

T60-A



Digital Oil/Water Temp/w Alarms

Introduction

The T60-A Temperature Gauge displays Engine Oil or Water temp in degrees F or C. It has built-in calibration curves for most popular senders manufactured by VDO, Teleflex, Stewart- Warner and others. (sender not included) Sender type is selected with the front panel keys, LOW and HIGH temperature limit alarms can be set over the entire range of the instrument/sender. When enabled the built-in 85dB alarm will sound and the display will flash. The alarms can be enabled or disabled with a single key press. Five levels of internal back lighting can be selected. All setup, calibration constants, alarm limits and sender type selected are saved to a non-volatile memory. Terminal C on the back of gauge can be programmed as an external alarm output and used to activate a warning light or as a control input for the ER-1A remote relay.

Specifications

- Power Supply: 9.5-33.0VDC, (.035A nominal)
- Operating Temp: 32-122F (0-50C)
- Size: Standard aviation 2.25" round bezel, X 3" dip when flush (rear) mounted.
- Accuracy: Better than +/- 1%, front panel adjustable calibration.
- Senders: Built in calibration curves for most 15-250 ohm oil/water temperature senders such as VDO, Teleflex, Stewart-Warner etc.
- Alarms: Accurate LOW and HIGH temp limits selectable from 32-300F (0-149C).
- Display: (3) digits, degrees F or C, (5) levels of back light.
- Output: Terminal C, 5V (10mA max) signal for use with a warning light or control input to an ER-1A remote relay.

Installation

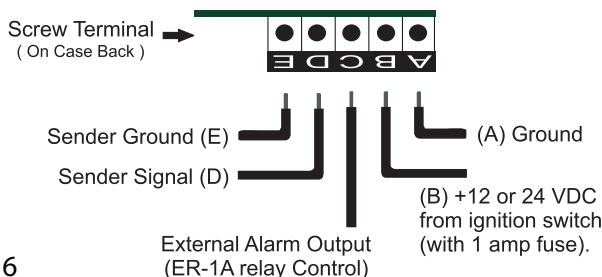
All of the Aircraft Digital Instruments are of the standard aircraft 2.25" diameter and mounting hole layout dimensions. They can be mounted in your panel either from the front as a surface mount installation, or in the conventional manner from behind. When placing and mounting on the backside of you panel you will not need any additional hardware such as lock nuts, tinnerman clips, bug nuts or the like. The mounting holes in the Bezel are specifically sized so as to grip the included #6-32 allen socket screws just like a elastic nylon stop nut would. The 6-32 screw is merely aligned squarely with the hole and with gentle pressure applied to the allen wrench, screwed in. Should you prefer to surface mount the gauge, the Bezel's screw holes can be easily drilled out to a clearance hole diameter, allowing then for either a drilled and tapped 6-32 threaded hole on your panel, or passing through your panel to be secured with standard hardware.

Installation (continued)

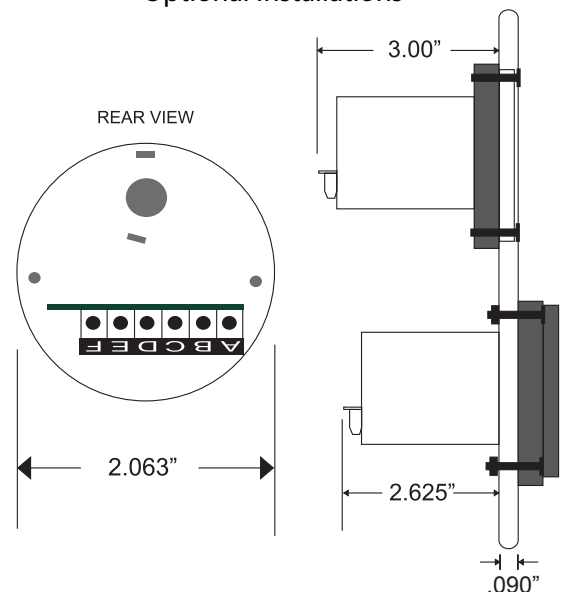
We do offer a six hole cluster 5052 aluminum CNC machined plate that can be easily used as a hole template, or recessed into a fiberglass or metal instrument panel.

Mounting & Wiring

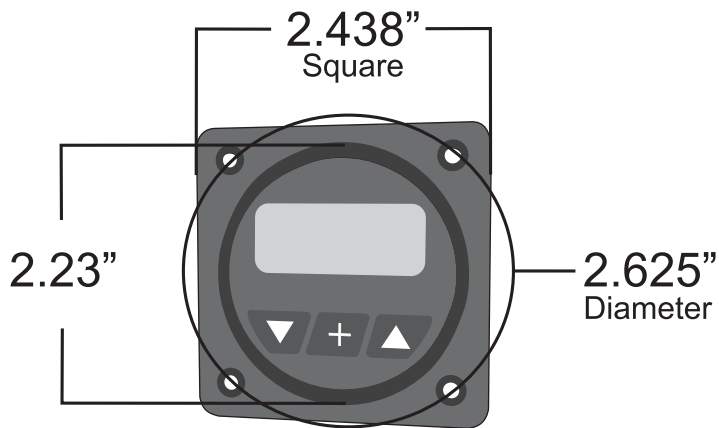
ALL WIRES AWG
18 - 22 Gauge (0.6 - 1.0 mm)



Optional Installations



Gauge Dimensions



Operation

Key Functions

The **▼** **+** **▲** keys are used to select back light levels, selecting F or C temp preference, selecting sender type (ohm range), calibrating, setting desired LOW and HIGH temp limit alarms, as well as to enable and disable alarms and saving the settings to a non-volatile memory.

Backlight Intensity

Press the **+** key for 1/2 second to adjust the desired light intensity. Each time you press the **+** key for the 1/2 second, the light level will increase. (1,2,3,4,OFF,1,2,3, etc.).

Alarms ON/OFF

Press the **▼** or **▲** keys for 1/2 second to "arm" and "disarm" the alarms. When the alarms are "armed" a flag is displayed in the lower left corner as shown:



Selecting Sender Type

Press and hold the **▲** key and apply power to the instrument. You will see this display:

Press any key to change to U-2, U-3, etc. Select your sender type/ temp range from the table, then press the **+** key to save your selection.



- U-1 VDO Type 1 92-276F
- U-2 VDO Type 2 45C-155C
- U-3 VDO Type 5 93-272F or
VDO Type 320.720 93-272F
- U-4 Teleflex/Stewart Warner 70-294F
- U-5 Cyberdyne 81-282F

Selecting Degrees F or C

Press and hold the **▼** key for 3 seconds while applying power to the instrument. This will toggle between the F and C degrees display.

Setting High Temp Limit Alarm

While viewing the temperature, press and hold the **▲** key for 10 seconds. You will hear a long beep and see the display shown.



Press the **▼** and **▲** keys to set the desired high temp alarm limit you wish. Press the **+** key to save your entry.

Setting LOW Temp Limit Alarm

While view the temperature, press and hold the **▼** key for 10 seconds. You will hear a long beep and see the display shown.

Press the **▼** and **▲** keys to set the desired LOW temp alarm limit you wish. Press the **+** key to save your entry.



Calibrating the Instrument

Press and hold the **+** key for 10 seconds to enter the Temperature Calibration Mode. Press the **▼** and **▲** keys to adjust the display to read the correct temperature. Press the **+** key to save the calibration information. Calibration is not usually required if the correct sender type is selected.

Selecting the External Alarm Output

The T60-A comes factory preset to use the Terminal C pin on the back of the gauge as an External Alarm output. When the alarms are ON or enabled there will be a 5V (10 mA max) signal voltage applied to Terminal C. This signal voltage can be used to activate some additional panel warning light (LED), so as not to exceed the (10 mA) design rated load capability, or to supply the "control" voltage signal to an ER-1A remote relay. When heavier amperage loads (such as a cooling fan) are desired to operate in response to the LOW/HIGH alarm limits set.

Warnings & Notes

- a) When setting calibration functions that require you to hold down a particular key(s) while applying power to the T60-A, be sure to turn the power OFF first, then hold the key(s) down during and for at least (3) seconds AFTER the power has been applied, to ensure the computer has read the keys.
- b) If the sender temperature is below the “minimum” temperature when manufacturer’s calibration data is not available, the T60-A will display “LO”.
- c) If the sender temperature is above the maximum temperature when manufacturer’s calibration data is not available, the T60-A will display “HI”.