The Collins IMU20™ micro electro-mechanical system (MEMS) IMU is a compact, six-degree-of-freedom inertial measurement unit providing precise, three-axis outputs of angular rate, acceleration and temperature.

It is designed specifically to meet the growing demand from high-end commercial and industrial marketer applications requiring a high-performance, non-ITAR IMU. The IMU20 uses Collins Aerospace industry-leading MEMS inertial sensors that are 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. Today, we also specialize in MEMS products.
**IMU20™ MEMS inertial measurement unit (IMU)**

**PRODUCT APPLICATIONS**
- Small satellite stability control
- Precision guidance and navigation
- High shock and vibration systems
- INS (inertial navigation systems)
- GPS/GNSS drop-out aiding
- Autonomous vehicle control, unmanned aerial vehicles, and remotely operated vehicles

**PERFORMANCE**

**Medium performance**
- High-performance gyro
- Fully modular

**KEY CHARACTERISTICS**
- Volume: 65.5 cm$^3$ in typical housing
- Mass: 200 g in typical housing
- Power consumption: ≤3.75 W
- Operating temperature range: -45°C to 75°C
- Start-up time: 345 ms
- Built-in-test: Start up, continuous
- Gyro operating range: ±498°/s
- Accelerometer operating range: ±30 g (all axes)
- Supply voltage: +5 VDC
- Electrical interface: SDLC (configurable)

**TYPICAL PERFORMANCE**

**GYRO**
- Bias repeatability (1σ)\*: 20°/hr
- Bias instability (max): 1°/hr
- Random walk (max): 0.25°/√hr
- Scale factor error (1σ)\*: 600 ppm
- Bandwidth (-90°) (configurable up to): 135 Hz

**ACCELEROMETERS (±30G)**
- Bias repeatability (1σ)\*: 0.7 mg
- Bias instability (max): 0.2 mg
- Random walk (max): 0.17 m/s/√hr
- Scale factor error (1σ)\*: 250 ppm
- Bandwidth (-90°) (configurable up to): 130 Hz

**PRODUCT BENEFITS**
- Full 6-DoF inertial measurement unit
- Latest capacitive technology
- Low power and rapid start-up
- Modular architecture
- Non-licensable

**PERFORMANCE**

**Low cost IMU**
- Small form factor
- Under 1 cubic inch volume
- Non-licensable

**PERFORMANCE**

**High performance**
- Best-in-class MEMS IMU
- Highly modular, tailored solution
- Non-licensable

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\*All axes, all temperatures, factory fresh
Specifications subject to change without notice.