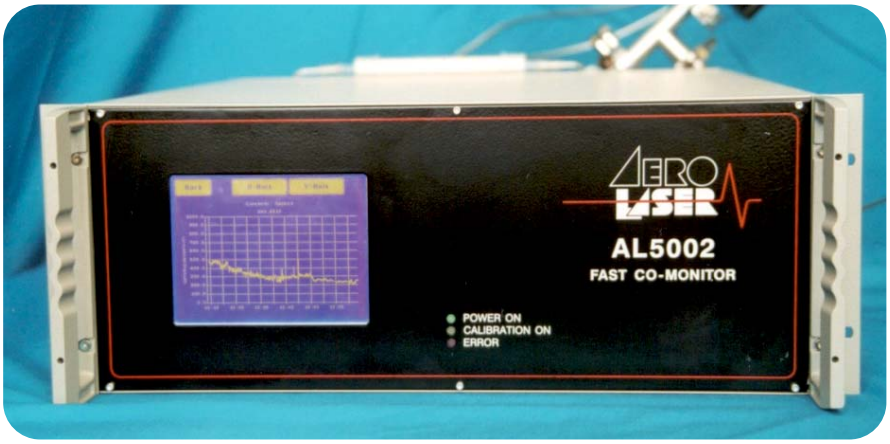
AL 5002

Continuous Very Fast and Sensitive Carbon Monoxide (CO) Monitor

AL5002 Features

- Very fast, continuous, real time measurements
- Unique sensitivity limit of 1ppb
- Automatic calibration within minutes
- High linearity range from 1ppb to 100ppm
- Special aircraft version



The AL5002 from Aero-Laser is a very fast carbon monoxide (CO) monitor with an unique sensitivity below 1ppb (parts per billion). The detection of CO is based on a fluorimetric method, employing the excitation of CO at 150nm. The fluorescent light is measured with a highly sensitive photomultiplier, allowing for a very large dynamic range and an excellent selectivity. See [1] for more details.
The AL5002 calibrates within minutes, using only a low amount of calibration gas and an in-built zero gas source. The calibration procedure is fully automatic and can be scheduled in custom-set time intervals. The instrument is equipped with an internal computer and a hard drive for continuous data storage. The gas concentration is displayed in real time and can be logged via a standard RS-232 interface. All settings can be made on the conveniently large touch screen display or by remote control software.
The instrument is rugged and designed for field campaigns in rough environment, as well as for laboratory applications. There is a special aircraft version with 24V DC power supply. The AL5002 is widely used in remote monitoring stations and air quality/climate research campaigns.

[1] C. Gerbig, S. Schmitgen, D. Kley, A. Volz-Thomas, K. Dewey, D. Haaks, *An improved fast-response vacuum-UV resonance fluorescence CO instrument*, J. Geophys. Res. 104 D1 (1999) 1699

Specifications

CO detection technique	VUV fluorescence
Linear detection range	~1ppb - 100000ppb
Detection limit	1.5ppb (integration time 1s)
	0.8ppb (integration time 10s)
Rise and fall time (10% - 90%)	0.1s (ultra fast version with scroll pump)
	1.5s (fast version with membrane pump)
Sample gas pressure	<200mbar - 1200mbar
	equal to altitudes up to 12000m for airborne application
Sample gas temperature	0°C to +40°C
Calibration and zeroing	Fully automatic
Operation	Conveniently large touchscreen or remote software via RS-232
Data output	Real time on touchscreen or via RS-232 interface
	(SQL-based graphic data logging software available)
Data storage	2Gb internal data archive
Weight and dimensions	22kg, fit for 19" rack (whd: 45cm × 18cm × 59cm)
Power requirements	110 VAC / 220VAC or 24VDC (aircraft version), <100W

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