

# XL403A Accelerometer

Rugged  $\pm 1$  g to  $\pm 15$  g  
Uniaxial, Biaxial, or Triaxial  
Quick Shipment

## Analog Accelerometer

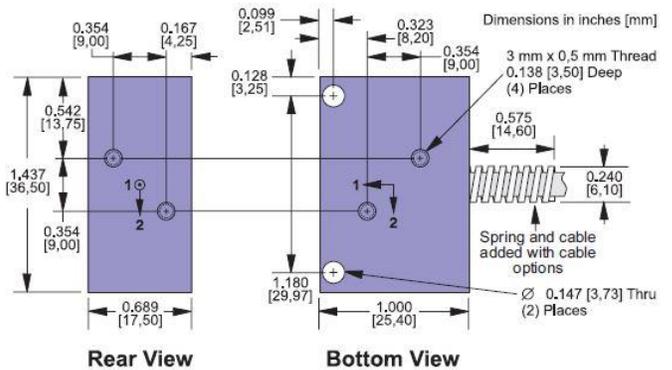
Measurement Specialties' XL403A analog accelerometers offer precision measurements over the entire the  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  temperature range. Each DC-coupled output is fully scaled, referenced, and temperature compensated. Accuracy is improved by minimizing variations due to temperature and aging effects, and their tough, compact housing holds potted electronics.

Choose the number of axes and specify any bandwidth and range option up to  $\pm 15$  g and 800Hz to best suit your application. In stock and ready for calibration, you can be taking measurements in less time than with built-to-order accelerometers.

Users are supplied with a calibration certificate listing sensitivity and offset for each sensor. Custom versions can be provided.



## dimensions



## FEATURES

- Quick Ship
- High Accuracy and Linearity over Wide Temperature Range
- Rugged for Harsh Environments
- Small Size
- Built-in Power Supply Regulation
- Easy Installation
- Three Year Warranty

Two through holes and four 3 mm x 0.5 mm threaded holes are provided for mounting.

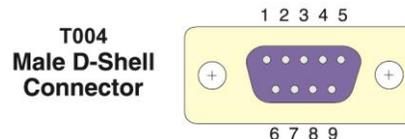
Mounting adapters (sold separately)



## APPLICATIONS

- Vehicle dynamics
- Construction Equipment
- Research & Development
- Test & Measurement
- Military/Aerospace

## connections



Pin	1	2	3	4	5	6	7	8	9
Signal	A1+	A2+	A3+	Signal -	Reserved	Reserved	Self Test	+Vs	Gnd
Wire	Brown	Red	Orange	Yellow	Green	Blue	Violet	Grey	White

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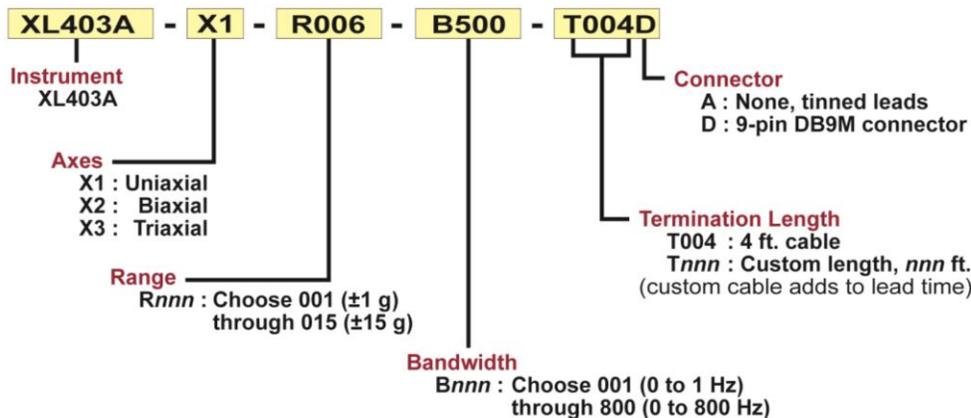
## performance specifications

$T_A = T_{min}$  to  $T_{max}$ ;  $8.5 \leq V_S \leq 36$  V; Acceleration = 0 g unless otherwise noted; within one year of calibration. Improved specifications available upon request.

PARAMETERS	Min	Typical	Max	Units	Conditions/Notes
<b>Range:</b> Measurement Full Scale	±1		±15	g	On each axis. Must specify via Option Rnnn
<b>Sensitivity</b>					
At 25°C, Option R005		400*		mV/g	Precise values on cal certificate
Drift $T_{min}$ to $T_{max}$		±0.65	±3	%	Percent of sensitivity at 25°C
<b>Zero g Bias Level</b>					
At 25 °C		2.5		V	Precise values on cal certificate
Drift to $T_{min}$ or $T_{max}$		±20		mg	At <1.25°C/min. temperature rate of change
<b>Alignment</b>					
Deviation from Ideal Axes		±1.0	±3.0	degrees	Precise values on cal certificate. Can be compensated if required
<b>Transverse Sensitivity</b>					
		±0.25		%	Inherent sensor error, excluding misalignment
<b>Nonlinearity</b>					
		±0.1	±0.5	% FSR	Best fit straight line
<b>Frequency Response, 5-pole</b>					
	0		800	Hz	Upper cutoff per Option Bnnn, -3 dB pt ±10%
<b>Noise Density</b>					
		100		µg/√Hz	10 Hz to 400 Hz
<b>Self-Test Pull-Up Resistor</b>					
	5			kΩ	Logic "1" ≥3.5 V, Logic "0" ≤1.5 V; "0" causes self-test
<b>Temperature Sensor</b>					
		6.45		mV/°C	Accuracy ±1 °C
<b>Outputs</b>					
Output Voltage Swing	0.05		4.95	V	$I_{out} = \pm 0.5$ mA
Capacity Drive Capability		1000		pF	
<b>Power Supply (<math>V_S</math>)</b>					
Input Voltage Limits	-80		+80	V	-80 V continuous, >38 V if ≤550 ms, duty <1%
Input Voltage - Operating	+8.5		+36	V	Continuous
Input Current		12		mA	
Rejection Ratio		>120		dB	DC
<b>Temperature Range (<math>T_A</math>)</b>					
	-40		+85	°C	
<b>Mass</b>					
		38		grams	Precise values on cal certificate
<b>Shock Survival</b>					
	-5000		+5000	g	Any axis for 0.5 ms, powered or unpowered

\*Scale linearly with range option Rnnn; see Ordering Information

## ordering info



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