

CAPS NO_X Monitor

Accurate and Precise Continuous Monitoring of Nitrogen Oxides (NO and NO₂)

- Ambient Monitoring
- Fast Response
- Direct Measurement of NO₂

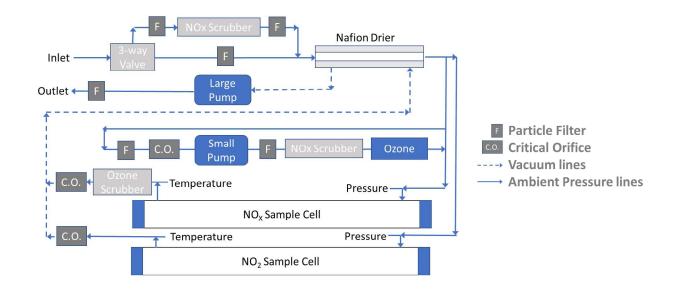


Attributes

- Simultaneous dual channel NO₂ and NO_X (NO by subtraction)
- Visible (405/450 nm) absorption measurement using patented Cavity Attenuated Phase Shift (CAPS) technology
- High linearity over measurement range better than 1%
- Ideal for on-road monitoring FR Version: Response Time 1-2 s

Advantages

- Direct measurement of analyte, no chemical conversion required
- · Essentially interference-free
- · Automated and autonomous operation
- Minimal maintenance (periodic change of filter and scrubber)
- · No toxic gas emissions
- Customization available



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Specifications

MEASUREMENT SPECIFICATIONS	NO ₂	NO _X	NO
Range (ppbv)	0-1,000	0-1,000	0-1,000
Resolution (ppbv)	0.01	0.01	0.01
Precision (2σ, 1 s) (ppbv)	< 0.5	< 0.5	<1
Time Response (10-90%)	1-2 s	1-2 s	1-2 s
Baseline Drift	Baselines Taken as Often as Required		
Span Drift	Negligible		
Linearity	< ± 5 ppbv at 1000 ppbv		
Flow Rate (lpm)	1.25	1.25	

1 Year Manufacturer's Warranty

Physical Specifications

Cell Pressure: ambient

Cell Temperature: ~5 °C above ambient

Power Usage: <100 W Weight: <20 kg

Size: \sim 65 cm x 43 cm x 23 cm (L x W x H)

[19" rack mount, 5U, 24" deep]

Data Output

Display Front Panel, 1 second time constant(\pm 1 digit)

RS-232 Rear Panel, DB-9 Female Connector (Null Modem cable provided)
USB Rear Panel, Female B Connector (Male A to Male B cable provided)

Ethernet Rear Panel, RJ-45 port

On-Board Storage Capacity > 10 years continuous operation

REFERENCES

A Practical Alternative to Chemiluminescence Detection of Nitrogen Dioxide: Cavity Attenuated Phase Shift Spectroscopy, P.L. Kebabian, E.C. Wood, S.C. Herndon, and A. Freedman, Environ. Sci. Technol., 42:6040-6045 (2008)

Detection of Nitrogen Dioxide by Cavity Attenuated Phase Shift Spectroscopy, Paul L. Kebabian, Scott C. Herndon and Andrew Freedman, Anal. Chem., 77:724-728 (2005)

System and Method for Precision Phase Shift Measurement, P.L. Kebabian, U.S. Patent 8364430 (issued Jan. 29, 2013); also patented in Germany, France, the United Kingdom and China

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