



## MODEL 4835A TRIAXIAL ACCELEROMETER

### SPECIFICATIONS

- **MEMS DC Triaxial Accelerometer**
- **Ultra-Stable, DC to 2000Hz Response**
- **Light Weight Welded Titanium**
- **<2.0% Total Error Band**
- **<0.1% Linearity Accuracy**
- **Exceptional Thermal Performance**

### FEATURES

- $\pm 2g$  to  $\pm 200g$  Dynamic Range
- Hermetically Sealed, Detachable Cable
- Amplified Output, Signal Conditioned
- Gas Damped MEMS Sensors
- 4 to 30Vdc Excitation Voltage
- 6000g Shock Protection

### APPLICATIONS

- Low Frequency Monitoring
- Flight and Ground Testing
- Road Vehicle Testing
- Test and Instrumentation
- Performance Testing
- Transportation Applications

The Model 4835A is an ultra-stable MEMS DC triaxial accelerometer packaged in a rugged, welded Titanium housing. The model 4835A accelerometers incorporate gas damped silicon variable capacitance MEMS sensing elements with integral over-range stops for high-g shock protection. with exceptional performance over a full operating temperature range of  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . The accelerometers are available in ranges from  $\pm 2$  to  $\pm 200g$  with a wide bandwidth from DC to 2000Hz.

For single axis version, TE Connectivity also offers the model 4604, 4610 and 4810A accelerometers.

## PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 12Vdc excitation unless otherwise stated. TE Connectivity reserves the right to update and change these specifications without notice.

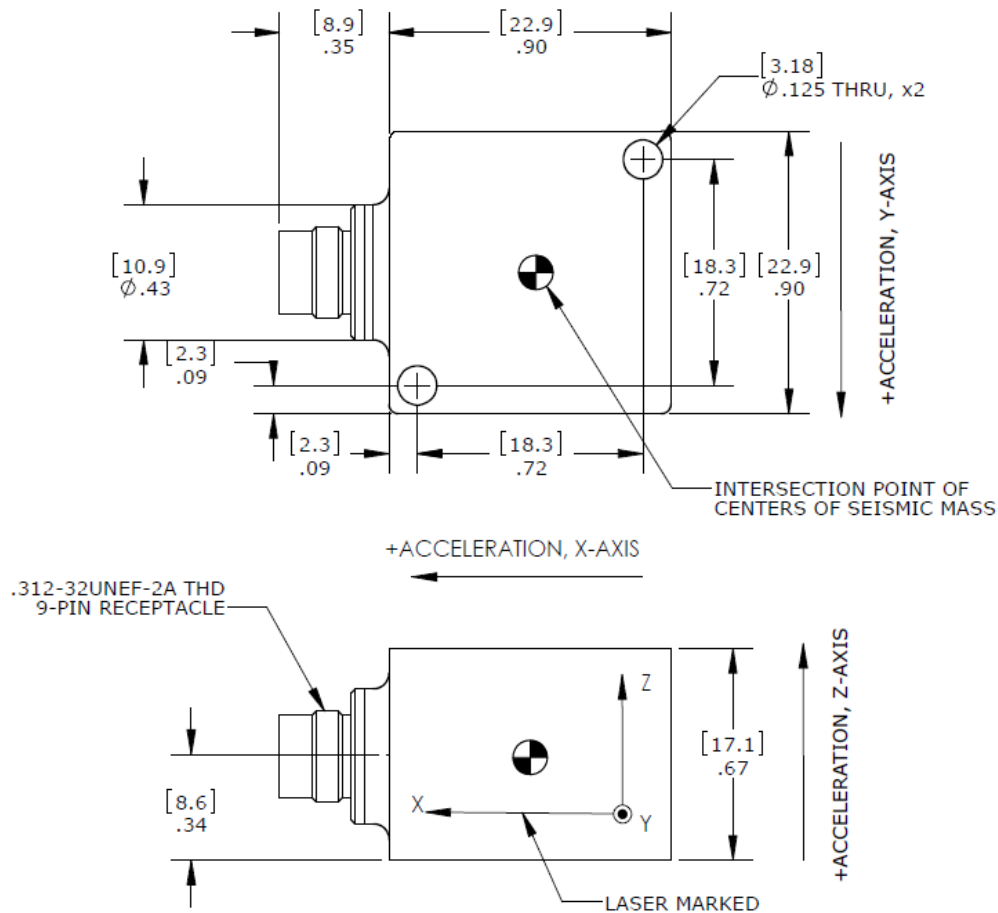
Parameters								Notes
<b>DYNAMIC</b>								
Range (g)	±2	±5	±10	±30	±50	±100	±200	
Sensitivity, Differential (mV/g)	1000	400	200	67	40	20	10	±5%
Frequency Response (Hz)	0-250	0-700	0-1000	0-1500	0-1500	0-1500	0-1500	±5%
Frequency Response (Hz)	0-500	0-1000	0-1500	0-2000	0-2000	0-2000	0-2000	±1dB
Non-Linearity (%FSO)	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<3	<1 Typical
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	0.7	
Shock Limit (g)	6000	6000	6000	6000	6000	6000	6000	
Residual Noise (µV RMS)	360	380	400	440	480	500	500	Passband
Spectral Noise (µg/√Hz)	14	28	45	137	231	464	920	Passband
<b>ELECTRICAL</b>								
Zero Acceleration Output (mV)	±50							Differential
Excitation Voltage (Vdc)	4 to 30							
Excitation Current (mA)	<21 total							
Common Mode Voltage (Vdc)	1.22							
Full Scale Output (differential)	±2 Vpk (FSO=2V)							
Full Scale Output (single-ended)	+0.22 to 2.22 Vpk (FSO=1V)							
Output Resistance (Ω)	<100							
Insulation Resistance (MΩ)	>100							@100Vdc
Turn On Time (msec)	<100							
Ground Isolation	Isolated from Mounting Surface							
<b>ENVIRONMENTAL</b>								
Thermal Zero Shift (%FSO/°C)	±0.004							Typical
Thermal Sensitivity Shift (%/°C)	±0.008							Typical
Operating Temperature (°C)	-55 to 125							
Storage Temperature (°C)	-55 to 125							
Humidity	Hermetically Sealed, IP67 <sup>1</sup>							
Total Error Band	<2% (RSS of Non-Linearity, Thermal Zero Shift, and Thermal Sensitivity Shift)							
<b>PHYSICAL</b>								
Case Material	Titanium							
Weight (grams)	22							
Mounting	2x #4 or M3 Screws							
Mounting Torque	6 lb-in (0.7 N-m)							

<sup>1</sup> Mating cable needs to also have minimum IP67 rating and be properly sealed to accelerometer connector in accordance with IEC 60529.

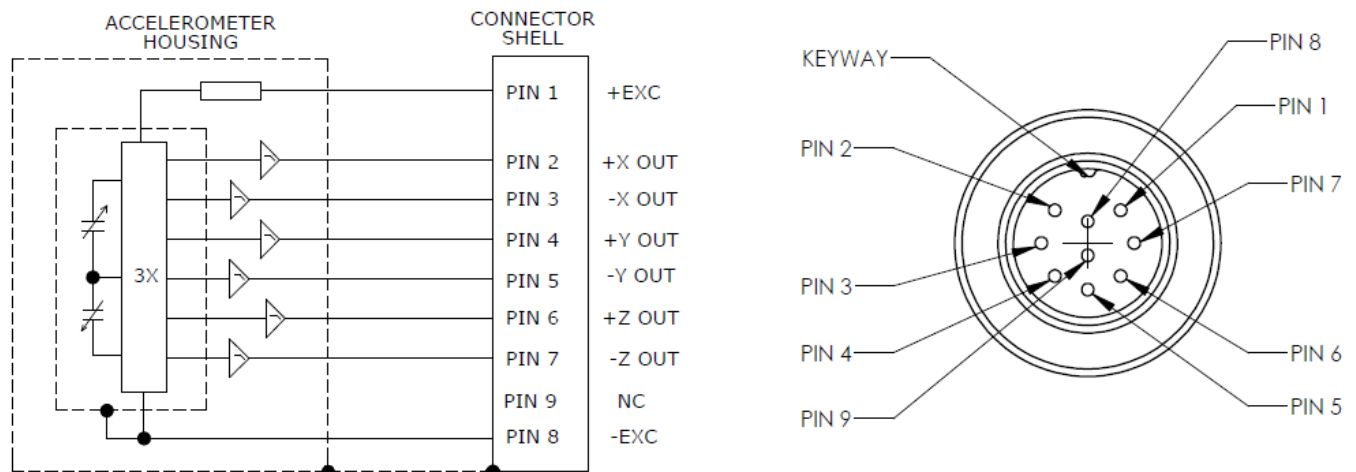
<b>Calibration supplied:</b>	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Response Limit
<b>Supplied accessories:</b>	AC-D02995	2x #4-40 (7/8" length) Socket Head Cap Screw and Washer
<b>Optional accessories:</b>	371-120 121	Mating Cable Assembly, (XXX designates length in inches, 10ft standard) 3-Channel Precision Low Noise DC Amplifier

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## DIMENSIONS



## SCHEMATIC



Example; 4835A-0030-D  
Model 4835A, 30g range

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