



MODEL 603 TRIAXIAL RATE SENSOR

SPECIFICATIONS

- Silicon MEMS Gyro, DC Response
- $\pm 100^\circ/\text{sec}$ to $\pm 24,000^\circ/\text{sec}$ Ranges
- Insensitive to Shock Events
- SAE J211 & ISO 6487 Compliant
- NHTSA FMVSS 202a Compliant

FEATURES

- 5 to 16Vdc Excitation Voltage
- Low Noise Jacketed Cable
- Rugged Integral Strain Relief
- -40°C to $+105^\circ\text{C}$ 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

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 $\pm 100^\circ/\text{sec}$ to $\pm 24,000^\circ/\text{sec}$. 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

	-0100	-0500	-1500	-6000	-12K	-18K	-24K	Notes
Dash Number	±100	±500	±1500	±6000	±12K	±18K	±24K	See Ordering Info
Range (deg/sec)	20.0	4.00	1.33	0.333	0.167	0.111	0.083	±15%
Sensitivity (mV/deg/sec)	0-1000	0-1000	0-1000	0-1000	0-2000	0-2000	0-2000	+1dB/-3dB
Frequency Response (Hz)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	BFSL
Non-Linearity (%FSO)	<1	<1	<1	<1	<1	<1	<1	
Cross-Axis Sensitivity (%)	5000	5000	10,000	10,000	10,000	10,000	10,000	
Shock Limit (g)	18.0	3.66	1.20	3.30	1.22	1.50	1.80	Passband
Residual Noise (mV RMS)								

ELECTRICAL

Zero Acceleration Output (mV)	±100							Differential
Excitation Voltage (Vdc)	4.9 to 16.0							Per channel
Excitation Current (mA)	<8							Per channel
Influence of Linear Acceleration (°/sec/g)	0.1							
Common Mode Voltage (Vdc)	2.5							
Full Scale Output Voltage (Vpk)	±2							
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	12x #30AWG Cond PFA Insulated, Braided Shield, PU Jacket
Weight (cable not included)	8.5 grams
Mounting	2x #2.56 or M2 Mounting Screw
Mounting Torque	4 lb-in (0.45 N-m)

Calibration Supplied: CS-ARLIN NIST Traceable Linearity Calibration to FS Range

Supplied Accessories: AC-D03548 2x #2-56 (3/4" length) Socket Head Cap Screw

Optional Accessories: 121 3-Channel Precision Low Noise DC Amplifier

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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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