

# E8500 PLUS

Portable Industrial Flue Gas & Emissions Analyzer For Boiler, Engine, Furnace, & Other Combustion Applications



## Accurate / Reliable / Robust / Fast

- Up to **NINE** (9) Gas Sensors
- True NOx & Low NOx Measurements
- Stack Gas Velocity
- Built-In Thermoelectric Chiller
- Automatic Condensate Drain
- High Accuracy NDIR Sensors
- Upgraded Memory (2,000 Tests)



O<sub>2</sub>, CO, CO<sub>2</sub>, NO, NO<sub>2</sub>, SO<sub>2</sub>, CxHy (HC), H<sub>2</sub>S, VOC



PID VOC Sensor Option



Easy Filter Replacement



Real-Time PC Software with Bluetooth®

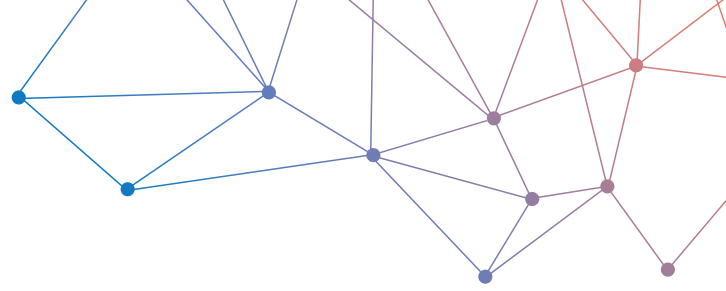


US EPA CTM-30 & CTM-034 Compliant



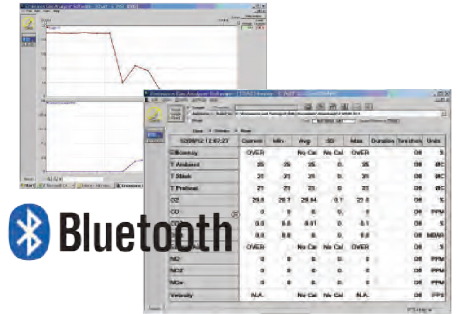
Long Lasting Rechargeable Battery & AC Charger

# E8500 PLUS



## 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 & a computer are established either by wireless Bluetooth communications or USB cable. Data from the EGAS software can be exported to other spreadsheet programs for more user flexibility to create detailed emissions reports.



EGAS Real-Time  
Data Logging Software



## Built-In Thermoelectric Chiller with Auto Condensate Drain

The internal thermoelectric chiller efficiently & 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.

Parameter	Sensor	Range	Resolution	Accuracy
O <sub>2</sub>	Electrochemical	0 - 25 %	0.1 %	±0.1 % vol
CO (H <sub>2</sub> compensated w/ built-in NOx filter)	Electrochemical	0 - 8000 ppm	1 ppm	±8 ppm <300 ppm ±4 % rdg up to 2000 ppm ±10 % rdg for >2000 ppm
CO Auto range	Electrochemical	0 - 20,000 ppm	1 ppm	±10 % rdg
CO	NDIR	0 - 15.00%	0.01 %	±3 % rdg
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 %
NO	Electrochemical	0 - 5000 ppm	1 ppm	±5 ppm <125 ppm ±4 % rdg for <5000 ppm
NO <sub>2</sub>	Electrochemical	0 - 1000 ppm	1 ppm	±5 ppm <125 ppm ±4 % rdg for <1000 ppm
Low NO and/or Low NO <sub>2</sub>	Electrochemical	0 - 100.0 ppm	0.1 ppm	±1.5 ppm <50.0 ppm ±4 % rdg for <100.0 ppm
NOx	Calculated	0 - 5000 ppm	1 ppm	
SO <sub>2</sub>	Electrochemical	0 - 5000 ppm	1 ppm	±5 ppm <125 ppm ±4 % rdg for <5000 ppm
Low SO <sub>2</sub>	Electrochemical	0 - 100.0 ppm	0.1 ppm	±1.5 ppm <50.0 ppm ±4 % rdg for <100.0 ppm
CxHy (HC)	NDIR	0 - 3.00 %	0.01 %	±3 % rdg + 0.01 %
H <sub>2</sub> S	Electrochemical	0 - 500 ppm	1 ppm	±5 ppm <125 ppm ±4 % <500 ppm
VOC	PID	0 - 200 ppm	1 ppm	±10 % rdg + 1 ppm
Tair	Pt100	14.0 to 212.0 °F -10 to 99.9 °C	1 °F 1 °C	±3 °F ±2 °C
Tgas	Tc K	-4 to 1920 °F -20 to 1050 °C	1 °F 1 °C	±5 °F ±3 °C
ΔT	Calculated	-4 to 1920 °F -20 to 1050 °C	1 °F 1 °C	
Pressure / Draft	Bridge	±40.0 in H <sub>2</sub> O ±100 mbar	0.1 in H <sub>2</sub> O	±1 % rdg
Excess Air	Calculated	1.00 - infinity	0.01	
Gas Velocity	Calculated	0 - 330 ft/s 0 - 99.9 m/s	0.1 f/s 0.1 m/s	
Efficiency	Calculated	1 - 99.9 %	0.1 %	

## Draft, Pressure, & Velocity

An internal pressure sensor allows the analyzer to measure both pressure & stack draft. With two (2) pressure inputs, differential pressure can also be measured. Gas velocity can be measured using the differential pressure & an optional pitot tube.



## Sample Conditioning Unit

The Sample Conditioning Unit is mounted directly at the sampling probe exit, where excess moisture rapidly condenses & separates from the gas sample. This minimizes contact of the gases with moisture, which could potentially affect NOx & SO<sub>2</sub> measurements.

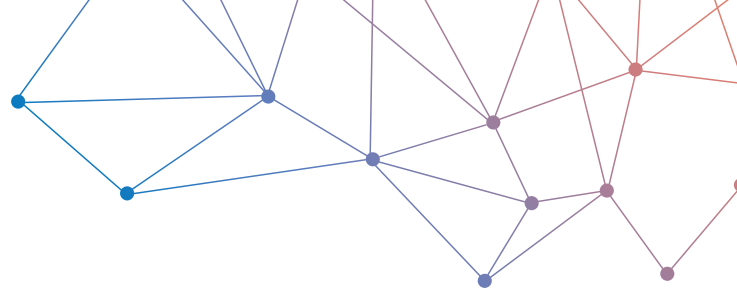


## Gas Sensors

The E8500 PLUS can have a maximum of NINE (9) total gas sensors: up to six (6) electrochemical type sensors, up to three (3) NDIR type sensors, & 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.



# E8500 PLUS

## Ordering Code

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

Example: 8500P - OCND SH - ABC - 40

O<sub>2</sub>, CO, NO, NO<sub>2</sub>, SO<sub>2</sub>, H<sub>2</sub>S, CO<sub>2</sub> (NDIR), CxHy (NDIR), & High CO (NDIR) with 40'' (1 m) Probe with 10' (3 m) Hose



#### All E8500 PLUS Kits Include:

- Thermolectric Chiller with Automatic Condensate Drain
- Rechargeable Battery Pack
- 110 - 240 VAC/50-60Hz Battery Charger
- Gas Sampling Probe with Hose
- Stack Gas & Air Temperature
- Draft & Differential Pressure
- Calculated Values for Efficiency, Excess Air, & CO<sub>2</sub> %
- Internal Memory (2,000 Tests)
- Real-Time Software with Bluetooth & USB Interface
- Wireless Bluetooth Communications
- Protective Carrying Case
- Calibration Certificate
- Operation Manual

#### Table A: Electrochemical Sensors

O	O <sub>2</sub> Sensor (0-25%)
C	CO Sensor (0-8,000 ppm) with Dilution Auto-Range up to 20,000 ppm
N	NO <sub>2</sub> Sensor (0-5,000 ppm)
D	NO <sub>2</sub> Sensor (0-1,000 ppm)
S	SO <sub>2</sub> Sensor (0-5,000 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 Sensors

ABC	CO <sub>2</sub> Sensor (0-50%) CxHy Sensor (0-3%) High CO Sensor (0-15%)
0	No NDIR Sensors

#### Table C: Sampling Probes & Hoses

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

