



# ALOHA+ H<sub>2</sub>O

## Gas Analyzer for Trace Moisture in Ammonia

GASES & CHEMICALS

CEMS

ENERGY

ATMOSPHERIC

SEMI & HB LED

SYNGAS

LAB & LIFE SCIENCE

### Designed for trace level moisture analysis in ammonia, the ALOHA+ H<sub>2</sub>O offers:

- 2 parts-per-billion (ppb) detection capability in ammonia (NH<sub>3</sub>) and sub-ppb in inert matrices
- Rapid response time
- Wide dynamic range
- Absolute and calibration-free measurement technology
- Extremely low cost of ownership
- User-friendly touchscreen and remote communication

### The superior analytical solution for your High-Brightness LED needs

The ALOHA+ H<sub>2</sub>O advances moisture detection in ammonia (NH<sub>3</sub>) to unprecedented levels. The analyzer provides specialty gas and High-Brightness LED makers with the exceptional detection limits, accuracy, reliability, speed of response and ease of operation that Tiger Optics customers have come to expect. LED manufacturers rely on Tiger Optics' family of proven Continuous-Wave Cavity Ring-Down Spectroscopy-based moisture sensors to ensure the ammonia

process gas is of the high quality necessary to produce High Brightness LEDs.

The cost effective analyzer is quick to install, easy to use and effortless to maintain. There are no off-line periodic sensor maintenance procedures, no span calibrations, no purifier replacement and no pump rebuilds required. The ALOHA+ H<sub>2</sub>O analyzer is fully self-calibrating and the "bright" choice for your detection needs!

**Tiger**optics

21<sup>ST</sup> CENTURY SPECTROSCOPY

# ALOHA+ H<sub>2</sub>O

## Gas Analyzer for Trace Moisture in Ammonia



Performance		Dimensions	H x W x D [in (mm)]
Operating range	See table below	Standard sensor (incl. shutoff valves)	8.73 x 8.57 x 26.4 (222 x 218 x 670)
Detection limit (LDL, 3σ/8h)	See table below	Sensor rack (fits up to two sensors)	8.73 x 19.0 x 26.4 (222 x 483 x 670)
Precision (1σ, greater of)	± 1% or 1/3 of LDL	Weight	
Accuracy (greater of)	± 4% or LDL	Standard sensor	34 lbs (15.4 kg)
Speed of response	< 5 minutes to 95%	Electrical	
Environmental conditions	10°C to 40°C 30% to 80% RH (non-condensing)	Alarm indicators	2 user programmable 1 system fault Form C relays
Storage temperature	-10°C to 50°C	Power requirements	90 – 240 VAC, 50/60 Hz
Gas Handling System and Conditions*		Power consumption	40 Watts max. (excluding vacuum pump)
Wetted materials	316L stainless steel 10 Ra surface finish	Signal output	Isolated 4–20 mA
Gas connections	1/4" male VCR inlet and outlet	User interfaces	5.7" LCD touchscreen 10/100 Base-T Ethernet 802.11g Wireless (optional) RS-232
Leak tested to	1 x 10 <sup>-9</sup> mbar l / sec		
Inlet pressure	10 – 125 psig (1.7 – 9.6 bara)		
Outlet pressure	<2 Torr (2.7 mbar)		
Flow rate	up to 1.8 slpm (gas dependent)		
Sample gases	Ammonia (NH <sub>3</sub> ) and inert matrices		
Gas temperature	Up to 60°C		

Performance, H <sub>2</sub> O:	Range	LDL (3σ)	Precision (1σ) @ zero
In Ammonia	0 – 20 ppm	1.6 ppb	0.6 ppb
In Nitrogen	0 – 6 ppm	0.5 ppb	0.2 ppb
In Helium	0 – 3 ppm	0.3 ppb	0.1 ppb
In Argon	0 – 4 ppm	0.4 ppb	0.15 ppb

\*Vacuum source required  
U.S. Patent # 7,277,177

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