

OPERATING INSTRUCTIONS

Features

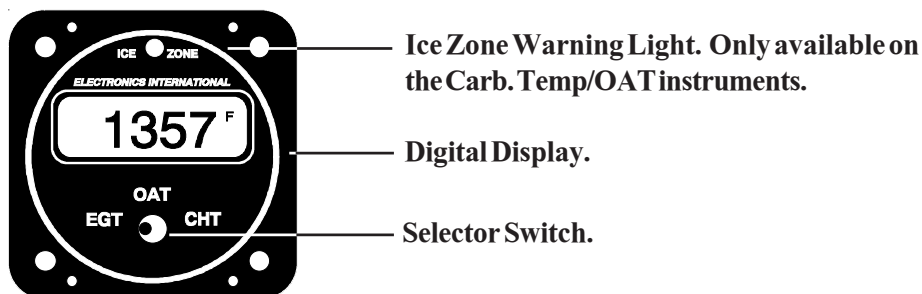
1. Instruments

The Electronics International line of single and multi-channel instruments offer the following features:

A. Digital Display - The digital display allows you to read absolute temperatures at a glance. It does not require interpretation of dials or tic marks. In a short period of time you will become familiar with the normal operating temperatures of your engine. Abnormal temperatures will be easy to spot. The digital display is easily viewable in direct sunlight. If the instrument backlight has been permanently powered up (as recommended), the digital display will be easier to see during low ambient light conditions and at night.

B. 1 Degree Resolution - The digital display resolves temperatures to 1 degree. This allows you to interpret trends quickly. This can be very helpful in diagnosing problems and leaning your engine. Also, any unit may be ordered to display in degrees F or degrees C.

C. 1/2% Accuracy - Electronics International instruments are not affected by shake, shock, vibration, tilt, stick-slip, bearing wear, spring wear, lead resistance, probe resistance, magnetic fields or the many other factors that plague analog instrument accuracy. All E.I. instruments are temperature compensated to read cabin temperature when a probe is disconnected. E.I. instruments should never need recalibration.



D. Flexibility - Electronics International instruments are compatible with any type K ungrounded probe. This means any instrument, regardless of what is printed on the front panel (EGT, CHT, OAT, etc.), will work with any of our probes (i.e., an OAT channel can read EGT or CHT probes accurately). Also, lead resistance does not affect the accuracy of these units. You may use any length extension cable between the unit and the probe without affecting the accuracy of the instrument.

E. Upgradable - Any single channel EGT and/or CHT unit may be upgraded to a full multi-channel analyzer by simply adding a remote switch to the system. The instruments, remote switches, extension cables and probes were designed in a modular fashion with slip-on connectors. This means a remote switch may be added to your existing system by simply mounting it into your instrument panel, installing the additional wires and probes and plugging it in. You do not have to buy a new system to upgrade to a full analyzer.

Continuous change in the CHT can also be a sign of trouble. Because of the large thermal mass of the engine, the CHTs change slowly after the initial climb. Any continuous change in one or all of the CHTs after this initial climb can be the sign of trouble. The rate and trend of this change can easily be detected with Electronics International's 1°F resolution digital display. This information allows the pilot to make changes in flight attitude or engine operation and see the effects almost instantaneously.

Carburetor Temperature

Venturi affect and atomization of fuel can cause temperatures in the carburetor to drop 30°F or more. When the atmospheric conditions are right for the aircraft's current flight altitude (moderate to high humidity), the moisture in the carburetor venturi can freeze quickly. Within minutes ice can choke off the venturi and the engine will stop with little warning.

When Carb. Temp. is selected on the Electronics International Carb. Temp. instrument, the carburetor temperature is continuously monitored and the "Ice Zone" warning light over the display is activated for that channel. The "Ice Zone" warning light is only active for the channel selected. At 39°F (before ice can form in the venturi of the carburetor) the "Ice Zone" warning light will light up. When this happens, apply carburetor heat, making small adjustments to bring the carburetor temperature above 39°F, thereby avoiding any possible carburetor icing condition. An additional benefit of running carburetor temperatures 9°F above freezing is improved atomization of the fuel which results in fewer lead deposits, cleaner plugs and better economy. If the carburetor temperature is below 10°F the "Ice Zone" warning light will go off. Below 10°F there is not enough moisture in the air to form ice in the carburetor.

The "Ice Zone" warning light has the advantage of catching your attention without having to continuously monitor the unit. At night this light may be too bright. An LED Intensity Control Line is provided which may be connected to the aircraft panel rheostat. When the instrument panel lights are turned up the "Ice Zone" warning light will dim.

Monitoring carburetor temperature to 1°F can also help with hard to start engines. If the engine becomes flooded and fuel starts to drip from the carburetor, the unit will display a drop in carburetor temperature as the fuel starts to evaporate. If the engine backfires and a fire starts in the venturi, the unit will display a rapid rise in the carburetor temperature. The carburetor probe is rated for 700°F, so probe damage is not likely.

Outside Air Temperature

The Electronics International OAT instrument has three features that make it a valuable tool when measuring outside air temperatures. The first of these features is its superior accuracy and linearity over conventional gauges. Outside air temperatures have a big affect on your aircraft's ability to lift

and on engine horsepower. Accurate OAT readings are essential if you are looking for maximum performance from your aircraft.

The second valuable feature is the instrument's ability to detect small temperature changes (1°F). This gives the pilot rate and trend information (in what direction and how fast the temperatures are changing) at a glance. This is valuable for detecting changing atmospheric conditions and avoiding thunderstorms and icing conditions. It can also help to find cooler flying conditions in warm weather.

The third feature is the instrument's Ice Zone Warning Light. This light will come on when the OAT drops to 39°F and stays above 10°F. This feature can be very useful to a pilot by warning him of the possibility of structural ice if weather conditions are right.

The Electronics International OAT instrument resolves outside air temperatures to 1°F and is very sensitive to air temperatures changes. For this reason, when the OAT probe is in still air and near a heat source, such as hot asphalt, a hangar heater, etc., the unit will read the actual temperature to which the probe is subjected. When the engine starts and there is a flow to air over the probe, the unit will read the air temperature accurately and display changes quickly.

INSTALLATION INSTRUCTIONS

1. Important Information and Initial Check Out

A. The installer and aircraft owner must read the Warranty before starting the installation. There is information in the Warranty that may alter your decision to install this instrument. **If you do not accept the terms of the Warranty, do not install this instrument.**

B. If you are not an FAA Certified Aircraft Mechanic familiar with the issues of installing aircraft EGT, CHT, Carb Temp and/or OAT instruments, **Do Not attempt to install this instrument.** The installer should use current aircraft standards and practices to install this instrument (refer to AC 43.13).

C. Check that any necessary FAA Approvals (STC's, etc.) are available for your aircraft before starting the installation. STC's are located at the back of this manual.

D. Read the entire Installation Instructions and resolve any issues you may have before starting the installation. This may eliminate any delays once the installation is started.

E. THIS INSTALLATION MAY REQUIRE SOME PARTS UNIQUE TO YOUR AIRCRAFT THAT ARE NOT SUPPLIED IN THE KIT. Acquire all the parts necessary to install this instrument before starting the installation.

F. Check that the instrument make and model are correct before starting the installation.