

# AFR-FI - Air/Fuel Ratio Controller for Lean-Burn Fuel Injected Engines



## Features

- Improved Engine Performance and Efficiency
- Automated Emissions Compliance
- User-Friendly Display and Keypad Interface
- Price-Competitive
- High-Speed ModBus Communications

The AFR-FI Air/Fuel Ratio Controller is your best value for fuel injected, lean-burn natural gas engines. The microprocessor-based AFR-FI gives better performance through fuel efficiency, automated compliance, and lower maintenance with easy installation, automatic operation, and state-of-the-art technology.

The AFR-FI is a “smart system” that automatically optimizes the lean-burn air/fuel mix to insure top performance and fuel efficiency without the use of traditional pneumatics.

The automated compliance maintains tight control of the lean-burn air/fuel mix with computer speed and precision.

In addition, the AFR-FI delivers optimized engine operation and stays alert with 26 alarms and shutdowns resulting in lower maintenance. Engine monitoring includes fuel flow and fuel pressure, intake manifold temperature, exhaust temperature and air manifold pressure.

## Benefits

- Compliance assured
- Eliminates time-consuming, unreliable pneumatic air-fuel control
- Better engine performance
- Less maintenance - lower maintenance cost
- Improved troubleshooting
- Better fuel economy
- Easy installation and setup
- Fully automatic
- Easy integration with other control systems and data collection / analysis systems
- Supports high-speed communications

## Technical Features

---

- D100 MHz, 586-compatible microprocessor: 8 MB of RAM
- User-programmable: Windows-based ladder-logic software (IEC- 61131-3 standard programming languages)
- Daylight-filtered vacuum fluorescent display (4 lines with 20 characters each line)
- 16-key pad: for set-point entry, alarm acknowledgement, start, stop, reset, etc.
- Wall / bracket mount enclosure or free standing
  - Window in door
  - Internal swing panel
  - DIN rail mounted terminal blocks
  - Panduit wireway
- Canadian standard for separation of incendive and non-incendive wiring
- 4RS485 serial ports
- Digital I/O module-reads up to 18 thermocouples or mA sources
- 10 sets of data points (air / fuel map)
- Fuel flow totalization (optional)
- Hour meter
- Shutdown or fault snapshot-provides a complete picture of system conditions at shutdown
- 4 Discrete relay outputs
- Shutdowns
  - GOV-10 shutdown (optional)
  - Low / high fuel flow
  - Low / high fuel pressure
  - Low / high air pressure
  - Air manifold pressure xmitter fail
  - TC break
  - Air manifold temperature
  - Overspeed
- 12 Alarms
- Accommodates wide range of engine configurations
  - V-type engines, inline
  - Waste gate or air damper
  - Other special configurations
- Operating temperature: -40 to +58 C (-40 to +185 F)
- Controller approved for Cl. 1, Div. 2, Grps. C & D Areas

## How to Order

---

Please contact your local FW Murphy Sales Representative for details on how to purchase AFR Products and Systems from FW Murphy Production Controls.

FW Murphy Production Controls Sales Representatives and Distributors can be found at

[www.fwmurphy.com/wheretobuy/us-sales-distributors](http://www.fwmurphy.com/wheretobuy/us-sales-distributors)