



Spark CO₂

Trace Level Carbon Dioxide Analyzer

GASES & CHEMICALS

CEMS

ENERGY

ATMOSPHERIC

SEMI & HB LED

SYNGAS

LAB & LIFE SCIENCE

Compact, affordable and powerful, the new Spark CO₂ brings you:

- Trace CO₂ detection limit down to 250 ppb
- Wide dynamic measurement range
- Drift-free performance
- Immunity to vibration
- No spectral interferences
- Compact standalone footprint or rack-mountable
- Low Cost of Ownership
- Simple operation
- Serani™ interface software for remote analyzer control & data analysis

Advancing Accurate, Consistent & Drift-Free CO₂ Measurements

The removal of contaminants prior to cooling and distillation is essential to the cryogenic air separation process. If not detected quickly, impurities such as carbon dioxide (CO₂) can freeze in the downstream cryogenic equipment causing damage and product spoilage. Tiger Optics' Spark CO₂ analyzer affords fast, accurate response and clean-up, with robust, drift-free performance.

The Spark CO₂ builds on Tiger Optics' longstanding leadership for trace monitoring of critical impurities in pressurized gases. Based on powerful Cavity Ring-Down Spectroscopy (CRDS), with a proprietary laser-locked cell, the Spark is free of drift, guaranteeing consistent and reliable trace CO₂ detection in nitrogen and other inert gases. Highly specific to the target molecule, CRDS also prevents cross-interferences from distorting your measurement.

Plus, there is no need to perform costly and time-consuming zero and span calibrations, saving both time and money with continuous, on-line service. With freedom from calibration and maintenance, the Spark CO₂ gives you exceptional ease of use and extremely low Cost of Ownership.

Tigeroptics

21ST CENTURY SPECTROSCOPY

Spark CO₂

Trace Level Carbon Dioxide Analyzer



Performance		Dimensions	H x W x D [in (mm)]
Operating range	See table below	Standard sensor	8.73 x 8.57 x 23.6 (222 x 218 x 599)
Detection limit (LDL, 3σ)	See table below	Sensor rack	8.73 x 19.0 x 23.6 (222 x 483 x 599)
Precision (1σ, greater of)	± 0.75% or 1/3 of Sensitivity	(fits up to two sensors)	
Accuracy (greater of)	± 4% or the LDL		
Speed of response	< 3 minutes 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		Weight	
Wetted materials	316L stainless steel 10 Ra surface finish	Standard sensor	32 lbs (14.5 kg)
Gas connections	1/4" male VCR inlet and outlet		
Inlet pressure*	10 – 125 psig (1.7 – 9.6 bara)	Electrical	
Flow rate	≤1.4 slpm (in N ₂ , gas dependent)	Alarm indicators	2 user programmable 1 system fault Form C relays
Sample gases	Most inert and passive matrices	Power requirements	90 – 240 VAC, 50/60 Hz
Gas temperature	Up to 60°C	Power consumption	40 Watts max.
		Signal output	Isolated 4–20 mA per sensor
		User interfaces	5.7" LCD touchscreen 10/100 Base-T Ethernet 802.11g Wireless (optional) RS-232 Modbus TCP (optional)
Performance, CO ₂ :		Range	LDL (3σ)
In Nitrogen	0 – 1500 ppm	250 ppb	
In Clean Dry Air (CDA)	0 – 1500 ppm	250 ppb	

*Inlet pressure as low as 0 psig available with Atmospheric Pressure Sampling option

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