Description:
Pro Gyro® is made for accuracy.

Watson Industries has been designing and manufacturing solid-state gyroscopes since 1980. Our latest series of rate gyroscopes is the Pro Gyro®. This breakthrough new gyro is built to be a VSG replacement and much more. Based on proven technology, this gyro is built under the latest ISO 9001 quality standards with new features including built-in test and enhanced EMI/RFI protection.

The Pro Gyro® has excellent performance for stability, acceleration insensitivity, low mounting sensitivity and vibration rejection. This is achieved by having a sensing element that is finely tuned and temperature compensated. The advanced tuning methods allow better relative tolerances and better signal to noise performance. Special internal mounting holds the gyro sensing element in a stable alignment while rejecting linear vibration.

Upgrades that are standard for the Pro Gyro® include available rate ranges up to 475 degrees per second, internal power regulation for power input between 8 volts and 45 volts, and a case mounted connector.

Watson Pro Gyro® features:
- Accurate in severe environments
- Excellent performance (time, temperature, vibration)
- Rugged
- Wide bandwidth
- Low drift
- Low noise
- CE Certified
- High reliability
- Two-year warranty

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

<table>
<thead>
<tr>
<th>Watson Industries Pro Gyro® Models*</th>
<th>Range</th>
<th>Output</th>
<th>Zero Ref (0°/sec)</th>
<th>Scale Factor</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRO-122-2A</td>
<td>±50°/sec</td>
<td>0 to 5 VDC</td>
<td>2.5 VDC</td>
<td>50mV/°/sec</td>
<td>0.025°/sec</td>
</tr>
<tr>
<td>PRO-122-3A</td>
<td>±50°/sec</td>
<td>±5 VDC</td>
<td>0.0 VDC</td>
<td>100mV/°/sec</td>
<td>0.013°/sec</td>
</tr>
<tr>
<td>PRO-132-2A</td>
<td>±100°/sec</td>
<td>0 to 5 VDC</td>
<td>2.5 VDC</td>
<td>25mV/°/sec</td>
<td>0.05°/sec</td>
</tr>
<tr>
<td>PRO-132-3A</td>
<td>±100°/sec</td>
<td>±5 VDC</td>
<td>0.0 VDC</td>
<td>50mV/°/sec</td>
<td>0.025°/sec</td>
</tr>
<tr>
<td>PRO-142-2A</td>
<td>±200°/sec</td>
<td>0 to 5 VDC</td>
<td>2.5 VDC</td>
<td>12.5mV/°/sec</td>
<td>0.01°/sec</td>
</tr>
<tr>
<td>PRO-142-3A</td>
<td>±200°/sec</td>
<td>±5 VDC</td>
<td>0.0 VDC</td>
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<td>0.05°/sec</td>
</tr>
</tbody>
</table>

*Custom ranges are available
## Watson Pro Gyro® Specifications

### Angular Rate
- **Range:** $\pm 100^\circ$/sec (Typical)  
  See table above
- **Resolution:** 0.025°/sec (Typical)  
  See table above
- **Analog Scale Factor:** 50mV/°/sec (Typical)  
  See table above
- **Scale Factor Accuracy:** 0.2%  
  At constant room temperature
- **Scale Factor Temp Coefficient:** 0.5%  
  Over temperature range
- **Bias:** ±0.1°/sec  
  At room temp
- **Bias: Over Temp Range** ±0.5°/sec
- **Warmup Drift:** ±0.1°/sec
- **Non-Lineararity:** < 0.15%  
  Full scale range
- **Bandwidth:** 70 Hz
- **Noise:** < 0.1°/sec rms  
  1 Hz to 100 Hz

### Environmental
- **Temperature: Operating** -40°C to +85°C
- **Temperature: Storage** -55°C to +85°C
- **Vibration: Operating** 5g rms  
  20 Hz to 2 KHz
- **Vibration: Survival** 10g rms  
  20 Hz to 2 KHz
- **Shock: Survival** 500g  
  10mS ½ sine wave

### Electrical
- **Input Power:** 8 to 45VDC  
  Reverse protected
- **Input Current:** 25mA @ 12VDC  
  0.3W
- **Analog Output:** ±5VDC (Typical)  
  See table above
- **Analog Output Impedance:** 1000 Ohm  
  5%

### Physical
- **Size: Including Mounting Flanges** 1.2"W x 2.8"L x 1.2"H  
  3.0 x 7.1 x 3.0 (cm)
- **Weight:** 2 oz  
  56 grams
- **Connection:** Amp 1445057-6  
  Mating Connector Incl.
- **Connector (6 pin)**  
  12" Wire bundle optional
- **Life:** > 100,000 Hrs MTBF  
  20 years shelf life

- Specifications are subject to change without notice.
- This product may be subject to export restrictions. Export Classification ECCN EAR99.

### Single Axis Watson Pro Gyro® (Actual Size)