

Series LLS61X

Long Stroke LVDT Displacement Transducer, DC,
Spring Armature



Description

The Series LLS61X is a high performance long stroke DC powered LVDT displacement transducer with a spring return armature. The armature is restrained and guided by a very low friction bearing assembly. An internal spring automatically positions the armature to its full extension. This unique design is used for applications where it is not possible to connect the transducer armature to the moving part being measured. This position sensor operates from unregulated power supplies of +20Vdc to +40Vdc or dual ± 10 Vdc to ± 20 Vdc and generates either a ± 5 Vdc or 0-10Vdc. The compact size of the LLS61X series makes it ideal for applications requiring limited space. These displacement transducers are ruggedly constructed of all stainless steel. All Series LLS61X displacement transducers are shipped with traceable calibration certificates.

Standard Features

- Stroke ranges from ± 0.1 inches to ± 3.0 inches
- Spring Return Armature
- Low Friction Bearing Assembly
- DC/DC
- $\pm 0.5\%$ Linearity
- ± 5 Vdc or 0-10Vdc Output
- Encapsulated Integral Electronics
- All Stainless Steel Construction
- Traceable Calibration Certificate

Optional Features

- Improved Linearity
- Expanded Operating Temperature Range
- Sealing Against Moisture Ingress
- Mounting Blocks

Performance

Stroke Ranges

± 0.1 inches to ± 3.0 inches

Linearity

$\pm 0.5\%$ of full stroke max

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

Output Voltage

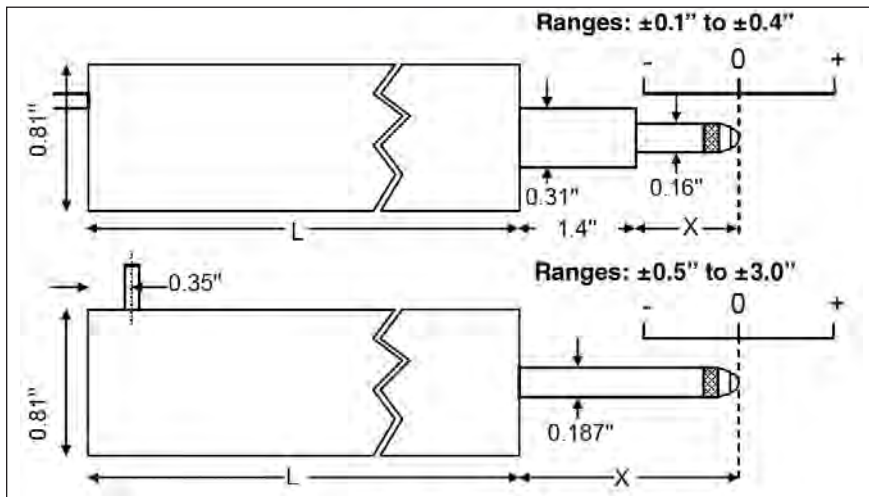
± 5 Vdc or 0-10Vdc

LLS61X

Series LLS61X Specifications

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

Dimensions (inches)



Range	Linearity error (% F.S.)	L	X	Total Weight	Spring Force at X	Spring Rate	Inward over-travel	Outward over-travel
±0.1"	<± 0.5	2.5"	0.5"	2.9oz	4oz.	8.5oz/inch	0.09"	0.05"
±0.2"	<± 0.5	2.5"	0.5"	2.9oz	4oz.	7.1oz/inch	0.01"	0.05"
±0.3"	<± 0.5	2.5"	0.7"	2.9oz	5oz.	5.8oz/inch	0.06"	0.05"
±0.4"	<± 0.5	2.5"	0.9"	2.9oz	6oz.	7.2oz/inch	0.05"	0.05"
±0.5"	<± 0.5	7.2"	1.5"	8oz	4.6oz	2.0oz/inch	0.04"	0.51"
±1"	<± 0.5	8.3"	2.5"	10oz	7.2oz	3.0oz/inch	0.12"	0.39"
±2"	<± 0.5	12.8"	3.0"	14oz	6oz	1.8oz/inch	0.31"	0.55"
±3"	<± 0.5	17.2"	4.5"	1.1lb	1lbs	3.2oz/inch	0.59"	0.59"

Mechanical Characteristics

Resolution

Infinite.

Case Material

Stainless steel.

Armature Type

Spring Return.

Probe

Ball end (standard).

Optional probes available.

Set-ups

Please Specify Set-up Required:

	(-)	(0)	(+)
Set-ups Position			
Standard			
1	0V	5V	10V(+0%-5%)
2	-5V(+0%-5%)	0V	+5V(+0%-5%)
Optional			
3	10V(+0%-5%)	5V	0V
4	+5V(+0%-5%)	0V	-5V(+0%-5%)

Electrical Characteristics

Input Supply

± 10Vdc to ± 20Vdc unregulated
(H ±12 Vdc to ± 20 Vdc).

-or-

+ 20Vdc to + 40Vdc unregulated at 30 mA
(H + 24 Vdc to + 40Vdc).

Input Voltage (Factory Calibrated)

±15Vdc (with 6 ft. of cable).

Output Load (Minimum)

2K Ohms.

Output Ripple

30mV peak to peak.

Output Bandwidth

200 Hz (flat).

Output Impedance

2 Ohms.

Electrical Termination

High Quality Polyurethane Shield Cable
(6 ft.).

Environmental Characteristics

Operating Temperature Range

-60°F to +180°F

Temperature Effect on Zero

±0.006%/°F.

Temperature Effect on Span

±0.017%/°F.

MODEL IDENTIFICATION

L L S 6 1 X

SERIES

ELECTRICAL TERMINATIONS

Please specify termination required:

- X = 1 Axial Cable Exit (Standard - ±0.1 tp ±0.4)
- 2 Radial Cable Exit (Standard - ±0.5 to ±3.0)
- 3 Axial Connector (Optional)
- 4 Radial Connector (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.

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

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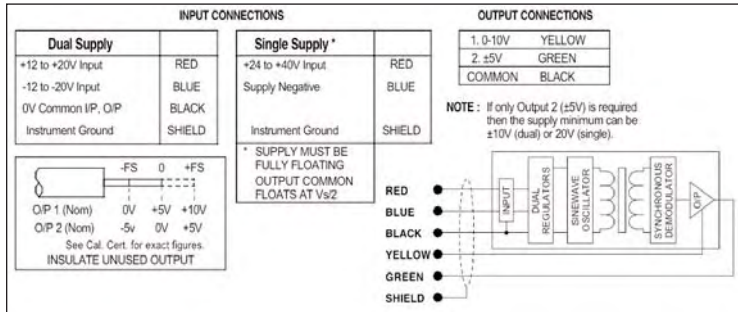


Series LLS61X Specifications

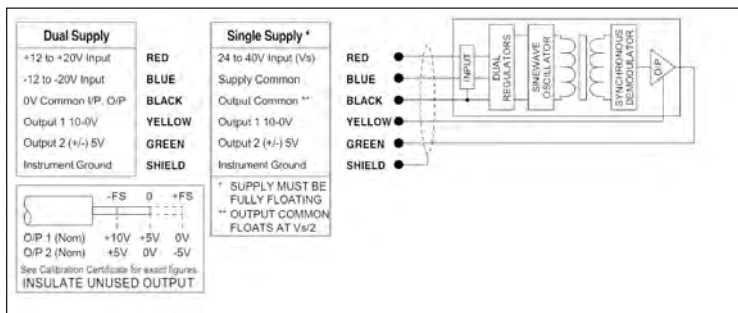
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Connection Details

Standard



Optional



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