



TITAN®

Tactical Grade Inertial Measurement Unit (IMU)

Traditionally MEMS IMUs have been expected to offer lower performance than Fibre Optic (FOG) and Ring Laser Gyroscope (RLG) devices. That assumption is now challenged with the UTC Aerospace Systems TITAN® MEMS IMU, which offers performance to rival that of a FOG.

TITAN® has the same form factor as the company's proven, highly successful SiIMU02® device meaning a simple system upgrade will achieve this enhanced capability.

The modular architecture of the TITAN® design enables specific customer requirements to be easily incorporated whilst extensive modelling and hardware testing by the company has ensured a high level of product maturity.

As a respected military supplier, UTC Aerospace Systems appreciates the need for long term product availability backed by full customer support.

AIS Atlantic Inertial Systems

UTC Aerospace Systems

For additional information: Atlantic Inertial Systems Ltd
Clifford Road, Southway, Plymouth PL6 6DE United Kingdom
Tel: +44(0)1752 69 56 95 Fax: +44(0)1752 72 20 95
Email: gnc.uk@utas.utc.com www.utcaerospacesystems.com/gnc

This document does not contain any export controlled technical data.

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



TITAN® | Tactical Grade Inertial Measurement Unit (IMU)

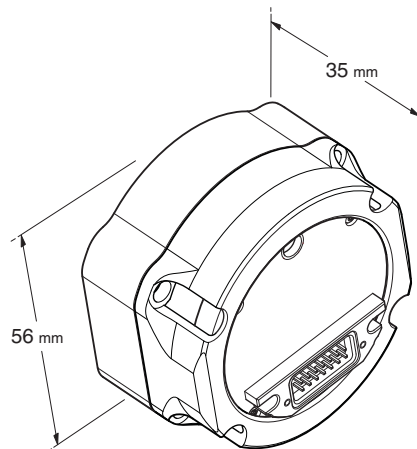
Product Benefits

- Full 6-DoF
- Compact form factor - same as SiIMU02®
- Exceptional VRE performance, Bias and SF
- Excellent EMI resilience
- High performance closed loop accelerometers
- High performance closed loop gyroscopes
- Low power and rapid start up
- Rate and angle modes of operation
- Modular architecture

Key Characteristics

Volume	4 in ³ (65.5 cm ³) in typical housing
Mass	<200 gram in typical housing
Power consumption	<3W typical
Operating temperature	-55°C to +85°C
Start-up time data range	350ms
Built-in-test and continuous	Approx 80%
Gyro operating range	±9000°/s axis 1, ±9000°/s axis 2 and 3
Accelerometer operating range	±75g
Supply voltage	+5V DC
Electrical interface	SDLC, HDLC, AMRAAM

Typical Performance	Gyros	Accelerometers
Bias repeatability (1σ)	≤2.5°/hr	≤0.16mg
Bias instability (rms)	≤0.5°/hr	≤0.1mg
Random walk (max)	≤0.1°/√hr	≤0.12m/s/√hr
Scale factor error for ±1000°/s and ±75g ranges (1σ)	330 ppm	166 ppm
Bandwidth (-90°)	>100Hz	>100Hz



Performance

Tactical

- High performance gyro
- Closed loop high performance accelerometer



TITAN®

High Performance

- High performance gyro
- Open loop accelerometer performance



LITIS®

Medium Performance

- Gun Hard options available (20,000g)



SiIMU02®

Low Cost IMU

- Small form factor



MinIM®