

Athena 311



Accurate roll, pitch, heading in dynamic environments and sustained turns, keeping your mission on track.

To meet the demands of both UAV and military applications, our engineers have designed the Rockwell Collins Athena 311 with a full range of autopilot and mission management functions, which include autonomous landing and route navigation.

The autopilots are designed using patented, highly-automated controller-synthesis techniques, which guarantee stability and performance robustness throughout the flight envelope.

This unit meets the most rigorous environmental requirements to ensure a long, trouble-free life and guaranteed performance over the full temperature and altitude range of the system. Its small size makes it the ideal control system solution for tactical UAVs.

KEY BENEFITS

- ▶ Kalman filtering algorithms provide full INS and attitude solution
- ▶ Accurate roll, pitch, heading in dynamic environments and sustained turns
- ▶ Full air data measurements including AoA and sideslip
- ▶ Autonomous vehicle control and integrated sensor suite

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SPECIFICATIONS

INS/GPS performance

Update rate	50 Hz
Start-up time	10 sec (initial attitude); 1 min (full alignment)
Heading range	+/- 180°
Altitude range pitch	+/- 90°
Altitude range roll	+/- 180°
Altitude range	-2,000 ft to 50,000 ft
Attitude accuracy	45 ft at S.L., <250 ft at 40,000 ft altitude
GPS range	Worldwide
Lat/long position accuracy	GPS C/A Code; differential ready, WAAS-enabled
GPS antenna power	5 V
Airspeed accuracy	<2 knots @ 40 knots, <1 knot @ 60 knots
Max airspeed	165 knots standard, up to 650 knots optional
Angle of attack range	+/- 8° at max airspeed
Angle of sideslip range	+/- 8° at max airspeed

IMU Performance

Maximum angular rates	+/- 200°/s
Maximum g range	+/- 8 g

Attitude heading accuracy (1 sigma) with GPS

Pitch/roll accuracy	0.1°
Heading accuracy	0.3°*

Extended GPS outage

Pitch/roll accuracy	0.5°*
Heading accuracy	1°*

*Using adequate external magnetic field measurement.

Overview

Size (in)	4 x 5 x 6
Weight (lbs)	5.5
Enclosure	Aluminum/EMI shielded
Power	18 W (nominal) @ 18-36 VDC

Environmental

Operating temperature	-40 to 70°C
Operating vibration	Provisioned for passive isolation, MIL-STD-810
Humidity	95%, non-condensing sealed enclosure
Serial input/output	RS-422



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Rockwell Collins delivers smart communication and aviation electronic solutions to customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

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