



Model T300M Mid-Range Gas Filter Correlation CO Analyzer

The Model T300M CO analyzer measures low ranges to mid 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 2.56 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 excellent performance from low to high range.

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: 0-5 ppm to 0-5,000 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**

Specifications

General

| | |
|-------------------------|---|
| Ranges: | Min: 0-5 ppm Full scale Max: 0-5,000 ppm Full scale (selectable, dual ranges and auto ranging supported) |
| Measurement Units: | ppm, mg/m ³ (selectable) |
| Zero Noise: | < 0.1 ppm (RMS) |
| Span Noise: | < 0.5% of reading (RMS) above 20 ppm |
| Lower Detectable Limit: | 0.2 ppm |
| Zero Drift: | < 0.5 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: | 1% of reading |
| Sample Flow Rate: | 800 cm ³ /min ±10% |

Electrical Specifications

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

How to Order

Model T300M 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 subject to change without notice.
Printed documents are uncontrolled. SAL000054A (DCN 5815) T300M/11.18.10