

MEC-L LEAN-BURN AIR/FUEL RATIO CONTROLLER



- Ideal for any carbureted, 4-stroke lean-burn engine with exhaust oxygen greater than 0.7% – with or without oxidation catalyst.
- Improves engine performance, extends engine component lives.
- Failsafe troubleshooting & diagnostics.
- Ongoing compliance assured – regardless of load-swings or changes in operating conditions.
- Variable exhaust oxygen setpoints: perfect for gensets and other applications that operate over a large load range.
- Easy to install, easy to use – fully automatic.

The Best-Value AFR For Lean-Burn Engines.

The MIRATECH MEC-L air/fuel ratio controller – specifically engineered for lean-burn natural gas engines – delivers benefits no other AFR can match. Yet it costs about the same as other units that give you a whole lot less. Dollar for dollar, it's simply the best AFR value on the market – for any carbureted, 4-stroke lean-burn engine operator.

• **Ongoing compliance assured.** Whatever emissions limits you face, whatever your operating environment, the MEC-L gives you total assurance that your lean-burn engine exhaust emissions will be controlled to a fixed value over the long haul – regardless of variances in loads, fuel composition, and ambient air temperatures.

• **Better engine performance.** It's like having an engine expert on the job, 24-7-365 – continuously monitoring your engine and tweaking the air/fuel mix as loads and operating conditions change. The result: top performance and trouble-free operation – with optimum fuel economy for your emissions control setpoint. In harsh operating environments – deserts or at high altitude, for example – MEC-L can even prevent catastrophic engine damage, automatically optimizing the air/fuel mix to compensate for changes in barometric pressure, ambient air temperature, or fuel composition.

• **Failsafe troubleshooting.** Built-in diagnostics cover no fewer

than 38 critical operating parameters. By allowing you to pinpoint problems the instant they occur, your MEC-L cuts the costs of maintenance, downtime, labor, and replacement parts.

Best of all, the MEC-L is easy to install, easy to set up, and fully automatic. Set it and forget it!



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MEC-L: SUPERIOR ENGINE PERFORMANCE. LOWER COSTS. COMPLIANCE ASSURED.

The MEC-L air/fuel ratio controller was engineered specifically for lean-burn, spark-ignited, carbureted natural gas engines. It minimizes engine emissions, optimizes fuel efficiency, improves engine performance, cuts engine maintenance costs, and maximizes lube oil, spark plug, and head lives – by precisely maintaining the proper air/fuel ratio over varying engine loads, speeds, fuel quality, and ambient conditions.

Unlike other air-fuel ratio controllers that cost about the same, the MEC-L tracks *multiple engine parameters* and automatically regulates the air/fuel mix. The result? Top performance, less maintenance, and ongoing compliance assured.

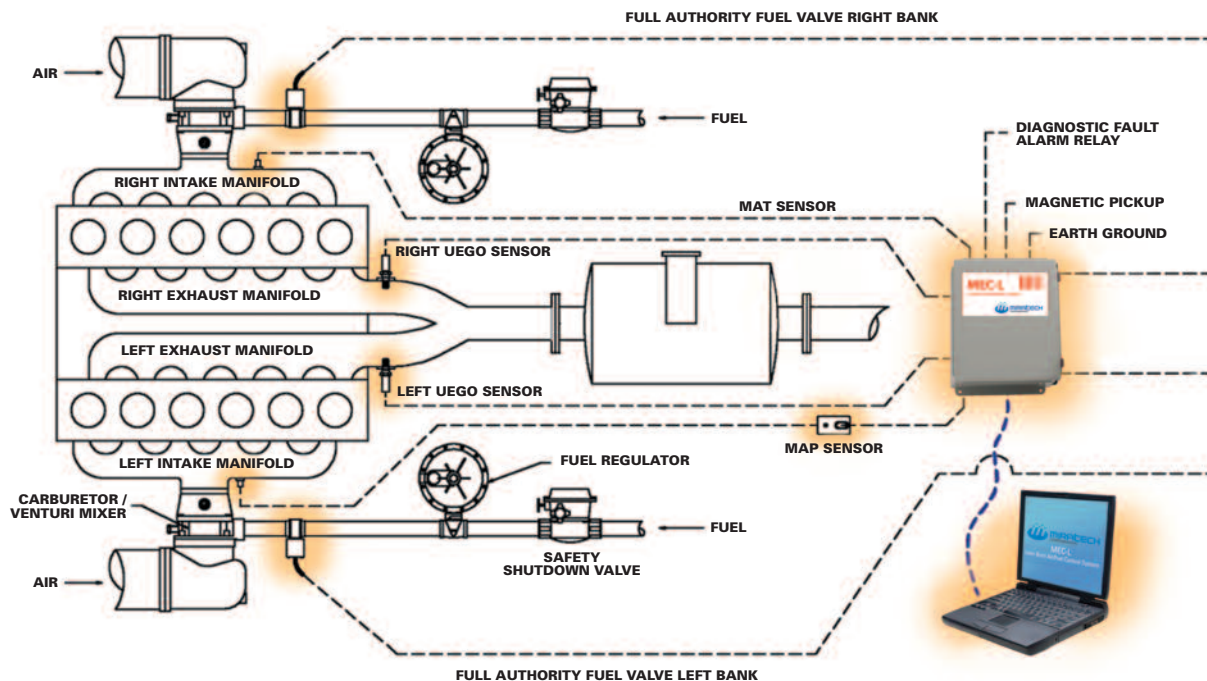
Benefits

- Ideal for any carbureted, 4-stroke engine with exhaust oxygen greater than 0.7% – with or without oxidation catalyst.
- Emissions compliance assured – regardless of varying engine loads, speeds, fuel quality, or ambient temperatures.

- Longer, trouble-free equipment life.
- Optimized fuel economy.
- Easy to install, easy to set up, easy to use – minimal operator training.
- Set it and forget it: no operator needed in normal operation.
- Perfect for gensets and other block-load applications.
- Fail-safe troubleshooting and diagnostics, with automatic shutdowns – covering 38 critical parameters.
 - Eliminates operator guesswork and look-see troubleshooting.
 - Prevents costly equipment damage and breakdowns caused by failing to adjust the air/fuel ratio for changes in ambient temperature or fuel composition.
 - Better-managed maintenance costs; longer maintenance intervals and component lives.
- Flexible network compatibility – with high-speed data transfer capability.
- Software, upgrades, and documentation available on disk or online.

Technical Features

- Works with any gaseous-fueled, spark-ignited, carbureted, 4-stroke lean-burn industrial engine – with or without a catalytic converter.
- Adaptive valve learn-software: continually updates fuel control valve look-up tables for rapid transient response.
- Open-Loop valve positioning, based on engine speed and load – Maintains compliance even with critical oxygen sensor malfunction.
- Full Authority Valve: controls all engine fuel via system-controlled butterfly valve; 1”– 3” fuel piping.
- Drives up to two fuel-control valves for vee engine configurations.
- Variable setpoint exhaust oxygen control.
- Closed-Loop exhaust oxygen feedback control.
- Comprehensive 38-fault diagnostics – including continuous oxygen sensor health monitoring.
- Data plotting for easy, accurate troubleshooting and documentation.
- Catalyst temperature monitoring to protect a catalyst from engine combustion malfunctions.
- Alarm and shut-down dry contacts.
- Windows®-based platform compatible with most computers: Software can be installed on laptop, PC, or network.
- RS-485/MODBUS® communications support for high-speed data transmission.
- NEMA 12 enclosure: 10”W x 13”H x 5”D.
- 24VDC, 4.8 amp max (application specific).



Learn more | Request a Proposal or Sales Consultation
918.794.9365 | www.miratechcorp.com



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