

PRODUCT DATASHEET

Spark™ H₂O in CO₂ Trace Level Moisture Analyzer



The compact and affordable Spark H₂O in CO₂ offers:

- Powerful, proven Cavity Ring-Down Spectroscopy (CRDS) technology
- Freedom from calibration
- Extremely low cost of ownership
- Ethernet, 4–20 mA and RS-232 connectivity
- Fast response with low gas consumption
- Wide-range H₂O analysis in pure CO₂: 550 ppb to 600 ppm!
- **NOW INCLUDED: Speed+ performance upgrade** – intelligent dynamic data processing boosts analyzer's speed of response while maintaining low noise performance



With the Spark, powerful advanced spectroscopy is available at a popular price for a host of applications, from quality assurance to cylinder filling, as well as welding, medical, industrial and high-purity gas production; bulk delivery and distribution transfer points; and more. Based on powerful Cavity Ring-Down Spectroscopy (CRDS), the Spark allows users to replace cumbersome, complex, costly and labor-intensive 20th century technology. Gone is the need for calibration, spare parts, limited measurement ranges, and worries about drift and downtime.

The Spark H₂O in CO₂ specializes in the measurement of trace moisture in pure carbon dioxide (CO₂) over a wide range, from 550 ppb to 600 ppm. Ideal applications include packaged gas quality assurance and beverage CO₂, as well as high-purity CO₂ for semiconductor fabrication. While mainly designed for measurements in CO₂, the Spark is extremely flexible and can measure in most inert bulk gases (N₂, O₂, Ar, He, and more), as well as pure carbon monoxide (CO).

The Spark is compact and portable. If cylinder analysis is needed in different locations of the plant, the Spark can easily be moved around and is ready to measure in a matter of minutes.

Put a little Spark in your life!



Performance

| | |
|---|---|
| Operating range: | See table on next page |
| Detection limit (LDL, 3σ/24h): | See table on next page |
| Precision (1σ, greater of): | \pm 0.75% or 1/3 of LDL |
| Accuracy (greater of): | \pm 4% or 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

| | |
|--------------------------|--|
| 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: | ~1.4 slpm |
| Sample gases: | Most inert and passive matrices |
| Gas temperature: | Up to 60°C |

Dimensions & Weight

| | |
|--|--|
| Standard sensor: | H x W x D 8.73 x 8.57 x 23.6 in (222 x 218 x 599 mm) |
| Sensor rack (fits up to two sensors): | H x W x D 8.73 x 19.0 x 23.6 in (222 x 483 x 599 mm) |
| Standard sensor weight: | 32 lbs (14.5 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, H₂O | Range | LDL (3σ) | Precision (1σ) @ zero |
|------------------------------------|--------------|-----------------------------------|--|
| In Carbon Dioxide: | 0 – 600 ppm | 550 ppb | 180 ppb |
| In Nitrogen: | 0 – 500 ppm | 7.5 ppb | 2.5 ppb |
| In Oxygen: | 0 – 250 ppm | 7.5 ppb | 2.5 ppb |
| In Argon: | 0 – 200 ppm | 6 ppb | 2.0 ppb |
| In Helium: | 0 – 125 ppm | 4 ppb | 1.3 ppb |
| In Hydrogen: | 0 – 400 ppm | 6 ppb | 2.0 ppb |
| In Clean Dry Air (CDA): | 0 – 450 ppm | 7.5 ppb | 2.5 ppb |
| In Carbon Monoxide: | 0 – 480 ppm | 7 ppb | 2.5 ppb |

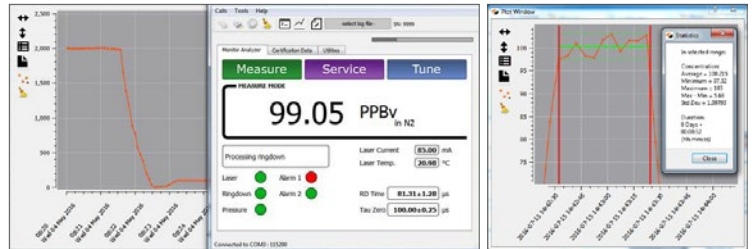


Optional Packages

Add more value your Spark analyzer with these powerful options:

Serani™ Max Analyzer Interface Software

- Connect to your analyzer remotely from your computer via Ethernet or RS-232 (Windows XP or higher required)
- Data recording, plotting and analysis in real-time with the click of a button
- One-step data collection and other service function shortcuts



Annual Performance Verification

- Low-cost and easy remote verification process, with no need to return the analyzer to the factory
- Annual verification by Tiger Optics ensures that your analyzer continues to meet its original specifications
- Up-to-date Verification Certificate to comply with your QA/QC standards



Installation & Commissioning Package

- On-site analyzer installation and start-up by our trained personnel
- Ensuring correct installation helps prevent future issues with the analyzer or your sampling system
- Gain peace of mind and save money in the long run



GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights manufactures and delivers premium sensors, monitors, detectors, analyzers, instrumentation, and software that are mission-critical to keep your operations, personnel, and the environment safe – every day across the globe.

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REVOLUTIONIZING MEASUREMENT

EVERYWHERE