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Precision Tactical Grade MEMS IMU Delivers Breakthrough System Level Advancements for Positioning and Navigation Applications

NORWOOD, Mass.--(BUSINESS WIRE)-- [Analog Devices, Inc.](http://www.analog.com) introduced today a tactical grade Inertial Measurement Unit (IMU) featuring industry leading precision and stability in the smallest, lightest and lowest power solution available. The high-performance ADIS16490 IMU paves the way for high-accuracy navigation, guidance, and positioning in applications ranging from aviation and unmanned systems to machine control and precision instrumentation to smart munitions, which were previously impossible due to prohibitive size or cost barriers. This new device delivers the performance expected from legacy solutions that are three times larger and more weight, at a fraction of the overall cost and power. It finally brings tactical grade stability to applications other than those with unlimited budgets.

This Smart News Release features multimedia. View the full release here:

<http://www.businesswire.com/news/home/20161019005031/en/>



- | View product page, download data sheet, order samples and evaluation boards: <http://www.analog.com/ADIS16490>
- | Read the technical article "Designing for Low Noise Feedback Control with MEMS Gyroscopes":

Precision Tactical Grade MEMS IMU Delivers Breakthrough System Level Advancements for Positioning and Navigation Applications (Photo: Business Wire)

<http://www.analog.com/library/analogdialogue/archives/50-05/noise-feedback.html>

- | Learn more about Analog Devices' IMU product portfolio: <http://www.analog.com/en/products/sensors/inertial-measurement-units.html>
- | Connect with engineers and ADI product experts on EngineerZone®, an online technical support community: <https://ez.analog.com/community/mems>

The ADIS16490 IMU delivers:

- ▮ Tactical grade in-run bias stability of 1.8 °/hour and 3.6 micro-g (industry best)
- ▮ Lowest angular random walk (0.09 deg/root-hr) and velocity random walk (0.008 m/sec/root-hr)
- ▮ Factory calibration on every device, across temperature, providing extremely tight tempcos of 24 ppm/°C (gyro) and 16 ppm/°C (accelerometer)
- ▮ High level of immunity to vibration (0.005 °/sec/g) and shock (2000 g) over extended temperature range

The ADIS16490 represents Analog Devices' most advanced IMU, leveraging years of system-level experience and ADI's best performing angular rate and linear acceleration MEMS cores combined with precision calibration, sensor filtering, and fusion. As a result of this advanced level of integration, engineers now have a product that offers the lowest Gyro Angular Random Walk and Accelerometer Velocity Random Walk to help eliminate jitter in stabilization feedback loops, as well as maintain low positional drift in navigation applications where a carefully balanced combination of low noise, tight alignment, vibration immunity, and wide bandwidth (480 Hz Gyro, 750 Hz Accel) provide the lowest total error for the most challenging system implementations.

ADI will be sampling two new variants of the ADIS16490 IMU by the end of 2016. The ADIS16495 and ADIS16497 IMUs will offer greater dynamic range options, which translate into improved design flexibility and broader application reach for system developers.

Product Specifications

Product	Gyro Range	Accelerometer Range	Gyro Noise	Accelerometer Noise	Operating Temperature
ADIS16490	100 dps	8g	0.002 °/sec/root-Hz rms	16 µg/root-Hz rms	-40 to 105C
ADIS16495	up to 2000 dps	8g	0.002 °/sec/root-Hz rms	16 µg/root-Hz rms	-40 to 105C
ADIS16497	up to 2000 dps	40g	0.002 °/sec/root-Hz rms	80 µg/root-Hz rms	-40 to 105C

Pricing and Availability

Product	Sample Availability	Full Production	Price Each Per 1,000	Packaging
ADIS16490	Now	November	\$1,645	44x47x14mm module
ADIS16495	November	July 2017	\$1,719	44x47x14mm module
ADIS16497	November	July 2017	\$1,719	44x47x14mm module

About Analog Devices

Analog Devices (NASDAQ: ADI) designs and manufactures semiconductor products and solutions. We enable our customers to interpret the world around us by intelligently bridging the physical and digital worlds with unmatched technologies that sense, measure and connect.

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