



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
- 220°C operation (*Option; call factory*)
- Calibration certificate supplied with all units

APPLICATIONS

- Servomechanisms
- Robotics
- Surfometers
- Measurement of films/delicate materials
- Space restrictive applications
- Multi-point measurement of small components
- Multi-finger calipers for pipe contour inspection
- Measurements at high displacement speeds

XS-B SERIES

Subminiature AC LVDT

SPECIFICATIONS

- **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**

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).

PERFORMANCE SPECIFICATIONS

ELECTRICAL SPECIFICATIONS							
Parameter	XS-B 099			XS-B 249			XS-BG 100
Stroke range	±0.10 [±2.54]			±0.25 [±6.35]			±0.10 [±2.54]
Test input frequency	2.5kHz	5kHz	10kHz	2.5kHz	5kHz	10kHz	5kHz
Sensitivity V/V/inch [mV/V/mm]	1.5 [59.1]	2.7 [106]	4.0 [157]	1.4 [55.1]	1.7 [66.9]	1.85 [72.8]	5.25 [207]
Output at stroke ends (*), mV/V	150	270	400	350	425	462	525
Phase shift	+69°	+55°	+38°	+35°	20°	12°	+3°
Input impedance (PRIMARY), ohms	30	40	50	110	160	210	960
Output impedance (SECONDARY), ohms	45	60	75	135	160	200	2150
Non-linearity, maximum	±0.5% of FR			±0.5% of FR			±0.2% of FR
Input voltage, sine wave	1 VRMS			1 VRMS			3.5 VRMS
Input frequency range	2.5 to 20kHz (Standard test frequency is 2.5kHz)						2.5 to 20kHz
Null voltage, maximum	0.5% of FRO						

ENVIRONMENTAL SPECIFICATIONS & MATERIALS		
Parameter	XS-B 099 and XSB 249	XS-BG 100
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 (11ms half-sine)	1, 000 g (11ms half-sine)
Vibration tolerance	20 g up to 2KHz	20 g up to 2KHz
Housing material	Kovar	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 (**)
IEC	IP61	IP61

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 (input voltage)

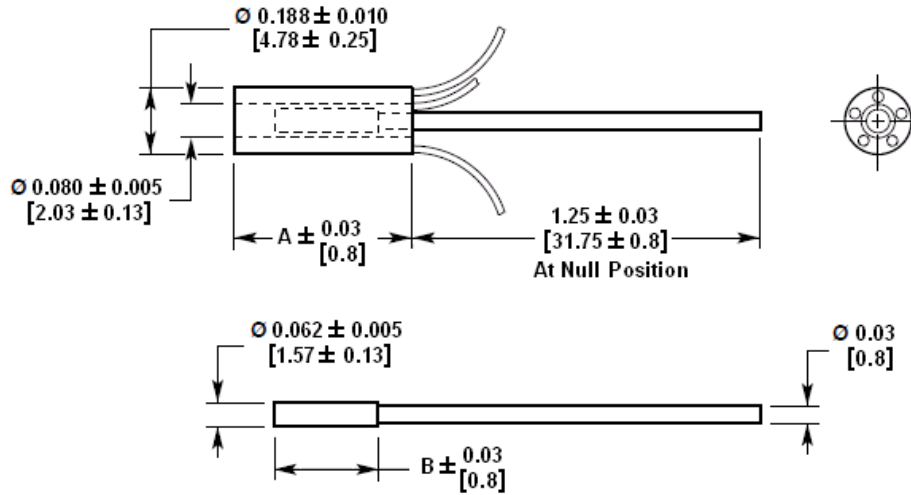
(**): Adapter provided for radial exiting of cable

FR: Full Range is the stroke range, end to end; FR=2xS for ±S stroke range

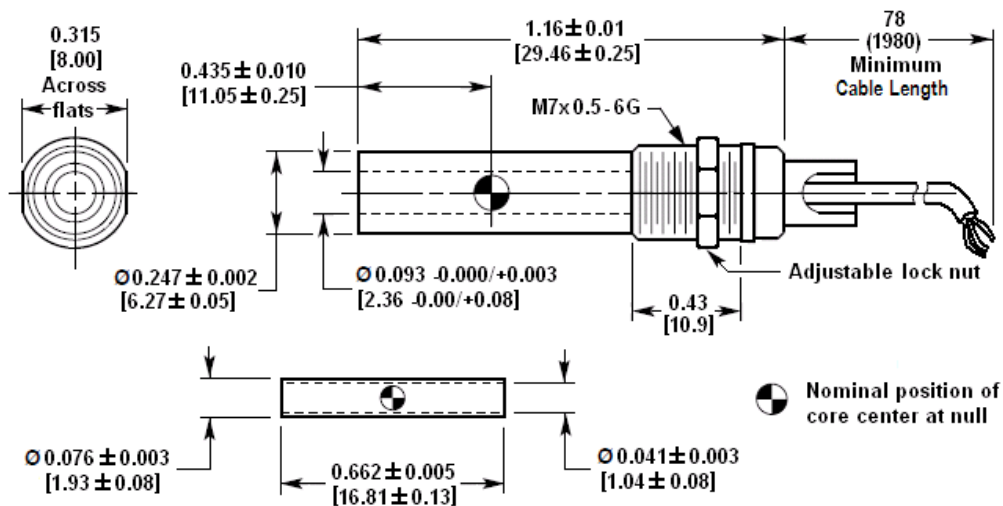
FRO (Full Range Output): Algebraic difference in outputs measured at the ends of the range

MECHANICAL SPECIFICATIONS

Parameter	XS-B 099	XS-B 249
Main body length "A"	0.88 (22.35)	1.88 (47.75)
Core length "B"	0.50 (12.7)	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)



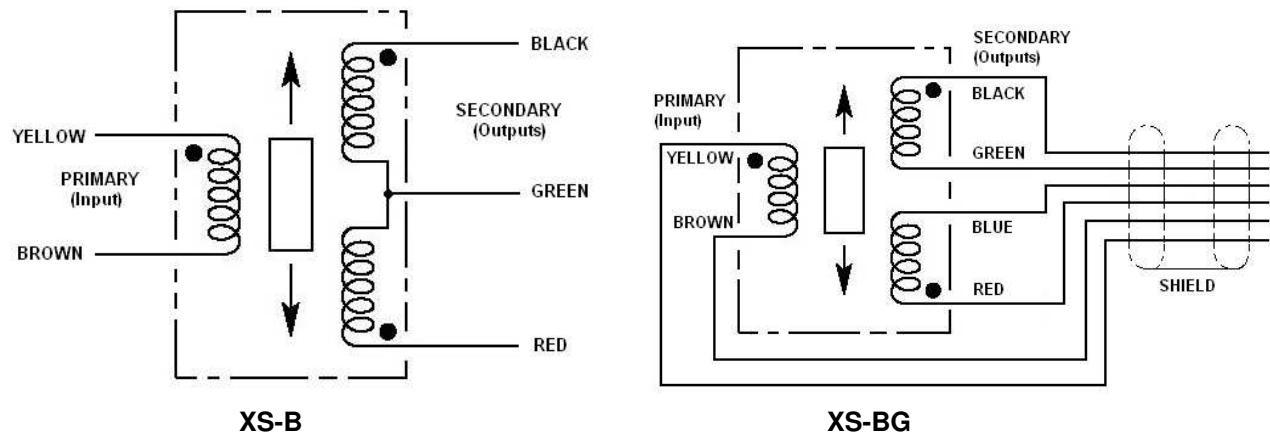
100 XS-BG

Dimensions are in inches [mm]

XS-B SERIES

Subminiature AC LVDT

WIRING INFORMATION



ORDERING INFORMATION

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

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity Company
1000 Lucas Way
Hampton, VA 23666
United States
Phone: +1-800-745-8008
Fax: +1-757-766-4297
Email: sales@meas-spec.com

EUROPE

MEAS Deutschland GmbH (Europe)
a TE Connectivity Company
Hauert 13
D-44227 Dortmund
Germany
Phone: +49-(0)231-9740-0
Fax: +49-(0)231-9740-20
Email: info.de@meas-spec.com

ASIA

Measurement Specialties (China), Ltd.,
a TE Connectivity Company
No. 26 Langshan Road
Shenzhen High-Tech Park (North)
Nanshan District, Shenzhen 518057
China
Phone: +86-755-33305088
Fax: +86-755-33305099
Email: info.cn@meas-spec.com

TE.com/sensorsolutions

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