

XS-C Series – High Pressure Sealed AC LVDT



- Operating pressures to 3,000 PSI
- Bulkhead mounting
- Stroke ranges from ± 0.25 to ± 1 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 ± 0.25 inch [± 6.35 mm] to ± 1 inch [± 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

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PERFORMANCE SPECIFICATIONS

ELECTRICAL SPECIFICATIONS			
Parameter	XS-C 249	XS-C 499	XS-C 999
Stroke range	±0.25 [±6.35]	±0.50 [±12.7]	±1.00 [±25.4]
Sensitivity V/V/inch [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
Non-linearity (% of FR), maximum	±0.25		
Input voltage, sine wave	3 VRMS		
Input frequency range	400Hz to 5kHz		
Test input frequency	2.5kHz		
Null voltage, maximum	0.5% of FRO		

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
Electrical connection	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 (input voltage)

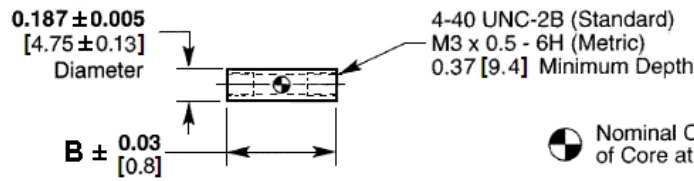
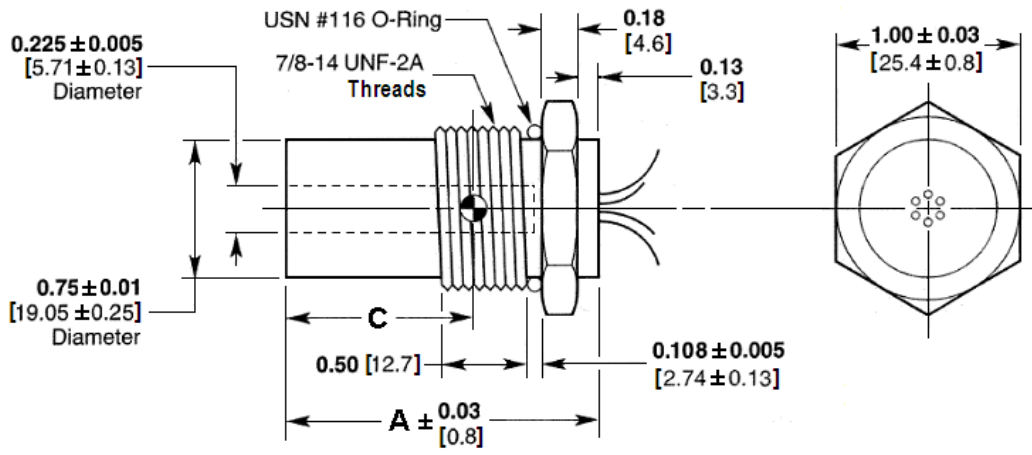
FR: Full Range is the stroke range, end to end; FR=2xS for ±S stroke range

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

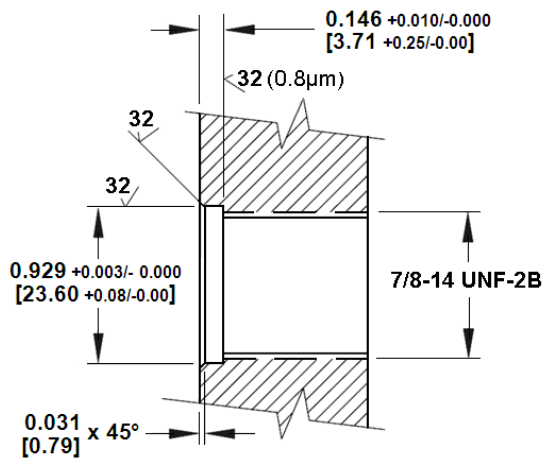
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MECHANICAL SPECIFICATIONS

Parameter	XS-C 249	XS-C 499	XS-C 999
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]



Nominal Center Position of Core at Null

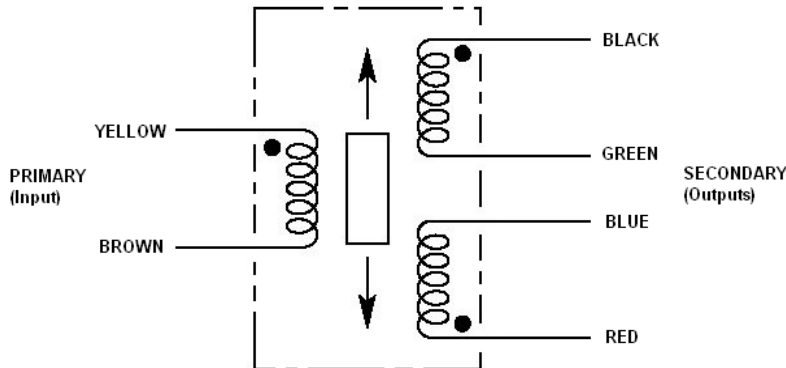


Mating detail for installation

Dimensions are in inches [mm]

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WIRING INFORMATION



Connect Blue to Green for differential output

ORDERING INFORMATION

Description	Model	Part Number
±0.25 inch LVDT	XS-C 249	02560551-000
±0.5 inch LVDT	XS-C 499	02560549-000
±1 inch LVDT	XS-C 999	02560548-000
Metric threaded (M3x0.5-6H) core option	All models	XXXXXXXX-006

Refer to our "[Accessories for LVDTs](#)" data sheet for our LVDT signal conditioning instrumentation and other accessories.

TECHNICAL CONTACT INFORMATION

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