ENERAC 700

Portable Compliance-Level Combustion Emissions Analyzer

O_2
CO
CO_2
NO
NO_2
NO_x
SO_2
H_2S
C_xH_y

Enerac brings you the model 700... The most accurate, reliable, rugged and affordable multi parameter, compliance level, portable combustion emissions analyzer

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MADE IN THE USA

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Enerac invented the first portable multi-parameter electronic combustion analyzer in 1979 in the US. Enerac still services this analyzer as well as all others. Today, Enerac still leads the market in research, design and ultimately the manufacturing of portable combustion emissions analyzers (seen with Enerac's SEM sensor; the world's most accurate electrochemical sensors found in the Model 700). Enerac only manufactures portable combustion emissions analyzers and is considered the experts in this field.

The Enerac Model 700 is used for a vast array of applications. The most common applications are those related to combustion sources, such as Boilers, Burners, Engines, Turbines, Generators, Kilns, Dryers, Heaters, Ovens … to name a few. The Enerac Model 700 is also of interest to Scientists and their respective combustion/emissions experiments typically found at the University research environment as well as in the private sector.

The Enerac Model 700 is perfect for gathering extremely accurate and reliable data for internal needs as well as for the necessary emissions reporting requirements for local, district, county, state and federal agencies. The Model 700 Is perfect for S.C.A.Q.M.D. compliance requirements (and the other CA districts) EPA compliance tests (i.e. ctm 30, ASTM - 6522, ctm 34, for CO, NO_x requirements etc.), method 2 (stack gas velocity), and method 25B (Hydrocarbons).

The Enerac Model 700 is hand-held, weighs 6 lbs and is easy to operate (no technical expertise is needed). The Model 700 units are rugged, made with a metal case and considered the workhorse of the industry withstanding years of use and abuse. No one makes a more affordable, accurate, rugged, reliable and sophisticated portable combustion emissions analyzer than Enerac. Enerac custom builds all units and can engineer sensor ranges and options to customer requirements for their respective application(s) at hand.

The Enerac Model 700 units have easy access for replacing sensors in the field. The back of the unit has easy thumb screws to pop off the back plate. Once the back plate is off, the sensors are easy to see and pop in and out. These sensors are field replaceable (the unit does not need to be sent back to the factory for sensor replacement). The Model 700 also has the ability to be field calibrated without having to send the unit back to the factory! Free factory tech support is always available if need be.

The Enerac Model 700 is fully upgradeable (one can order new sensors and options to the same unit over time). The Model 700 also has a standard sample conditioning system (thermoelectric condenser also called a peltier cooler) necessary for the proper detection and measurement of both NO_2 and/or SO_2 gases. The Model 700 also has proper control over the NO sensors tendency to drift over time with increasing ambient temperatures. The Enerac Model 700's NO SEM sensor incorporates a proprietary temperature control system designed to automatically hold the nominal filter and sensor temperatures at < 30 degrees C. This ultimately prevents rising measurement data drift and maintains the actual lower readings of the NO (NO_x). This in turn prevents one from overstating one's NO (NO_x) emissions.

The Enerac Model 700 combines a high quality tubing (Viton hose with its specific dimensions and flow rate) along with an accurate and reliable conditioning system (peltier cooler) with the additional benefits of the extremely accurate SEM sensors. The result is a Compliance-Level Emissions Analyzer that produces reliable, accurate data in the palms of your hands.

The Enerac Model 700 comes with 500 internal storage buffers for storing collected data during a testing event. With Enerac's free Enercom software, one can use during the testing event or download the stored data at a later date. There is a serial port (RS 232 port), USB port and Blue tooth for communicating with your Enerac Model 700 and your computer.

The Enerac Model 700 is the most accurate and reliable portable combustion emissions analyzer in the world. Please feel free to contact our Sales department to learn more about the Enerac Model 700 portable combustion emissions analyzer.

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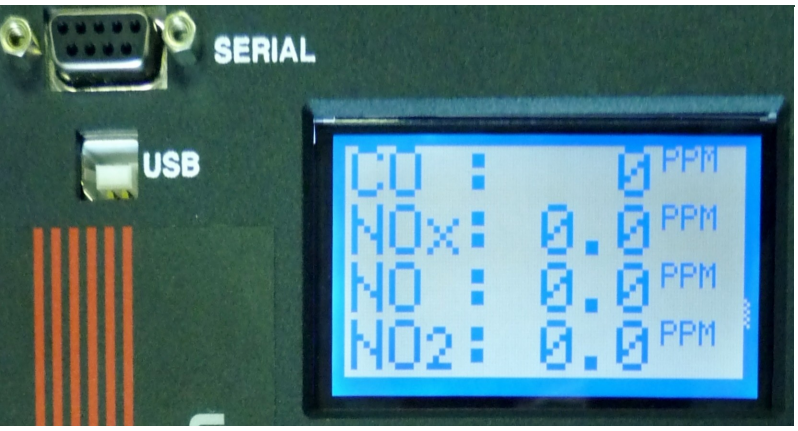

4&8 line 128 x 64 pixel dual display with backlight

9" L x 3/8" O.D. Inconel probe with10'viton hose

Built in Printer: 2" Graphic Thermal Printer

4&8 Line Dual Display: 4&8 line 128 x 64 pixel dual display with backlight. This 4&8 line dual display allows one to see many parameters at once or "zoomed in" closer look at a few specific parameters of interest.

Standard Probe & Hose: 9" L x 3/8" O.D. Inconel probe with 10' Viton hose. The standard Inconel probe handles high temperature applications (2,000 deg. F). This high quality Viton hose with its special material, dimensions and flow rate assists in proper sample transport of the gases being detected and measured.

Pitot Tube Probe: 18"L S-Type Pitot tube w/9' (3/16" D) rubber tubing. This Pitot tube is a separate probe that is used in addition to the standard probe. It allows one to take velocity measurements of the gas stream involved (which are used to calculate mass emissions rates; which meets EPA method 2).

SEM Electrochemical Sensors: The world's most accurate electrochemical gas sensors only available through Enerac (the inventor!) These sophisticated electrochemical sensors bring more accuracy to your testing event (unlike standard electrochemical sensors found on competitor units etc). Enerac offers standard ranges for these sensors as well as Low Range, High Range and everything in between! The SEM sensors are configured in Dual Ranges. The high range is typically 3X the low range. Sensor ranges are engineered to meet customer requirements. Just let us know what ranges you need and we will build it!

True NOx Readings at Multiple Levels: The Model 700 incorporates total NO_x (NO + NO_2), a sample conditioning system (cooler) for proper NO_2 detection and measurement as well as a temperature controlled NO *sensor* only found at Enerac. This temperature controlled NO SEM sensor helps prevent temperature drift associated with standard electrochemical sensors and their respective increase in readings (without any gases present). This avoids any "overstated" NO (NO_x) readings and reporting etc. This sensor temperature status appears on your print out. No one else offers this technology.

Thermoelectric Condenser / Peltier Cooler (Chiller) Advanced Sample Conditioning System: With the combination of the standard high quality viton hose (teflon available) and the standard advanced sample conditioning system (cooler), one can detect and measure NO_2 and or SO_2 gases accurately! Both NO_2 and SO_2 gases are "sticky gases" and should be properly conditioned before respective gas sensors detect and measure their quantities etc.

NDIR Bench (Non Dispersive Infrared 3-Gas Sensor) Option: This sensor option allows the unit to detect and measure the CO (in % volume), CO_2 (as a direct measurement in % volume) and Hydrocarbons (C_xH_y). (meets EPA method 25B)

Control Key Pad: Easy to Use Key Pad makes a task a Snap. If you want to Print, Store Data, Zero Cal, Turn the pump on and off (and other options)…Just Press the easy to read buttons etc.

Enercom Software: With Enerac's Free Enercom software, one can use this spreadsheet software "live" and see real time data collection. The data collection is arranged for easy understanding and reporting. One can also "store" data internally in the Model 700 unit and download later. The Model 700 unit has RS 232, USB and Blue Tooth Communications capabilities.

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DIMENSIONS:	5.75"W x 9.75"H x 3.25" D
WEIGHT:	6 lbs
POWER:	4 D size NiMH rechargeable And 120/240 VAC Adapter
DISPLAY:	4&8 Line 128 x 64 pixel Dual Display
MEMORY:	500 Internal Storage Buffers
PRINTER:	2" Graphic Thermal Printer
COMMUNICATIONS:	Serial (RS 232) and USB ports, up to 115k Baud; Bluetooth

SEM Dual Range sensors (sophisticated electrochemical sensors) all come in different ranges and can be engineered to address different ranges and their respective application(s). The sensors listed below are standard ranges. Currently, Enerac offers NEW Low Dual Range SEM Sensors (0-50/150 ppm) and are available for CO, NO, NO_2. Higher/Lower Range SEM sensors can be engineered to your applications range. Typically a Dual Range SEM Sensor is set at a 1:3 ratio (i.e. 0-50/150 ppm). Just let us know what range is required for your application. H_2S SEM Sensors Can be substituted for a CO, NO, NO_2 or the SO_2 sensor slot. The H_2S Dual Range SEM Sensor range is 0-200/600 ppm.

MODEL 700 SPECIFICATIONS

MEASURED PARAMETER	RANGE	RESOLUTION	ACCURACY	SENSOR TYPE
Ambient Temperature	0-150 °F	1 degree F or C	+/- 2 ° F M	Type RTD
Stack Temperature (net)	0-2,000 °F (1,100 °C)	1 degree F or C	+/- 2 ° F M	Type K thermocouple
Oxygen (O_2)	0-25%	0.1 %	+/- 0.2% M	Electrochemical
Carbon Monoxide (CO)	0-1,500/4,500 ppm	1 ppm	+/- 1-2%M (< +/- 1%**)	Dual Range SEM
Nitric Oxide (NO)	0-500/1,500 ppm	0.1 ppm	+/- 1-2%M (< +/- 1%**)	Dual Range SEM
Nitrogen Dioxide (NO_2)	0-500/1,500 ppm	0.1 ppm	+/- 1-2%M (< +/- 1%**)	Dual Range SEM
Sulfur Dioxide (SO_2)	0-1,500/4,500 ppm	1 ppm	+/- 1-2%M	Dual Range SEM
Combustibles	0-5%	0.1%	+/- 2% (CH4) M	Catalytic Sensor
Stack Draft	+10" to - 40" WC	0.1 " WC	+/- 2% M	Silicone Diaphragm
Stack Velocity / Flow	0-200 ft/sec (0-6,500 cfm)	1 ft/sec	Meets EPA Method 2	Type S pitot tube
Hydrocarbons C_xH_y	0-30,000 ppm	1 ppm	+/-3% M (meets EPA method 25B)	NDIR
Carbon Monoxide (CO)	0-15%	0.01%	+/-3% M	NDIR
Carbon Dioxide (CO_2)	0-20%	0.01%	+/-3% M	NDIR
COMPUTED PARAMETERS	**RANGE**	**RESOLUTION**	**ACCURACY**	
Combustion Efficiency	0-100%	0.1%	+/- 1%	calculated
Carbon Dioxide	0-40%	0.1%	+/- 2%	calculated
Excess Air	0-1000%	1%	+/- .2%	calculated
NOx (NO + NO_2)	0-1,000 or 0-3,000 ppm	0.1 ppm	+/- 4% (<+/- 2%**)	calculated
Emissions Conversion Units (CO, NO, NO_2, SO_2) milligrams / cubic meter pounds / million btu grams / brake-hp-hr	 0-2,500 mg/m^3 0-99.99 #/mbtu 0-99.99 g/bhp-hr	 2 mg/m^3 0.01 #/mbtu 0.01 g/bhp-hr	 +/- 2% M (< +/- 1%**) +/- 2% +/- 2%	calculated

Oxygen Correction factor for emissions adjustable 0-20% in 1% Steps plus TRUE.
*Accuracy (M: Measured): When calibrated prior to use per Enerac specifications
**Based on CTM-030 data collected from 3rd Party testing using 0-50 ppm SEM sensor

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