

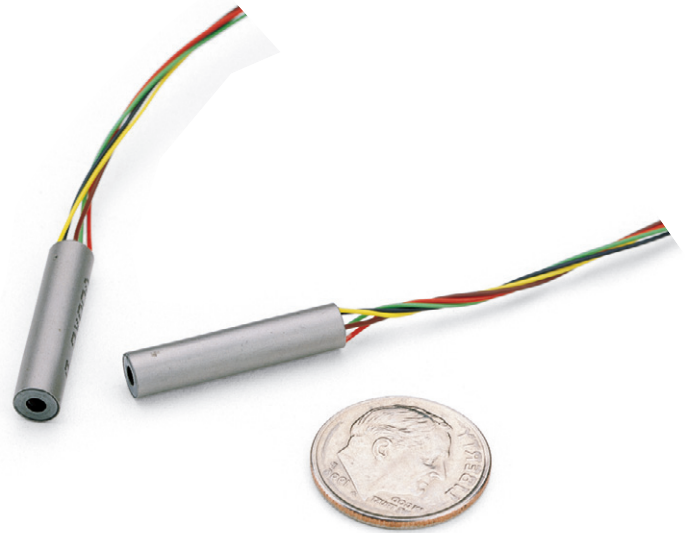
# XS-B Series

## Sub-Miniature LVDT

### DESCRIPTION

The **XS-B Series** was designed for micro applications. It is particularly well suited for multi-point measurement of small components. Core weight is virtually negligible.

Manufacturing requires extremely sophisticated assembly techniques. Coils are wound from hair-thin wire. Lead-wire bonding and other exacting operations are performed by highly skilled specialists with binocular microscopes. Housing provides magnetic shielding.



### FEATURES

- ◆ Sophisticated Manufacturing
- ◆ Processes Insure Quality
- ◆ Low Mass Core
- ◆ Threaded Mount (Metric) Available for 100 XS-BG
- ◆ Calibration Certificate Supplied with All Models

### APPLICATIONS

- ◆ Micro Applications, Such as Miniature Gageheads and Servomechanisms
- ◆ Ideal for Multi-Point Measurement of Small Components
- ◆ Recommended Where Small Size is the Overwhelming Requirement

### XS-B specifications

Input Voltage	1 V rms (maximum)
Frequency Range	2.5 kHz to 20 kHz
Operating Temperature Range	-65°F to 300°F (-55°C to 150°C)
Null Voltage	<1.0% full scale output
Shock Survival	1,000 g for 11 msec
Vibration Tolerance	20 g up to 2 kHz
Coil Form Material	Laminated glass epoxy
Housing Material	AISI 400 series magnetic stainless steel
Lead Wires	36 AWG, stranded copper, Teflon®-insulated, 12 inches (300 mm) long (nominal)

### XS-BG specifications

Input Voltage	3.5 V rms at 5.0 kHz (nom)
Linearity	±0.2% of full range max
Sensitivity	5.0 – 5.5 mV/V/.001"
Null Voltage	5.0 mV (max)
Phase Shift	3.0° ±3°
Primary Impedance	960 ohms
Secondary Impedance	2150 ohms
Operating Temp. Range	-40°F to 160°F (-40°C to 70°C)
Cable	6.5 feet (2 meters), 32 AWG stranded, PTFE insulated, shielded polyurethane jacket, 6 conductor
Cable Exit	Axial standard; adaptor provided allows for radial exit

# XS-B Series

## performance and electrical specifications

Series Model	Nominal Linear Range		Linearity ±% full range		Sensitivity mV out/V in Per		Impedance Ohms		Phase Shift
	inches	mm	50	100	0.001 in	mm	Pri	Sec	Degrees
099 XS-B <sup>1</sup>	±0.100	±2.4	0.30	0.50	1.5	60	30	48	+50
249 XS-B <sup>1</sup>	±0.250	±6.4	0.20	0.50	1.4	56	135	320	+36
100 XS-BG <sup>2</sup>	±0.100	±2.4	See XS-BG Electrical Specifications chart above						

<sup>1</sup>At 2.5 kHz. All calibration is performed at room ambient temperature.

<sup>2</sup>At 5.0 kHz. All calibration is performed at room ambient temperature.

### ordering information

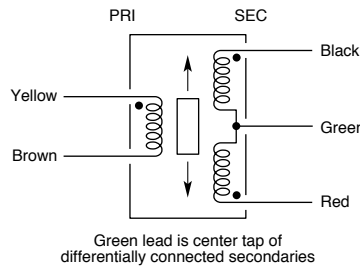
Specify the XS-B Model with the desired linear range.

#### Ordering Example:

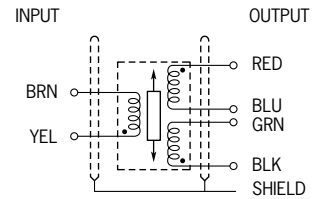
**Model Number 099 XS-B** is an XS-B Series LVDT with a ±0.100" range.

**Model Number 100 XS-BG** is an XS-BG Series LVDT with a ±0.100" range.

### XS-B wiring



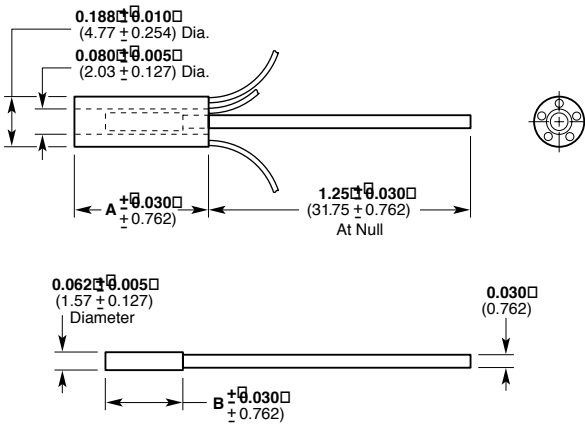
### XS-BG wiring



Note:  
BLU and GRN tied for differential output with YEL and BLK common. The output is in phase, with core displaced toward cable end. (Retract)

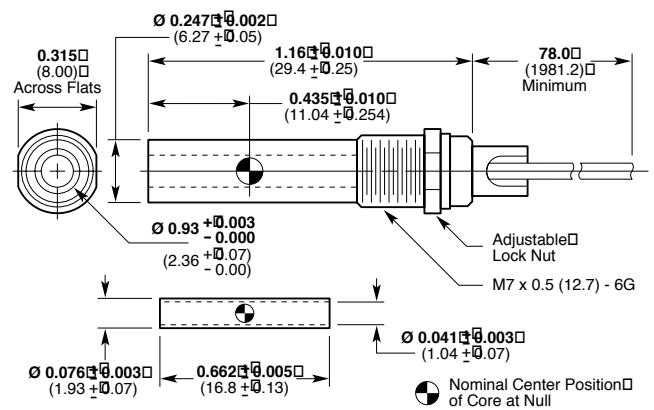
### XS-B dimensions

in (mm)



### XS-BG dimensions

in (mm)



### mechanical specifications

XS-B Series Model	Weight		Dimensions					
	Body		Core		A (Body)		B (Core)	
Number	oz	gm	oz	gm	in	mm	in	mm
099 XS-B	0.14	4.0	0.013	0.36	0.88	22.4	0.50	12.7
249 XS-B	0.31	8.7	0.021	0.60	1.88	47.8	1.25	31.8