

# WALL MOUNTED FLUE GAS ANALYZER

## OPTIMISER

### FEATURES

- Monitoring stack emissions for efficient combustion of either Natural Gas, Coke, Propane, Butane, Light Oil, or Heavy Oil
- Zirconia Oxygen sensor & Temperature probes
- Calculates Carbon Dioxide and CO2 Efficiency
- Industry standard 4-20 mA outputs and RS232 link
- Remote control function for set-up
- Low maintenance



Monitoring your stack emissions make sure that you are not wasting fuel or money. Efficient combustion means that your plant is running at its most economical. Many factors contribute towards this and monitoring your flue gas ensures you can control them. Cost savings can be dramatic and will far outweigh the cost of monitoring.

Optimiser was developed to provide a solution, a real time flue gas analyser.

Optimiser works by using two separate probes to measure the temperature and oxygen content. From these measurements, it calculates the carbon dioxide content and the process efficiency.

Oxygen content is a very sensitive indicator of boiler efficiency. Too little means that insufficient air has been used, thus combustion is incomplete leading to dirty and polluting exhausts. If too much air is used, then heat is wasted and running cost escalate. If the air is managed, then these problems may be eliminated.

Optimiser is factory set to your specifications, however users may choose an optional remote keypad to adjust any settings. Calibration may also be performed via the keypad. Industry standard 4-20 mA outputs are included to allow integration to building management systems. An additional RS 232 link allows all parameters to be transmitted to a PC.



**CEA Instruments, Inc.**

*"EXPERTS IN TOXIC GAS DETECTION"*

## OPTIMISER SPECIFICATIONS

<b>Performance:</b>	<b><u>Parameter</u></b>	<b><u>Range</u></b>	<b><u>Accuracy</u></b>	<b><u>Resolution</u></b>
	<b>Oxygen</b>	0-20.9%	±0.5% reading	0.1%
	<b>Temperature</b>	0-600°C	±3°C	1°C
	<b>Carbon Dioxide</b>	0-20%		-0.1%
	<b>CO2 Efficiency</b>	0-100%		-0.1%
<b>Display:</b>	4 - digit green LED, character height of 0.56 inches (14.2 mm)			
<b>Fuel:</b>	Factory set to one of the following: Natural Gas / Light, Oil / Heavy, Oil / Coal / Coke / Propane / Butane			
<b>Power:</b>	110-130 volts or 220-240 volts 50/60Hz (specify)			
<b>Environment:</b>	Ambient operating temperature: 32°F-122°F (0°C-50°C) Wall mounted case Ingress protection rating: IP54			
<b>Dimensions:</b>	8.4 inches x 7.3 inches x 4.4 inches (213 mm x 185 mm x 113 mm)			
<b>Weight:</b>	3.5 pounds (1.6 kg)			
<b>Output:</b>	Current loop 1: 4-20mA ±1% of reading (default setting: Oxygen) Current loop 2: 4-20mA ±1% of reading (default setting: Temperature) Each loop factory set to performance parameter required RS232 Data rate: 9600 baud Stop bits: 2 Parity: None Format: ASCII text All four parameters transmitted once per second			
<b>Probe :</b>	Type: Zirconia Weight: 2 pounds (0.9 kg) Material: Stainless Steel Stack Temperature: 1112°F (600°C) maximum Length: 16.5 inches x 1.3 inches (420 mm x 34 mm) Cable length: Customer specified up to 13.12 feet (4 meters) Insertion depth into flue: 9.5 inches (240 mm) maximum reducible according to flange length			
<b>Thermocouple:</b>	Type: K Type Length: 7.9 inches (200 mm) Cable Length: Customer specified up to 13.12 feet (4 meters)			
<b>Options:</b>	Keypad for user configuration Long probe, insertion depth in to flue: 19.7 inches (500 mm) maximum			

(Specifications subject to change without notice.)



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## OPTIMISER PRICE LIST

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>PRICE</u>
OPTIM-1	<b>OPTIMISER FLUE GAS ANALYZER</b> Stack mounted, Zirconia based Oxygen analyzer For stacks, boilers, and more with easy calibration and installation. The unit displays:  <b>Oxygen (O<sub>2</sub>)</b> <b>Temperature</b> <b>Carbon Dioxide CO<sub>2</sub> (calculated)</b> <b>Efficiency (calculated)</b>  Includes: Microprocessor control unit with stack probe, Two (2) analogue outputs, IP54 rated enclosure, and Keypad with Two (2) insertion probes available	<b>\$ 3995.00</b>

<u>PART NUMBER</u>	<u>OPTIONS AND ACCESSORIES</u>	<u>PRICE</u>
OPTIM-TCSM	Thermocouple With Stack Mount	<b>\$ 450.00</b>
OPTIM-TCLS	Thermocouple With Long Stack Mount	<b>\$ 550.00</b>
OPTIM-LSP	Long Stack Probe, 500 mm Insertion Depths	<b>\$ 850.00</b>