The AHR150A ADAHRS (Air Data Attitude Heading Reference System) from Archangel Systems represents a paradigm shift in the ADAHRS market. Using MEMS sensors and sophisticated blending algorithms, the AHR150A yields “FOG-grade” performance at greatly reduced size, weight, power, and cost.

Several companies, including The Boeing Company, Erickson Corporation, and Airbus, have selected the AHR150A for their supplemental and type certificates in rotary- and fixed-wing platforms.

Rate limits for the AHR150A are ±128°/second. A variant, the AHR300A, reaches ±256°/second and is similarly certified. And, with multiple high- and low-speed ARINC 429 ports, both products seamlessly integrate into any avionics suite.

FEATURES
- Qualified for Mission Critical applications including IFR, SAR, and primary flight systems
- Certified for Part 23, 25, 27, and 29 aircraft
- Air data is RVSM compliant
- Designed with low data latency for fly-by-wire aircraft
- Directional Gyro mode meets TSO C5f requirements
- Mil Spec 38999 filtered connectors
- Angle rate limit of ±128°/second (±256°/second on the AHR300A)

CERTIFICATIONS
- DO-178B Level A software
- FAA TSO C4c, C5f, C6e, C88b, and C106
- EASA—All equivalent ETSOs
- DO-160E Environmental certifications including EMI, EMC, and HIRF

EXPORTING
- Exportable worldwide
- No end-user statement required

www.archangel.com
334.826.8008 x14
AHR150A
Air Data Attitude Heading Reference System

Environment/Power
Temperature
-40°C to +70°C operating
-55°C to +125°C non-operating

Altitude
-1,000 to 52,000 ft pressure

Power
16–36 VDC, 0.5 A @ 28 V nominal

Inputs/Outputs
ARINC 429
4 high-speed transmit, 1 receive,
ARINC 705-5 words
4 low-speed transmit, 1 receive,
ARINC 706-4 words

Discrete Outputs
Master fault, 11-bit ICAO altitude

Discrete Inputs
CW/CCW slewing, DG/Mag mode select
User-programmable
Orientation, Unit ID, Lever Arms,
SSEC/PSEC Select

Ranges (Normal Operations)
Rates
AHR150A ±128°/second
AHR300A ±256°/second

Accelerations
±10 g

AHRS Accuracy (Dynamic—Normal Flight)
Pitch, Roll
±1.0°, 3 σ
Heading
±2.0°, 3 σ
Body Rates
0.2% of input rate
0.1% non-linearity

Certifications/MTBF
FAA
TSO C4c, C5f, C6e, C88b, and C106

EASA
All similar ETSOs

Environmental Categories
DO-160E [D2]XABB[UK1]EWDFDFS

Categories
ZZXAZZ[YY(QKL)]L[B4K44]XAX

Software Categories
DO-178B Level A

MTBF
MIL-HDBK-217 35°C ambient
13,800 hours in fixed wing
9,600 hours in rotary wing

Notes