

# E8500 PLUS



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

Built with Quality in Mind

## Portable Industrial Flue Gas & Emissions Analyzer

CO<sub>2</sub>(NDIR)

NO<sub>2</sub>

Up to 9 Total Gas Sensors

CxHy(HC)

NO

NEW Software with Automatic Data Logging

Built-In Thermoelectric Chiller

SO<sub>2</sub>

CO

Automatic Condensate Drain

NEW Display Screen & Keypad

H<sub>2</sub>S

O<sub>2</sub>

Upgraded Memory (2000 Tests)

VOC

Direct CO<sub>2</sub> Measurement to 50%

CO Dilution Auto-Range

Long Life Rechargeable Battery

True NO<sub>x</sub> & Low NO<sub>x</sub> Measurements

True SO<sub>2</sub> & Low SO<sub>2</sub> Measurements

Backlit Display with Zoom Function

High Accuracy NDIR Sensors

Bluetooth®



**NEW!**  
Sample Conditioning Unit  
For Low NO<sub>x</sub> & SO<sub>2</sub>



MADE IN USA



REAL-TIME Software Package  
with Automatic Data Logging

NEW Display Screen & Keypad Design  
with Easy Filter Replacement

NEW PID VOC Sensor Option

E Instruments International

[www.E-Inst.com](http://www.E-Inst.com)

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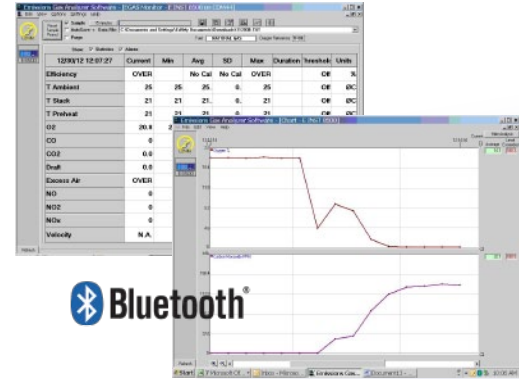
# E8500 PLUS



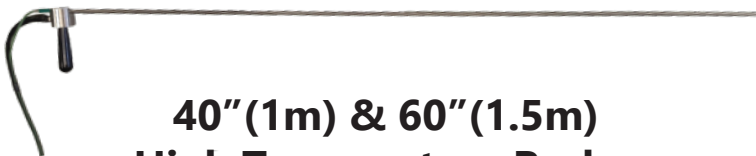
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## Real-Time Software with Data Logging

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.



## EGAS Software



40" (1m) & 60" (1.5m)  
High Temperature Probes



Sintered Filter

## 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 <sub>2</sub>	Electrochemical	0 - 25%	0.1%	±0.1% vol
CO	Electrochemical	0 - 8000 ppm	1 ppm	<300 ppm=±8 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 <sub>2</sub>	Electrochemical	0 - 1000 ppm	1 ppm	<125 ppm=±5 ppm up to 1000 ppm=±4%
Low NO <sub>2</sub>	Electrochemical	0 - 100.0 ppm	0.1 ppm	<50.0 ppm=±1.5 ppm up to 100.0 ppm=±4%
NO <sub>x</sub>	Calculated	0 - 5000 ppm	1 ppm	
SO <sub>2</sub>	Electrochemical	0 - 5000 ppm	1 ppm	<125 ppm=±5 ppm up to 5000 ppm=±4%
Low SO <sub>2</sub>	Electrochemical	0 - 100.0 ppm	0.1 ppm	<50.0 ppm=±1.5 ppm up to 100.0 ppm=±4%
CO <sub>2</sub>	Calculated	0 - 99.9%	0.1%	
CO <sub>2</sub>	NDIR	0 - 50.0%	0.1%	±3% rdg. < 20% ±5% rdg. > 20%
C <sub>x</sub> H <sub>y</sub>	NDIR	0 - 3.00%	0.01%	±3% rdg. + 0.01%
H <sub>2</sub> S	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	0.1°C 0.1°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 <sub>2</sub> O	0.1 in H <sub>2</sub> O	±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<sub>x</sub> and SO<sub>2</sub> 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



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## E8500 PLUS Ordering Code

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

### Table A - Electrochemical Sensors

- O** O<sub>2</sub> 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<sub>2</sub> Sensor (0 - 1000 ppm)
- S** SO<sub>2</sub> Sensor (0 - 5000 ppm)
- H** H<sub>2</sub>S Sensor (0 - 500 ppm)
- V** VOC Sensor (0 - 200 ppm)\*\*

\*H<sub>2</sub>S & 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<sub>2</sub> Sensor (0 - 50 %), CxHy Sensor (0 - 3 %), and 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 (E8500P-OCN-0-12) Includes:

- O<sub>2</sub>, 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<sub>2</sub> %
- 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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