

# DIGITAL AIR DATA DISPLAY

AD32 RVSM

**THOMMEN**  
AIRCRAFT EQUIPMENT



## GENERAL

**THOMMEN** is a leading manufacturer of Air Data Systems and aircraft instruments used worldwide on a full range aircraft types from helicopters to corporate turbine aircraft and commercial airliners. A recent innovation introduces the AD32 Air Data Display which measures barometric altitude, airspeed and temperature in the atmosphere. It has integrated solid-state pressure sensors for static and pitot pressure. The AD32 is RVSM compliant and provides up to 2 x 16 SSEC curves.

The THOMMEN AD32 Air Data Display exceeds FAA Technical Standard Order (TSO) accuracy requirements.

The computed air data parameters are transmitted via the configurable ARINC 429 interface data bus with two ARINC 429 transmit and two receive channels with which the baro setting can be adjusted. The AD32 also has an integrated altitude alerter. The baro setting knob has a push-to-reset function.

The AD32 meets the requirements for multiple platforms for TAWS, ACAS/TCAS, EGPWS or FMS systems. It also supports the Air Data for enhanced safety infrastructure capabilities for Transponders and ICAO encoded altitude output is available as an option. The corrected altitude is displayed on a high contrast LCD in digital format and by a stepper motor driven pointer.

It is designed to be modular and therefore is very easy to maintain thanks to the RS232 maintenance interface. Its power supply is designed for 28 VDC. The low power consumption of less than 8 Watts and its low weight of only 2.75 lbs (1250 grams) have been optimised for applications in state-of-the-art avionics. The extensive Built-In-Test guarantees safe operation.

The THOMMEN AD32 Air Data Display can be configured for different applications and has very easy hosting capabilities by supplying data to next generation equipment and display of altitude in feet or meters, all without altering the system architecture.

## ARINC 429 PARAMETERS

\*  /   Output  
 ARINC429 accuracy met

Label 203	Pressure Altitude (1013.25 mbar)	- 1,000	to	+53,000	feet
Label 204/220	Baro Corrected Altitude #1 / #2	- 1,000	to	+53,000	feet
Label 212	Vertical Speed	0	to	20,000	ft/min.
Label 353	Indicated Airspeed IAS	0/40*	to	450	knots
Label 206	Computed Airspeed CAS	0/40*	to	450	knots
Label 210	True Airspeed TAS	0/100*	to	599	knots
Label 207	Max. Allowable Airspeed VMO	150	to	450	knots
Label 205	MACH Number	0/0.200*	to	0.999	MACH
Label 211	Total Air Temperature	-60	to	+99	°C
Label 213	Static Air Temperature SAT	-99	to	+60	°C
Label 235/237	Baro Setting #1 / #2	20.67	to	31.00	inHg
Label 234/236	Baro Setting #1 / #2	700	to	1,050	mbar

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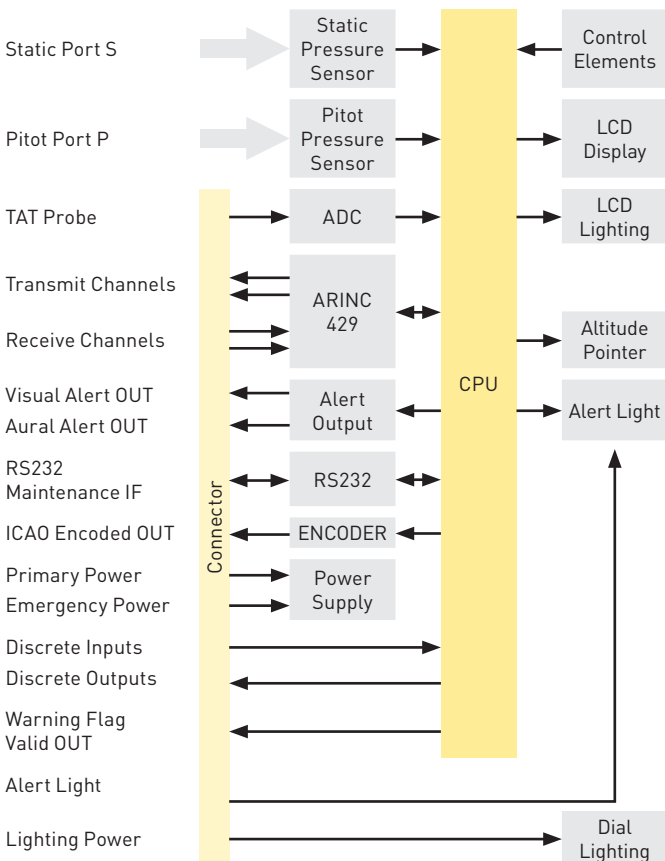


## CHARACTERISTICS

<b>FEATURES:</b>	Solid State Pressure Sensors	<b>SIGNAL OUTPUTS:</b>	Encoded Altitude ICAO Per TSO C-88a
	RVSM Compliant		Visual/Aural Alert Relais Outputs
	Static Source Error Correction, 2 x 16 Curves		Warning Flag Valid GND/28 VDC
	Integrated Altitude Alerter (Optional)		Optional Baro Potentiometer Output
	Standby/Normal Operation (Optional)		ARINC 429 Serial Data Bus 2 Transmit Channels
	English/metric scale setting		
	Baro Push-to-Reset function		
	Push-to-Test and continuous Built-In-Test		
	BIT Failure memory		
	Display with LCD/stepper motor driven pointer		
<b>SIGNAL INPUTS:</b>	Primary Power 28 VDC	<b>OPERATING SPECIFICATIONS:</b>	Altitude Scale Error
	Emergency Power 28 VDC		- 1,000 to 20,000 feet ± 10 feet
	Lighting Power 28 VDC (Optional 5 VDC)		20,000 to 29,000 feet ± 20 feet
	Alert Light Control 28 VDC (Optional 5 VDC)		29,000 to 41,000 feet ± 30 feet
	ARINC 429 Serial Data Bus 2 Receive Channels		41,000 to 53,000 feet ± 50 feet
	TAT Probe 500 Ohm (Optional 50 Ohm) @ 0 °C		FAA TSO-C10b/TSO-C88a/TSO-C106
			RTCA/DO-178B Level A
			RTCA/DO-160D
			- Operating Temperature -20 (-30 optional) ... 70 °C
			- Storage Temperature -55 ... 85 °C
	Reliability: MTBF 21,700 Hours (Acc. MIL-HDBK-217F)		

## INTERNAL BLOCK DIAGRAM

AD32 RVSM Air Data Display with Alerter and Encoding Output



## MECHANICAL DRAWING

