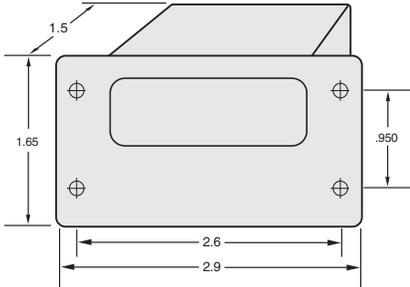
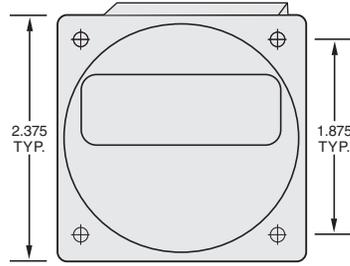


MECHANICAL



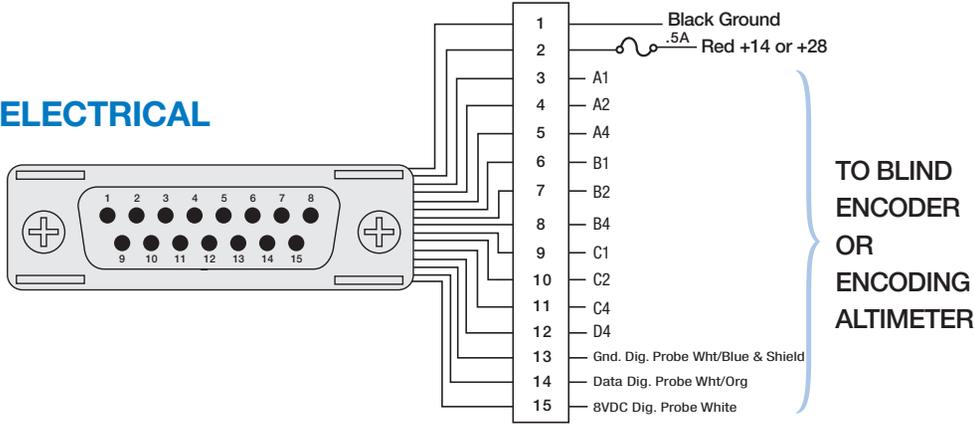
M-655-1 Panel Mount



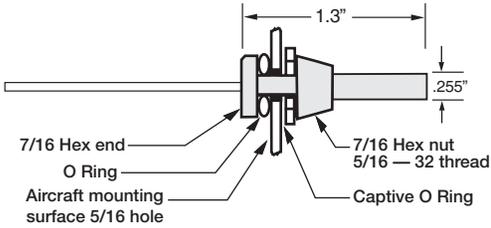
M-655-2 Clock Mount

NOTE: Connector assembly extends beyond case – 3.4" overall depth required.

ELECTRICAL



12 FOOT STANDARD DIGITAL PROBE



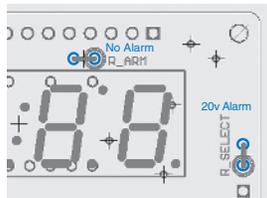
NOTE: Shield Tied to Pin 13

SPECIFICATIONS

- Density altitude: – 10,000 to 30,000 ft.
- Pressure altitude: – 1,000 to 62,700 ft. (Depends on encoder range.)
- Flashing annunciator character on incorrect encoder inputs.
- Temperature range: – 55°C to + 100°C ± 2°C Typ. – 67°F to + 212°F
- Voltage range 10V to 32V ± .2 volts Typ.
- LED with automatic dimming.
- Input voltage: 14 or 28 volts.
- Input current: .35 amps max.
- Weight: 5 oz.
- Warranty: 1 year

VOLTAGE ALARM

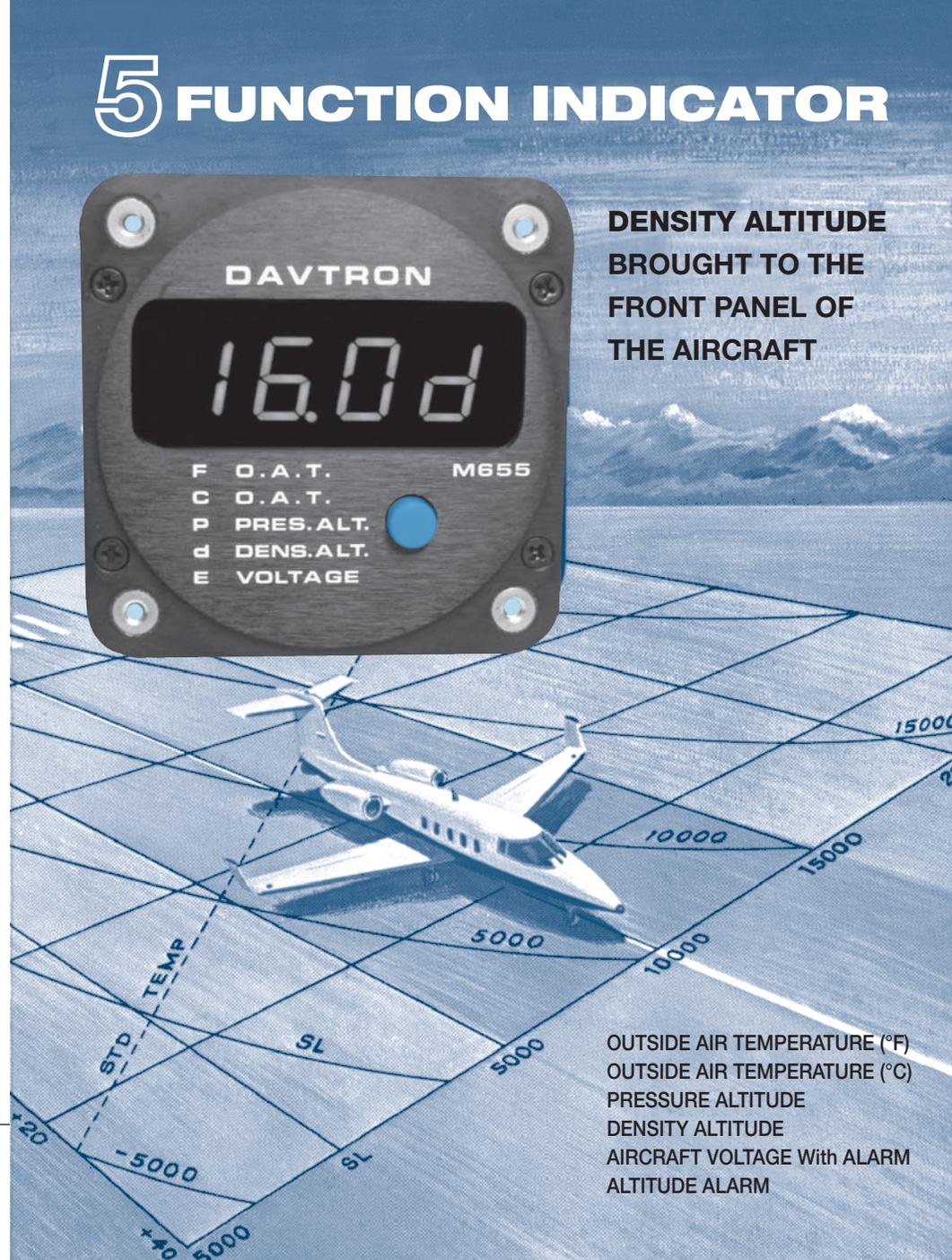
Unit default alarm set to flash 11v or below
 R_ARM & R_SELECT located on front board
 Alarm off/1.5 ohm resistor on R_ARM
 Alarm 20v or less/1.5 ohm resistor on R_SELECT



5 FUNCTION INDICATOR



DENSITY ALTITUDE BROUGHT TO THE FRONT PANEL OF THE AIRCRAFT



OUTSIDE AIR TEMPERATURE (°F)
 OUTSIDE AIR TEMPERATURE (°C)
 PRESSURE ALTITUDE
 DENSITY ALTITUDE
 AIRCRAFT VOLTAGE With ALARM
 ALTITUDE ALARM

Pilot workload is reduced with the five functions of Davtron's Model 655

Davtron's Model 655 is a computer-based product that computes density altitude automatically. No longer does the pilot need to retrieve outside air temperature and pressure altitude, then enter this into a flight computer. The Model 655 measures outside air temperature, and accepts pressure altitude information from the blind encoder or encoding altimeter, then converts this information to a direct read-out of density altitude. The density altitude is computed using U.S. standard atmosphere tabulation. Take-off roll, maximum rate of climb, and fuel consumption are all determined easily from density altitude and the aircraft's flight manual.



Outside Air Temperature (°F)



Outside Air Temperature (°C)



Pressure Altitude x 1000



Density Altitude x 1000



Aircraft Voltage

OPERATION

A single push-button on Model 655 causes the digital display in automatic rotation to show its five functions of: voltage, outside air temperature (Fahrenheit), outside air temperature (Centigrade), pressure altitude, and density altitude.

When the radio master switch of the aircraft is first turned on, The Model 655 always reads out the aircraft voltage to the nearest tenth of a volt. A code letter E indicates it is in the voltage function (EMF). To display outside air temperature in degrees Fahrenheit, the button is pressed, and the letter F appears to indicate this mode. The next press of the button displays C for outside temperature in degrees Centigrade. The next function is indicated by the code letter P, and now displays pressure altitude. Another press and the letter D appears displaying density altitude.

The indicator remains in the mode selected as long as aircraft power is on. Any mode can be selected as fast as one can depress the switch. The mode selection will always sequence in the same manner (F C P d E) as indicated on the instruments face.

The digital outside temperature function replaces one of the most difficult-to-read instruments in the cockpit. The pilot may relate to outside air temp. in degrees Fahrenheit, then instantly change the display to degrees Centigrade for aircraft manual input, etc.

The voltage function of the indicator allows the pilot to monitor his electrical system precisely. By monitoring the voltage he can anticipate a low voltage condition, unlike a warning light which tells only that this condition has already occurred. Also, the pilot can know with more accuracy the amount of capacity remaining in the battery.

The voltage at which a battery is being charged is also of greatest importance, since

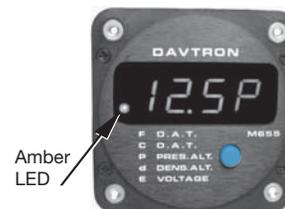
over-charging can lead to excessive water loss and battery failure. In brief, the voltage function reveals valuable information which helps the pilot obtain more reliable and better service from the electrical system.

Davtron's Model 655 enables a pilot to read the altitude the transponder is sending to the ground for air traffic control. Altitude of the encoding altimeter is pressure altitude referenced to a barometric pressure if 29.92. By setting the standard altimeter to a setting of 29.92 it now reads pressure altitude and should the agree with the blind encoding altimeter. When the pressure altitude of your aircraft is received by A.T.C., a computer using current temperature pressure takes the pressure altitude of your aircraft and converts it to actual altitude. A pilot does the same operation as the computer on his standard altimeter when he sets the kollsman window to the proper barometric setting. Pressure altitude can be converted to corrected altitude by adding approximately 100 feet for every .1 inch the barometric pressure is above 29.92; approximately 100 feet must be subtracted from pressure altitude for every .1 inch the barometric setting is below 29.92.

NOTE TO PILOTS

The pilot should always use good judgement for safe flight operations. Accuracy of the 655 and encoding altimeter should be checked periodically. Aircraft condition, runway type and condition, winds, runway slope, etc. will significantly affect take-off performance. Davtron's Model 655 retrieves density altitude as one important parameter in calculating aircraft performance.

ALTITUDE ALARM



Amber LED

Alarm Activated



Plus 200



Minus 200

Set alarm by pressing down button for three seconds until small amber LED on lower left of display is turned on (altitude alarm can be set in any mode). Altitude deviation alarm default setting is plus or minus 200ft (default settings can be changed by holding down button for five seconds until display begins to increment by 100ft. Let go of button once new deviation setting is displayed). Once pilot deviates from pressure altitude relative to when the alarm was set, unit will start to flash when deviation reaches plus or minus 200ft, display will flash deviation amount of increments of plus or minus 100 - 999ft. To disable alarm while unit is flashing, press button once and alarm is turned off. If alarm is on and unit isn't flashing, press button down for three seconds until LED on lower left of display is turned off.

INSTALLATION

The 655 is available in two mounting styles: 655-1 as a small panel mount, and 655-2 as a standard 2-1/4 round mount.

The instrument will operate on 14 or 28 volts and requires a maximum of .35 amps. It must be connected to the output of an encoding altimeter, blind encoder and transponder. For encoders that do not operate above 31,700 feet, pin 12 D4 input is left open.

The temperature sensor mounting should be in a place that would be free of exhaust gasses or cowl flaps airflow. An ideal place is 2 feet out from the wing root on the bottom of the wing. The stainless steel probe is supplied with a 12ft shielded cable and all mounting hardware. Leads may be shortened or extended without affecting calibration.

The model 655 accepts TTL, C Mos, P MOS, and N MOS inputs. It is not compatible with the older type pulsed C mode inputs (e.g. Narco AT6).

The model 655 may not function properly when connected to an encoder and a transponder, when the transponder is not turned on. The transponder loads the system, and must be turned on for proper operation.