

XS-D Series

The **XS-D Series** is particularly well suited for measuring relatively large displacements, but where installation space is limited. The XS-D has a substantially greater displacement range than standard LVDTs but without the accompanying increase in body length and weight. Special winding techniques permit linear range measurements up to 80 percent of the XS-D's housing length.

In cramped servo mechanisms, linear potentiometers are traditionally used because of their shorter length. However, the XS-D series LVDT will readily fit in such restricted space applications. In addition, LVDTs are superior to linear potentiometers, particularly in high vibration environments. For example, dither, used to prevent static friction in servo systems, will rapidly consume a linear potentiometer. The LVDT, being a contactless device, experiences no wear whatsoever. Since a linear potentiometer's output impedance varies with wiper position, its linearity is impaired when a significant load is applied. Unlike the linear potentiometer, the LVDT has a constant low output impedance. The 400 series stainless steel housing provides magnetic shielding.

FEATURES

- Displacement Ranges up to +/- 10'
- Weights less than Standard LVDTs having comparable displacement ranges
- 80% of unit length is available for linear range measurements
- Calibration certificate supplied with all models
- Compatible with all Schaevitz® Signal Conditioners

APPLICATIONS

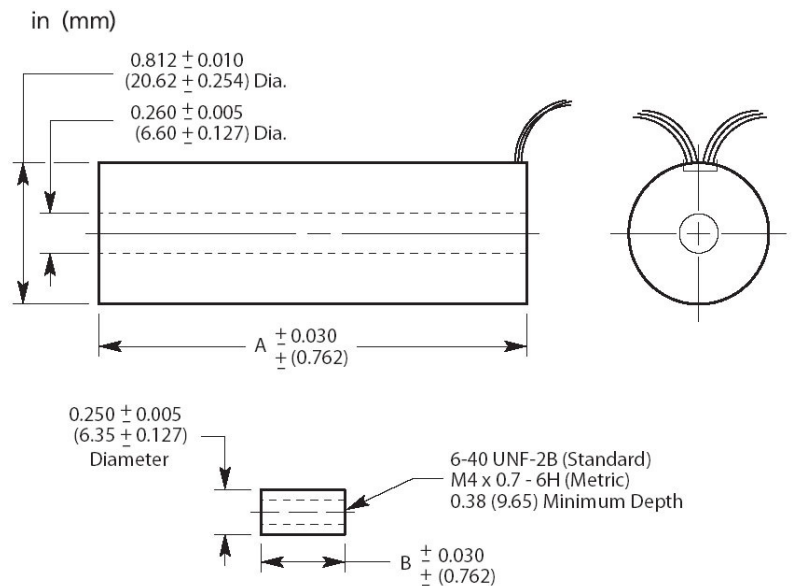
- Where Sensor Installation Length is restricted
- Ideal replacement for Linear Potentiometers

OPTIONS

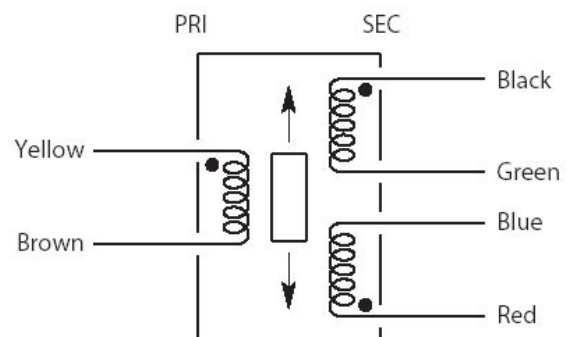
- Metric Thread Core



dimensions



wiring



Connect Green to Blue for differential output

Specifications

Input Voltage	3 V rms (nominal)
Frequency Range	400 Hz to 3 kHz
Operating Temperature Range	-65F to 300F (-55C to 150C)
Null Voltage	<0.5% full scale output
Shock Survival	1000 g for 11 msec
Vibration Tolerance	20g up to 2 kHz
Coil Form Material	High density glass-filled polymer or laminated glass epoxy
Housing Material	AISI 304 Series Stainless Steel
Lead Wires	28 AWG, stranded copper, Teflon® -insulated, 12 inches (300cm) long (nominal)

Performance and electrical specifications @ 2.5 kHz¹

XS-D Series Model Number	Nominal Linear Range		Linearity (±% full range)	Sensitivity mV out/V in Per		Impedance (Ohms)		Phase Shift Degrees
	Inches	mm		0.001 in	Mm	Pri	Sec	
1002 XS-D	±1.000	±25.4	2.0	0.28	11	175	230	+30
2002 XS-D	±2.000	±50.8	2.0	0.16	6.3	243	103	+25
3002 XS-D	±3.000	±76.2	2.0	0.125	5.1	306	234	-22
5002 XS-D	±5.000	±127.0	2.0	0.13	5.1	240	500	+28
10002 XS-D	±10.0	±254	2.0	0.05	2.0	462	462	0

¹All calibration is performed at room ambient temperature.

Mechanical

XS-D Series Model Number	Body oz	Body gm	Weight Core		Dimensions			
			oz	gm	A (Body)		B (Core)	
					in	mm	in	mm
1002 XS-D	2.29	65	0.09	2.5	2.50	63.5	0.45	11.4
2002 XS-D	4.06	115	0.28	8.0	5.75	146.1	1.5	38.1
3002 XS-D	4.94	140	0.24	6.8	7.50	190.5	1.2	33.1
5002 XS-D	7.59	215	0.44	12.5	12.50	317.5	2.4	61.0
10002 XS-D	16.59	470	0.88	23.0	25.00	635.0	4.0	101.6

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ordering information

Specify the XS-D followed by the desired option number(s) ordered together.

Ordering Example:

Model Number 5002 XS-C-006 is an XS-D LVDT with a +/- 5.0" range and a metric thread core (006)

model

1002 XS-D
2002 XS-D
3002 XS-D
5002-XS-D
10002-XS-D

options

Number	Description
006	Metric Thread Core