

Model 108-L Ozone Monitor

For Industrial Ozone Applications and Integration into Existing Ozone Systems



The Model 108-L provides accurate measurements of ozone in air over a wide dynamic range extending from a few parts-per-billion by volume (ppb) to an upper limit of 100 parts-per-million (ppm) based on the well-established technique of absorption of ultraviolet light at 254 nm. The Model 108-L is designed for integration in the user's ozone system and makes use of the ozone system's pump to supply the air sample. The Model 108-L Ozone Monitor is lightweight (2.0 lb, 0.89 kg), has a low power consumption (~2 watt) relative to conventional instruments, and requires minimal maintenance, making it well suited for monitoring of ambient ozone and monitoring/control of ozone in industrial settings. The Model 108-L is ideal for the following applications:

- Replacement of HMOS and Electrochemical sensors in an existing ozone system
- Monitoring ozone exposure of individuals in the workplace
- Monitoring and control of ozone in industrial settings
- Incorporation into ozone disinfection systems
- Long-term monitoring at remote locations where power is highly limited

The 2B Technologies Model 108-L Ozone Monitor has been approved by the U.S. Environmental Protection Agency as a [modification](#) of Federal Equivalent Method (FEM): [EQOA-0914-218](#). As a designated FEM, the Model 108-L Ozone Monitor may be used by states and other monitoring agencies under 40 CFR Part 58, Ambient Air Quality Surveillance, for monitoring for compliance with the Clean Air Act.

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Specifications for Model 108-L Ozone Monitor

Measurement Principle	UV Absorption at 254 nm, single beam
Federal Equivalent Method (FEM)	Yes, EQOA-0914-218
Linear Dynamic Range	0-100 ppm (100,000 ppb); 0-0.5 ppm for FEM
Resolution	0.1 ppb
Measurement Frequency	2 s, 0.5 Hz
Data Averaging Options	10 s, 1 min, 5 min, 1 hr
Response Time, 100% of Step Change	For 2-s output: 4 s, 2 data points For 10-s output: 20 s, 2 data points
Precision (1σ) for 10-s output (rms noise)	Greater of 1.5 ppb or 2% of measurement
Limit of Detection (2σ)	3 ppb for 10-s averaging
Accuracy	Greater of 1.5 ppb or 2% of measurement
Calibration	NIST traceable, annual calibration recommended
Flow Rate Limits	Minimum required: 0.6 Liter/min (volumetric); Nominal: 1 Liter/min; Maximum: 1.5 Liter/min
Ozone Units	ppb, pphm, ppm, $\mu\text{g m}^{-3}$, mg m^{-3}
Pressure Units	torr, mbar, psi
Temperature Units	$^{\circ}\text{C}$, $^{\circ}\text{F}$, K
Temperature and Pressure Corrected	Yes
Temperature Range	0 – 50 $^{\circ}\text{C}$ (20 – 30 $^{\circ}\text{C}$ for FEM)
Data Outputs	RS232, 0-2.5 V, 4-20 mA
Output Ranges	User-defined scaling factor in serial menu
Adaptive Filter	Available; user-defined parameters
Data Transfer Baud Rate	2400

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Relay with Two Set Points	Relay responds based on ozone set points (user-defined in serial menu)
Power Requirements	11-28 VDC, nominally 165 mA at 12 V; 2.0 watt
Size	8.7 × 4.0 × 3.0 in (22 × 10 × 7.6 cm) (l × w × h)
Weight	2.0 lb (0.89 kg)
Options	Enclosure; Pump; Bluetooth; WiFi

Features

- Accurate measurement based on UV absorption
- Low power consumption (≈2.0 watt)
- Small footprint (8.7 × 4.0 × 3.0 in; 22 × 10 × 7.6 cm) for easy integration into ozone systems
- 4 s response time (2-s measurement interval)
- Relay with 2 set points (based on user's ozone set points)
- 0-2.5 V, 4-20 mA analog outputs
- RS232 Output
- Options available: Enclosure, pump, Bluetooth, WiFi

Other Options in Our Model 108 Series

Higher measurement ranges are offered in other instruments in our Model 108 Series Ozone Monitors. Please inquire about our Model 108-M (20 ppb – 1000 ppm), Model 108-MH (100 ppb – 10,000 ppm), or Model 108-H (0.02 wt% – 20wt%).

The Model 108 Series is also available in an optional enclosure with a miniature air pump.



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