



Series LYC61X

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



Description

The Series LYC61X submersible, long stroke, DC powered, 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 armature is captured in the LVDT housing and is guided by a low-friction bearing assembly. These LVDT's have a maximum stroke range of 1 to 37 inches. The Series LYC61X displacement transducers can be used for both static and dynamic applications. This position sensor operates from unregulated power supplies of +24 Vdc to +40 Vdc or dual ± 12 Vdc to ± 20 Vdc and utilizes an internal amplifier to generate a ± 5 Vdc output signal. 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 LYC61X displacement transducers are shipped with traceable calibration certificates.

Performance

Stroke Ranges

± 0.5 inches to ± 18.5 inches

Linearity

$\pm 0.5\%$ of full stroke max

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

Output Voltage

± 5 Vdc

Standard Features

- Stroke ranges from ± 0.5 inches to ± 18.5 inches
- ± 5 Vdc – F.S. output
- Captive Armature
- Low Friction Bearing Assembly
- DC/DC
- $\pm 0.5\%$ Linearity
- Encapsulated Integral Electronics
- Broad Temperature Range
- All Stainless Steel Construction
- Traceable Calibration Certificate

Optional Features

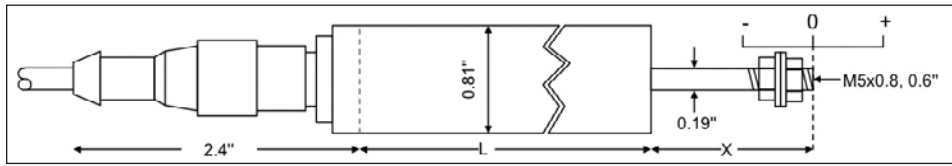
- Improved Linearity
- Cable and Connector Offerings
- Mounting Blocks

Series LYC61X

Specifications

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

Dimensions (inches)



Range	Linearity error (% F.S.)	L	X	Total Weight	Inward over-travel	Outward over-travel
±0.5"	<±0.5	8.0"	1.5"	13oz	0.4"	1.1"
±1"	<±0.5	9.1"	2.5"	15oz	0.7"	1.0"
±2"	<±0.5	13.9"	3.0"	1.2lb	0.4"	1.1"
±3"	<±0.5	18.5"	4.5"	1.4lb	0.9"	1.1"
±4"	<±0.5	19.8"	5.0"	1.8lb	0.4"	1.1"
±6"	<±0.5	27.8"	7.0"	2.3lb	0.4"	1.4"
±8"	<±0.5	35.8"	10.0"	3.3lb	1.4"	1.6"
±10"	<±0.5	43.1"	12.0"	3.8lb	1.4"	1.9"
±15"	<±0.5	58.8"	16.0"	5.0lb	0.4"	1.1"
±18.5"	<±0.5	69.5"	20"	5.8lb	0.9"	1.4"

Mechanical Characteristics

Case Material

Stainless steel.

Armature Type

Captive Guided.

Probe Thread

M5 x 0.8.

Pressure Rating

145 psi (standard).

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

Electrical Characteristics

Supply Voltage (Dual)

±12 to ±20 Vdc, 30 mA.

Supply Voltage (Single)

24Vdc to 40Vdc (must be floating), 30 mA.

Output

±5 Vdc.

Output Impedance

2 Ohms.

Output Load (Optimum)

10K Ohms.

Output Ripple

30mV peak to peak (typical).

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

-58°F to +176°F.

Temperature Effect on Zero

±0.006% /°F (typical).

Temperature Effect on Span

±0.017% /°F (typical).

Set-ups

Please Specify Set-up Required:

Set-up	Position (-)	Position (0)	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%)

MODEL IDENTIFICATION

L Y C 6 1 X

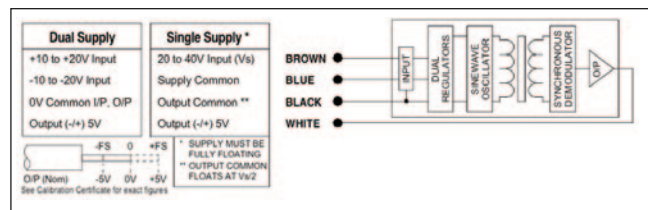
SERIES

ELECTRICAL TERMINATIONS

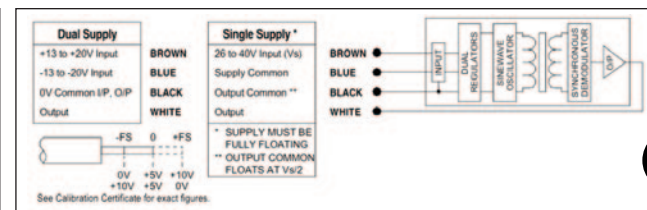
Please specify termination required:

- 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)

Connection Details - Standard



Connection Details - 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.

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Datasheet P/N: 233644C DCN 13559