

AFR-1 Rich Burn Air/Fuel Ratio Controller

So Simple, It's Smart

Striking the right air-fuel ratio to support your catalytic converter shouldn't be that hard. And it's not – if you choose the right equipment.

Compliance Controls' AFR-1 air-fuel ratio controller is exactly the right choice. It's pure simplicity at every step – from installation to operation.

How simple is it?

- Non-intrusive installation – The AFR-1 operates on an auxiliary fuel line, which can be easily isolated for maintenance, analysis or troubleshooting. **SIMPLE!**
- Single setpoint – No fine-tuning or tweaking needed. **SIMPLE!**
- Streamlined navigation – single-button access to the main functions. **SIMPLE!**

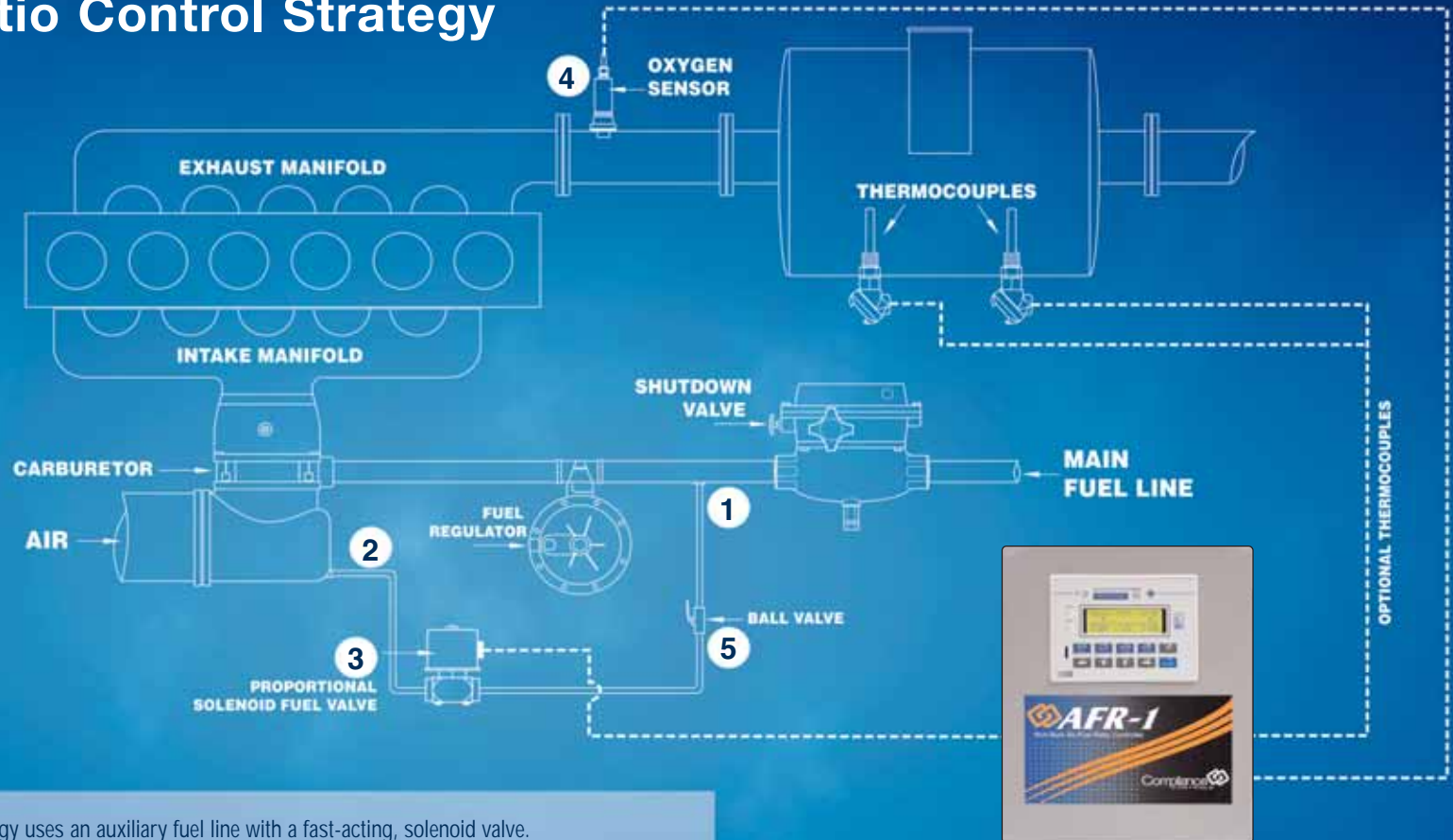
It doesn't get any simpler. Or any smarter.

Compliance 
CONTROLS

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Air/Fuel Ratio Control Strategy



Compliance Controls' non-intrusive strategy uses an auxiliary fuel line with a fast-acting, solenoid valve. The auxiliary fuel line is plumbed into the fuel system between the main fuel line ① and the air intake side of the carburetor ②

The AFR-1 controller electronically commands the proportional solenoid valve ③ to richen or lean the engine's air-fuel ratio base upon oxygen sensor feedback. ④

The auxiliary fuel line allows:

- Fail-safe engine operation, since the valve is not mounted on the main fuel line
- The AFR-1 to be manually taken off line during engine analysis, maintenance and troubleshooting when installed with an optional manual ball valve ⑤
- Sufficient fuel to bias the air/fuel ratio for emissions purposes*

*Higher pressure in auxiliary fuel line is achieved by tapping into the main fuel line before the final pressure regulator but downstream of the fuel safety shutoff valve, insuring adequate pressure for control and safe operation.

EARTH GROUND
 24 VDC POWER
 POWER GROUND
 (OPTIONAL 12 VDC
 ADAPTER AVAILABLE)
 G-LEAD OR MAGNETIC PICKUP
 ALARM RELAY
 CATALYST OVER-TEMP
 SHUTDOWN RELAY

Air/Fuel Ratio Controller Screens

HOME MENU



TARGET (RICH / LEAN) ADJUSTMENT



MAIN VIEW
(DEFAULT VIEW)



CATALYST TEMPERATURES



ALARMS



AFR-1 *The Simplest Air-Fuel Controller Available*

The AFR-1 air-fuel ratio control system is the simplest controller of its type on the market. Enter a single setpoint target, and the system starts controlling the air-fuel mix. This system was designed for pure simplicity.

Main Features

- Simplest air-fuel controller on the market
- One setpoint target
- Easy on-screen interface
- Operator help key on display

Benefits

- Ongoing compliance
- Fast and easy installation
- Minimal operator training required
- Comprehensive fault diagnostics
- Fully automatic – no operator required in normal operation
- Improved engine and emissions control performance
- Better fuel economy
- On-screen help for setup and navigation

To find out more about the AFR-1 Control System, contact your local Compliance Controls dealer or visit our website: www.compliancecontrols.com

Technical Features

- Designed for low horsepower gas fueled, carbureted rich-burn industrial engines
- Designed for single setpoint target, gas fueled, carburetor rich-burn industrial engine applications
- Microprocessor-based controller with a single setpoint
- Setup and operation done entirely through the 4 Line x 20 Character Display, enclosure or remote mounted
- Post catalyst, oxygen sensor input for real time adaption to changing catalyst performance (post catalyst sensor is optional)
- Pre and post catalyst thermocouple inputs for catalyst over temperature protection (ungrounded Type K thermocouples, optional).
- Pre/Post catalyst differential temperature displayed
- Separate alarm and shutdown dry-contact, DPST relays, 4 amp at 250VDC
- Proportional solenoid control valves used for quick response time
- Heated exhaust gas oxygen sensors for optimum AFR control
- NEMA 12 enclosure, 10"W x 13"H x 5"D
- 24VDC, 4.8 amp max (application specific), Optional 12VDC
- Magnetic pickup or negative ground ignition input for engine operating reference
- Upgradeable to command multi-setpoint targets and accept additional end devices



918-627-5050
www.compliancecontrols.com