

Model 202 Ozone Monitor™



The 2B Technologies Model 202 Ozone Monitor™ is designed to enable accurate and precise measurements of ozone ranging from low ppb (precision of ~ 1 ppb) up to 100,000 ppb (0-100 ppm) based on the well established technique of absorption of UV light at 254 nm. The Ozone Monitor™ is light weight (4.7 lb., 2.1 kg.) and has a low power consumption (12V DC, 0.33 amp, 4.0 Watt) relative to conventional instruments and is therefore well suited for applications such as:

- Vertical profiling using balloons, kites, RPVs and light aircraft where space and weight are highly limited
- Long-term monitoring at remote locations where power is highly limited
- Urban arrays of ground-based detectors
- Personal exposure monitoring for studies of health effects of air pollutants
- Environmental health and safety monitoring
- Laboratory studies of the effects of ozone exposure on materials and organisms

Compared to electrochemical ozonesondes, the Model 202 Ozone Monitor™ is simpler to operate, does not require chemical reagents, is more selective and has a faster response time. Compared to other UV-based ozone monitors, the Model 202 is much smaller, lighter and requires much less power. 2B Technologies manufactures the only portable, high precision, high accuracy ozone monitors capable of making reliable measurements at the low ppb level. The Model 202 Ozone Monitor™ features:

- Backup sampling pump and flow meter (now standard); if the flow rate drops below a critical value, the backup pump is activated and a warning displayed on the LCD
- Internal data logger (EEPROM), logs 14,336 lines of data
- Real time clock
- Both serial and user-scaleable analog voltage outputs (5-20 mA current output optional)
- Three 0-2.5 VDC analog inputs for logging other measurements, such as external temperature, pressure and humidity
- Convenient user interface to microprocessor, including calibration parameters (gain and zero)
- Selectable data averaging times of 10 s, 1 min, 5 min and 1 hr (custom averaging times available)
- DewLine™ for elimination of any water vapor interference, a unique feature of 2B Tech instruments

OPTIONS

- Flash Card Memory for virtually unlimited, portable data storage
- GPS for continuous logging of latitude, longitude and altitude
- Rechargeable metal hydride battery provides 12 hr of continuous operation
- External particle filter
- Serial-to-USB adapter
- Rotary vane air pump for low temperature and quiet operation
- External air pump for long pump life

SPECIFICATIONS

Measurement Principle	UV Absorption at 254 nm
Analytical Range	1.5 ppbv to 100 ppmv
Precision and Accuracy	Greater of 1.5 ppbv or 2% of reading
Measurement Interval	10 s (Data averaging options: 10 s, 1 min, 5 min, 1 hr)
Flow Rate	~1 Liter/min
Data Storage	14,336 lines (10 s avg. = 1.4 days; 5 min avg = 1.4 mo.)
Choice of Units	ppb, ppm, pphm, $\mu\text{g m}^{-3}$, mg m^{-3}
Data Outputs	RS232, 0-2.5 V Analog, LCD Display
Power Requirements	12 V dc or 120/240 V ac, 4.0 watt (2.9 watt in low power mode)
Size	3.5 x 8.5 x 11 inches (9 x 21 x 29 cm)
Weight	4.7 lb (2.1 kg); 1.6 lb (0.7 kg) without instrument case

SYSTEM INCLUDES

- Model 202 Ozone Monitor
- AC Power Adapter (100-240 VAC to 12 VDC) with Country-Specific Plug
- Cigarette Lighter Adapter
- Battery Wire Connector
- Zeroing Cartridge
- Operation Manual on CD
- Calibration Data and NIST-Traceable Calibration Certificate
- Instrument Birth Certificate
- One Year Warranty