**Air quality monitors gas**

**2BTech model 202**

***Description:***

The Model 202 Ozone Monitor is designed to enable accurate and precise (±1.5 ppb) measurements of ozone ranging from a few ppb to 100,000 ppb (0-100 ppm) based on the well-established technique of UV absorbance at 254 nm. The Model 202 is light weight (2.1 kg.) and has a power consumption of only 4 watts. The Model 202 has been certified by the EPA as a Federal Equivalent Method (FEM): EQOA-0410-190 The Model 202 has been used for the past decade in ozone monitoring networks of the U.S. National Park Service and National Forest Service. It also is widely used by NOAA, EPA, Environment Canada and the British Antarctic Survey for studies of ground-level ozone.

***Specification:***

|  |  |
| --- | --- |
| **Measurement Principle** | UV Absorption at 254 nm |
| **Federal Equivalent Method (FEM)** | Yes, EQOA-0410-190 |
| **Linear Dynamic Range** | 1.5 ppb to 250 ppm |
| **Resolution** | 0.1 ppb |
| **Precision (1σ; rms noise)** | Greater of 1.5 ppb or 2% of reading |
| **Accuracy** | Greater of 1.5 ppb or 2% of reading |
| **Limit of Detection (2σ)** | 3.0 ppb |
| **NIST-Traceable Calibration** | Yes |
| **Measurement Interval** | 10 s (Data averaging options: 10 s, 1 min, 5 min, 1 hr) |
| **Flow Rate (nominal)** | ~1 Litre/min |
| **Flow Rate Requirement** | >0.6 L/min |
| **Baseline Drift** | < 2 ppb/day< 5 ppb/year |
| **Sensitivity Drift** | < 1%/day< 3%/year |
| **Measurement Time, Frequency** | 10 s, 0.1 Hz |
| **Response Time, 100% of Step Change** | 20 s, 2 points |
| **Averaging Times** | 10 s, 1 min, 5 min, 1 hr |
| **Data Logger Capacity** | 14,336 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, ppm, pphm, 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, 335 mA, 4.0 watt (2.9 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** | 1200, 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 |
| **Upgradable to Model 205 Dual Beam** | Yes |