



TELEDYNE INSTRUMENTS
Advanced Pollution Instrumentation
A Teledyne Technologies Company

MODEL **200EH** / **200EM**

Chemiluminescence High & Medium Range NO/NO₂/NO_x Analyzers



- ▶▶ **Standard two year warranty**
- ▶▶ **200EH: 0-5 ppm to 0-5000 ppm, user selectable**
- ▶▶ **200EM: 0-1 to 0-200 ppm, user selectable**
- ▶▶ **Independent ranges for NO, NO₂, NO_x**
- ▶▶ **Auto ranging and remote range selection**
- ▶▶ **Microprocessor controlled for versatility**
- ▶▶ **NO_x-only or NO-only modes**
- ▶▶ **Multi-tasking software allows viewing of test variables while operating**
- ▶▶ **Continuous self checking with alarms**
- ▶▶ **Permeation drier on ozone generator**
- ▶▶ **Dual independent bi-directional RS-232 ports for remote operation (optional Ethernet or RS-485)**
- ▶▶ **Digital status outputs provide instrument condition**
- ▶▶ **Adaptive signal filtering optimizes response time**
- ▶▶ **Temperature & pressure compensation, automatic zero correction**
- ▶▶ **Converter efficiency correction software**
- ▶▶ **Minimum CO₂ and H₂O interference**
- ▶▶ **Catalytic ozone scrubber**
- ▶▶ **Internal data logging with 1 min to 365 day multiple averages (1 million records)**

The Models 200EH and 200EM use the proven chemiluminescence measurement principle, coupled with state-of-the-art microprocessor technology for monitoring high and medium levels of nitrogen oxides. User-selectable analog output ranges and a linear response over the entire measurement range make them ideal for a wide variety of applications, including extractive and dilution CEM, stack testing, and process control.

A choice of NO₂ converters handles tough CEM and stack testing as well as combustion turbine startup and continuous operation applications. Selectable measurement modes (NO_x only, NO only, NO/NO_x switching), auto ranging (single range, dual range, auto-range, independent ranges, remote range control) enables the operator to match the Models 200EH or 200EM to your specific needs. A standard permeation dryer provides dry air for the ozone generator.

All instruments in the Teledyne-API "E" Series include built-in data acquisition capability with a large internal memory. This allows logging of multiple parameters including averaged or instantaneous concentration values, calibration data, and operating parameters such as pressures and flow rates. Stored data are easily retrieved through the serial port, or optional Ethernet port, via free, Windows-based APIcom or from the front panel, allowing predictive diagnostics and enhanced data analysis by tracking parameter trends. The Models 200EH and 200EM combine rugged construction, light weight, ease of use, powerful diagnostics and outstanding performance for high and medium range applications.

FREE Customer Support by telephone and email for the life of the instrument



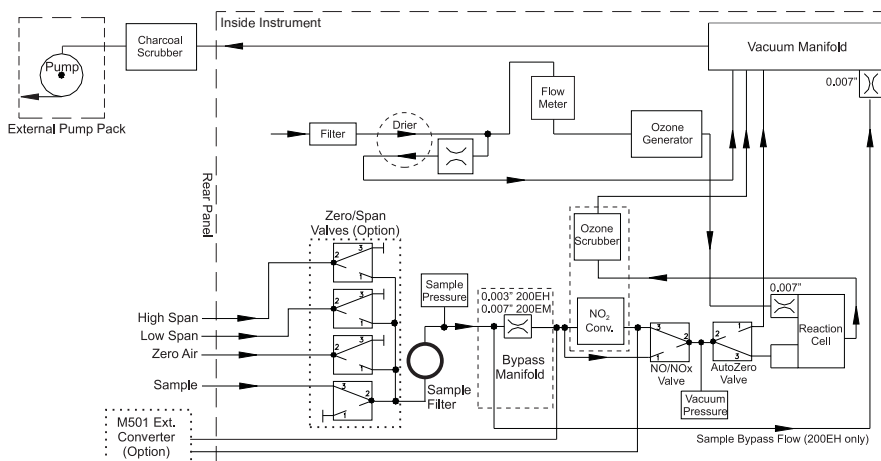
MODEL 200EH / 200EM

Chemiluminescence High & Medium Range NO/NO₂/NO_x Analyzers

Specifications

Ranges:	200EH: 0-5 ppm to 0-5000 ppm full scale, user selectable, independent NO, NO ₂ , NO _x ranges and auto-ranging supported 200EM: 0-1 ppm to 0-200 ppm	Operating Temperature Range: 5 - 40°C
Units:	ppm, µg/m ³	Dimensions (HxWxD): 7" (178 mm) x 17" (432 mm) x 23.5" (597 mm)
Zero Noise:	< 20 ppb (RMS)	Weight: Analyzer 40 lbs (17 kg) External Pump 15 lbs (7 kg)
Span Noise:	< 0.2% of reading above 20 ppm (RMS)	Power: 100V - 120V, 220V - 240V, 50/60 Hz, 250W
Lower Detectable Limit (LDL):	< 40 ppb (RMS)	Analog Outputs: 10V, 5V, 1V, 0.1V, selectable
Zero Drift:	< 20 ppb/24 hours	Current Output: Optional 4-20 mA isolated outputs (select up to 3 channels)
Span Drift:	< 0.5% reading/24 hours, < 1% reading/7 days	Recorder Offset: ±10%
Lag Time:	20 seconds	Serial Outputs: Serial Port 1: RS-232 (DB-9M) Serial Port 2: standard RS-232 or optional RS-485 (DB-9F), Ethernet
Rise and Fall Time:	< 60 seconds to 95% (in switching mode)	Status (Digital): 8 outputs, 6 inputs (opto-isolated), 4 alarm outputs (optional)
Linearity:	1% of full scale	Approvals: CE
Precision:	0.5% of reading	
Sample Flow Rate:	200EM: 250 cm ³ /min 200EH: 290 cm ³ /min	

Schematic



How to Order

Model 200EH / EM Chemiluminescence High & Medium Range NO, NO₂, NO_x Analyzer includes:

- Standard two year warranty
- External pump
- Permeation ozone air dryer
- Independent NO, NO₂, NO_x ranges
- Auto ranging
- 47mm diameter particulate filter
- 8 isolated digital status outputs
- 6 isolated digital control inputs
- Bi-directional RS-232
- APIcom remote control software

Specify input AC voltage & frequency:

- | | |
|---|------------------------------------|
| <input type="checkbox"/> 100V - 115V | <input type="checkbox"/> 50Hz |
| <input type="checkbox"/> 220V - 240V | <input type="checkbox"/> 60Hz |
| <input type="checkbox"/> 230V/50Hz (CE) | <input type="checkbox"/> 220V/60Hz |
| <input type="checkbox"/> 240V/50Hz | |

Specify output DC voltage:

- ☐ 10V ☐ 5V ☐ 1V ☐ 0.1V

Optional Equipment:

- ☐ Rack mount brackets (19") with chassis slides
- ☐ Rack mount brackets only
- ☐ 4-20 mA isolated outputs (specify up to three channels)
- ☐ Multi-drop RS-232 connection
- ☐ Ethernet port includes 7 ft. CAT-5 cable (replaces one serial port)
- ☐ Ozone air filter assembly
- ☐ O₂ sensor (0-25%)
- ☐ NDIR CO₂ sensor (0-20%)
- ☐ Internal pump (without O₂ sensor) (Note: Either O₂ or CO₂ can be added; select one)

NO₂ Converters:

- ☐ Mini-HICON Internal Converter (standard on 200EH)
- ☐ MOLYCON Internal Converter (standard on 200EM)
- ☐ Model 501 External Converter (optional)

Calibration Options:

- ☐ Dual calibration valves for selection of customer-supplied zero and span gas
- ☐ Span high, span low, zero valves

Accessories:

- ☐ RS-232 Cable
- ☐ Expendables Kit
- ☐ Spare Parts Kit
- ☐ Chassis carrying handle
- ☐ Zero Air Scrubber

Specifications subject to change without notice. Printed documents are uncontrolled. SAL000007 A (DCN 5058) M200EH_EM/08/08/08.



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