

BIGLOG Air/Fuel Ratio Meter



The BIGLOG AFRM is the first in a series of high performance Air/Fuel Ratio Meters (AFRM) available from BigStuff3. It is the first “low cost” 16 bit, 40 Mhz based AFRM to utilize “Wide Band Oxygen” (WBO2) sensing **with on-board data acquisition**. The BIGLOG AFRM can be programmed manually or with the BIGLOG software to:

- Be compatible with gasoline or alcohol
- Display air/fuel ratio (AFR) or Lambda
- Adjust the number of cylinders to compensate for the “RPM” calculation

The BIGLOG AFRM can record AFR or Lambda, Vbatt, RPM, “% Load” (MAP or TPS) as well as an optional drive-shaft speed input as fast as 50 times a second, with 10-bit resolution, for up to 5.5 minutes. It can also output the AFR or Lambda values via a 0-5 volt linearized output to an external dynamometer or in-vehicle data acquisition module.

The BIGLOG AFRM’s uniqueness does not stop there. It also has a programmable “warning light” provision to turn on an Auto Meter shift light at a specified “lean” air/fuel ratio to protect against engine damage. These features, along with several others, make the BIGLOG AFRM the most technologically advanced, cost competitive AFRM system on the market.

The BIGLOG AFRM system includes:

- An Electronic Control Module (ECM)
- Main Wire Harness (MWH)
- WBO2 sensor with carbon steel mounting bung (stainless steel mounting bung optional)
- BIGLOG Windows compatible data acquisition software
- 6' serial communication cable
- A 3-D articulating mounting bracket

The intuitive BIGLOG software allows the data acquisition related variables to be recorded in real-time and viewed off-line via a serial PC link.

The BIGLOG AFRM electronics are housed in a black powder coated aluminum extruded enclosure with (3) integrated .8" ultra bright red L.E.D.s. The aesthetically pleasing, nylon braided, MWH uses OEM style Packard and TYCO terminals and connectors. Gold plated terminals are used for the 32-way ECM-to-MWH and 6-way MWH-to-WBO2 connections. The 3-D articulating mounting bracket can be used to mount the BIGLOG AFRM ECM on the dash of a vehicle or dynamometer control console.



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Features

- Single, WBO2 Air/Fuel Ratio (9.5:1 to 15.9:1) or Lambda (.65 to 1.25) sensing
- Gasoline & Alcohol compatible
- Self WBO2 calibration test
- Closed Loop PID WBO2 heater control to insure accurate AFR or Lambda sensing
- On-Board Data Acquisition (82 seconds to 5.5 minutes collection period)
- Large (.8") Ultra-bright, red L.E.D.s that can be read in direct sunlight
- Programmable, manual or remote Data Log trigger functionality
- Lean Air/Fuel Ratio or Lambda "warning light" provision
- Push Button & Toggle Switch user interface to program the BIGLOG AFRM ECM
- (1) 0-5 volt linearized Air/Fuel Ratio or Lambda output
- 3-D articulating mounting bracket

ECM Specifications

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|---------------------------------|--|
| ■ Enclosure | Black powder coated aluminum extrusion |
| ■ Dimensions | 1.94" (D) X 3.55" (H) X 5.36" (W) |
| ■ Weight | 1.1 lbs |
| ■ Operating Temperature | -20 °C to +85 °C |
| ■ Operating Voltage | 6 to 20 Vdc, reverse voltage protection |
| ■ Inputs | Battery (+)/(-), +12v switch, % Load (TPS/MAP),
(1) WBO2 (included), RPM reference & Data Log trigger |
| ■ Outputs | Lean AFR "Warning Light" provision, (1) 0-5 volt linearized
Air/Fuel Ratio or Lambda output |
| ■ Processor | Infineon, 16-Bit @ 40 Mhz |
| ■ On-Board Data Acquisition RAM | 128K |
| ■ PC Interface | Serial via BIGLOG Windows 95, 98, 2000, NT & XP compatible software |

Ordering Information

Description

BIGLOG AFRM

Part Number

BS3-001-001

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