

XS-B Series - Subminiature LVDT



- Micro size
- Low mass core
- 3/16 or 1/4 inch housing diameter
- Stroke ranges ± 0.1 and ± 0.25 inch
- Operating frequency up to 20kHz
- Standard or threaded bulkhead mount
- Stainless steel housing
- Magnetically shielded

DESCRIPTION

The **XS-B Series** of subminiature LVDTs were specifically designed for micro applications, where small physical size is the prime requirement. Featuring an extremely low core weight, the XS-B Series are the perfect choice for high speed displacement measurements, measurement of delicate materials and films, or where heavier cores would influence the measurement result.

The XS-B Series are available in stroke ranges of ± 0.1 inch [± 2.54 mm] or ± 0.25 inch [± 6.35 mm], standard or threaded mounting configurations, and in flying lead or polyurethane jacketed lead termination (all model dependent). All models incorporate a ferromagnetic stainless steel housing providing electromagnetic and electrostatic shielding. The XS-B Series is compatible with most Measurement Specialties LVDT signal conditioners, controllers and readouts (*consult factory*).

Measurement Specialties, Inc. (NASDAQ MEAS) offers many other types of sensors and signal conditioners. Data sheets can be downloaded from our web site at: <http://www.meas-spec.com/datasheets.aspx>

MEAS acquired Schaevitz Sensors and the **Schaevitz®** trademark in 2000.

FEATURES

- 0.250" [6.35mm] max diameter
- Threaded mount version available (XS-BG)
- Lead-wires (XS-B) or cable (XS-BG)
- Axial and radial cable exit (XS-BG)
- Electromagnetic shielding
- Stainless steel housing
- Calibration certificate supplied with all units

APPLICATIONS

- Servomechanisms
- Robotics
- Surfometers
- Measurement of films/delicate materials
- Space restrictive applications
- Multi-point measurement of small components
- Measurements at high displacement speeds

XS-B Series - Subminiature LVDT

PERFORMANCE SPECIFICATIONS

ELECTRICAL SPECIFICATIONS			
Parameter	099 XS-B	249 XS-B	100 XS-BG
Stroke range	±0.10 [±2.54]	±0.25 [±6.35]	±0.10 [±2.54]
Sensitivity mV/V/0.001in [mV/V/mm]	1.5 [59]	1.4 [55]	5.25 [207]
Output at stroke ends (*)	150mV/V	350mV/V	525mV/V
Phase shift	+50°	+36°	+3°
Input impedance (PRIMARY)	30Ω	135Ω	960Ω
Output impedance (SECONDARY)	48Ω	320Ω	2150Ω
Linearity (% of FS), maximum	±0.5	±0.5	±0.2
Input voltage, sine wave	1Vrms	1Vrms	3.5Vrms
Test input frequency	2.5KHz	2.5KHz	5.0KHz
Input frequency range	2.5 to 20KHz		
Null voltage, maximum	1% of FSO		

ENVIRONMENTAL SPECIFICATIONS & MATERIALS		
Parameter	099 XS-B and 249 XS-B	100 XS-BG
Operating temperature	-67°F to +302°F [-55°C to +150°C]	-40°F to +140°F [-40°C to +60°C]
Shock survival	1, 000 g (11 ms half-sine)	1, 000 g (11 ms half-sine)
Vibration tolerance	20 g up to 2KHz	20 g up to 2KHz
Housing material	AISI 400 Series stainless steel	AISI 430 Series stainless steel
Electrical connection	Five lead-wires Stranded 36 AWG PTFE insulated 1 foot [0.3m] long Axial exit	Shielded cable with Polyurethane jacket Six conductors, stranded 32 AWG, PTFE insulated 6.5 feet [2m] long Axial and radial exit (**)

Notes:

Dimensions are in inch [mm]

All values are nominal unless otherwise noted

Electrical specifications are for the test frequency indicated in the table

(*): Unit for output at stroke ends is millivolt per volt of excitation

(**): Adapter provided for radial exiting of cable

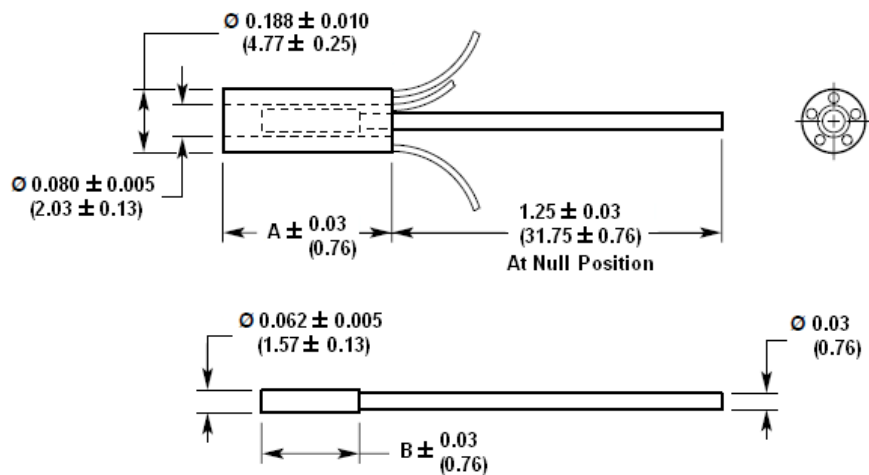
FS: Full Scale is 2X for ±X stroke

FSO: Full Scale Output is the output at X position for ±X stroke

XS-B Series - Subminiature LVDT

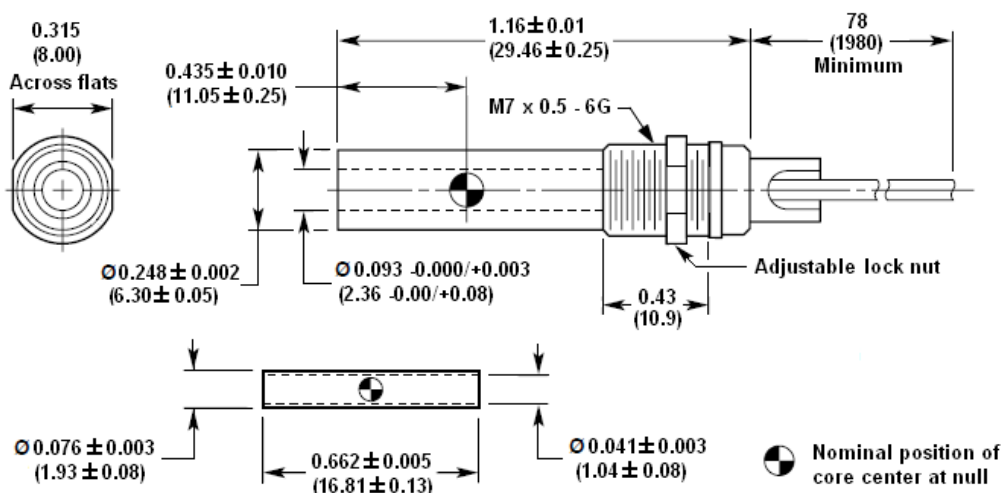
MECHANICAL SPECIFICATIONS

	099 XS-B	249 XS-B
Main body length "A"	0.88 (22.35)	1.88 (47.75)
Core length "B"	0.50 (12.70)	1.25 (31.75)
Body weight, oz [g]	0.14 [4.0]	0.31 [8.8]
Core weight, oz [g]	0.013 [0.37]	0.021 [0.60]



XS-B

(Supplied with extension rod already attached to core)

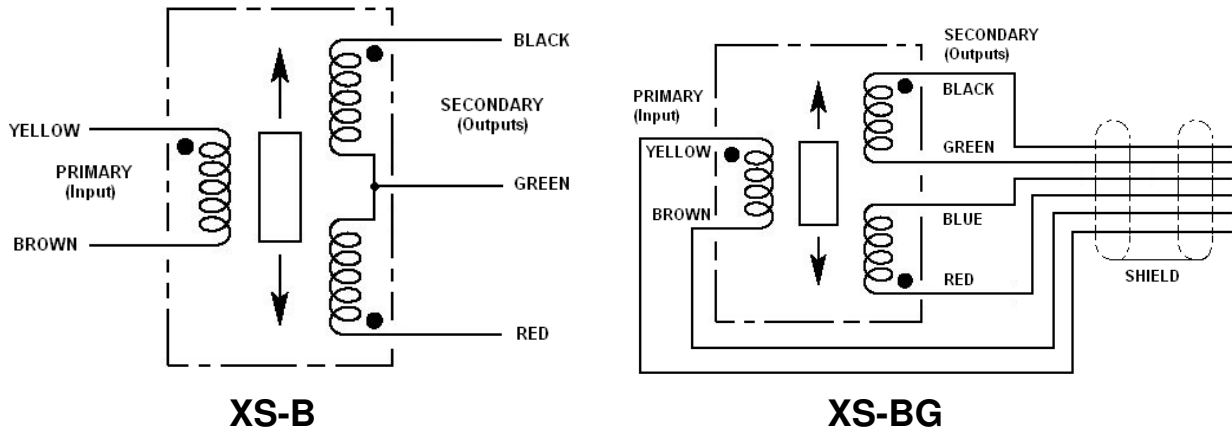


100 XS-BG

Dimensions are in inches (mm)

XS-B Series - Subminiature LVDT

WIRING SCHEMATIC



ORDERING INFORMATION

Description	Model	Part Number
±0.1 inch LVDT	099 XS-B	02560629-000
±0.25 inch LVDT	249 XS-B	02560630-000
±0.1 inch LVDT	100 XS-BG	02560997-000

Refer to our "[Accessories for LVDT's](#)" brochure for our LVDT signal conditioning instrumentation and other accessories