

## Comparison of Specifications for High Precision Ozone Monitors

	2B Tech Model 106-L	2B Tech Model 202	2B Tech Model 205	2B Tech Model 211	2B Tech POM	Teledyne-API Model 430	Teledyne-API Model T400	Ecotech SERINUS 10	Thermo Model 49i
<b>Optical Bench</b>	Single Beam	Single Beam	Dual Beam	Dual Beam	Single Beam	Single Beam	Single Beam	Single Beam	Dual Beam
<b>Linear Range</b>	0-100 ppm	0-250 ppm	0-250 ppm	0-2 ppm	0-10 ppm	0-20 ppm	0-10 ppm	0-20 ppm	0-200 ppm
<b>Resolution</b>	0.1 ppb	0.1 ppb	0.1 ppb	0.1 ppb	0.1 ppb	0.1 ppb	0.1 ppb	0.1 ppb	0.1 ppb
<b>Pneumatics</b>	Internal diaphragm pump, ~800 cc/min	Internal diaphragm pump, ~800 cc/min	Internal diaphragm pump, ~1600 cc/min	Internal diaphragm pump, ~1600 cc/min	Internal diaphragm pump, ~800 cc/min	Internal diaphragm pump, ~800 cc/min	Internal diaphragm pump, ~800 cc/min	User-supplied external pump (internal pump option), ~500 cc/min	Internal diaphragm pump, 1000-3000 cc/min
<b>Filter</b>	Optional external PTFE particle filter	Optional external PTFE particle filter	Optional external PTFE particle filter	Optional external PTFE particle filter	Optional external PTFE particle filter	Internal particle filter	Internal PTFE particle filter	Internal PTFE particle filter	Optional PTFE particle filter
<b>Dimensions</b>	3.6 × 7.9 × 9.4 in 9 × 20 × 24 cm	3.7 × 8.5 × 11.8 in 9.5 × 21.5 × 30 cm	3.7 × 8.5 × 11.8 in 9.5 × 21.5 × 30 cm	17 × 14.5 × 5.5 in 43 × 37 × 14 cm	5 × 3 × 1.5 in 12.7 × 7.6 × 3.8 cm (with GPS, no battery) 4 × 3 × 1.5 in 10.2 × 7.6 × 3.8 cm (no GPS, no battery)	4.2 × 7.1 × 10.2 in 10.7 × 18 × 25.9 cm	7 × 17 × 23.5 in 18 × 43 × 60 cm	8 × 20 × 29 in 17.5 × 43 × 64 cm	8.6 × 16.8 × 23 in 22 × 43 × 58 cm
<b>Volume</b>	270 cubic inches	370 cubic inches	370 cubic inches	1,356 cubic inches	18 cubic inches	304 cubic inches	2,800 cubic inches	4,640 cubic inches	3,300 cubic inches
<b>Weight</b>	4.2 lb, 1.9 kg	5.5 lb, 2.5 kg	5.8 lb, 2.6 kg	14.7 lb, 6.7 kg	0.8 lb, 0.36 kg (without battery); 1.0 lb, 0.45 kg (with battery)	5.2 lb, 2.4 kg	28 lb, 12.7 kg; 30.6 lb, 13.8 kg with IZS	38 lb, 17.2 kg	55 lb, 25 kg
<b>Power</b>	6 watt; 100-240 V AC, 50/60 Hz; 11-28 V DC (500 mA at 12 V DC)	7.2 watt; 100-240 V AC, 50/60 Hz; 11-14 V DC (600 mA at 12 V DC)	8 watt; 100-240 V AC, 50/60 Hz; 11-14 V DC (650 mA at 12 V DC)	12 watt; 100-240 V AC, 50/60 Hz; 11-14 V DC (1 A at 12 V DC)	3 watt; 100-240 V AC, 50/60 Hz; 7-24 V DC (250 mA at 12 V DC)	9 watt; 12 V DC	110 watt; 100-240 V AC, 50/60 Hz	65 VA; 100-260 V AC, 50/60 Hz	150 watt; 100-240 V AC, 50/60 Hz
<b>Reporting Units</b>	ppb, ppbm, ppm, mg/m <sup>3</sup> , µg/m <sup>3</sup>	ppb, ppbm, ppm, mg/m <sup>3</sup> , µg/m <sup>3</sup>	ppb, ppbm, ppm, mg/m <sup>3</sup> , µg/m <sup>3</sup>	ppb, ppbm, ppm, mg/m <sup>3</sup> , µg/m <sup>3</sup>	ppb	ppb, ppm	ppb, ppm, mg/m <sup>3</sup> , µg/m <sup>3</sup>	ppt, ppb, ppm, mg/m <sup>3</sup> , µg/m <sup>3</sup> , ng/m <sup>3</sup>	ppb, ppm, mg/m <sup>3</sup> , µg/m <sup>3</sup>
<b>Humidity Control</b>	DewLine™ Nafion tube	DewLine™ Nafion tube	DewLine™ Nafion tube	DewLine™ Nafion tube	DewLine™ Nafion tube	None	None	None	None
<b>Zero Noise</b>	≤ 1.5 ppb (rms)	≤ 1.5 ppb (rms)	≤ 1.0 ppb (rms)	≤ 0.5 ppb (rms)	≤ 1.5 ppb (rms)	< 1 ppb (rms)	< 0.2 ppb (rms)	< 0.25 ppb (rms)	0.25 ppb (rms)
<b>Lower Detectable Limit (LDL)</b>	≤ 3 ppb for 10-s avg ≤ 1.3 ppb for 1-min avg	≤ 3 ppb for 10-s avg ≤ 1.3 ppb for 1-min avg	≤ 2 ppb for 10-s avg ≤ 0.9 ppb for 1-min avg	≤ 1 ppb for 10-s avg ≤ 0.5 ppb for 1-min avg	≤ 3 ppb for 10-s avg ≤ 1.3 ppb for 1-min avg	< 2 ppb	< 0.4 ppb with 80-sample digital filter	0.5 ppb with Kalman filter	0.5 ppb
<b>Precision</b>	Greater of 1.5 ppb or 2% of reading	Greater of 1.5 ppb or 2% of reading	Greater of 1.0 ppb or 2% of reading	Greater of 0.5 ppb or 1% of reading	Greater of 1.5 ppb or 2% of reading	0.5 ppb or 0.5% of reading above 100 ppb	< 0.5% of reading above 100 ppb	Greater of 0.5 ppb or 0.2% of reading	1.0 ppb
<b>Zero Drift</b>	≤ 2 ppb per day ≤ 6 ppb per year	≤ 2 ppb per day ≤ 5 ppb per year	≤ 1 ppb per day ≤ 3 ppb per year	≤ 1 ppb per day ≤ 3 ppb per year	≤ 2 ppb per day ≤ 5 ppb per year	< 1 ppb per day	< 1 ppb per day	< 0.3 ppb per day; < 0.3 ppb per 7 days	< 1 ppb per day
<b>Span Drift</b>	< 1% per day < 3% per year	< 1% per day < 3% per year	< 1% per day < 3% per year	< 0.5% per day < 3% per year	< 1% per day < 3% per year	< 1% per day	< 1% per day	< 0.5% per 7 days	< 1% per 30 days
<b>Rise and Fall Time</b>	4 s	20 s	4 s	4 s	20 s (fast mode: 4 s)	< 15 s to 95%	< 20 s to 95%	30 s to 95%	20 s
<b>Linearity</b>	1% of full scale	1% of full scale	1% of full scale	1% of full scale	1% of full scale	1% of full scale	1% of full scale	< 1% of full scale	1% of full scale
<b>Operating Temp.</b>	0-50°C	0-50°C; -20 to 50°C with optional cold weather package	0-50°C; -20 to 50°C with optional cold weather package	10-50°C	0-50°C	5-40°C	5-40°C	0-40°C	0-45°C
<b>Outputs</b>	0-2.5 V and 4-20 mA for user-specified range, RS232 serial, USB	0-2.5 V for user-specified range, RS232 serial, flash memory, optional USB adapter, optional 4-20 mA analog current output	0-2.5 V for user-specified range, RS232 serial, flash memory, optional USB adapter, optional 4-20 mA analog current output	0-2.5 V for user-specified range, RS232 serial, flash memory, optional USB adapter, optional 4-20 mA analog current	USB, RS232 serial	0-5 V, RS-232, SD card	4 Analog voltage outputs; 8 digital outputs; 2 RS232 serial outputs; 2 USB ports; Ethernet	Analog current or voltage, 8 digital outputs, USB, 2 RS232 serial outputs, Bluetooth, flash memory	Analog voltage, RS 232, Ethernet, 10 status relays, flash memory

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				output					
<b>Internal Data Logger</b>	32,736 lines; 5 min avg = 3.7 mo	16,383 lines; 5 min avg = 1.9 mo	16,383 lines; 5 min avg = 1.9 mo	16,383 lines; 5 min avg = 1.9 mo	8,192 lines; 5 min avg = 1 mo	10,000 lines; 1 hr avg = 1.1 yr	Yes	N/A	None
<b>Options</b>	Battery, Particle Filter, Bluetooth, Flow-Through Configuration, High-Altitude Package, Custom Requests	Battery, Particle Filter, GPS, Bluetooth, 4-20 mA Output, External USB Adapter, Cold-Weather Package, High-Altitude Upgrade, Rack-Mount Configuration, Extra-Long-Life Internal Pump, Low-Power Option, Custom Requests	Battery, Particle Filter, GPS, Bluetooth, 4-20 mA Output, External USB Adapter, Cold-Weather Package, High-Altitude Upgrade, Rack-Mount Configuration, Extra-Long-Life Internal Pump, Low-Power Option, Custom Requests	Battery, Particle Filter, Bluetooth, 4-20 mA Output, External USB Adapter, Lamp Heater, High-Altitude Upgrade, Custom Requests	Included: GPS  Options: Particle Filter, Sampling Probe	External rechargeable battery	Various options for pneumatics, input, output, communications, calibration and mounting brackets	Various options for communications and calibration; internal pump, dual filter, mounting brackets	Various options for output, input, and calibration; Teflon particulate filter, mounting brackets
<b>Lag Time</b>	2 s	10 s	2 s	2 s	10 s (fast mode: 2s)	< 20 s	< 10 s	20 s	10 s

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