



### **FEATURES**

- 5 to 16Vdc Excitation Voltage
- Low Noise Jacketed Cable
- Rugged Integral Strain Relief
- -40°C to +105°C Temperature Range
- Shock Resistant Design
- High Reliability Silicon MEMS Sensors

### **APPLICATIONS**

- Auto Safety Crash Testing
- Dummy Instrumentation
- Pedestrian Impact
- Rollover Testing
- Motorsports
- Biomechanics Testing
- Aerospace Testing
- Robotics Motion Control

# MODEL 603 TRIAXIAL RATE SENSOR

## **SPECIFICATIONS**

- Silicon MEMS Gyro, DC Response
- ±100°/sec to ±24,000°/sec Ranges
- Insensitive to Shock Events
- SAE J211 & ISO 6487 Compliant
- NHTSA FMVSS 202a Compliant

The Model 603 is a small, lightweight triaxial angular rate sensor designed for demanding test applications in high-g shock environments. The sensor incorporates high reliability MEMS gyroscope sensing elements with integral electronics designed for accurate measurement of angular velocity. The Model 603 is offered in dynamic angular rate ranges from ±100deg/sec to ±24,000deg/sec. Contact factory for inquiries into any custom ranges not listed on datasheet.

The Model 603 triaxial gyro is packaged in a shock resistant housing specifically designed for critical measurement applications such as automotive safety testing, biomechanics and aerospace testing.

For single axis rate sensors with similar performance, TE Connectivity also offers the model 609 and 610 angular rate sensors.

#### PERFORMANCE SPECIFICATIONS

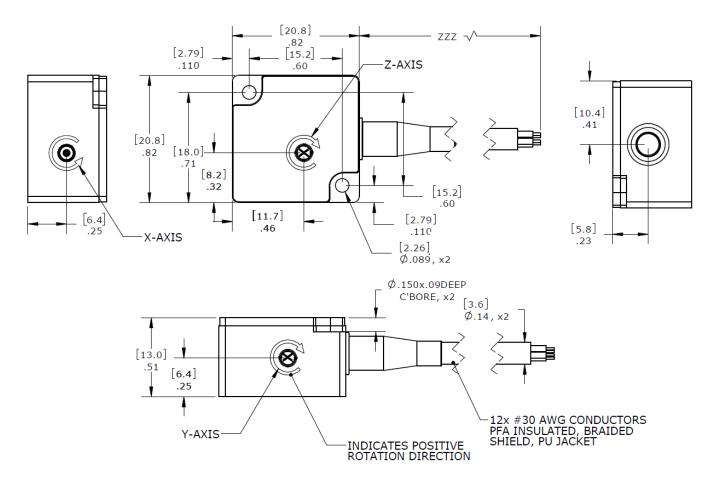
All values are typical at +24°C and 10Vdc excitation unless otherwise stated. TE Connectivity reserves the right to update and change these specifications without notice.

Parameters DYNAMIC Dash Number Range (deg/sec) Sensitivity (mV/deg/sec) Frequency Response (Hz) Non-Linearity (%FSO) Cross-Axis Sensitivity (%) Shock Limit (g) Residual Noise (mV RMS)		-0100 ±100 20.0 0-1000 ±0.5 <1 5000 18.0	-0500 ±500 4.00 0-1000 ±0.5 <1 5000 3.66	-1500 ±1500 1.33 0-1000 ±0.5 <1 10,000 1.20	-6000 ±6000 0.333 0-1000 ±0.5 <1 10,000 3.30	-12K ±12K 0.167 0-2000 ±0.5 <1 10,000 1.22	-18K ±18K 0.111 0-2000 ±0.5 <1 10,000 1.50	-24K ±24K 0.083 0-2000 ±0.5 <1 10,000 1.80	Notes See Ordering Info ±15% +1dB/-3dB BFSL Passband
<b>ELECTRICAL</b> Zero Acceleration Output (mV) Excitation Voltage (Vdc) Excitation Current (mA) Influence of Linear Acceleration (°/sec/g) Common Mode Voltage (Vdc) Full Scale Output Voltage (Vpk) Output Resistance (Ω) Insulation Resistance (MΩ) Turn On Time (msec) Ground Isolation		±100 4.9 to 16.0 <8 0.1 2.5 ±2 <400 >100 <100 Isolated from Mounting Surface							Differential Per channel Per channel @100Vdc
<b>ENVIRONMENTAL</b> Thermal Zero Shift (%FSO) Thermal Sensitivity Shift (%) Operating Temperature (°C) Humidity (Active Element & Electronics) Humidity (Housing)		±2.5 ±2.0 -40 to +1 Hermetic Epoxy S	-40 to +105°C -40 to +105°C						
PHYSICAL Case Material Cable Weight (cable not included) Mounting Mounting Torque		Anodize 12x #30/ 8.5 gram 2x #2.56 4 lb-in (0							
Calibration Supplied:	CS-ARLIN	NIST T	NIST Traceable Linearity Calibration to FS Range						
Supplied Accessories:	AC-D03548	2x #2-5	2x #2-56 (3/4" length) Socket Head Cap Screw						
<b>Optional Accessories:</b>	121	3-Channel Precision Low Noise DC Amplifier							

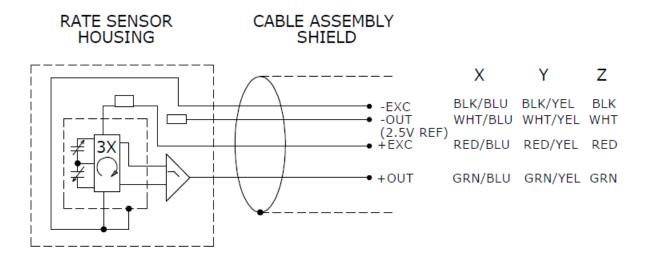
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#### DIMENSIONS



SCHEMATIC



#### **ORDERING INFORMATION**

603	GGGG	ZZZ	XX	
Range 100 = 100deg/sec 500 = 500deg/sec 1500 = 1500deg/sec 6000 = 6000deg/sec 12K = 12,000deg/sec 18K = 18,000deg/sec 24K = 24,000deg/sec				
Cable length 120 = 120 inches, 10 feet 240 = 240 inches, 20 feet 360 = 360 inches, 30 feet 197 = 197 inches, 5 meters 276 = 276 inches, 7 meters				

Reserved for custom designs. Leave blank for standard options listed above.

Example; 603-1500-360 Model 603, 1500deg/sec range, 360inch (30ft) cable length

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TE Connectivity: 603-1500-360