ADAHRS
Micro-Electro-Mechanical System (MEMS) technology provides extremely precise digital output

**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).

**Greater precision**
The digital Air Data and solid-state Attitude/Heading Reference System (ADAHRS) from Genesys Aerosystems is lightweight and compact. It incorporates a Magnetic Sensing Unit (MSU) and separate Outside Air Temperature (OAT) Probe.

This highly accurate 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.
Genesys Aerosystems  One S-TEC Way, Municipal Airport, Mineral Wells, TX 76067 USA

86418, Rev-

ADAHRS 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, 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: 8D5-13F3SSN

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: ±200° 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

Mounting: Aligned with longitudinal axis (±0.5° for fixed wing aircraft and ±2.0° for rotorcraft).

DO-160E Qualification: [F2][V]BRXWSFSZZAZ [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

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

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genesys-aerosystems.com  |  1-817-215-7600
Genesys Aerosystems  One S-TEC Way, Municipal Airport, Mineral Wells, TX 76067 USA