

## MMQ™ 50

### Applications

The MMQ™ 50 has a wide variety of applications.

- General Aviation
- Unmanned Vehicles
- Land Navigation
- EO/IR Stabilization
- Antenna Pointing
- Tactical Missiles
- Smart Munitions
- Robotics



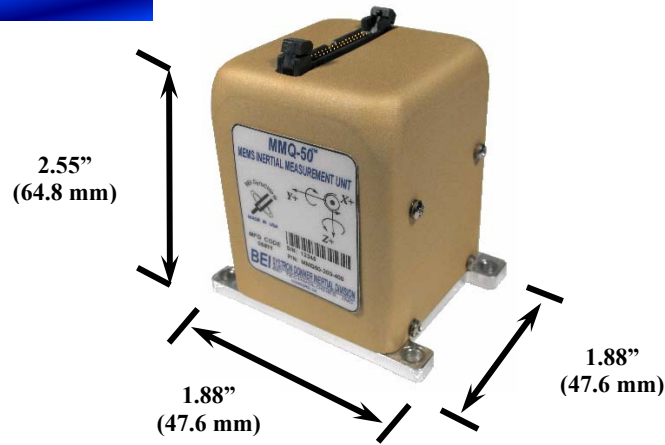
### Description

The Miniature MEMS Quartz IMU (MMQ50) is a small (less than 9 cubic inches) inertial measurement unit capable of providing bias instability values below 10 deg/hr and angle random walk typically below 0.15 deg/square root hour.



### Key Performance Features

- Extremely Small Size
- Low Power Consumption
- Very Light Weight
- DC Voltage Input
- Designed for Embedded Applications
- RS-232 Digital Interface
- Suitable DO-160D Physical Environment



PART NUMBER	MMQ50-200-400
<b>General</b>	
Size (Vol.)	9.0 in <sup>3</sup>
Weight	<0.50 lbs (<0.227 kg)
Power	+ and - 12 Vdc at < 5 watts total
I/O	RS-232 - 450 Hz output
<b>Rate Channels</b>	
Range	200°/ sec
Bias Turn-on to turn-on Stability (fixed temp)	≤100°/hr, 1σ
Bias In-run Stability (at any temperature)	100°/hr, 1σ
Bias Instability	<4-15°/hr
Angle Random Walk	0.3 °/rt-hr (0.005 °sec/rt-Hz)
Scale Factor error	≤5000 ppm (0.5%)
Alignment	≤5 mrad
Bandwidth (-90°)	50 Hz, nominal
<b>Acceleration Channels</b>	
Range *	+/- 10g
Bias Turn-on to turn-on Stability (fixed temp)	≤2.5 mg, 1σ
Bias In-run Stability (at any temperature)	≤3 mg, 1σ
Velocity Random Walk	0.5 mg/rt-Hz
Scale Factor Error	≤5000 ppm (0.5%)
Alignment	≤5 mrad
Bandwidth (-90°)	50 Hz, nominal
<b>Environmental</b>	
Temperature, operating	-54°C to +70°C
Vibration, random *	6.0g rms, 20Hz -2kHz, flat Meets DO-160D Curves C, C1
Shock, operating *	30g, powered Meets DO-160D operational shock and crash safety
Altitude	35,000 ft. Meets DO-160D Category C
* Contact factory for more details.	

**For more information contact:**

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