

Series LYS60X

Submersible, Long Stroke LVDT Displacement Transducer,
AC/AC, Spring Armature



Description

The Series LYS60X submersible long stroke LVDT is designed specifically for applications requiring displacement measurements while submerged in fresh water or most other non-corrosive liquids and gases for prolonged periods. Pressure ratings range from 145 psi to 3000 psi. The LYS60X has an internal spring return armature that fully extends the length of the armature. These units have low-friction, ball-ended probes designed to withstand side loads that can occur in many submersible applications. This design is used where it is not possible to connect the transducer armature to the moving part being measured. These LVDT's have stroke ranges from ± 0.5 inches to ± 3 inches. The LYS60X displacement transducers are ruggedly constructed of all stainless steel and are able to withstand harsh underwater environments as encountered in mining, upstream oilfield, geophysical, and industrial processes. This position sensor requires separate signal conditioning and provides optimum performance when powered with between 0.5V and 7V at 5KHz. All Series LYS60X displacement transducers are shipped with traceable calibration certificates.

Standard Features

- Stroke ranges from ± 0.5 inches to ± 3 inches
- Submersible
- AC/AC
- Pressure Ratings of 145 psi to 3000 psi
- Spring Return Armature
- Low Friction Bearing Assembly
- $\pm 0.5\%$ Linearity
- Infinite Resolution
- All Stainless Steel Construction
- Traceable Calibration Certificate

Optional Features

- Improved Linearity
- Cable and Connector Exits
- Mounting Blocks

Performance

Stroke Ranges

± 0.5 inches to ± 3 inches

Linearity

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

Output (Full scale rms)

(0.8 to 3.7) Volts/Volt (dependent on stroke) (Refer to dimension table)

Resolution

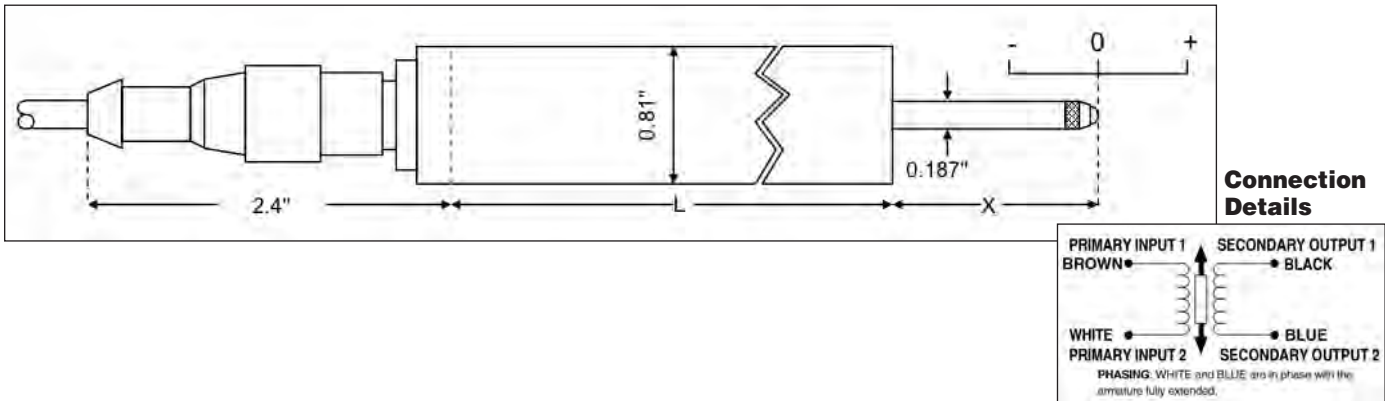
Infinite

LYS60X

Series LYS60X 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	Sensitivity (nom)
±0.5"	<± 0.5	6.0"	1.5"	8oz	4.4oz	2.0oz/inch	0.24"	1.1"	0.7V/V
±1"	<± 0.5	7.1"	2.5"	9oz	7.0oz	2.3oz/inch	0.2"	1.0"	0.9V/V
±2"	<± 0.5	12.0"	3.0"	15oz	15oz	3.6oz/inch	0.2"	1.1"	1.5V/V
±3"	<± 0.5	16.5"	4.5"	1lb	1lbs	3.2oz/inch	1"	1"	1.5V/V

Mechanical Characteristics

Case Material

Stainless steel.

Armature Type

Spring Return.

Probe Thread

Ball end (standard).

Optional probe ends available.

Electrical Characteristics

Excitation Supply

0.5V to 7V rms, 2kHz to 10kHz, sinusoidal.

(Calibrated at 5V rms, 5kHz, sinusoidal).

Output Load (Optimum)

100K Ohms.

Electrical Termination

Underwater connector with fitted cable (16 ft.) 145 psi maximum static pressure (standard)

Axial connector (standard)

(Consult factory for available optional terminations)

Environmental Characteristics

Operating Temperature Range

-40°F to +250°F.

Temperature Effect on Zero

±0.006% F.S./°F (typical).

Temperature Effect on Span

±0.006% F.S./°F (typical).

MODEL IDENTIFICATION

L Y S 6 0 X
SERIES

ELECTRICAL TERMINATIONS

Please specify termination required:

- X = 1 Axial Cable Exit (Optional)
- 2 Radial Cable Exit (Optional)
- 3 Axial Connector (Standard)
- 4 Radial Connector (Optional)
- 5 Pins Only for Customer Wiring (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.

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