

Compact tri-axial vibration sensor

Description

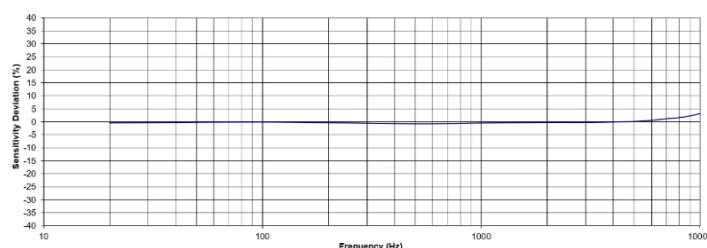
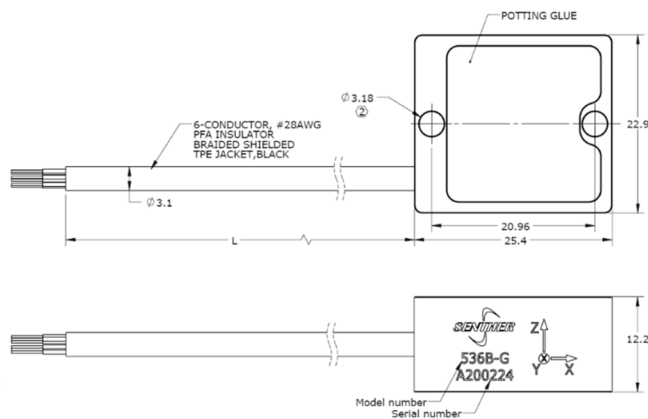
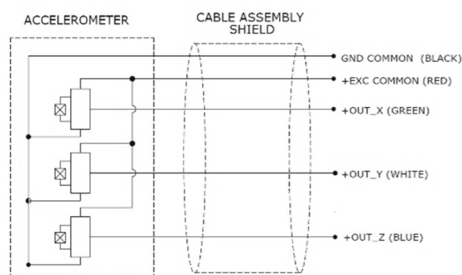
Model 536B is a tri-axial accelerometer permitting simultaneous vibration monitoring and shock measurements. 536B combine three annular shear crystal sensing elements which exhibits excellent output stability over time. The accelerometer incorporates special internal circuit in (3X)three-wire signal system which powered by voltage excitation and output with voltage signal. Excellent electrical design enables the low current consumption that ideal for wireless device with battery power supply. Signal ground is isolated from housing and internal shielded. Polarity inversion protection for the amplify circuit is inherent in the circuit design. The aluminum construction provides a lightweight water-proof housing. Integrated cable is reliable for field mounting and electrical connection. Compact configuration is fit with most of the testing object. The 536B provides wide frequency response, which is ideal for dynamic vibration and shock measurement especially for lightweight structures.

Features

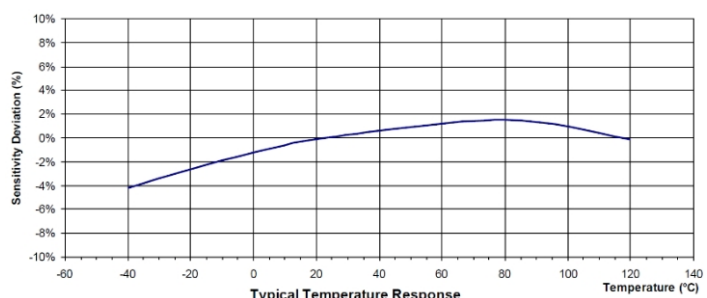
- Compact size
- Low power consumption
- Integrated cable output
- Wide temperature range
- Wide frequency response
- Adhesive/screw mounting
- Annular shear mode

Application

- Vibration testing
- Machine health monitoring
- Embedded device
- Industrial IoT
- Wireless device



Typical Frequency Response



Typical Temperature Response

Specification

Typical at +24°C (+75°F), 5Vdc and 100 Hz, unless otherwise stated.

Measurement Range	20	50	100	500	g
Sensitivity $\pm 10\%$	100	40	20	4	mV/g
Frequency Range $\pm 10\%$	1-7000	1-7000	1-7000	1-7000	Hz
Frequency Range $\pm 3\text{dB}$	0.4-10000	0.4-10000	0.5-12000	0.5-12000	Hz
Resonant Frequency	38	38	38	38	kHz
Transverse Sensitivity	<5	<5	<5	<5	%
Temperature Response, -55 to +125°C	± 10	± 10	± 10	± 10	%
Broadband Resolution	0.0006	0.0008	0.001	0.0012	Equiv. g RMS
Non-Linearity	± 1	± 1	± 1	± 1	%
Shock Limit	± 5000	± 5000	± 5000	± 5000	g pk

Environmental

Temperature Range	-50-125	-50-125	-50-125	-50-125	°C
-------------------	---------	---------	---------	---------	----

Electrical

Bias Voltage	EXC VOLTAGE/2	Vdc
Full Scale Output Voltage	± 2	Vdc
Output Impedance	<100	Ω
Insulation Resistance (@50Vdc)	>100	M Ω
Supply Voltage	3.0 to 5.5	VDC
Total Supply Current	<0.15	mA
Warm-up Time(To within 5% of final bias)	<500	ms
Electrical connection	Shielded #28AWG wire / TPE jacket cable	
Grounding	Case Isolation	

Physical

Weight	20	gm
Sensing Element	Ceramic	
Sensing Geometry	Shear	
Housing Material	Black anodized aluminum alloy	
Sealing	Epoxy Sealed	
Mounting torque	6.0 (0.7)	Lb-in (N-m)

Accessories

Calibration certificate included.

Part Number	Description	Availability
PM0361	M3x16.0 cup socket head screw and washer	2pcs included
PM0225	#4-40x 5/8" cup socket head screw and washer	Optional
MB0024	Magnet mounting adaptor	Optional
IN-91	Portable vibration analyzer	Optional
IN-3062	8 channels data acquisition system	Optional

Measurement configuration

Sensor	DC power supply	Data acquisition	Computer
			

Ordering information

536	B	-	50	-	1
Model	Output signal	-	Range	-	Cable length in meter
536	B=Voltage excitation/output	-	20=20g 50=50g 100=100g 500=500g	-	1=1meter



Senther reserves the right to make changes to any products or technology herein to improve reliability, function or design. Senther does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights nor the rights of others.