

## Embedded vibration sensor

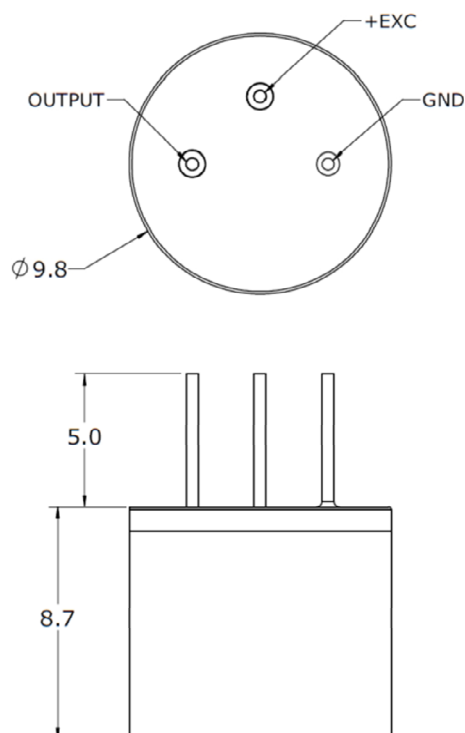


### Features

- Miniature size
- Low power consumption
- TO-5 connector pin
- Wide temperature range
- Wide frequency response
- Adhesive mounting
- Annular shear mode

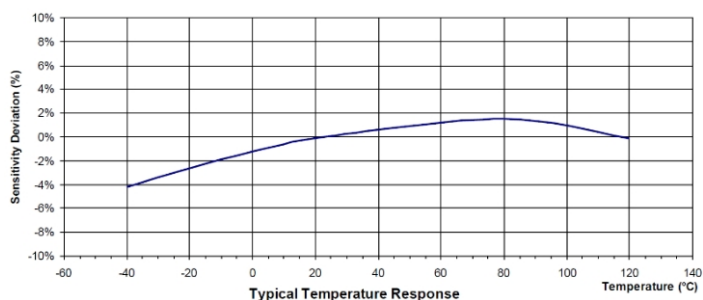
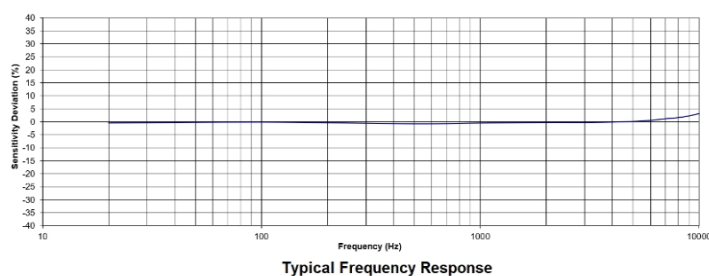
### Application

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



### Description

Model 515B is an embedded accelerometer permitting simultaneous vibration monitoring and shock measurements. 515B features an annular shear ceramic crystal which exhibits excellent output stability over time. The accelerometer incorporates an internal circuit in a 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 connected to the outer case of the unit, Isolated mounting washer is available. Polarity inversion protection for the amplify circuit is inherent in the circuit design. The stainless-steel construction provides a lightweight hermetic housing. TO-5 three pins connection are convenient for structure assembly and electrical connection. Compact columnar configuration is fit with most of the impact testing device. The 515B provides wide frequency response, which is ideal for dynamic vibration and shock measurement especially for lightweight structures.





## 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	$\pm 10$	$\pm 10$	$\pm 10$	$\pm 10$	%
Broadband Resolution	0.0006	0.0008	0.001	0.0012	Equiv. g RMS
Non-Linearity	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$	%
Shock Limit	$\pm 5000$	$\pm 5000$	$\pm 5000$	$\pm 5000$	g pk

## Environmental

Temperature Range	-50-125	-50-125	-50-125	-50-125	°C
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## Electrical

Bias Voltage	EXC VOLTAGE/2	Vdc
Full Scale Output Voltage	$\pm 2$	Vdc
Output Impedance	<100	$\Omega$
Insulation Resistance (@50Vdc)	>100	M $\Omega$
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	TO-5	
Grounding	Case Grounded	

## Physical

Weight	5	gm
Sensing Element	Ceramic	
Sensing Geometry	Shear	
Housing Material	Stainless Steel	
Sealing	Epoxy Sealed	

## Accessories

Calibration certificate included.

Part Number	Description	Availability
PM0125	Insulation washer	Included
IN-91	Portable vibration analyzer	Optional



## Ordering information

<b>515</b>	<b>B</b>	-	<b>50</b>
<b>Model</b>	Output signal	-	Range
<b>515</b>	B=3-pins voltage excitation/output	-	20=20g 50=50g 100=100g 500=500g



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