Spark+ H_2O: Trace Level Moisture Analyzer
At last, parts-per-billion made easy!

GASES & CHEMICALS | CEMS | ENERGY | ATMOSPHERIC | SEMI & HB LED | SYNGAS | LAB & LIFE SCIENCE

Compact, affordable and powerful, the new Spark+ H_2O brings you:

- Low detection levels of 3–10 parts per billion (ppb) of moisture in an array of sample gases
- Wide dynamic range—over four orders of magnitude, up to 2000 ppm in nitrogen
- Absolute measurement—freedom from drift, hence no need for external calibration
- No interference from methane up to 100 ppm and from other hydrocarbons to even higher levels
- Improved accuracy and precision
- Extremely low Cost of Ownership
- Easy installation and operation
- Great stability—consistent performance even after a decade of operation
- Optional Dew Point measurement capability
- Optional Serani™ interface software (HyperTerminal replacement)

While many customers already enjoy the performance and advantages of Tiger's Spark H_2O analyzer, our pace of development never stalls. For customers seeking more refined detection levels, we now offer the Spark+ H_2O, with enhanced performance. The new Spark+ H_2O affords more than 30% lower detection limits versus the standard Spark H_2O. Plus, it maintains the affordability, consistency and robustness that have become hallmarks of the Spark platform. Serving challenging applications, from semiconductor fabs to aerospace to air separation units (ASUs), the Spark+ H_2O makes trace detection easy and cost-effective, with greater precision and better accuracy.

Put a little extra Spark in your life!

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Spark+ H_2O
Trace Level Moisture Analyzer

Performance	
Operating range	See table below
Detection limit (LDL,	See table below
24 h peak-to-peak variation)	
Sensitivity (3σ)	See table below
Precision (1σ, greater of)	± 0.5% (in N_2) or 1/3 of Sensitivity
Accuracy (greater of)	± 3% 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	
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 (in N_2, gas dependent)
Sample gases	Most inert and passive matrices
Gas temperature	Up to 60°C

Dimensions	H x W x D [in (mm)]
Standard sensor	8.73 x 8.57 x 23.6 (222 x 218 x 599)
Sensor rack	8.73 x 19.0 x 23.6 (222 x 483 x 599)
(fits up to two sensors)	
Weight	
Standard sensor	32 lbs (14.5 kg)

Electrical	
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
	802.11g Wireless (optional)
	RS-232
	Modbus TCP (optional)

Performance, H_2O:	Range	LDL (peak-to-peak)	Sensitivity (3σ)
In Nitrogen	0 – 2000 ppm	10 ppb	7.5 ppb
In Oxygen	0 – 1000 ppm	5 ppb	4 ppb
In Argon	0 – 900 ppm	4 ppb	3 ppb
In Helium	0 – 450 ppm	3 ppb	2 ppb
In Hydrogen	0 – 1750 ppm	7 ppb	5 ppb
In Clean Dry Air (CDA)	0 – 1800 ppm	10 ppb	7.5 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

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Spark+ H_2O
Trace Level Moisture Analyzer

Optional Packages

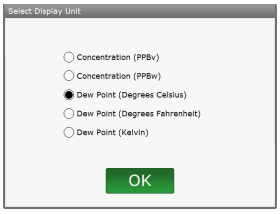
Customize your Spark+ H_2O analyzer with these powerful add-ons:

Atmospheric Pressure Sampling

- Sample in Nitrogen and Clean Dry Air (CDA) with lower inlet pressure, down to 0 psig (may require vacuum pump)
- Wider inlet pressure range for H_2O measurement in Air Separation Units (ASUs)
- Moisture monitoring of atmospheric pressure process chambers and glove boxes

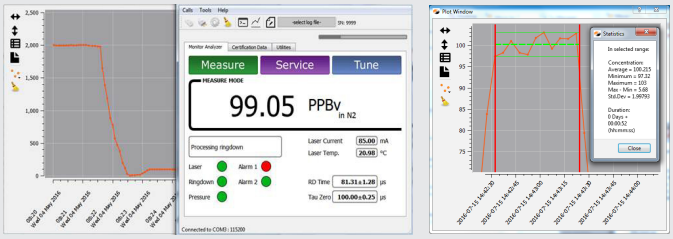
Dew Point Measurement

- Moisture measurement can be displayed as Dew Point (in units of °C, °F or K) or Concentration (as volume or weight basis)
- Ideal for use as transfer standard for Dew Point-based moisture generators – no unit conversion necessary
- Wide Dew Point measurement range from −100°C to −13°C



Serani™ 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 for “Remote Certification” and other service function short-cuts



Annual Remote Certification

- Low-cost and easy remote certification process, with no need to return the analyzer to the factory
- Annual re-certification 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

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