LasIR Instruments

LasIR RP - Mini Portable Series
An analyzer and optic assembly designed for applications that require ambient air measurements - potrooms, remote paths, and mobile applications.

LasIR RS - Mini Stack Series
An analyzer with built in optics designed for durability, for in situ, real time stack and duct measurements. Enclosure may vary in size.

LasIR RD and RR(B or M) - Standard Series
Standard series analyzers are designed to send and receive signals from a central control room to various measurement points. The analyzers come in two sizes; table top (RD) available for 1-2 locations and 3U rack mounted versions (RR) capable of measuring up to 16 locations using a single analyzer. Two configurations are available for the rack mounted (RR) analyzers to select the measurement location; the RR (B)-Series which employ beam splitters (2-8 locations) and the RR (M)-Series which employs optical multiplexers (2-16 locations). Use of beam splitters or optical multiplexers is determined by the dust loading in the measurement path.

A monitoring solution for every situation.

LasIR Multiplexing Systems
Industrial Gas Monitors

For CEMS, combustion, environmental, fire detection, fugitive emissions, health, safety and process monitoring applications.

Providing accurate, reliable and continuous measurements at a real-time process level with an exceptional life cycle value.

Multiplexing systems monitor up to 16 locations using sensors at each measurement location connected by cables to a central analyzer.

Improve energy efficiency, reduce costs, and safeguard work environments with in-situ, real time gas analyzers for CEMS, combustion, environmental, fugitive emissions, health, safety and process monitoring.

Sales and Service

UNISEARCH ASSOCIATES INC
Industrial & Environmental Instruments & Services

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www.unisearch-associates.com
In-Situ Optical Sensors

Sensors mounted on the stack or duct continuously measure the process flow of gases and emissions.

STACKS AND DUCTS

The LasIR is able to monitor Stacks and Ducts with standard flange connections. Requires line of sight across stack/duct.

Single, dual and multi-pass options offer flexibility for path lengths. Configurations depend on in-situ conditions and sensitivity requirements.

OPEN PATHS

The LasIR monitors remote locations with stationary mounts and reflector arrays. Requires line of sight across remote location.

Real Time Monitoring & Analysis

Measurements are taken and analyzed at rates as fast as 1 second.

Located in a controlled environment up to 5000 meters away from measurement locations, the analyzer sends and receives signals to and from the optical sensors via cables.

Multiplexing. Through either splitting or optically switching the light source, one analyzer can monitor up to 16 different locations.

Multiple Species. Depending on the gas and the laser wavelength, simultaneous measurements of up to 4 different gas species with a single analyzer are possible.

Data Logging. LasIRView is a software program that can be used to display Real-Time measurements modify basic parameters such as sampling time and path length and download archived data (via ethernet) for trend analysis on an external computer. An optional Key allows access to diagnostic software for the analyzer.

STACK / DUCT OPTICS:

Path Length:
Up to 25 meters

Mounting
9”OD Ansi flanges

Air Purge Requirements - depending on conditions
50 psi @ 15 L/min

Environmental Conditions
Gas: -100 to +1800 °C, 5 - 95% RH, 25 - 2000 mbar
Optics: -40 to 65 °C, 5-95% RH, 25 - 2000 mbar

Optic Dimensions
Transmitting / Receiving set: 5 kg
NEMA Enclosure: 13”(H) 11”(W) 10”(D) | 10 kg

Remote Optics

Path Length:
Up to 1000 meters

Transmitting Telescope Dimensions
15”(H) x 6”(W) x 17”(D) 15 x 15 x 35 cm | (4 kg)

X-Y-Z Mount Dimensions: 6”(H) x 9”(W) x 14.5”(D) | (5.2 kg)
Optional Tripod: 4.2 kg

Single Element Retro Reflectors
4” x 4” x 8” (10 x 10 x 20 cm) | (0.5 kg)

7 & 19 Element Retro Reflector Array (same mounts)
12” x 10” x 6” (30.5 x 25.4 x 15.2 cm) | (5 kg)

Sensitiveities

<table>
<thead>
<tr>
<th>Gas</th>
<th>Detection Limits (ppm -m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>30 38 mg/m³</td>
</tr>
<tr>
<td>CO₂</td>
<td>30 59 mg/m³</td>
</tr>
<tr>
<td>CH₄</td>
<td>0.5 0.36 mg/m³</td>
</tr>
<tr>
<td>HCl</td>
<td>0.2 0.32 mg/m³</td>
</tr>
<tr>
<td>HF</td>
<td>0.03 0.03 mg/m³</td>
</tr>
<tr>
<td>H₂O</td>
<td>0.1 0.08 mg/m³</td>
</tr>
<tr>
<td>H₂S</td>
<td>5 8 mg/m³</td>
</tr>
<tr>
<td>NH₃</td>
<td>0.3 0.23 mg/m³</td>
</tr>
<tr>
<td>NO</td>
<td>15 20 mg/m³</td>
</tr>
<tr>
<td>O₂</td>
<td>100 140 mg/m³</td>
</tr>
</tbody>
</table>

* Detection limits will vary depending on measurement conditions.

LasIR instruments are designed and built to comply with CSA, UL and CE requirements:
RoHS Compliant
Laser Safety: IEC / EN 60825
General Safety: IEC 61010
Electro-Motive Compliance: IEC / EN 61000

Available in 1, 2, 4, 8, 12 and 16 channel configurations.