MULTISENSE
by mirSense

Laser Photoacoustic Spectroscopy technology (LPAS)

Multisense gas sensor technology is based on laser spectroscopy in the mid-IR using a photoacoustic sensor. It uses the mirSense proprietary Quantum Cascade Laser technology.

This combination provides a real time measurement of SF_6 at trace concentrations (down to ppb) in an unprecedented compact format (less than 1 liter), within a robust and easy to maintain module.

Multisense was developed and designed for integrators, gas system manufacturers, gas analyser manufacturers...

Applications:

The multiSense monitors SF_6 for:
- Transformer leak detection
- Fume cupboards tightness test
- Dispersive cloud tracing

Technical Features

User Benefits

Technical Features	User Benefits
Trace analysis (down to ppb) High precision (< 1 %)	Process optimization
Response time in seconds	Real time monitoring
Multiple lasers	Multigas sensor (if needed)
Low cell volume (1 ml)	Low extraction flow (<80 ml / min) Reduced pumping, reduced environmental impact
No moving parts, no optics	Compact and robust sensor for industrial use
Bloc conception	Easy integration, operation, maintenance
Proprietary software (self-diagnostic, alarms)	Plug and play, user friendly interface, high reliability
Miniaturized components, no consumables	Cost effective analyser (low CAPEX and OPEX), fast return on investment

mirSense

www.mirsense.com

TECHNICAL DATA

MULTISENSE by mirSense
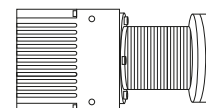
Gases	Range*	Detection limit**	Precision***
SF_6	0.02 to 150 ppm	< 0.02 ppm	<1%

*Indicative values, other ranges on request
** 3 σ, 60 s integration time
*** % of the measured value or LOD
Other gases on request

ANALYTICAL

Measurement range: typ. > 4 decades, calibres from LOD to max. range

Limit of detection: < 20 ppb (depends on matrix, application)

Repeatability: <1% of the read value or LOD

Accuracy: < 1 % of the read value or LOD

Response time T90: typ. few seconds (depend on LOD specification)

Max. measurement rate: 10 Hz

SAMPLING

Gas consumption: < 80 ml/min

Gas cell volume: 1 ml

Sample temperature: Moisture below ambient temperature saturation

Operating pressure: [0.5 - 2] bar.a*
* Pressure sensor required

MECHANICAL

Size: 115x170x108 mm

Weight: <2 kg

Gas connectors: 1/8" O.D. Swagelok

ELECTRIC & COMMUNICATION

Interface: RS485

Protocol: modbus RTU

Power: ~10W, 24V DC

ENVIRONMENT

Operating temperature*: typ. 10 to 30°C

Humidity: 0 – 95 %, non condensing

* See documentation for guidelines