

MODEL 832M1 ACCELEROMETER



SPECIFICATIONS

- ◆ Triaxial Piezoelectric Accelerometer
- ◆ <math><22\mu\text{A}</math> Current Consumption
- ◆ Wide Bandwidth to 6kHz
- ◆ Circuit Board Mountable

The **Model 832M1** is a low cost, board mountable triaxial accelerometer. Featuring stable piezo-ceramic crystals, the accelerometer incorporates full power and signal conditioning with a maximum current consumption of 22 micro-amps. The **model 832M1** is available in $\pm 25\text{g}$ to $\pm 500\text{g}$ ranges and provides a flat frequency response up to greater than 6kHz. The standard model 832 offers the same envelope with a lower maximum current consumption of 4 micro-amps.

FEATURES

- ◆ $\pm 25\text{g}$ to $\pm 500\text{g}$ Dynamic Range
- ◆ Low Cost Triaxial
- ◆ Hermetically Sealed
- ◆ Piezo-ceramic Crystals
- ◆ -40° to $+125^\circ\text{C}$ Operating Range
- ◆ Single Axis Configurations Available

APPLICATIONS

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

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 | | | | | | Notes |
|--|-----------------------------------|--------|--------|--------|--------|-----------|
| DYNAMIC | | | | | | |
| Range (g) | ±25 | ±50 | ±100 | ±200 | ±500 | |
| Sensitivity (mV/g) | 50.0 | 25.0 | 12.5 | 6.25 | 2.5 | ±30% |
| Frequency Response (Hz) | 2-6000 | 2-6000 | 2-6000 | 2-6000 | 2-6000 | ±2dB |
| Natural Frequency (Hz) | >10000 | >10000 | >10000 | >10000 | >10000 | |
| Non-Linearity (%FSO) | ±2 | ±2 | ±2 | ±2 | ±2 | |
| Transverse Sensitivity (%) | <10 | <10 | <10 | <10 | <10 | |
| Shock Limit (g) | 5000 | 5000 | 5000 | 5000 | 5000 | |
| Broadband Noise (µV) | 110 | 90 | 50 | 40 | 50 | 2Hz-10kHz |
| Spectral Noise (µg/√Hz) | 120 | 160 | 160 | 160 | 600 | @ 10Hz |
| Spectral Noise (µg/√Hz) | 40 | 40 | 40 | 40 | 160 | @ 100Hz |
| Spectral Noise (µg/√Hz) | 20 | 16 | 16 | 16 | 80 | @ 1000Hz |
| ELECTRICAL | | | | | | |
| Bias Voltage (Vdc) | Exc Voltage / 2 | | | | | |
| Total Supply Current (µA) ¹ | <22 | | | | | |
| Excitation Voltage (Vdc) ³ | 3.3 to 5.5 | | | | | |
| Output Impedance (Ω) | <100 | | | | | |
| Insulation Resistance (MΩ) | >50 | | | | | @100Vdc |
| Warm-Up Time (msec) | 30 | | | | | |
| Shielding | 100% | | | | | |
| Ground Isolation | Isolated from Mounting Surface | | | | | |
| ENVIRONMENTAL | | | | | | |
| Temperature Response (%) | -20/+30 from -40°C to +125°C | | | | | |
| Operating Temperature (°C) | -40 to +125 | | | | | |
| Storage Temperature (°C) | -40 to +125 | | | | | |
| PHYSICAL | | | | | | |
| Sensing Element | Ceramic (shear mode) | | | | | |
| Case Material | Ceramic Base, Nickel Silver Cover | | | | | |
| Weight (grams) | 3.0 | | | | | |

¹ A lower current consumption of 4 micro-amperes is available on model 832.

² The model 832M1 is not to be reflow soldered at high temperature, manual soldering is recommended. See operating manual.

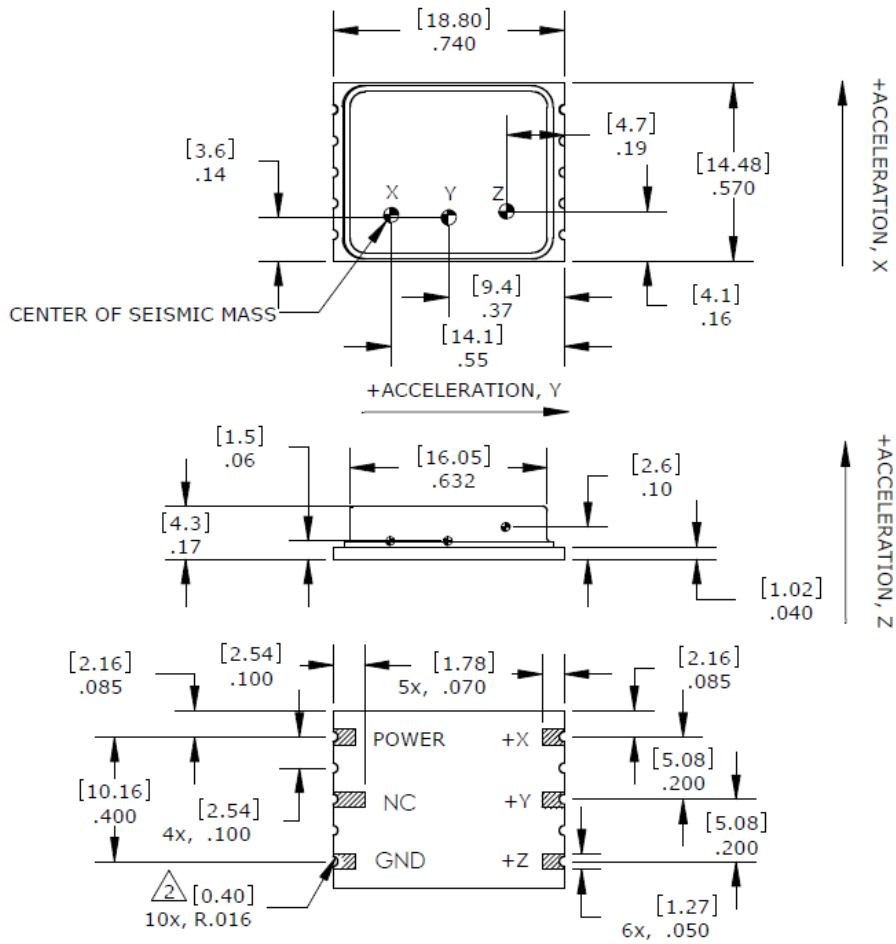
³ The model 832M1 can be operated with 2.8V excitation but the full-scale range will be limited. See operating manual for details.

Calibration supplied: CS-SENS-0100 NIST Traceable Amplitude Calibration at 100Hz

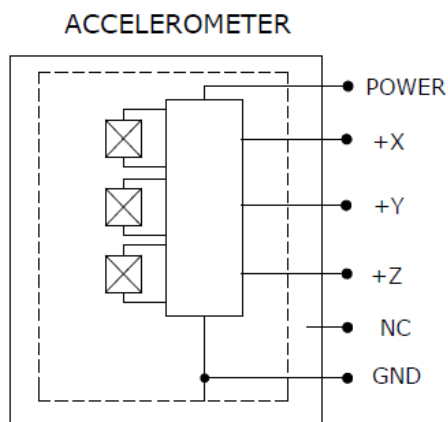
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DIMENSIONS



SCHEMATIC



ORDERING INFORMATION

832M1

GGGG

Range

0025=25g

0050=50g

0100=100g

0200=200g

0500=500g

Example;

832M1-0500

Model 832M1, 500g range

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