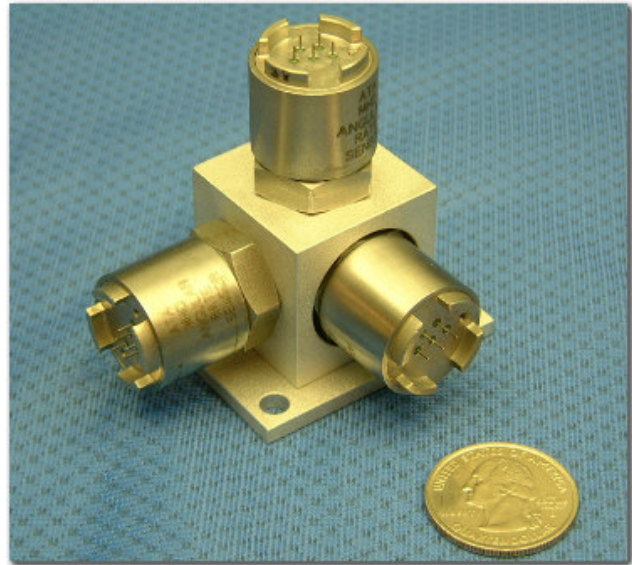


## ARS-01 & 01S Triaxial MHD Angular Rate Sensor Arrays

The triaxial kit includes (3) ARS-01 or ARS-01S sensors, (3) CA-01 cable assemblies, and a triaxial mounting block, which becomes a 6 degree-of-freedom measurement system with (3) optional linear accelerometers added to its mounting surfaces.

The type of linear accelerometers to be mounted must be specified at time of order to ensure correct mounting holes are included in the triaxial block. If none is specified, the block will be supplied predrilled for use with the Endevco Model 7264A/7265 series accelerometers.

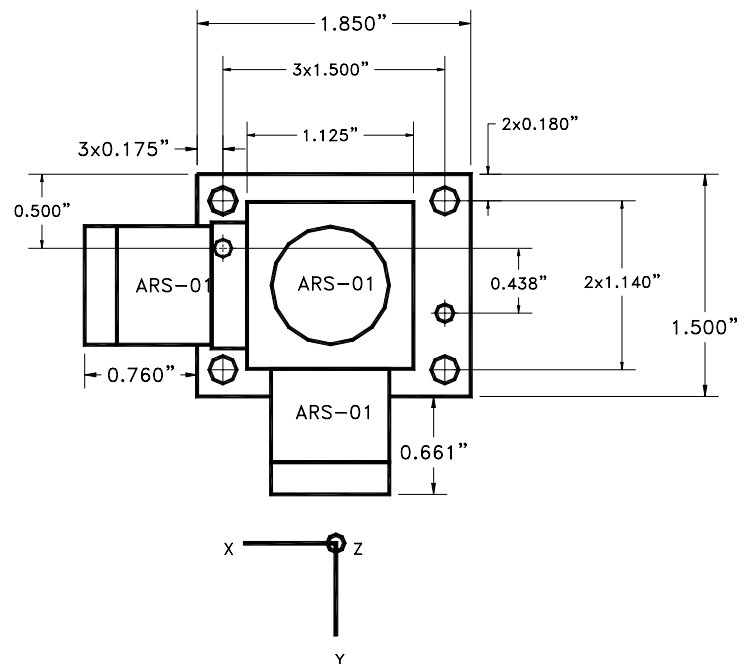


**ARS-01 & 01S Triaxial Unit**

*Custom scale factors and ranges are available.*

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
- 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.



## Product Specifications

# ARS-01 & 01S Triaxial MHD Angular Rate Sensor

### Dynamic

ARS-01 Range <sup>1</sup>	± 200 radian/sec (± 11,500 degree/sec)
ARS-01S Range <sup>2</sup>	± 70 radian/sec (±5,000 degree/sec)
Scale Factor <sup>3</sup>	50 mV/radian/sec (0.87 mV/degree/sec)
Bandwidth <sup>4</sup>	0.3 to 1000 Hz
Cross-axis Angular Error	< 2 %
Linear Acceleration Sensitivity	< 0.005 radians/sec/g (<0.3 degrees/sec/g)
Voltage Noise PSD <sup>5</sup>	$1.1 \times 10^{-10} \text{ V}^2/\text{Hz}$
Noise Equivalent Angle	< 80 microradians (rms)
Noise Equivalent Rate	< 8 milliradians/s (rms)
Non-linearity	< 0.1 %
Temperature Coefficient <sup>6</sup>	< 0.05 % Scale Factor / °C

### Electrical

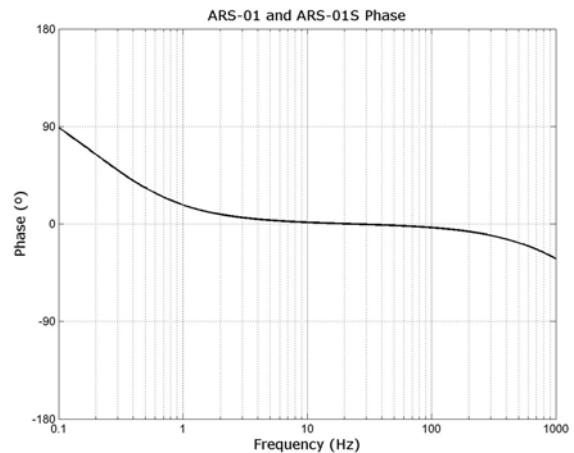
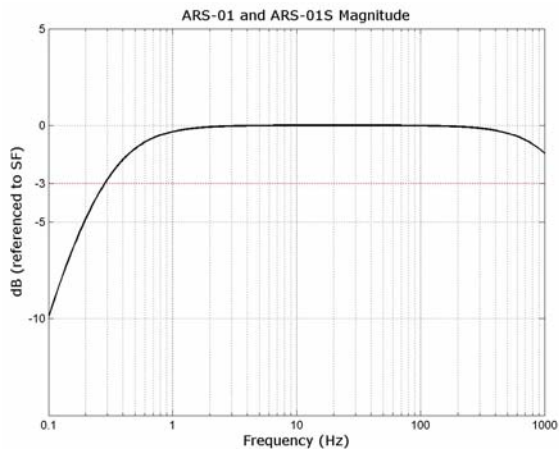
Power Dissipation	< 0.3 Watts
Output Impedance	< 100 Ohms
Grounding <sup>7</sup>	Hex base isolated from signal return

### Wiring

ARS-01 (requires CA-01 cable assembly)		ARS-01S (requires CA-01 cable assembly)	
Red Lead	+Power (+5 Vdc to +15 Vdc)	Red Lead	+Power (+10 Vdc)
White Lead	-Power (-5 Vdc to -15 Vdc)	White Lead	-Power (0 Vdc)
Yellow Lead	Signal	Yellow Lead	Signal
Black Lead	Power and Signal Common (0 Vdc)	Black Lead	Signal Common (+5 Vdc, internally generated reference voltage)

### Environmental

Temperature – Operating	-35 to +60 °C (-31 to +140 °F)
Temperature - Non-operating	-40 to +85 °C (-40 to +185 °F)
Linear Acceleration, Max. Operating	1,000 g any axis
Linear Acceleration, Max. Survivable	10,000 g any axis



#### Notes:

1. Based on a ± 10V output voltage swing.
2. Based on a ± 3.5V output voltage swing.
3. Measured @ 10 Hz.
4. The standard frequency response of MHD sensors can be extended significantly by the use of digital filtering in post processing of signal data as covered in ATA Sensors' application note AN-01.
5. Power spectral density flat to angular velocity over specified bandwidth.
6. Percent change in Scale Factor per °C @ 10 Hz.
7. Signal return connected to case (isolated from hex base). Do not ground case to mounting fixture to avoid ground loops.