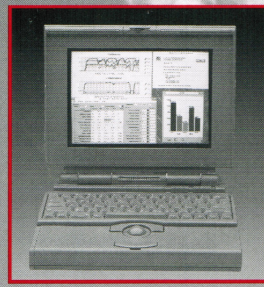
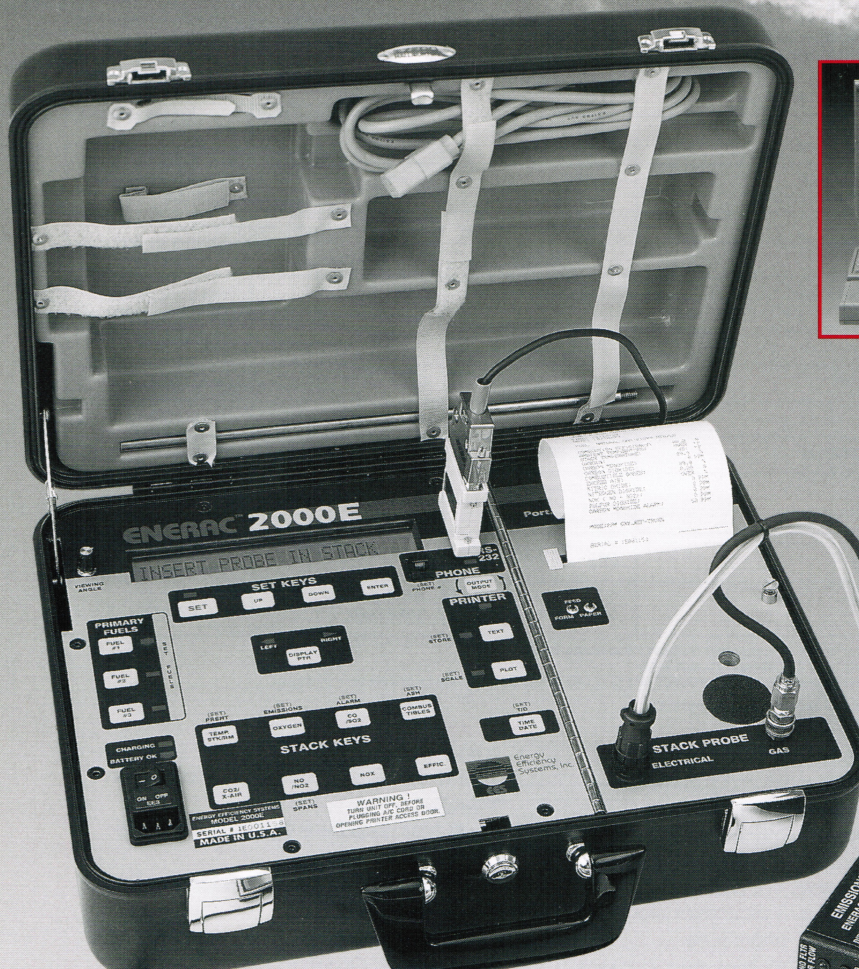
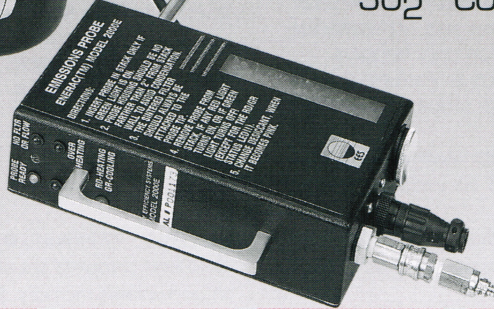


ENERAC™ 2000E



The Flexible Emissions Monitoring System For Your Changing Environmental Needs.

Measures: NO - NO₂ - SO₂ - CO - O₂ - CH₄



- Combustion Efficiency
O₂-CO-CH₄
- Emission Data
NO-NO₂-SO₂
- Auto Span-Gas
Calibration
- Hand Held
Permeation
Dryer
- O₂ Ref. Adj.
#/MMBTU
GMS/BHP-HR
- 4" Printer &
4 Parameter
Plotter
- RS-232
Modem
Int. Storage

- Simple combustion capabilities can be expanded to compliance level performance.
- Standard probe can be replaced with unique battery operated sample conditioning system for accurate NO₂ and SO₂ measurements.
- Simple and easy to use.
- Comprehensive communications and software options can bring factory support to your facility.
- Enerac 2000E systems can be upgraded to compliance level performance with Enerac's advanced SEM sensor technology (Meeting EPA's Test Method Requirements.)



For Continuous Technical Updates, Visit Our Website At <http://www.enerac.com>
 1-800-695-3637 ■ Phone (516) 997-2100 ■ Fax: (516) 997-2129

DATA MANAGEMENT

ENERAC 2000E data storage capability will maintain a historical data base and "paper trail" for any combustion system. Emissions concentrations and energy savings can be documented and data can be documented. Data can be used for a number of operating requirements, including discussions with regulatory agencies.

OPTIONS

Printer: Provides hard copy record of all parameters and remote messages.

Plotter: Plots any parameter as a function of time. Allows both scale and time adjustments. Multiple parameter plot capability.

Emission Monitoring: The NO_x and SO₂ reading help operators to evaluate performance against new EPA and state emission standards. Printer allows a company to build a data base and to sort environmental problems inexpensively.

Remote Operations/Telecommunications:

ENERAC 2000E can interface with an on-site computer or can be connected to a computer anywhere in the world via telephone. The remote operation reduces the need for costly and time-consuming travel. Testing can be performed quickly, whenever needed—even from your own desk.

Remote operation also allows the **ENERAC 2000E** to be factory tested at any time from your site. You can be sure that the 2000E is working perfectly before important tests by "calling up" the factory for a checkup.

MODEL 2000E SPECIFICATIONS PHYSICAL:

1. CASE: 18"x13"x6" black anodized aluminum carrying case with lock. Weight: 18 lbs.
2. PROBE: 24"L x 3/8" OD. Inconel probe with Hastelloy X sintered filter and 1/2" deflector mounted on permeation drier housing. Probe housing connects to instrument via a 10-ft viton hose. (Other probe and hose sizes available.)
3. PROBE: 13"L x 3/8" OD. Inconel probe with aluminum handle and 10' viton hose and watertrap.

Max. continuous temperature: 1800° F.

Max. sample dew point (past drier) 50°F @ 600 cc/min (natural gas fuel).

ELECTRICAL POWER:

1. BATTERY: 6V rechargeable sealed lead-acid cell. 5-hour continuous battery operation. Quick 6-hour recharge.
2. AC: 120V, 60 Hz standard (220V, 50Hz, optional).

DISPLAY:

0.5" high x 24 character single line LCD with backlight illumination and adjustable viewing angle.

PRINTER:

SEIKO 4", 40 char/line thermal printer with form feed and line feed buttons and with end-of-paper override. Operates in any of three modes:

MEASURED PARAMETERS

	Range	Resolution	Accuracy
1. AMBIENT TEMPERATURE IC sensor	0-150°F	1°F (1°C)	3°F
2. STACK TEMPERATURE Type K thermocouple. Degrees F or C	0-2,000°F (1,100° C)	1°F (1°C)	5°F
3. OXYGEN Electrochemical cell - Life 1 year	0-25%	0.1%	0.2%
4. NITRIC OXIDE (NO) Electrochemical cell - Life 2 years	0-2000 PPM**	1PPM	2%*
5. NITROGEN DIOXIDE (NO ₂) Electrochemical cell - Life 2 years	0-500 PPM	1PPM	2%*
6. CARBON MONOXIDE Electrochemical cell - Life 2 years	0-2000 PPM***	1PPM	2%*
7. SULFUR DIOXIDE Electrochemical cell - Life 2 years	0-2000 PPM***	1PPM	2%*
8. COMBUSTIBLES (GASES) Catalytic sensor - Life indefinite	0-6.00%	0.01%	10% of reading in CH ₄ gas
9. TIME/DATE	Time in hours, minutes, seconds; Date in month, day, year format.		

COMPUTER PARAMETERS

	Range	Resolution	Accuracy
1. COMBUSTION EFFICIENCY Heat loss method. Unique four loss factors computation (dry gas, water vapor, gaseous)	0-100%	0.1%	(4 loss): 1% (above H ₂ O condensation) 2% (below H ₂ O condensation)
2. CARBON DIOXIDE	0-40%	0.1%	5% of reading
3. EXCESS AIR	0-1000%	1%	10% of reading
4. OXIDES OF NITROGEN	0-2500 PPM**	1PPM	2% of reading*
5. EMISSIONS 1 (CO, NO _x , SO ₂)	0-2500 mg per cubic meter	2 mg/m ³	5% of reading
6. EMISSIONS 2 (CO, NO _x , SO ₂)	0.000-99.99 lbs/million BTU	0.001 lbs/MMBTU	5% of reading
7. EMISSIONS 3	0-99.99 grams/brake hp-hr	0.001 grams/brake hp-hr	10% of reading*

(Oxygen correction factor for emissions adjustable 0-20% in 1% steps plus TRUE.)

*When tested according to 40 CFR 60 Appendix A-6C & 7E.

**High resolution 0-200 PPM and extended range 0-4000 PPM (0-10,000 PPM or 0-20,000 PPM for CO) available on request.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

1. TEXT MODE: 25 line printout of instantaneous values of all measured parameters (time required, 20 seconds)
2. PLOT MODE: Any one parameter vs. time plotted. 3 ordinate scales: full, half, quarter. Time scale: selectable, 1 sec/dot- 1 min/dot in 1 sec/dot intervals. 3 parameter plot CO-OXYGEN-EFFICIENCY, single scale.
3. EXTERNAL PRINT MODE: Print messages sent via RS-232 port.

STORAGE:

INTERNAL: 99 individually selectable buffers hold one complete set of measurements each in non-volatile memory. Buffer contents can be sent to printer or RS-232 port.

COMMUNICATIONS:

1. RS-232 PORT: RS-232C port (DTE), 2400 baud, half duplex, 1 start bit, 8 data bits, 1 stop bit, no parity.
2. TELEPHONE PORT: Internal 1200 baud modem connects to a modular phone line for remote communication. (A 50-word command set sends instructions to the unit for remote control and troubleshooting.)
3. SOFTWARE: ENERCOM™ Windows™ application software displays all parameters simultaneously, calculates min, max, and average concentration, standard deviations, emissions calculations, plots line and bar graphs. Prints and saves data in a variety of common formats.

MISCELLANEOUS:

1. FUELS: 15 fuels, 3 in foreground, 12 in background standard. Custom fuels available on request.
2. CO ALARM: Selectable 0-20000 PPM in 10 PPM steps.
3. COMBUSTIBLES IN ASH: Presettable 0-100% in 5% steps.
4. MESSAGES: 100 diagnostic and help messages.
5. CALIBRATION: Optional autozero on startup. Software span calibration CO, NO, NO₂, SO₂, combustibles.

The ENERAC 2000E system can be upgraded to provide compliance level defensible data by upgrading to ENERAC's advanced SEM sensor technology.

SERIAL #1E001352 ENERAC MODEL 2000E COMBUSTION TEST RECORD

FOR: ENERGY EFFICIENCY
TIME: 14:12:25
DATE: 05/29/96

FUEL: #2 OIL: 19360 BTU/LB

COMBUSTION EFFICIENCY:	00.0	%
AMBIENT TEMPERATURE:	OVER	°F
STACK TEMPERATURE:	432	°F
OXYGEN:	21.0	%
CARBON MONOXIDE:	0	PPM
CARBON DIOXIDE:	00.1	%
COMBUSTIBLE GASES:	0.00	%
EXCESS AIR:	OVER	%
NITRIC OXIDE:	0	PPM
NITROGEN DIOXIDE:	0	PPM
NOX (NO + NO ₂):	0	PPM
SULFUR DIOXIDE:	0	PPM
CARBON MONOXIDE:	50	PPM

MODE: PPM OXY REF = TRUE %

COPY OF PRINTOUT (60% ACTUAL SIZE)

For continuous technical updates, visit our website at <http://www.enerac.com>



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