

NOVA

Dependable Gas Analysis Solutions



5000 SERIES

PORTABLE FLUE GAS ANALYZER FOR ANY COMBINATION OF O₂, CO, CO₂, NO_x, SO₂, AND STACK TEMPERATURE

APPLICATIONS

Analysis of carbon monoxide (CO), carbon dioxide (CO₂), sulfur dioxide (SO₂), and oxide of nitrogen (NO_x) emissions. For checking combustion efficiency, burner & control performance, and detection of air infiltration on furnaces, heaters and boilers. May be used in commercial, industrial and residential settings.

FEATURES

- Rugged design that is easy to use
- Fast warm-up and accurate response
- Modular layout that is easy to maintain
- Digital readouts with switchable backlight
- Built in sample pump
- Rechargeable battery operation
- Active condensate removal
- Thermocouple temperature probe
- Long-life electrochemical sensors for O₂, CO, SO₂, and NO_x
- Wide CO₂ measurement range actually measured by infra-red detector - not calculated
- NO_x can be NO only or combined NO and NO₂
- Rapid reading recovery on CO, NO_x, or SO₂ 'overdose'
- Use on any fuel
- Pays for itself in months through fuel savings

OPTIONS

- Sample pre-cooler
- RS-232 or RS-485 output
- Built in printer
- Stack temperature readout
- NO_x as NO and NO₂
- High temperature sampling probe
- Data logger for PC computer



CALIBRATION

- Ambient air for O₂ span, CO₂ zero, CO zero, SO₂ zero, and NO_x zero
- On analyzed gas mixtures of CO₂ and CO in nitrogen, NO in nitrogen, and SO₂ in nitrogen for span (also zeroes O₂)

NOVA ANALYTICAL SYSTEMS INC.

www.nova-gas.com

DESCRIPTION

The Nova 5000 Series Portable Flue Gas analyzer has been designed for accuracy, reliability, ease of use and ease of service, providing a detailed analysis of flue gas composition. The 5000 uses customer replaceable sensors which respond quickly to the O₂, CO₂, SO₂, CO, and NO_x (as NO) present in the flue gas sample. The O₂ sensor life expectancy is typically 3-4 years. The CO, SO₂, and NO_x sensor life is typically 2-3 years. The infrared CO₂ sensor should not need to be replaced under normal conditions of use.

In operation, a built in sample pump draws in the flue gas sample through the stainless steel probe, 12ft. sample house, water separating filter, secondary filter, PTFE liquid blocker and flow meter then on to the gas sensors. The detected O₂, CO₂, SO₂, CO, and NO_x are displayed on separate large LCD meters with switchable backlights for use in dark areas. Optional with the Nova 5000 Series is a stack temperature reading.

A rechargeable 'gel cell' battery provides enough power for about 4-5 hours of continuous operation and the analyzer can be used while it is being recharged. A red LED tells when to recharge and a green LED verifies that it is receiving recharging power. The Model 5000 series case is rugged, dust and water resistant when closed. A built in printer, which also shows date and time, is optionally available. A built in datalogger is also available which can be uploaded to a PC.

MODELS

- 5001: O₂ and CO
- 5002: CO and NO_x
- 5003: O₂, CO₂, and CO
- 5004: O₂, CO₂, CO, and NO_x
- 5005: O₂, CO₂, CO, NO_x, and SO₂
- Other gas combinations are available
- For stack temperature add 'T' suffix
- For NO_x as NO + NO₂, add 'X' suffix

SPECIFICATIONS

Nova reserves the right to specification changes which may occur with advances in design without prior notice.

Description

Gases Measured: Customer replaceable electrochemical O₂, CO, SO₂, and NO sensors
Solid state infrared detector for CO₂

Ranges Available: 0-25.0 % O₂ 0-200 or 0-2000 PPM SO₂
0-9999 PPM CO 0-200 or 0-2000 PPM NO_x (as NO or NO + NO₂)
0-20.00% CO₂ 0-1800°F (0-1000 °C) net stack temperature

Resolution: ±0.1% CO₂, 1 PPM, 1°F (1°C)

Accuracy and Repeatability: 0.1% or ±10 PPM for all gases

Drift: < 2% full scale per 8 hours of continuous operation

Response Time (T-90): < 30 seconds for 90% of O₂, CO₂, CO and SO₂, < 60 seconds for 90% NO

Ambient Temperature Ranges: **Operating:** 32° to 122°F (0 to 50°C); **Sample:** Up to 1200°F (635°C) (standard probe)

Linearity: ±1% of full scale for each gas measured

Size and Weight: Approx. 14" W x 10½" D x 6" H (35 x 27 x 15 cm) @ 12 lbs (5.5 kgs)

Power: 12V battery operation. 115VAC 60Hz for recharging (220VAC 50Hz available)

Output Options: 4-20 mA or 0-1V for each gas measured. RS232 or RS485, printer

UNIQUE APPLICATIONS

All Nova analyzers are built using proven technologies and techniques. If this product does not suit your application, please contact Nova at 1-800-295-3771. In many cases, we are able to build an analyzer specific to your needs.

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