



## TRIAXIAL ANGULAR RATE SENSOR

ARS-E332-2A

### **Description:**

Watson Industries has manufactured and developed inertial systems since 1980. The company holds numerous patents and is committed to being a leader in the development of inertial products.

This sensor system is very rugged. The rate gyros are capable of surviving 500 g's of shock. Various output ranges are available. Watson Industries manufactures other systems including angle sensing devices, magnetic instruments, magnetic heading systems, as well as a complete line of individual gyros.



### **Applications:**

This ARS can be used for marine, automotive, medical, antenna stabilization, robotics and many applications where accurate measurement of angular rate is required.

- Low Unit Price
- Good Environmental Performance
- Analog Voltage Output
- Available Angular Rate Ranges of 50 to 3000 °/second
- Solid State Reliability
- Two Year Limited Warranty
- Engineering Support



### **Watson Industries, Inc.**

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## ARS-E332-2A Specifications

### Angular Rate

Range: Roll, Pitch, Yaw	±100°/sec	
Resolution:	0.025°/sec	
Analog Scale Factor:	40°/sec/V	0 to 5V Output
Scale Factor Accuracy:	1%	Constant temperature
Scale Factor Temp Coefficient:	+1% to -6%	Over temperature range
Bias: Roll, Pitch, Yaw	< ±0.02°/sec	
Bias: Over Temp Range	±2.0°/sec	
Non-Linearity:	< 0.03%	Full scale range
Bandwidth:	> 70 Hz	
Noise:	< 0.02°/sec rms	

### Environmental

Temperature: Operating	-30°C to +60°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

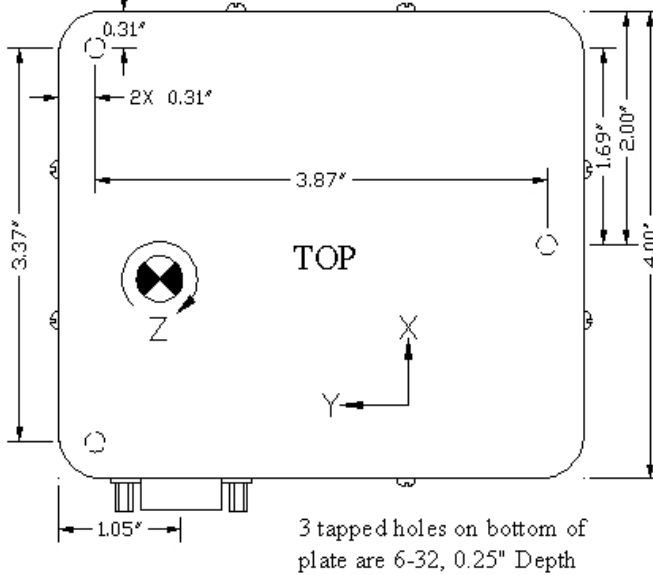
### Electrical

Startup Time: Data	< 300 mS	
Input Power:	10 to 16VDC	3.6W
Input Current:	300mA @ 12VDC	
Analog Output	0 to 5VDC	
Output Impedance:	1000 Ohm	

### Physical

Axis Alignment:	< 1°	
Size:	4.00"W x 4.50"L x 2.11"H	10.2 x 11.4 x 5.4 (cm)
Weight:	26oz (1.6lb)	740 grams (0.74Kg)
Connection:	9 pin male "D" subminiature	

Specifications are subject to change without notice



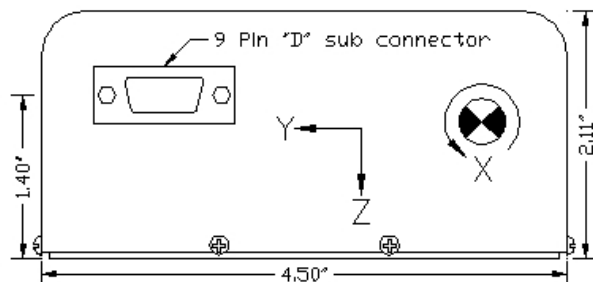
### ARS-E332-2A Pinout (Male D-sub 9 pin)

Pin 1	Ground
Pin 2	+12 VDC at <300 mA
Pin 3-5	No connection
Pin 6	X Rate Output*
Pin 7	Y Rate Output*
Pin 8	Z Rate Output*
Pin 9	No connection

\*Rate Output: 2.50 VDC at 0°/second  
 0.0 VDC at -100°/second  
 5.00 VDC at +100°/second

Scale Factor: 40°/second/Volt

Other scale factors / ranges are available



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