



Fluid Pressure Sensor Documentation Addendum EMS-D10, EMS-D120, FlightDEK-D180 Revision C - October, 2015

Scope

As of July, 2012, Dynon Avionics supplies the following Kavlico fluid pressure sensors for monitoring oil pressure, fuel pressure, and coolant pressure:

- Dynon Avionics P/N 101715-000 Kavlico Gravity Fed Fuel / Fluid Pressure Sensor – 5 PSI
- Dynon Avionics P/N 101690-000 Kavlico Carbureted Fuel / Fluid Pressure Sensor – 15 PSI
- Dynon Avionics P/N 101716-000 Kavlico Fuel Injected Fuel / Coolant/Fluid Pressure Sensor – 50 PSI
- Dynon Avionics P/N 101693-000 Kavlico Oil Pressure Sensor – 150 PSI

This document is a supplement to the EMS-D10 (through Revision I), EMS-D120 (through Revision H), and FlightDEK-D180 (through Revision H) Installation Manuals.

To download the most recent version of firmware go to <http://downloads.dynonavionics.com>.

To download the most recent version of your unit's Installation Manual and Pilot User Guide, go to <http://docs.dynonavionics.com>.

EMS-D10, EMS-D120, and FlightDEK-D180

Note: *The EMS-D10, EMS-D120, and FlightDEK-D180 can only “read” the Kavlico fluid pressure sensors if they have firmware v5.4.2 (or later). If your EMS-D10, EMS-D120, or FlightDEK-D180 does not have firmware v5.4.2 (or later), to use a Kavlico fluid pressure sensor, your EMS firmware must be updated. To check EMS firmware version: EMS > SETUP > VRSION.*

Note: With Kavlico fluid pressure sensors installed on an EMS-D10, EMS-D120, or a FlightDEK-D180, when the engine is off (no oil pressure, fuel pressure, coolant pressure, etc. applied to the sensors), the pressure indicator on your EMS may not read “0”:

- 5 PSI sensor may display **0.4 PSI**
- 15 PSI sensor may display **1.2 PSI**
- 50 PSI sensor may display **4 PSI**
- 150 PSI sensor may display **12 PSI**

This is normal (not indicative of a defective sensor). Above these pressure values, the sensor will display accurate pressure (within its pressure range).

Physical Installation:

Mount the Kavlico pressure sensor securely using an Adel clamp or other method such as using a transducer mounting block on the firewall. Dynon does not recommend mounting the sensor directly to the engine to minimize the chance of mechanical failure of the transducer due to

engine vibration. Unlike Dynon’s older (VDO-style) oil pressure sensor, Kavlico fluid pressure sensors have a dedicated ground wire, eliminating the need to use the sensor case as ground.

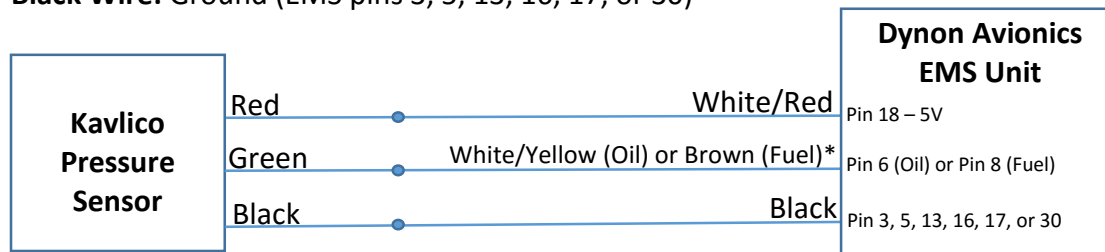
Wire Connection/Pinout:

Note: If you are replacing Dynon Avionics’ older (VDO-style) pressure sensors and your engine has a Dynon Avionics Manifold Pressure Sensor (P/N 100434-000),, to avoid running new wires through the firewall, you can “tap” the Red Wire (5 volts) and the Black Wire (Ground) for the required 5V and Ground connections for a Kavlico sensor.

Red Wire: 5 Volt (EMS pin 18) – *this connection can be shared with other sensors.*

Green Wire: Fuel Pressure (EMS pin 8), Oil Pressure (EMS pin 6), or Coolant Pressure (EMS pins 4 (GP 1), 22 (GP 2), or 23 (GP 3), depending on function/configuration defined below.

Black Wire: Ground (EMS pins 3, 5, 13, 16, 17, or 30)



* For Coolant Pressure, use Pin 4 (GP 1) Violet / Blue wire; Pin 22 (GP 2) Violet / Yellow wire; or Pin 23 (GP 3) Violet / Green wire.

Configuration:

Once the sensor is physically installed and connected, refer to the instructions below when configuring the EMS Setup Menu. These sensor types are only available when your EMS unit has firmware v5.4.2 (or later).

- 5 PSI Fuel Pressure Sensor (Dynon Avionics P/N 101715-000):
EMS > SETUP > SENSORS > FUEL PRESSURE > SENSOR TYPE: 5
- 15 PSI Fuel Pressure Sensor (Dynon Avionics P/N 101690-000):
EMS > SETUP > SENSORS > FUEL PRESSURE > SENSOR TYPE: 6
- 50 PSI Fuel Pressure Sensor (Dynon Avionics P/N 101716-000):
EMS > SETUP > SENSORS > FUEL PRESSURE > SENSOR TYPE: 7
- 50 PSI Coolant Pressure Sensor (Dynon Avionics P/N 101716-000):
EMS > SETUP > SENSORS > EMS GP INPUT (1, 2, or 3) > SENSOR TYPE: 2
- 150 PSI Oil Pressure Sensor (Dynon Avionics P/N 101693-000):
EMS > SETUP > SENSORS > OIL PRESSURE > SENSOR TYPE: 5