

AMERICAN
ECOTECH

Complete NCore Solutions



NCore

MULTI-POLLUTANT MONITORING
TURN KEY SYSTEMS

Pursuant to 40 CFR 58, each state is required to operate at least one NCore multi-pollutant site. The US EPA has established two deadlines that must be met, July 1, 2009 to submit an NCore site plan and January 1, 2011 to have a fully operational NCore site. With the approaching deadlines, American Ecotech (AE) is pleased to present the NCore Turn Key System. As part of *AE Complete Solutions*, State, Local and Tribal agencies can take advantage of the complete, hassle-free NCore system addition to the existing monitoring network.

Employing an integrated approach to full design and system implementation, AE offers custom built systems meeting or exceeding NCore requirements. From initial design to setup, integration and on-site training, AE is committed to assure the highest quality professional service incorporating proven advanced technology of our trace-level instrumentation and extensive experience in the air quality monitoring systems.

Incorporating Leadership in Energy and Environmental Design (LEED) principles in the design of our monitoring shelters, and strong partnership with the ENERGY STAR program, AE brings its systems one-step closer to greener, more environmentally friendly and sustainable monitoring stations.

American Ecotech will build to suit your specific needs, whether designing a complete turn-key NCore station and delivering it to your location or simply retro-fitting an existing monitoring station with our state of the art trace level instrumentation. Additionally, AE will provide full on-site training to ensure our customers have a full understanding of our systems and can depend on uninterrupted data collection and maximum data capture. Combining the highest level of technical support and unsurpassed performance of our instruments, American Ecotech is your one-stop solution for complete NCore monitoring.

All of the instrumentation proposed in the following NCore systems meet US EPA's stringent requirements and possess either designated reference or equivalent method approvals when applicable.

You are invited to take advantage of this simplified NCore implementation process. A system can be delivered and fully operational within six months of placing an order, assuring all necessary deadlines for the NCore program are met.

Please refer to this document for options and pricing of the complete NCore Monitoring systems and do not hesitate to contact American Ecotech with any questions.



Seth Cloran
NCore Monitoring Manager
American Ecotech

American Ecotech

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AE NCore Instrumentation System

THREE TRACE LEVEL, HIGH PRECISION INSTRUMENTS

EC9830T Trace Carbon Monoxide Analyzer
EC9841T-NOy Trace Reactive Nitrogen Oxides Analyzer
EC9850T Trace Sulfur Dioxide Analyzer

CALIBRATION SYSTEM

GasCal-1100 Dilution Calibration System
Ecotech Zero Air Generation System

DATA ACQUISITION SYSTEM

Data logger with WinAQMS Data Acquisition System
WinCollect Data Evaluation & Reporting Software
Rack mountable monitor, keyboard and mouse

SUPPORT EQUIPMENT AND MISCELLANEOUS

One full length instrument rack
Ancillary parts including tubing, pumps and scrubbers
Eight port Glass Sampling Manifold with controller
Complete system plumbing and wiring schematics
Delivery, setup, commissioning and full training
One-year warranty on instrumentation



ALL-INCLUSIVE PRICE

\$96,890

OPTIONS: METEOROLOGICAL AND PARTICULATE MATTER MONITORING

At your request, American Ecotech can also provide a full array of meteorological sensors required by the NCore program (wind speed, wind direction, temperature, and relative humidity) and particulate matter samplers. For additional information on the meteorological sensors and PM monitors, please contact American Ecotech at (401) 247-0100.

AE NCore Complete Solution System:

FOUR TRACE LEVEL, HIGH PRECISION INSTRUMENTS

EC9811 Ozone Analyzer
EC9830T Trace Carbon Monoxide Analyzer
EC9841T-NO_y Trace Reactive Nitrogen Oxides Analyzer
EC9850T Trace Sulfur Dioxide Analyzer

CALIBRATION SYSTEM

GasCal-1100 Dilution Calibration System
Ecotech Zero Air Generation System

DATA ACQUISITION SYSTEM

Ecotech Data Logger with WinAQMS
WinCollect Data Evaluation & Reporting Software
Rack mountable monitor, keyboard and mouse

MONITORING SHELTER

Custom design, 20' x 8' monitoring station
Ten-meter meteorological tower

SUPPORT EQUIPMENT & MISCELLANEOUS

Eight port Glass Sampling Manifold
Uninterrupted Power Supply (UPS)
Two full-length instrument racks and instrument shelves
Ancillary parts including tubing, pumps and scrubbers
Delivery*, setup, commissioning and full training
One-year warranty on entire system



ALL-INCLUSIVE PRICE

\$152,415

OPTION: METEOROLOGICAL AND PARTICULATE MATTER MONITORING

At your request, American Ecotech can also provide a full array of meteorological sensors required by the NCore program (wind speed, wind direction, temperature, and relative humidity) and particulate matter samplers.

OPTION: SITE CIVIL ENGINEERING

Additionally, AE can perform any necessary civil engineering site work including obtaining building permits, design and construction of suitable shelter support structure and foundations, fencing and security.

*Price includes delivery radius of 1000 miles from Cincinnati, Ohio. Distances over 1000 miles will incur additional delivery cost

**Price subject to change

CUSTOM DESIGN

SHELTERS

Air monitoring stations in the NCore Complete Solution System include:

- Walk-in Shelter, 20' x 8' recycled container
- High efficiency HVAC system
- Indoor air quality MERV 8 filtration
- Minimum R22 insulation
- Roof access via hatch or stairs
- Anti-slip roof grate
- Roof railing with kick-plate
- Workbench/desk
- Two Cabinets
- Two 19" full length instrument racks
- Isolated pump cabinet
- Isolated storage area for calibration gas cylinders
- Calibration Gas Cylinder Rack
- Roof penetrations for instrument inlets
- Incorporates ENERGY STAR features whenever possible
- Incorporates Leadership in Energy and Environmental Design Features



Additional options are available at customer's request. Please contact American Ecotech for more information regarding our monitoring shelters.



To assure highest quality and provide energy efficient, sustainable and environmentally friendly shelters, the design and construction process of all AE monitoring shelters is closely overseen by our senior staff LEED Accredited Professional.

American Ecotech

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US EPA

approvals & specifications

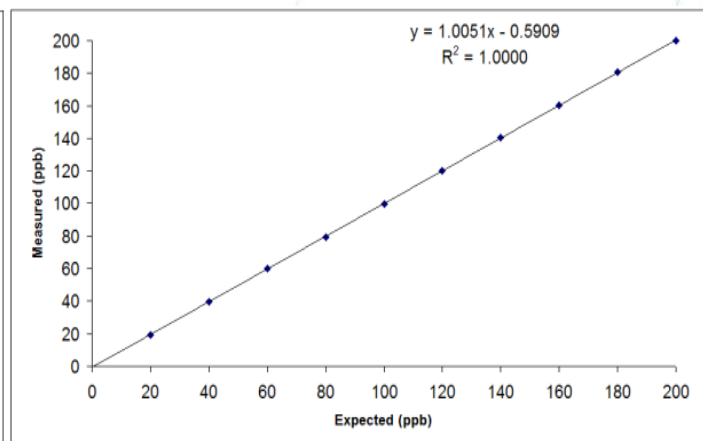
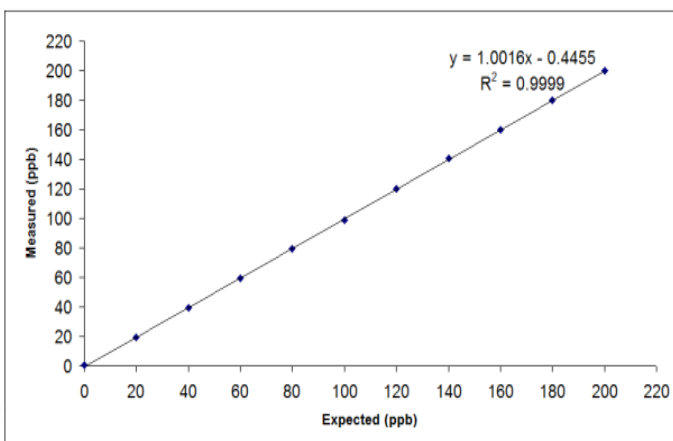
Pursuant to 40 CFR Part 53, Ecotech instrumentation has achieved US EPA Reference Method/Equivalent Methods Approvals.

Compound	Analyzer	Designated Method	Source
Sulfur Dioxide	EC9850T	EQSA-0193-092	Federal Register, Vol 58, page 6964, 02/03/93
Ozone	EC9810,-11,-12	EQOA-0193-091	Federal Register, Vol 58, page 6964, 02/03/93
Carbon Monoxide	EC9830T	RFCA-0992-088	Federal Register, Vol 57, page 44565, 09/28/92
Oxides of Nitrogen	EC9841T	RFNA-1292-090	Federal Register, Vol 57, page 60198, 12/18/92

Summary of Ecotech instrument performance capability:

Parameter	Range	Lowest Detectable reading	Technique employed
Oxides of Nitrogen	0-2000 ppb	50 ppt	EC9841T Chemiluminescence
Sulfur Dioxide	0-2000ppb	200 ppt	EC9850T UV Fluorescence
Ozone	0-500 ppb	0.5 ppb	EC9810 UV Photometric
Carbon Monoxide	0-20 ppm	<25ppb	EC9830T IR Photometer GFC
Wind Speed	0-65 m/s	0.1 m/s	Ultrasonic Wind Sensor
Wind Direction	0-360 deg;	± 1deg	Ultrasonic Wind Sensor
Ambient Temperature	-50 to 100 °C	± 0.1° C	Solid State Thermistor
Relative Humidity	0-100%	± 2%	Thin film capacitor
Barometric Pressure	800-1200 mb	± 1.3 mb	Solid state transducer
Precipitation	NA	0.1 mm	Tipping bucket rain gauge
Solar Radiation	250-2800 nm	9mv/kwm2	Pyranometer

Examples of instrument linearity (LEFT EC9841T , RIGHT EC9850T)



American Ecotech

NCore Leadership

“American Ecotech works closely with Federal, State, Local and Tribal agencies as well as industrial clients continent-wide providing excellence in service and state of the art complete monitoring solutions meeting individual needs.”

Extensive Experience

American Ecotech designs, manufactures, supplies and maintains a vast selection of sophisticated air pollution monitoring systems. Our product range includes complete air monitoring systems, custom designed monitoring shelters, data acquisition systems for monitoring networks, portable and fixed site gas analysis, particulate sampling systems, toxic gas monitors and industrial hygiene monitoring equipment. All complemented by full installation, integration, auditing, commissioning and training.

Our trained engineers, technicians and customer service staff can provide you with the flexible solution you are looking for. We have supplied complete turn-key monitoring systems to many industrial companies and environmental agencies in North America and elsewhere in the world.

With over 500 applications sold to customers across North America our experience in air monitoring speaks for itself. For a complete list of current Ecotech Monitoring Systems in North America and references please contact American Ecotech.

NCore Webinars

As a leader in NCore System Implementation, American Ecotech conducts periodical webinar sessions for all of the American Ecotech NCore System users. The purpose of the online meeting is to provide the opportunity for system operators to compare notes, discuss system operation, maintain a face to face time with our senior trace monitoring staff and ask any questions regarding the NCore systems. [This technical meeting is hosted by American Ecotech and provided at no charge to our customers.](#)

EC9830T

Trace Carbon Monoxide Analyzer

The Ecotech Model EC9830T Carbon Monoxide (CO) analyzer incorporates Gas Filter Correlation (G.F.C.) technology with infra red photometric detection. The analyzers sensitivity has been increased with the number of passes increased from 20 to 28. Detection of sub-ambient levels of CO is made challenging due to interference by H₂O and CO₂. The use of GFC technology minimises this interference and enables the instrument to measure CO in ambient air in the range of 0- 20,000ppb.



CO background (trace) measurements in ambient air are usually made in the range of 25-350 ppb (levels that represent the range of global CO mixing ratios in the unpolluted atmosphere). Heated Hopcalite® scrubbers are used to convert CO to CO₂. Additional external scrubbers can also be used on sites that are heavily polluted.

Features

- EC9830T is U.S. EPA approved (Automated Reference Method RFCA-0992-088).
- Water is removed from the sample gas through the use of a permeation dryer. The dryer reduces sample gas dew point to -30°C thereby reducing water interference to <2ppb in the sample.
- Sample gas concentration measurements are automatically corrected for temperature and pressure changes and can be displayed in units of ppb, ppm, µg/m³ or mg/m³.
- Each analyzer incorporates a 12 hour 25ppb zero drift function which utilises a custom calibrated fifth order polynomial to make corrections over the range of 0 – 3000 ppb with linearity of < ±5%.
- Fast response and high signal to noise ratio is achieved through the use of a low noise IR detector.
- Up to 100 backgrounds (zero) can be stored for diagnostic purposes.
- Calibration curves are used to ensure that a linear signal output is achieved over two wide concentration ranges: 0-5000ppb and 5000- 20,000 ppb.
- Analyzer firmware is user upgradeable via USB or RS232 ports.
- Operating temperature range is 20 - 30°C with stability of ±5°C. If the internal temperature of the instrument changes by more than ±4°C then an automatic background is undertaken.
 - Auto-zero routine allows the analyser to periodically check and correct for background illumination thereby virtually eliminating zero drift.
 - High sensitivity is achieved by the use of a 6m path length cell.
 - Kalman digital filter continuously provides the best compromise between response time and noise reduction.



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Specifications

Ranges Display:	Auto ranging 0-20 ppm
Data Display:	Graphic LCD display, auto ranging 0-20 ppm full scale, with unit selection mg/m ³ , µg/m ³ , ppm, ppb
Analogue Out:	0 - full scale from 0 - 20 ppm Selectable offset of 0%, 5% or 10% offset.
Noise (At zero):	12 ppb RMS with Kalman or 300 sec filter active.
Lower Detectable Limit:	25 ppb with Kalman or 300 sec filter active.
Linearity:	± 5% 0 -1000ppb scale ± 1% of full scale from 1000-20,000ppb
Precision:	± 0.5 % of reading for range 0-1000ppb ± 1% of reading for range 1000-20,000ppb
Zero Drift:	Temperature dependence, 0.1% per °C changes. 24 hours; less than 50 ppb 7 days: less than 100 ppb
Span Drift:	Temperature dependence, 0.05 % per °C changes. 24 hours less than 0.5% of reading 30 days less than 1.0% of reading
Temperature/Pressure Compensation:	Pressure compensation with selectable reference temperature of 0°C, 20°C, 25°C at 1 01.3 kPa.
Sample Flow Rate:	1.00 SLPM (Std.), 2.00 LPM optional. Optional external sample pump required.
Temperature Range:	Operating temperature 20 - 30°C, may be operated 15°C – 35°C
Analogue Outputs:	Menu selectable current output 0-20 mA, 2-20 mA, 4-20 mA The 50 pin I/O PCA allows for jumper selectable voltage outputs of 100 mV, 1V, 5 V, 10 V with menu selectable zero offset of 0, 5% or 10% or menu selectable current output 0-20 mA, 2-20 mA, 4-20 mA
Digital Outputs:	USB port for enhanced data collection and remote diagnostics/configuration; plus multidrop RS232 port or optional ethernet capability. Output Baud rates 1200 – 38400 baud. DB50 output connector with discrete status outputs and remote user controls.
Data Logging:	Supports internal data logging capability with storage up to 175 days of 5 minute data stored in flash memory.
Data selection:	Instantaneous data: 1,3,5,10,30, or 60 minute intervals Average 1,3,5,10,15,30 minutes, 1,4,8,12, or 24 hours.
Power:	99-132 vAC, 198-264 vAC 47-63 HZ
Dimensions/weight	43.2 x 17.8 x 64.8 cm (w x h x d), 20.9 kg
Options:	Rack mount kit assembly (19") External zero/span valve assembly (EZS) External pump 115 v 60 Hz or 220V 50/60 Hz (specify) Pca 50 pin I/O 98000066-2



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BRO0018 13-APR-07

EC9841 T-NO_y

Total Reactive Nitrogen Oxides Analyzer

The EC9841 Total Reactive Nitrogen Oxides Analyzer combines microprocessor control with chemiluminescence detection to measure NO and NO_y in the ranges of 0-2000 ppb with a detection limit of 50 ppt.

Improved sensitivity, noise, and zero drift specifications are obtained through the use of a superior low pressure reaction cell and the introduction of a new electronics suite to provide better all round performance.

The EC9841 is used in conjunction with a NO_y-1000 converter used for the conversion of NO_y to NO for analysis.



Features

- Large Graphic LCD provides continuous output of instrument status including, analyte concentrations, real time zero/span calibration curves, and sample flow and pressure graphs.
- Menu selectable data trending graphically displays up to 100 data points.
- Auto zero routine periodically checks and corrects for background illumination, virtually eliminating zero drift.
- The micro processor facilitates total external remote control of the analyzer and provides up to 100 channels of instrument operating parameters.
- Stored data can be retrieved via RS232, USB interface or the optional Ethernet connection to a TCP/IP network via an RJ45 connector.
- Ethernet option facilitates data download from an analyzer connected to the internet via a standard web interface. This feature also supports remote access to instrument parameters and the status output screen .
- Inbuilt data logger utilizes Flash ROM to store up to 132 days of five minute data averages.





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Specifications

Ranges:	Auto-ranging for 0-50 ppb to 0-2000 ppb
Data Display:	Large Graphic LCD display, with unit selection mg/m ³ , µg/m ³ , ppm, ppb, ppt.
Analogue Out:	0 - full scale from 0 - 5 ppb to 0 - 2000 ppb with menu selectable offset of 0%, 5% or 10%. Auto-ranging between two user specified full-scale values
Noise:	25 ppt or 0.1% of reading with Kalman filter active.
Lower Detectable Limit:	50 ppt or with Kalman filter active
Linearity:	± 1% of full scale (from best straight-line fit)
Precision:	50 ppt or ±0.5 % of reading whichever is greater
Zero Drift:	24 hours < 100 ppt; 30 days; < 100 ppt
Span Drift:	24 hours less than 1 % of reading; 30 days less than 1 % of reading
Temperature/Pressure Compensation:	Temperature/Pressure compensation with selectable reference temperature of 0°C, 20°C, 25°C at 101.3 kPa.
Rise/Fall Time:	Less than 60 seconds with Kalman filter active.
Sample Flow Rate:	0.640 SLPM (Std)
Sample Pressure:	5% change in pressure produces less than 1% change in reading
Dependence:	
Temperature Range:	5°- 40 °C (U.S. EPA approval 15°C – 35°C)
Analog Outputs:	Menu selectable current output 0-20 mA, 2-20 mA, 4-20mA
50 pin I/O PCA:	Allows for jumper selectable voltage outputs of 100 mV, 1, 5, 10 V with menu selectable zero offset of 0, 5 or 10%.
Digital I/O DB50:	Local user DB50 I/O interface with 32 digital open collector outputs and 3 digital inputs user controls. The digital outputs are 24 status output commands, 8 status alarm conditions and 2 analogue inputs 0-5V.
Communication Port:	Rear panel multi-drop RS232 port shared between analyzers for data, status and control. Plus USB interface and optional Ethernet connection to a TCP/IP network via an RJ45 connector.
Data Logging:	Supports internal data logging capability with storage up to 132 days of 5 minute data stored in flash ROM.
Data Storage selection:	Instantaneous data selectable period from: 1,3,5,10,30, or 60 minute intervals Average data selectable period from: 1,3,5,10,15,30 minutes, 1,4,8,12, or 24 hours.
Power:	99-132 VAC, 198-264 VAC 47-63 HZ, 200 Watts.
Dimensions/weight	43.2 x 17.8 x 64.8 cm (w x h x d), 24 kg
Options:	Rack mount kit assembly (19") 9800036-2 External zero/span valve assembly (EZS) 98300087 External pump 115V 60 Hz 002-033603 External pump 220V 50/60 Hz 002-033601 Internal pump and 12VDC Power Supply 98000115 Ethernet connection to a TCP/IP network via an RJ45 connector



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EC9850T Trace Sulphur Dioxide Analyzer

The Ecotech Model EC9850T Trace Sulphur Dioxide (SO₂) analyzer incorporates UV fluorescence spectrometry with microprocessor control for accurate and reliable measurement of sub-ambient levels of SO₂.

The EC9850T can measure levels of SO₂ to a sensitivity of 200ppt in the range of 0-2000 ppb. SO₂ concentration is automatically corrected for gas temperature and pressure changes and can be displayed in units of ppb, ppm, µg/m³ or mg/m³.

Excitation (UV radiation) is measured by a reference detector and emission (fluorescence radiation) from the sample is measured by a photomultiplier tube (PMT) in a reduced atmosphere reaction cell. The cell and optional factory fitted 10:1 sample dilution system enables the analyzer to measure high concentrations of SO₂ with greatly reduced interference from water vapor and/or quenching effects.



Features

- EC9850T is U.S. EPA approved (Automated Equivalent Method EQSA-0193-092)
- Specially selected high output UV lamp operating at 214nm
- High performance SO₂ scrubber impregnated with Na₂CO₃ solution.
- Extremely low sensitivity to NO interferences.
- Scrubbed sample air is used for background zero to minimize discrepancies between air quality of the sample and background air.
- Auto-zero routine allows the analyzer to periodically check and correct for cell contamination.
- Kalman digital filter continuously provides the best compromise between response time and noise reduction.
- Internal data logging uses Flash ROM to store up to 175 days of 5 minute averaged data.



Specifications

Ranges Display:	Auto ranging 0-2000 ppb.
Data Display:	Graphic LCD display, auto ranging 0-2000 ppb full scale, with unit selection mg/m ³ , µg/m ³ , ppm, ppb, ppt.
Resolution:	User selectable (0-5 decimal points displayed).
Analogue Out:	0 - full scale from 0 - 2000 ppb. Selectable offset of 0%, 5% or 10% offset.
Filter types:	No filter, Kalman, 10,30,60,90,300 second.
Noise (At zero):	100 ppt RMS with Kalman or 300 sec filter active.
Lower Detectable Limit:	200 ppt with Kalman or 300sec filter active.
Precision:	+/- 2 % of reading.
Zero Drift:	Temperature dependence, 0.1% per °C changes. 24 hours; less than 200 ppt.
Span Drift:	Temperature dependence, 0.05% per °C changes. 24 hours less than 0.5% of reading. 30 days less than 1.0% of reading.
Temperature/Pressure Compensation	Temperature/Pressure compensation with selectable reference temperature of 0°C, 20°C, 25°C at 1 01.3 kPa.
Sample Flow Rate:	500-750cc/min, 0.5-1.00 LPM optional. Optional external sample pump required.
Temperature Range:	Operating temperature 20 - 30°C may be operated 15°C – 35°C
Analogue Outputs:	Menu selectable current output 0-20 mA, 2-20 mA, 4-20 mA The 50 pin I/O PCA allows for jumper selectable voltage outputs of 100 mV, 1 V, 5 V, 10 V with menu selectable zero offset of 0, 5% or 10% or menu selectable current output 0-20 mA, 2-20 mA, 4-20mA.
Digital Outputs	USB port for enhanced data collection and remote diagnostics/configuration; plus multidrop RS232 port or optional ethernet capability.
Data Logging	Supports internal data logging capability with storage up to 175 days of 5 minute data stored in flash memory.
Data selection	instantaneous data: 1,3,5,10,30, or 60 minute intervals, average 1,3,5,10,15,30 minutes, 1,4,8,12, or 24 hours.
Power	99-132 VAC, 198-264 VAC 47-63 HZ.
Dimensions/weight	43.2 x 17.8 x 64.8 cm (w x h x d), 20.9 kg.
Options	Rack mount kit assembly (19"). External zero/span valve assembly (EZS).
External pump	115 v 60 Hz or 220V 50/60 Hz (specify) PCA 50 pin I/O 98000066-2Pca 50 pin I/O 98000066-2

EC9811

Ozone Photometer

The EC9811 Ozone Photometer meets U.S. EPA requirements for an ozone analyzer and an ozone primary transfer standard. The EC9811 is a compact analyzer and primary transfer standard that requires no external pumps or scrubbers.

The EC9811 utilizes the Beer-Lambert law and UV absorption detection to calculate ozone concentration. O₃ measurements are automatically corrected for gas temperature/pressure changes and can be displayed in units of ppm, ppb, $\mu\text{g}/\text{m}^3$ or mg/m^3 .



Features

- Built in high efficiency sample pump features low noise operation and automatic flow correction. The sample pump provides up to 5 LPM of scrubbed zero air for both the photometer reference cell and the ozone generator.
- Photometric dual-channel technique provides reliable measurements.
- Single, small glass measurement cell, low sample flow rates and no mirrors means that cleaning and maintenance requirements are minimised.
- Built-in secondary ozone scrubber allows independent verification of primary scrubber performance ensuring maximum accuracy and reliability.
- Automatic five point span calibration of ozone generator.
- Stored data can be retrieved via RS232, USB interface or the optional Ethernet connection and uploaded to a TCP/IP network.
- Ethernet option facilitates data download from an analyzer connected to the internet via a standard web interface. This feature also supports remote access to instrument parameters and the status output screen.
 - Inbuilt data logger uses Flash ROM to store up to 175 days of 5 minute averaged data.

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Specifications

Ranges Display:	Auto ranging 0-20 ppm.
US EPA designated range:	Any full-scale range between 0.05 and 1.0 ppm.
Analogue Out:	0-full scale from 0-0.050 ppm to 0-20 ppm with menu selectable 0%, 5% and 10% offset. Auto ranging between 2 user-specified full scale values.
Noise:	0.25 ppb or 0.1% or reading. (1) (2)
Lower Detectable Limit:	0.5 ppb. (1)
Linearity:	1 ppb or 1% of reading. (1) (2)
Precision:	1.0 ppb or 1% of reading. (2)
Zero Drift:	Time dependent, 0.1 ppb per °C change. 24 Hours: Less than 1 ppb; 30 Days: Less than 1 ppb.
Span Drift:	Temperature dependence, 0.1% per °C change. 24 hours < 0.5% of reading; 30 days <0.5% of reading.
Temperature/Pressure Compensation:	Temperature/Pressure compensation with selectable reference temperature of 0°C, 20°C, 25°C at 101.3 kPa.
Lag Time:	Less than 20 sec.
Rise/Fall Time	95% of final reading, less than 60 secs (0.5 LPM). (1)
Sample Flow Rate:	0.5 LPM.
Sample Pressure Dependence :	5% change in pressure produces less than 1% change in reading.
Temperature Range:	5°C to 40°C (U.S. EOA approval 15°C - 35°C).
Relative Humidity:	10% to 80% non-condensing.
Rejection Ratio	Negligible interference from H ₂ O vapour and CO.
Analogue Outputs:	Jumper selectable voltage output of 100mV, 1V, 5V, 10V with menu selectable zero offset of 0.5% or 10% or menu selectable current output 0-20 mA, 2-20 mA, 4-20 mA.
Digital Outputs:	USB port for enhanced data collection and remote diagnostics/configuration; plus multidrop RS232 port or optional ethernet capability.
Communication Port:	Rear panel multi-drop RS232 port shared between analyzers for data, status and control. Plus USB interface and optional Ethernet connection to a TCP/IP network via an RJ45 connector.
Data Logging:	Supports internal data logging capability with up to 175 days of 5 minute data stored in flash ROM.
Data Storage selection:	Instantaneous data selectable period from: 1,3,5,10,30, or 60 minute intervals. Average data selectable period from: 1,3,5,10,15,30 minutes,1,4,8,12, or 24 hours.
Power:	99-132 VAC, 198-264 VAC 47-63 Hz, 75 watts
Dimensions/weight:	43.2 x 17.8 x 64.8 cm (w x h x d), weight 25 kg (56 lbs)
Ozone Generator	
Flow Rate:	1 to 5 LPM.
Accuracy:	± 5% of reading.
Ozone output:	0.04 to 1 ppm at 4 LPM.
Repeatability:	Feedback on - 1 ppb ± 1% of reading; Feedback off - 1 ppb ± 3% of reading.
Time Stability:	Feedback on - 1 ppb ± 1% of reading/700hrs; Feedback off - 1 ppb ± 3% of reading/700hrs.
Options:	12 VDC Input power supply, Internal floppy disk drive (3.5"); Rack mount kit assembly (19").

(1) With Kalman filter active (2) Whichever is greater

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