**Description:**
Watson Industries has been designing and making solid-state gyros since 1980. We now provide a new series of rate gyros, the MaxGyro®. This breakthrough new gyro is built, using a monolithic three-dimensional tuning fork resonator, to be a VSG replacement and much more. Based on proven technology, this gyro is built with new features including built-in test and enhanced EMI/RFI protection.

The MaxGyro® has best-in-class performance for stability, acceleration insensitivity, low mounting sensitivity and excellent vibration rejection. This is achieved by having a much larger sensing element that is solidly mounted. The larger element allows better relative tolerances for tuning and better signal to noise performance. Solid mounting holds the gyro sensing element in a stable alignment. In contrast, all the competitive MEMS gyros use sensing elements that are supported by thin filaments as springs that are resonant at disturbingly low frequencies. These springs allow the sensing element to shift and resonate under shock and vibration, which affects their performance significantly.

**MaxGyro® features:**
- Accurate in severe environments
- Excellent performance (time, temperature, vibration)
- Rugged
- Wide bandwidth
- Low drift
- Low noise
- High reliability
- One-year warranty

**Applications:**
- Aircraft flight instrumentation and control
- Platform stabilization (antenna, camera, etc.)
- Robotics
- Short-term navigation
- Vehicle test instrumentation
- Train tilt controls

**Watson Industries MaxGyro® Models**

<table>
<thead>
<tr>
<th>Model</th>
<th>Range</th>
<th>Output</th>
<th>Zero Ref (0°/sec)</th>
<th>Scale Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX-122-1A</td>
<td>±50°/sec</td>
<td>±10 VDC</td>
<td>0.0 VDC</td>
<td>200mV/°/sec</td>
</tr>
<tr>
<td>MAX-132-1A</td>
<td>±100°/sec</td>
<td>±10 VDC</td>
<td>0.0 VDC</td>
<td>100mV/°/sec</td>
</tr>
<tr>
<td>MAX-142-1A</td>
<td>±200°/sec</td>
<td>±10 VDC</td>
<td>0.0 VDC</td>
<td>50mV/°/sec</td>
</tr>
</tbody>
</table>

*Custom ranges are available*
MaxGyro® Specifications

Angular Rate
- Range: ±100°/sec (Typical)  See table above
- Resolution: 0.006°/sec
- Analog Scale Factor: 100mV/°/sec (Typical)  See table above
- Scale Factor Accuracy: 1%  Constant temperature
- Scale Factor Temp Coefficient: ±1%  Over temperature range
- Bias: Room Temperature ±0.6°/sec
- Bias: Over Temp Range ±0.3°/sec
- Bias: Stability < 20°/hr rms  Constant temp - 1hr
- Warmup Drift: ±0.2°/sec  30 min
- Non-Linearity: < 0.03%  Full scale range
- Bandwidth: > 70 Hz
- Noise: < 0.03°/sec rms  0.1 Hz to 100 Hz

Environmental
- Temperature: Operating -40°C to +85°C
- Temperature: Storage -55°C to +85°C
- Noise Under Vibration: (0.1 to 100Hz) < 0.1°/sec/g  12g rms (20 to 2KHz)
- Vibration: Survival 12g rms  20 Hz to 2 KHz
- Shock: Survival 300g (2mS ½ sine wave)  50g (11mS ½ sine wave)

Electrical
- Startup Time: < 1 sec
- Input Power: Positive +15VDC ±5%  1.0 W
- Input Power: Negative -15 VDC ±5%  0.5 W
- Analog Output: ±10VDC

Physical
- Size: Including Mounting Flanges 1.68"W x 2.98"L x 1.77"H  4.3 x 7.6 x 4.5 (cm)
- Weight: 8.1oz (0.5lb)  230 grams (0.2Kg)
- Connection: Wire Bundle

Specifications are subject to change without notice.
This product may be subject to export restrictions. Please consult the factory.

Single Axis MaxGyro® Dimensions

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