



VIBRATING STRUCTURE GYROS

Description:

The Vibrating Structure Gyro is a solid state rate sensor that is designed around a piezoceramic cup that can measure coriolis forces. This allows the VSG to produce a highly accurate output that is proportional to the rate of turn. Electronics for filtering, control, drive and demodulation are all packaged along with a single axis sensing element inside a small package. Wide ranges of input rates (up to 3000° per second) are available. Unipolar or bipolar output voltage configurations are available for many input ranges.

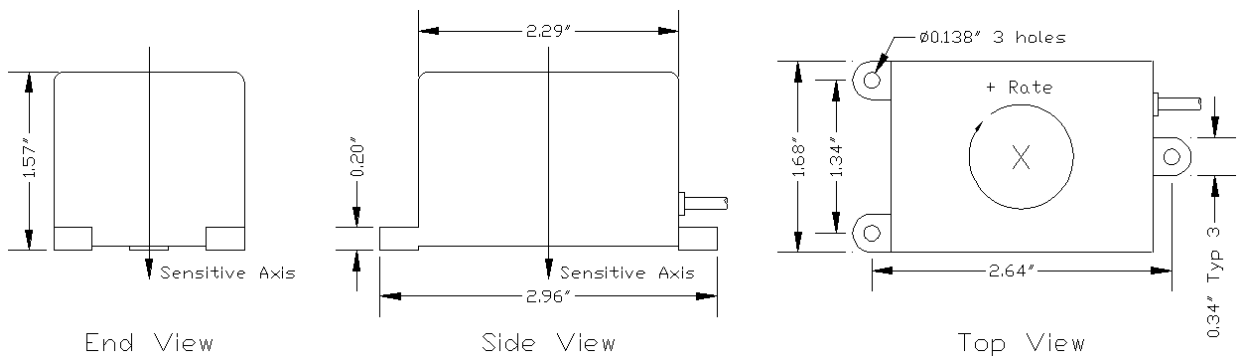


The Watson VSG features:

- High Accuracy
- High Reliability
- Input Ranges up to 3000° per second
- Low Noise
- Low Power
- Small Size and Weight
- Low Cost
- Two Year Warranty
- Engineering Support

DISCONTINUED

Single Axis Watson VSG



Watson Industries, Inc.

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VSG-E Series Gyro Specifications

Angular Rate

Range:	±100°/sec	Up to ±3000°/sec available
Resolution:	0.025°/sec	
Analog Scale Factor:	20°/sec/V (Typical)	See table below
Scale Factor Accuracy:	1%	Constant temperature
Scale Factor Temp Coefficient:	+1% to -6%	Over temperature range
Bias:	< ±0.02°/sec	
Bias: Zero Bias	0.1°/sec	Run-To-Run
Bias: Over Temp Range	±2.0°/sec	
Warmup Drift:	±2.0°/sec	
Non-Linearity:	< 0.03%	Full scale range
Bandwidth:	> 70 Hz	
Noise:	< 0.02°/sec rms	1 Hz to 100 Hz

Environmental

Temperature: Operating	-30°C to +60°C	
Temperature: Storage	-55°C to +85°C	
Vibration: Operating	5g rms	20Hz to 2kHz
Vibration: Survival	10g rms	20Hz to 2kHz
Shock: Survival	500g	10ms ½ sine wave

Electrical

Input Power:	8.5 to 16VDC	0.7W
Input Current:	80mA	
Analog Output	±5VDC (Typical)	See table below
Output Impedance:	1000 Ohm	

Physical

Size: Including Mounting Flanges	1.68"W x 2.96"L x 1.57"H	4.27 x 7.52 x 3.99 (cm)
Weight:	4.6oz (0.31b)	130g (0.1kg)
Connection:	Wire bundle	
Life:	> 100,000 Hours MTBF	

Specifications are subject to change without notice

Watson Industries VSG models*

<u>Model</u>	<u>WPN</u>	<u>Range</u>	<u>Output</u>	<u>Zero Ref (0°/sec)</u>	<u>Scale Factor</u>
VSG-E555	99555	±50°/sec	0 to 5 VDC	2.5 VDC	20°/sec/V
VSG-E469	99469	±50°/sec	±5 VDC	0.0 VDC	10°/sec/V
VSG-E053	99053	±100°/sec	0 to 5 VDC	2.5 VDC	40°/sec/V
VSG-E470	99470	±100°/sec	±5 VDC	0.0 VDC	20°/sec/V
VSG-E601	99601	±200°/sec	±5 VDC	0.0 VDC	40°/sec/V

*Custom ranges are available



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