

CODEL

A Forbes Marshall Company

GCEM 50E Extractive Gas Analyser Datasheet

CO₂, H₂O, O₂, CO, NO, NO₂, N₂O, SO₂, HCl and CH₄



The world's only certified field mountable extractive gas analyser

Monitoring Solutions



ISO 9001:2015
Quality Certification

ISO 14001:2015
Environmental Certification

www.codel.co.uk

Backed by over 40 years of experience, CODEL understands how to build instruments that perform. The GCEM 50E combines proven reliability with next-generation precision.



Features and Benefits



3 Way Interlock Start Ups

Smart safety checks make sure the system only runs when conditions are right - protecting components, reducing maintenance, and ensuring accurate, reliable data every time.



No Sample Conditioning Required

Designed for simplicity and reliability, the GCEM 50E measures directly from the source without the need for costly sample conditioning systems.



Plug & Play Consumables Readily Available

Quick and easy replacement of key components keeps maintenance simple and downtime to a minimum.



Integrated Touch Screen Display

A clear, user-friendly interface provides instant access to live data, diagnostics, and system control.



Field Mountable

Engineered for flexibility, the GCEM 50E can be installed directly at the measurement point, reducing space requirements and installation costs.



CODEL Cloud Compatibility

Seamlessly connects to CODEL Cloud for remote access, live data viewing, and performance insights from anywhere in the world.



Meets VDI 4201 Data Requirement

Fully compliant with the latest VDI 4201 standards to ensure accurate, traceable, and reliable emissions data.

Compatible With:



Typical Applications

- Emission Monitoring
- Combustion Processes
- Gas Turbines
- Thermal Oxidizers
- Biomass Boilers
- High Temp Applications
- Waste to Energy Final Emissions

Technical Specification

Gas	CO	NO	NO ₂	N ₂ O	SO ₂	HCl	CH ₄	CO ₂	H ₂ O	O ₂
Certified Measurement Range	0 - 100ppm	0 - 100ppm	0 - 100ppm	0 - 100ppm	0 - 100ppm	0 - 100ppm	0 - 100ppm	0 - 25%	0 - 30%	0 - 25%
Max Measurement Range	0 - 6000ppm	0 - 6000ppm	0 - 6000ppm	0 - 6000ppm	0 - 6000ppm	0 - 6000ppm	0 - 6000ppm	0 - 40%	0 - 30%	0 - 25%
Resolution	1ppm	1ppm	1ppm	1ppm	1ppm	1ppm	1ppm	0.10%	0.10%	0.10%
Alternative Measurement Units	mg/Nm ³ mg/m ³ Vol. %									
Accuracy	<2% of Range									
Flue Gas Temperature	0 - 1200°C									
Ambient Temperature	-20 °C to 50°C									
Zero Drift	Automated Daily Zero Calibration									
Span Drift	Manual Span Calibration on demand									
Response Time (T90)	< 180 Seconds									
Outputs	1 x RS485 - Standard 16 x mA Outputs (Configurable) - Optional 16 x Relay Outputs (Configurable) - Optional									
Inputs	1 x 4-20 mA Inputs 3 x Digital Inputs									
Software	Local Touch Screen HMI CODEL Cloud Compatible									
Power Supply	240 VAC (-15% to +10% from Nominal Supply)									
Power Consumption	Cabinet: 1.5kW Sample Line: 80W per meter (typically, supplier dependent) Sample Probe: 800W (typically, supplier dependent)									
Air Supply	Oil Free Instrument Air 1 L/min (Standard Operation) , 10 L/min (Calibration) @ 5.5 Bar (min)									
Construction	Head: Epoxy Coated Aluminium Rated to IP66 Cabinet: Coated Mild Steel Rated to IP54									
Certification	TUV QAL1 - EN 15267 & EN 14181									
Repeatability	Less than 2% of range									
Heated Sample Line Dual Core	Sample + span gas lines, self regulating heating up to 180°C. Mains supply for sample probe.									
Standard Probe & Standard Probe with	The Sample Probe, Sample Line, and Temperature Sensor for stack gas temperature should be selected based on the specific conditions of the application.									
Stack Gas Temperature	0 - 300°C / 0 - 600°C / 0 - 900°C Options Available									



Realtime data and Reporting hub

CODEL Cloud allows for realtime data whenever and wherever you need it.



What is CODEL Cloud?

CODEL Cloud is an advanced cloud-based platform designed to provide real-time remote monitoring and data management for industrial emission monitoring systems. It allows users to access, visualize, and manage emissions data from anywhere, offering full visibility and control over CODEL's Continuous Emissions Monitoring Systems (CEMS).



Security and Compliance

Rest easy knowing that your data is secure and compliant with industry standards. Our software employs robust security measures to protect your sensitive information, ensuring confidentiality and integrity.



24/7 Support

CODEL offers dedicated technical support for CODEL Cloud users. Our team is available to assist with setup, troubleshooting, and ongoing maintenance to ensure smooth operation and optimal performance.



Available on all devices

CODEL Cloud works on any device and any operating system. You can have insights and notifications directly in your pocket on your mobile phone, or live data inside your control room or office.



Live Data Streaming

Harness the power of real-time data streaming to stay ahead of the curve. Our software enables live updates, ensuring you have Realtime instrument data at your fingertips, empowering you to make informed decisions instantaneously.



User-friendly Interface

Our intuitive and user-friendly interface makes navigating and utilizing the software a breeze. No need for extensive training – start extracting value from your data from day one.



Alert Notifications

Stay on top of critical events with customizable alerts. Set thresholds for key metrics, and receive notifications in real-time, allowing you to proactively address issues and capitalize on opportunities.



Advanced Analytics

Dive deep into your data with our advanced diagnostic tools. Uncover patterns, correlations, and outliers that might go unnoticed in traditional analysis. Make data-driven decisions with confidence and precision.