**Air quality monitors gas**

**2BTech model 205**

***Description:***

The Model 205 Dual Beam Ozone Monitor™ was designed for even higher precision and faster response time than our popular Model 202. Data may be output as frequently as every 2 s, making it ideal for vertical profiling using balloons or aircraft measurements where high temporal resolution is required. For a given averaging time, the Model 205 has a higher precision (better than 1 ppb for 10 s averaging) and a more stable baseline than the Model 202. The Model 205 has all of the features of the Model 202 single beam instrument, including a real time clock; averaging times of 10 s, 1 min, 5 min and 1 h; an internal data logger; serial and analog data outputs; and a backup air pump to protect against data loss in the field. The Model 205 Ozone Monitor has been designated as a Federal Equivalent Method (FEM) by the EPA.

***Specification:***

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| **Measurement Principle** | UV Absorption at 254 nm; Dual Beam |
| **Federal Equivalent Method (FEM)** | Yes, EQOA-0410-190 |
| **Linear Dynamic Range** | 0 to 250 ppm |
| **Resolution** | 0.1 ppb |
| **Precision (1σ rms noise)** | Greater of 1.0 ppb or 2% of reading for 10-s average |
| **Accuracy** | Greater of 1.0 ppb or 2% of reading |
| **Limit of Detection (2σ)** | 2.0 ppb for 10-s average |
| **NIST-Traceable Calibration** | Yes |
| **Measurement Interval** | 2 s (Data averaging options: 10 s, 1 min, 5 min, 1 hr) |
| **Flow Rate (nominal)** | ~1.8 Liter/min |
| **Flow Rate Requirement** | >1.2 L/min |
| **Baseline Drift** | < ppb/day <3 ppb/year |
| **Sensitivity Drift** | < 1%/day <3%/year |
| **Measurement Time, Frequency** | 2 s, 0.5 Hz |
| **Response Time, 100% of Step Change** | 4 s, 2 points |
| **Measurement and Averaging Times** | 2 s, 10 s, 1 min, 5 min, 1 hr |
| **Data Logger Capacity** | 16,383 lines (10 s avg. = 1.4 days; 1 min avg = 10 days; 5 min avg = 1.4 mo; 1 hr avg = 1.6 yr |
| **Ozone Units** | ppb, pphm, ppm, µg m-3, mg m-3 |
| **Pressure Units** | mbar, torr |
| **Temperature Units** | °C, K |
| **T and P Corrected** | Yes |
| **Operating Temperature Range** | 0 to 50 °C; -20 to 50 °C with low temperature modifications (rotary vane pump and lamp heater) |
| **Operating Altitude Range** | ~0-13.5 km (150-1,013 mbar) standard; ~0-25 km (30-1,013 mbar) with upgraded pressure sensor |
| **Power Requirement; Supplied by battery or 110/220 VAC Power Pack** | 12 V dc or 120/240 V ac, 415 mA, 5.0 watt (3.9 watt with cell heater unplugged) |
| **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 |
| **Analog Inputs for Internal Logging of Other Instruments** | 3 Analog Inputs, 0-2.5 V; For example, could log external T, P, and RH |
| **Data Outputs** | RS232, 0-2.5 V Analog, LCD Display: (Optional 4-20 mA Current, External USB Converter; request quote) |
| **Data Transfer Baud Rates** | 2400, 4800, 19200 |
| **Output Ranges** | User-Defined Scaling Factor in Menu |
| **DewLine™** | Yes |
| **Backup Air Pump** | Yes |
| **Flow Meter** | Yes |
| **Options** | GPS, Flash Card Memory, 4-20 mA Current Output; Lamp Heater; Rotary Vane Air Pump; Long-Life External Air Pump; Rack Mount Case |