



## PRO GYRO® PRO-152 Series High Rate Professional Grade Gyro

### Description:

Watson Industries has been designing and manufacturing solid-state gyros since 1980. They have now produced a new series of rate gyros, 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



### Watson Industries Pro Gyro® PRO-152 Models\*

| <u>Model</u> | <u>Range</u> | <u>Output</u> | <u>Zero Ref (0°/sec)</u> | <u>Scale Factor</u> | <u>Resolution</u> |
|--------------|--------------|---------------|--------------------------|---------------------|-------------------|
| PRO-152-2A   | ±400°/sec    | 0 to 5 VDC    | 2.5 VDC                  | 6.25mV/°/sec        | 0.2°/sec          |
| PRO-152-3A   | ±400°/sec    | ±5 VDC        | 0.0 VDC                  | 12.5mV/°/sec        | 0.1°/sec          |

\*Custom ranges are available



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## Watson Pro Gyro® PRO-152 Specifications

### Angular Rate

|                                |                        |                              |
|--------------------------------|------------------------|------------------------------|
| Range:                         | ±400°/sec              |                              |
| Resolution:                    | 0.1°/sec (Typical)     | See table above              |
| Analog Scale Factor:           | 12.5mV/°/sec (Typical) | See table above              |
| Scale Factor Accuracy:         | 0.2%                   | At constant room temperature |
| Scale Factor Temp Coefficient: | 0.5%                   | Over temperature range       |
| Bias:                          | ±0.2°/sec              | At room temp                 |
| Bias: Over Temp Range          | ±0.5°/sec              |                              |
| Warmup Drift:                  | ±1.2°/sec              |                              |
| Non-Linearity:                 | < 0.15%                | Full scale range             |
| Bandwidth:                     | 40 Hz                  |                              |
| Noise:                         | < 0.6°/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

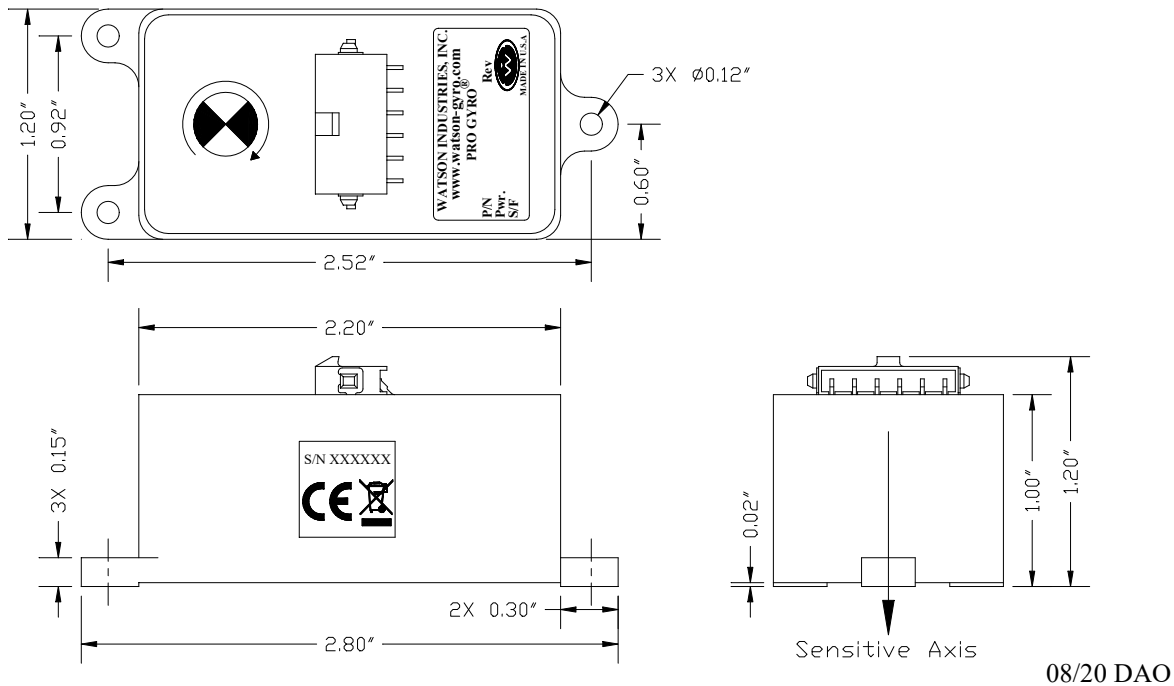
|                          |                 |                   |
|--------------------------|-----------------|-------------------|
| Input Power:             | 8 to 45VDC      | Reverse protected |
| Input Current:           | 25mA @ 12VDC    | 0.3W              |
| Analog Output:           | ±5VDC (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<br>Connector (6 pin) | Mating Connector Incl.<br>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 7A994.

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



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