



# E8500

## Portable Industrial Flue Gas & Emissions Analyzer

Providing the latest in Combustion Gas & Emissions Analyzers for Boiler, Engine, Furnace, and other Combustion Applications

- Built-In Thermoelectric Chiller
- Automatic Condensate Drain Pump
- Wireless Remote Printer
- CO Dilution Auto-Range
- True NOx Measurements
- Up to 9 Total Gas Sensors
- NDIR Sensors
- Gas Velocity with Pitot Tube
- Rechargeable Battery
- Internal Memory
- Wireless Communications with Computer & Remote Printer
- BlueTooth Module for PC



O<sub>2</sub>

CO<sub>2</sub>

CO

NO

NO<sub>2</sub>

NO<sub>x</sub>

SO<sub>2</sub>

H<sub>2</sub>S

C<sub>x</sub>H<sub>y</sub>

Flue Gas & Air Temp.

Draft & Diff. Pressure

Stack Gas Velocity



Up to Nine Gas Sensors Including NDIR Bench for CO<sub>2</sub>, C<sub>x</sub>H<sub>y</sub>, High CO



REAL-TIME Software Package with BlueTooth Wireless & USB



LOW NO<sub>x</sub> Sensors Available with 0.1 ppm Resolution



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# E8500

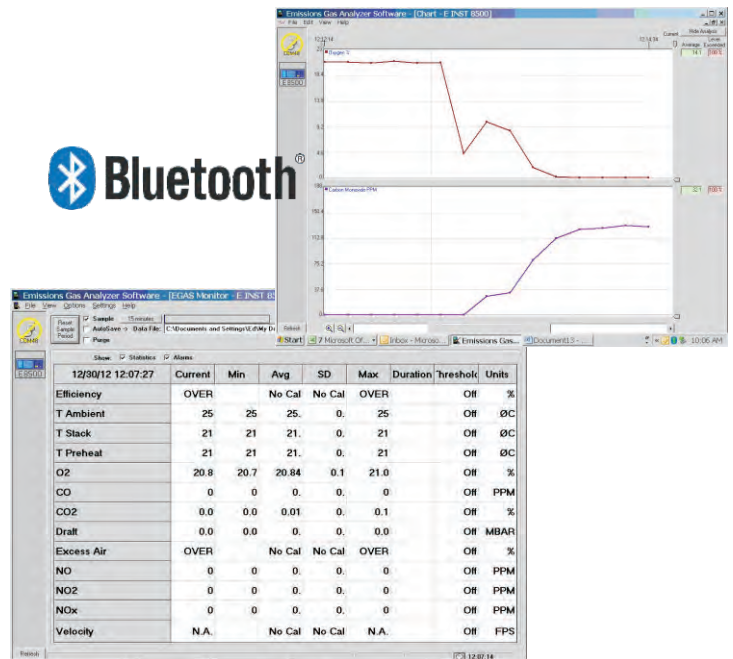


## Thermoelectric Chiller with Auto Condensate Drain

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.

## Real-Time Software

The standard "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. Communications between the E8500 and a computer are done via wireless Bluetooth communications or USB cable. A Bluetooth module for a computer comes standard with each E8500 gas analyzer. Data from the "EGAS" software can be exported to other spreadsheet programs for more user flexibility to create detailed emissions reports.



# E8500 Specifications

## Gas Sensors

The E8500 can have a maximum of nine total gas sensors, up to six electrochemical type sensors and up to three NDIR type sensors. The chart below details each sensor.

## Temperature Measurements

Temperature measurements for the flue gas and air as well as the differential temperature are standard features. The differential temperature is used as part of the efficiency calculation.

## Draft, Pressure, & Velocity

An internal pressure sensor allows the analyzer to measure 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.



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=±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 - 4000 ppm	1 ppm	<125 ppm=±5 ppm up to 4000 ppm=±4%
NO <sub>2</sub>	Electrochemical	0 - 1000 ppm	1 ppm	<125 ppm=±5 ppm up to 1000 ppm=±4%
Low NO and/or Low NO <sub>2</sub>	Electrochemical	0 - 500 ppm	0.1 ppm	<50 ppm=±2 ppm up to 500 ppm=±4%
NO <sub>x</sub>	Calculated	0 - 5000 ppm	1 ppm	
SO <sub>2</sub>	Electrochemical	0 - 4000 ppm	1 ppm	<125 ppm=±5 ppm up to 4000 ppm=±4%
CO <sub>2</sub>	Calculated	0 - 99.9%	0.1%	
CO <sub>2</sub>	NDIR	0 - 20.0%	0.1%	±3% rdg.
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%
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 inH <sub>2</sub> O	0.1 inH <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%	

## Rotating Display with Zoom

The LCD display screen has a continuous back light and is automatically rotated. The parameters displayed can be zoomed in to view from a distance or zoomed out for more parameters at once on the display screen.

## Calibration

The analyzer comes standard with a complete factory calibration. The analyzer can easily be recalibrated with span gas cylinders. Recalibration is recommended at least once each year to ensure analyzer accuracy.

## E8500 Ordering Code

### Part # 8500 - 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 - 4000 ppm)
- D** NO<sub>2</sub> Sensor (0 - 1000 ppm)
- S** SO<sub>2</sub> Sensor (0 - 4000 ppm)
- H** H<sub>2</sub>S Sensor (0 - 500 ppm)

#### Table B - NDIR (non-dispersive infrared) Sensors

- ABC** CO<sub>2</sub> Sensor (0 - 20 %), C<sub>x</sub>H<sub>y</sub> Sensor (0 - 3 %), and High CO Sensor (0 - 15 %)
- 0** No NDIR sensors

#### Table C - Sampling Probes and Hoses

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

#### Standard E8500 Configuration (E8500-OCN-0-12) Includes the following:

- 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 (1000 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)