E8500 PLUS

E INSTRUMENTS

Built with Quality in Mind

Complete Portable Emissions Analyzer with up to Nine Gas Sensors for Boiler, Engine, Furnace, and other Combustion Applications

Portable Industrial Flue Gas & Emissions Analyzer

CO_2 (NDIR) NO_2

$CxHy$ (HC)   NO

SO_2 CO

H_2S O_2

VOC

- Up to 9 Total Gas Sensors
- NEW Software with Automatic Data Logging
- Built-In Thermoelectric Chiller
- Automatic Condensate Drain
- NEW Display Screen & Keypad
- Upgraded Memory (2000 Tests)
- Direct CO_2 Measurement to 50%
- CO Dilution Auto-Range
- Long Life Rechargeable Battery
- True NOx & Low NOx Measurements
- True SO_2 & Low SO_2 Measurements
- High Accuracy NDIR Sensors

NEW! Sample Conditioning Unit For Low NOx & SO_2

Bluetooth®

- **REAL-TIME Software Package** with Automatic Data Logging
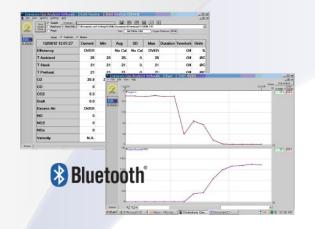- **NEW Display Screen & Keypad Design** with Easy Filter Replacement
- **NEW PID VOC Sensor Option**

Accuracy • Emissions • Indoor Air Quality • Efficiency

MADE IN USA

E Instruments International   www.E-Inst.com

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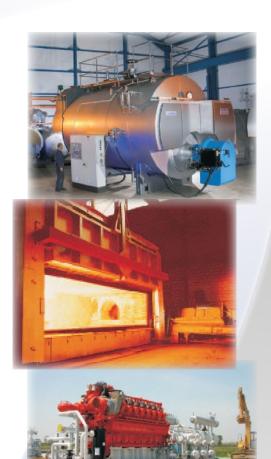
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Real-Time Software with Data Logging

The updated "EGAS" software package includes the ability to save & graph data in real-time in the field with a laptop or in a laboratory with a PC. It also allows the user to automatically log data for an exact number of tests for a specified time period. Communications between the E8500 PLUS and a computer are established either by wireless Bluetooth communications or USB cable. A Bluetooth wireless adapter for a computer comes standard with each E8500 PLUS gas analyzer. Data from the "EGAS" software can be exported to other spreadsheet programs for more user flexibility to create detailed emissions reports.

Built-In Thermoelectric Chiller with Auto Condensate Drain

The internal thermoelectric chiller efficiently and quickly removes the water vapor from the flue gas sample to prevent combustion gases from bubbling from the gas phase into the condensate. The built-in condensate drain pump automatically pumps the accumulated water out through the bottom of the unit for greater convenience.

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E8500 PLUS Specifications

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Parameter	Sensor	Range	Res.	Accuracy
O_2	Electrochemical	0 - 25%	0.1%	±0.1% vol
CO	Electrochemical	0 - 8000 ppm	1 ppm	<300 ppm=±10 ppm up to 2000 ppm=±4% >2000 ppm=±10%
CO Auto Range	Electrochemical	0 - 20,000 ppm	1 ppm	±10% rdg.
CO	NDIR	0 - 15.00%	0.01%	±3% rdg.
NO	Electrochemical	0 - 5000 ppm	1 ppm	<125 ppm=±5 ppm up to 5000 ppm=±4%
Low NO	Electrochemical	0 - 100.0 ppm	0.1 ppm	<50.0 ppm=±1.5 ppm up to 100.0 ppm=±4%
NO_2	Electrochemical	0 - 1000 ppm	1 ppm	<125 ppm=±5 ppm up to 1000 ppm=±4%
Low NO_2	Electrochemical	0 - 100.0 ppm	0.1 ppm	<50.0 ppm=±1.5 ppm up to 100.0 ppm=±4%
NO_x	Calculated	0 - 5000 ppm	1 ppm	
SO_2	Electrochemical	0 - 5000 ppm	1 ppm	<125 ppm=±5 ppm up to 5000 ppm=±4%
Low SO_2	Electrochemical	0 - 100.0 ppm	0.1 ppm	<50.0 ppm=±1.5 ppm up to 100.0 ppm=±4%
CO_2	Calculated	0 - 99.9%	0.1%	
CO_2	NDIR	0 - 50.0%	0.1%	±3% rdg. < 20% ±5% rdg. > 20%
C_xH_y	NDIR	0 - 3.00%	0.01%	±3% rdg. + 0.01%
H_2S	Electrochemical	0 - 500 ppm	1 ppm	<125 ppm=±5 ppm up to 500 ppm=±4%
VOC	PID	0 - 200 ppm	1 ppm	±10 % rdg. + 1 ppm
Tair	Pt100	-10 - 99.9°C 14.0 - 212.0°F	1°C 1°F	±2°C ±3°F
Tgas	Tc K	0 - 999.9°C 32.0 - 1830°F	1°C 1°F	±3°C ±5°F
ΔT	Calculated	0 - 999.9°C 32.0 - 1830°F	1°C 1°F	
Pressure/Draft	Bridge	± 40.0 in H_2O	0.1 in H_2O	±1% rdg.
Excess Air	Calculated	1.00 - infinity	0.01	
Gas Velocity	Calculated	0 - 99.9 m/s 0 - 330 ft/s	0.1 m/s 0.1 ft/s	
Efficiency	Calculated	1 - 99.9%	0.1%	

Draft, Pressure, & Velocity

An internal pressure sensor allows the analyzer to measure both pressure and stack draft. With two pressure inputs, differential pressure can also be measured. Gas velocity can be measured using the differential pressure and an optional Pitot tube.

Sample Conditioning Unit

The Sample Conditioning Unit is mounted directly at the sampling probe exit, where excess moisture rapidly condenses and separates from the gas sample. This minimizes contact of the gases with moisture, which could potentially affect NO_x and SO_2 measurements.

Gas Sensors

The E8500 PLUS can have a maximum of nine total gas sensors; up to six electrochemical type sensors, up to three NDIR type sensors, and an optional PID sensor for measuring VOC.

Easy Filter Replacement

The E8500 PLUS has a newly designed user interface that includes an easily accessible filter compartment for quick and simple inspection & replacement of filters in the field.

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E8500 PLUS Ordering Code

Part # 8500P - Table A - Table B - Table C

Table A - Electrochemical Sensors

O O_2 Sensor (0 - 25 %)
C CO Sensor (0 - 8000 ppm) with Dilution Auto-Range up to 20,000 ppm
N NO Sensor (0 - 5000 ppm)
D NO_2 Sensor (0 - 1000 ppm)
S SO_2 Sensor (0 - 5000 ppm)
H H_2S Sensor (0 - 500 ppm)
V VOC Sensor (0 - 200 ppm)**

    *H_2S & VOC sensors cannot concurrently be installed on one E8500 PLUS
    **Must include NDIR sensor option to include VOC sensor

Table B - NDIR (non-dispersive infrared) Sensors

ABC CO_2 Sensor (0 - 50 %), CxHy Sensor (0 - 3 %), <u>and</u> High CO Sensor (0 - 15 %)
0 No NDIR sensors

Table C - Sampling Probes and Hoses

12 12" (300mm) Probe, 1470°F (800°C) max, with 10' (3m) Dual Hose
30 30" (750mm) Probe, 1470°F (800°C) max, with 10' (3m) Dual Hose
40 40" (1m) Probe, 2190°F (1200°C) max, with 10' (3m) Hose for High Temperature Combustion Applications
60 60" (1.5m) Probe, 2190°F (1200°C) max, with 10' (3m) Hose for High Temperature Combustion Applications

Standard E8500 PLUS Configuration (E8500-OCN-0-12) Includes:

- O_2, CO, and NO Gas Sensors
- Thermoelectric Chiller with Automatic Condensate Drain Pump
- Rechargeable Battery Pack
- 110-240VAC/50-60Hz Battery Charger
- 12"/300mm Probe with 10'/3m Dual Hose
- Stack Gas & Air Temperature Measurements
- Draft & Differential Pressure Measurements
- Calculated Values for Efficiency, Excess Air, & CO_2%
- Internal Memory (2,000 Tests)
- Real-Time Software Package with Bluetooth Module
- Wireless Bluetooth Communications
- Protective Carrying Case
- Calibration Certificate
- Operations Manual

Weight: 11 lbs. (5 kg)   Dimensions: 10x6x9.5" (26x15x24 cm)

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