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.

### GENERAL

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### PARAMETERS

<table>
<thead>
<tr>
<th>Label</th>
<th>Parameter</th>
<th>Min. Value</th>
<th>Max. Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td>Pressure Altitude</td>
<td>-1,000</td>
<td>+53,000</td>
<td>feet</td>
</tr>
<tr>
<td>204/220</td>
<td>Baro Corrected Altitude</td>
<td>-1,000</td>
<td>+53,000</td>
<td>feet</td>
</tr>
<tr>
<td>212</td>
<td>Vertical Speed</td>
<td>0</td>
<td>20,000</td>
<td>ft/min.</td>
</tr>
<tr>
<td>353</td>
<td>Indicated Airspeed IAS</td>
<td>0/40*</td>
<td>450</td>
<td>knots</td>
</tr>
<tr>
<td>206</td>
<td>Computed Airspeed CAS</td>
<td>0/40*</td>
<td>450</td>
<td>knots</td>
</tr>
<tr>
<td>210</td>
<td>True Airspeed TAS</td>
<td>0/100*</td>
<td>599</td>
<td>knots</td>
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<tr>
<td>207</td>
<td>Max. Allowable Airspeed VMO</td>
<td>150</td>
<td>450</td>
<td>knots</td>
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<tr>
<td>205</td>
<td>MACH Number</td>
<td>0/0.200*</td>
<td>0.999</td>
<td>MACH</td>
</tr>
<tr>
<td>211</td>
<td>Total Air Temperature</td>
<td>-60</td>
<td>+99</td>
<td>°C</td>
</tr>
<tr>
<td>213</td>
<td>Static Air Temperature SAT</td>
<td>-99</td>
<td>+60</td>
<td>°C</td>
</tr>
<tr>
<td>235/237</td>
<td>Baro Setting QNH</td>
<td>20.67</td>
<td>31.00</td>
<td>inHg</td>
</tr>
<tr>
<td>234/236</td>
<td></td>
<td>700</td>
<td>1,050</td>
<td>mbar</td>
</tr>
</tbody>
</table>

* Output O ARINC429 accuracy met
**AD32 AIR DATA DISPLAY**

**CHARACTERISTICS**

### FEATURES:
- Solid State Pressure Sensors
- RVSM Compliant
- Static Source Error Correction, 2 x 16 Curves
- Integrated Altitude Alerter (Optional)
- Standby/Normal Operation (Optional)
- 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
- ARINC 408, 3ATI, with IMI ring pointers
- RS232 Maintenance Interface

### SIGNAL OUTPUTS:
- Encoded Altitude ICAO Per TSO C-88a
- Visual/Aural Alert Relais Outputs
- Warning Flag Valid GND/28 VDC
- Optional Baro Potentiometer Output
- ARINC 429 Serial Data Bus 2 Transmit Channels

### OPERATING SPECIFICATIONS:
- Altitude Scale Error
  - -1,000 to 10,000 feet ± 25 feet
  - 10,000 to 20,000 feet ± 35 feet
  - 20,000 to 30,000 feet ± 50 feet
  - 30,000 to 40,000 feet ± 75 feet
  - 40,000 to 50,000 feet ± 100 feet
- FAA TSO-C10b/TSO-C88a/TSO-C106
- RTCA/DO-178B Level A
- RTCA/DO-160D
- Operating Temperature: -20°C (-30 optional) ... 70°C
- Storage Temperature: -55°C ... 85°C
- Reliability: MTBF 21,700 Hours (Acc. MIL-HDBK-217F)

### SIGNAL INPUTS:
- Primary Power 28 VDC
- Emergency Power 28 VDC
- Lighting Power 28 VDC (Optional 5 VDC)
- Alert Lamp Power 28 VDC (Optional 5 VDC)
- ARINC 429 Serial Data Bus 2 Receive Channels
- TAT Probe 500 Ohm (Optional 50 Ohm) @ 0°C

### INTERNAL BLOCK DIAGRAM

**AD32 RVSM Air Data Display with Alerter and Encoding Output**

**MECHANICAL DRAWING**

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THOMMEN AIRCRAFT EQUIPMENT AG is a certified company:
EASA Part-21 G + O  |  EASA Part-145  |  AS / EN 9100

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