



Model T300 Gas Filter Correlation CO Analyzer

The Model T300 measures low ranges of carbon monoxide by comparing infrared energy absorbed by a sample to that absorbed by a reference gas according to the Beer-Lambert law.

Using a Gas Filter Correlation Wheel, a high energy IR light source is alternately passed 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 path of 14 meters. The energy loss through the sample cell is compared with the span reference signal provided by the filter wheel to produce a signal proportional to concentration, with little effect from interfering gases within the sample. This design produces excellent zero and span stability and high signal to noise ratio, allowing extreme sensitivity.

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: 0-1 ppm to 0-1000 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**
- ▶ **Comprehensive internal data logging with programmable averaging periods**
- ▶ **Ability to log virtually any operating parameter**
- ▶ **Two-year warranty**
- ▶ **Five-year warranty on GFC wheel**

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Specifications

General

Ranges:	Min: 0-1 ppm Full scale Max: 0-1,000 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:	< 0.02 ppm (RMS)
Span Noise:	< 0.5% of reading (RMS) above 5 ppm
Lower Detectable Limit:	0.04 ppm
Zero Drift:	< 0.1 ppm/24 hours
Span Drift:	< 0.5% of reading/24 hours
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:	800 cm^3/min $\pm 10\%$

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:	40 lbs (18 kg)

Certifications

US EPA:	RFCA-1093-093
MCERTS:	Sira MC 050069/04

How to Order

Model T300 includes:

- Two year warranty
- Internal pump or external pump (optional)
- 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
- Ambient zero and pressurized span
- Zero scrubber and pressurized span
- Zero scrubber 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:

- Paramagnetic O₂ Sensor
- CO₂ Sensor
- Concentration alarm relays
- Expendables kit

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. Specifications subject to change without notice. Printed documents are uncontrolled. SAL000053B (DCN 5880) T300/10.13.10



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

www.teledyne-api.com

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