

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.

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, Rack mount kit assembly (19").

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



Contact details:

Ph: (877) 247 0403
 Fax: (401) 537 9166

Email: info@AmericanEcotech.com
 Website: www.AmericanEcotech.com



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