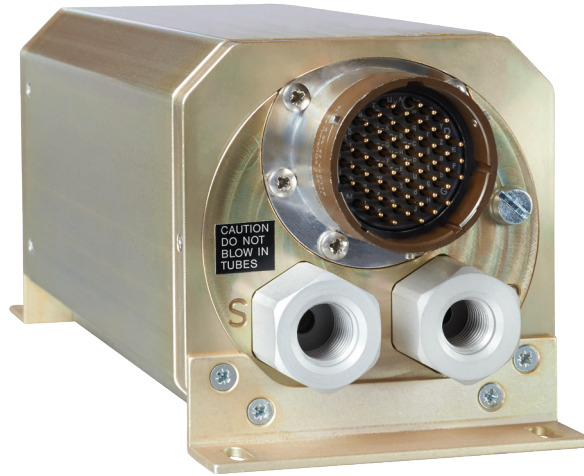# DIGITAL AIR DATA COMPUTER
TYPE AC32

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. The AC32 measures barometric altitude, airspeed and temperature in the atmosphere with integrated vibrating cylinder pressure sensors with high accuracy and stability for both static and pitot ports.

The THOMMEN AC32 Digital Air Data Computer exceeds FAA Technical Standard Order (TSO) and accuracy requirements. The computed air data parameters are transmitted via the configurable ARINC 429 data bus. There are two ARINC 429 transmit channels and two receive channels with which baro correction can be accomplished also.

The AC32 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 an ICAO encoded altitude output is also available as an option.

Its power supply is designed for 28 VDC. The low power consumption of less than 7 Watts and its low weight of only 2.2 Ibs (1000 grams) have been optimized for applications in state-of-the-art avionics suites. The extensive Built-in-Test capability guarantees safe operation.

The AC32 is designed to be modular which allows easy maintenance by the operator thanks to the RS232 maintenance interface. The THOMMEN AC32 can be confi gured for different applications and has excellent hosting capabilities for supplying data to next generation equipment without altering the system architecture.

For customized versions please contact THOMMEN AIRCRAFT EQUIPMENT AG sales department.

ARINC 429 PARAMETERS

Label 203	Pressure Altitude	-1,000	to	+53,000	feet
Label 204/220	Baro Corrected Altitude	-1,000	to	+53,000	feet
Label 205	MACH Number	0.200	to	0.999	MACH
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 211	Total Air Temperature TAT	-60	to	+99	°C
Label 213	Static Air Temperature SAT	-99	to	+60	°C
Label 212	Vertical Speed	0	to	20,000	ft/min.
Label 215	Impact Pressure (corrected)	0	to	372.5	mbar
Label 217	Static Pressure (corrected)	0	to	64	inHg
Label 235/237	Baro Setting QNH	20.67	to	31.00	inHg
Label 234/236	Baro Setting QNH	700	to	1,050	mbar
Label 242	Total Pressure	135	to	1354.5	mbar
Label 270	Discrete Word #1				
Label 353	Indicated Airspeed IAS	0/40	to	450	knots
Label 377	Equipment Identifier	006			

DIGITAL AIR DATA COMPUTER
TYPE AC32

THOMMEN
AIRCRAFT EQUIPMENT

CHARACTERISTICS

FEATURES:	Vibrating Cylinder Pressure Sensors
	Continuous Built-In-Test
	BIT Failure Memory
	RS232 Maintenance Interface
	ARINC 429 HIGH or LOW Speed

SIGNAL INPUTS:	Primary Power 28 VDC (< 7 Watts)
	Emergency Power 28 VDC
	ARINC 429 Serial Data Bus, 2 Receive Channels
	TAT Probe 500 Ohm (ARINC 706-4) (Optional 100 Ohm, EN 60751)

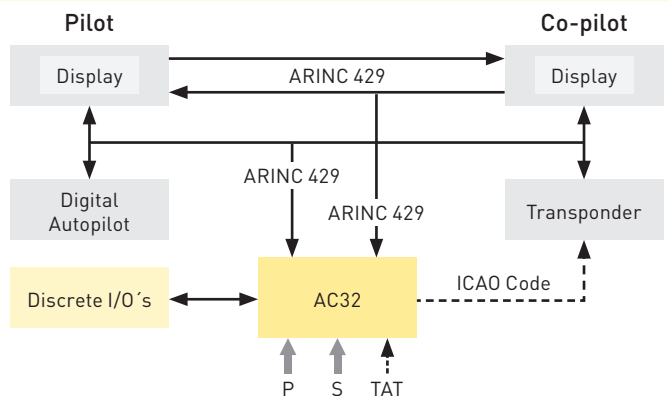| SIGNAL OUTPUTS:	Encoded Altitude ICAO (Gilham / Annex 10)
	Warning Flag Valid Output Signal 28 VDC
	ARINC 429 Serial Data Bus, 2 Transmit Channels

OPERATING SPECIFICATIONS:	Altitude Scale Error -1,000 to 20,000 feet ±10 feet 20,000 to 30,000 feet ±20 feet 30,000 to 40,000 feet ±30 feet 40,000 to 53,000 feet ±50 feet
	FAA TSO-C106
	FAA TSO-C88a
	RTCA/DO-178B Level A
	RTCA/DO-160D Env. Cat. [D2]BBB [(TB1)(TR]] / [(SL)(SM)]/[(UG)] XWFDFSZZAZZ [YY]M [A3J33]XAA – Operating Temperature -55 ... 70 °C – Storage Temperature -55 ... 85 °C
	Reliability: MTBF 21,900 h

INTERNAL BLOCK DIAGRAM

AC32 Digital Air Data Computer
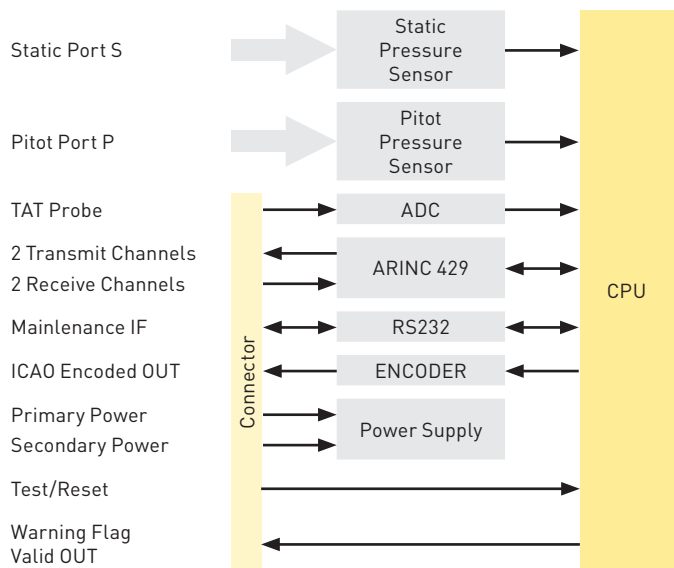
DATA COMMUNICATION BLOCK DIAGRAM

MECHANICAL DRAWING