



GENESYS ADAHRS

AIR DATA AND HEADING REFERENCE SYSTEM

FOR FIXED-WING AND HELICOPTER PLATFORMS

The Genesys Aerosystems' digital Air Data and solid-state 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 of the ADAHRS 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 SPECIFICATION

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 450KIAS

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[A3J33]XXAC

Certification: RTCA/DO-178B, Level A

MSU SPECIFICATIONS

Triaxial Earth Field Magnetometer

OAT PROBE SPECIFICATIONS

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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