



## iMFD Sensor Module SM-Vac/Boost

Version 1.0 February 9, 2007

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

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

### Overview:



(Figure 1)

1. Connects to 12V-18V power source
2. Analog outputs (0-5V linear output)
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 vacuum hose from intake manifold.

### Install the Vacuum Hose:

1. The SM-Vac/Boost module has a 3 bar MAP sensor built-in. Connect a 1/8" vacuum hose to the sensor shown above #6
2. For high boost application 15PSI and up, it is a good idea to install a zip tie around the vacuum hose to prevent it from coming lose.

### Connecting Power to the Unit:

**CAUTION! CONNECTING THE SM-Vac/Boost IN REVERSE POLARITY WILL DAMAGE THE UNIT! CHECK CONNECTIONS BEFORE POWERING ON.**

1. The SM-Vac/Boost 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-Vac/Boost 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

Version 1.0 February 9, 2007

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

(408)745-7591



reference ground and a more accurate interpretation of the output voltages will be achieved. Please refer to the PLXApp notes online for more information.

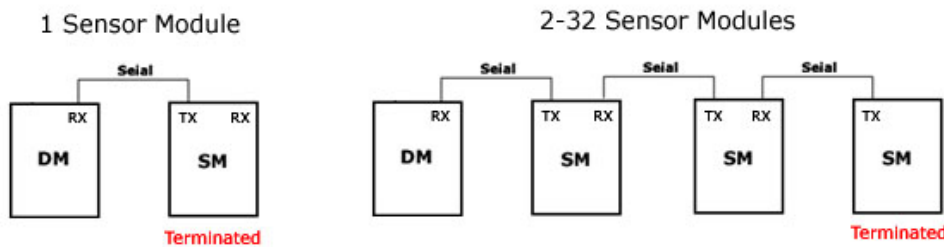
2. Locate the 2.1mm Power plug. Unscrew the plastic cover and insert it into the red/black power wires.
3. Solder or crimp the red power wire to the **CENTER** of the connector. (12-18V)
4. Solder or crimp the black power wire to the **SHIELD** of the connector. (GROUND)



(Figure 2)

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

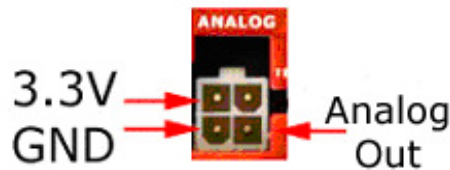
1. If the SM-Vac/Boost is the only sensor module or last sensor module in the iMFD chain, be sure to have the termination jumper installed. Otherwise, remove the jumper. Please refer to (Figure 1) for the location of the termination jumper.



(Figure 3)

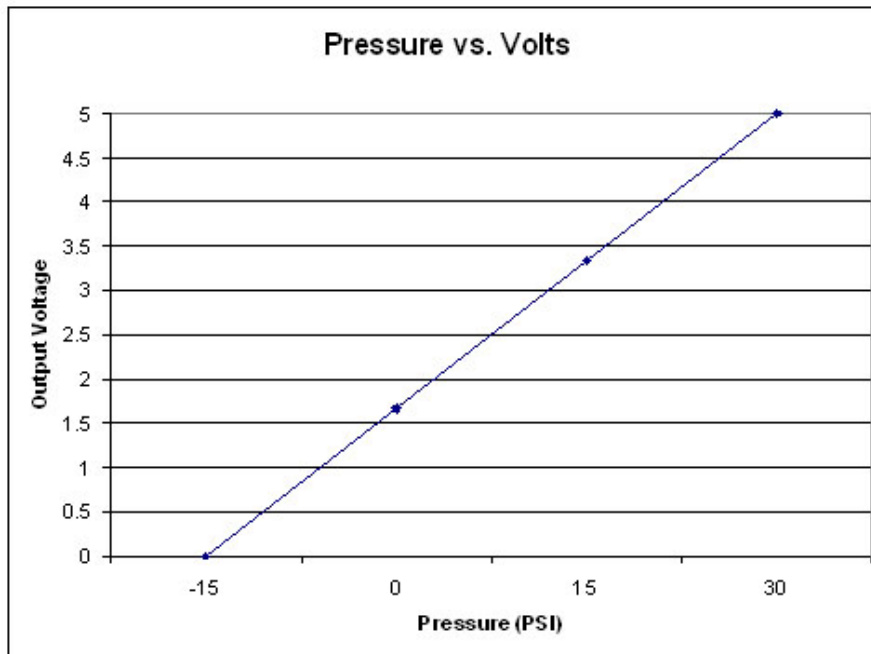
### Using the Sensor Module Analog Output:

1. The SM-Vac/Boost 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 4)

Linear Analog Output (0-5V)



(Figure 5)

Vacuum Range (0V = 30.5inHg = -15PSI, 1.66V = 0PSI)

Boost Range (1.66V = 0PSI, 5.0V = 30PSI)

### Recommended Accessory:



(Figure 6) DM-5 Vac/Boost 52mm Gauge. Ideal for affordable vacuum and boost monitoring from your SM-Vac/Boost

### Included Items:

1. SM-Vac/Boost main unit
2. 4ft red power wire
3. 4ft black ground wire
4. 4ft gray analog output wire
5. 2.1mm power connector
6. 4 pin Molex connector with 4 terminals for analog output
7. 1ft Serial Cable
8. Termination jumper
9. Users Guide

**Specifications:**

Physical Dimensions	2" x 2.875" x 1.125" (52mm x 75mm x 28mm) L x W x H
Accuracy	<0.25 PSI
Measurement Range	30.5inHg - 30 PSI (760mmHg - 2.11kg/cm <sup>2</sup> )
Analog Outputs	Linear 0-5V (Driving Current 20mA)
Operating Voltage	8V-18V
Power Consumption	0.3 Watts
Operating Temperature	0 - 85 Deg C
Sensors	3 Bar MAP sensor
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 90 days 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: [support@plxdevices.com](mailto:support@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 90 day warranty period.

**Revision History**

Version 1.0 (2/9/07)	Initial release
----------------------	-----------------