



GE Aerospace

GEM IMU

High Performance
Low SWaP
Rugged

The GE Aerospace MEMS based Inertial Measurement Unit offers performance commonly found only in a FOG or RLG. The GEM (short for GE MEMS) is based on GE's patented Multiple Ring Gyroscope (MRG) technology which features a uniformly distributed, axisymmetric structure and high proof mass. This novel technology offers robust performance and reliability in harsh environments compared to conventional MEMS gyros.

Performance

0.1 °/hr In Run Bias

0.015 °/√hr ARW

-400°/s to +400°/s

Rugged

2,000g shock

20g RMS vibe

100,000 hrs MTBF

Size/Weight/Power

16 in³

0.8 lbs

5 W



Performance

	Gyro	Accel
In-Run Bias Stability	0.1 °/hr	0.05 mg
Turn-on Bias	0.5 °/hr	3 mg
Random Walk	0.015 °/√hr	0.05 m/s/√hr
Scale Factor Stability	< 300 ppm	< 0.1%
Operating Range	+/- 400°/s	+/- 40 g
Bandwidth	> 100 Hz	> 1000 Hz

Environment (MIL-STD-810G)

Operational Vibration	20g RMS
Shock	2,000g / 10 msec
Temperature	-40°C to +60°C

Physical Characteristics

Volume	16 in ³
Power	5 W
Mass	0.8 lbs
Supply Voltage	28V (MIL-STD-1275)
	10/100 Ethernet
	(2) RS-422
	(1) RS-232
	(1) CAN bus
	(1) ARINC 429

