

The GCEM40E hot extractive multi-channel gas analyzer is a continuous emissions monitor for difficult applications

The **GCEM40E** gives complete flexibility of use on process or emissions applications while delivering superb accuracy and repeatability at a competitive price. Many conventional extractive systems require the sampled gas to be cleaned and dried to a very high standard prior to analysis, invariably resulting in a high maintenance demand. Such elaborate pre-conditioning is not required with the GCEM40E. This analyzer creates 'perfect' duct conditions in a temperature-controlled chamber within a separate free-standing cabinet. Process conditions are extracted using a heated probe system which has an option of compressed air blow-back for excessively dusty applications. Once the sample has been drawn it is simply cooled (or heated) then transferred along a heated sample line, without further conditioning, to be measured using a CODEL multi-channel analyzer housed in the cabinet.

The **GCEM40E** provides the facility to automatically check and control zero calibration points using clean, dry compressed air or nitrogen. Where independent span checks are required, bottled gases of known concentration can be injected directly into the measurement chamber.

Features and Benefits:

- > Single or Multi-Species infrared absorption analyzer – Accurate, reliable, and low maintenance technology
- > Extractive System - With full zero & span verification using certified gas
- > Gas temperature and pressure sensors - On-board normalization to standard reference conditions
- > Auto routine calibration - Zero and span calibration using audit gas
- > Analog and serial outputs - Export of data to SCADA, DCS, and historian systems



GCEM40E: Analyzer can measure a range of CO, NO, NO₂, NO_x, SO₂, CH₄, HCl, N₂O, CO₂, H₂O, and O₂ simultaneously and with integral temperature and pressure sensors can compute fully normalized data directly in mg/Nm³.

MONITORING SOLUTIONS

Complete source for all your Continuous Emissions Monitoring (CEMS) needs:

- > Both Dilution and Extraction CEMS systems
- > Data Acquisition Systems (DAS)
- > Flow Monitoring
- > Opacity Monitoring
- > Oxygen Monitoring Systems
- > Particulate (PM) Monitoring
- > Process Monitoring Systems

Sensor Unit

Gas Species Options	- Single or multi-gas measurements available: - Maximum 3 gases from: CO, NO, NO ₂ , NO _x , SO ₂ , HCl, N ₂ O, CH ₄ plus gas temperature - Optional: CO ₂ , H ₂ O, pressure for data normalization
Measuring units	ppm, mg/Nm ³ , mg/m ³ , %
Response Time	Less than 200 Seconds (T90)
Gas Temperature	Below dewpoint to 2372°F, See probe options below
Calibration	Automatic and manual zero/span verification
Max Measuring Range	0 - 6000 ppm, higher ranges available on request: 0 - 25%
Accuracy & Resolution	+/- 2ppm or 2% of span; 0.5% or 2% of span; +/- 1ppm 0.1%
Zero & Span drift	+/- 2ppm or 2% of span per month; 0.5% or 2% of span
Linearity & Repeatability	+/- 2% of span 2% of span; +/- 5ppm or 1% of span 0.3% or 1 % of span
Ambient Temperature	-4°F to 122°F
Keypad	4-key soft-touch entry

Heated Sample Line

Single Core	PTFE tube, non-interchangeable, self-regulating
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Services

Power	Mains 230 VAC, single phase, 50/60hz
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Analyzer Cabinet

Analog outputs	4-20mA current outputs for each gas channel supplied, isolated, 500Ω load max, fully configurable from software.
Logic Outputs	Up to 8 x volt-free SPCO contacts, 50V, 1A max, configurable as alarm contacts; 1 x volt-free SPCO contact, 50V, 1A max, for data valid signal
Inputs	1 x 4-20mA for oxygen as standard (Up to 8 optional)
Serial Data	RS232 / RS485 (MODBUS protocol)
Construction	Mild steel construction powder coated to IP66 or 55 (Double door)
Power Supply	180 – 264 VAC
Air Dryer	For clean, dry, oil-free air

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