Model 106-M Ozone Monitor™

Recommended for Industrial Ozone Applications for Concentrations in the Range 0-1,000 ppm



Standard Enclosure



Industrial Enclosure



OEM Version

The Model 106 series of ozone monitors was designed specifically for the industrial ozone industry to cover four different ozone concentration ranges by varying the optical path length. The ranges are: -L (low, 0-20 ppm); -M (medium, 0-1,000 ppm); -MH (medium high, 0-10,000 ppm, 0-1 vol%) and -H (0-20 wt%, 0-14 vol%). The Model 106 series is designed as an "ozone monitor on a board" in which nearly all of the components are mounted directly to the printed circuit board with very few wire connections, making these instruments highly robust and very easy to service. As seen in the images above, all models are available in a standard enclosure, weather-resistant Industrial enclosure, or with no enclosure for OEM applications for those who want to mount the instrument in their own enclosure or use it as a component of a larger system. For more details on OEM applications see: Model OEM-106. Multi-channel sampling configurations (3-channel and 6-channel) are available for the Model 106-L and Model 106-M.

The Model 106-M Ozone Monitor is designed for measurements of ozone in the range 0-1,000 ppm with a resolution of 0.01 ppm. A common application is off-gas analysis in water treatment plants, before and after ozone destruction.

2B Technologies has developed a corrosion-resistant modification for the Model 106-M for customers who use ozone generators where the feed gas is air instead of oxygen. Please contact us to discuss this modification in greater detail.

Specifications

Measurement Principle	UV Absorption at 254 nm, single beam
Certifications	CE
Measurement Interval	2 s
Linear Dynamic Range	0-1,000 ppm
Resolution	0.01 ppm
Precision (1σ for 10-s average; aka rms noise)	Greater of 0.01 ppm or 2% of reading
Limit of Detection (10-s average, 2σ)	0.02 ppm
Accuracy	Greater of 0.01 ppm or 2% of reading
Baseline Drift	< 0.01 ppm/day, < 0.03 ppm/year
Sensitivity Drift	< 1%/day, < 3%/year
Calibration	NIST Traceable; Annual calibration recommended
Measurement Time and 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
Adaptive Filter	Available; user-defined parameters
Data Logger Capacity	32,736 lines (10 s avg. = 3.8 days; 5 min avg = 113 days)
Data Transfer Baud Rates	2400, 4800, 19200
Ozone Units	ppb, pphm, ppm, µg m^{-3}, mg m^{-3}
Temperature Units	°C, K
Pressure Units	mbar, torr
T and P Corrected	Yes
DewLine™ for Humidity Control	Yes
Operating Temperature Range	0 to 50°C
Flow Rate	Minimum required: 0.3 L/min; Nominal: 1 L/min; Maximum: 1.5 L/min
Power Requirements	100-240 VAC, 50/60 Hz 11-28 V DC, nominally 500 mA at 12 V DC, 6 watt

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Digital Data Outputs	USB, RS232, LCD display
Analog Data Outputs	0-2.5 V Analog, 4-20 mA, user-scalable in menu
Relays with 2 Setpoints	Two provided: Relay 1 responds based on user's ozone set points. Relay 2 responds based on user's ozone set points OR responds based on diagnostics (T, P, flow, lamp voltage) Four relays provided in Industrial models and in the 3-channel and 6-channel optional configurations
Bluetooth Option Available	Yes
Flow-Through Option Available	Yes
Multi-Channel Options Available	Yes, 3-channel and 6-channel configurations
Size	***Standard:*** 3.6 × 7.9 × 9.4 inches (9 × 20 × 24 cm) ***OEM:*** 2.5 × 7 × 9 in (6.4 × 17.8 × 22.9 cm) ***Industrial:*** 16 × 14 × 9.3 in (40.7 × 35.7 × 23.6 cm)
Weight	***Standard:*** 3.9 lb (1.8 kg) ***OEM:*** 2.5 lb (1.1 kg) ***Industrial*:** ~14 lb (6.4 kg)
Options	Particle Filter, Exhaust Port, Flow-Through Configuration, Multi-Channel Configurations, Corrosion-Resistant Modification

Features

- Measurement based on UV absorption
- Low power consumption; can be battery operated (optional external lithium-ion battery)
- Internal data logger with real-time clock
- 2-s measurement interval
- On-board microprocessor with interactive menus includes data averaging options of 10 s, 1 m, 5 m, 1 hr, and user-defined adaptive filter
- USB and RS-232 output of time/date, O_3 concentration, internal temperature and pressure
- Analog output (0-2.5 V and 4-20 mA) of ozone concentration in user-selected units and scaling factors
- Two 2-level relays for control purposes (e.g., control of ozone source or turn warning light on and off); four relays provided in Industrial models and in the 3-channel and 6-channel optional configurations
- Long-life pump (15,000 hr)
- Optional configurations for 3-channel or 6-channel air sampling