



**TELEDYNE INSTRUMENTS**  
*Advanced Pollution Instrumentation*  
A Teledyne Technologies Company

MODEL **100EU**

# UV Fluorescence Trace Level SO<sub>2</sub> Analyzer



- ▶▶ **Standard two year warranty**
- ▶▶ **Versatile 0-5 to 0-20,000 ppb ranges**
- ▶▶ **Ranges front panel selectable**
- ▶▶ **Microprocessor controlled for versatility**
- ▶▶ **Dual ranges and auto ranging**
- ▶▶ **Adaptive signal filtering optimizes response time**
- ▶▶ **Bi-directional RS-232 ports for remote operation**
- ▶▶ **Displays test variables during operation**
- ▶▶ **Temperature & pressure compensation**
- ▶▶ **Critical orifices provide flow stability**
- ▶▶ **Continuous self checking with warning alarms**

EPA APPROVAL EQSA-0495-100

The Model 100EU Trace Level analyzer has been developed by Teledyne-API in cooperation with the USEPA for characterization of SO<sub>2</sub> in a national core monitoring network (NCore). This is the first instrument developed specifically for NCore-type monitoring to be granted equivalency by the US EPA. The criteria is stringent, as these units need to measure ultra low levels with minimal interference, yet still meet the reporting guidelines for use as a standard ambient SO<sub>2</sub> analyzer to allow determination of compliance with the NAAQS.

The Model 100EU is based on our proven Teledyne-API Model 100E SO<sub>2</sub> analyzer, but designed for ultra sensitive SO<sub>2</sub> measurements. Dark and light PMT and UV reference signals are captured several times per second to minimize offset errors. The lamp driver is pulsed in synchronization with the signal capture, and drives an improved, brighter zinc lamp. A reference detector provides feedback for changes in UV lamp intensity. The PMT preamp PCA is located inside the PMT housing for lower noise and greater stability, with a serially controlled DAC to drive the PMT High Voltage power supply. A hydrocarbon "kicker" and advanced optical design combine to prevent inaccuracies due to interferences. The Model 100EU combines rugged construction, ease of use, powerful diagnostics and outstanding performance to yield the ideal tool for today's air monitoring requirements.

Multi-tasking software allows field range changes as well as auto ranging and dual range operation. The intuitive menu-driven program makes operator interface easy and provides complete accessibility. The Model 100EU can be controlled through the front panel or remotely via RS-232. Built-in diagnostics, electrical and optical tests and warning alarms speed troubleshooting and pinpoint problems.

**FREE Customer Support by telephone and email for the life of the instrument**



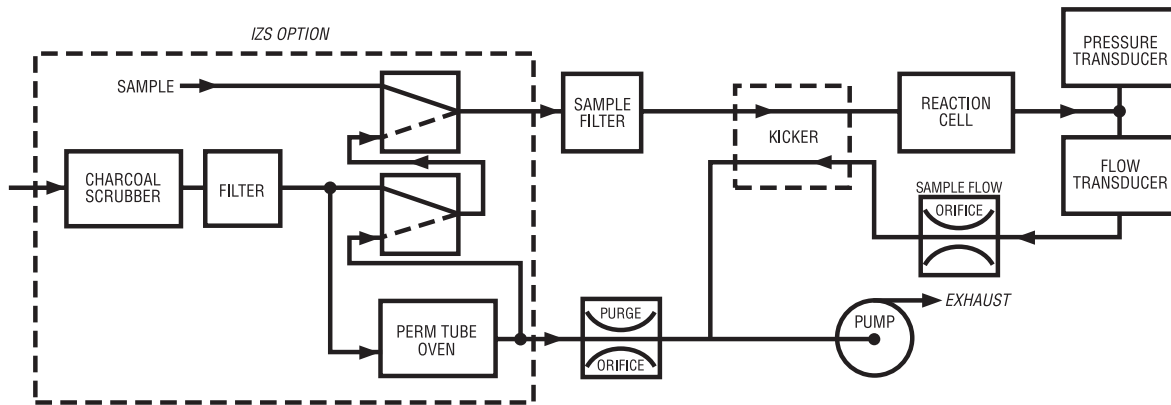
# MODEL 100EU UV Fluorescence Trace Level SO<sub>2</sub> Analyzer

## Specifications

Ranges:	0-5 ppb to 0-20,000 ppb, user selectable. Dual ranges and auto ranging supported	Power:	100V - 120V, 220V - 240V, 50/60 Hz, 250W
Units:	ppb, ppm, mg/m <sup>3</sup>	Analog Outputs:	10V, 5V, 1V, 0.1V, selectable
Zero Noise:	25 ppt (RMS)	Recorder Offset:	±10%
Zero Drift:	<0.2 ppb/24 hours	Serial Outputs:	Serial Port 1: RS-232 (DB-9M) Serial Port 2: standard RS-232 or optional RS-485 (DB-9F), Ethernet
Span Drift:	<0.5% of FS/24 hours	Status (Digital)	8 outputs, 6 inputs (opto-isolated), 6 alarm outputs (optional)
Lower Detectable Limit (LDL):	50 ppt	Current Output:	Optional 4-20mA, select up to three channels
Response Time:	<120 seconds to 95%	Approvals:	US EPA EQSA-0495-100, CE
Sample Flow Rate:	650 cc/min ±10%		
Linearity:	1% of full scale		
Operating Temperature Range:	5 - 40°C		
Dimensions (HxWxD):	7" (178 mm) x 17" (432 mm) x 23.5" (597 mm)		
Weight:	45 lbs (20.5 kg)		

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

## Schematic



## How to Order

### Model 100EU UV Fluorescence Trace Level SO<sub>2</sub> Analyzer includes:

- Standard two year warranty
- 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

### Calibration Options:

- TFE valves for selection of customer-supplied zero and span gas

### Additional Options:

- Rack mount brackets (19") with chassis slides  
 Rack mount brackets only  
 4-20mA output (specify up to three channels)  
 Multi-drop RS-232 connection

- Concentration alarms  
 Ethernet port (disables one serial port)  
 NO optical filter (recommended for high NO applications)

### Accessories:

- RS-232 Cable  
 Expendables Kit  
 Spare Parts Kit

Specifications subject to change without notice. Printed documents are uncontrolled. SAL000003 A (DCN 5058) M100EU/08/08/08.



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[www.teledyne-api.com](http://www.teledyne-api.com)

