MODEL 8102 ACCELEROMETER

SPECIFICATIONS

- **Triaxial Piezoelectric Accelerometer**
- **<22µA Current Consumption**
- **Low Excitation Voltage**
- **Great Value**

The Model 8102 is a low cost, plug & play triaxial accelerometer. Featuring stable piezo-ceramic crystals, the accelerometer incorporates full power and signal conditioning with a maximum current consumption of only 22 micro-amps. The model 8102 is available from ±25g to ±6000g ranges and provides a flat frequency response up to 6kHz. The housing provides two holes for screw mounting and is offered in anodized Aluminum or Stainless Steel options.

FEATURES

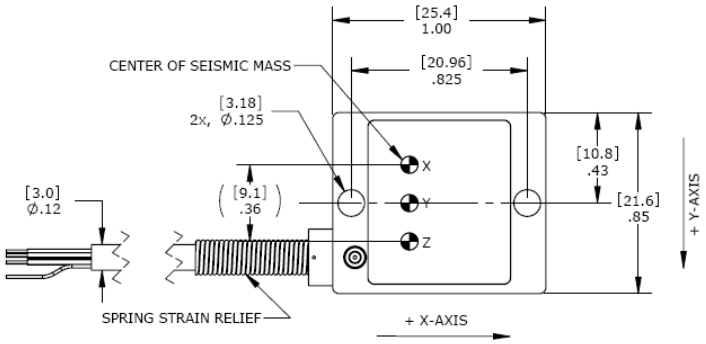
- ±25g to ±6000g Full Scale Ranges
- Low Cost Triaxial
- Potted Construction
- Piezo-Ceramic Shear Design
- -40° to +125°C
- Integral Cable for Plug & Play

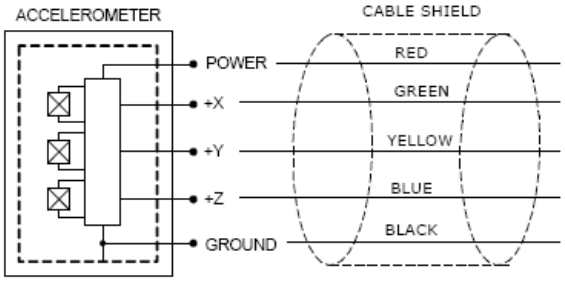
APPLICATIONS

- Asset Monitoring
- Data Loggers
- Impact Monitoring
- Machine Health Monitoring
- System Wake-Up Switch
- Product R&D

DIMENSIONS

8102A Pictured





PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 3.3Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters								
DYNAMIC								**Notes**
Range (g)	±25	±50	±100	±200	±500	±2000	±6000	
Sensitivity (mV/g)	50.0	25.0	12.5	6.25	2.5	0.62	0.20	±30%
Frequency Response (Hz)	2-6000	2-6000	2-6000	2-6000	2-6000	2-6000	2-6000	±2dB
Natural Frequency (Hz)	>10000	>10000	>10000	>10000	>10000	>30000	>30000	
Non-Linearity (%FSO)	±2	±2	±2	±2	±2	±2	±2	
Transverse Sensitivity (%)	<10	<10	<10	<10	<10	<10	<10	
Shock Limit (g)	5000	5000	5000	5000	5000	10000	10000	
Residual Noise (g RMS)	0.008	0.008	0.010	0.020	0.048	0.350	0.520	2Hz to 10kHz
Spectral Noise, 10Hz (mg√Hz)	0.80	0.80	0.80	1.6	3.2	26	32	
Spectral Noise, 100Hz (mg√Hz)	0.16	0.16	0.16	0.64	1.0	6.2	10	
Spectral Noise, 1kHz (mg√Hz)	0.07	0.07	0.07	0.26	0.64	3.2	8	

ELECTRICAL		
Bias Voltage (Vdc)	Exc Volt / 2	
Total Supply Current (µA)	<22	
Excitation Voltage (Vdc) [1]	3.0 to 5.5	
Output Impedance (Ω)	<100	
Insulation Resistance (MΩ)	>100	@100Vdc
Shielding	100%	
Ground Isolation	Isolated from Mounting Surface	
ENVIRONMENTAL		
Temperature Response (%)	-20/+30 from -40°C to +125°C	
Operating Temperature (°C)	-40 to +125	
Storage Temperature (°C)	-40 to +125	
Humidity	Epoxy Sealed, IP65	
PHYSICAL		
Case Material	Anodized Aluminum or Stainless Steel	
Cable	5x #26 AWG Conductors ETFE Insulated, Braided Shield, Cross-linked ETFE Jacket	
Weight (grams)	14	
Mounting	2x #4 or M3 Screws	
Mounting Torque	6 lb-in (0.7 N-m)	

[1] The model 8102 can be operated with 2.8V excitation but the full-scale range will be limited.

Calibration supplied: CS-SENS-0100 NIST Traceable Amplitude Calibration at 80Hz

Supplied accessories: 2x #4-40 (1/2" length) Socket Head Cap Screw and Washer

Optional accessories: CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±2dB Frequency Response Limit

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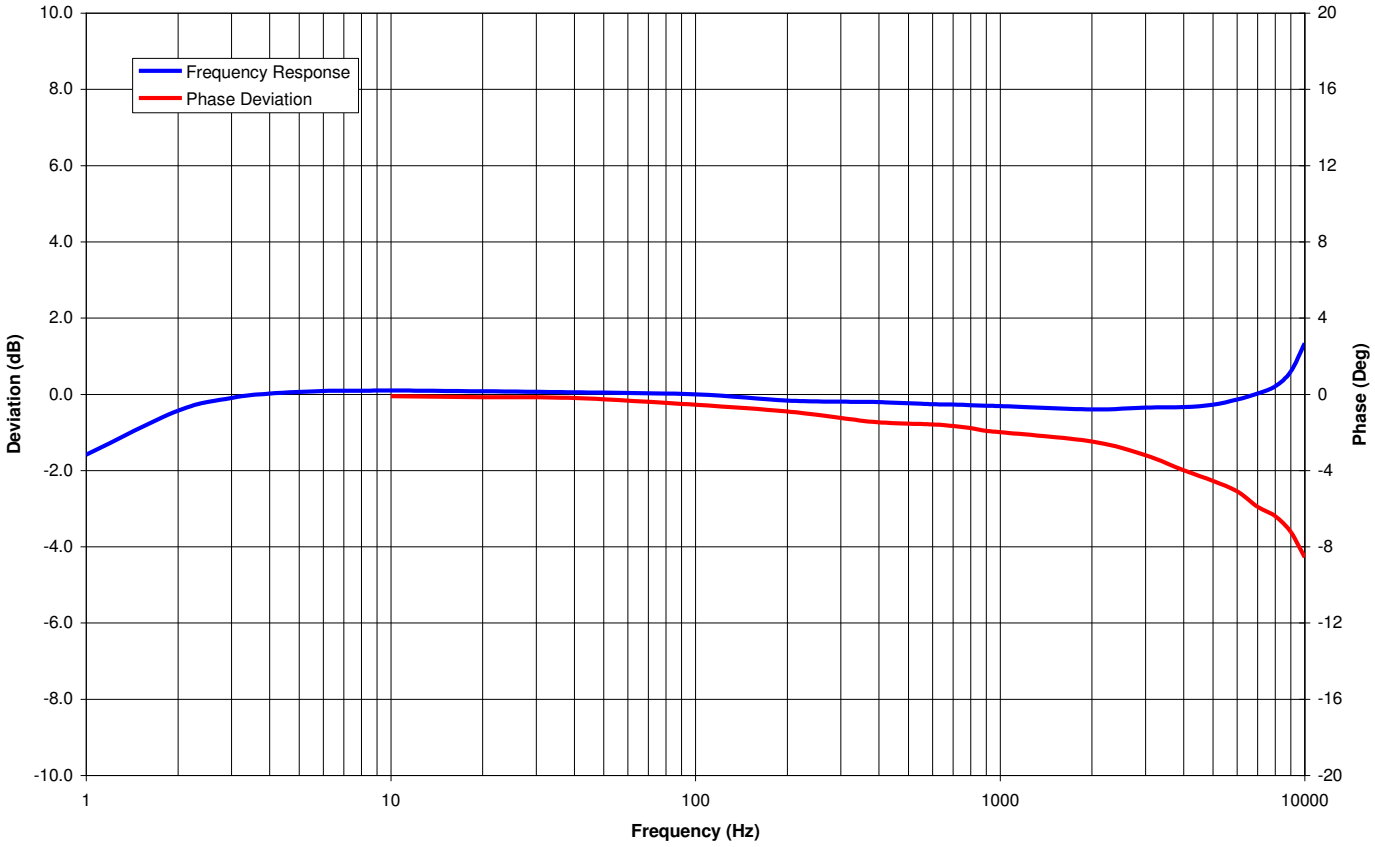
Typical Frequency Response & Phase Deviation



ORDERING INFORMATION

PART NUMBERING Model Number+Range+Cable Length

8102A-GGGG-CCC-XY
- I I I I_____ Connector Options (Contact Factory, otherwise leave blank)
- I I I_____ Cable (060 is 60 inches)
- I I_____ Range (0200 is 200g)
- I_____ Housing Configuration (A is Anodized Aluminum, B is Stainless Steel)

Example: 8102A-0200-060
Model 8102A, 200g, 60” (5ft) Cable, No Connector Options

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