

Accurate. Reliable. Cost Effective.

Emissions Monitoring for Compliance & Process Improvement



Model 7000 Laser Based Cross Stack Monitor For EPA Compliance or Process Monitoring NH_3 , HCl , O_2 , CO , H_2O , HCN , H_2S , CO_2 , CH_4 , HF , NO , H_2O , D_2O

Features & Benefits

- **TDL** (Tunable Diode Laser) technology for unmatched accuracy & reliability
- **High sensitivity** ppb to percent level measurements
- One analyzer can be used for up to **8 measurement points**
- Performance designed **Process Monitor**
 - **Gas sampling/conditioning not required**
 - **Corrosive/toxic applications**
 - **Calibration not required**
- Exceeds **EPA CEMS** Regulation requirements
 - **MACT & MATS** Draft **PS-18** Compliant
 - **Boiler MACT** O_2 and CO Compliance
 - Approved Zero & Span Calibration checks
- **Extremely Fast** (<1 second) response time
- Compact and **simple** to install
- Ambient conditions from **-40° to 60° C**
- Operates in **high dust/moisture** applications
- **Unaffected** by stack/duct alignment changes
- **Laser located in controller** allowing for simple signal control and diagnostic access
- **Moisture** can be added as a second channel
- **Off Stack/Process** extractive option
- **Hazardous Area** Div I & II Options



Product Description

The Model 7000 **Laser Monitor** is a continuous monitor designed to measure flue gases for both compliance and process monitoring. The Controller uses a near infrared (NIR) Tunable Diode Laser Absorption Spectrometer System utilizing a single mode "DFB" laser mounted in a thermoelectric cooler for unsurpassed accuracy and performance. Since the Spectral purity of the laser is high

and the selected absorption feature is unique, measurements can be made free of interferences from any other gas. The measurements are made in-situ across the stack or duct in either a single or dual pass design depending upon the application. A Windows based software package is available to display the data on either a Host laptop PC or the client's existing data acquisition system.

Typical Applications:



Power

- HCl: EPA MATS Compliance Monitoring per PS18
- NH₃ & H₂O: Gas Fired Slip Monitoring for Process Control & EPA compliance
- NH₃: Coal Fired slip monitoring for prevention of air preheater pluggage & corrosion
- O₂ & CO: Combustion Control

Cement

- HCl: EPA PC MACT Compliance Monitoring per PS18
- CO, CO₂, O₂: Process Monitoring

Refining:

- CO, CO₂, O₂, H₂S, NH₃: FCC, SRU, Furnaces & Heaters

Petrochemical:

- HF, H₂S, CO, O₂, NH₃, Trace H₂O: SRU, Reform & Cracker

Chemical

- CO, CO₂, O₂, HF, H₂O, NH₃, HCN: Process gases

Nitric Acid Production

- NH₃

Aluminum Smelters:

- HF in Stack

Steel Smelters

- CO, CO₂, O₂, H₂O

Nickel Smelters

- H₂S, CO, CO₂

Copper Smelters

- NO

Gold Smelters

- HCN

Pulp & Paper

- H₂S

Nuclear Processing

- HF, D₂O, HDO

Incinerators

- HF, HCl, NH₃, O₂, CO, CO₂ Nylon,

Carbon Fibers, Plastics

- HCN, O₂

Waste Water Treatment

- H₂S

Ceramic/Brick

- HF, HCl

Landfill

- H₂S, CH₄, NH₃

Tobacco Processing

- CO, CO₂ as early fire detection

Automobile Exhaust

- CO, CO₂

Fertilizer

- HF

Thermal Oxidizer

- O₂

Analyzer Specifications:

Laser: NIR Diode laser

Telecommunication grade lasers for longevity, reliability and availability

Response Time: <1 second

Detection Limits: NH₃ < 0.3 ppm/m / HCl < 0.16 ppm/m.

Consult Factory for other gases

Environmental Conditions:

-10 to +40°C, 5 – 95% RH, 800 – 1200 mbar

Calibration: Factory Test sent with every unit

Internal reference cell, external portable audit module, or in-line flow through cell

Inputs Temperature & Pressure Compensation Analog Inputs

Outputs and Networking:

Qty 8, 4-20mA Analog Outputs, Dry Contacts, Ethernet,

Status relays

Dynamic Range: 5 orders of magnitude

Data Logging and Displaying Software:

DataView, DataReview, (optional LasIRView diagnostic software)

Data Storage: Internal storage & External storage via Ethernet or RS232 to external computer

Power Supply:

Input 100 – 240 VAC @50-60Hz, +12 VDC

Output: 12V, 60w, Operating Voltage: 12 VDC

Analyzer Dimensions:

6" (H) x 14" (W) x 10" (D) (15 x 35 x 25 cm)

11 lb. (5kg)

*Available in desktop and 19" rackmount enclosures.

Stack/Duct Optics:

Base: 6" (H) x 9" (W) x 14.5" (D) 11.5 lb (5.2 kg)

NEMA 4xFiberglass Enclosure

Mounting: 4"OD ANSI flanges, additional sizes optional.

Air Purge Requirements: – depending on conditions

50 psi @ 25 L/min

(Blower purge systems available)

Environmental Conditions:

Gas: -100 to +1800 °C, 5-95% RH, 25-2000 mbar

Optics: -40 to 55°C, 5-95% RH, 25-2000 mbar

Detector up to 90°C



Available in 2, 4, & 8 channel configurations



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