

We would now like to present our new AL5005 carbon monoxide monitor. Our new version offers an easier operation via a 7" touch-panel, and also a number of new features.

## AL5005 Features

- Very fast, continuous, real time measurements (10ms – 1sec)
- Unique sensitivity limit of 1ppb
- Automatic calibration within minutes
- High linearity range from 1ppb to 100ppm
- Special aircraft version



The AL5005 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 AL5005 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 and other values are displayed in real time and can be logged in different ways. All settings can be made on the conveniently large touch screen display or by remote control software.

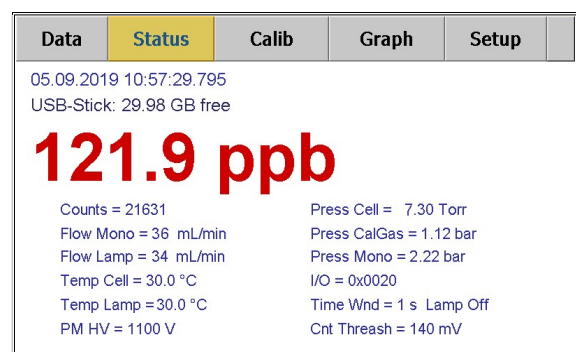
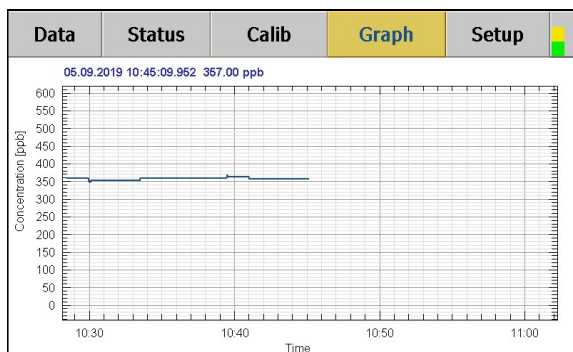
The instrument is rugged and designed for field campaigns in rough environment, as well as for laboratory applications.

There is a special aircraft version which can be run by 24V DC. The AL5005 is widely used in remote monitoring stations and air quality/climate research campaigns.

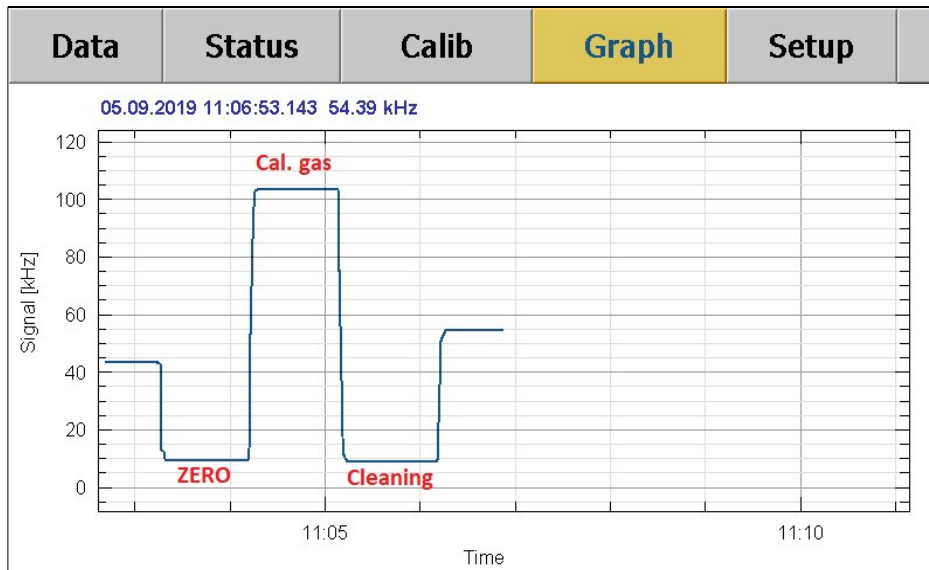
[1] C. Gerbig, S. Schmitgen, D. Kley, A. Volz-Thomas, K. Dewey, D. Haaks, *An improved fast-response vacuum-UV resonance fluorescence CO instrument*, J. Geophys. Res. 104 D1 (1999) 1699

## Specifications

- CO detection technique via VUV fluorescence
- Linear detection range ~1ppb - 100000ppb
- Detection limit <1ppb
- Noise +-2% full scale
- Rise and fall time <1s, depending on gas pump used
- Sample gas pressure <200mbar - 1200mbar  
Equal to altitudes up to 12000m for airborne application
- Weight and dimensions - 22kg, fit for 19" rack (whd: 45cm×18cm×59cm)
- Power requirements - 110 VAC / 220VAC or 24VDC (aircraft version), <120W
- Higher accuracy by a 16bit AD/DA board
- High precision counter for better signal-to-noise ratio
- Graphical display of concentration vs. time on front
- digital temperature control for stable values
- Intuitive presentation of all relevant parameters
- Stand-alone operation without external PC possible
- Data logging and value control via LAN
- Online logging of data on USB stick
- Data logging via RS232 still possible
- Remote control for PC, smart phone or tablet
- Faster "intelligent" and fully automatic calibration algorithm
- Loading, saving, import and export of calibrations



Simple operation and clearly arranged parameter display on the front panel.



New display of measurement data on the front panel: typical calibration curve.

Contact us for further information about the AL5005 and technical details about the new features and the operation.

Have we raised your interest? Contact us for a non-binding quotation via email [info@aero-laser.de](mailto:info@aero-laser.de) or by phone: ++49/8821/943860.

With kind regards

PD Dr. Matz Haaks

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Imprint:  
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Ust. IDNr. DE128353722  
 AG Munich HRB 86788



EP150289



aufgrund eines Beschlusses  
 des Deutschen Bundestages