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Model 400E

UV Absorption O₃ Analyzer

The Model 400E UV Absorption Ozone Analyzer is a microprocessor-controlled analyzer that uses a system based on the Beer-Lambert law for measuring low ranges of ozone in ambient air.

A 254 nm UV light signal is passed through the sample cell where it is absorbed in proportion to the amount of ozone present. Every three seconds, a switching valve alternates measurement between the sample stream and a sample that has been scrubbed of ozone. The result is a true, stable ozone measurement.

Multi-tasking software gives real time indication of a large number of operational parameters, and provides automatic warnings if diagnostic limits are exceeded. Built-in data acquisition capability, using the analyzer's internal memory, allows the logging of multiple parameters including averaged or instantaneous concentration values, calibration data, and operating parameters such as pressure and flow rate.

Stored data are easily retrieved through the serial port or optional Ethernet port via our APIcom software or from the front panel, allowing operators to perform predictive diagnostics and enhanced data analysis by tracking parameter trends. Multiple averaging periods of one minute to 365 days are available for over a period of one year.

Features

- Standard two year warranty
- Ranges, 0-100 ppb to 0-10 ppm, user selectable
- Single pass ultraviolet absorption
- Microprocessor controlled for versatility
- Multi-tasking software allows viewing of test variables during operation
- Continuous self checking with alarms
- Dual bi-directional RS-232 ports for remote operation (optional RS-485 or Ethernet)
- Digital status outputs provide instrument operating condition
- Adaptive signal filtering optimizes response time
- Optional Internal Zero/Span check and dual span points
- Temperature & Pressure compensation
- Internal data logging with 1 min to 365 day multiple averages
- APIcom remote operation software



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Specifications	
Ranges:	0-100 ppb to 0-10 ppm, user selectable; Dual ranges and auto-ranging supported
Units:	ppb, ppm, µg/m ³ , mg/m ³
Zero noise:	< 0.3 ppb (RMS)
Span noise:	< 0.5% of reading above 100 ppb (RMS)
Lower Detectable Limit (LDL):	< 0.6 ppb (RMS)
Zero drift:	< 1.0 ppb/24 hours, < 1.0 ppb/7 days
Span drift:	< 1% of reading/7 days
Lag time:	< 10 seconds
Rise and Fall Time:	< 20 seconds to 95%
IZS Specifications (with optional reference feedback):	
Flow rate	800 cm ³ /min
Maximum Concentration	1.0 ppm

Minimum Concentration	0.050 ppm
Resolution	0.5 ppb
Repeatability (7 days)	1% of reading
Initial accuracy	±5% of target
Sample Flow Rate:	800 cm ³ /min ±10%
Operating Temperature Range:	5 - 40° C (with EPA equivalency)
Dimensions (HxWxD):	7" (178 mm) x 17" (432 mm) x 23.5" (597 mm)
Weight:	28 lbs (12.7 kg); 30.6 lbs (13.8kg) with IZS
Power:	110V - 120V, 220V - 240V, 50/60 Hz, 250W
Analog outputs:	10V, 5V, 1V, 0.1V, selectable
Recorder Offset:	±10%
Serial Outputs:	Serial Port 1: RS-232 (DB-9M) Serial Port 2: standard RS-232 or optional RS-485 (DB-9F), Ethernet
Status (Digital):	8 outputs, 6 inputs (opto-isolated)
Current Output:	Optional 4-20mA, select up to three channels
Approvals:	USEPA EQOA-0992-087, MCERTS certified Sira MC050070/00 EN14625 Approved, and others.

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