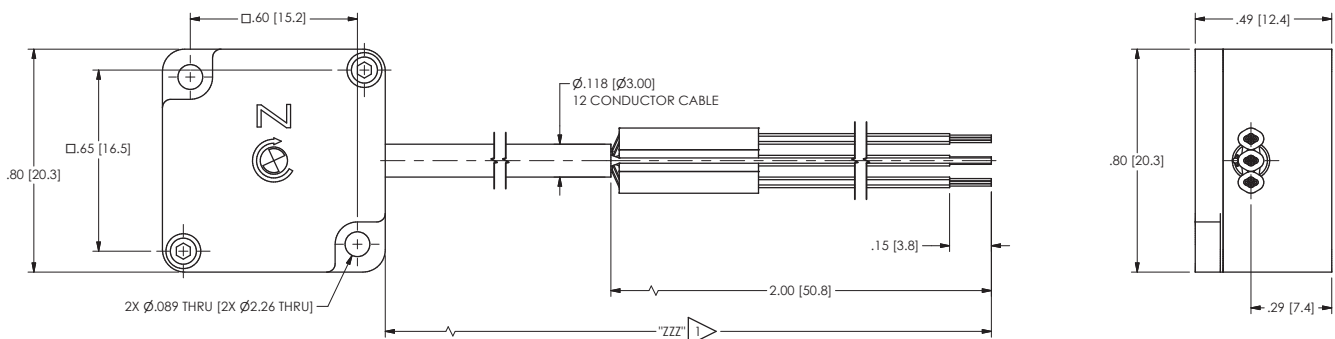


# Triaxial Angular Rate Sensor

## Model 7330



### Key features

- Ranges of 100, 500, 1500, 6K, 8K, 12K and 18K deg/sec
- Up to 2000 Hz bandwidth
- Weighs less than 10 grams
- Operates with 5 to 16V input

### Description

The Endevco® Model 7330 is a tri-axial 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 7330 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  $\pm 2V_{pk}$ .

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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	3.2	2.5	2.1	2.1	1.8	1.8
Electrical characteristics								
Excitation voltage	5 to 16 Vdc							
Current drain	6mA max each axis, 18mA max total							
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	9 grams without cable							
Case material	Anodized aluminum alloy							
Cable type	12x #30AWG Cond PFA Insulated, Braided Shield, PU Jacket							
Mounting/torque	#2-56 screws / 2lb-in							
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							

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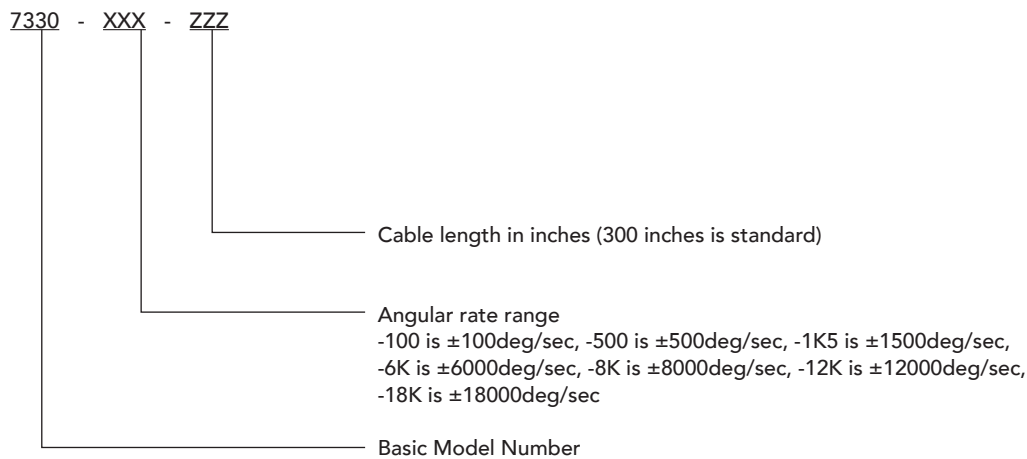
Accessories		
Options	Description	7330
EDVEH572	#2-56 (5/8") socket head cap screws, 2x	Included
EDVEHW200	Washer, 2x	Included
EDVEHM178	Hex wrench	Included

## 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:



RATE SENSOR CABLE			
CONTACT	X-AXIS	Y-AXIS	Z-AXIS
EXC	RED	BRN	ORG
+OUT	GRN	BLU	GRY
-OUT	WHT	YEL	VIO
GND	BLK	PINK	TAN



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