The Endevco® model 7302BM4 angular accelerometer is designed to provide accurate measurements of rotational acceleration. The sensing device consists of a temperature compensated piezoresistive accelerometer, uniquely designed to reject cross axis angular and linear accelerations. The sensor is fluid-damped to optimize frequency and phase response throughout the operating temperature range of 0°F to +250°F (-18°C to +121°C).

The 7302BM4 accelerometer has a stable frequency to 1600 Hz and offers high angular and linear shock resistance. The accelerometer also provides a nominal sensitivity of 5.0 mV per krad/sec² at 10 Vdc excitation voltage (nominal 250 mV full-scale output).

The 7302BM4 accelerometer is designed for a variety of automotive, industrial, and aerospace applications. The accelerometer is ideal for dynamic automotive applications including crash testing, suspension and chassis vibration monitoring, and rollover detection. The accelerometer can also be mounted in anthropomorphic test dummies to measure rotational body accelerations experienced under impact. Additional applications for this accelerometer include motion analysis in shaft and drive train rotation for machine and turbine monitoring. Typical aerospace applications include flight control systems and ejection seat testing.

Endevco model 136 three-channel system, model 4430A or Oasis 2000 computer-controlled system are recommended as signal conditioner and power supply.
Model 7302BM4
Piezoresistive angular accelerometer

Specifications
All values are typical at +75°F (+24°C) and 10 Vdc excitation unless otherwise stated. Calibration data, traceable to the National Institute of Standards, (NIST), is supplied.

<table>
<thead>
<tr>
<th>Dynamic characteristics</th>
<th>Units</th>
<th>7302BM4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>rad/s²</td>
<td>50,000</td>
</tr>
<tr>
<td>Sensitivity at 100 Hz (10 Vdc excitation)</td>
<td>mV per Krad/s²</td>
<td>3.0 to 8.0 (5.0 typical)</td>
</tr>
<tr>
<td>Frequency response ≥5% maximum</td>
<td>Hz</td>
<td>3 to 1400</td>
</tr>
<tr>
<td>Mounted resonant frequency</td>
<td>Hz</td>
<td>2500 to 3500 [3000 typical]</td>
</tr>
<tr>
<td>Transverse angular sensitivity (typical)</td>
<td>%</td>
<td>1 (2 max)</td>
</tr>
<tr>
<td>Thermal sensitivity</td>
<td></td>
<td>-0.1%/°F typical</td>
</tr>
<tr>
<td>Zero measurand output</td>
<td>mV</td>
<td>±25 maximum (±5 typical)</td>
</tr>
</tbody>
</table>

**Electrical**

- Excitation: Vdc 10.0
- Input resistance: Ω 1600
- Output resistance: Ω 1600
- Isolation resistance (minimum): MΩ 100
- Noise (typical): μVrms 10

**Environmental**

- Temperature range: 0°F to +250°F [-18°C to +121°C]
- Shock: Angular rad/s² 500,000
- Linear g 2500

**Physical**

- Dimensions: See outline drawing
- Case material: Stainless steel, passivated
- Electrical connections: 4 x #32 AWG Teflon® insulated leads shielded with silicone jacket
- Weight: grams 35

**Calibration data**

- Sensitivity: mV per Krad/s² 100 Hz and 1 Krad/s²
- Frequency response: % 30 Hz to 1600 Hz
- Zero measurand output: mV

**Notes:**
1. Maintain high levels of precision and accuracy using Endevco’s factory calibration services.
2. Call Endevco’s inside sales force at 800-982-6732 for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

Continued product improvement necessitates that Meggitt reserve the right to modify these specifications without notice. Meggitt maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. These measures, together with conservative specifications have made the name Endevco synonymous with reliability.