

## MODEL 820M1 ACCELEROMETER

### SPECIFICATIONS

- Piezoelectric Accelerometer
- $\pm 25g$  to  $\pm 100g$  Dynamic Ranges
- Wide Bandwidth to 6000Hz
- Circuit Board Mountable

The Model 820M1 is a low cost, board mountable accelerometer designed for embedded condition monitoring and predictive maintenance applications. The piezo-electric accelerometer is available in ranges from  $\pm 25g$  to  $\pm 100g$  and features a flat frequency response up to  $>6kHz$ . Featuring stable piezo-ceramic crystals in shear mode, the accelerometer incorporates an amplified  $\pm 1.25V$  output with optimum measurement resolution.

### FEATURES

- Amplified  $\pm 1.25V$  Signal Output
- 2.8 to 5.5Vdc Excitation Voltage
- Hermetically Sealed
- Piezo-Ceramic Shear Design
- $-40^{\circ}$  to  $+125^{\circ}C$  Operating Range

### APPLICATIONS

- Machine Health Monitoring
- Preventive Maintenance Installations
- Embedded Vibration Monitoring
- Impact & Shock Monitoring

## 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	Notes
Range (g)	±25	±50	±100	
Sensitivity (mV/g)	50.0	25.0	12.5	±30%
Frequency Response (Hz)	2-6000	2-6000	2-6000	±1dB
Resonant Frequency (Hz)	>30000	>30000	>30000	
Non-Linearity (%FSO)	±1	±1	±1	
Transverse Sensitivity (%)	<5	<5	<5	
Shock Limit (g)	2000	2000	2000	
Residual Noise (g RMS)	0.0026	0.0030	0.0032	2Hz to 10kHz
Spectral Noise, 10Hz (µg/√Hz)	160	160	160	
Spectral Noise, 100Hz (µg/√Hz)	40	40	40	
Spectral Noise, 1kHz (µg/√Hz)	16	16	16	

#### ELECTRICAL

Excitation Voltage (Vdc)	2.8 to 5.5			
Bias Voltage (Vdc)	Excitation Voltage / 2			
Full Scale Output Voltage (V)	±1.25			
Total Supply Current (µA)	22			
Output Impedance (Ω)	<100			
Insulation Resistance (MΩ)	>100			@100Vdc
Shielding	100%			
Warm-up Time (msec)	30			

#### ENVIRONMENTAL

Temperature Response (%)	-20/+30 from -40°C to +125°C
Operating Temperature (°C)	-40 to +125
Storage Temperature (°C)	-40 to +125
Humidity	Hermetically Sealed

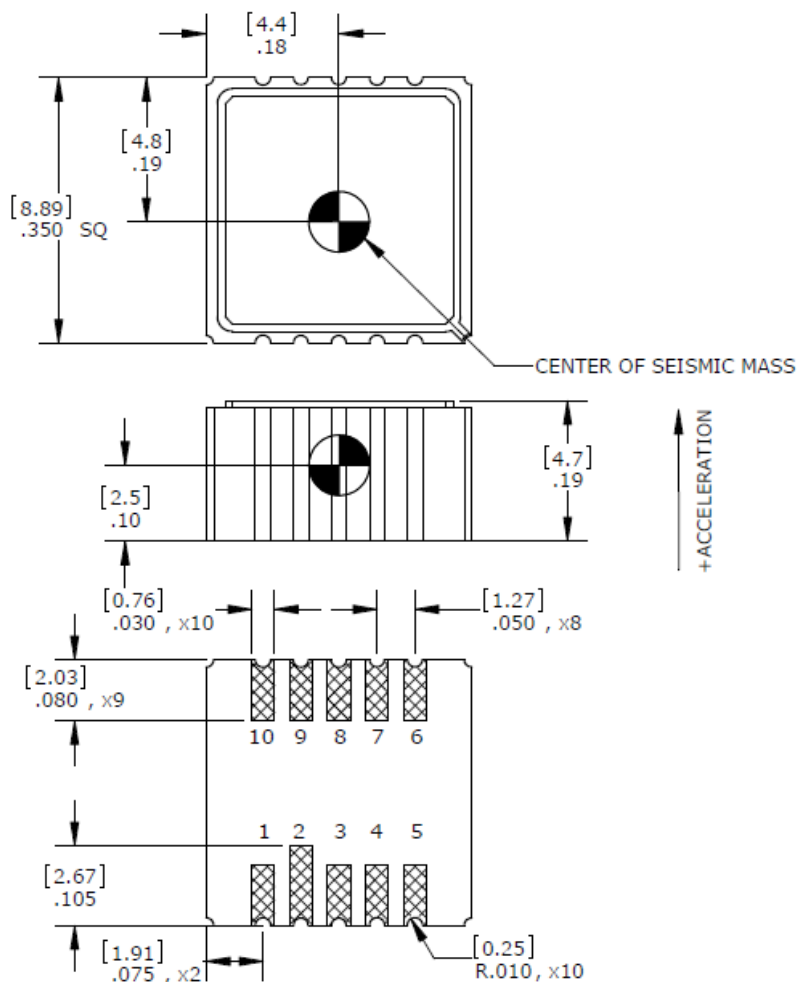
#### PHYSICAL

Sensing Element	PZT (Lead Zirconate Titanate)
Case Material	Ceramic Base and Cover
Weight (grams)	1.0
Mounting	Solder Reflow

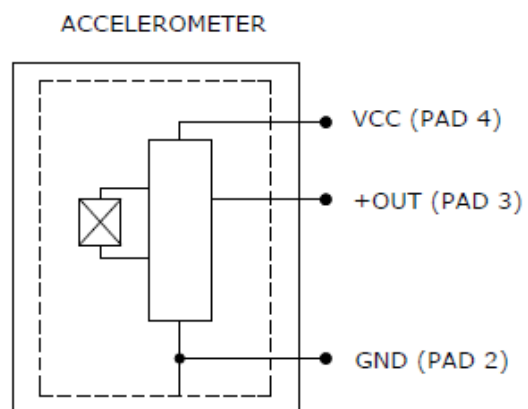
**Calibration supplied:** CS-SENS-0100 NIST Traceable Amplitude Calibration at 80Hz

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## DIMENSIONS



## SCHEMATIC



### ORDERING INFORMATION

820M1-GGGG

I \_\_\_\_\_ Range (0100 is 100g)

Part Number	Range
820M1-0025	25g
820M1-0050	50g
820M1-0100	100g

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