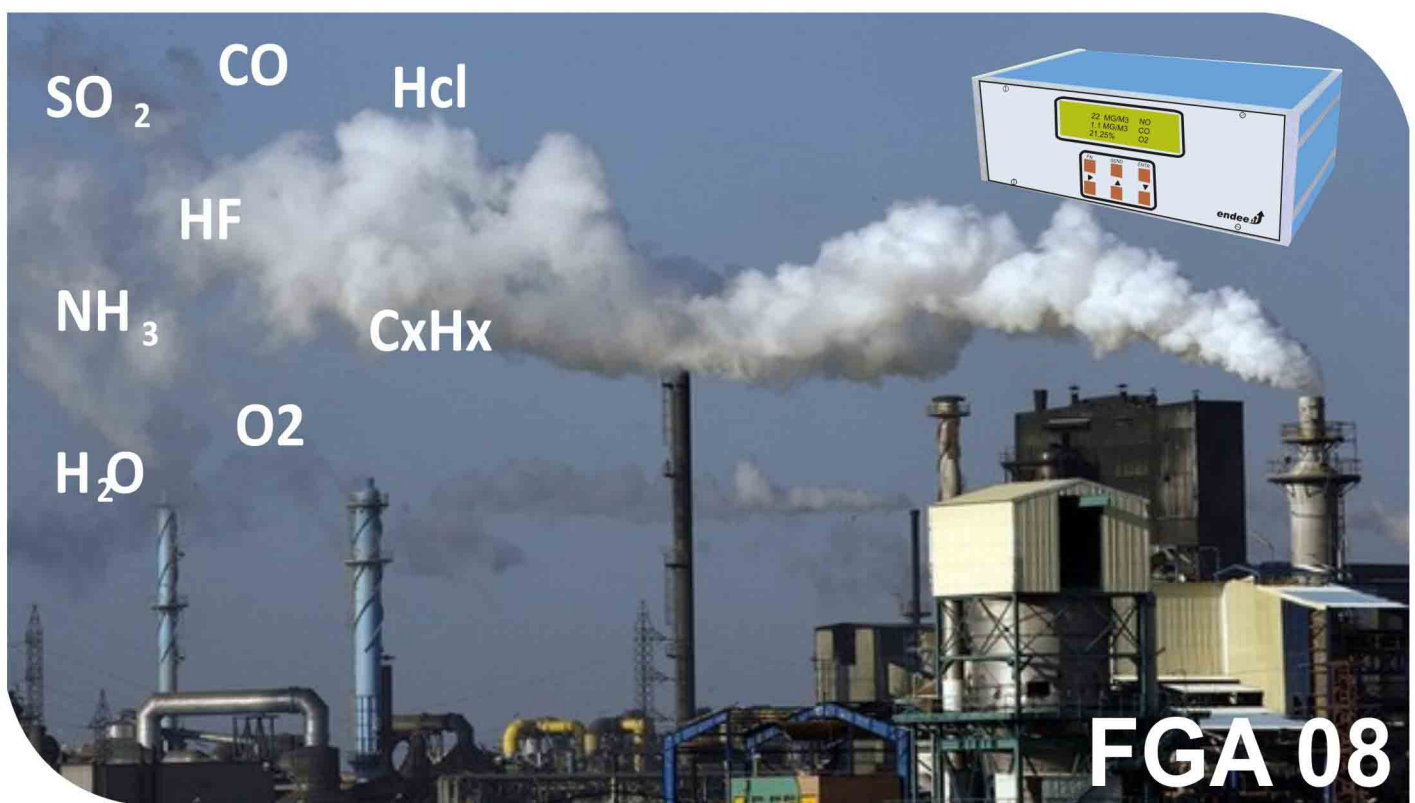


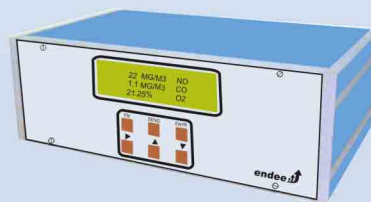
CONTINUOUS EMISSIONS MONITORING SYSTEMS



Advanced CEM Dual Sensor Technology
for Accurate Measurement of Flue Gas Components
to meet todays regulatory requirements
ensures stable long term ultra - low drift operations.

CONTINUOUS EMISSIONS MONITORING SYSTEMS

Advanced Dual Sensor Technology affords the ultimate in performance, and reliability. It incorporating well proven electrochemical technology into a truly continuous system, and Provides high measurement stability and accuracy.



FGA-08

Engineered for the future these analysers are extremely compact, and are ideal for incorporation into custom-built systems. Endee has a dedicated team of Engineers specialising in providing a complete service of design, Installation and support for Emission monitoring systems. All application are considered on an individual basis and solutions engineered to meet specific requirements of the project.

Feature & Benefits

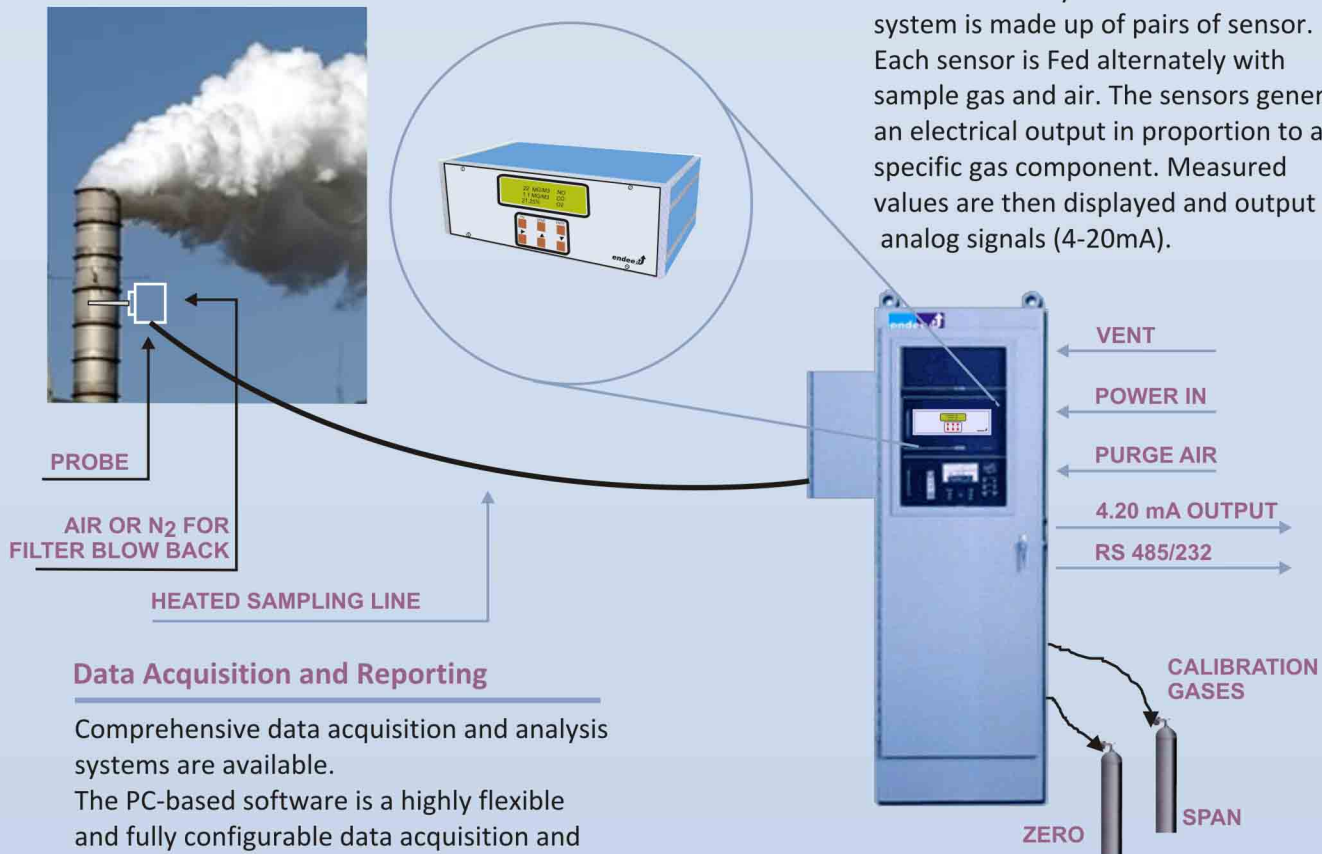
- Fully integrated system
Up to 7 gases in a single compact analyser
- Wide measurement range
From 0 - 100 PPM up to 0 - 10,000 PPM
- Widely accepted, certified performance
Complies with the latest monitoring standards
- Simple installation & maintenance
Requires no specialist skills or training,
all maintenance carried out on-site
- Highest measurement performance
Ultra - low drift measurement technology
- Measured Total NOx (NO+NO2)
Separate sensors for true NOx monitoring
- Record and store vital emission data
Internal data logging function
- Combustion efficiency measurement
option
For a Optimization process efficiency where
condition are changing

Applications / Industries

- Gas turbines
- Power plants
- Boiler systems - coal, oil and gas fired
- Incinerators - domestic, hazardous,
clinical and biological waste
- Wood, sawdust, pellet and bark burners
- Thermal oxidisers
- Pulp and paper
- Cement & lime manufacture
- Gas pipeline compressors
- Bio-fuel power generation
- Petrochemical and refineries

Engineered for the future

- Excellent low level emissions capability
Wide range of sensor to provide the precision necessary for the level measurement required by legislative limits.
- Heated sample line not required in most applications
Sample gas is cooled & dried inside the sample management system



Data Acquisition and Reporting

Comprehensive data acquisition and analysis systems are available.

The PC-based software is a highly flexible and fully configurable data acquisition and reporting system for continuous emissions monitoring systems. This inherent flexibility enables it to meet the requirement of Environmental Regulation.

Probes and Sample Lines for all Applications

Our experience will help determine which probe and type of sample line will give the best possible results in your applications. A full range of heated and unheated probes, filters and sample lines is available to meet all requirements, and more importantly, to keep operating continuously and very efficiently, with the minimum of maintenance.

- Heated filter probes
- Ceramic probes for hot or acidic conditions
- Regulated and self-regulating heated sample lines
- Unheated sample lines

Operation

FGA is an extractive sampling multi-gas analyser system. The flue gas is extracted using a sample Probe. The gas is then transported via a sample line, to the cooler unit fitted inside the sample management system, where the moisture and particulates are removed before being directed into the measurement system. The measurement system is made up of pairs of sensor. Each sensor is fed alternately with sample gas and air. The sensors generate an electrical output in proportion to a specific gas component. Measured values are then displayed and output as analog signals (4-20mA).

Accurate & Reliable SO₂ Analysis

FGA-08 is an accurate and reliable SO₂ analyser. Importantly, it is a low cost alternative to infrared or UV systems, using the latest Advanced Dual Sensor technology. The accuracy & reliability of the Analyser in the measurement of SO₂ begins with the sample conditioning system. A cooler and acid resistant sample path ensure there is no significant loss during gas transportation. High accuracy sensors inside the analyser produce a reliable, stable output.

Ideal for Low NO_x Measurement

Analyser designed for very low NO_x measurement, importantly, the analyser measures both NO and NO₂ separately, these are combined to give a true NO₂ measurement output. The inherent problems with catalytic NO₂ converters are therefore completely avoided.

Specifications

Measurement Ranges

Technique	Advanced Dual Sensor Technology
Optional	Single Sensor Technology IR/UV Sensor Technology
CO Ranges	0-10 ppm up to 0-1,00,000 ppm (10%)
NO Ranges	0-10 ppm up to 0-50,000 ppm (5%)
NO2 Ranges	0-10 ppm up to 0-1000 ppm (0.1%)
SO2 Ranges	0-10 ppm up to 0-10,000 ppm (1%)
CO2 Ranges	0-3 Vol % up to 0-100 Vol %
Resolution	0-1 ppm (CO, NO, No2, & SO2); 0.1% (Co2)
Linearity	<2% of range
Zero drift	<2% of range per month
Span drift	<2% of range per month
O2 Ranges	0-5 Vol% to 0-25 Vol%
Resolution	0.01 Vol%
Linearity	<0.2 Vol%
Zero drift	<0.2 Vol% per month
Span drift	<0.2 Vol% per month

Calibration

Calibration method	Manual or Automatic 2-Point calibration span and zero automatic gas selection (option)
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Display

Type	Alpha numeric LCD back light
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Outputs/Inputs

Analogue outputs	Isolated current loops One per gas 4-20 mA
Relays outputs	One per gas
Relay rating	Isolated changeover contacts rated 0.5A @ 125V a.c; V d.c
Communications	RS 232 or RS 485 Modbus serial digital data bus (2 or 4 wire)

Environmental

Enclosure	19" Rack
Operating (ambient) Temp.	- 40deg C to + 50deg C

Power

Power supply	200 to 240V a.c, 50-60 Hz
Power consumption	400 w

Gas & Air Requirements

Instrument air (zero calibration)	4 bar / 60 psi min. clean dry & solvent free; 10 l/min
Calibration gas (recommended)	1 bar / 15 psi; 2L/min approx
Calibration gas type	Specific to each gas type & measurement span

Dimensions (H x W x D)

1570x600x370 mm

Options

Automatic Calibration
Twin Stream variant
Remote Diagnostics

24x24x12 mm

As no Single Sensor Technology is ideal for all applications we employ over Ten different Technologies to "Fit the product to the Application & customer Preference" These technologies cover the broad spectrum from economical single ECH sensor to highly Advanced, IR/UV Photo ionization Paramagnetic Technologies.

The above Parameter and Ranges are only indicative. Endee will build up and supply the analyser with Parameters, range and features to any Practical Configuration.

Note : Specifications and Features will vary with application. The above are established and validated during design, but are not to be construed as test criteria for every product. Due to endee's commitment to research, design and product improvement, specifications are subject to change without notice.



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