

## Model 106-MH Ozone Monitor™

*Recommended for Industrial Ozone Applications for Concentrations in the Range 0-10,000 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, 0-100 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, -M, and -MH.

The Model 106-MH Ozone Monitor is designed for measurements of ozone in the range 0-10,000 ppm with a resolution of 0.1 ppm. A common application is off-gas analysis in water treatment plants before ozone destruction.

## Specifications

<b>Measurement Principle</b>	UV Absorption at 254 nm, single beam
<b>Measurement Interval</b>	2 s
<b>Linear Dynamic Range</b>	0-10,000 ppm
<b>Resolution</b>	0.1 ppm
<b>Precision (1<math>\sigma</math> for 10-s average; aka rms noise)</b>	Greater of 0.05 ppm or 2% of reading
<b>Limit of Detection (10-s average, 2<math>\sigma</math>)</b>	0.1 ppm
<b>Accuracy</b>	Greater of 0.05 ppm or 2% of reading
<b>Baseline Drift</b>	< 0.1 ppm/day, < 0.3 ppm/year
<b>Sensitivity Drift</b>	< 1%/day, < 3%/year
<b>Calibration</b>	NIST Traceable; annual calibration recommended
<b>Measurement Time and 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>Data Logger Capacity</b>	32,736 lines (10 s avg. = 3.8 days; 5 min avg = 113 days)
<b>Data Transfer Baud Rates</b>	2400, 4800, 19200
<b>Ozone Units</b>	ppm, mg m <sup>-3</sup>
<b>Temperature Units</b>	°C, K
<b>Pressure Units</b>	mbar, torr
<b>T and P Corrected</b>	Yes
<b>DewLine™ for Humidity Control</b>	Yes
<b>Operating Temperature Range</b>	0 to 50°C
<b>Flow Rate</b>	Minimum required: 0.2 L/min; Nominal: 1 L/min; Maximum: 1.5 L/min
<b>Power Requirements</b>	100-240 VAC, 50/60 Hz 11-28 V DC, nominally 500 mA at 12 V DC, 6 watt
<b>Digital Data Outputs</b>	USB, RS232, LCD display
<b>Analog Data Outputs</b>	0-2.5 V Analog, 4-20 mA; user-scalable in menu

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<b>Relays with 2 Setpoints</b>	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
<b>Bluetooth Option Available</b>	Yes
<b>Flow-Through Option Available</b>	Yes
<b>Multi-Channel Options Available</b>	Yes, 3-channel and 6-channel configurations
<b>Size</b>	<b>Standard:</b> 3.6 × 7.9 × 9.4 inches (9 × 20 × 24 cm) <b>OEM:</b> 2.5 × 7 × 9 in (6.4 × 17.8 × 22.9 cm) <b>Industrial:</b> 16 × 14 × 9.3 in (40.7 × 35.7 × 23.6 cm)
<b>Weight</b>	<b>Standard:</b> 3.9 lb (1.8 kg) <b>OEM:</b> 2.5 lb (1.1 kg) <b>Industrial:</b> ~14 lb (6.4 kg)
<b>Options</b>	Battery, Particle Filter, Bluetooth, Flow-Through Configuration, Multi-Channel Configurations

## 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
- USB and RS-232 output of time/date, O<sub>3</sub> 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 model and in multi-channel configurations
- Long-life pump (15,000 hr)
- Optional configurations for 3-channel or 6-channel air sampling
- Bluetooth option for wireless data transmission
- Exhaust port

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