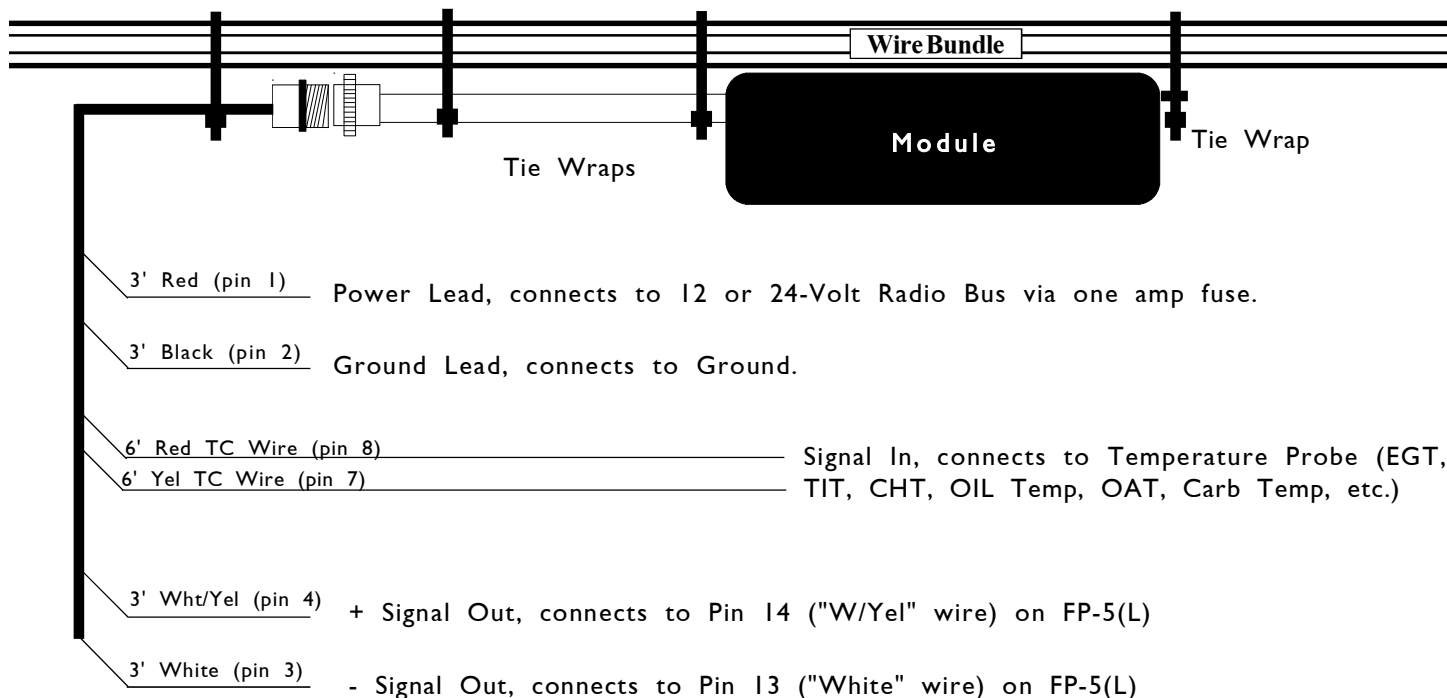


Temperature Functional Module (FM-Temp) Installation Instructions and Wiring Diagram

1110987

II 0506931 Supplement (FP-5(L))

Rev B 5/30/13



1. Mount the Module and Connect the 9-Pin Wire Harness

Tie wrap the FM-Temp Module to a wire bundle under the aircraft instrument panel. Connect the 9-Pin Wire Harness to the Module.

2. Route the Power and Ground Wires

Route the red wire in the wire harness to the aircraft's 12 or 24-volt radio or main bus as applicable via a one amps fuse. Route the black wire in the wire harness to a good ground . **Tie wrap these wires so they do not obstruct the freedom of travel of any controls.**

3. EGT Probe Installation

The FM-Temp may be connected to an existing EGT probe or a new EGT probe may be mounted in the aircraft. To connect the FM-Temp to an existing probe, splice the FM-Temp Thermocouple (TC) wires (red and yellow) into the existing EGT extension cable. Match the EGT extension cable wire colors with the FM-TTC wire colors. The high impedance differential input of the FM-Temp will not affect the readings on your existing EGT gauge.

If a new EGT probe is to be mounted in the aircraft, the probe should be installed in the exhaust stack of the leanest cylinder. Each engine has its own characteristics and the leanest cylinder can be different from aircraft to aircraft. As a general rule, the leanest cylinder is one of the back cylinders on a carbureted engine and one of the center cylinders on a fuel-injected engine.

Drill a 13/64" diameter hole in each exhaust stack 1 1/2" down from the exhaust port. Insert the probe and tighten the hose clamp. As the hose clamp is heated and cooled, it will become loose as it conforms to the exhaust stack. After the first 10 hours of operation, each hose clamp should be retightened.

IMPORTANT NOTE: For Cessna 210's or any aircraft using a slip joint in the exhaust system, install the EGT probes **ABOVE OR BELOW THE SLIP JOINT.** Installing a EGT probe in the slip joint can damage the probe.

4. CHT Probe Installation

A single CHT probe should be placed on the hottest cylinder. In a 6-cylinder engine this would be one of the center cylinders. On a 4-cylinder engine this would be one of the back cylinders. Most engines have a port just below the lower spark plug for the CHT probe. If your engine has a primary CHT probe in one of the cylinders, do not remove it.

5. TIT Probe Installation

The FM-Temp may be connected to an existing TIT probe or a new TIT probe may be mounted in the aircraft. To connect the FM-Temp to an existing probe, splice the FM-Temp Thermocouple (TC) wires (red and yellow) into the existing TIT extension cable. Match the TIT extension cable wire colors with the FM-Temp TC wire colors. The high impedance differential input of the FM-Temp will not affect the readings on your existing TIT gauge.

If a new TIT probe is to be mounted in the aircraft, the probe should be installed on the inlet of the Turbocharger one to two inches before the Turbocharger flange. Drill a 13/64" diameter hole in the exhaust stack. Insert the probe and tighten the hose clamp. As the hose clamp is heated and cooled, it will become loose as it conforms to the exhaust stack. After the first 10 hours of operation, each hose clamp should be retightened.

6. Carb Temp Probe Installation

Remove the threaded plug located in the carburetor housing just below the throttle valve. Install the Carburetor Temperature Probe in this hole using a lock washer. Care should be taken not to overtighten the probe and strip the threads in the carburetor housing.

7. OAT Probe Installation

Mount the OAT Probe in an appropriate location on the aircraft, using the hardware supplied. The OAT Probe is sensitive to air temperature changes. For this reason, do not mount the OAT probe in the path of the cowl or engine exiting air (i.e., on the belly of the aircraft). Also, the probe should not be mounted within 8 inches of an exhaust pipe. The radiant energy from the exhaust pipe can cause the probe to read slightly high. Other than these considerations the OAT Probe may be mounted in an air intake vent, on the side of the cowling or anywhere else on the aircraft.

8. Other Temperature Probe Installation

Other temperature probes (Cowl Temp, CDI Temp, Water Temp, etc.) may be installed using current aircraft standards and practices (refer to AC 43.13). Make sure these probes do not interfere with the operation of the engine or aircraft.

9. Route the Extension Cable

Dress the extension cable down to the probe keeping it away from any hot areas. Connect the probe into the extension cable using OLC-1 Overlap Connectors (see OLC-1 Installation Instructions for details). When tie wrapping these cables down, be sure there is no strain or pulling on the cable against the probe housing. Each probe should have 3 to 4 inches of slack to allow the engine to move in its mount without breaking any wires. Also, there should be a tie wrap near the probe connectors.

If you must shorten the cable, pull any excess cable length through the fire wall and cut it off at this time. However, it is recommended you leave some extra wire length under the instrument panel for later modifications. Varying cable lengths will **not** affect the accuracy of this instrument. The Extension Cable and probe wire are made of type K thermocouple wire that **must not be substituted or extended with regular copper wire.** Also, it is important these wires not be kinked (i.e., **do not bend the wires on a radius less than 1 inch.**)

Tie off any excess cable under the instrument panel. Be sure these cables do not obstruct the freedom of travel of any controls. Cable length does not affect the accuracy of our units, so cables of any length may be ordered from the factory.

10. Route the Signal Out and Ground Wires to the FP-5(L)

Route and connect the White/Yellow wire to pin 14 on the FP-5(L). Route and connect the White wire to pin 13 on the FP-5(L). **Tie wrap all wires so they do not obstruct the freedom of travel of any controls.**

Specifications and Operating Features

Model

FM-T emp (Temperature Functional Module)

Case Dimensions

3" x 2" x 1"

Weight

Module Only: 2.8 Oz.

Environmental

Meets TSO C43a.

Power Requirements

7.5 to 35 Volts, 1/10 Amp.

Accuracy

1% or better in accordance with TSO C43a.

Extension Cable and Probes

Type K, any length or size.

FP-5(L) Extension Cable Harness, Back View (wire side)

