

GT-50 Installation/Operation Manual

WARNING!!! Do not connect this GT-50 to a Connector wired for the older style GT-50 without temperature capability. Damage may result. WARNING!!!

Installation:

Mechanical

Mount the GT-50 in any 2-1/4" instrument hole using four 6-32 screws. If you are mounting the GT-50 in an instrument panel with a thirty degree panel tilt, be sure to set your unit as described in the Voltmeter section below.

Electrical

- 1) **Black** (Ground)
- 2) **Yellow** (Backlight Power) When power is applied to this wire the flight timer runs and the backlight is illuminated. Connect this wire to your instrument power source so it is powered when your master switch is turned on. Do not connect to dimming circuit.
- 3) **Red** (Always on Power) Connect this wire directly to the battery (**not the master switch**) to power all functions except the backlight. This wire **must** remain powered at all times including when the yellow wire is powered to keep the clock powered. If you cant connect the red wire directly to the battery, you can tie it together with the yellow wire, but the clock will have to be reset each time you fly.
- 4) **Green** (Optional Temperature Probe) See OAT probe instructions. **DO NOT** connect the green wire to 12-28 Volts.



Notes: 1) Both the red and yellow wires should be on fuse or breaker protected circuits. The fuses/breakers may be shared with other equipment. The value of the fuses/breakers can be as little as 0.5 Amp.

Operation:

Modes: The GT-50 has six modes.

PRESS the (Left) **Mode** button the switch between modes.

PRESS and HOLD the (Left) **Mode** button to display the Firmware Version number.

Low Voltage Warning: The GT-50 will switch to the Voltmeter mode and flash the voltage if the voltage drops below 12.8V (25.6V for 28V aircraft). This feature is activated when the Master Switch is on (power on the yellow wire) and the voltage is low for more than 30 seconds.

- PRESS the (Right) **Action** button to restart the 30 second timer and cancel the alert.
- PRESS the (Center) **Reset** button to disable the automatic display of the voltage. Low voltage will continue to flash when in the Voltmeter mode. The automatic switching to Voltmeter mode is disabled until the master switch is cycled.

<p>Accelerometer</p> <p>PRESS the (Right) Action button to display the MAX and MIN G readings. PRESS the (Center) Reset button to clear the MAX and MIN G readings.</p> <p>Occasionally the GT-50 must be recalibrated if it is not reading one G when in level flight.</p> <p>Level the instrument then PRESS and HOLD the (Center) Reset button to calibrate the accelerometer to one G unit. The button must be held until four dashes "----" appear on the display then released to complete the calibration.</p>	<p>Voltmeter</p> <p>The instrument panel tilt angle is set from the Voltmeter mode. This step is only required if you have a panel angle of 30 degrees (SONEX aircraft). Panel tilt of less than fifteen degrees has a negligible effect on the G reading. If power is removed from the GT-50 the panel tilt will revert to the vertical panel setting of zero degrees when the power is restored.</p> <p>PRESS and HOLD the (Center) Reset button to switch between zero and thirty degrees panel angle. Once the Panel tilt angle is displayed, release the button to save the value that was displayed. The angle can be either zero degrees or thirty degrees.</p>
<p>Manual Timer</p> <p>The manual timer counts up from one second to a maximum value of nine hours fifty nine minutes (09:59)</p> <p>PRESS the (Right) Action button to start and stop the timer.</p> <p>PRESS the (Center) Reset button to reset the timer to zero.</p>	<p>Automatic Flight Timer</p> <p>The flight timer automatically runs when power is applied to connector pin 2. This mode is designated by a "I" - " symbol in the left most digit location. The Flight Timer counts up from one minute (0:01) to a maximum value of nine hours fifty nine minutes (9:59)</p> <p>PRESS the (Center) Reset button to reset the flight timer to zero.</p>
<p>Clock</p> <p>PRESS the (Center) Reset button to set the clock.</p> <p>PRESS and HOLD the (Center) Reset button until the colon ":" begins flashing to switch between 12 and 24 hour clock modes.</p> <p>PRESS the (Right) Action button to adjust the hours or minutes when they are flashing.</p>	<p>Temperature (displayed only when optional OAT probe is installed)</p> <p>PRESS the (Right) Action button to display the MAX and MIN Temperature readings. PRESS the (Center) Reset button to clear the MAX and MIN Temperature readings.</p> <p>PRESS and HOLD the (Center) Reset button to change temperature units between Fahrenheit and Celsius.</p>

Specifications:

Input Voltage: 9-28 Volts DC

Power Consumption: at 14V -

Backlight on: 0.025 Amps, Backlight Off: 0.0008 Amps – It wont run down your Plane's Battery

Dimensions: Fits a Standard 2-1/4" instrument hole.

Overall Width and Height 2.375", Depth behind panel .75 " to back of connector

Weight: 3.0 oz.

Need Help?
See our Website FAQ's section
or support@fdatasystems.com
or (831) 325-3131



U.S. Department
of Transportation
**Federal Aviation
Administration**

**Transport Airplane Directorate
Aircraft Certification Service**
1601 Lind Avenue Southwest
Renton, Washington 98057-3356

NOV - 6 2013

In Reply
Refer To: 100S-13-31

Mr. Charles W. Newman
Co-Owner
Flight Data Systems
224 7th Street
Petaluma, CA 94952

Dear Mr. Newman:

This letter is in response to your inquiry dated September 26, 2013, which was received by our office on October 17, 2013 (delayed by the government shutdown and associated furlough of employees in this office). We apologize for the length of time that it has taken to respond to your questions.

In your inquiry, you requested a clarification to our earlier letter (Reference No. 100S-GA-10-53) sent to Davitron, Inc. in which the Federal Aviation Administration (FAA) stated the installation of a replacement clock in a non-transport category airplane is considered a minor change. You also requested that we specifically authorize the installation of the Flight Data Systems Model GT-50 as minor.

As stated in our earlier letter, we consider the installation of replacement clocks (including timers and stopwatches) in non-transport category airplanes to be minor changes in accordance with Federal Aviation Regulation (FAR) 21.93(a). This policy is applicable to all makes and models of *simple replacement clocks*. Accordingly, the FAA has concluded the Model GT-50 falls into this category as long as the optional volt meter and outside air temperature functions are not replacing previously installed equipment. The accelerometer function is considered a minor change in this device, since it is incidental to the clock installation and does not interface with other aircraft systems.

Per FAR 21.95 copies of this letter may be given to installing mechanics as evidence that this installation of the GT-50 may be considered minor. Installation as a minor change should be documented using a maintenance log book entry referencing this letter. Installations on general aviation (GA) airplanes where outside air temperature (OAT) and voltage are already present can be done as a minor change as well, if the mechanic deems the Model GT-50 a suitable replacement part according to part 43 guidance and regulations. This determination should also be documented in a maintenance log book entry.

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Installations on GA airplanes where OAT/Voltage are present and the GT-50 is not easily determined to be suitable replacements by the mechanic, or where the installation would alter the basic system design, the applicant would need additional approved data via an supplemental type certificate (STC) or coordinated field approval. You also may apply to your local aircraft certification office for a STC for installation approval of the GT-50. The FAA recognizes this type of instrument lends itself to the streamlined process for gaining installation approval on a number of similar installations in different airplane models using an approved model list as part of the STC process, per Advisory Circular AC 23-22. If you have questions regarding any of the above issues, please contact me by phone at (425) 917-6405, or by electronic mail at jeff.morfit@faa.gov.

Sincerely,

Jeffrey A. Morfit
Small Airplane Program Manager
Seattle Aircraft Certification Office