Laser based Gas Analyzer

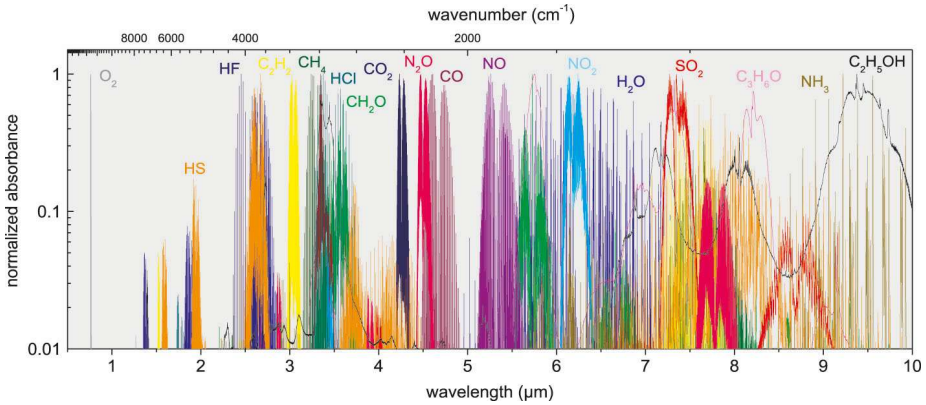
PSS-TDL 3000-C | PSS-TDL 5500-01

Excellence in Sensing

Near and mid infrared semiconductor laser based analyzers are the systems of choice for the detection of gases in e.g. industrial production, environmental surveillance, air and space applications, etc. due to the following advantages

- inline capability
- high sensitivity down into the sub-ppm range
- real time detection
- high selectivity permitting crosstalk free detection
- virtually maintenance free (no need for recalibration, replacing consumables, etc.)
- customer specific designs

PSS multichannel analyzers are based on state of the art gas species optimized sensing lasers.



Infrared absorbance spectra of different gases which can be detected quantitatively by scanning over absorption lines

Compact Multichannel Gas Analyzer PSS-TDL 3000 –C (LxWxH 14x10x3cm³) For three lasers for e.g. C_2H_5OH, H_2O and CO_2 detection

Examples of target gases:

- Water vapor
- CO_2
- CO
- Ethanol
- Formaldehyde
- Nitrogen oxides
- Methane
- HF
- O_2
- … and many more

Areas of Application:

- Environmental
- Building Material Production
- Food Industry
- Agriculture
- Pharmaceutical Production
- Chemical Industry
- Glass and Ceramics
- Oil and Gas
- … and many others

Multichannel Gas Analyzer PSS-TDL 5500-01 (LxWxH: 40 x 28 x 16 cm3) can be configured with up to three dedicated lasers, enabling highly selective, narrow-band measurements with exceptional precision and reliability.

Interested laser based liquid and solid component sensing? Please contact us

PSS Excellence in Sensing

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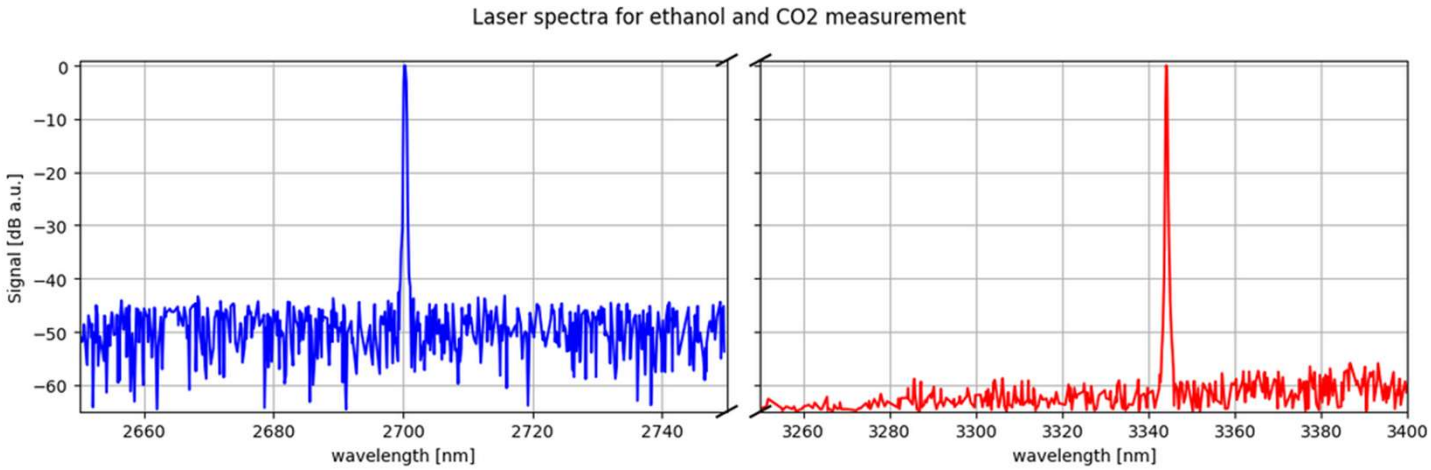
Laser based Gas Analyzer
PSS-TDL 3000-C

Excellence in Sensing

The PSS-TDL 3000-C compact analyzer comprises

- with up to two applications specific laser channels,
- exact laser wavelengths optimized taking into account target gas and surrounding atmosphere
- single longitudinal mode lasers with side mode suppression ratios > 30 dB (see laser spectra of lasers for Ethanol, and CO_2 detection)
- Measurement principle: scan of narrow laser line over target gas absorption line
- Low noise detectors
- High sensitivity gas detection down to single ppm range
- Software for analyzer control and data analysis
- USB Data connection to host system (Windows PC or any Linux based system)



Power supply and data output

- 6V DC input voltage
- USB Interface to PC or linux based host system

Data rate and resolution

The data rate and measurement resolution of the system can be flexibly adapted to the specific application requirements. Depending on the use case, measurement intervals can be configured from fast acquisition rates starting at 64 ms up to extended averaging times of several minutes. This adaptability allows an optimal balance between temporal resolution, signal stability, and sensitivity, ensuring reliable performance across a wide range of dynamic and steady-state measurement scenarios.

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