Delta Phase
WATER GAS MONITORING

AIM9000E SERIES ANALYZER

DUV Gas Analyzers, for Laboratory, Process and Compliance Monitoring

MEASURES:
NO, NO₂, NH₃, HONO, O₃, H₂O₂, SO₂, Cl₂, ClO₂, B, T, X, BTX, HCHO, and others

The AIM9000E Series gas analyzers incorporate the most advanced technology available.

The Model 9100E is the unheated version, and the 9200E is the heated version of the patented AIM9000E extractive UV Analyzer Series; featuring an exclusive and proprietary DOAS analysis for the gas measurement, with digital signal processing and communications. Outputs include 4-20 MA analog, fault contact closures, RS485/422/232, and modem interface.

The AIM9000E series are available as a high range [-H] system measuring % to ppm, or low range [-L] system measuring low ppm to high ppb.

The system was developed from more than 10 years of practical field experience and over 1,000 installations in several countries.

FEATURES

- **Dedicated:** Measures one or multiple components with an 2048 element detector array, with interchangeable internal measurement cells tailored for the analyte and sensitivity requirements.

- **Fast Response Time:** fraction of a second – allows prompt process analysis and adjustments.

- **High Sensitivity:** Accurate measurements from mid ppb level concentrations and higher.

- **High Precision:** <1% of Reading

- **Low Drift:** <0.5% of Reading over 24 hours

- **Easy Maintenance:** The AIM9000E Analyzer features a simple, low-maintenance, rugged design. All analytical components are mounted on a baseplate in a sealed enclosure to insure long-term stability.

- **Fully Regulatory Compliant**

AIM9000E Series "building Block" Analyzer Description

The AIM9000E Series is the extractive DUV analyzer in a family that measures in the UV-vis (200nm to 1µ) and Near to Mid IR (1 to 5µ), with interchangeable sources, sample cells, optics, and detectors, controlled by an embedded PC. The analyzers exhibit exceptional sensitivity, stability, accuracy and repeatability, and are simple to operate and maintain.


UV Source - The source, intensity and spectral range is selected depending the gas to be measured.

Sample Cell - A small volume, fixed optical path length cell is used. Optical path length is selectable at time of ordering, from 0.1 to 10m; others at special request. Heated cells to > 200℃ are also available.
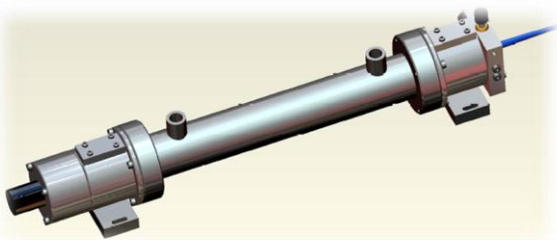
Measurement Principle – The 9000E Series employs DOAS spectral processing with a proprietary partial least squares [PLS] singular value decomposition [SVD] algorithm.

High Sensitivity Detector - The UV light is projected onto a grating and dispersed. The dispersed light is collected with a 2048 element CCD array detector. PbS, and PbSe are available as standard for the IR systems.
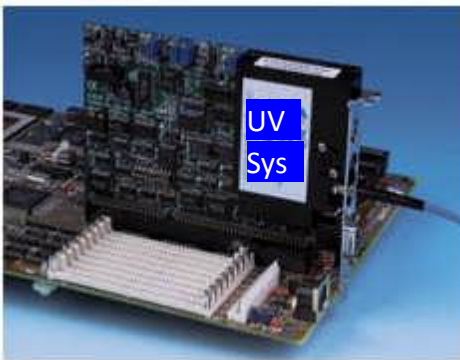
Digital Signal Processing - The detector output is amplified, digitized and processed with an embedded PC controller. With analog and digital outputs and fault alarms (contact closures). Outputs include ppm, %, mg/Nm^3, wet or dry basis, corrected to x% O_2 or CO_2, lb./hr., tons/yr., lb./MBtu, direct or differential measurements [i.e. difference between before and after a scrubber, or catalyst, or...] etc.

Touch Screen - 6.5" touch screen, Display parameters, and the friendly menus.

Construction Materials - Materials are corrosion resistant, a fundamental requirement for long term, reliable operation.

Elimination of Interferences - Neither H2O nor CO2 absorb throughout the UV spectrum above 200nm, and hence do not interfere with the measurement; but other gases may absorb. The use of pattern recognition employing part or all of the analytes unique absorption spectrum, and spectra subtraction allows accurate measurements of each analyte in a complex mixture.

Typical UV Absorbing Gases

O3, NO, NO2, NO3, N2O4, N2O5, NH3, N2H4, HONO, H2O, H2O2, SO2, SO3, H2SO4, H2S, CS2, COS, Cl2, ClO, ClO2, HCHO, CH3HCO, C2H5CHO, CH4O, C2H2, Benzene, Xylene, Toluene, substituted aromatics , & condensed rings

ExP Applications

AIM9000E can incorporate a Z-purge for Class1, Div 2, applications. Consult with factory

AIM9000EW
Wall Mounting Model