

# CODEL

A Forbes Marshall Company

## Product Brochure

### EnergyTech 203 - CO and O2 Sensor



Minimal maintenance requirements - cost-effective ownership

ISO 9001:2015

Quality Certification

ISO 14001:2015

Environmental Certification

Monitoring Solutions  EnergyTech

[www.codel.co.uk](http://www.codel.co.uk)

The EnergyTech 203 O<sub>2</sub> and CO analyser is the ideal equipment for fine tuning the air / combustible proportions in a way to improve process efficiency without compromising safety.

Combustion efficiency is determined by low-level oxygen excess in the flue gas and is limited by the production of hazardous combustible gas (mainly CO) at low oxygen concentrations. It is thus crucial to control the O<sub>2</sub> excess concentration as well the amount of combustible gas in the flue gas to optimise combustion.

Thanks to the CODEL infrared and zirconia technology, the analyser provides both oxygen concentration and an accurate measurement of CO in the flue gas.

The CODEL system samples the gas from the critical area through a steel sintered filter mounted in the wall of the chamber.

The filter is back flushed with compressed air at regular intervals to ensure an uninterrupted flow of sample gas and to minimise maintenance.

The sampled gas requires no further pre-conditioning and is carried via a sample line and pump to the measurement chamber which is equipped with a compact gas analyser. The measurement chamber is temperature controlled to avoid a build-up of corrosive condensation.

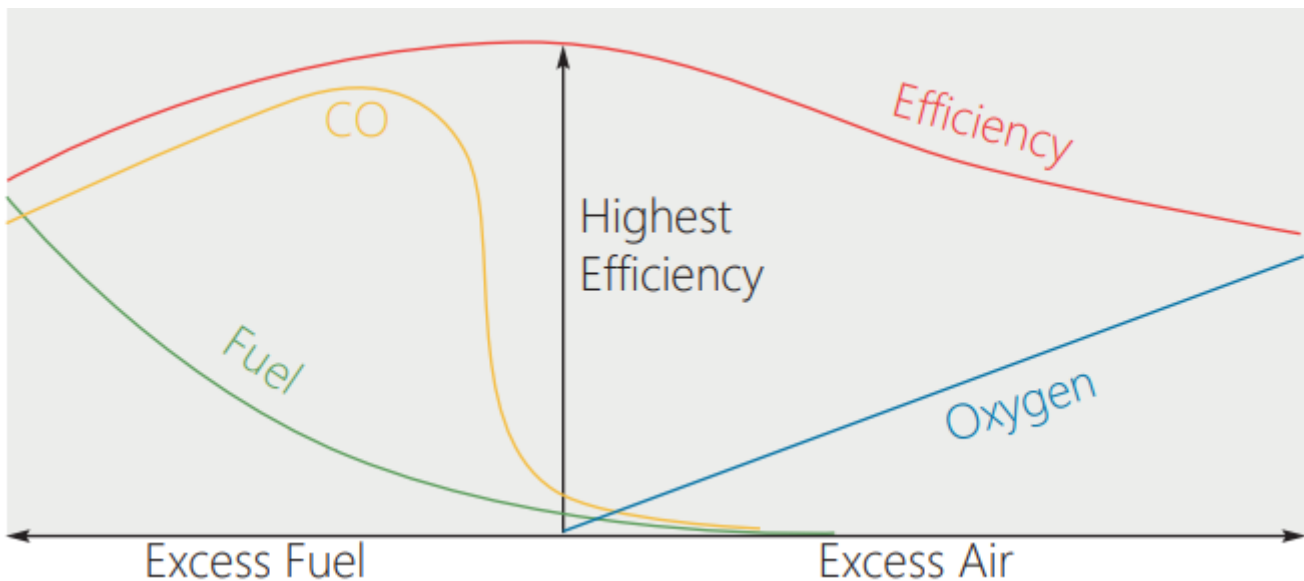
The analyser can re-calibrate automatically to minimise drift and ensure on-going high performance. The system also includes the facility to be checked manually against bottled audit gases.

## Features and Benefits

- ▶ Automated self cleaning filter design
- ▶ Automated blockage check
- ▶ Automated back-flushing of probe filter
- ▶ Automated sample flow rate check & blockage check
- ▶ Temperature controlled Measurement Cell for maximum accuracy and long life
- ▶ Compact powerful diaphragm pump for constant reliable sampling

## Typical Applications

- ▶ Power Plant
- ▶ Paper Factories
- ▶ Biomass Plants
- ▶ Metalworking Industry
- ▶ Boiler Rooms
- ▶ Woodworking and Sawmills
- ▶ Incinerators
- ▶ Oil and Gas Plants



**Proven & robust sample port design with minimal maintenance required**

## Technical Specification

### Sensor Unit

Operating Principle	Infrared Absorption
Span	Fully selectable in the range 0-10,000ppm
Response Time	30 Secs to T90
Gas Species	Carbon Monoxide (CO)
Accuracy	$\pm 10\text{ppm}$ or $\pm 2\%$ of span, whichever is greatest
Output resolution	5ppm
Zero and Span drift	$\pm 10\text{ppm}$ or 2% of span
Linearity	$\pm 10\text{ppm}$ or $\pm 2\%$ of span whichever is greater
Repeatability	$\pm 10\text{ppm}$ or $\pm 2\%$ of span whichever is greater
Ambient Temperature	-20°C to +50°C
Construction	RAL7035 Structure powder coated mild steel sealed to IP66
Dimensions (mm)	H800 x W600 x D300
Sample Probe	Range of probes to suit application

### Compliances

EMC	89/336/EEC directive compliant
Low Voltage	73/23/EEC directive compliant)

### Customer Interface

Analogue Outputs	2 x 4-20mA current outputs as standard, isolated, 500 $\Omega$ load max, fully configurable from keypad (additional outputs available, see optional items below)
Contact Outputs	1 x volt-free SPCO contact, 50V, 1A max, for data valid signal)
Diagnostic Data	RS485 port for MODBUS / Codel diagnostic use
Display	32 Character alpha-numeric back-lit LCD)
Keypad	4-key soft-touch entry

### Services

Power	110 - 240V AC @ Min 500W
Compressed Air	5-7 bar oil free clean compressed air – dry to -20°C Only required during filter back flush

*\*Ranges up to 0-10,000ppm for CO available on request*

# CODEL

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