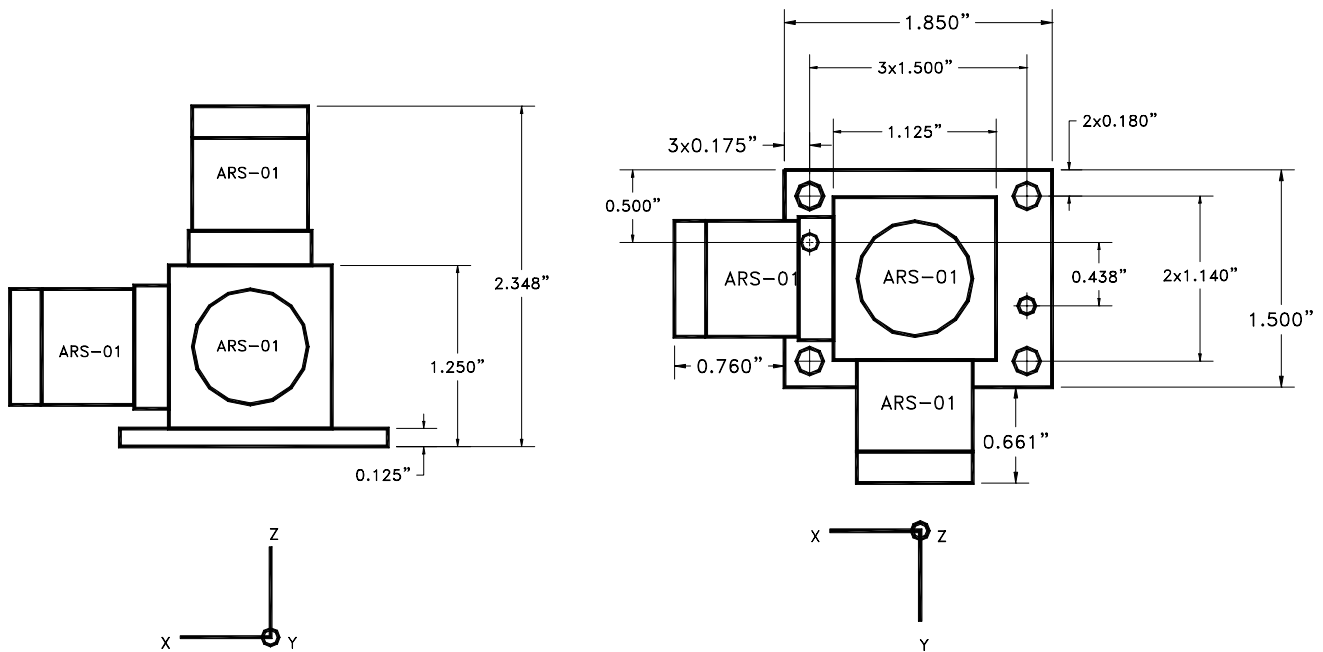
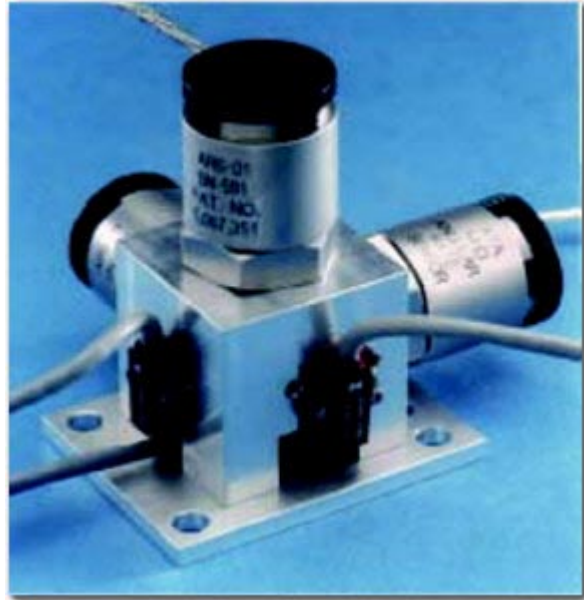


## ARS-01 & 01S Triaxial MHD Angular Rate Sensor Arrays

The triaxial kit includes three ARS-01 or ARS-01S sensors, three 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.

Custom scale factors and ranges are available.



# Specifications

## ARS-01 & 01S Triaxial

### MHD Angular Rate Sensor Arrays

#### 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)
Non-linearity . . . . .	< 0.1 %
Temperature Coefficient <sup>6</sup> . . . . .	< 0.05 % Scale Factor / °C

#### Electrical

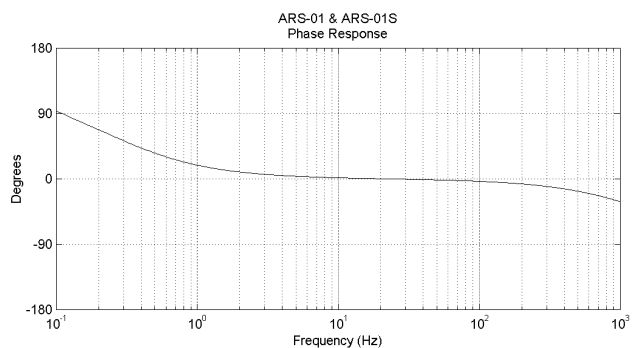
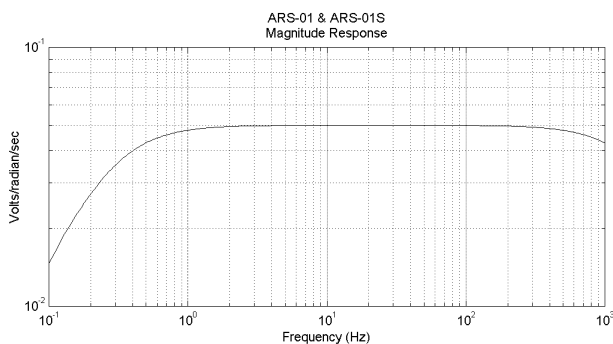
Power Dissipation . . . . .	< 0.3 Watts
Output Impedence . . . . .	< 100 Ohms
Grounding <sup>7</sup> . . . . .	Hex base isolated from signal return

#### 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)
Black Lead . . . . .	Power and Signal Common (0 Vdc)	Black Lead . . . . .	Signal Common (+5 Vdc, internally generated reference voltage)
Yellow Lead . . . . .	Signal	Yellow Lead . . . . .	Signal

#### Environmental

Temperature - operating . . . . .	-35 to +60 °C (-31 to +140 °F)
Temperature - Non-operating . . . . .	-40 to +85 °C (-40 to +185 °F)
Humidity . . . . .	Unaffected - Hermetically sealed unit
Linear Acceleration <sup>8</sup> , Max. Operating . . . . .	1,000 g any axis
Linear Acceleration <sup>8</sup> , 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 @ 100 Hz.
7. Signal return connected to case (isolated from hex base). Do not ground case to mounting fixture to avoid ground loops.
8. Peak, 100 Hz half sine.