10.0"	0.187"	3.2lb	1.3"	0.87"	0.98"
±10"	≤± 0.5	42.0"	12.0"	0.187"	3.7lb	1.1"	1.34"	1.38"
±15"	≤± 0.5	58.0"	16.0"	0.187"	4.9lb	0.8"	0.51"	0.51"
±18.5"	≤± 0.5	68.5"	20.0"	0.236"	5.8lb	1.1"	0.20"	1.30"

## Mechanical Characteristics

### Resolution

Infinite.

### Case Material

Stainless steel.

### Armature Type

Captive Guided.

### Probe Thread

M5 x 0.8.

## Set-ups

Please Specify Set-up Required:

	(-)	(0)	(+)
<b>Standard</b>			
1	0V	5V	10V(+0%-5%)
2	-5V(+0%-5%)	0V	+5V(+0%-5%)
<b>Optional</b>			
3	10V(+0%-5%)	5V	0V
4	+5V(+0%-5%)	0V	-5V(+0%-5%)

## Electrical Characteristics

### Excitation Supply (dual)

± 12 to ± 20Vdc, 30 mA.

### Excitation Supply (single)

24 to 40Vdc, 30 mA.

### Change in Output for Change in Supply

5 mV/V (typical).

### Output Load

10K Ohms.

### Output Ripple

30mV peak to peak (typical).

### Electrical Output Bandwidth

200 Hz.

### Output Impedance

2 Ohms.

### Electrical Termination

Polyurethane Shield Cable (6 ft.).

Additional Cable Lengths (available option).

Radial Exit.

## Environmental Characteristics

### Operating Temperature Range

-60°F to +180°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 C 6 1 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.



ISO 9001/AS9100

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

237 Commerce Drive • Amherst, NY 14228 • USA

Tel: 716.250.1900 • Fax: 716.250.1909

Web: stellartech.com • Email: info@stellartech.com

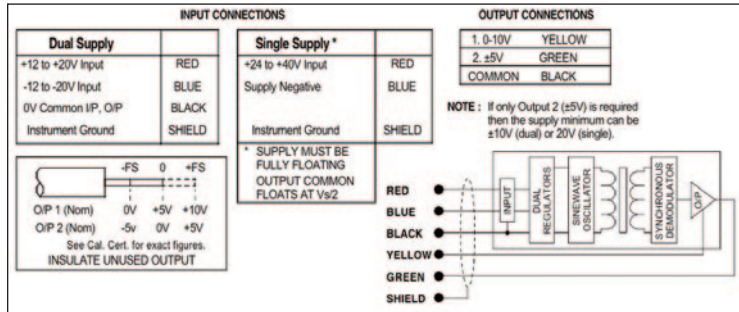
Copyright © 2015 STI • All Rights Reserved  
Datasheet P/N: 233631C DCN 13525

# Series LLC61X Specifications

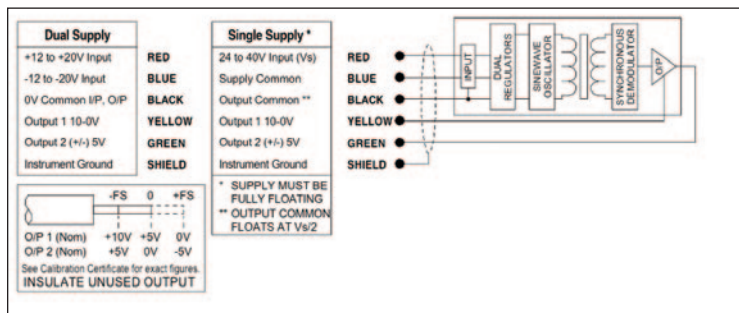
Baseline Configuration Specs Represented.  
Modifications Encouraged - See Below  
Custom Designs Available

## Connection Details

### Standard



### 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.



ISO 9001/AS9100

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

237 Commerce Drive • Amherst, NY 14228 • USA

Tel: 716.250.1900 • Fax: 716.250.1909

Web: stellartech.com • Email: info@stellartech.com

Copyright © 2015 STI • All Rights Reserved  
Datasheet P/N: 233631C DCN 13525