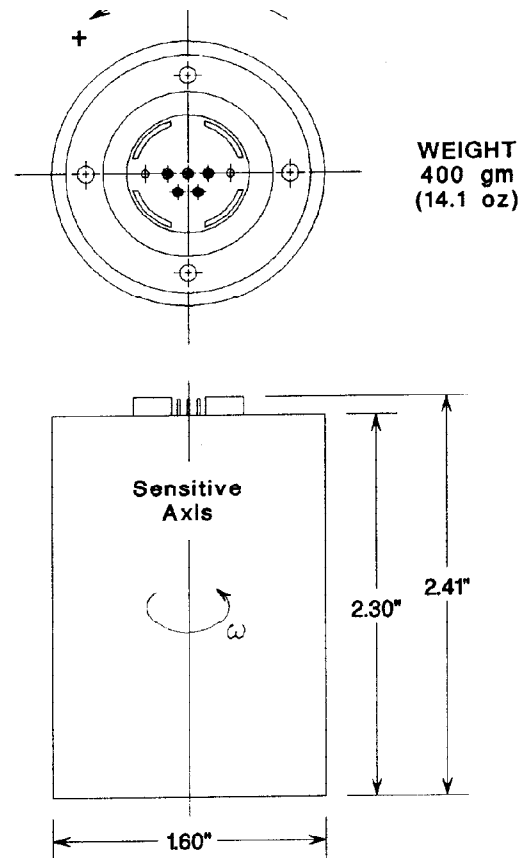


## ARS-07

### MHD Angular Rate Sensor



The ARS-09 is a versatile angular rate sensor which offers an economical price while meeting the shock and acceleration limits required in most general testing methods. It exhibits a high sensitivity with low to moderate angular range. Originally designed for automobile suspension analysis and machinery monitoring applications, the ARS-09 has the lowest noise floor of any of our angular rate sensors. With our optional ILC units, single voltage input and acceleration or amplified outputs are available options. A triaxial kit is available on custom order which includes three ARS-09 sensors and a triaxial mounting block, which becomes a 6 degree-of-freedom measurement system with 3 optional linear accelerometers added to its mounting surfaces.



Automobile motion or crash testing - aircraft ejection testing - modal analysis - aerospace controls - machinery monitoring - human motion analysis. No matter what your application, ATA Sensors are "sensing ways to make the world better"™.

## ARS-07 Angular Rate Sensor

### Dynamic

ATA Sensors patented MHD angular motion sensors utilize the finest materials and workmanship combined in durable packages that feature:

- No moving parts
- Dynamic range > 100 dB
- Hermetically sealed units
- Low power consumption
- Low cross axis angular sensitivity
- Low linear acceleration sensitivity
- Integral Electronics / low noise
- High survivable shock limits
- Superior applications support
- One-year warranty against defects in materials and workmanship on sensors, 90 days on cables.

Requires Cable CA-01.

Range <sup>1</sup> :	± 0.25 Radian/sec (± 14.2 Degrees/sec)
Sensitivity <sup>2</sup> :	40,000 mv/radian/sec (700 mv/degree/sec)
Bandwidth:	1.6 to 1000 Hz
Cross-axis Angular Error:	< 2 %
Linear Acceleration Sensitivity:	< 0.002 radians/sec/g (< 0.1 degrees/sec/g)
Voltage Noise PSD:	$1.0 \times 10^{-9} \text{ V}^2/\text{Hz}^3$
Noise Equivalent Angle:	< 0.4 Microradians ( rms)
Non-linearity:	< 0.1 %
Temperature Coefficient <sup>4</sup> :	< 0.05 % Scale Factor / °C <sup>5</sup> .

### Electrical

Excitation Voltage:	± 5.0 to ± 15.0 Vdc
Power Dissipation:	< 0.3 Watts
Output Impedence:	< 100 Ohms
Grounding:	Case <sup>5</sup>

### Mechanical

Diameter:	40.6 mm (1.6 inches)
Height:	58.5 mm (2.3 inches)
Weight:	400 gm (14.1 oz.)
Case material:	Stainless Steel 430
Mounting:	3 Screws size #1/4x20

### Environmental

Temperature - operating:	-35 to +60 °C (-31 to +140 °F)
Temperature - Non-operating:	-35 to +100 °C (-31 to +212 °F)
Humidity:	Unaffected - Hermetically sealed unit
Linear Acceleration <sup>6</sup> , Max. Operating:	100 g any axis
Linear Acceleration <sup>6</sup> , Max. Survivable:	1,000 g any axis

