



MODEL 100E

UV Fluorescence SO₂ Analyzer



0-50 ppb to 0-20 ppm ranges, user selectable

Dual ranges and auto ranging

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

Temperature & Pressure compensation

Internal Zero & Span check (optional)

Internal data logging with 1 min to 24 hour multiple averages (over 500,000 records)

Critical orifices provide flow stability

The Model 100E uses the proven UV fluorescence principle, coupled with state of the art microprocessor technology to provide accurate and dependable measurements of low level SO₂. Exceptional stability is achieved with the use of an optical shutter to compensate for PMT drift and a reference detector to correct for changes in UV lamp intensity. A hydrocarbon “kicker” and advanced optical design combine to prevent inaccuracies due to interferences. The multi-tasking software gives real time indication of a large number of operational parameters and provides automatic alarms if diagnostic limits are exceeded.

All instruments of the TAPI E Series include an extensive built-in data acquisition capability using the analyzer’s internal memory. This allows the logging of multiple parameters (over 500,000 records) including averaged or instantaneous concentration values, calibration data and operating parameters such as flow, pressure and lamp intensity.

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

The Model 100E combines lighter weight, rugged construction, ease of use, powerful diagnostics, modular design and outstanding performance to yield the ideal tool for today’s air monitoring requirements.



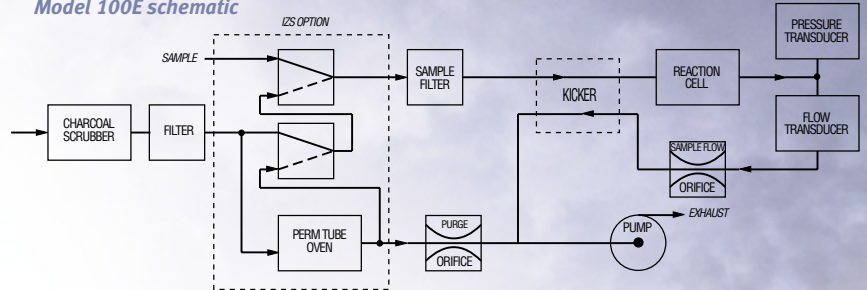
SO₂

MODEL 100E



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Model 100E schematic



SPECIFICATIONS

Ranges:	0-50 ppb to 0-20,000 ppb full scale, user selectable. Dual ranges and auto ranging supported	Dimensions (HxWxD):	7" (178 mm) x 17" (432 mm) x 23.5" (597 mm)
Units:	ppb, ppm, $\mu\text{g}/\text{m}^3$, mg/m^3	Weight:	35 lbs (16 kg)
Zero Noise:	<0.2 ppb (RMS)	Power:	100V - 115V, 50/60Hz 220V - 240V, 50/60Hz
Span Noise:	<0.5% of reading (RMS) above 50 ppb	Analog Outputs:	Bipolar 10V, 5V, 1V, 0.1V, selectable
Lower Detectable Limit (LDL):	0.4 ppb	Recorder Offset:	$\pm 10\%$
Zero Drift:	<0.5 ppb/24 hours, 1 ppb/7 days	RS-232 / RS-485:	Serial Port 1: RS-232, DB-9M Serial Port 2: standard RS-232 or optional RS-485 or Ethernet, DB-9F
Span Drift:	<0.5% of reading/24 hours, <1% of reading/7 days	Status (Digital)	8 outputs from optoisolator, included with standard configuration
Lag Time:	20 seconds	Current Output:	0-20 mA or 4-20 mA isolated output, optional
Rise and Fall Time:	<120 seconds to 95%	Approvals:	Contact factory for current listing
Linearity:	1% of full scale	NOTE: The values expressed above are in accordance with EPA definitions. All error specifications are based on constant conditions. Specifications exceed US EPA and Eignungsgeprüft requirements.	
Precision:	0.5% of reading		
Sample Flow Rate:	700 $\text{cm}^3/\text{min} \pm 10\%$		
Operating Temperature Range:	5 - 40°C		

HOW TO ORDER

Model 100A Fluorescent SO₂ Analyzer 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
- APICOM remote control software

Specify input AC voltage & frequency:

- 100V - 115V 50Hz
- 220V - 240V 60Hz

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 RS-232 connection
- NO_x optical filter (recommended for high NO_x applications)
- Ethernet port includes 7 ft. CAT-5 cable (disables one serial port)

Calibration Options:

- TFE valves for selection of customer-supplied zero and span gas
- Internal zero and permeation tube oven for calibration check. Requires perm tube (separate option required)

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

