



## iMFD Sensor Module SM-Fluid Pressure

Version 1.0 March 14, 2008

**\*Please read the instructions completely through at least once before proceeding with the installation to minimize errors.**

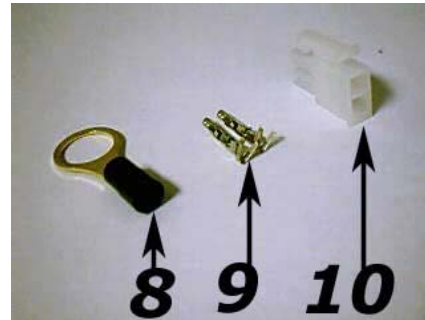
**\*DO NOT use this sensor for Fuel Pressure sensing purpose**

**\*Double check polarity of power before powering it on for the first time.**

### Overview:



(Figure 1)



(Figure 2)

1. Connects to 12V-18V power source.
2. Analog outputs (0-5V linear output) \*For sensor #1 ONLY
3. Termination jumper. Closed for first SM in iMFD daisy chain.
4. Connects to next SM in iMFD daisy chain or to first DM
5. Connects to previous SM or unconnected if first SM in iMFD daisy chain
6. Connects to PLX Fluid Pressure Sensor. Up to 2 sensors can be connected for 2 channel operation.
7. Fluid Pressure Sensor (150psi). (\*Using a sensor not provided by PLX Devices may lead to inaccurate readings due to a mismatch in calibration)
8. 24k Gold Ring Terminal
9. Molex Connector Terminals
10. Molex 2 Pin Connector

### Install the Fluid Pressure Sensor:

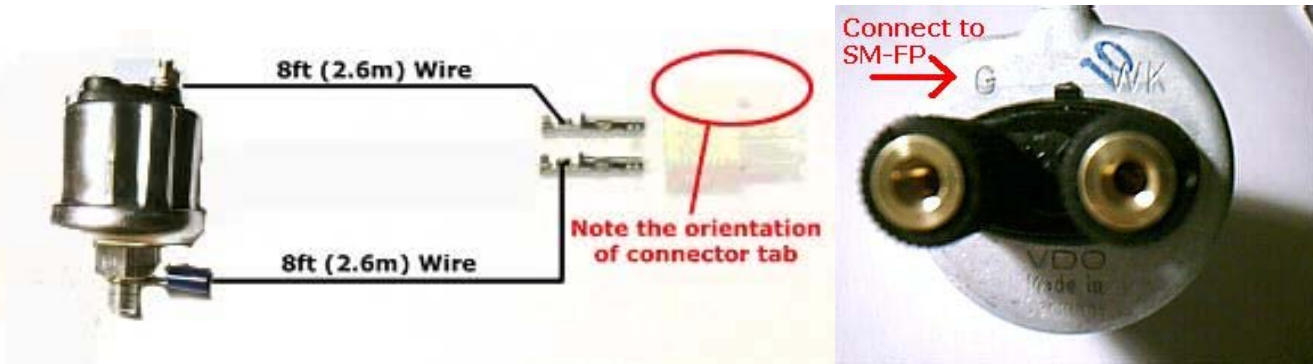
1. The PLX Fluid Pressure probe screws into a 1/8 NPT tap.
2. Connect the fluid pressure sensor with the provided 2 pin Molex connector according to the following diagram. **It should connect to the port "G" on the sensor.** Connections can be made by crimping the terminals or soldering the terminals with the provided wire. \*Note the orientation of the Molex 2 pin connector. A reverse connection will result in inaccurate readings and may damage the device.

Version 1.0 March 14, 2008

[www.plxdevices.com](http://www.plxdevices.com)

(408)745-7591





(Figure 3a)

(Figure 3b, Port "G")

### Connecting Power to the Unit:

## **CAUTION! CONNECTING THE SM-FluidPressure IN REVERSE POLARITY WILL DAMAGE THE UNIT! CHECK CONNECTIONS BEFORE POWERING ON.**

1. The SM-FluidPressure accepts 12-18V DC for power. Connect the negative wire (black) to your vehicle's ground. This is usually the negative terminal of your automobile's battery. Connect the positive wire (red) to your vehicle's ignition power. This power is only supplied when your key is turned passed a specific position and is off when your key is removed. Your power connection must be capable of supplying at least 1 amp of current. A 5 Amp fuse is recommended for safety.

\*If you plan to integrate the SM-FluidPressure with other aftermarket devices by utilizing the analog output signal wire. Make sure that the negative wire (black) is connected as close as possible to your device's ground. This guarantees that both devices "see" the same reference ground and a more accurate interpretation of the output voltages will be achieved. Please refer to the PLXApp notes online for more information.

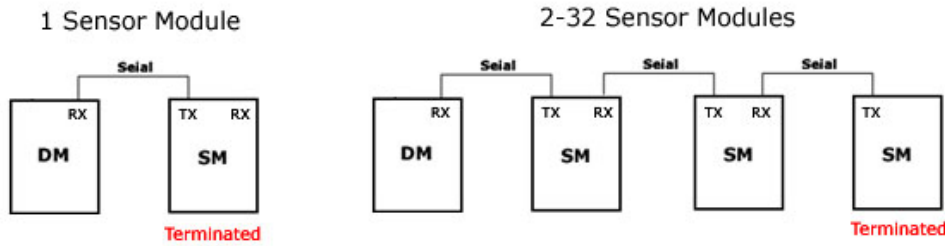
2. Locate the 2.1mm Power plug. Unscrew the plastic cover and insert it into the red/black power wires.
3. Solder or crimp the red power wire to the **CENTER** of the connector. (12-18V)
4. Solder or crimp the black power wire to the **SHIELD** of the connector. (GROUND)



(Figure 4)

### Using the Sensor Module in the iMFD Chain:

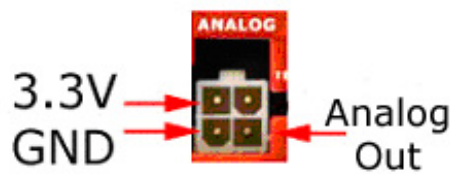
1. If the SM-FluidPressure is the only sensor module or last sensor module in the iMFD chain, be sure to have the termination jumper installed. Otherwise, remove the jumper. Please refer to (Figure 1) for the location of the termination jumper.



(Figure 5)

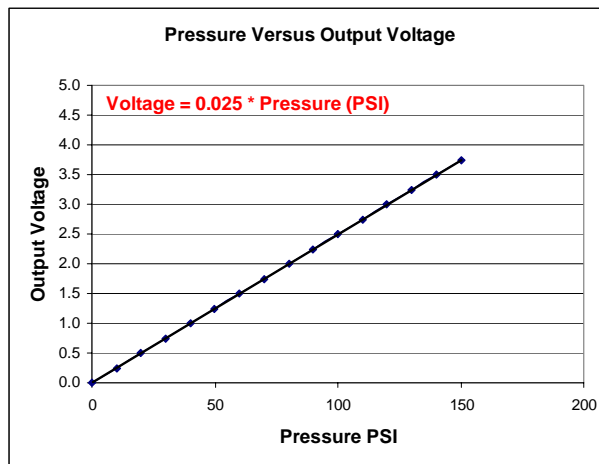
**Using the Sensor Module Analog Output:**

1. The SM-FluidPressure has one 0-5V analog output designed to be interfaced with a number of aftermarket products such as engine management systems, data loggers and tuning electronics. It is not mandatory for you to use this output for your unit to properly function.



(Figure 6)

**Linear Analog Output (0-5V)**



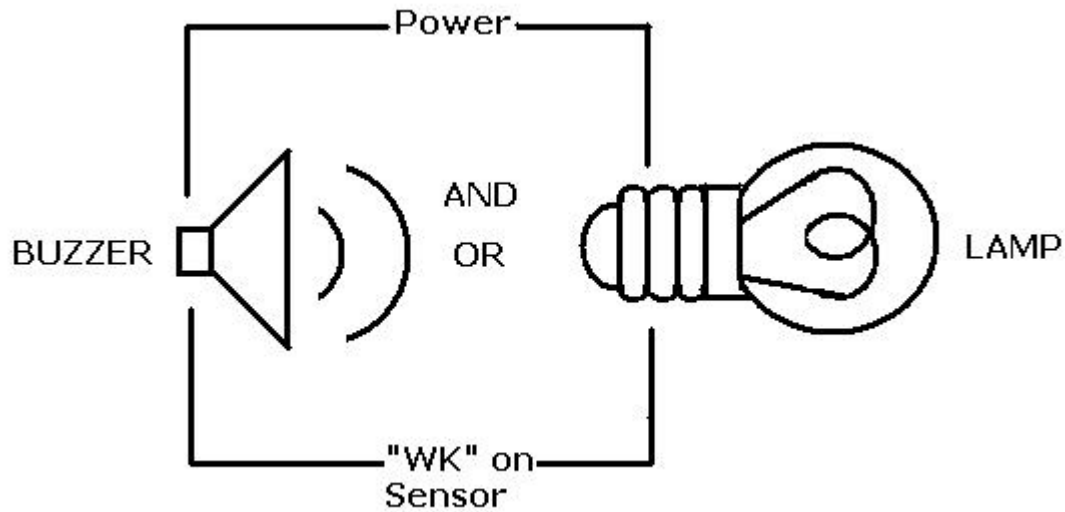
(Figure 7)

**Using the integrated fixed low pressure Warning Feature:**

1. The SM-FluidPressure sensor itself **has an integrated warning at 11.4psi**. When the pressure is below and at 11.4 psi, this integrated warning will be activated. The following illustration shows the connection using either a lamp or a buzzer. If using 12V as power source, make sure that the 12-16 V capable lamp or buzzer is used. If using a 3.3 v from analog port provide from SM-FP, then please use a 3.3V capable lamp or buzzer. Some devices, however, can handle wide ranges of voltage inputs:

Sample Buzzer with 16v -5v power in capable: Mallory SONALERT II MSR516W

While the power input of the lamp and buzzer can be 12V or 3.3V, the ground side of the lamp or the buzzer needs to be connected to the "WK" lead of the sensor.



(Figure 8, connection illustration of lamp or buzzer)

Caution: please follow the power input ratings indicated on the buzzer or the lamp to decide whether using 12V or 3.3V power.



(Figure 9, location of "WK" lead for the grounding of lamp or buzzer)

## Recommended Accessory:



(Figure 10) DM-5 Fluid Pressure 52mm Gauge. Ideal for affordable Fluid Pressure monitoring from your SM-FluidPressure. Release date will be updated.

## Included Items:

1. SM-FluidPressure main unit
2. 4ft red power wire
3. 4ft black ground wire
4. 4ft gray analog output wire
5. 2.1mm power connector
6. Resistive type fluid pressure sensor (Additional sensor sold separately)
7. 24k gold ring terminal
8. 24k gold female disconnect terminal
9. 2 pin Molex connector with 2 terminals for sensor
10. 16ft sensor wire
11. 4 pin Molex connector with 4 terminals for analog output
12. 1ft Serial Cable
13. Termination jumper
14. Quick start guide

## Specifications:

Physical Dimensions	2" x 2.875" x 1.125" (52mm x 75mm x 28mm) L x W x H
Accuracy	~1 PSI
Measurement Range	0-150 PSI
Analog Outputs	Linear 0-5V (Driving Current 20mA)
Operating Voltage	8V-18V
Power Consumption	0.3 Watts
Operating Temperature	0 - 85 Deg C
Sensors	Two Resistive Type Pressure Senders
Enclosure	Extruded Aluminum

## TERMS OF USE

PLX Devices Inc. does not guarantee the Sensor Module functionality with any ECU, data logger or other devices that uses the output signals. Implementation and integration of the Sensor Module with any other device(s) must be done at your own risk. Improper installation and usage may lead to engine damage. Mount and install the Sensor Module in a location where it does not obstruct the driver's view and/or ability to safely control the vehicle.

---

## LIMITED WARRANTY

PLX Devices Inc. warrants this product to be free from defects for 1 year from the date of purchase. If applicable, Oxygen sensors and other non-serviceable items are excluded from stated warranty. Serviceable goods must be determined by PLX Devices to be defective before any warranty or replacement is issued. PLX Devices' obligation under warranty shall be limited to repairing or replacing, under the discretion of PLX Devices, any part proven defective. This warranty is limited to the repair or replacement of parts in the manufactured good and the necessary labor done to affect its repair or replacement.

## SERVICE UNDER WARRANTY

In the unlikely event that your PLX Devices hardware should fail during the warranty period, a Return Material Authorization number (RMA) must be first retrieved from PLX Devices Customer Support. Support can be contacted through email: [plxsupport@plxdevices.com](mailto:plxsupport@plxdevices.com) or by phone: 408-745-7591. All serviceable goods must be packaged securely with proof of purchase, RMA number, with all shipping charges prepaid and shipped to PLX Devices Inc. Goods returned under warranty must be received by PLX Devices Inc. within ten (10) business days after the RMA number has been issued. Goods received after this period is subject to fees for the service of repair or replacement. All repaired or replaced items shall be warranted for the remainder of the original product warranty.

## RETURNS AND RESTOCKING FEE

A 15% restocking fee will apply to applicable PLX Devices products for refund. All returns are to be packed in original condition including packaging, documentation, manuals, and accessories. Returns that do not include all the accessories and components may be returned to the customer or charged on a per item basis. The customer assumes responsibility for product until receipt at PLX Devices Inc., shipping via an insurable carrier is recommended. Any unauthorized shipping charges will be billed to the customer or shipment will be refused.

## DISCLAIMER

PLX Devices Inc. shall not be liable for direct, special, incidental, or consequential damages resulting from any legal theory including, but not limited to, lost profits, downtime, goodwill, damage, injury to persons, or replacement of equipment and property due to improper installation, integration and/or misuse of any PLX Devices Inc.'s product(s). This warranty applies to the original purchaser of product and is non-transferable. All implied warranties shall be limited in duration to the said 1 year warranty period.

## Revision History

Version 1.0 (3/14/08)	Initial release
-----------------------	-----------------