

Miniature Air Data Computer (MADC-110)



The MADC-110 is Astronautics' Digital Air Data Computers for modern transport aircraft. The MADC-110 is RVSM/GATM compliant, with C-106 TSO certification. The MADC-110 uses solid-state devices resulting high-accuracy and high-reliability. Solid-state based pressure transducers provide outstanding performance and long term stability.

The MADC-110 inputs are:

- Static/Total pressure from the Pitot Tube
- Angle of Attack sensor readings
- Altimeter Barometric setting
- Outside Air Temperature
- Aircraft discretes (such as "Weight-on- Wheels" Aircraft configuration and BIT initiate).

The MADC-110 uses the above-mentioned inputs to calculate the required outputs (altitude, airspeed, Mach etc.), compensated for static source error correction values. The interface with the avionics equipment is through MIL-STD-1553 / ARINC-429 as well as several analog and discrete signals. An integral BIT checks continuously the MADC-110's circuitry. Any detected failure or performance degradation is reported to the aircraft systems through dedicated status words, and valid discretes. Special options providing additional inputs/outputs and/or different accuracies are available.

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INPUTS	
Power	28 VDC
Power Consumption	40W
Static Pressure	0-32 inch Hg
Total Pressure	1-90 inch Hg
OAT	-70 to +120 deg. C
AOA	-12 to +41 degrees
Pbs	28.1 to 31.0 In Hg
OUTPUTS	
Altitude	-1500 to 80,000 ft Accuracy – 20 feet or 0.2% Hp
True Air Speed	70 to 1700 Knots, Accuracy – 5 Kt or as per flight envelope
Calibrated Air Speed	50 to 1000 Knots Accuracy – 2 Kt, as per flight envelope
Mach Number	0.1 to 3M Accuracy – 0.005M or as per flight envelope
Free Air Temperature	-100 deg C to +150 deg C
Accuracy	0.05 deg C
Altitude Rate	+6000 FPM, Accuracy + 40 FPM
AOA	-10 to +40 deg, Accuracy – 0.25 deg
Other Input/Output Ranges and Accuracies	
Environment	Per MIL 5400 Class II. Operating Temp Range –54 deg C to +71 deg C
MTBF	Over 5000 hrs for fighter, >10,000 hrs for transport
Dimensions	6.99" L x 5.2" W x 3.62" H 177.5mm L x 132mm W x 92mm H
Weight	Under 2.7 lbs (1.2 Kg)

