



g

AAA640 SERIES

DC-Operated Accelerometer with unfiltered and low passfilter outputs

FEATURES

- Ranges $\pm 1g$ to $\pm 20g$
- Essentially zero temperature coefficient of damping ratio
- Filtered and unfiltered outputs simultaneously available
- Integral temperature compensation
- DC input - DC output
- Signal ground isolated from power ground
- High reliability



BENEFITS

- High resolution down to 0.001% FRO(max)
- Low weight 120g
- Wide temperature range -40 °C to +100 °C

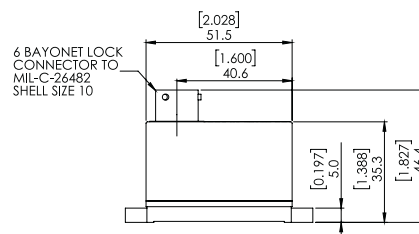
APPLICATIONS

- Data acquisition Systems
- Roadbed analysis
- Crash recorders
- Railways
- Vibration monitoring
- Simulators

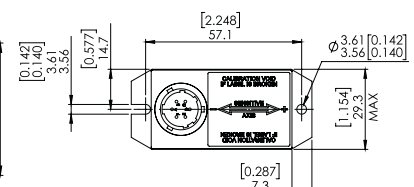
ELECTRICAL CONNECTIONS

| | |
|-------|----------------------------|
| Pin A | Supply + |
| Pin B | Supply 0v |
| Pin C | Signal ground |
| Pin D | Signal output (filtered) |
| Pin E | Signal output (unfiltered) |
| Pin F | Not connected |

SIDE VIEW



PLAN VIEW





TECHNICAL SPECIFICATIONS

Specifications by Range @25°C

| | | ±1g | ±2g | ±3g | ±5g | ±10g | ±20g |
|-------------------------------------|------------------------|-----|-----|------------|-----|------|------|
| Output Impedance | Ω (max) | | | | 1 | | |
| Output Noise | V _{rms} (max) | | | | 5 | | |
| Filtered Output Response | dB | | | | -3 | | |
| Non-linearity (see note 2) | % FRO(max) | | | ±0.5 | | | |
| Hysteresis | % FRO(max) | | | 0.02 | | | |
| Resolution | % FRO(min) | | | 0.001 | | | |
| Cross-axis Sensitivity (see note 3) | % FRO(max) | | | ±1 | | | |
| Zero Offset (see note 4) | % FRO(max) | | | ±2 | | | |
| Damping Ratio | | | | 0.7 (±0.2) | | | |
| Thermal Zero Shift | % FRO/°C (max) | | | ±0.02 | | | |
| Thermal Sensitivity Shift | % Reading/°C (max) | | | ±0.02 | | | |
| Weight | grams (max) | | | 120 | | | |

Electrical

| | | |
|--------------------------------------|-------------|-------------------------|
| Full Range Output (FRO) (see note 1) | Volts dc | ±5 (±2%) |
| Input Voltage | Volts dc | +6 to 32Vdc Unregulated |
| Input Current | mA dc (max) | 100 |

Environmental Characteristics

| | | |
|-------------------------------|-------------|-------------|
| Operating Temperature Range | °C | -40 to 100 |
| Compensated Temperature Range | °C | 0 to 50 |
| Storage Temperature Range | g | -55 to 130 |
| Shock | g | 200 for 2ms |
| Insulation Resistance | MΩ (@50Vdc) | 20 |

NOTES

1. Full Range Output (FRO) is defined as the full acceleration excursion from positive to negative, i.e. ±2g = 4g
2. Non-linearity is determined by the method of least squares
3. Cross-axis sensitivity is the output of unit when subjected to full range acceleration in cross-axis
4. Zero offset is specified under static conditions with no vibration inputs

MODEL DESIGNATION & ORDERING CODE

