



MODEL 400E

UV Absorption O₃ Analyzer

EPA APPROVAL EQOA-0992-087



0-100 ppb to 0-10 ppm, user selectable

Single pass, single path ultraviolet absorption

Microprocessor controlled for versatility

Multi-tasking software allows viewing test variables while operating

Continuous self checking with warning alarms

Dual bi-directional RS-232 ports for remote operation (optional RS-485 or Ethernet)

Digital status outputs provide instrument 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 24 hour multiple averages (over 500,000 records)

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 ozone measurement unbiased by interferences.

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 (over 500,000 records) including averaged or instantaneous concentration values, calibration data, and operating parameters such as pressure and flow rate.

Stored data is easily retrieved through the RS-232 or optional RS-485 port or Ethernet, or from the front panel, allowing the operator to perform predictive diagnostics and enhanced data analysis by tracking parameter trends.

Multiple averaging periods of one minute to one day are available for over a period of one year and may be accessed for readout through RS-232 port via APICOM, or RS-485 or Ethernet.



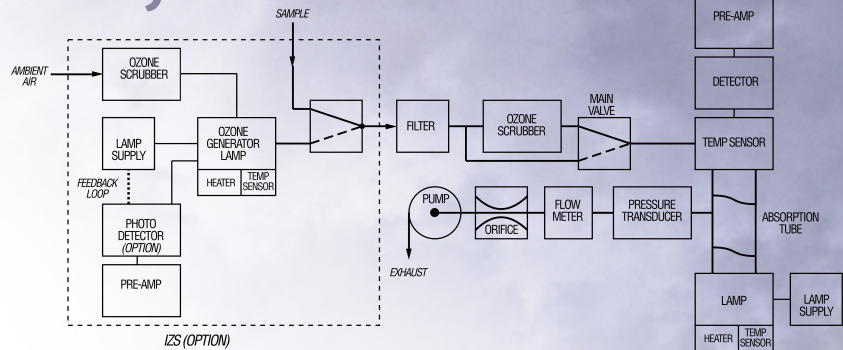
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UV Absorption O₃ Analyzer

Model 400E schematic



SPECIFICATIONS

Ranges:	0-100 ppb to 0-10 ppm, operator selectable Dual ranges and auto-ranging supported	Sample Flow Rate:	800 cm ³ /min ±10%
Units:	ppb, ppm, µg/m ³ , mg/m ³ operator selectable	Operating Temperature Range:	5 - 40°C with EPA Equivalency
Zero Noise:	<0.3 ppb (RMS)	Dimensions (HxWxD):	7" (178 mm) x 17" (432 mm) x 23.5" (597 mm)
Span Noise:	<0.5% (RMS) of reading (above 100 ppb)	Weight:	28 lbs (12.7 kg); 30.6 lbs (13.8kg) with IZS
Lower Detectable Limit (LDL):	<0.6 ppb (RMS)	Power:	100V 50/60 Hz, 115V 60Hz, 220V 50/60 Hz, 230V 50Hz, 240V 50Hz, 250 Watts
Zero Drift:	<1.0 ppb/24 hours, <1.0 ppb/7 days	Analog Outputs:	10V, 5V, 1V, 100 mV, operator selectable
Span Drift:	<1% of reading /7 days	Recorder Offset:	±10%
Lag Time:	<10 seconds	RS-232 / RS-485:	Serial Port 1: RS-232, DB-9M Serial Port 2: standard RS-232 or RS-485 (DB-9F) or Ethernet (RJ-4S)
Rise and Fall Time:	<20 seconds to 95%	Status (Digital)	8 outputs from optoisolator, included with standard configuration
Linearity:	1% of full scale	Current Output:	0-20 mA, 4-20 mA isolated output, optional
Precision:	0.5% of reading above 50 ppb	Approvals:	USEPA EQOA-0992-087, C E
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		

NOTE: The values expressed above are in accordance with EPA specifications. All specifications are based on constant conditions.

HOW TO ORDER

Model 400E UV Absorption Analyzer for O₃ includes:

- Selectable voltage (specify below)
- Internal pump
- Auto ranging and dual ranges
- 47mm diameter particulate filter
- 8 isolated digital status outputs
- Dual bi-directional RS-232

Specify input AC voltage & frequency:

- 100V/50Hz 100V/60Hz
- 220V/50Hz 115V/60Hz
- 230V/50Hz (CE) 220V/60Hz
- 240V/50Hz

Specify output DC voltage:

- 10V 5V 1V 0.1V

Additional Options:

- Rack mount brackets (19") with chassis slides
- Rack mount brackets only
- Isolated 0-20 mA or 4-20 mA output (specify up to two channels)
- Multi-drop serial interface
- Ethernet port includes 7 ft. CAT-5 cable (disables one serial port)

Calibration Options:

- Valves for selection of customer-supplied zero and span gas
- Internal zero air and span source for calibration check
- Reference adjustment feedback control for IZS ozone generator

Accessories:

- RS-232 Cable
- Expendables Kit
- Spare Parts Kit

For more information on Teledyne API's family of monitoring instrumentation products, call us or visit our website at www.teledyne-api.com

