Process Insights™
Premium Insights Into Process

HIGH-PERFORMANCE GAS ANALYZERS

PRODUCT DATASHEET

Spark Max CO_2™ Trace Level Carbon Dioxide Analyzer

Compact, affordable and powerful, the Spark Max CO_2 brings you:

- Sub-100-ppb detection capability for carbon dioxide (CO_2) in inert gases and hydrogen
- Wide measurement range
- Drift-free performance & immunity to vibration
- No spectral interferences
- Standalone or rack-mountable
- Lowest cost of ownership
- Available Serani™ Max interface software for remote analyzer control & data analysis
- NOW INCLUDED: **Speed+ performance upgrade** – intelligent dynamic data processing boosts analyzer's speed of response while maintaining low noise performance

Simple, Drift-Free CO_2 Contaminant Detection Ideal for Air Separation Plants

With the Spark Max CO_2, the latest generation of Cavity Ring-Down Spectroscopy (CRDS) instrumentation is now available at a popular price for a host of applications, from process control and quality assurance in Air Separation Units to refineries and hydrogen plants. Other applications include monitoring of cylinder filling, bulk delivery and distribution transfer points, fuel-cell hydrogen analysis, as well as welding, medical, industrial and high-purity gas production, and more. Sensitivity below 100 parts per billion and high-ppm ranges make the Spark Max an ideal trace gas detection solution for these industrial gas applications.

Say goodbye to cumbersome, complex, costly and labor-intensive mid-20th century technology. Gone is the need for calibration, spare parts, limited measurement ranges, and worries about drift and downtime usually associated with NDIRs and GCs. In addition, the Spark Max has the lowest cost of ownership in the industry with fully automatic operation and virtually no maintenance is required.

Performance

Operating range:	See table below
Detection limit (LDL, 3σ/24h):	See table below
Precision (1σ, greater of):	± 0.75% or 1/3 of LDL
Accuracy (greater of):	± 4% or LDL
Speed of response:	< 1 minute to 90%
Environmental conditions:	10°C to 40°C 30% to 80% RH (non-condensing)
Storage temperature:	–10°C to 50°C

Gas Handling System and Conditions

Wetted materials:	316L stainless steel, 10 Ra surface finish
Gas connections:	1/4" male VCR inlet and outlet
Inlet pressure:	10 − 125 psig (1.7 − 9.6 bara)
Flow rate:	~0.7 slpm (in N_2), gas-dependent
Sample gases:	Most inert and passive matrices
Gas temperature:	Up to 60°C

Dimensions & Weight

Standard sensor:	H × W × D 8.73 × 8.57 × 23.6 in (222 × 218 × 599 mm)
Sensor rack (fits up to two sensors)**:**	H × W × D 8.73 × 19.0 × 23.6 in (222 × 483 × 599 mm)
Standard sensor weight:	28 lbs (12.7 kg)

Electrical and Interfaces

Platform	Max Series analyzer
Alarm indicators:	2 user programmable, 1 system fault, Form C relays
Power requirements:	90 − 240 VAC, 50/60 Hz
Power consumption:	40 Watts max.
Signal output:	Isolated 4−20 mA per sensor
User interfaces:	5.7" LCD touchscreen. 10/100 Base-T Ethernet. USB, RS-232, RS-485. Modbus TCP (optional)
Data storage:	Internal or external flash drive
Certification:	CE Mark

Performance, CO_2

	Range	LDL (3σ)	Precision (1σ) @ zero
In Nitrogen:	0 − 1500 ppm	50 ppb	20 ppb
In Argon:	0 − 1200 ppm	40 ppb	15 ppb
In Helium:	0 − 1200 ppm	40 ppb	15 ppb
In Clean Dry Air (CDA):	0 − 1500 ppm	50 ppb	20 ppb
In Oxygen:	0 − 1200 ppm	45 ppb	15 ppb
In Hydrogen:	0 − 2000 ppm	80 ppb	30 ppb

Contact us for additional analytes and matrices.
U.S. Patent # 7,277,177

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GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights delivers premium analytical sensors, analyzers, instrumentation, software and solutions that are mission-critical to keep your operations, personnel, and the environment safe. Our commitment to customer satisfaction is evident through our diverse range of products, programs, and services, designed to accommodate various budgets and application needs.

CENTERS OF EXCELLENCE

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