
AIM Series 5000

AIR INSTRUMENTS & MEASUREMENTS, LLC.



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 AIM 5000 Series gas analyzers incorporate the most advanced technology available.

The Model 5100 is the unheated version, and the 5200 is the heated version of the patented AIM 5000 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 5000 series are available as a high range [-HR] system measuring % to ppm levels, or low range [-LR] system measuring low ppms to high ppb levels.

The system was developed from more than 30 years of practical field experience and over 5,000 installations in 35 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** - $\leq 0.5\%$ of Range
- **Low Drift** - $\leq 1\%$ of Range over 24 hours or 30 days
- **Easy Maintenance** -The 5010 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. MTBF is > 10 yrs.
- **Fully Regulatory Compliant**

Air Instruments & Measurements

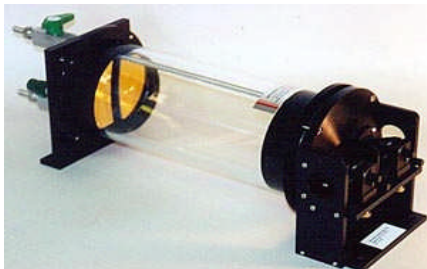
15404 E. Valley Blvd, City of Industry, CA 91746 USA
(626) 918-0786 Fax: (626)919-1632

URL: <http://www.aimanalysis.com>
e-mail: sales@aimanalysis.com

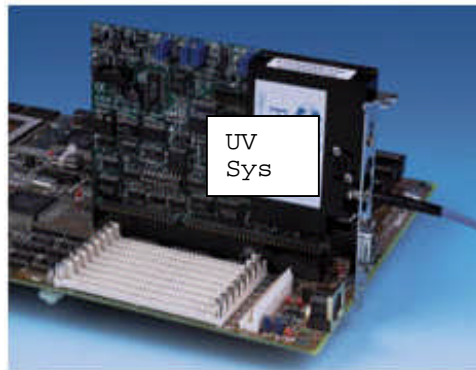
AIM 5000 Series "Building Block" Analyzer Description

The AIM 5000 Series is the extractive DUV analyzer in a family that measures in the UV/vis (200nm to 1 μ) and Near to Mid IR (1 to 5 μ), 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 pathlength 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°C are also available.



- **Measurement Principle** – The 5000 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/Nm³, wet or dry basis, corrected to x% O₂ or CO₂, lb./hr., tons/yr, lb./MBtu, direct or differential measurements [ie difference between before and after a scrubber, or catalyst, or...] etc.

- **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**

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

Air Instruments & Measurements [AIM]

15404 E. Valley Blvd

City of Industry, CA 91746 USA
626-918-0786, Fax 626-919-1632

E-Mail: aimanalysis@earthlink.net

URL - <http://www.aimanalysis.com>

For Further Info, Please contact your local Rep:

