



GENESYS™ ADAHRS

AIR DATA AND ATTITUDE/HEADING REFERENCE SYSTEM
FOR FIXED-WING AND ROTARY-WING PLATFORMS



The Genesys Air Data and Attitude/Heading Reference System (ADAHRS) is light weight and compact. It incorporates a Magnetic Sensing Unit (MSU) and separate Outside Air Temperature (OAT) Probe. This highly accurate avionics system employs the latest Micro-Electro-Mechanical System (MEMS) technology to provide extremely precise digital output and referencing of aircraft position rate, vector and acceleration data.

FEATURES INCLUDE

- Reliable. DO-178B, Level A software
- Lightweight. 3 component product suite is less than 1.5 lbs.
- Rugged. Meets RTCA/DO-160E environmental standards
- Compact. 2"x 2.5"x 3.9" (ADAHRS)

MEMS TECHNOLOGY PROVIDES EXTREMELY PRECISE DIGITAL OUTPUT

ADAHRS SPECIFICATIONS

Features	Specifications
MTBF	13,000 hrs. (MIL-HDBK 217)
COM Ports	AHRS RS232, 19,200 bps. AHRS ARINC-429 (high speed, labels 320, 324, 325, 326, 327, 330, 331, 332, 333 and 377, SDI set by software) ADC RS232, 19,200 bps. ADC ARINC-429 (low speed, labels 203, 205, 206, 210, 211, 212 and 377, SDI set by software)
Connector Type	MIL-C 38999 Souriau PN: 8D0C-13F35PN / Airframe side: Souriau PN: 8D5-13F35SN
Thermal Protection	Internal thermal regulation and monitoring
Input Voltage	Nominal 14 to 28V, dual bus
Maximum Input Voltage	Spikes to 80V
Minimum Input Voltage	Down to 10V for 30 seconds
Power Interruption	200 milliseconds
Temperature Range	-55°C to +70°C
Body Rates	±300° per second
Accelerometer Range	±10 g
Velocity Range	20-550 KIAS
Velocity Resolution	0.2KIAS below 25KIAS / 0.1KIAS 25KIAS and above
Velocity Accuracy	±5.0KIAS below 50KIAS
Meets or Exceeds	TSO-C106 from 50 to 450 KIAS ±5.0KIAS above
Altitude Range	-1,000 MSL to FL550
Altitude Resolution	1 ft
Altitude Accuracy	Meets or exceeds TSO-C106
OAT Calibration Range	-70°C to +100°C
OAT Resolution	0.1°C
OAT Accuracy	±1.5°C from -70°C to +70°C (per TSO-C106) ±2.5°C from +70°C to +100°C
Status LED	Off: No power Steady ON: Power present, but either AHRS or ADC not functioning properly Blinking: Both the AHRS and the ADC processors are working normally.
Pitot & Static Ports	MS16142-4 Straight Thread Tube Fitting O-Ring Gasket type. Thread size 7/16-20. Accommodates fitting ends per MS33656-4 or AN815-4(D) unions with AS568A-904 O-rings installed
Mounting	Aligned with longitudinal axis (±0.5° for fixed wing aircraft and ±2.0° for rotorcraft).
DO-160E Qualification	[(F2)V]BRXWXSFSZZAZ[ZC][YK]M[A3]33XXAC
Certification	RTCA/DO-178B, Level A



MSU SPECIFICATIONS

Features	Specifications
Type	Triaxial Earth Field Magnetometer

OAT PROBE SPECIFICATIONS

Features	Specifications
Impedence	1,000 Ohm RTD (cabling: 20'/24 gauge wire to 40'/22 gauge wire)
Size	2.0"H x 2.5"W x 3.9"D (ADAHRS, excluding connectors and mounting flange)
Weight	ADAHRS: 0.97 lbs Magnetometer: 0.40 lbs OAT Probe: 0.13 lbs
Enclosure	Machined 6061-T6 aluminum
Finish	Black anodized



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+1.817.215.7600
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