DIGITAL ENCODING ALTIMETER

AD32 DEA80

GENERAL

THOMMEN AD32 digital encoding altimeter (DEA) with extended altitude range suits to every aircraft category including those reaching altitudes above the usual air traffic.

Technically based on the rugged AD32 air data unit design, this DO-178B Level A certified altimeter system exceeds any TSO C10b accuracy requirements throughout the entire altitude range up to 80'400 ft / 24.500 m.

Available in two case designs and with different lighting options incl. optional MIL-STD3009 NVIS green A/B compliance, it easily replaces obsolete mechanical altimeters.

The integrated high-end VCT sensor makes AD32 DEA free from needs for scheduled maintenance or re-calibration.

Together with a fast reacting stepper-motor driven pointer, this sensor type enables virtually "real-time" indication of the altitude also during high-speed vertical maneuvers.

Optionally the system features an integrated altitude alerter (up to FL650) with configurable parameters, altitude preselect, alerter light and discrete output to a warning tone generator.

The extended barometric setting range from 700...1066 mbar allows QFE operation on high-elevation airfields.

Compliant to TSO C88a, the analogue Gillham gray code (ICAO) is provided to enable direct replacement of older encoders or encoding altimeters.

In parallel, labels 203 (pressure altitude) and 204 (baro corrected altitude) are supplied via two ARINC429 TX channels.

By pressing the optional scale button, the measurement units can be switched between meter and feet and the barometric setting between mbar/hPa and InHg.

Continuous Built-in-Test (BIT) software secures safe operation; the BIT-failure memory can be read out via the RS232 maintenance interface without removing the unit from the aircraft.

ARINC 429 PARAMETERS

Label 203	Pressure Altitude (1013.25 mbar)	- 1,000	to	+80,400	feet
Label 204/220	Baro Corrected Altitude #1 / #2	- 1,000	to	+80,400	feet
Label 212	Altitude Rate physically	0	to	50,000	feet/min.
Label 212	Altitude Rate submitted per ARINC 429	0	to	32,768	feet/min.
Label 235/237	Baro Correction #1 / #2	20.67	to	31.48	inHg
Label 234/236	Baro Correction #1 / #2	700	to	1,066	Mbar/hPa

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CHARACTERISTICS

FEATURES:	Vibration Cylinder Technology (VCT) static pressure sensor
	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
	RS232 Maintenance Interface
	28V or 5 V lighting power
	White, white-red or white-green-NVIS green lighting

SIGNAL INPUTS:	Primary power 28 VDC
	Emergency power 28 VDC
	Lighting power 28 VDC (Optional 5 VDC)
	ARINC 429 serial data bus 2 receive channels
SIGNAL OUTPUTS:	Encoded Altitude ICAO Per TSO C-88a
	Warning Flag Valid GND/28 VDC
	Optional Baro Potentiometer Output

SIGNAL OUTPUTS:	ARINC 429 data bus 2 transmit channels

OPERATING SPECIFICATIONS:	Altitude Scale Error - 1,000 to 20,000 feet ± 10 feet 20,000 to 29,000 feet ± 20 feet 29,000 to 41,000 feet ± 30 feet 41,000 to 53,000 feet ± 50 feet 65,000 to 80,000 feet ± 150 feet
	FAA TSO-C10b/TSO-C88a (applies up to 53'000 ft)
	RTCA/DO-178B Level A
	RTCA/DO-160D – Operating Temperature -30° ... 70°C – Storage Temperature -55° ... 85°C
	Reliability: MTBF 21,000 hours

MECHANICAL DRAWING