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# Strapdown Attitude Heading Inertial Measurement Unit (IMU) Product Data Sheet

## Features

- FAA Approved Major Repair allowing replacement of Mechanical Rate Gyros with MEMS Gyro Devices
- Outstanding Vibration & Noise Performance
- Exceptional Bias Stability
- MEMS Gyro Replacement, No Mechanical Wear-out Mechanisms
- High Reliability, Extends IMU Life
- DC Voltage Output, TTL Compatible
- Lower Power Consumption than OEM IMU Unit
- MEMS Sensors Significantly Improve Temperature Performance
- On-Board Characterization Memory
- Fully Calibrated and Characterized

## Description

AAE has designed a solid-state replacement for the original mechanical rate gyros in Honeywell IMUs using a MEMS Rate Sensor. Additional electronic interface circuitry is designed into a new small CCA that is mounted directly onto the sensor. AAE is able to provide a repair solution that replaces all three mechanical rate gyros with solid-state sensors and associated CCAs installed in the IMU Chassis.

The AAE IMU Replacement will operate properly in any AH-600 (P/N 7003360), which currently has a Honeywell IMU (P/N 7004855-904) Installed. The performance of the AAE IMU Replacement meets or exceeds the performance characteristics of the original Honeywell IMU (Inertial Measurement Unit).

## Additional Features

- Vibration Survival DO160E, Curve C1
- Shock Survival DO160E, Category B
- Calibration Memory Compatible with all Honeywell AH-600 AHRS
- Reliability Significantly Exceeds Original Design MTBF
- Proven Sensor and Microelectronics Technology
- Width: 4.750 inches (120.65 mm)
- Height: 3.500 inches (88.90 mm)
- Depth: 3.25 inches (82.5 mm)
- Internally Temperature Compensated

Answer Aero Pub No: AAE-1908001, Rev 2



## IMU Characteristics

Bias Stability – Less than 20°/hour typical  
 Bias Variation Over Temp – Less than 5°/sec  
 Resolution/Threshold – Less than 0.004°/sec  
 Non-Linearity – Less than 0.05% (%Full Range)  
 Weight – 850 grams Maximum (Total IMU)  
 G Sensitivity – Less than 0.06°/sec/g  
 Operational Temperature -40 to +85 °C  
 Power Requirements ±15 VDC at <90mA Max/Axis

IMU Front View

