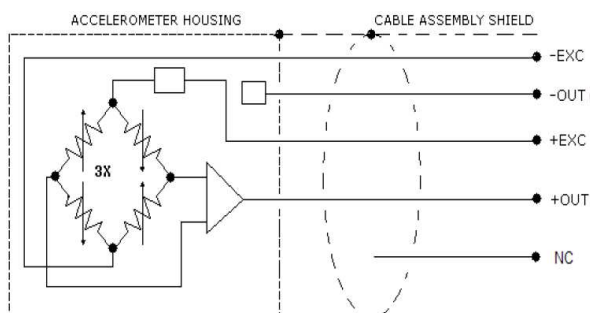
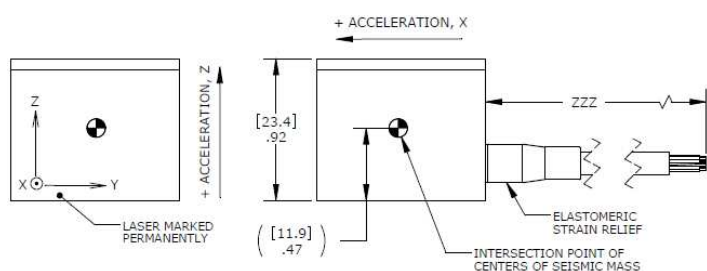
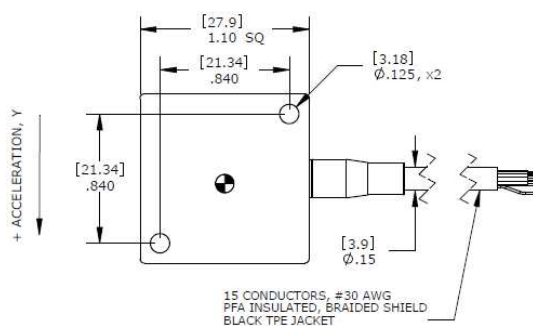




## DIMENSIONS



# MODEL 4630A ACCELEROMETER

## SPECIFICATIONS

- ◆ MEMS Triaxial Accelerometer
- ◆ Micro-g Resolution, Low Noise
- ◆ Accurate Temp Compensation
- ◆ Signal Conditioned Output

The **Model 4630A** is an ultra low-noise triaxial accelerometer offering both static and dynamic response. The silicon MEMS accelerometer is gas damped in order to provide a wide stable frequency response. The three independent circuit assemblies have independent signal conditioning and can operate on common or separate power supplies. The **model 4630A** accelerometer is available in ranges from  $\pm 2$  to  $\pm 200g$  with an operating temperature range of  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .

## FEATURES

- ◆ Three Independent Circuits
- ◆  $\pm 2g$  to  $\pm 200g$  Dynamic Range
- ◆ 5,000g Shock Protection
- ◆ 8 to 30Vdc Excitation Voltage
- ◆ Gas Damping
- ◆ Integral Strain Relief
- ◆ Temperature Compensated

## APPLICATIONS

- ◆ Transportation
- ◆ Vibration & Shock Monitoring
- ◆ Road Vehicle Testing
- ◆ Low Frequency Applications
- ◆ Modal Analyses
- ◆ Structural Monitoring

X-AXIS	Y-AXIS	Z-AXIS
BLK/BLU	BLK/YEL	BLK
-OUT (2.5 V REF)	WHT/BLU	WHT/YEL
WHT	WHT	WHT
RED/BLU	RED/YEL	RED
GRN/BLU	GRN/YEL	GRN
BRN/BLU	BRN/YEL	BRN
NC		

## PERFORMANCE SPECIFICATIONS

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

### Parameters

#### DYNAMIC

	±2	±3	±5	±10	±20	±50	±100	±200	Notes
Range (g)									
Sensitivity (mV/g)	1000	667	400	200	100	40	20	10	±10%
Frequency Response (Hz)	0-150	0-250	0-300	0-400	0-600	0-800	0-1000	0-1000	±5%
Frequency Response (Hz)	0-400	0-450	0-500	0-600	0-800	0-1100	0-1300	0-1300	±1dB
Natural Frequency (Hz)	700	750	800	1000	1500	4000	6000	8000	
Non-Linearity (%FSO)	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	
Transverse Sensitivity (%)	<3	<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	0.6	
Shock Limit (g)	2000	2000	2000	5000	5000	5000	5000	5000	
Residual Noise (µV RMS)	25	30	20	23	31	26	32	32	Passband
Residual Noise (µg/√Hz RMS)	2	3	3	6	13	21	41	82	Spectral

#### ELECTRICAL

Zero Acceleration Output (mV)	±50	Differential
Excitation Voltage (Vdc)	8 to 30	
Excitation Current (mA)	<36	
Bias Voltage (Vdc)	2.5	
Full Scale Output Voltage (Vdc)	±2	
Output Resistance (Ω)	<100	
Insulation Resistance (MΩ)	>100	@100Vdc
Turn On Time (msec)	<100	
Ground Isolation	Isolated from Mounting Surface	

#### ENVIRONMENTAL

Thermal Zero Shift (%FSO/°C)	±0.010	-40 to +100°C
Thermal Sensitivity Shift (%/°C)	±0.014	-40 to +100°C
Operating Temperature (°C)	-55 to +125	
Compensated Temperature (°C)	-40 to +100	
Humidity	Epoxy Sealed, IP65	

#### PHYSICAL

Case Material	Anodized Aluminum
Cable	15x #30 AWG Conductors PFA Insulated Leads, Braided Shield, TPE Jacket
Weight (grams)	65 (cable not included)
Mounting	2x #4 or M3 Screws
Mounting Torque	6 lb-in (0.7 N-m)

<b>Calibration supplied:</b>	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Response Limit
<b>Supplied accessories:</b>	AC-D02855	2x #4-40 (1 <sup>1/8</sup> length) Socket Head Cap Screw and Washer
<b>Optional accessories:</b>	AC-D02744 121	Adhesive Mounting Adaptor 3-Channel Precision Low Noise DC Amplifier

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**ORDERING INFORMATION**

4630A	GGG	ZZZ
<b>Series Type</b>		
<b>Range</b>		
002=2g		
003=3g		
005=5g		
010=10g		
020=20g		
050=50g		
100=100g		
200=200g		
<b>Cable length</b>		
060=60 inches		
120=120 inches		
180=180 inches		
240=240 inches		
300=300 inches		
360=360 inches		
480=480 inches		
600=600 inches		
197=197 inches, 5 meters		
394=394 inches, 10 meters		

Example; 4630A-010-060  
Model 4630A, 10g range, 60inch cable length

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