

For the most part, your engine monitor and System32 operate separately. Your engine monitor system will still be responsible for traditional sensors and displays for EGT, CHT, oil pressure, oil temp, fuel pressure, etc. The System32 Cockpit Controller will display information for all of the sensors and functions that are part of the System32 engine management.

There are two outputs from System32 that do get connected to the engine monitor system. These are the TACH signal and the FUEL FLOW signal. These are both single wire outputs on the System32 wire harness that get connected to the corresponding input on the engine monitor system.

Configuring the RPM input on your engine monitor

For a 4 cylinder engine installation, set the number of pulses per revolution for the rpm input to 2.

For a 6 cylinder engine installation, set the number of pulses per revolution for the rpm input to 3.

This is a setting that will be located within your engine monitor.

Calibrating Fuel Flow and Fuel Totalizer displays

You will most likely have a fuel totalizer display on your engine monitor – this keeps track of how much fuel you have remaining. You will also have a Fuel Flow display on your engine monitor as well as a Fuel Flow display on the System32 Cockpit Controller. The Fuel Totalizer function and the Fuel Flow function are both driven by the Fuel Flow output signal from System32.

Fuel Flow systems are typically calibrated by adjusting a “K Factor”. This is a setup parameter located in your engine monitor that you can adjust up or down to scale the fuel flow and totalizer readings.

Larger K Factor number = smaller Fuel Flow display number and vice versa.

In order to increase the Fuel Flow reading, you must decrease the K Factor number.

In order to decrease the Fuel Flow reading, you must increase the K Factor number.

Always make changes to the K Factor number as a percentage. If you want to increase your fuel flow number by 10%, you accomplish this by decreasing the K Factor number by 10%. If you want to double the fuel flow reading, then divide the K factor number by 2, etc.

One calibration process will dial in the reading for both of these functions. Calibration of these functions starts with the engine monitor and then finishes with an adjustment in the System32 Controller. Follow the steps below to calibrate these systems:

1. Bulk calibration (this gets you close with one easy step)

Make a full power ground run and adjust your K Factor such that the Fuel Flow readout agrees with the expected fuel flow at your max ground power horsepower level. If you have a constant speed propeller, you should be able to make max power on the ground. If you have a fixed pitch prop, you should be able to make close to 80% of your max power on the ground.

A 200hp engine running at max power should burn approximately 17 gallons per hour.

A 300hp engine running at max power should burn approximately 25 gallons per hour.

A 160hp engine running at 80% power (128hp) should burn approximately 11 gallons per hour.

Make a full power ground run and adjust your K factor such that the Fuel Flow reading is close to the expected value.

2. Fine tune the engine monitor using the Fuel Totalizer function

This step requires flying off some fuel and comparing the Fuel Totalizer number to the actual quantity of fuel burned according to the re-fill fuel volume at your next fill up. Adjust the K Factor number to get the actual fuel amount burned to agree with your totalizer number – at this point, the engine monitor fuel system is calibrated.

3. Adjust the K Factor located in the System32 Cockpit Controller system config menu to make the Controller Fuel Flow number match your engine monitor Fuel Flow number and you are done.