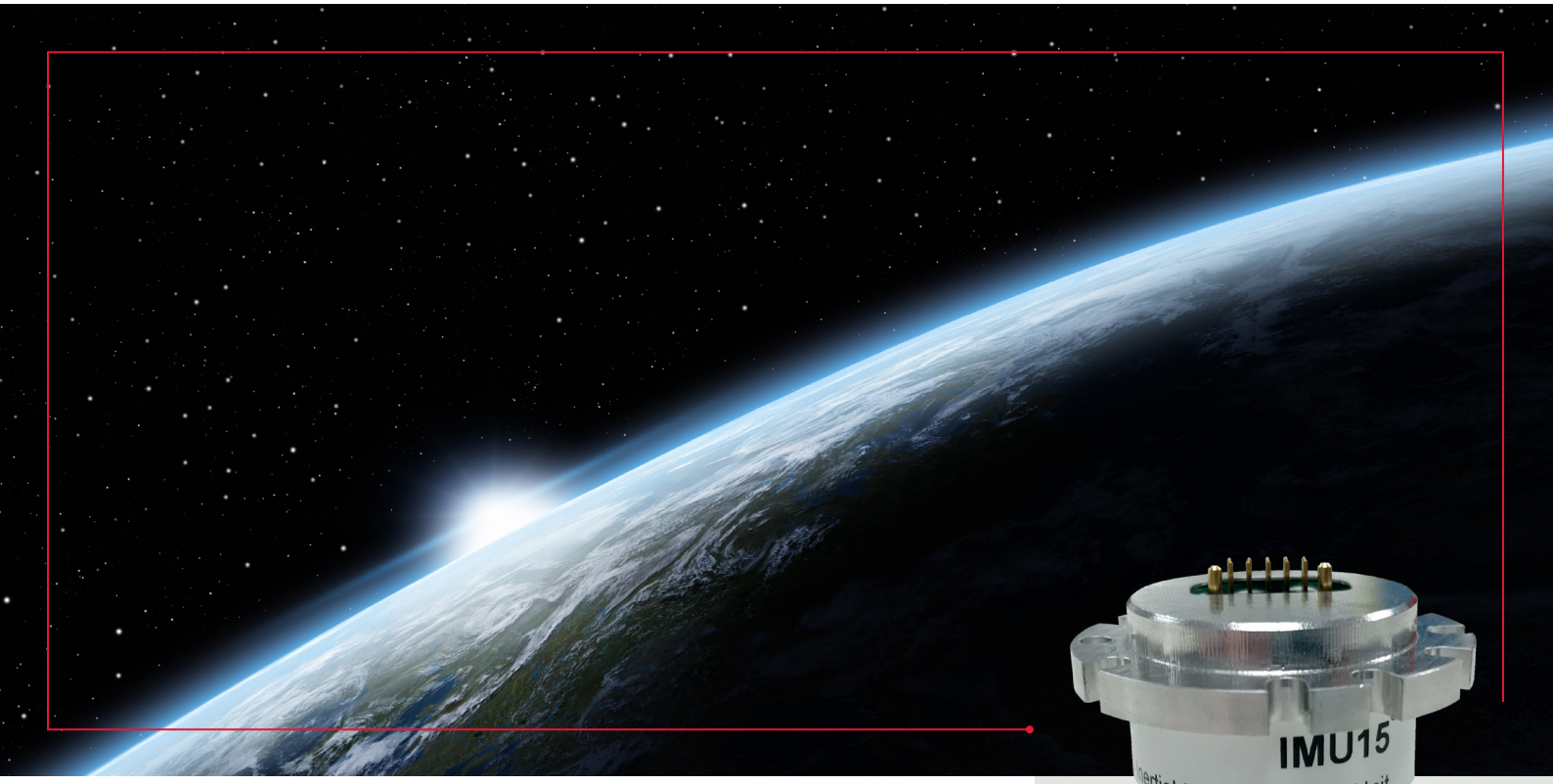


IMU15™ MEMS INERTIAL MEASUREMENT UNIT (IMU)

COMPACT SIZE, PROVEN PERFORMANCE

Incorporating proven, precision, micro electro-mechanical systems (MEMS), gyroscopes and accelerometers

The Collins Aerospace IMU15™ MEMS intertial measurement unit (IMU) is a compact six-degree-of-freedom inertial measurement unit providing precise three-axis outputs of angular rate, acceleration and temperature. Our product has been designed specifically to meet the growing demand from high-end commercial and industrial market applications for an industrial grade non-licensable IMU.

In line with our constant drive for innovation, IMU15 incorporates the latest technology in a very small package, while retaining best-in-class performance and reliability. Our unique pedigree and world-class expertise has enabled an industrial grade IMU under 1 cubic inch in volume.

IMU15 uses our world-class MEMS inertial sensors, integrated and calibrated using our in-house, state-of-the-art test facility.

Collins Aerospace has a long and respected heritage in the design and development of inertial sensors.

KEY FEATURES

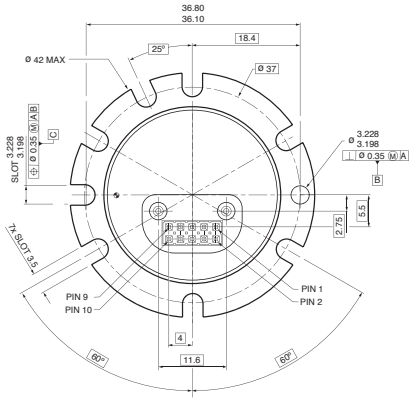
- Small form factor ruggedised 6 DOF MEMS inertial measurement unit
- Bias instability and random walk angular: 15 °/hr, 3 °/√hr linear: 1.5 mg, 1m/s/√hr
- Non-ITAR
- Non-licensable
- Compact and lightweight – 32.0 x 34.0 x 42.0 H (mm), 70 grams
- Internal power conditioning to accept 4.75 V to 5.25 V input voltage
- RS422/RS485 interfaces
- -40° C to 72° C operating temperature range
- RoHS compliant
- In-house manufacture from MEMS fabrication to IMU calibration

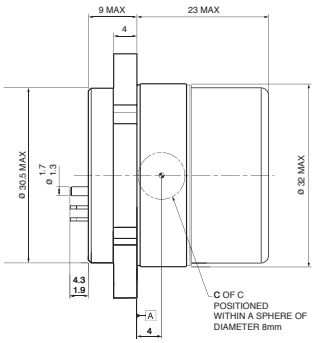
Collins Aerospace
An RTX Business

Key Characteristics

PRODUCT APPLICATIONS

- Small satellite stability control
- Precision guidance and navigation
- INS (inertial navigation systems)
- GPS/GNSS drop-out aiding
- Autonomous vehicle control, UAVs and ROVs
- Machine control





	PARAMETER	SPECIFICATION
GYROSCOPE PROPERTIES	Dynamic range	±498º/s
	Scale factor over temp (±498º/s) (1σ)	±1833 ppm
	Bias instability (max)	15º/hr
	Angular random walk (max)	<3º/√hr
	Bias (1σ)	± 163º/hr
	RMS noise (max)	≤1.6º/s
ACCELEROMETER PROPERTIES	Dynamic range	±30 g
	Scale factor error (1σ)	± 1000 ppm
	Bias instability (max)	≤1.5 mg
	Velocity random walk (max)	<1m/s/√hr
	Bias (1σ)	± 8.3 mg
	RMS noise (max)	≤ 7.0 mg
MISALIGNMENT	Gyro (1σ)	≤ 2 mrad
	Acc (1σ)	≤ 2 mrad
IMU PROPERTIES	Operating temperature	-40 to 72º C
	Start-up-time (full performance)	500 ms
	Power	1.5 W
	Supply voltage	4.85 to 5.25 V
	Mass	<70 g

Alternative Products

IMU20™

PERFORMANCE
Medium performance
Medium performance gyro
Meeting demand from industrial and commercial markets

IMU25™

PERFORMANCE
FOG performance
Best-in-class MEMS IMU
Highly modular, tailored solution
Non-licensable

This document does not contain any export controlled technical data. Specifications subject to change without notice.

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