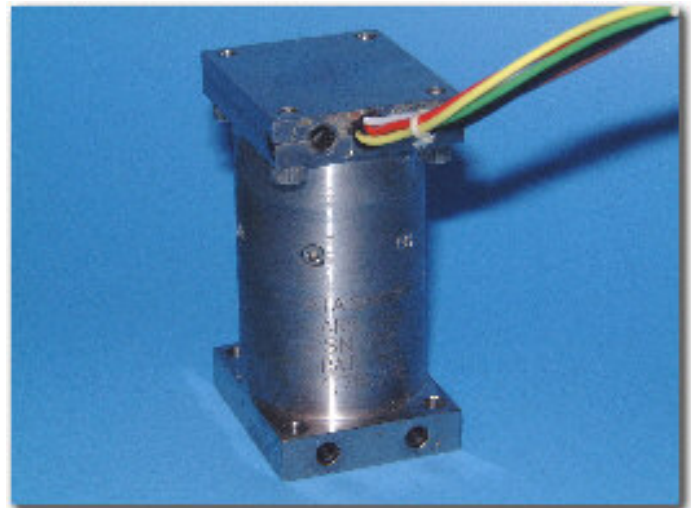


ARS-12B MHD Angular Rate Sensor

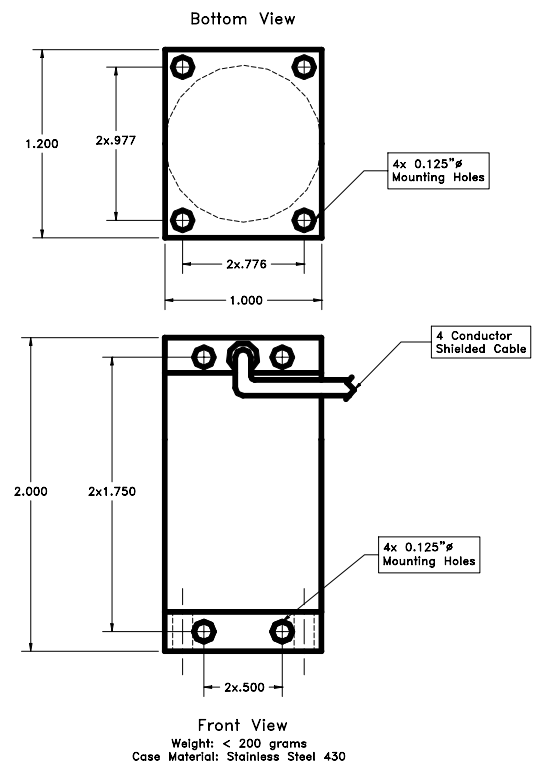
The ARS-12 is our most sensitive angular rate sensor. Designed to eliminate jitter from airborne and space borne mirrors, optical systems or lasers, and for accurate line-of-sight imaging platform stabilization, the ARS-12 can measure vibrations and angular motions as low as 50 nanoradians.

This product has very high sensitivity and a very low noise floor. The stainless steel housing and mounting plate make a rugged assembly, able to operate accurately after an 800g shock load. Its compact size and mass allow use in very small spaces. The ARS-12 has a wide, usable frequency range from less than 1 to more than 1,000 Hz. The ARS-12 is available in three standard ranges for angular rate measurement.



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-12B MHD Angular Rate Sensor

Dynamic

ARS-12B Angular Rate Standard Ranges ¹	± 1 rad/sec	± 100 mrad/sec	± 10 mrad/sec
ARS-12B Angular Rate Standard Scale Factors ²	10 V/rad/sec	100 V/rad/sec	1,000 V/rad/sec
Bandwidth	1 to 1000 Hz		
Cross-axis Angular Error	< 2 %		
Linear Acceleration Sensitivity	< 5 mrad/sec/g		
Noise Equivalent Rate	< 8 microradians/s (rms)		
Non-linearity	< 0.1 %		
Temperature Coefficient ³	< 0.4 % Scale Factor / °C		

Electrical

Power Dissipation	< 0.5 Watts
Output Impedance	< 100 Ohms
Grounding ⁴	Case isolated from signal common by 1M Ω minimum

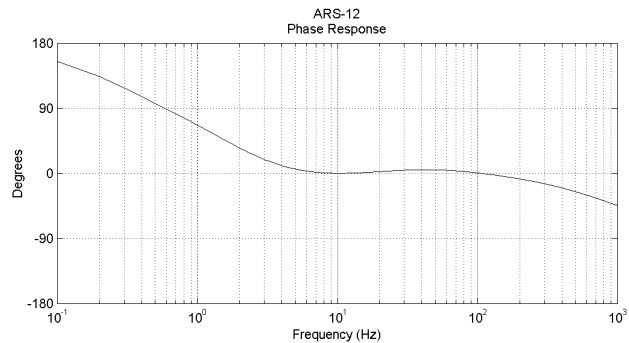
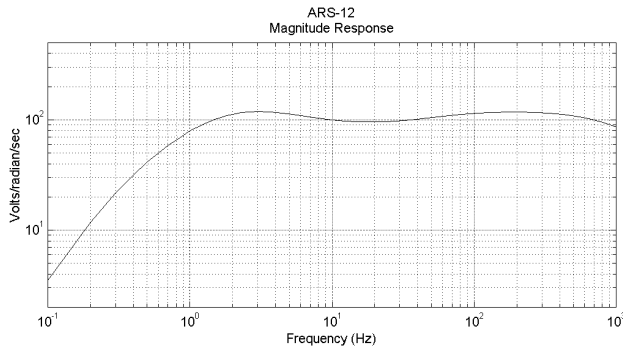
Wiring

ARS-12B

Red Lead	+Power (+5 Vdc to +15 Vdc)
White Lead	-Power (-5 Vdc to -15 Vdc)
Black Lead	Power and Signal Common (0 Vdc)
Yellow Lead	Signal

Environmental

Temperature - operating	-35 to +60 °C (-31 to +140 °F)
Temperature - Non-operating	-35 to +60 °C (-31 to +140 °F)
Linear Acceleration, Max. Operating	500 g any axis
Linear Acceleration, Max. Survivable	800 g any axis



Notes:

1. Based on a +/- 10V output voltage swing.
2. Measured @ 10 Hz.
3. Percent change in Scale Factor per °C @ 10 Hz.
4. Signal common may be connected to case if required.