Model 4610A Accelerometer

High Performance DC Response
Micro-g Resolution, Low Noise
Advanced Temp Compensation
5,000 g Over-Range Protection

The Model 4610A is an ultra low-noise accelerometer designed for both static and dynamic measurements. The accelerometer offers integral temperature compensation with dynamic range from ±2 to ±500g. The model 4610A incorporates a gas damped MEMS element with mechanical overload stops for high-g shock protection. The accelerometer has an operating temperature range of -55°C to +125°C.

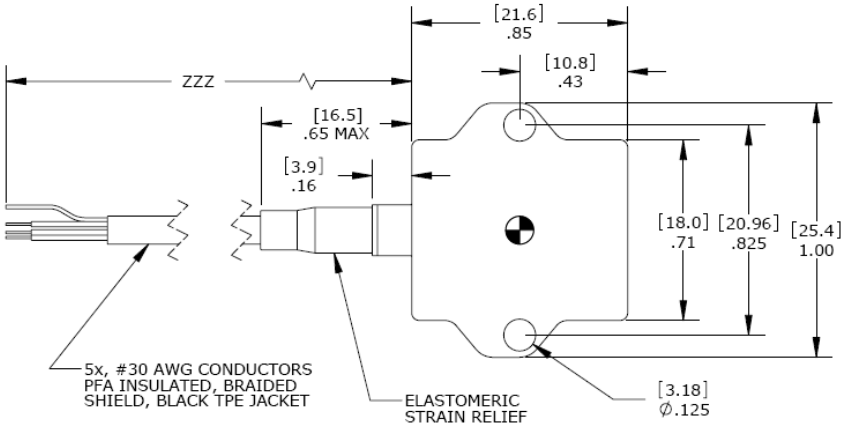
FEATURES

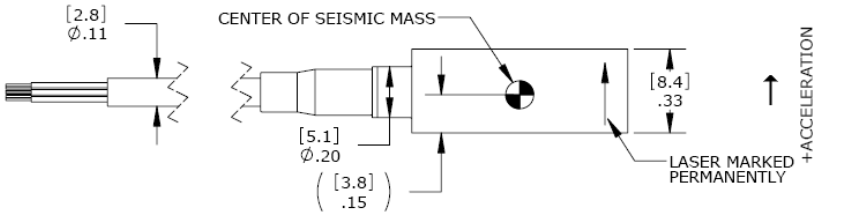
- ±2g to ±500g Dynamic Range
- 5,000g Shock Protection
- Signal Conditioned Output
- 8 to 30Vdc Excitation Voltage
- Gas Damping
- Integral Strain Relief
- Temperature Compensated

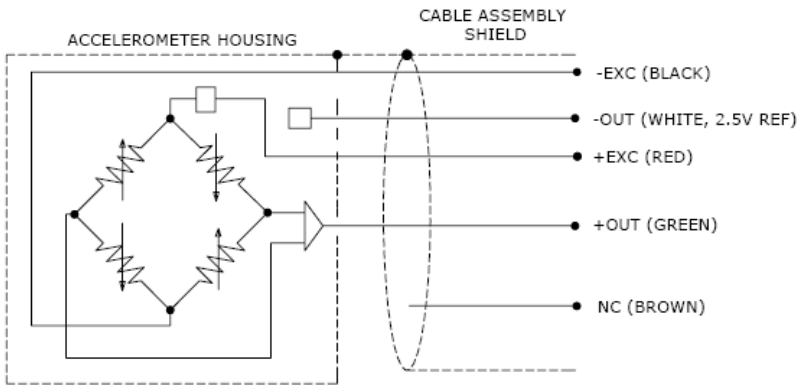
APPLICATIONS

- Low Frequency Monitoring
- Transportation
- Flight Testing
- Test & Instrumentation
- Machine Control
- Transportation Testing

dimensions







32 Journey Ste. 150 Aliso Viejo, CA 92656 949-716-5377 t&m@meas-spec.com

Model 4610A Accelerometer

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. Standard product parameters are described in PSC-1004 for Plug & Play DC Accelerometers.

Parameters										
DYNAMIC										**Notes**
Range (g)	±2	±3	±5	±10	±20	±50	±100	±200	±500	
Sensitivity (mV/g)	1000	667	400	200	100	40	20	10	4	±10%
Frequency Response (Hz)	0-200	0-250	0-300	0-400	0-600	0-1000	0-1500	0-1500	0-1500	±5%
Frequency Response (Hz)	0-400	0-450	0-500	0-600	0-1000	0-1500	0-2000	0-2000	0-2000	±1dB
Natural Frequency (Hz)	700	750	800	1000	1500	4000	6000	8000	10000	
Non-Linearity (%FSO)	±1.0	±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	<3	<1 Typical
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.5	
Shock Limit (g)	2000	2000	2000	5000	5000	5000	5000	5000	5000	
Residual Noise (µV RMS)	25	30	20	23	31	26	32	32	32	Passband
Residual Noise (µg/√Hz RMS)	2	3	3	6	13	21	41	82	210	Spectral

ELECTRICAL		
Zero Acceleration Output (mV)	±50	Differential
Excitation Voltage (Vdc)	8 to 30	
Excitation Current (mA)	<12	
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, IP62	
PHYSICAL		
Case Material	Anodized Aluminum	
Cable	4x #30 AWG Conductors PFA Insulated Leads, Braided Shield, TPE Jacket	
Weight (grams)	7 (cable not included)	
Mounting	2x #4 or M3 Screws	
Mounting Torque	6 lb-in (0.7 N-m)	

Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Response Limit
Supplied accessories:	AC-A02285	2x #4-40 (7/16 length) Socket Head Cap Screw and Washer
Optional accessories:	AC-D02669	Triaxial Mounting Block
	121	3-Channel Precision Low Noise DC Amplifier

ordering info

PART NUMBERING Model Number+Range+Cable Length

4610A-GGG-CCC
I I_____Cable (060 is 60 inches)
I_____Range (002 is 2g)

Example: 4610A-002-060
Model 4610A, 2g, 60" (5ft) Cable

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