

# XS-C Series – High Pressure Sealed LVDT



- Operating pressures to 3,000 PSI
- Bulkhead mounting
- Stroke ranges from  $\pm 0.25$  to  $\pm 1.0$  inch
- AISI 304 stainless steel housing
- Magnetically shielded
- Wide operating temperature range
- Shock and vibration tolerant
- Magnetically shielded

## DESCRIPTION

The **XS-C Series** high pressure sealed LVDTs are the ideal solution for displacement measurement in pressure-sealed chambers, hydraulic actuators and pressure vessels. Constructed with heavy-wall 304 Series stainless steel, the all-welded XS-C is highly resistant to corrosive environments. It is suitable for operating pressures up to 3,000 PSI (proof pressures up to 4,500 PSI) and temperatures up to +300°F [+150°C].

The XS-C is available in stroke ranges of  $\pm 0.25$  inch [ $\pm 6.35$ mm] to  $\pm 1$  inch [ $\pm 25.4$ mm], with imperial or metric threaded cores. All models incorporate internal magnetic and electrostatic shielding, protecting it from external magnetic influences. The XS-C Series is compatible with all Measurement Specialties LVDT signal conditioners, controllers and readouts.

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

- Sealed 304 Series stainless steel housing
- High pressure and temperature operation
- Bulkhead mount design
- 400Hz to 5KHz operating frequency range
- Shock and vibration tolerant
- Calibration certificate supplied with all units

## APPLICATIONS

- Hydraulic actuators
- Pressure chambers & vessels
- Continuous casting mold clamping
- Ton-dish slide valve position feedback
- Automatic transmission servo testing
- Rolling mill gap feedback

# XS-C Series – High Pressure Sealed LVDT

## PERFORMANCE SPECIFICATIONS

ELECTRICAL SPECIFICATIONS			
Parameter	249 XS-C	499 XS-C	999 XS-C
Stroke range	±0.25 [±6.35]	±0.50 [±12.7]	±1.00 [±25.4]
Sensitivity mV/V/0.001in [mV/V/mm]	1.7 [66.9]	1.0 [39.4]	0.8 [31.5]
Output at stroke ends (*)	425mV/V	500mV/V	800mV/V
Phase shift	+5°	+2°	-1°
Input impedance (PRIMARY)	800Ω	938Ω	770Ω
Output impedance (SECONDARY)	940Ω	1130Ω	1400Ω
Linearity (% of FS), maximum	±0.25		
Input voltage, sine wave	3Vrms		
Input frequency range	400Hz to 5KHz		
Test input frequency	2.5KHz		
Null voltage, maximum	0.5% of FSO		

ENVIRONMENTAL SPECIFICATIONS & MATERIALS	
Parameter	All Models
Operating pressure	3,000 PSI [207 bars]
Proof Pressure	4,500 PSI [310 bars]
Operating temperature	-67°F to +302°F [-55°C to +150°C]
Shock survival	1, 000 g (11ms half-sine)
Vibration tolerance	20 g up to 2KHz
Housing material	AISI 304 Series stainless steel
Lead type/length	Six lead-wires, stranded 28 AWG PTFE insulated 1 foot [0.3m] long

**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

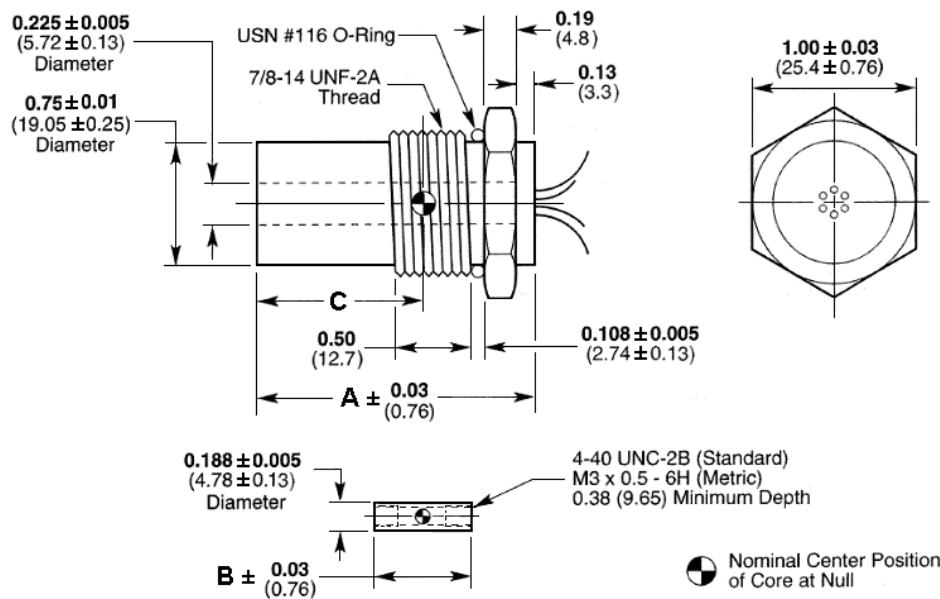
FS: Full Scale is 2X for ±X stroke

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

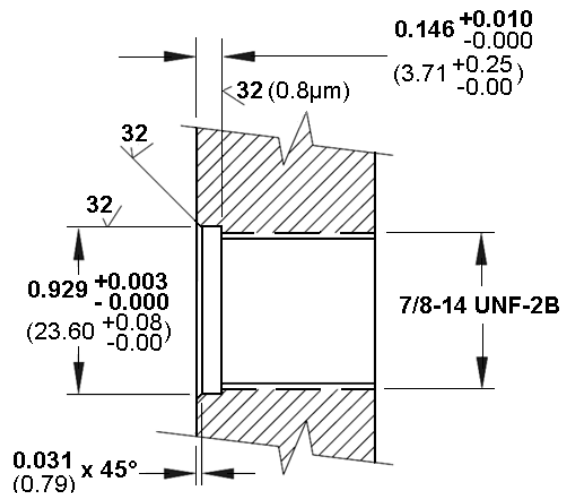
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## MECHANICAL SPECIFICATIONS

	249 XS-C	499 XS-C	999 XS-C
Main body length "A"	3.00 [76.2]	4.65 [118.1]	7.88 [200.2]
Core length "B"	1.80 [45.7]	3.00 [76.2]	3.80 [96.5]
Core null position "C"	1.39 [35.3]	2.23 [56.6]	3.25 [82.6]
Body weight, oz [g]	3.88 [110]	4.62 [131]	6.04 [171]
Core weight, oz [g]	0.12 [3.4]	0.30 [8.5]	0.37 [10.5]



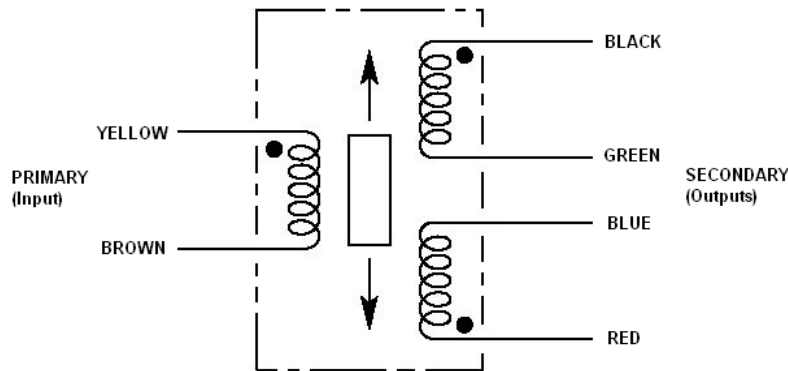
Dimensions are in inches (mm)



Mating detail for installation

# XS-C Series – High Pressure Sealed LVDT

## WIRING SCHEMATIC



Connect Blue to Green for differential output

## ORDERING INFORMATION

Description	Model	Part Number
±0.25 inch LVDT	249 XS-C	02560551-000
±0.5 inch LVDT	499 XS-C	02560549-000
±1 inch LVDT	999 XS-C	02560548-000
Metric threaded (M3 x 0.5 - 6H) core option	All models	XXXXXXXX-006

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