Solid State Barometric Altimeter (AAU-34) For the F-16

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Solid State Barometric Altimeter (AAU-34)

Technical Overview

Innovative Aerosystems Model 9D-00249 Solid State Barometric Altimeter was developed under a joint Navy/Air Force contract as a form, fit and function plug-in replacement for the AAU-19/-34/-37 standard altimeters. IA's advanced technology is 20 times more reliable and 3 times more accurate than existing designs.

The SSBA combines a smooth mechanical pointer with a high intensity illuminated LCD display for enhanced readability under adverse lighting conditions. Dual mode operation displays CADC altitude information with an internal solid state pressure transducer for backup mode.

The IA SSBA combines independent analog and digital display technologies to optimize readability. A 3/8" character height LCD displays digital altitude with 20 ft. resolution. A mechanical pointer provides a conventional 1,000 feet per revolution analog display. Smooth sweep characteristics provide altitude rate information and assure compatibility with existing altimeter displays. A software algorithm automatically adjusts display resolution as a function of altitude rate to preclude confusion at high rates and assure non-ambiguous reading with altitude variations at level flight. The LCD display is illuminated with a high intensity LED lighting system to assure rapid readability under the most adverse lighting conditions, such as dawn, dusk and bright cloud cover. The redundant LCD and drive electronics assure display integrity and the multi-segment digital display precludes misreading in the event of a display or driver malfunction. The integral pressure transducer is a highly reliable sensor with air data computer quality and proven stability and accuracy. Built-in test continuously checks all functional elements of the system to assure accuracy and display integrity. With the loss of air data computer information, the instrument automatically reverts to the backup (standby) mode, operating from its internal pressure transducer.

Standard Features

- Greater than 20,000 hour MTBF actual
- Low power: 2.8W
- Carbon composites for light weight: 2.85 lbs.
- 15g gunfire vibration operation
- Redundant displays and signal sources
- Compatible with 200 V/m EMI environment MIL-STD-461 RS03
- U.S. DOD Qualified Products List (QPL) Approved
- NVIS Version (AAU-34C/A)
- Aviation Red Version (AAU-34B/A) MIL-L-85762A/MIL-STD-3009
- Barometric scale setting selectable in IN/HG or MB

Applications

- Replacement for AAU-19/-34/-37
- Fully flight tested and certified by Lockheed Martin and United States Air Force

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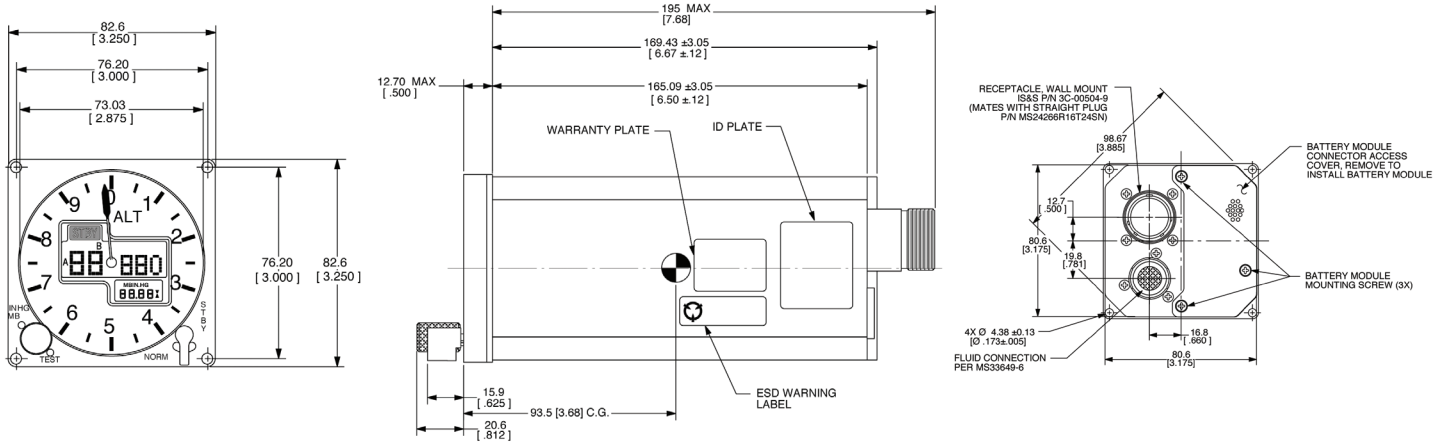
System Specifications

Meets or exceeds all requirements of MIL-PRF-83419D

Altitude Range:	-1000 feet to 80,000 ft		
Barometric Setting Range:	28.10 to 31.00 in Hg 950 to 1048 MB		
Accuracy:	Normal Mode Standby Mode	+/- 10 feet See Below	
		IS&S 9D-00249	**Existing AAU-19/34/37**
	sea level	*+/- 20*	*+/-30*
	10,000 feet	*+/- 25*	*+/-80*
	30,000 feet	*+/- 55*	*+/- 180*
	50,000 feet	*+/- 130*	*+/- 280*
	80,000 feet	*+/- 550*	*+/- 1,500*
Connector:	MS24266-R16T-24SN		
Power:	Primary Power Backup (Stdby) Power Lighting Power	115V, 400 Hz, 5 VA 28 VDC, 100 mA 5 VAC or DC, <0.1Watts	
Mounting:	MS33556		
Weight:	2.85 pounds (1.3 kilograms)		
Inputs: **Outputs:**	Static Pressure, Fine Altitude Synchro (10,000 feet/revolution) Baro Setting Potentiometer, RS232 (Maintenance)		

Outline Dimensions



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