

Athena 611



Official Coast Guard photo by Petty Officer Eric J. Chandler



Maximum performance at the minimum size, weight and price.

To meet the performance demands of today's sophisticated UAVs and military aircraft, we have designed the Athena 611 to include navigational grade IMU, Kalman filter INS/GPS.

Our engineers have designed the Athena 611 with electrical and mechanical manufacturing processes that meet MIL-STD environmental requirements, including temperature, shock, vibration, EMI, power and humidity to accommodate the harsh flying environments.

KEY BENEFITS

- › Accurate roll, pitch, heading, in dynamic maneuvers and sustained turns
- › Full air data measurements including AoA and sideslip
- › Tolerant to GPS outage
- › Optional software module providing Rockwell Collins' full suite of advanced and flight proven autopilot, guidance, navigation and mission management functions

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SPECIFICATIONS

INS/GPS performance

Update rate	100 Hz standard, configurable
Alignment time	4 min
Heading range	+/- 180°
Pitch attitude range	+/- 90°
Roll attitude range	+/- 180°
Altitude range	-1,000 ft to 50,000 ft
Baroinertial altitude accuracy	45 ft at S.L., 300 ft at 50,000 ft
WGS84 referenced altitude accuracy (GPS aided)	GPS receiver accuracy C/A or alternate GPS
Vertical velocity accuracy (baroinertial)	0.03 m/sec (1 sigma)
Latitude/longitude range	Worldwide
Latitude/longitude accuracy, GPS aided	2 m (1 sigma)
Horizontal velocity accuracy, GPS aided	0.03 m/sec (1 sigma)
Latitude/longitude accuracy, free inertial	0.8 nmi/hr (1 sigma)
Horizontal velocity accuracy, free inertial	0.8 m/sec (1 sigma)
Airspeed accuracy	<2 knots @ 40 knots, <1 knot above 60 knots
Max airspeed	200 knots standard
GPS antenna	5 V
Angle of attack range	+/- 8° at max airspeed
Angle of sideslip range	+/- 8° at max airspeed

IMU performance (HG9900)

Rate gyro bias	<0.003°/hr
Angular random walk	<0.002°/√hr
Reliability: MTBF	20,000 hrs
Maximum angular rates	+/- 400°/s
Maximum g range	+/-20 g's all axes
Pitch/roll accuracy, GPS aided	0.02° rms
Heading accuracy, GPS aided	0.1° rms
Pitch/roll accuracy, free inertial	0.05° rms
Heading accuracy, free inertial	0.1° rms

Overview

Size (in)	< 6.1 x 4 x 6.8 in
Weight (lbs)	611: 3.20 lb Cable: 0.35 lb IMU: 6.10 lb
Enclosure	Aluminum
Power	18.5 W nominal, MIL-STD-704E 28 VDC

Environmental

Operating temperature	-40 to 70°C
Temperature shock	MIL-STD-810
Operating temperature at altitude	MIL-STD-810
Operating vibration	MIL-STD-810



Humidity	95%, non-condensing sealed enclosure
Sand and dust, salt, fog, fungus	MIL-STD-810 (sealed enclosure)
Acceleration/mechanical shock	MIL-STD-810
EMI/EMC	MIL-STD-461E; CE102, CS 101, RE 102-3, RS 103
Signal input/output	
Outside air temperature	Input
Program and maintenance serial port	(1) PPP service port
Serial ports	(3) RS-232 (DGPS) (1) RS-422 INS
Air data pressure ports	Alpha Beta Altitude (baro) Airspeed

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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.

For more information, contact:

Rockwell Collins
3721 Macintosh Drive
Vint Hill Tech Park
Warrenton, VA 20187
+1.540.428.3300
fax: +1.540.428.3301
email: learnmore@rockwellcollins.com
www.rockwellcollins.com

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