

OPTIMA⁷ BIOGAS

VERSATILE BIOGAS ANALYZER

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



O₂

CH₄

CO₂

H₂S

NO_x

NO₂

NO

CO

Δ°F

°F

Flow



since 1984[®]

AIR fair

EMISSION MONITORING SYSTEMS

Over 30 years of innovative gas analysis!

- With up to 7 true gas measurements
- ▶ BIOGAS - CH₄ / CO₂ / O₂ / H₂S
- ▶ EMISSIONS - O₂ / CO / NO / NO₂
- Up to 8 hours operation / Lithium-Ion battery
- Multiple choices for data transfer
- Low cost of ownership

VERSATILITY & VALUE:

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



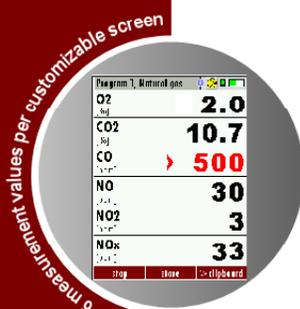
For Landfills and anaerobic digesters; measuring methane, hydrogen sulfide, carbon dioxide, oxygen, pressure, flow and temperature.



The Optima 7 can also be outfitted for the tuning of WTE engines, whether on biogas or natural gas to measure O₂, CO, NO, NO₂ (NO_x), CO₂, and 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

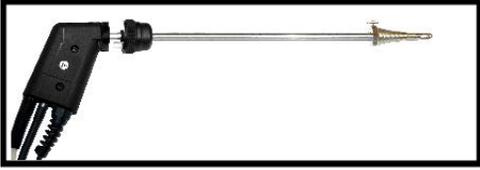


| | |
|------------------------|------|
| Program 1, Natural gas | |
| O ₂ | 2.0 |
| CO ₂ | 10.7 |
| CO | 500 |
| NO | 30 |
| NO ₂ | 3 |
| NO _x | 33 |



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

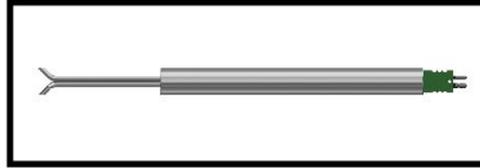


Special LFG probe



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

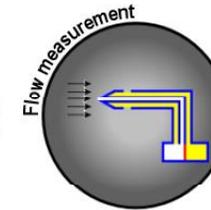
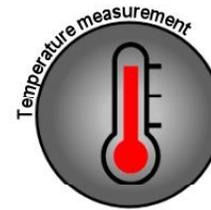
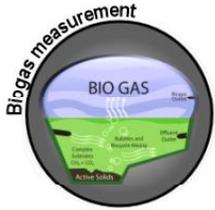
PITOT TUBES



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)



HC leak detection probe (requires AUX output module)



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 ₂ | Carbon dioxide | 2 Gas NDIR | 0...100% | ± 0.3 % or 3% reading |
| CH ₄ | Methane | 2 Gas NDIR | 0...100% | ± 0.3 % or 3% reading |
| O ₂ | Oxygen | | 0 ... 25.0 Vol-% | ± 0.2 Vol-% abs. |
| H ₂ S | Hydrogen sulfide | | 0 ... 2,000 ppm overload 5,000ppm * | ± 10 ppm or 10 % reading up to 2,000 ppm 10 % reading up to 5,000 ppm |
| H ₂ S | Hydrogen sulfide | | 0 ... 500 ppm overload 2,000ppm * | ± 5 ppm or 5 % reading up to 500 ppm 10 % reading from 500 to 2,000 ppm |
| H ₂ | Hydrogen | | 0 ... 1,000 ppm overload 2,000ppm * | ± 10 ppm or 5 % reading up to 1,000 ppm 10 % reading up to 2,000 ppm |

| FLUE GAS components | | | Measuring range | Accuracy |
|---------------------|---|--|---|---|
| CO | Carbon monoxide (H ₂ 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 ₂ | Nitrogen dioxide | | 0 ... 200 ppm overload 1,000ppm * | ± 5 ppm or 5 % reading < 200 ppm / 10 % reading > 200 ppm |
| NO ₂ | 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 ₂ O (300hPa) | ± 0.01 inH ₂ 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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