

## 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.

## Specifications for Model 108-L Ozone Monitor

<b>Measurement Principle</b>	UV Absorption at 254 nm, single beam
<b>Federal Equivalent Method (FEM)</b>	Yes, <a href="#">EQOA-0914-218</a>
<b>Linear Dynamic Range</b>	0-100 ppm (100,000 ppb); 0-0.5 ppm for FEM
<b>Resolution</b>	0.1 ppb
<b>Measurement Frequency</b>	2 s, 0.5 Hz
<b>Data Averaging Options</b>	10 s, 1 min, 5 min, 1 hr
<b>Response Time, 100% of Step Change</b>	For 2-s output: 4 s, 2 data points For 10-s output: 20 s, 2 data points
<b>Precision (1<math>\sigma</math>) for 10-s output (rms noise)</b>	Greater of 1.5 ppb or 2% of measurement
<b>Limit of Detection (2<math>\sigma</math>)</b>	3 ppb for 10-s averaging
<b>Accuracy</b>	Greater of 1.5 ppb or 2% of measurement
<b>Calibration</b>	NIST traceable, annual calibration recommended
<b>Flow Rate Limits</b>	Minimum required: 0.6 Liter/min (volumetric); Nominal: 1 Liter/min; Maximum: 1.5 Liter/min
<b>Ozone Units</b>	ppb, pphm, ppm, $\mu\text{g m}^{-3}$ , $\text{mg m}^{-3}$
<b>Pressure Units</b>	torr, mbar, psi
<b>Temperature Units</b>	$^{\circ}\text{C}$ , $^{\circ}\text{F}$ , K
<b>Temperature and Pressure Corrected</b>	Yes
<b>Temperature Range</b>	0 – 50 $^{\circ}\text{C}$ (10 – 40 $^{\circ}\text{C}$ for FEM)
<b>Data Outputs</b>	RS232, 0-2.5 V, 4-20 mA
<b>Output Ranges</b>	User-defined scaling factor in serial menu
<b>Adaptive Filter</b>	Available; user-defined parameters
<b>Data Transfer Baud Rate</b>	2400

<b>Relay with Two Set Points</b>	Relay responds based on ozone set points (user-defined in serial menu)
<b>Power Requirements</b>	11-28 VDC, nominally 165 mA at 12 V; 2.0 watt
<b>Size</b>	8.7 × 4.0 × 3.0 in (22 × 10 × 7.6 cm) (l × w × h)
<b>Weight</b>	2.0 lb (0.89 kg)
<b>Options</b>	Enclosure; Pump; Bluetooth; WiFi; AQLite packages (108-L)

## 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, AQLite packages for 108-L

## 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% – 20 wt%).

The Model 108 Series is also available in an optional enclosure with a miniature air pump (right), and the 108-L is available in our AQLite packages (shown below) suitable for outdoor monitoring.

