Eclipse
®
Eclipse Combustion

EGA2 Combustion Analyzer

Providing the latest technologically advanced instrumentation for combustion service engineers, installers & technicians

Features

- Complete sample-conditioning probe assembly
- Robust O2 and CO electrochemical sensor cells
- Built-in impact printer
- Rechargeable battery
- Easy to use, common-language text and keyboard
- Stores up to 250 samples
- Protective carrying case to store instrument, probe, charger and other accessories

One Instrument, Many Functions

1. Combustion gas analyzer
2. Draft & differential pressure meter
3. Two-channel thermometer
4. Ambient CO monitor
5. Gas pipe and valve system leak tester
6. Gas leak detector
7. Ionization flame tester

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The new handheld EGA2 is the most comprehensive gas analyzer available for:

- Combustion tuning and maintenance;
- Orifice Delta Pressure flow checks;
- Pressure switch testing;
- Water, air, surface temperature measurements;
- Draft, gauge and differential pressure measurements;
- Search for presence and location of gas leaks (optional);
- Operator safety with ambient CO and O2 continuous monitoring (optional).

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Description of Features

Gas Sensors
EGA2 uses long life, low maintenance sensors for O2 and CO2. The operator can set alarm levels with audible buzzer on gas measurements.

Rechargeable battery operations
Ni-MH rechargeable batteries provide longer field use. A charger is supplied as standard. Either batteries or the charger can power flue gas analyzer and internal printer.

Keyboard & Display
Text, menus, and keyboard use common language (not icons), for simple and intuitive operations. Engineering units are selectable by keyboard for US and European standards. The large backlight multi-parameter LCD display is easy to read.

Multi Fuel selection
EGA2 provides selection of up to 10 fuels for calculating combustion values. The most commonly used fuels are factory pre-loaded for quick selection. Other fuel parameters can be loaded using optional PC software.

Built-in impact printer
The instrument is standard with a built-in rugged impact printer. It uses a common low cost roll of paper to provide more readable, longer life and heat resistance than thermal printouts on chemical paper. You can also remote print using your HP 82240B infrared printer.

Pressure/Draft input
Differential pressure input can be used to verify draft, gas pipe leak with pressure decay program, gas flow pressure, pressure in combustion chamber, DP on filters and fan, and pressure switch calibration.

Smoke index
The results of using an optional external hand pump for smoke index measurement can be stored in the internal memory and printed on the report.

Gas sampling probe
The sampling probe is connected to the instrument with a dual hose through a water trap and a suspended particle filter and includes temperature probe for efficiency calculations.

Water trap
The new proprietary design trap prevents water from entering and damaging the instrument and measuring cells. It features a big water tank capacity for condensation, a small rubber plug for easy water removal, and a long life paper filter.

Combustion air temperature sensor
An optional Pt100 probe can be used for remote combustion air temperature measurement.

Ambient monitoring
An external optional probe is available for continuous surveillance of ambient safety conditions and alerts the operator with both acoustic and visual alarms.

Gas pipe leak test
The internal pressure sensor and a pressure decay program can check gas pipes for the presence of leaks.

Gas leak sniffer
An external optional probe is available to locate the position of a gas leak. This probe has a flexible stainless steel shaft to reach difficult locations.

Ionization flame tester
An external optional probe checks the ionization current in flame control sensor.

Flash memory
The flash memory allows the instrument firmware to be updated for any future legislation requirement or upgrading product performance.

Standard Report of Calibration
Each instrument is factory calibrated and certified against traceable standards and shipped with a Report of Calibration.

Included Components

EGA2 includes the basic measuring instrument with O2 and CO cells, gas sample probe with temperature and draft measurement, printer, differential pressure sensor, infrared and RS232 port, rigid plastic carrying case, battery charger, instruction manual, and calibration certificate.

Accessories

Item	Description
10002733	Printer paper roll, 6m (20').
10002734	Printer ribbon.
10002729	Kit, water trap with air filter and connector.
10002711	Kit, filter cartridge.
10002725	Kit, rubber plug for water trap.
10002730	O-ring, analyzer, pneumatic connector.
10002740	Probe, analyzer, 300mm (12in.) pistol grip, gas and draft, dual hose, 800°C max.
10002741	Probe, analyzer, 750mm (30in.) pistol grip, gas and draft, dual hose, 1000°C max.
10002700	Hose, analyzer, 6 m long extension dual hose gas and draft.
10002747	Probe, remote air sensor with 2 meter cable.
10002736	Probe, ambient CO.
10002744	Probe, external flame ionization current.
10002745	Probe, natural gas (sniffer).
13160	Kit, smoke measurement index with pump, chart, filter paper.
13157	Kit, filter paper for smoke measurement, 40 strips.
13155	Scale, smoke index comparison chart.
10002687	Case, analyzer, ABS rigid plastic (instrument+probe+accessories).
10002688	Case, analyzer, aluminum (instrument+probe+accessories).
10002689	Case, analyzer, vinyl with shoulder strap (instrument+probe+accessories).
10002731	Plate, analyzer, magnetic mounting with shoulder strap.
10002695	Cell, EGA analyzers, O2 autocalibrated.
10002683	Module, power, 12Vdc automotive plug battery charger.
10002681	Module, power, 115V 50/60 Hz USA plug.
10002678	Module, power, 230V 50/60 Hz European plug.
10002679	Module, power, 230V 50/60 Hz Schuko plug.
10002680	Module, power, 230V 50/60 Hz UK plug.
10002682	Module, power, 100V 50/60 Hz USA/Japan plug.
10002672	Software, flue-gas analyzer, PC configuration and data (GasConfig).
10002686	Cable, TTL/RS232.

Specifications

Type: palm-top combustion gas analyzer for 2 gas sensors.	**Printer**: Internal impact type 24 columns with 58 mm paper roll (10 meters long).
Calibration: automatic calibration procedure at instrument switch-on.	**Printer power supply**: from the analyzer battery pack.
Self-diagnosis: Sensors efficiency test with display of diagnostic messages.	**Print capability**: up to 40 reports with full battery (typical).
Fuel types: Up to 10 selectable from keyboard.	**Service and user information**: 3 programmable lines.
Flue gas probes: stainless steel shaft with incorporated temperature sensor.	**Printed report header**: 4 programmable lines.
Display: 40x58 mm alphanumeric LCD with backlight device.	**Serial communication**: RS232 serial interface.
Memory: up to 250 full analysis data structured by locations (Tags).	**Infrared port**: compatible with HP82240B cordless printer.
Power supply: High capacity Ni-MH rechargeable battery pack / external battery charger.	**Operating temperature**: from -5˚C to +45˚C
Charging time: 8h at 90% with instrument off.	**Storage temperature**: from -20 to +60˚C (3 months maximum at temperatures exceeding the operational limits).
Battery life: 6 hours (typical) continuous use (without printing and backlight).	**Dimensions and Weight**: 115x90x330 mm - 1.1 kg with battery and printer

Parameter	Sensor	Range	Resolution	Accuracy
O2	Electrochemical	0 - 25%	0.1%	±0.2% vol
CO (H2 compensated)	Electrochemical	0 - 8000 ppm	1 ppm	±10 ppm <300 ppm ±4% rdg up to 2000 ppm ±10% rdg elsewhere
CO2	Calculated	0 - 99.9%	0.1%	
Tair	Pt100	-10 - 100˚C	0.1˚C	±0.5˚C
Tgas	Tc K	0 - 600˚C	0.1˚C	±1˚C
Differential Temp.	Calculated	0 - 999˚C	0.1˚C	
Pressure/Draft	Piezoresistive	±99.99hPa ±40" w.c.	0.01 hPa 0.1" w.c.	±3Pa <300 Pa ±1% rdg. elsewhere
Excess air	Calculated	1.00 - infinity	0.01	
Efficiency	Calculated	1 - 99.9%	0.1%	

All emission measurements can be displayed with reference to a programmable O2 value.
Accuracy limits are stated as % of reading. An additional ±1 digit error has to be considered.
The stated pressure relative accuracy is valid only after the zero procedure.
Measuring display readings can be directly converted from ppm to mg/Nm3.
Measuring display readings can be directly converted from hPa to mmH2O, mbar, or inH2O.

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