












# Model N500

## CAPS True NO<sub>2</sub>-NO<sub>x</sub>-NO Analyzer



- ▶ CAPS-based, direct, true NO<sub>2</sub>-NO<sub>x</sub>-NO measurements
- ▶ Long-life sample particulate filter
- ▶ Low power consumption
- ▶ Low maintenance and cost of ownership
- ▶ Standard two-year warranty
- ▶ Lifetime technical support by phone and email

### N Series Platform Features

-  Color Touch-Screen Graphics Display
-  Two Front Panel USB Ports
-  Modular Internal Hardware Design
-  All DC-powered Internal Components
-  Large Internal Data Storage
-  Serial and TCP/IP Ethernet Included
-  Digital and Analog Expansion Options
-  Indicator Illuminated Soft Power Switch
-  Split Fold-Down Rear Panel

The Model N500 CAPS NO<sub>x</sub> analyzer uses superior Cavity Attenuated Phase Shift (CAPS) Spectroscopy to measure True NO<sub>2</sub>, NO<sub>x</sub>, and NO gases. The instrument combines direct NO<sub>2</sub> measurements with highly efficient gas phase titration (GPT) to convert and measure the NO gas component. An automatic baseline reference cycle accounts and compensates for any potential baseline drift due to varying environmental conditions.

CAPS technology is inherently accurate and sensitive, uses very little power, and requires far less maintenance than Chemiluminescence. The Model N500 raises the bar for NO<sub>2</sub>, NO<sub>x</sub>, and NO measurement accuracy, while simultaneously reducing instrument operation and maintenance costs.

Instrument functions and controls are managed through a series of integrated microprocessor-controlled modules utilizing a simple and reliable CAN Bus communications architecture. Each module is independently assembled and calibrated allowing easy and fast field replacement to maximize instrument uptime. The long-life sample filter further improves efficiency with a ~6 months exchange interval in ambient air quality monitoring applications.

Intuitive operation and calibration of all N Series products is achieved through the NumaView™ Software interface. The graphical user interface (GUI) is customizable, giving the user fast and efficient access to instrument status, as well as measurement data and diagnostic parameters in either numeric or graphical form. NumaView™ Remote Software (included at no charge) provides the same virtual interface and complete instrument control, as well as access to the instrument's large internal data storage buffer from a remote PC or tablet.



# N500 Specifications

• Measurement Units	ppb, ppm, $\mu\text{g}/\text{m}^3$ , $\text{mg}/\text{m}^3$ (user-selectable)
• Response Time	< 60 seconds to 95%
• Ranges	Min: 0 - 5 ppb full scale Max: 0 - 1,000 ppb full scale
• Sample Flow Rate	1000 cc/min $\pm$ 10%
• Zero Noise	< 0.05 ppb (RMS)
• Span Noise	< 0.2% of reading + 50 ppt (RMS)
• Lower Detectable Limit	< 0.1 ppb
• Precision	0.5% of reading above 5 ppb
• Linearity	1% of full scale
• Zero Drift	< 0.2 ppb / 24 hours
• Span Drift	< 0.5% of reading / 24 hours
• Included I/O	1 x Ethernet (TCP/IP) 1 x RS232 2 x front panel USB device ports
• Optional I/O	Universal Analog Output Board includes (all user-definable): 4 x Isolated Voltage Outputs (5V, 10V; user-selectable) 3 x Individually Isolated Current Outputs (4-20mA) Digital I/O Expansion Board includes: 3 x Isolated Digital Input Controls 5 x Isolated Digital Output Controls (user-definable) 3 x Form C Relay Alarm Outputs (user-definable)
• Weight	33 lbs (15kg)
• Dimensions (HxWxD)	7" x 17" x 24.3" (178 x 432 x 617 mm)
• Operating Temperature	0 - 40°C (with US EPA approval)
• Power	100-240VAC (50-60Hz), Typical consumption 110W
• Certifications	USA EPA Federal Equivalent Method EQNA-0320-256

*Specifications subject to change without notice.  
All specifications are based on constant conditions.*

**All N Series instruments include a 2-year manufacturer's warranty as well as email and phone support for the lifetime of the instrument.**



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(DCN 8338) 01.04.21



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