

I - CEA - 3000

COMBUSTION / EMISSIONS ANALYSER

The Model I-CEA-3000 Combustion/Emissions Analyser is a portable analyser designed to simplify and speed up the task of making combustion and emission measurements on a furnace or boiler. This battery-powered instrument is ideal for combustion flue-gas monitoring and emission level testing. All fuels are supported including No. 2, 4 and 6 Oil, Natural Gas, Propane, Hard Coal, Soft Coal and custom fuels. The standard analyser is equipped with an O₂ gas sensor and provides continuous measurement of Oxygen and Net Stack Temperature of flue gas. In addition, it calculates Efficiency, equivalent Carbon Dioxide and Excess Air. This information is easily viewed on a large backlit display. A compact infrared (IR) serial printer is also available as an option to provide a hard copy of all measurements.

Oxygen measurement calibration is updated each time the Instrument is used. The net-temperature circuitry has been accurately calibrated at the factory and can be expected to maintain its calibration for two years. The Model I-CEA-3000 Combustion/Emissions Analyser can be equipped with optional gas sensors including carbon monoxide (CO) and nitric oxide (NO_x). Additional gas sensors may be introduced in the future. Recalibration of the optional electrochemical sensors is recommended at six-month intervals or more frequently for maximum accuracy.

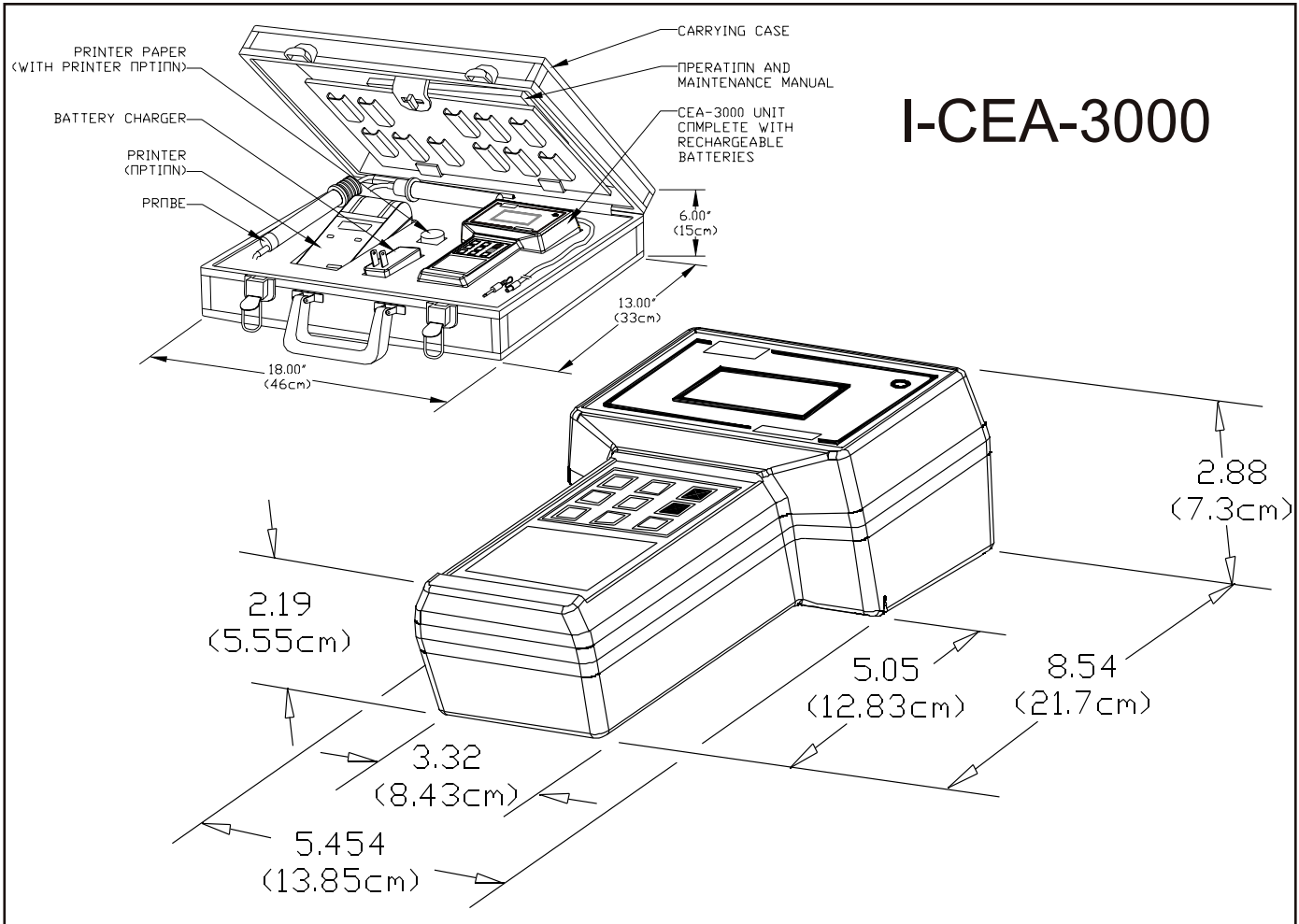


PRINCIPLE OF OPERATION

The measurements are taken by means of a sampling probe that is inserted into the flue. An integral pump draws a sample from the flue into the analyser for analysis. The analyser will begin to respond to the oxygen concentration in the flue gas in approximately five seconds and reach equilibrium in 25 to 45 seconds. Carbon Dioxide is a calculated value derived from the oxygen measurement and fuel data for each type of fuel. The correct fuel type must be selected to ensure correct values of CO₂ are calculated. A thermocouple installed in the probe measures stack temperature. The instrument will use the real-time readings of stack temperature, ambient temperature percent oxygen and fuel constants to calculate and display the percent efficiency of the furnace or boiler. This calculation will be automatically updated as the oxygen concentration or stack temperature changes. Excess Air is a calculated value derived from the oxygen measurement and fuel constants.

SPECIFICATIONS

Measurements:	Oxygen 0 to 25%	Ambient Temperature 32°F to 120°F 0°C to 50°C	Temperature (operating): 32°F to 120°F 0°C to 50°C
	Net Stack Temperature 0°F to 999°F -18°C to 537°C		Probe Length: 11 inch (28 cm.) Standard 18 inch (46 cm.) Optional 30 inch (76 cm.) optional Custom Probes Available
Optional Sensors:	NOx (Nitric Oxide) 0 - 1000 ppm CO (Carbon Monoxide) 0 - 2000 ppm		
Calculations:	Efficiency 0 - 100% Carbon Dioxide 0 - 15.5% Excess Air 0 - 99.9%		Power: 4 AA NiMh rechargeable batteries c/w Battery Charger 120 VAC to 9 VDC Output (300mA)
Response Time:	60 seconds to 90%		Case Size (approximately): 8.6 X 5.5 X 2.9 inch 21.7 X 13.8 X 7.3 cm
Printer (optional):	Prints all readings plus identification information on command		Weight: 2.2 lbs (1 Kg) approximately
			Keyboard: 9 keys, tactile and audible feedback



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This brochure includes general specifications which are subject to change without notice. Ensure a complete understanding of all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products.

Read and understand fully all instructions before using these products.