- Accurate
- Reliable
- Stable
- Available Remote Control

Features

- Measures up to five gases plus water vapor
- Selectively measures a wide range of gases/vapors
- Linear response over a wide dynamic range
- Stable and Reliable: ensuring a maximum of only two calibrations a year
- User-friendly: easy calibration, configuration, and viewing/analyzing of data via PC
- Accurate: compensates for temperature and pressure fluctuations, water vapor interference, and interference from other known gases
- Extremely low-volume flushing possible
- Operates immediately: virtually no warm-up time necessary
- Remote control capability via TCP/IP network interface protocol
- Expandable up to 24 locations with the 1409 Multipoint Sampler

Applications

- Emission monitoring - exhausts from chemical processes, NH3 in stacks, scrubber efficiency, and filter break-through
- Process quality control measurements - trace impurities in pure gas production
- Occupational health and safety measurements - possible production or accumulation of toxic/carcinogenic substances in working areas
- Automotive monitoring - alcohol content in vehicle exhausts and production of NH3 and N2O in diesel exhausts

Description

The Photoacoustic Gas Monitor INNOVA 1314i is a highly accurate, reliable, and stable quantitative gas monitoring system. Its measurement system, based on the photoacoustic infrared detection method, is capable of measuring almost any gas that absorbs infrared light.

Gas selectivity is achieved through the use of optical filters. By installing up to five filters, the 1314i can measure the concentration of up to five component gases and water vapor in any air sample. The detection limit is gas-dependent, but is typically in the ppb region. Accuracy of these measurements is ensured by the 1314i's ability to compensate for temperature and pressure fluctuations, water vapor interference, and interference from other gases known to be present. Reliability of measurement results can be ensured by regular self tests. This measurement system requires no consumables and very little regular maintenance. For most applications, recalibration is only necessary one to two times a year.

Specifications

Detection Limit: Gas-dependent, but typically in the ppb region. Using the Gas Detection Limits chart, the detection limit for a selected sample integration time (S.I.T.) can be calculated.

Dynamic Range: Typically 4 orders of magnitude (i.e. 10,000 times the detection limit at 5 S.I.T.). Using two span concentrations it can be expanded to 5 orders of magnitude.

Zero Drift: Typically ± Detection limit per 3 months.
Influence of temperature: +/- 10% of detection limit/°C.
Influence of pressure: +/-0.5% of detection limit/mbar.

Repeatability: 1% of measured value

Range Drift: +/- 2.5% of measured value per 3 months.
Influence of temperature: +/- 0.3% of measured value/°C.
Influence of pressure: -0.01% of measured value/mbar.

60%. (A concentration of 100x detection limit was used in determining these specifications.)
Measured at 1013 mbar, and RH: 60%.
Measured at 20 °C and RH: 60%.
Detection limit is @5 s S.I.T.

Interference:
The 1312i automatically compensates for temperature and pressure fluctuations in its analysis cell and can compensate for water vapor in the air sample. If an optical filter is installed to measure a known interferent, the 1312i can cross compensate for the interferent.

Acoustic Sensitivity: not influenced by external sound.

Vibration Sensitivity: strong vibrations at 20 Hz can affect the detection limit.

Internal Data Storage Capacity
The total space available in Display Memory to store data ia 131072 measurement cycles. If a measurement cycle takes 15 sec, then the display Memory space will be sufficient for a 22-day monitoring task.

Dimensions:
Height: 175 mm (6.9 in)
Width: 483 mm (19 n)
Depth: 375 mm (14.8 in)
Weight: 14 kg (30.8 lbs)

Communication
The monitor uses three interfaces, USB, Ethernet, and RS232, for data exchange and remote control of the 1512. The software communicates using the USB, Ethernet, and RS232

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