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# F-5 Avionics Upgrade Digital Air Data Computer

# Digital Air Data Computer (DADC)

F-5 DADC - P/N 9B-81116-1

## Technical Overview

The IS&S Digital Air Data Computer (DADC), P/N 9B-81116-1 was developed as an avionics upgrade for the F-5N and F-5F aircraft. It is a direct form, fit, and functional replacement for P/Ns 948312-9-1 and 2100756-3-1 Central Air Data Computers. The DADC processes static and pitot pressures ( $P_s$  and  $P_t$ ), total temperature ( $T_t$ ), and local angle of attack (AOA) input data. These inputs are used to compute accurate air data information for primary flight displays, navigation, flight controls, and other aircraft systems. Extensive built in test is also provided.



The DADC performs a multitude of data processing functions to determine the validity of its inputs, compute output data, and indicate operational status as well as output validity. It performs various signal processing functions to format the outputs into analog, discrete, and serial data signals, making them compatible with a wide range of interfaces. Air Data information supplied by the DADC supports the operation of equipment including flight deck instruments, Stability Augmentation System (SAS), Lead Computing Optical Sight (LCOS), Maneuvering Flap Control, and other instrumentation and flight control systems. The 9B-81116-1 DADC also replaces the P/N 34-60935-1 Flap Controlling Altitude Switch and P/Ns 11177 -1, and -3 AOA Switching Assemblies. Additional features include dual ARINC 429 outputs and MIL-STD-1553B interface.

The 9B-04605-(XX) Installation Configuration Module (ICM) is provisioned for use with the 9B-81116-1 DADC. The ICM is intended to contain aircraft configurable data including the static source error correction and temperature probe type. The ICM is connected to the DADC through the front mounted connector and remains with the aircraft by attachment of the provided lanyard.

## Features

- Full RVSM Compliance
- Computes air data for interfacing equipment in analog, digital, and discrete formats.
- Supports operation of AUU-34A or equivalent altimeter, indicators, autopilot controllers, SAS, LCOS, and other aircraft systems.
- Integral data checking and fault detecting operation.
- Fault response, data output control, and status indication.
- Certifications: MIL-STD-810G/MIL-STD-461G, RTCA/DO178C Level A



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## Signal Outputs:

<b>Fine Alt Synchro (2):</b>	MIL-PRF-83419F
<b>Pressure Altitude (2):</b>	Potentiometer (LCOS)
<b>Mach:</b>	Potentiometer (LCOS) Discrete (Aux Take-Off Door Control) Discrete (Maneuvering Flap Control)
<b>True Airspeed:</b>	Potentiometer (LCOS)
<b>True Angle of Attack:</b>	Potentiometer (LCOS)
<b>Calibrated Airspeed (3):</b>	Potentiometer (SAS)
<b>Pressure Altitude Calibrated Airspeed:</b>	Discretes (Landing Gear Warning)
<b>Calibrated Airspeed (4):</b>	Discrete (Maneuvering Flap Control)
<b>Pressure Altitude:</b>	Switch (Per 34-60935B)
<b>Angle of Attack:</b>	Relays (Per 14-64918D/11177 AOA Switching Assembly)
<b>ARINC 429 Bus A and B:</b>	Serial Data
<b>MIL-STD-1553B:</b>	Serial Data
<b>Altimeter, 115 VAC Power (2):</b>	Relay
<b>Serial Data Bus:</b>	Serial Data (Maintenance)

## Signal Inputs:

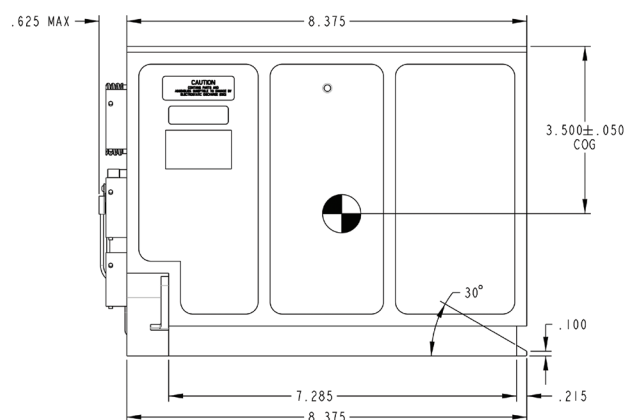
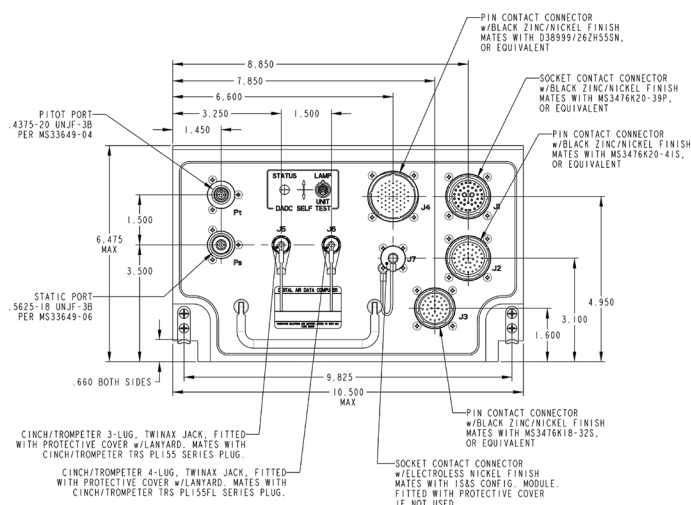
<b>Primary Power:</b>	115 VAC 400 Hz, MIL-STD-704A
<b>Indicated Total Air Temp:</b>	Resistance, Probe
<b>Indicated Static Pressure:</b>	Pneumatic
<b>Indicated Total Pressure:</b>	Pneumatic
<b>System Test Switch:</b>	Discrete
<b>Serial Data Bus:</b>	Serial Data Maintenance
<b>MIL-STD-1553B:</b>	Serial Data
<b>MIL-STD-1553B, RT Address:</b>	Discrete
<b>Installation Configuration Module:</b>	Provisions Only
<b>28 VDC:</b>	Altimeter Disable (Self Test)

## Operating Specifications

<b>Altitude Range:</b>	-1,000 to 60,000 ft
<b>Airspeed:</b>	50 to 800 kts
<b>Mach Number:</b>	0.1 to 2.0 Mach
<b>Total Temperature:</b>	-70°C to 200°C

<b>Reliability:</b>	55,873 hours MTBF @ 25°C for AIC environment per MIL-HDBK-217F
<b>Weight:</b>	11.5 lbs. max

## Outline Dimensions





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All specifications subject to change without notice from the manufacturer.

IS&S is the world's leading supplier of RVSM systems and integrator of Cockpit Information Systems (Cockpit/IP®) for the Commercial Air Transport, Military, and Business Aviation Markets. IS&S incorporates leading edge technologies into sophisticated, cost-effective solutions for the aerospace industry.



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