

# OPTIMA<sup>7</sup> BIOGAS

## VERSATILE BIOGAS ANALYZER

Ideally suited for Landfills, Digesters  
& even Waste to Energy Engine Tuning



!! not possible for  
Landfill analyzer !!



since 1984<sup>®</sup>

**AIR** fair

EMISSION MONITORING SYSTEMS

Over 30 years of innovative gas analysis!

- Simple, intuitive operation
- Compact, rugged & reliable
- Easy data handling
- Low cost of ownership

# VERSATILITY & VALUE:

## THE OPTIMA 7 BIOGAS PROVIDES EVERYTHING YOU NEED IN ONE COMPACT PACKAGE.



For Landfills and anaerobic digesters, it measures methane, carbon dioxide, hydrogen sulfide, oxygen, plus pressure, flow and temperature.

The Optima 7 can also be outfitted for the tuning of WTE engines, whether on biogas or natural gas to measure O<sub>2</sub>, CO, NO, NO<sub>2</sub> (NO<sub>x</sub>), CO<sub>2</sub>, plus stack temperature.

### Key features:

- Fast and easy to use with intuitive menus and function buttons
- Large, color, back-lit display with ZOOM features for viewing in any condition
- Customizable screen settings
- Durable and dirt resistant keypad
- High energy Li-Ion battery provides up to 8 hours operation
- Large 16,000 measurements internal memory
- Integrated SD card reader for additional data storage and easy data handling
- Sample preparation with condensate separator and with Teflon filter
- Gas pressure, flow, and temperature measurements

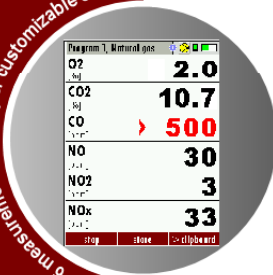
Large backlit condensate separator with PTFE filter



Color 3.5" TFT display with zoom function



9 measurement values per customizable screen



IR - wireless speed printer



O<sub>2</sub>

CH<sub>4</sub>

CO<sub>2</sub>

H<sub>2</sub>S



O<sub>2</sub>

CO

CO<sub>2</sub>

NO

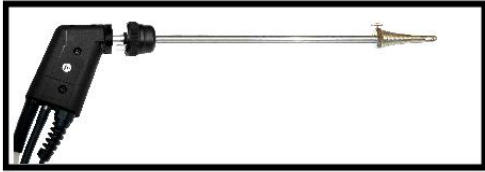
NO<sub>2</sub>

NO<sub>x</sub>

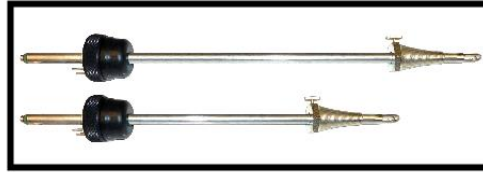


# Biogas / Combustion / Emissions

## PROBES AND PROBE TUBES



Industrial probe for interchangeable probe tubes with 9' or 16' rugged, braided sheathed sampling line with K-Type t/c and Viton hose For combustion and emission measurements

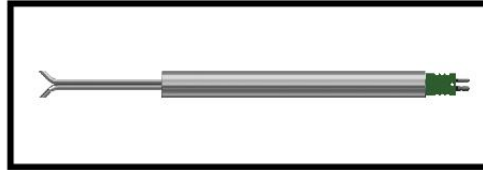


probe tubes (4" to 80" long) in SS (1,200°F) or Inconel (2,000°F) Also available with sintered metal filter



L-Type SS with or without K-Type t/c in sizes from 4" (0.12Ø) to 79" (0.47 Ø)

## PITOT TUBES



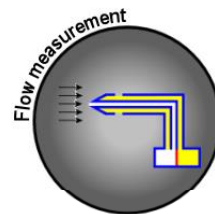
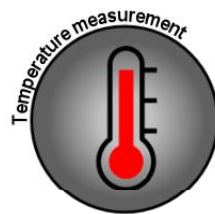
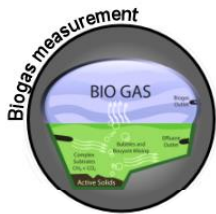
S-Type SS with K-Type t/c (59" lead) and 1.1"Ø protection tube available in 19" or 39" lengths (0.31"Ø)



Special LFG probe



HC leak detection probe (requires AUX output) (uopdo ndno)



IR-Printer interface

Blue-Tooth interface

High capacity, easy access condensate separator

Rear magnets for hands free operation

Durable, dirt resistant keypad

AUX port for additional parameters (OPTIONAL)

SD Card reader for data transfer and additional storage

USB Ports for data transfer and battery charging

3.5" color display with zoom function

Intuitive, easy to navigate menu structure

Secure grip side panels

Fiberglass reinforced enclosure

K-Type temperature sockets

Stainless steel connectors



Nylon transport bag



Transport case - available in 2 different sizes

## TECHNICAL SPECIFICATIONS

**OPTIMA 7 analyzer** Handheld analyzer with up to 5 electrochemical sensors and a dual gas NDIR bench

BIOGAS components			Measuring range	Accuracy
CO <sub>2</sub>	Carbon dioxide	2 Gas NDIR	0....100%	± 0.3 % or 5% reading
CH <sub>4</sub>	Methane	2 Gas NDIR	0....100%	± 0.3 % or 5% reading
O <sub>2</sub>	Oxygen		0 ... 25.0 Vol-%	± 0.2 Vol-% abs.
H <sub>2</sub> S	Hydrogen sulfide		0 ... 2,000 ppm overload 5,000ppm *	± 5 ppm or 5 % reading up to 2,000 ppm 10 % reading up to 5,000 ppm

FLUE GAS components			Measuring range	Accuracy
CO	Carbon monoxide (H <sub>2</sub> compensated)		0 ... 4,000 ppm overload 10,000ppm *	± 10 ppm or 5 % reading < 4,000 ppm / 10 % reading > 4,000 ppm
CO	Carbon monoxide low		0 ... 500 ppm with 0.1 ppm resolution **	± 2.0 ppm or** 5 % reading
NO	Nitric oxide		0 ... 1.000 ppm overload 5,000ppm *	± 5 ppm or 5 % reading < 1,000 ppm / 10 % reading > 1,000 ppm
NO	Nitric oxide low		0 ... 300 ppm with 0.1 ppm resolution **	± 2.0 ppm or** 5 % reading
NO <sub>2</sub>	Nitrogen dioxide		0 ... 200 ppm overload 1,000ppm *	± 5 ppm or 5 % reading < 200 ppm / 10 % reading > 200 ppm
NO <sub>2</sub>	Nitrogen dioxide low		0 ... 100 ppm with 0.1 ppm resolution **	± 2.0 ppm or** 5 % reading

\*overload range recommend only for short time measurements

\*\*are not separate sensors; selected sensors are used with special calibration

Stack / Gas temperature	0 ... 1,200°F / 2,012°F (with stainless steel / Inconel steel tube)	± 4°F ... < 392°F / 1 % reading > 392°F
Ambient temperature	0 ... 212°F	± 2°F
Differential temperature	up to 2,012°F (with suitable material of sampling tube)	± 4°F ... < 392°F / 1 % reading > 392°F
Stack / Differential pressure	+/- 120 inH <sub>2</sub> O (300hPa)	± 0.01 inH <sub>2</sub> O or 1% reading
Gas flow velocity measurement	1 ... 40 m/s (using Pitot tube)	

### General specifications

Operation temperature	41°F .... 113°F, max. 95 % RH, non condensing
Storage temperature	-4°F ..... 122°F
Ambient conditions	not in aggressive, corrosive or high dust environments, not for use in hazardous areas
Power supply	Lithium-Ion battery, 6 to 8 hours operation
Grid power supply	100 - 240 V AC / 50 ... 60 Hz 1A
Protection class	IP42
Weight	approx. 2.2 lbs. (with 7 sensors)
Dimensions	( W x H x D) 4.3" x 8.8" x 2.04"

Data subject to change without notice

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