

MODEL 810M1 ACCELEROMETER



SPECIFICATIONS

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

The Model 810M1 is a low cost, board mountable accelerometer designed for general purpose vibration measurements. The accelerometer is available in $\pm 25g$ or $\pm 100g$ range and provides a flat frequency response up to $>6kHz$. Featuring stable piezo-ceramic crystals in shear mode, the accelerometer incorporates an amplified $\pm 1.25V$ output and is offered in two measurement direction options (X or Z axis).

FEATURES

- ◆ Two Measurement Directions
- ◆ 3.3 to 5.5Vdc Excitation Voltage
- ◆ Hermetically Sealed
- ◆ Piezo-Ceramic Shear Design
- ◆ -40° to $+125^{\circ}C$ Operating Range

APPLICATIONS

- ◆ Asset Monitoring
- ◆ Data Loggers
- ◆ Impact Monitoring
- ◆ Machine Health Monitoring
- ◆ System Wake-Up Switch

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.

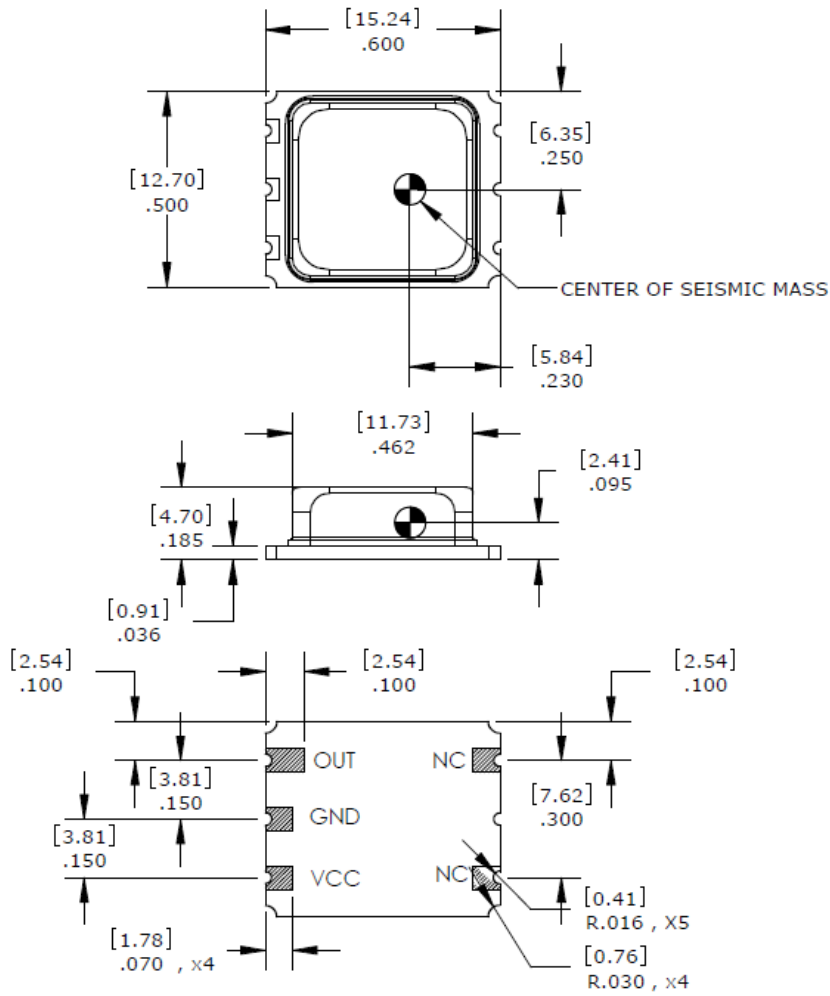
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|-------------------------------|-----------------------------------|--------|--------------|
| Parameters | | | |
| DYNAMIC | | | Notes |
| Range (g) | ±25 | ±100 | |
| Sensitivity (mV/g) | 50.0 | 12.5 | ±30% |
| Frequency Response (Hz) | 2-6000 | 2-6000 | ±1dB |
| Resonant Frequency (Hz) | >30000 | >30000 | |
| Non-Linearity (%FSO) | ±2 | ±2 | |
| Transverse Sensitivity (%) | <8 | <8 | |
| Shock Limit (g) | 2000 | 2000 | |
| Residual Noise (g RMS) | 0.0026 | 0.0032 | 2Hz to 10kHz |
| Spectral Noise, 10Hz (µg√Hz) | 160 | 160 | |
| Spectral Noise, 100Hz (µg√Hz) | 40 | 40 | |
| Spectral Noise, 1kHz (µg√Hz) | 16 | 16 | |
| ELECTRICAL | | | |
| Bias Voltage (Vdc) | Excitation Voltage / 2 | | |
| Full Scale Output Voltage (V) | ±1.25 | | |
| Total Supply Current (µA) | 22 | | |
| Excitation Voltage (Vdc) | 3.3 to 5.5 | | |
| 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 | Ceramic (shear mode) | | |
| Case Material | Ceramic Base, Nickel Silver Cover | | |
| Weight (grams) | 3.0 | | |
| Mounting | Solder | | |

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

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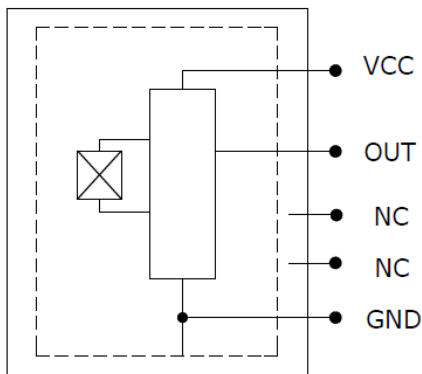
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DIMENSIONS



SCHEMATIC

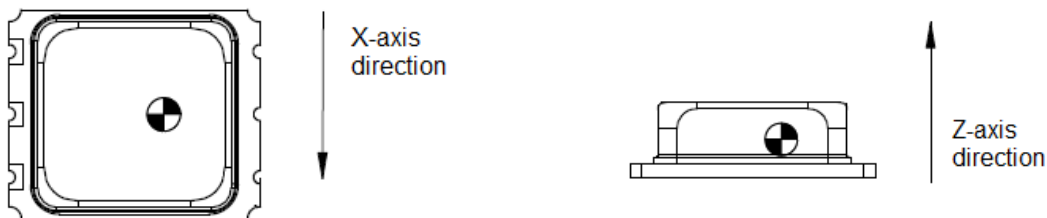
ACCELEROMETER



ORDERING INFORMATION

| | | |
|--|-------------|----------|
| 810M1 | GGGG | X |
| Range 0025=25g 0100=100g | | |
| Measurement Direction (see figures below) X=X-axis Z=Z-axis | | |

Examples;
810M1-0025X
Model 810M1, 25g range, X-axis measurement



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