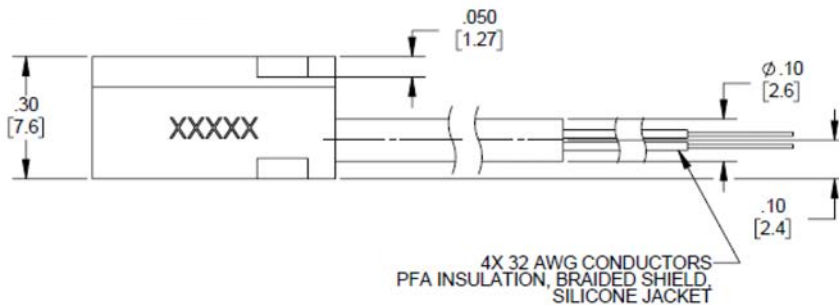
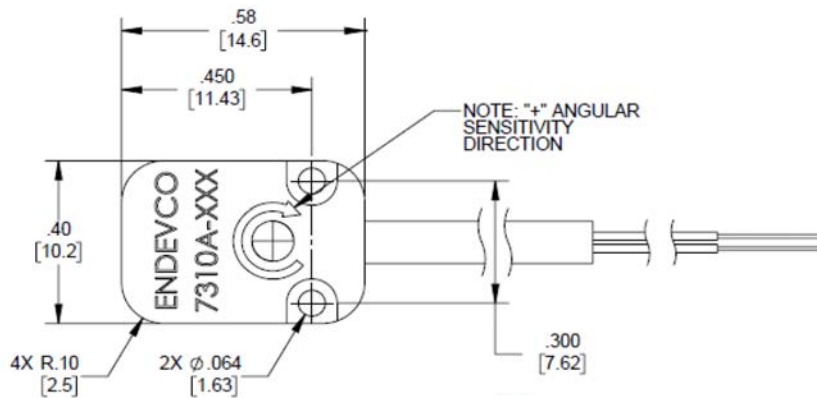


# Angular Rate Sensor

## Model 7310A



STANDARD TOLERANCE  
INCHES [MILLIMETERS]  
XX =  $\pm$  .02 [X =  $\pm$  .5]  
XXX =  $\pm$  .010 [XX =  $\pm$  .25]

### Key features

- Ranges of 100, 500, 1500, 6K, 8K, 12K and 18K deg/sec
- Up to 2000 Hz bandwidth
- Weighs less than 3 grams
- Operates with 5 to 16V input

### Description

The Endevco® Model 7310A is an angular rate sensor that utilizes unique silicon MEMS gyroscope technologies with custom electronics and packaging and provides reliable sensing performance even under excessive shock and vibration environments. This angular rate sensor is designed specifically for automotive safety testing and other system designs requiring accurate measurement of angular velocity. The 7310A angular rate sensor features various full angular rate ranges including  $\pm$ 100,  $\pm$ 500,  $\pm$ 1500,  $\pm$ 6000,  $\pm$ 8000  $\pm$ 12000 and  $\pm$ 18000 deg/sec, and provides full scale voltage output of  $\pm$ 2Vpk. The Model 7310A can also be mounted inverted to allow measurement of opposite angular sensitivity direction.

# Angular Rate Sensor | Model 7310A

All specifications assume +75°F (+24°C) unless otherwise stated.

Specifications								
Dynamic characteristics	Units	-100	-500	-1K5	-6K	-8K	-12K	-18K
Range	deg/sec	±100	±500	±1500	±6000	±8000	±12000	±18000
Sensitivity (±15%)	mV/deg/sec	20	4	1.333	0.333	0.25	0.167	0.111
Zero measurand output	mV	±100	±100	±100	±100	±100	±100	±100
Non-linearity (Maximum)	%FSO	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5
Frequency response (+1dB/-3dB, ref 100 Hz)	Hz	0-1000	0-1000	0-1000	0-1000	0-1000	0-2000	0-2000
Cross axis sensitivity	%	<1	<1	<1	<1	<1	<1	<1
Thermal zero shift (max) -40°C to +105°C (-40°F to +221°F)	%FSO	±2.5	±2.5	±2.5	±2.5	±2.5	±2.5	±2.5
Thermal sens shift (max) -40°C to +105°C (-40°F to +221°F)	%	±2.0	±2.0	±2.0	±2.0	±2.0	±2.0	±2.0
Residual noise (passband)	mV RMS	12.0	3.4	2.2	1.6	0.9	0.7	1.2
Electrical characteristics								
Excitation voltage	5 to 16 Vdc							
Current drain	6 mA max							
Output impedance	200 ohms max							
Common mode voltage (±5%)	2.5 Vdc							
Full scale output voltage (±15%)	±2 Vpk							
Insulation resistance (@100Vdc)	>100 MΩ							
Warm-up time (to within 1% of final output value)	<100 ms							
Physical characteristics								
Weight	3 grams (without cable)							
Case material	Anodized aluminum alloy							
Cable type	Integral 4 conductor, # 32 AWG PFA insulated leads, shielded with silicone jacket							
Mounting/torque	#0-80 screws / 4lb-in (0.45N-m)							
Environmental characteristics								
Shock limit	5000g							
Influence of linear acceleration	0.1 deg/sec/g typical							
Operating temperature	-40°C to +105°C (-40°F to +221°F)							
Storage temperature	-40°C to +105°C (-40°F to +221°F)							
Humidity	IP67							
Calibration data								
Sensitivity	Measured at +7 Vdc excitation and 100 deg/sec for -100, 500 deg/sec for -500, 1500 deg/sec for -1K5, and 3000 deg/sec for -6K, -8K, -12K and -18K							
Zero measured output	Measured at +7 Vdc excitation and room temperature							
Non-linearity	Measured at +7 Vdc excitation within range ±100 deg/sec for -100, ±500 deg/sec for -500, ±1500 deg/sec for -1K5 and ±3000 deg/sec for -6K, -8K, -12K and -18K							

# Angular Rate Sensor | Model 7310A

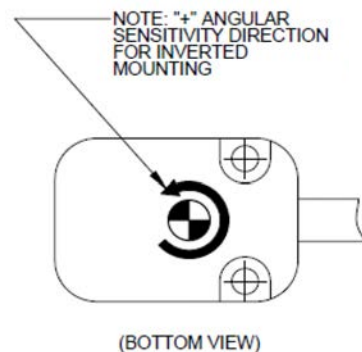
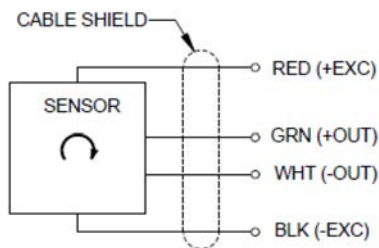
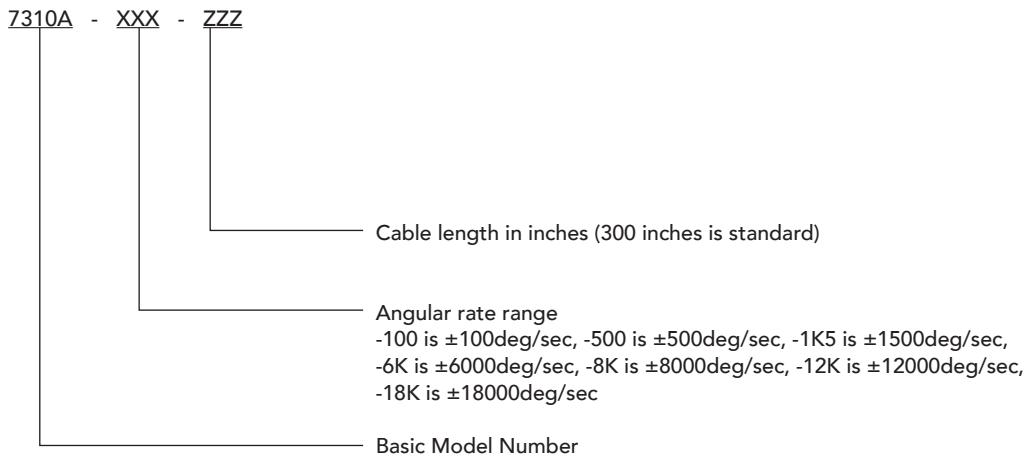
Accessories		
Options	Description	7310A
EH863	#0-80 (3/8 Length) socket head cap screw, 2x	Included
EHW196	Washer, 2x	Included
EHM2156	Hex wrench	Included
7930	Triaxial 6DOF Mounting Block	Optional

## Ordering Information

1. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

## Notes

1. Model number definition:



10869 NC Highway 903, Halifax, NC 27839 USA

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