



## SiIMU02®

### MEMS Inertial Measurement Unit (IMU)

The UTC Aerospace Systems SiIMU02® is an all-digital, second generation, MEMS inertial measurement unit (IMU). It delivers excellent angular and linear inertial measurement performance in a compact and lightweight package, and is gun-hard to 20,000g. SiIMU02® is capable of meeting the most challenging guidance, navigation and platform stabilisation applications.

SiIMU02® is firmware configurable for ranges and applications with various interface options available.

UTC Aerospace Systems has a long and respected heritage in the design and development of inertial sensors and today specialises in Micro Electro-Mechanical Systems (MEMS) products.

- First MEMS IMU in military service
- Selected by over 60 customers worldwide - over 130,000 MEMS products delivered
- Used in missile and weapons' navigation, platform stabilisation and navigation
- Rigorous performance and simulated ageing ensures conformance to specification throughout life



UTC Aerospace Systems

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This document does not contain any export controlled technical data.



# SiIMU02<sup>®</sup> | MEMS Inertial Measurement Unit (IMU)

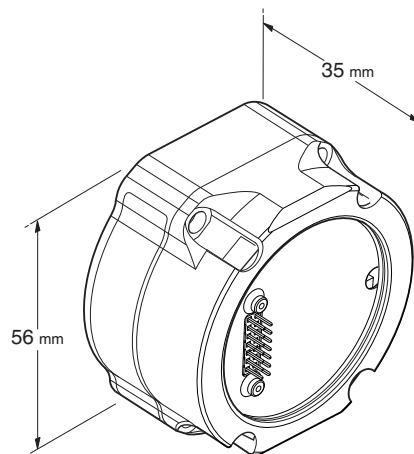
## Product Benefits

- Full 6-DoF and 3 axis rate pack options
- 20,000g gun launch capability
- Rate and angle modes of operation
- Lower power and rapid start up
- Modular architecture to incorporate customer requirements

## Key Characteristics

Volume	4 in <sup>3</sup> (65.5 cm <sup>3</sup> ) in typical housing
Mass	<210 gram in typical housing
Power consumption	≤3.75W
Operating temperature	-45°C to +75°C
Start-up time data range	350ms
Built-in-test and continuous	Command, start up
Gyro operating range	±9000°/s axis 1, ±9000°/s axis 2 and 3
Accelerometer operating range	±30g to ±100g
Supply voltage	+5V DC
Electrical interface	SDLC, HDLC, AMRAAM

Typical Performance	Gyro	Accelerometers
Bias repeatability (1σ)	≤50°/hr	≤10mg
Bias instability	≤2.5°/hr	≤1mg
Random walk	<0.25°/√hr	≤0.5m/s/√hr
Scale factor repeatability for ±1000°/s and ±35g ranges (1σ)	1000 ppm	1700 ppm
Bandwidth	Configurable	



## Performance

### Tactical

- High performance gyro
- Closed loop high performance accelerometer



TITAN<sup>®</sup>

### High Performance

- High performance gyro
- Open loop accelerometer performance



LITIS<sup>®</sup>

### Medium Performance

- Gun Hard options available (20,000g)



SiIMU02<sup>®</sup>

### Low Cost IMU

- Small form factor



MinIM<sup>®</sup>



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