

AFC001AC

Automatic Flight Controller



The Archangel Systems **Automatic Flight Controller Alternating Current (AFC001AC)** is opening the path for legacy aircraft with analog instruments and Flight Guidance systems to update to modern digital avionics.

The **AFC001AC** receives data over a Hi-Speed **ARINC 429** Buss and converts Roll, Pitch and Heading to standard **ARINC 407** signals to drive a variety of autopilots, analog indicators and all the functional avionics that require Attitude and Heading **ARINC 407** data.

AFC001AC supports Legacy 407 indicator using synchro DG/VGs. This eliminates costly DG/VG repairs and downtime while providing increased performance at a cost-competitive price.

Combining the **AFC001AC** with the Archangel flagship ADAHRS **AHR150A** will create a seamless and low-cost Air Data and Attitude solution at low-size, weight, and power.



FEATURES

Interfaces seamlessly with ARINC 429 ADAHRS.

Certified for Part 23, 25, 27, and 29 aircraft

Accurate Synchro signals for A/P use.

Mil Spec 38999 filtered connectors

CERTIFICATIONS

DO-178B Level A software

FAA TSO C9c

DO-160E Environmental certifications including EMI, EMC, and HIRF

EXPORTING

Exportable worldwide

No end-user statement required



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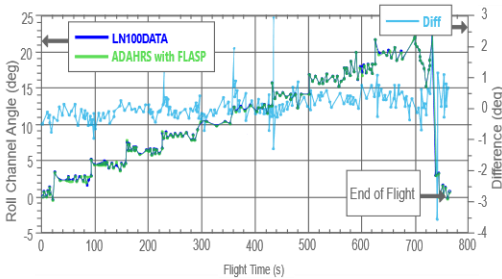


AFC001AC Dimensions/Weight

Size 2.625" x 5.25" x 5" (H x W x D)

Weight 2.2 lbs.

Orbit Flight Data



- This graph shows the comparison between an Analog DG/VG data vs a modern MEMS data obtained from Archangel AHR150A ADAHRS.
- AHR150A shows no "memory" of shallow banks or small increment steps.
- This Digital data is sent via ARINC 429 to AFC001AC which precisely converts it to Synchro signals prepared for ARINC 407 devices.

Environment/Power

Temperature	-40°C to +70°C operating -55°C to +125°C non-operating
Altitude	-1,000 to 52,000 ft pressure altitude
Power	16-36 VDC, 0.6 A @ 28 V nominal

Inputs/Outputs

ARINC 429 input	High-speed receive port from ADAHRS/AHRU
Discrete Input	Altitude Hold
Discrete Outputs	Three discrete fault outputs lines with two different configurations for the Active Valid flags (Active High and Low).
ARINC 407 Outputs	Pitch 3 Wire Synchro 200mv / Deg Roll 3 Wire Synchro 200mv / Deg Heading 3 Wire Synchro 200mv / Deg Pitch 2 Wire Synchro Hi 200mv / Deg Low 50mv / Deg Roll 2 Wire Synchro Hi 200mv / Deg Low 50mv / Deg
Analog Outputs (Single Ended or Differential)	Body Roll Rate Body Yaw Rate, Body Lateral Acceleration Altitude error with adjustable scale factor

Built-In Tests (PBIT / CBIT)

Program Memory
Validity of incoming ARINC 429 data
Comms between internal subsystems
External comms timeout
Arithmetic Errors

Certifications

FAA	TSO C9c
Environmental Categories	DO-160E [D2] XABB[UK1] EWFDFS ZZAZZZ[Y(QKL)]L[B4K44]XAAX
Software Categories	DO-178B Level A

Notes

