



## 8201 CONDITION MONITORING ACCELEROMETER

### SPECIFICATIONS

- Piezoelectric Accelerometer
- $\pm 25g$  to  $\pm 500g$  Dynamic Ranges
- Wide Bandwidth to  $>10,000Hz$
- Superior Resolution to MEMS Devices
- Low Cost, Superior Value
- Ready to use, Plug & Play design

### FEATURES

- Amplified  $\pm 1.25V$  Signal Output
- 3.0 to 5.5Vdc Excitation Voltage
- Anodized Aluminum Housing
- Piezo-Ceramic Crystal, Shear Mode
- $-40^{\circ}$  to  $+125^{\circ}C$  Operating Range

### APPLICATIONS

- Machine Health Monitoring
- Predictive Maintenance Installations
- Condition Monitoring, IoT
- Impact & Shock Monitoring
- Bearing Installations

The Model 8201 is a low cost, packaged accelerometer designed for machine condition monitoring and preventive maintenance applications. The piezo-electric accelerometer is available in ranges from  $\pm 25g$  to  $\pm 500g$  and features a flat frequency response up to  $>10kHz$ . The model 8201 accelerometer feature a stable piezo-ceramic crystal in shear mode with low power electronics, sealed in a fully hermetic LCC package.

The PE technology incorporated in the 8201 accelerometer has a proven track record for offering the reliable and long-term stable output required for condition monitoring applications. The accelerometer is designed and qualified for machine health monitoring and has superior Resolution, Dynamic Range and Bandwidth to MEMS devices.

The accelerometer offers end users a simple package to test the performance of the embedded model 820M1 accelerometer, which is installed in this 8201 accelerometer, without having to design a PCB circuit for installing the 820M1.

## PERFORMANCE SPECIFICATIONS

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

### Parameters

#### DYNAMIC

	±25	±50	±100	±200	±500	Notes
Range (g)	±25	±50	±100	±200	±500	
Sensitivity (mV/g)	50.0	25.0	12.5	6.3	2.5	±20%
Frequency Response (Hz)	6-6000	6-6000	6-6000	6-6000	6-6000	±1dB
Frequency Response (Hz)	2-10000	2-10000	2-10000	2-10000	2-10000	±3dB (see note 1 below)
Resonant Frequency (Hz)	>30000	>30000	>30000	>30000	>30000	
Non-Linearity (%FSO)	±1	±1	±1	±1	±1	Maximum
Transverse Sensitivity (%)	<8	<8	<8	<8	<8	Maximum
Shock Limit (g)	10,000	10,000	10,000	10,000	10,000	
Residual Noise (mg RMS)	6.3	12.4	15.9	24.7	39.9	2Hz to 10kHz
Spectral Noise, 10Hz (µg/√Hz)	98	193	248	384	620	
Spectral Noise, 100Hz (µg/√Hz)	51	101	130	201	324	
Spectral Noise, 1kHz (µg/√Hz)	45	89	114	176	285	

#### ELECTRICAL

Excitation Voltage (Vdc)	3.0 to 5.5 (see note 2 below)
Bias Voltage (Vdc)	Excitation Voltage / 2
Full Scale Output Voltage (V)	±1.25
Total Supply Current (µA)	62
Output Impedance (Ω)	<100
Warm-up Time (sec)	<1

#### ENVIRONMENTAL

Temperature Response (%)	See Typical Temperature Response Curves on Page 3
Operating Temperature (°C)	-40 to +125
Storage Temperature (°C)	-40 to +125
Humidity	Hermetically Sealed Sensor, Epoxy Sealed Housing

#### PHYSICAL

Sensing Element	PZT (Lead Zirconate Titanate), Shear Mode
Case Material	Anodized Aluminum Housing
Weight (grams)	2.2
Mounting	Epoxy Mount

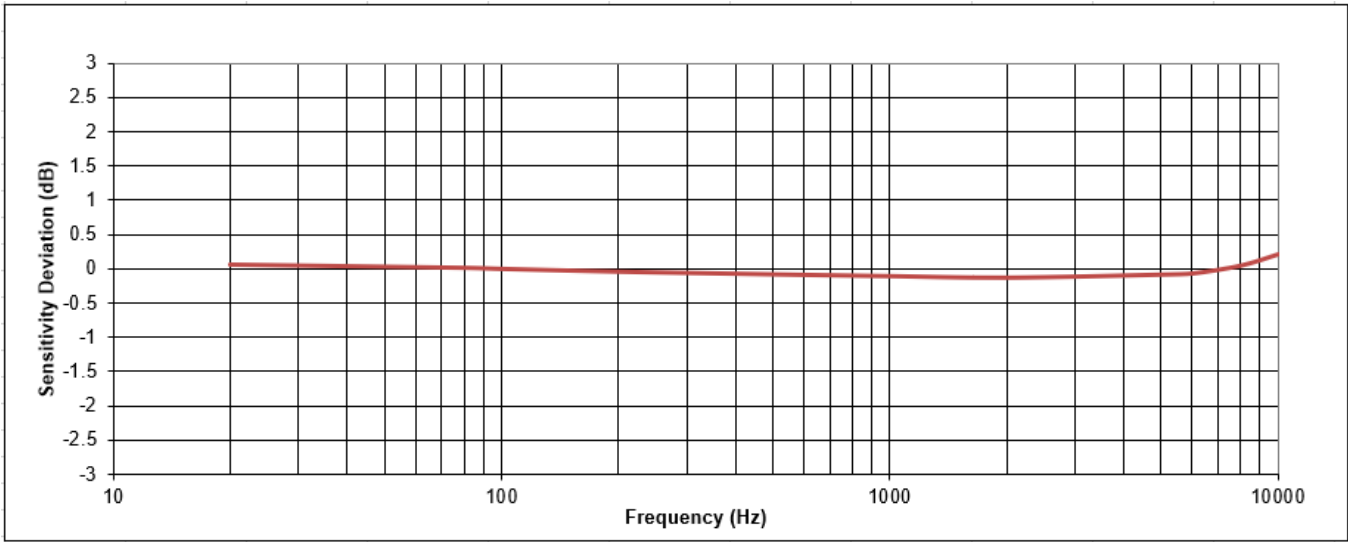
**Calibration supplied:** CS-SENS-0100 NIST Traceable Amplitude Calibration at 80Hz

<sup>1</sup> Proper mounting is critical for good performance to 10kHz. See operating manual for recommended installation instructions.

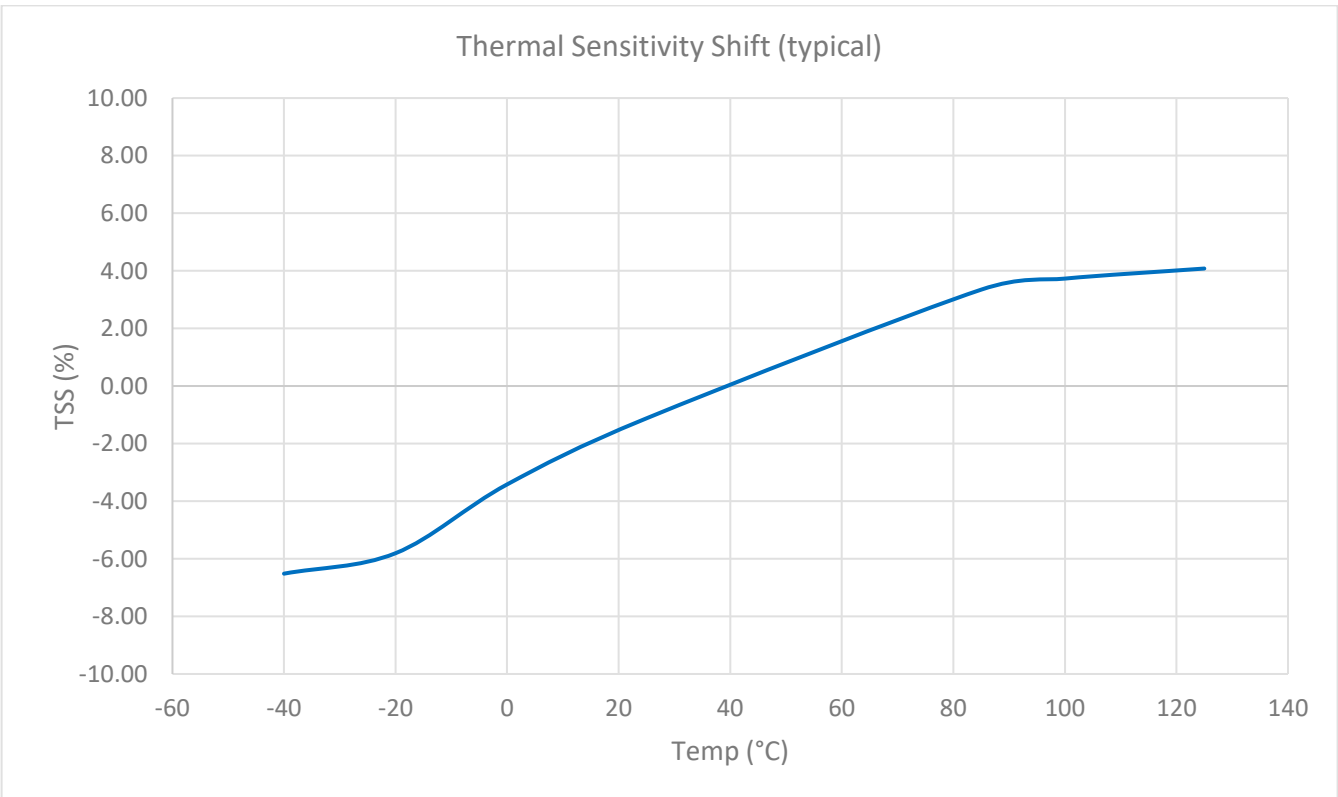
<sup>2</sup> The model 8201 can be operated with 2.8V excitation but the full-scale range will be limited. See operating manual for details.

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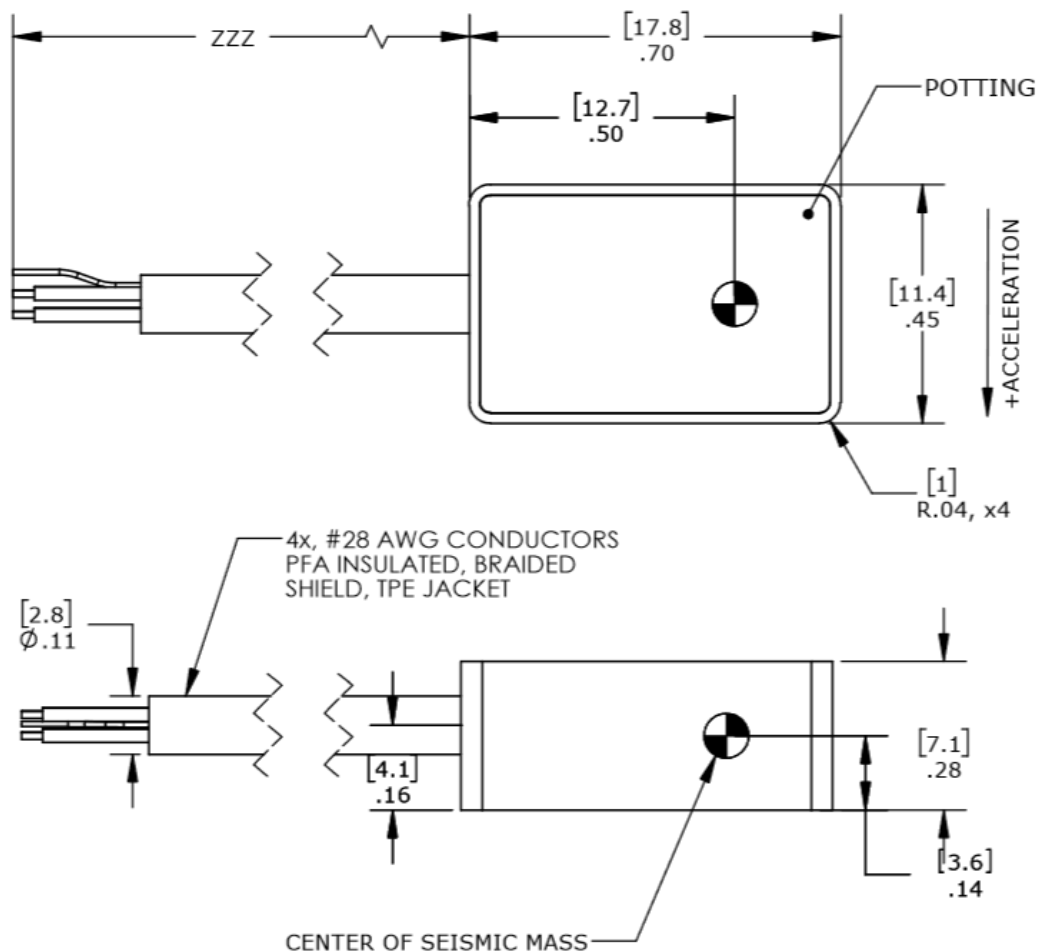
FREQUENCY RESPONSE CURVE



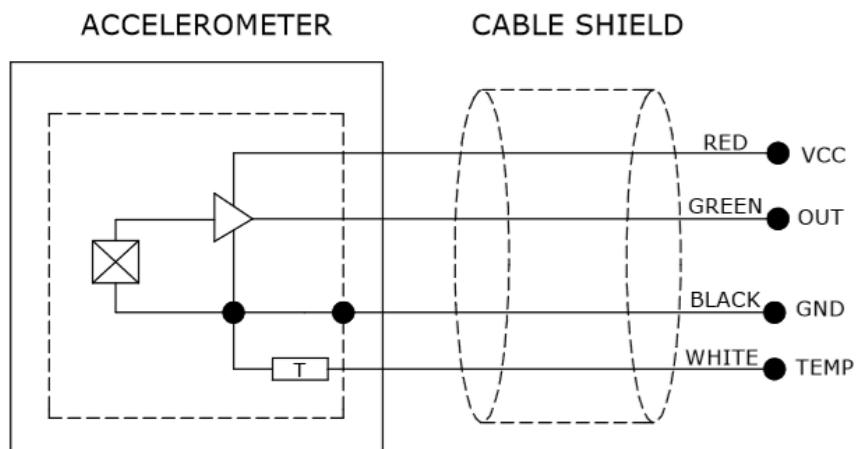
SENSITIVITY TEMPERATURE SHIFT



## DIMENSIONS



## SCHEMATIC



**ORDERING INFORMATION**

<b>8201</b>	<b>GGGG</b>	<b>ZZZ</b>
<b>Range</b>		
0025 = 25g		
0050 = 50g		
0100 = 100g		
0200 = 200g		
0500 = 500g		
<b>Cable length</b>		
120 = 120 inches, 10ft (standard)		
240 = 240 inches, 20ft		
360 = 360 inches, 30ft		

Example: 8201-0050-120  
Model 8201, 50g, 120inches (10ft) Cable

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