

Series LYU65X

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



Description

The Series LYU65X 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 unguided armature is loose fit in the bore of the LVDT and is attached to the moving part by a male thread. The armature can be separated from the body without disconnecting either part. This design can be used for both static and dynamic measurements. 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 LYU65X displacement transducers are shipped with traceable calibration certificates.

Standard Features

- Stroke ranges from ± 0.5 inches to ± 8 inches
- 4-20 mA Current Output
- Submersible
- Unguided
- Frictionless Movement
- $\pm 0.5\%$ 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

± 0.5 inches to ± 8 inches

Linearity

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

Output

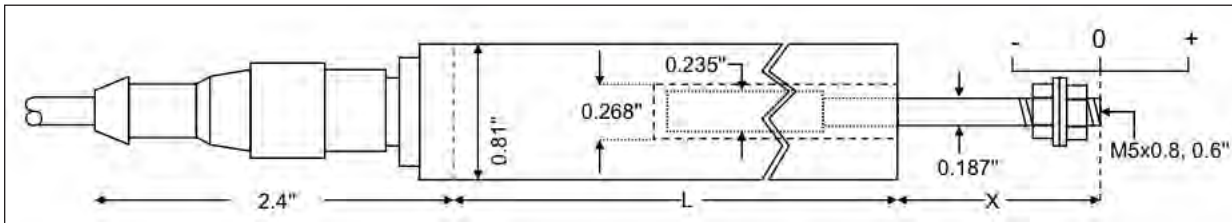
4-20 mA current

LYU65X

Series LYU65X 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	Inward over-travel	Sensitivity (nom)
±0.5"	<±0.5	6.0"	1.5"	7oz	0.7oz	0.4"	0.7V/V
±1"	<±0.5	7.1"	2.5"	9oz	0.9oz	0.9"	0.9V/V
±2"	<±0.5	12.0"	3.0"	12oz	1.4oz	0.4"	1.5V/V
±3"	<±0.5	16.5"	4.5"	1lb	2.0oz	0.9"	1.5V/V
±4"	<±0.5	17.8"	5.0"	1lb	2.5oz	0.4"	3.2V/V
±6"	<±0.5	24.9"	7.0"	2lb	3.7oz	0.4"	2.4V/V
±8"	<±0.5	33.8"	10.0"	3lb	5.0oz	1.4"	1.5V/V

Mechanical Characteristics

Case Material
Stainless steel.

Armature Type
Free Unguided.

Probe Thread
M5 x 0.8 Male.

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 µA (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)

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 U 6 5 X

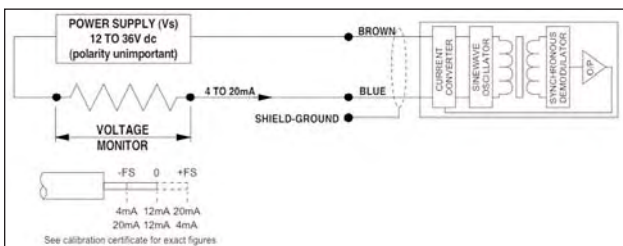
SERIES

ELECTRICAL TERMINATIONS

Please specify termination required:

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

Connection Details



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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