



IN-SITU NDIR PROBE ANALYZER

MEASURES WITH NDIR

one to ten: CO, CO₂, HCl, HF, CH₄, HC, H₂O, SO₂, NO, NO₂, N₂O, NO_x

FEATURES

- Patented Technology with Over 30 Years Experience
- Single Penetration of Gas Stream
- Calibrate In Place In the Probe
- Expandable To Measure Six Gases Standard, Ten On Special Order
- Meets US and International EPA, State and Local Agency Requirement
- Accurate Measurements
- Fast Response
- Automatic Calibration
- Automatic Temperature Correction
- Digital Circuitry and Signal Transmission
- Stable Alignment
- EPA-Approved In-Place CGA Calibration Verification
- Proven Design
- Expandable
- Low Maintenance



The **AIM** Series 9010 is the IR probe design of the very popular **E-6200 IR** In-Situ Stack Gas Monitors: featuring dual beam, dual wavelength rationing, double-pass, non-dispersive infrared (NDIR) analysis.

AIM manufactures some of the most advanced air pollution monitoring equipment available today. These instruments incorporate mechanical and optical features which have been refined through over 30 years of practical field experience, state-of-the-art design, and over 4,000 installations world-wide.

AIM is experienced in the development, installation, operation and compliance testing of emissions monitoring instrumentation. This includes single and multi-component UV, VIS, and IR absorption gas analyzers, gas filter correlation analyzers, transmissometers, single and multiple-pass optical systems, fiber-optic coupled systems, and long-path (open-path) ambient analyzers.

Information on complete systems and analyzers for specific applications is available from the factory.

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9010 SERIES SPECIFICATIONS

Ranges: Adjustable from ppm to percent (%) levels, depending upon pathlength; multiple outputs/ranges available.

Typical System Configuration:

SO ₂	0 - 1000 to 0 - 5000 ppm v/v
NO _x	0 - 250 to 0 - 2500 ppm v/v
CO ₂	0 - 5 to 0 - 30% /vol
CO	0 - 100 ppm v/v to 0 - 10%
HCl	0 - 100 to 0 - 1000 ppm v/v
H ₂ O	0 - 25 to 0 - 40%

Accuracy: Better than ± 2% of full scale

Repeatability: Better than ± 1% of full scale

Linearity: Better than ± 1% of full scale

Zero Drift: Less than ± 1% of full scale in 30 days

Span Drift: Less than ± 1% of full scale in 30 days

Response Time: 1 to 15 minutes, Typ., operator selectable

Outputs: Linearized (better than 1%) analog 4-20 ma, (isolated optional); RS232C/RS422 digital outputs; relay contact closures, programmable; modem interface available.

Signal Processing: Digital

Ambient Temp: 10°F to 130°F (-10°C to 55°C) standard; Extended range with additional temp control available

Power: 110V ± 15%, 10 amp, 50/60 Hz ± 2Hz
240V ± 15%, 5 amp, 50/60 Hz ± 2Hz

Enclosure Protection: NEMA 4X

Chopped IR Source - A sealed W filament IR source, chopped at 900Hz with a 3600 rpm MIL spec synchronous motor.

Gas Turret Assembly - Turret contains a one or more specific measurement cells, each with separate reference and measurement bandpass filters. The digitally controlled turret sequentially steps between the two positions, periodically returning to the index position.

High Sensitivity Detector - The IR light is focused onto a two-stage, thermo-electrically cooled 1 mm² PbSe detector with a field lens.

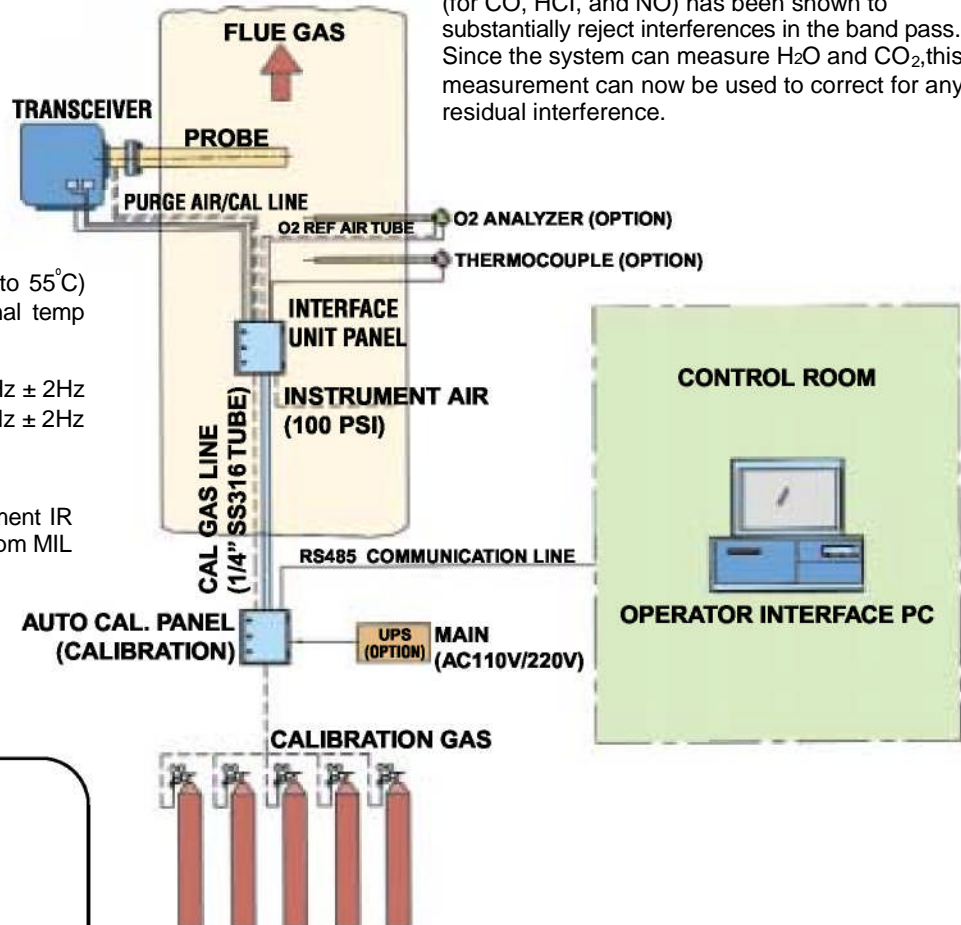
Temperature Control - The temperatures of the detector, cell, and analyzer are continuously measured and controlled for long-term, stable operation.

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

Enclosure - The system enclosure is NEMA 4x, and is temperature controlled with on-board heating and TE cooler.

Digital Signal Processing - The detector output is amplified, digitized, and transmitted to the system controller via RS422 link. Outputs include ppm, %, mg/m³, wet or dry basis, corrected to x% O₂ or CO₂, lb./hr., lb./MBtu, etc.

Elimination of Interferences - Both H₂O and CO₂ absorb throughout the IR spectrum and may interfere with the measurement of the desired gas component. The use of gas filter correlation (for CO, HCl, and NO) has been shown to substantially reject interferences in the band pass. Since the system can measure H₂O and CO₂, this measurement can now be used to correct for any residual interference.



For Further Information: