MODEL 620

Angular Rate Sensor

SPECIFICATIONS

- **±500 to ±50,000°/sec Range**
- **Silicon MEMS, DC Response**
- **Insensitive to Shock**
- **Small, Lightweight Package**

The Model 620 Angular Rate Sensor is a small analog gyroscope designed specifically for automotive safety testing and other system designs requiring accurate measurement of angular velocity. The Model 620 series utilizes silicon MEMS sensing elements with custom electronics and packaging to produce an angular rate sensor that is highly reliable even under excessive shock and vibration environments. A wide selection of ranges is available for your specific applications.

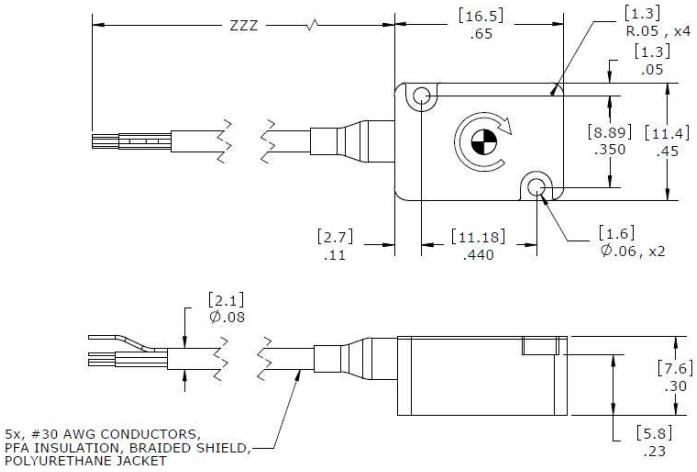
FEATURES

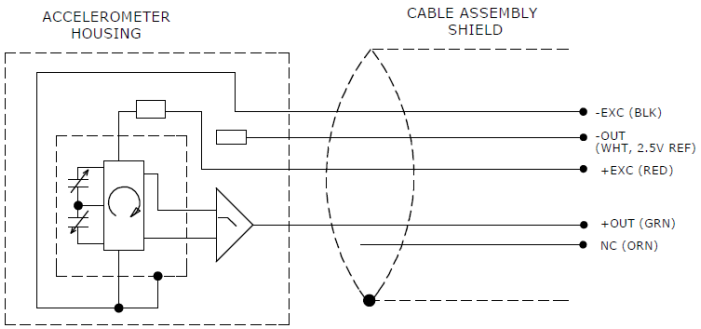
- ±500 to ±50,000°/sec Ranges
- 7-16Vdc Excitation (5Vdc option)
- -40 to +105°C Temperature Range
- Shock Resistant Package
- Low Cross-Axis Sensitivity

APPLICATIONS

- Auto Safety Crash Testing
- Dummy Instrumentation
- Pedestrian Impact
- Rollover Testing
- Motorsports
- Biomechanics Testing
- Robotic System Design
- Weapons Design

DIMENSIONS





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PERFORMANCE SPECIFICATIONS

All values are typical at +24°C and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters								
DYNAMIC								**Notes**
Dash Number	-0500	-1500	-6000	-12K	-18K	-24K	-50K	See Ordering Info
Range (deg/sec)	±500	±1500	±6000	±12K	±18K	±24K	±50K	
Sensitivity (mV/deg/sec)	4.00	1.33	0.333	0.167	0.111	0.083	0.040	Not ratiometric
Frequency Response (Hz)	0-1000	0-1000	0-1000	0-2000	0-2000	0-2000	0-3300	+1dB/-3dB
Non-Linearity (%FSO)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	BFSL
Cross-Axis Sensitivity (%)	<1	<1	<1	<1	<1	<1	<1	
Shock Limit (g)	3000	3000	3000	5000	5000	5000	5000	
Residual Noise (mV RMS)	3.66	1.20	2.38	1.22	1.20	1.20	1.50	Passband

ELECTRICAL		
Zero Acceleration Output (mV)	±100	Differential
Excitation Voltage (Vdc), Model 620	7 to 16	
Excitation Voltage (Vdc), Model 620M1	5.0 ±0.25	
Excitation Current (mA)	<8	
Influence of Linear Acceleration (deg/sec/g)	0.1	
Common Mode Voltage (Vdc)	2.5	±5%
Full Scale Output Voltage (Vpk)	±2	±15%
Output Resistance (Ω)	400	
Insulation Resistance (MΩ)	>100	@100Vdc
Turn On Time (msec)	<100	
Ground Isolation	Isolated from Mounting Surface	
ENVIRONMENTAL		
Thermal Zero Shift (%FSO)	±2.5	-40 to +105°C
Thermal Sensitivity Shift (%)	±2.0	-40 to +105°C
Operating Temperature (°C)	-40 to +105	
Humidity (Active Element & Electronics)	Hermetically Solder Seal	
Humidity (Housing)	Epoxy Sealed, IP65	
PHYSICAL		
Case Material	Anodized Aluminum	
Cable	5x, #30 AWG Conductors, PFA Insulated, Braided Shield, PU Jacket	
Weight (cable not included)	3 grams	
Mounting	2x #0-80	
Mounting Torque	4 lb-in (0.45 N-m)	

Calibration supplied:	CS-ARLIN	NIST Traceable Linearity Calibration to FS Range
Supplied accessories:	AC-A04531	2x #0-80 (3/8 length) Socket Head Cap Screw and Washer
Optional accessories:	AC-A04532	Triaxial Mounting Block
	121	3-Channel Precision Low Noise DC Amplifier

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ORDERING INFORMATION

PART NUMBERING Model Number+Range+Cable Length+Options
620-GGGG-CCC-ZZZ
I I I I_____Options (contact factory for Lemo & Dallas ID chip options, otherwise leave blank)
I I I_____ Cable (360 is 360 inches)
I I_____ Range (-0500 is 500deg/sec, -1500 is 1500deg/sec, -50K is 50,000deg/sec)
I_____Model (620 is 7 to 16Vdc excitation, 620M1 is 5Vdc excitation)

Example: 620-1500-360
Model 620, 1500deg/sec, 360” (30ft) Cable, No Options

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