Aircraft Digital Instruments

F60-A
Digital Fuel Gauge/w Alarms

The F60-A Fuel Gauge provides an accurate display of fuel remaining, trip fuel and total fuel used. Fuel remaining can be displayed up to 6550 liters or gallons or as a percentage (0-100%) with user selectable display "damping", which allows for the sensitivity of the display to be compensated such that it will not change the readings with every bump or turn. The F60-A is pre-programmed for use with all known resistive American and European level senders made by VDO, Teleflex, Mercury, GM, Stewart-Warner, Centroid, Faria and others. LOW and HIGH fuel alarms can be set over the entire range. When activated, the built-in 85dB alarm will sound and the display will flash. Five levels of backlit intensity can be selected (including OFF), and all setup, alarm values, sender type and maximum tank capacity are all saved in a non-volital memory. The F60-A output on terminal (C) may be programmed to activate an external relay.

F60-A SPECIFICATIONS:

Power Supply: 9.5-33.0 VDC (.018 amp nominal)

Operating Temp: 32-122F(0-50C)

Size/ Weight: 2.475" square, low profile...easily stackable bezel, with standard aviation 2.250" raised round ring.Standard 2.625" diameter mounting hole layout at 45 degrees. Proprietary unique bezel design allows user the option of either front or rear mounting our gauges in their panel. Gauge depth behind panel: surface mounted approx. 2.60", rear mounted, approx. 2.90". Weight approx 2.3oz.

Accuracy: Limited only by sender accuracy.

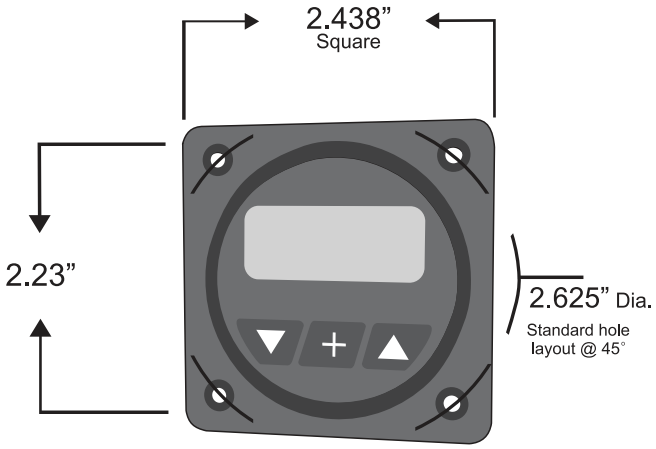
Senders: Works with 0-30, 0-70, 0-90, 10-73, 10-180, 33-240, 40-250 ohm (and/or their inverse) level senders by VDO, Teleflex, GM, Stewart-Warner, Mercury, Faria, and others (both American and European) Custom special order versions are available for 0-5V and 4-20mA senders.

Alarms: 85dB internal LOW and HIGH level alarms, settable from 000.0 to 6553. External alarm output (5V,10mA(max)

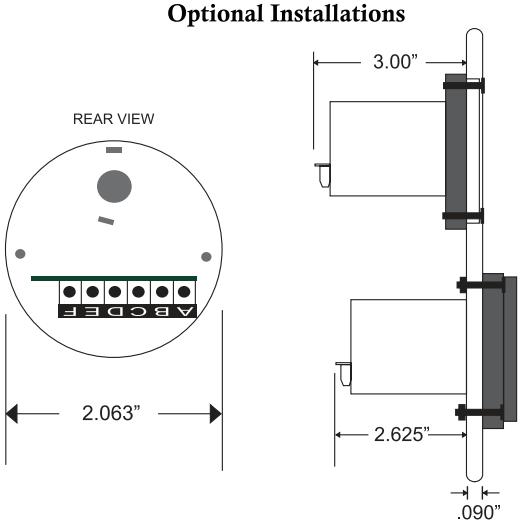
Display: 4 digits, Liters, Gallons, or %. 000.0 to 6553 gallons or liters. Five levels of backlighting.

Output: Terminal C can be used as an External Alarm signal,(5V, 10mA) for a LED warning light... or as a control signal for an ER-1A relay and a possible fuel transfer pump.

Gauge Dimensions



Optional Installations



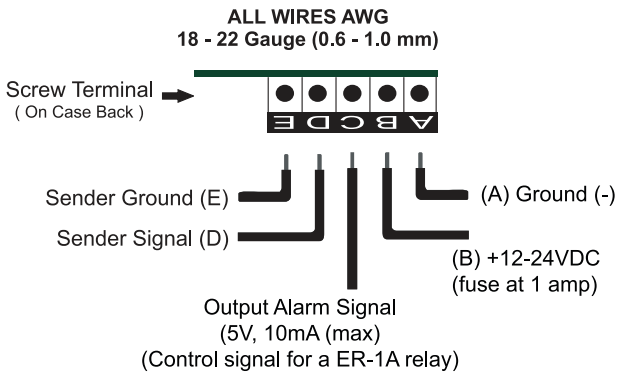
Installation

All of the Aircraft digital Instruments are if 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 your panel you will not need any additional hardware such as lock nuts, tinnerman clips, bag 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.

WARNING

Turn off power before making any connections to the gauge’s terminal screws. Warranty void from improper installation.

Mounting & Wiring



Operation

Key Functions

The ▲ ✚ ▼ keys are used to select backlight levels, display fuel remaining (in liters, gallons or %) display total gallons/liters used or amount of fuel used this trip, set the LOW/HIGH level alarms, select sender type (ohm range) and set the tank’s capacity. After changes are made, the new information is automatically saved to memory.

Backlight Intensity

Press the ✚ key for ½ second (until you hear a short beep when released) to adjust the backlight brightness. Each time you press (½ second) and release the ✚ key, the light level will change. 1,2,3,4, OFF.... 1,2,3,4, OFF.... etc.

Setting LOW/HIGH level Alarms

While viewing gallons/liters remaining, press and hold the ▲ or ▼ key for (10) seconds to view/set the LOW or HIGH level alarm respectively. (you will hear a long beep while holding in either the low (▼) or high (▲) for the (10) seconds, and the alarm value is displayed. Now use either the ▲ or ▼ keys to scroll to what ever value you wish to set for the alarm, then press the ✚ key for ½ second to save that value to memory.

Alarm ON/OFF

Press the ▲ or ▼ key for ½ second to “arm” or “disarm” the alarms. The display will flash “ON” or “OFF” briefly to indicate for you the state of the alarms. You should leave the alarms “armed” at all times and only disarm it to silence the alarm buzzer if activated.

Checking Fuel Remaining

Press the ✚ key to display the gallons/liters of fuel remaining.
Press the ▲ key to display the fuel remaining in percent (0-100%)

Trip Fuel Used/Total Fuel Used

Press the ▼ key to display how many gallons or liters you have used THIS trip. Trip “Fuel Used” automatically resets to (0) every time you disconnect power from the instrument. (Turn off master) Quickly press both the ▲ and ▼ keys simultaneously to display how many gallons/liters have been used. (How much is needed to refill the tank).

Selecting Sender Type

Press and hold down the ▼ and ✚ keys for (10) seconds (until you hear a long beep). Use the ▲ and ▼ keys to toggle to and select the sender you wish to match from the list below. Press the ✚ key for ½ second to save your entry selection. The factory default sender is U-5 (10-180 ohms).

OVER ►

U-1 (0-30 ohms)	U-5 (10-180 ohms)	U-9 (70-0 ohms)	U-13 (180-10 ohms)	U-17 4-20mA **
U-2 (0-70 ohms)	U-6 (33-240 ohms)	U-10 (90-0 ohms)	U-14 (240-40 ohms)	
U-3 (0-90 ohms)	U-7 (40-250 ohms)	U-11 (73-10 ohms)	U-15 0-5V **	** Custom Versions
U-4 (10-73 ohms)	U-8 (30-0 ohms)	U-12 (73-10 ohms)	U-16 5-0V **	

Setting Max Tank Capacity

The factory default tank capacity is set for 250.0 (liters or gallons). To change the tank size, press and hold the ✚ key for (10) seconds (until you hear a long beep). Use the ▼ and ▲ keys to change the maximum tank capacity, wether in liters or gallons. Once you have your correct tank maximum capacity showing in the display (be as specific as you wish to within 1/10th of a gallon/liter) then press the ✚ key for ½ second to save your entry to memory.

Selecting External Alarm, Transfer Pump Mode, or NMEA (Marine use)

To toggle screw Terminal (C) between external alarm, or to automatically fuel transfer pump (based on your selected LOW and HIGH fuel alarm settings), press and hold down both the ▼ and ▲ keys for (10) seconds (until you hear a long beep). The display shows "E-AL" (External Alarm), "tFEr" (Fuel Transfer) or "dAtA" (for NMEA Marine use) to indicate the currently selected mode. When the alarm output or fuel transfer pump is activated, a +5VDC signal voltage (10mA max load) is present on terminal (C). In the fuel transfer mode, the display will flash when the fuel level drops below the LOW alarm value, and turn OFF when the fuel reaches the HIGH alarm setting.

Viewing/Changing Display Damping

To help prevent display fluctuations in rough air or turns the display can be "damped" to varying degrees by the user. If you wish the display to respond more quickly, or more slowly, you can alter the display damping between a value of 1-254. The factory default value is 32. The higher the damping value selected, the slower the display of the F60-A will respond to changes.

To change the factory default setting of 32, press and hold both the ✚ and ▲ keys for (10) seconds (until you hear a long beep). Use the ▼ and ▲ keys to select a value (1-254). Once the desired value is selected and displayed, press the ✚ key for ½ second to save your choice to memory.

Warranty

Each unit is carefully tested and adjusted at the factory before shipping and is warranted for one full year against original defects in material and workmanship. This warranty does not include damage to the product resulting from accident, misuse, or improper installation.

If the product should become defective within the warranty period we will repair or replace it free of charge, including free return shipping, provided it is returned to the dealer from whom it was originally purchased.

ADI PRODUCTS

P60-AE	Engine Oil Pressure
P60-AW	Water/Coolant Pressure
P60-AF	Fuel Pressure
P60-AD	PSRU, Oil Pressure
P60-AP	Air Pressure
HY60-A	Hydraulic Pressure
HY60-AN	Nitrous Pressure
HY60-PT	0-2500 PSI Pres Transducer (4-20mA)
T60-AE	Engine Oil Temperature
T60-AW	Water/Coolant Temperature
T60-AT	Transmission Temperature
T60-AD	PSRU, Oil Temperature
T60-AT	Air Temperature
T60-ACR	Cylinder Head Temperature **(ROTAX)**
F60-A	Fuel Level
F60-FPR	Fuel Pressure **(ROTAX)**
F60-FPT	0-150 PSI Fuel Pres Transducer **(ROTAX)**
F60-OPR	Oil Pres Honeywell Sensor **(ROTAX)**
FU60-OPR	Fuel Flow Calculator
TL360	Fuel Level (3) Tanks
RH60-A	Tach/Hour Meter
MAP60-A	Manifold Pressure
V60-A	Volt Meter
AM60-A	Ammeter
CT60-A	Clock/Timer
PY60-AE	Exhaust Gas Temperature
PY60-AC	Cylinder Head Temperature
PY60-AT	Turbo Temp
RH60-SG	Tach Signal Generator
RH60-MS	Tach Magnetic Sensor
ER-1A	External Remote Relay
AD-2000TK	K Type, 2000 Deg. Thermocouple

(50mV) DC Ammeter Shunts, 100A/150A/450A
(6) Instrument, Aluminum Cluster Panel/Template

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