Environmental Performance - Per RTCA DO-160D		
Section	**Condition**	**Category**
4.0	Temp/Alt	A1
4.4	Low Temp	-15 degrees C
4.5	High Temp	+55 degrees C
4.6.1 4.6.2 4.6.3	Altitude Decompression Overpressure	25,000 MSL
5.0	Temp Variation	-15 to +55 degrees C 2 degrees C per minute
6.0	Humidity	A
7.2 7.3	Operation Shock Crash Safety	A
8.0	Vibration	Category S, Curve B
9.0	Explosion	X
10.0	Waterproofness	X
11.0	Fluids	F (Windex and 70% isopropyl alcohol)
12.0	Sand & Dust	X
13.0	Fungus	F
14.0	Salt Spray	X
15.0	Magnetic Effect	Z
16.0	Power Input	A and Z
17.0	Voltage Spike	A
18.0	AF Conducted Susceptibility	J
19.0	Induced Signal Susceptibility Magnetic Fields into equipment, Spikes into cables Magnetic Fields into cables, E Fields into cables	 Z C
20.0	RF Susceptibility	RRR
21.0	RF Emissions	M
22.0	Lightning Induced Transient	XXZ2
23.0	Lightning Direct Effects	X
24.0	Icing	X
25.0	ESD	A

For Additional Information Contact

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Pin Assignments	
Connector MIL-C-26500, Mates with BACC63B1624SN	
Pin	**Signal Name**
1	5 VDC/AC 400Hz Lighting Power Input
2	Lighting Power Return
3	28 VDC Main Power Input
4	Main Power Return
5	Frequency Output (Bench Test)
6	Spare
7	Case Ground
8	28 VDC Standby Power
9	Standby Power Return
10	Display Test
11	Spare
12	Spare
13	Remote Chronograph Switch (N.C.)
14	Remote Chronograph Switch (Gnd)
15	Remote Chronograph Switch (N.O.)
16	Spare
17	Spare
18	Spare
19	ARINC 429 Line In A
20	ARINC 429 Line In B
21	Spare
22	Spare
23	ARINC 429 Line Out B
24	ARINC 429 Line Out A

Specifications	
Part Number:	9010-1-3 (Gray Bezel) 9010-1-2 (Brown Bezel)
LCD Type	(FMTN) First Minima Twisted Nematic
Lighting Color	White LED
Power	Main Power: 250 mA Max @ 28 VDC Nominal Range +18 to +32 VDC Standby Power: 40 mA Max @ 28 VDC Nominal Range +18 to +32 VDC Lighting Power: 0.081 mA Max @ 4.5 VAC 0 to 5 VAC, 400 Hz or 0 to 5 VDC
Mechanical	Case: ARINC 408A, 3ATI Dimensions: 3.26 X 3.26 X 4.80 in (excluding knobs, pushbuttons, connector) Cooling: Passive Weight: 1.70 lbs. Max.
Software	Developed in accordance with RTCA/DO-178B, Software Considerations in Airborne Systems and Equipment Certification, Level C
Reliability	MTBF 18,000 Hours

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Avtech's 9010 series Electronic Clock is an LCD clock and timing reference that can support a wide degree of airframe applications. Standard equipment aboard all 737 NG and 767-400 aircraft, the clock receives Coordinated Universal Time (UTC) from a Global Positioning System (GPS) receiver via an ARINC 429 high or low-speed data bus. The clock in turn transmits the UTC time and date on a separate low-speed ARINC 429 data bus for use by other equipment on the aircraft such as the Flight Management Unit and Digital Flight Date Acquisition Unit. A separate manual (MAN) clock function that can be set to a different time/date other than the UTC time is provided as well as two secondary timing functions, Elapsed Time (ET) and Chronograph (CHR). The ET function allows the operator to start a timer, pause the timer if necessary, and then restart it, as many times as needed. The CHR function allows the operator to start a timer with a sweep second hand. The clock includes an internal precision time base to maintain internal time in the event data from the GPS receiver is lost. The clock's LCD display is based upon FMTN (First Minima Twisted Nematic) technology and integrated white LED backlighting is provided. Background ambient lighting is compensated via a bezel mounted photodiode.

Chronograph (CHR) Control

The CHR control activates the chronograph function. Selecting the CHR button once selects the function, selecting again holds the chronograph, and selecting it a third time resets the chronograph. This function overrides any existing ET time display, but ET will continue to run if active. When active, the CHR symbol is displayed below the chronograph time display.

Time/Date Indicator

The time/date indicator displays the UTC or MAN time (hours, minutes) in 24 hour format when time is selected with the Time/Date pushbutton. The Time/Date Indicator alternately selects the day-month and year when date is selected with the Time/Date pushbutton.

Ambient Light Compensation

The intensity of the backlighting is derived from the aircraft dimming bus and a measurement of the ambient light provided by a photodiode located on the front bezel.

Elapsed Time (ET) Control

The ET pushbutton controls the Elapsed Time function. Selecting the ET button once starts the elapsed time cycle. Selecting it again holds elapsed time. Selecting it a third time continues elapsed time. Holding the ET button for 2 seconds resets the elapsed time to 0. The ET and RUN or HLD symbol are displayed below the elapsed time display.

Chronograph Second Hand

The second hand indicates chronograph seconds and is controlled by the CHR control. The second hand stays in the "12:00" position when not in use.

Time/Date Control

With UTC time displayed, pressing the Time/Date control will select the UTC date. Selecting it again displays MAN time. Selecting it again will display manual date, and selecting it a fourth time will select UTC Time/Date again.

The UTC or MAN symbol is displayed above the Time/Date display. In MAN mode, clock time and date originate within the clock. In UTC mode, clock time and date come from the GPS source.

SET Control

The SET Control activates the setting of MAN time and date. With the manual time displayed:

- Select the SET knob once and the hours flash, the hours are adjusted by rotating the knob.

- Select the SET knob again and the minutes flash, the minutes are adjusted by rotating the knob.

- Select the SET knob again to resume manual time display.

With manual date displayed:

- Select the SET knob once and the day flashes, rotating the knob adjusts the day.

- Select the SET knob again and the month flashes, rotating the knob adjusts the month.

- Select the SET knob again and the year flashes, rotating the knob adjusts the year.

- Selecting the SET knob again resumes manual date display.

If a delay greater than one minute is experienced while setting the time or date, the clock reverts to the previous time/date setting.