



TELEDYNE INSTRUMENTS
Advanced Pollution Instrumentation
A Teledyne Technologies Company

MODEL **300EU**

Gas Filter Correlation Trace Level CO Analyzer

US EPA RFCA-1093-093



The Model 300EU Trace Level Carbon Monoxide analyzer has been designed specifically to address the challenges of background, low level CO monitoring such as that required by the NCore monitoring network. Using a Gas Filter Correlation Wheel, a high energy IR source alternately passes through a CO filled chamber and a chamber with no CO present. The light path then travels through the sample cell, which has a folded measurement path of 14 meters. The energy loss through the sample cell is compared with the zero reference provided by the gas filter to produce a signal proportional to concentration.

Based on our proven Model 300E, there are significant enhancements to optimize trace level CO measurement. The objective and field mirrors in the sample cell are gold plated to maximize the signal to noise performance of the Model 300EU. The optical bench is enclosed in a temperature-controlled, convection heated oven which dramatically reduces instrument noise and temperature related drift. A Nafion® dryer significantly reduces interferences from humidity changes in the sample gas. Additionally, the analyzer periodically monitors and corrects its baseline by routing the sample stream through a heated, platinum CO scrubber. This function, called Auto Reference, helps to correct instrument drift and eliminate any CO₂ interferences. Auto Reference is user-programmable to occur from once per hour to once per day as deemed necessary for sampling conditions.

Built-in data acquisition and internal memory allow logging multiple parameters including average and instantaneous values, calibration data and operating diagnostics. Stored data are easily retrieved through the serial port or optional Ethernet port via APIcom software or from the instrument front panel. The operator can then perform predictive maintenance and enhanced data analysis by tracking parameter trends.

- ▶▶ Standard two year warranty
- ▶▶ Ranges, 0-100 ppb to 0-100 ppm, user selectable
- ▶▶ Gas Filter Wheel for CO specific measurement
- ▶▶ 14 meter path length for sensitivity
- ▶▶ Microprocessor controlled for versatility
- ▶▶ Multi-tasking software allows viewing of test variables during operation
- ▶▶ Continuous self checking with alarms
- ▶▶ Bi-directional RS-232 for remote operation
- ▶▶ Digital status outputs indicate instrument operating condition
- ▶▶ Adaptive signal filtering optimizes response time
- ▶▶ GFC wheel guaranteed against leaks for 5 years
- ▶▶ Temperature & Pressure compensation
- ▶▶ Internal data logging with 1 min to 24 hour averages
- ▶▶ APIcom remote operation software

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



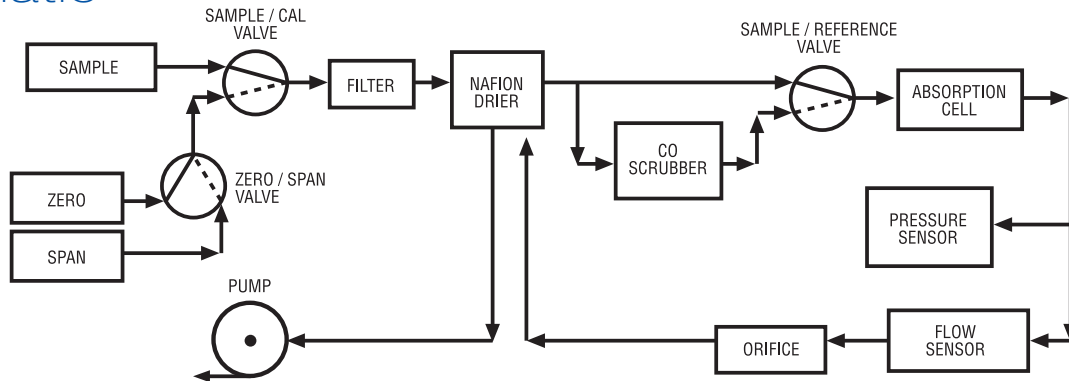
MODEL 300EU Gas Filter Correlation Trace Level CO Analyzer

Specifications

Ranges:	0-100 ppb to 0-100 ppm 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 (selectable)	Weight:	50 lbs (22.7 kg)
Zero Noise:	<10 ppb (RMS)	Power:	100V - 120V, 220V - 240V, 50/60 Hz, 350W
Span Noise:	<0.5% of reading (RMS) above 2.5 ppm	Analog Outputs:	Bipolar, 10V, 5V, 1V, 0.1V, selectable
Lower Detectable Limit (LDL):	< 20 ppb	Recorder Offset:	$\pm 10\%$
Zero Drift:	<20 ppb/24 hours, 20 ppb/7 days	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 reading/24 hours above 5 ppm, 1% of reading/7 days	Status (Digital)	8 outputs, 6 inputs (opto-isolated), 6 alarm outputs (optional)
Lag Time:	10 seconds	Current Output:	Optional 4-20mA, select up to three channels
Rise and Fall Time:	< 60 seconds to 95%	Approvals:	US EPA RFCA-1093-093 CE
Linearity:	1% of full scale		
Precision:	0.5% of reading		
Sample Flow Rate:	1800 scc/min $\pm 20\%$		
Operating Temperature Range:	5 - 40°C		

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.

Schematic



How to Order

Model 300EU Gas Filter Correlation CO Analyzer includes:

- Standard two year warranty
- Internal pump
- Auto ranging and dual ranges
- 47mm diameter particulate filter
- 8 isolated digital status outputs
- 6 isolated digital inputs
- 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 with chassis slides
 Rack mount brackets only
 Handle
 4-20mA outputs (up to three channels)
 Multi-drop RS-232
 RS485
 Ethernet
 Concentration alarms

Accessories:

- Expendables Kit

Specifications subject to change without notice. Printed documents are uncontrolled. SAL000013B (DCN 5943) 300EU/12.20.10



TELEDYNE INSTRUMENTS
Advanced Pollution Instrumentation

A Teledyne Technologies Company

9480 Carroll Park Drive ■ San Diego, CA 92121-5201

Ph. 858-657-9800 Fax 858-657-9816

Email api-sales@teledyne.com

For more information about the Teledyne API family of monitoring instrumentation products, call us or visit our website at

www.teledyne-api.com

