

## Chemiluminescent Oxides of Nitrogen Analyzer Model AC31M

Low level monitoring of NO - NO<sub>2</sub> - NO<sub>x</sub> from 0.35 ppb to 10 ppm



*Multi-tasking microprocessor controlled*

### Ideal measurement method:

Two measurement chambers with a unique PM tube for a simultaneous measurement of NO, NO<sub>x</sub> and NO<sub>2</sub> on the same gas sample.

### International approvals:

US EPA (USA)  
UBA (Germany)  
AEA (United Kingdom)  
LCSQA (France)  
GOSSTANDARD (Russia)



Telediagnostic and remote maintenance via the software CONTACT

### Applications:

- Ambient air monitoring
- Indoor air quality monitoring
- Background monitoring and scientific research on nitrogen oxides.
- Continuous emissions monitoring (CEM) using dilution.

### Main features :

- Dual chamber / single PM tube
- Backlit LCD display
- Interactive menu-driven software
- Synoptic flow diagram display
- Remote troubleshooting diagnostics
- Auto-ranging
- Automatic response time
- Real time calibration graph
- User programmable ranges and average times
- Built-in serial interface (RS 2322 / RS 422)
- Built-in storage of the last 1500 average data
- Full remote emulation of the analyzer
- Field-proven technology and design
- Worldwide references and service networks



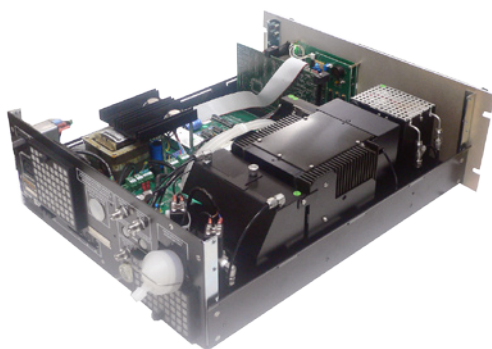
## Chemiluminescent Oxides of Nitrogen Analyzer - Model AC31M

### Spécifications :

- Ranges : 0-0.05 / 0.1 / 0.2 / 0.5 / 1 / 2 / 5 / 10 ppm or custom range selectable.
- Noise : 0.17 ppb
- Lower detectable limit : 0.35 ppb
- Response time : automatic and programmable ( minimum 20 sec. ).
- Zero drift : less than 1 ppb/week
- Span drift : less than 1 % / day
- Linearity :  $\pm 1$  % of F.S.
- Sample flow rate : 0.60 lpm
- External sample pump with zero air scrubber
- Ozone flow rate: 0.10 lpm
- Averaging time: programmable from 1 to 9999 min.
- Data storage: last 1500 average values.
- 3 selectable independent outputs: 0-20 mA / 4-20 mA / 0-1 V / 0-10 V
- Digital output : RS232 / RS422
- Chassis : 19" rack mountable, 4U.
- Dimensions: 581 mm x 483 mm x 177 mm (L x W x H)
- Weight : 32 kg ( 70.4 lbs )
- Power: 115 V, 60 Hz or 230 V, 50/60 Hz 350 VA
- Operating temperature: 10 - 35 °C
- Digital output: RS 232 / RS422

### Options :

- Built-in permeation oven with external zero air scrubber
- EV3 solenoid valve : used to span check both NO and NO<sub>x</sub> channels by using a NO<sub>2</sub> source of gas.
- NH<sub>3</sub> to NO rack converter for low level NH<sub>3</sub> monitoring



### Principle of operation :

The analyzer is based on the chemiluminescence reaction which occurs between NO and O<sub>3</sub>. The NO<sub>x</sub> concentration is measured by first passing the sample through a molybdenum NO<sub>2</sub>→NO high efficiency long life converter.

The optical bench features a modular design with temperature regulated, air tight dual reaction chambers, viewed by a single, cooled, highly sensitive PM tube which eliminates the NO<sub>2</sub> artifact encountered with single chamber NO-NO<sub>x</sub> analyzers.

A continuous electrical zero check is performed by the microprocessor

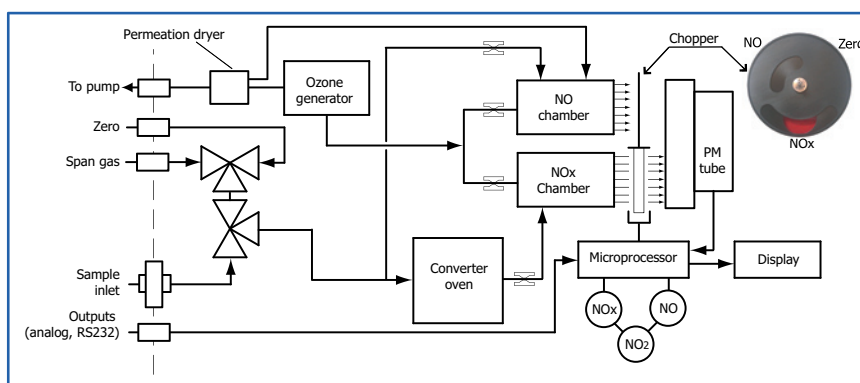
Span checks can be carried out (manually, automatically or by remote control) by using span gas cylinders or an optical built-in, remotely controlled permeation oven. Real-time calibration graphs can be displayed during span check operation.

Multi-tasking software, combined with the LCD graphic display, gives a user friendly access to the instrument set-up, status and maintenance parameters.

Real-time synoptic, auto-diagnostic and maintenance data screens can be displayed while the instrument is operating.

The automatic response time function determines the measurement integration time best suited for the real time measurement of the NO and NO<sub>x</sub> concentrations.

The AC31M includes data collection and logging features and stores the average values. The built-in RS232 interface and digital communication protocol allow full PC instrument emulation for remote control and troubleshooting as well as common serial link, thus achieving a fully numeric air pollution monitoring station.



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