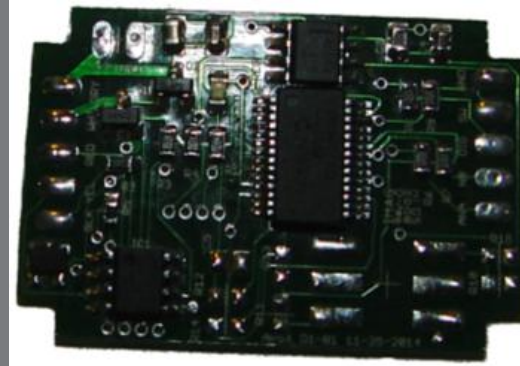# APSX WIDEBAND

NEW APSX D1
DIY Wideband O2 Controller

APSX D1 DIGITAL WIDEBAND O2 AIR FUEL RATIO (AFR) CONTROLLER BOARD (DO IT YOURSELF – DIY)
Quick Start Guide

APSX WIDEBAND

8170 Corporate Park Drive. Suite 137
Cincinnati, OH 45242

www.Wide-Band.com

info@wide-band.com

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WARNING!

Oxygen sensor can get very hot when powered. Keep the oxygen sensor powered when the engine is running to prevent damage to the O2 sensor.

WIRING

APSX D1 can be connected to oxygen sensor cable (5 cables) and two 12V power cables as shown in the picture.

If you purchase a kit with D1, it will arrive assembled and in a weather and temperature proof enclosure filled with epoxy. Positive power cable goes to 12V source in your vehicle. Ground power cable goes to a grounded source such as battery ground (-) post.

Green digital output is 9600 8N1 serial that can be connected to your PC. If you want to connect other devices such as data loggers or AFR gauges, you can use white analog cable for 0-5V output. Brown narrowband cable is for simulated NB.

PROGRAMMING

Depending on when you release the button on D1 after holding it, you can modify different settings.

1 – Set the fuel type (1-Lambda [L], 2-E85 [E], 3-Gasoline [A], 4-Diesel [d], 5-Methanol [n]). See the table for fuel types

2 – Set NB lower limit

3 – Set NB upper limit

	APSX	Gasoline	Diesel	E85	Lambda	Methanol
MIN	73.5	7.35	7.25	4.88	0.50	3.23
LOW	90	9.00	8.88	5.98	0.61	3.96
STOICH	147	14.70	14.50	9.77	1.00	6.47
HIGH	190	19.00	18.74	12.62	1.29	8.36
MAX	220.5	22.05	21.75	14.65	1.50	9.70

4 – Set Analog lower limit (Range 7-25 AFR/Default is 9 AFR)

5 – Set Analog upper limit (Range 15-25AFR/Default is 19AFR)

6 – Calibration (Calibration range we have seen among the Bosch LSU4.2 sensors 70-130)

CALIBRATION

The O2 sensor should be exposed to free air for the first time calibration. Hold the magnet close to D1, you will see display unit counting from 1 to 6.

Hold the magnet until you get to step 6 and release it to complete the calibration. This should take about 30 seconds.

Once it calibrated, display reads 19.0. You can now connect the O2 Sensor onto the exhaust pipe. For the factory settings, disconnect power, hold the switch while turning the power on and wait for 3 blinks. You should re-calibrate after this action.