



Model T300U Ultra-Sensitive Gas Filter Correlation CO Analyzer

The Model T300U Ultra-Sensitive CO analyzer has been developed specifically to address the challenges of low level monitoring as required, for example, in the US NCore network. Using IR absorption with a Gas Filter Correlation Wheel, the T300U is designed to allow ultra-sensitive CO measurements while still meeting the requirements for use as a US EPA compliance analyzer.

The optical bench is enclosed in a temperature controlled oven, dramatically decreasing instrument noise and drift. The objective and field mirrors in the sample cell are gold plated to maximize signal to noise performance, while a temperature-controlled Nafion dryer on the inlet minimizes water interference caused by ambient humidity changes. Periodically, the T300U seamlessly corrects its baseline by routing the sample through a heated catalytic CO scrubber. This Auto Reference function corrects zero drift and reduces the effect of interferences.

All T Series instruments offer an advanced color display, capacitive touch screen, intuitive user interface, flexible I/O, and built-in data acquisition capability. All instrument set up, control and access to stored data and diagnostic information is available through the front panel, or via RS232, Ethernet, or USB com ports either locally or by remote connection using the included APIcom™ software.

- ▶ **Ranges: 0-100 ppb to 0-100 ppm, user selectable**
- ▶ **Dual ranges and auto ranging**
- ▶ **Large, vivid, and durable color graphics display with touch screen interface**
- ▶ **Ethernet, RS-232, and (optional) USB com ports**
- ▶ **Front panel USB connections for peripheral devices and firmware upgrades**
- ▶ **8 analog inputs (optional)**
- ▶ **Adaptive signal filtering optimizes response time**
- ▶ **Temperature & pressure compensation**
- ▶ **GFC wheel guaranteed for 5 years**
- ▶ **Comprehensive internal data logging with programmable averaging periods**
- ▶ **Ability to log virtually any operating parameter**
- ▶ **Two-year warranty**

Specifications

General

Ranges:	Min: 0-100 ppb Full scale Max: 0-100 ppm Full scale (selectable, dual ranges and auto ranging supported)
Measurement Units:	ppb, ppm, $\mu\text{g}/\text{m}^3$, mg/m^3 (selectable)
Zero Noise:	< 10 ppb (RMS)
Span Noise:	< 0.5% of reading (RMS) above 2.5 ppm
Lower Detectable Limit:	< 20 ppb
Zero Drift:	< 20 ppb/24 hours
Span Drift:	< 0.5% of reading/24 hours above 5 ppm
Lag Time:	10 seconds
Rise and Fall Time:	< 60 seconds to 95%
Linearity:	1% of full scale
Precision:	0.5% of reading
Sample Flow Rate:	1800 cm^3/min $\pm 20\%$

Electrical Specifications

Power Requirements:	100V-120V, 220V-240V, 50/60 Hz
Analog Output Ranges:	10V, 5V, 1V, 0.1V (selectable)
Recorder Offset:	$\pm 10\%$

Communication Specifications

Included I/O:	1 x Ethernet: 10/100Base-T 2 x RS232 (300-115,200 baud) 2 x USB device ports 8 x opto-isolated digital outputs 6 x opto-isolated digital inputs 4 x analog outputs
Optional I/O:	1 x USB com port 1 x RS485 8 x analog inputs (0-10V, 12-bit) 4 x digital alarm outputs Multidrop RS232 3 x 4-20mA current outputs

Physical Specifications

Operating Temperature Range:	5 - 40°C
Dimensions (HxWxD):	7" x 17" x 23.5" (178 x 432 x 597 mm)
Weight:	50 lbs (22.7 kg)

Certifications

US EPA:	RFCA-1093-093
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How to Order

Model T300U includes:

- Two year warranty
- Internal pump
- Dual ranges and auto ranging
- 47mm diameter particulate filter
- 8 isolated digital outputs
- 6 isolated digital inputs
- RS-232 ports
- Ethernet port
- USB ports for peripheral devices
- APIcom™ remote control software
- Select AC input voltage
 - 100V - 120V 50Hz
 - 220V - 240V 60Hz
- Select DC output voltage
 - 10V 5V
 - 1V 0.1V

Calibration Options:

- Ambient zero and ambient span

Mounting Options:

- Rack mount brackets with chassis slides
- Rack mount brackets only
- Handle

I/O Options:

- 4-20mA outputs (up to three channels)
- USB com port
- 8 Analog Inputs
- Multi-drop RS232
- RS485

Other Options:

- Concentration alarm relays
- Expendables kit

The values expressed above are in accordance with EPA definitions.
All error specifications are based on constant conditions.
Specifications subject to change without notice.
Printed documents are uncontrolled. SAL000055C (DCN 5942) T300U/01.28.11