PERRIN 4 Bar Map Sensor by OMNI Power

2012-03-20

Thank you for purchasing this PERRIN product for your car! Installation of this product should only be performed by persons experienced with installation of aftermarket performance parts and proper operation of high performance vehicles. If vehicle needs to be raised off the ground for installation, the installer must use proper jacks, jack-stands and/or a professional vehicle hoist for safety of the installer and to protect property. If the vehicle is lifted improperly, serious injury or death may occur! Please read through all instructions before performing any portion of installation. If you have any questions, please contact our tech department prior to starting installation. We can be reached in any of the following methods:

Email Tech@PERRINperformance.com
Instant Chat off the main page of www.PERRINperformance.com
Or simply call our tech team at 503-693-1702

SPECIAL NOTES:

- This MAP sensor requires the ECU to be recalibrated in order for it to work properly on your engine. If this is not something you are able to do right away, do not install this part. If you are not familiar with how to recalibrate the ECU, consult a professional tuner.

Parts Included with the 4 BAR MAP Sensor:

- **(1) PERRIN 4Bar MAP sensor by OMNI Power**

Installation

1. Locate OEM Map sensor bolted to throttle body and unplug electrical connection.
2. Remove (2) Screws securing MAP sensor to throttle body and remove sensor from car.
3. Install 4 BAR map sensor to throttle body and tighten screws. NOTE: Lubricating o-ring on sensor will aid in installation.
4. Plug electrical connection back in and make sure it's pushed completely onto plug.
5. Before starting car refer to below diagrams and data on how to recalibrate your ECU to work with this sensor.

Cobb AccessPORT/OpenSource Tuning MAP Sensor Cal (Located Manifold Pressure Sensor/Manifold Pressure Sensor Scaling)

	Standard Units		Metric Units
Multiplier (PSIa/Volt)	12.087	Multiplier (BAR/Volt)	.833
Offset (PSIa)	.168	Offset (BAR)	.012

MAP Sensor Voltage DTC Limit High, change to 5v
MAP Sensor Voltage DTC Limit Low, change to 0v

AEM EMS MAP Sensor Cal (located under Sensors, Map Sensors, Options)

Min voltage .08	Max voltage 4.88
Scalar 3.8	Load offset 15.0
Filter 10	Frequency 0

Formulas for using with other ECU's

Formula for Converting Pressure to Voltage Output (Used with Motec ECU)
5x (.002421 X P -.00842) =Voltage output.

Formula for Converting Voltage to Pressure Output (Used with Cosworth ECU)
(Vout x 1.00878)/.002421/5=KPA

P= Pressure in KPA
KPA= PSI X 6.8947573
PSI= KPA x .1450377
Atmosphere equals 1 bar or 100 KPA = 5 X (.002421 X 100 - .00842) = 1.168 volts @ 1 bar or 100 KPA
1bar = 100KPA = 14.5PSI = 1000milibar

Questions, Comments and Suggestions Contact: Tech@PERRINperformance.com
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