



CEM Solutions
Industrial Emissions Monitoring



MGA12

Continuous Multi Gas Emissions Monitoring

CEM Gas provide both hot and cold extractive multi gas analysers, utilising infrared absorption technologies. These are suitable as single stand-alone systems, twin-stream systems or can be integrated with additional measurements such as dust and flow to provide a complete continuous emissions package.

Applications and Industries:

The MGA 12 is suitable for the following industries applications:

- Regulatory Emissions
- Combustion Optimisation
- Process Control
- Process Safety
- Thermal Oxidisers
- Industrial Boilers
- Power Plants
- CHP PLants



Technology:

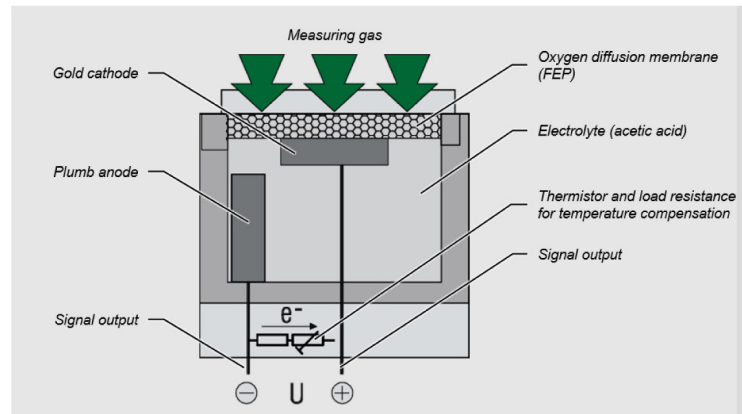
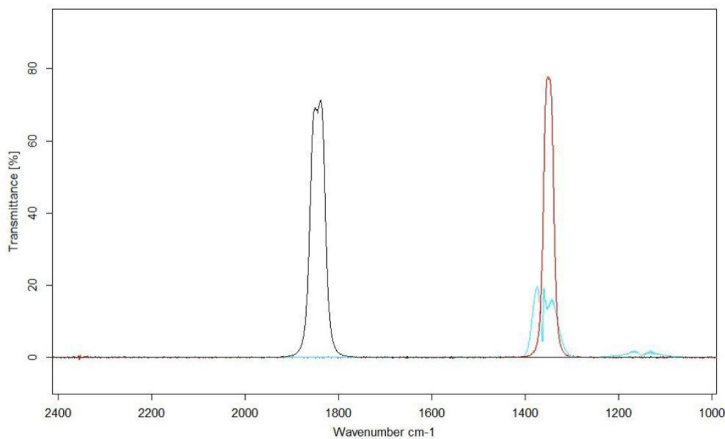
The MGA 12 uses a combination of technologies to provide the best possible measurement for each component.

Infrared absorption

This spectroscopic method is based on the absorption of non-dispersive infrared radiation. The reduction in infrared radiation, specific to each component measured is used to calculate the measurement readings.

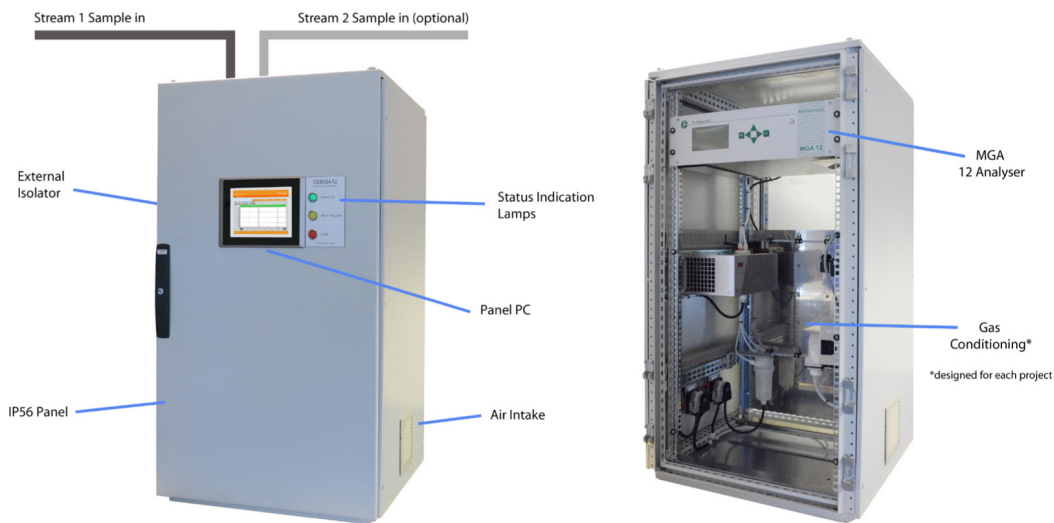
Electrochemical cell (O₂)

The MGA 12 incorporates an oxygen measuring cell: The oxygen sensor operates according to the principle of a fuel cell. The oxygen is converted at the boundary layer between the cathode and electrolyte. The resulting current is proportional to the oxygen concentration.



MGA 12 Multi Gas Analyser

- Local diagnosis of system state via lamps on external panel and detailed diagnosis via the MGA12
- Internal flow display with monitoring
- Bar graph display of each measured component (on MGA12 display)
- Internal condensate monitor with automatic pump shut-off
- Analogue output for five gas components with respective limit values and measuring range change-over control
- Temperature-compensated for improved stability
- Automatic zero point with ambient air, with optional automatic span point calibration
- Zero point drift control

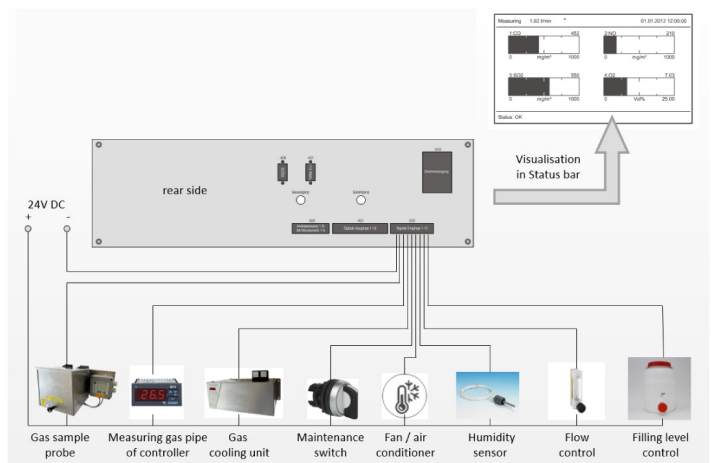


Connections

- 16 digital outputs
- 3 status contacts
- 5 contacts for range changeover
- 5 analogue outputs
- System OK, maintenance request and failure lamp indicators
- RS232 connection between analyser and panel PC

Options

- Integrated panel with data-logging software
- Heated sample line controller
- H₂PO₄ dosing control for low level SO₂ measurements
- Condensate tank with level sensor



Technical Data

Analyser Cabinet:	1100x600x600mm, 120Kg
Ambient Temperature:	5 – 30°C
Power Supply:	230V AC / 50-60Hz
Measuring Methods:	Electrochemical cell (O ₂ , H ₂ S) Infrared photometer (CO, CO ₂ , SO ₂ , NO, NO ₂ , CH ₄ , H ₂ O) Paramagnetic measuring method (O ₂)
Accuracy:	< 2% of the respective measuring range
Zero Point Correction:	Automatic
Sensitivity Correction:	Manual, with test gas, optional: automatic
Air Pressure Correction:	Internal
Response Time:	T ₉₀ < 180s (depending on plant and chosen component)
Digital Inputs:	8 Inputs (opto-coupled)
Digital Outputs:	16 outputs, potential free, 24V DC max 0.4A (max 10W)
Analogue Outputs:	5 active analogue outputs, 4-20mA, potential free, max 500 Ohm
Twin Gas Path*:	Two separated gas paths
Panel PC with datalogging software*:	Graphing of data Data storage Loading / saving of all configuration data

* Optional items

Measuring Ranges

Component	Measuring Range 1	Measuring Range 2
CO:	0 — 125mg/m ³ (0 — 100ppm)	0 — 1000mg/m ³ (0 — 800ppm)
CO ₂ :	0 — 20% Vol	
SO ₂ :	0 — 200mg/m ³ (0 — 70ppm)	0 — 1000mg/m ³ (0 — 350ppm)
NO:	0 — 300mg/m ³ (0 — 225ppm)	0 — 1000mg/m ³ (0 — 750ppm)
NO ₂	0 — 200mg/m ³ (0 — 95ppm)	0 — 1000mg/m ³ (0 — 485ppm)
CH ₄	0 — 300mg/m ³ (0 — 420ppm)	0 — 1000mg/m ³ (0 — 1400ppm)
H ₂ S	0 — 75mg/m ³ (0 — 50ppm)	
H ₂ O	0 — 3% Vol	
O ₂	0 — 25% Vol	0 — 25% Vol

ABOUT US

We have partnered with a highly respected German manufacturer to provide the best quality products. Our team of engineers has many years' experience in continuous emissions monitoring, system design & specification, high level customer support, installation, commissioning, servicing and repairs.



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