

# Series LYS65X

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



## Description

The Series LYS65X submersible, long stroke, DC powered LVDT is designed for displacement measurement applications while submerged in fresh water or most non-corrosive liquids and gases for prolonged periods. Pressure ratings range from 145 psi to 3000 psi. These units have internal LVDT electronics which allows for a DC supply and a 4-20 mA current output. These units operate on power supplies of 12Vdc to 36Vdc. The LYS65X has an internal spring return armature that fully extends the length of the armature. These units have low-friction, non-rotating 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 displacement transducers are ruggedly constructed of all stainless steel and are able to withstand harsh underwater environments such as mining, upstream oilfield, geophysical, and industrial processes. All Series LYS65X displacement transducers are shipped with traceable calibration certificates.

## Standard Features

- Stroke ranges from  $\pm 0.5$  inches to  $\pm 3$  inches
- 4-20 mA Current Output
- Submersible
- Spring Return
- Low Friction Bearing Assembly
- $\pm 0.5\%$  Linearity
- Encapsulated Integral Electronics
- Broad Temperature Range
- All Stainless Steel Construction
- Traceable Calibration Certificate

## Optional Features

- Improved Linearity
- Connector/Cable Exit Offerings
- Mounting Blocks

## Performance

### Stroke Ranges

$\pm 0.5$  inches to  $\pm 3$  inches

### Linearity

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

### Output

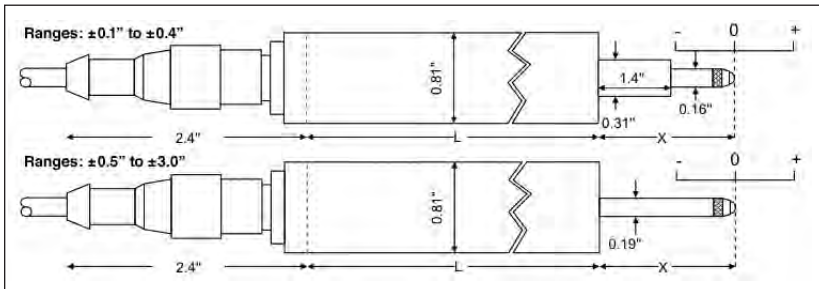
4-20 mA current

**LYS65X**

# Series LYS65X 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
±0.5"	<±0.5	8.0"	1.5"	9oz	4.4oz	2.0oz/inch	0.2"	1.1"
±1"	<±0.5	9.1"	2.5"	11oz	7.0oz	2.3oz/inch	0.2"	1.0"
±2"	<±0.5	13.9"	3.0"	15oz	15oz	3.6oz/inch	0.2"	1.1"
±3"	<±0.5	18.5"	4.5"	1.2lb	1lbs	3.2oz/inch	1.1"	1.1"

## Mechanical Characteristics

### Case Material

Stainless steel.

### Armature Type

Spring Return..

### Probe

Ball End (standard).

Optional probe tips available.

### Pressure Rating

145 psi (standard).

3000 psi (maximum) – depends on cable exit option.

## Set-ups

Please Specify Set-up Required:

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

## Electrical Characteristics

### Supply Voltage

12 Vdc to 36 Vdc.

### Max Loop Resistance

(Supply Voltage – 11) x 50 Ohms.

### Output Ripple

50  $\mu$ A (peak-to-peak).

### Electrical Output Bandwidth

200 Hz.

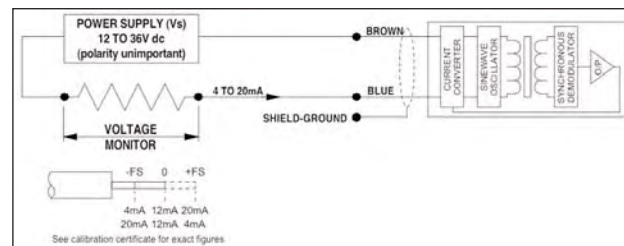
### Electrical Termination

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

Axial connector (standard)

(Consult factory for available optional terminations)

## Connection Details



## Environmental Characteristics

### Operating Temperature Range

+14°F to +158°F.

### Temperature Effect on Zero

±0.006%/°F (typical).

### Temperature Effect on Span

±0.017%/°F (typical).

## MODEL IDENTIFICATION

**L Y S 6 5 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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237 Commerce Drive • Amherst, NY 14228 • USA

Tel: 716.250.1900 • Fax: 716.250.1909

Email: info@stellartech.com

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