



Optical Ammonia Analyzer

(OAA) High Precision NH_3 Measurement



Optical Ammonia Analyzer

Air Quality Monitoring



High-Precision, Realtime Analysis of Ambient Air & Soil Flux Gas



Benchmark Monitoring

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- ➔ **NH₃ Measurements Made Simple with Nikira Labs' optical ammonia analyzer (OAA)** with <1ppb (1sec, 1σ) precision is an ideal solution for ambient air quality monitoring, elucidation of particulate matter formation, livestock emissions quantification, vehicle emissions quantification, indoor air quality, and soil flux measurements.



Why Is Measuring NH₃ Accurately So Crucial?

- Ammonia (NH₃) is the most prevalent alkaline gas in our atmosphere, making it the main focus of atmospheric chemistry, air quality, air visibility, and ecosystem processes.
- While there is natural NH₃ release, the majority of the NH₃ present in our air is a result of human actions: livestock agriculture, car emissions, and fertilizer application being the most prevalent root causes. High concentration of NH₃ has a strong, unpleasant odor; diminishes air quality & visibility; and is toxic to humans & other living organisms.



Optical Ammonia Analyzer

Specification Sheet

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| Measurement Technology | ICOS / CEAS |
| NH ₃ Measurements Dynamic Range | 1ppb – 10ppm |
| NH ₃ Measurements Precision | ±1ppb (1s, 1σ) / ±0.3ppb (10s, 1σ) / ±0.1ppb (100s, 1σ) |
| Data Rate | 1Hz |
| Gas Sample Flow Rate | 2 SLPM (slower sample flow rate is also available) |
| Ambient Operating Temperature Range | 5°C to 45°C |
| Water Dynamic Range | 0 – 30,000 ppm |
| Ambient Humidity Range | 0 - 95% R.H. non-condensing |
| Outputs / Connectors | UART (for data logger), USB-3 / HDMI |
| Network Access | Built-in WiFi |
| Dimensions | Pelican 1525 Air Case: 22"x14"x7.5" |
| Weight | ~8Kg (18lbs) |
| Power Input | 14 – 28 VDC, 2.5 A |
| Power Consumption | 35W (user-supplied battery or wall plug operable) |
| Internal Data Storage | SD Card (32GB); Can store >1M readings (equivalent to 2yrs of continuous data collection) |
| Calibration | Infrequent |
| Consumables | Inlet filter |
| Pump | Internal |
| Communication Platform | WiFi |
| Warranty | 1 yr |

