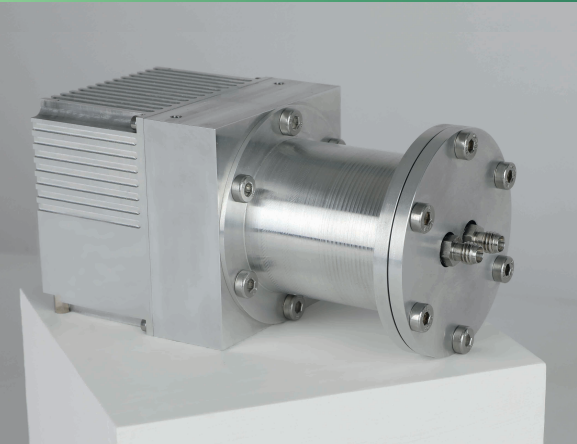


MULTISENSE

by mirSense



Patented photoacoustic QCL spectroscopy technology

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 up to 2 gases at trace concentrations (down to ppm/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 :

- Industrial processes (natural gas, biogas, gas purity, various gas streams...)
- Air (Leak detection, air quality...)
- Emissions (DeNO_x, Flue gas treatment, CEMs)

Technical Features

Trace analysis (down to ppm/ppb)
High precision (< 2 %)

Response time in seconds

Multiple lasers

Low cell volume (1 ml)

No moving parts, no optics

Bloc conception

Proprietary software (self-diagnostic, alarms)

Miniaturized components, no consumables

User Benefits

Process optimization

Real time monitoring

Multigas sensor (2)

Low extraction flow (<80 ml / min)
Reduced pumping, reduced environmental impact

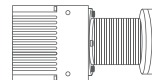
Compact and robust sensor for industrial use

Easy integration, operation, maintenance

Plug and play, user friendly interface, high reliability

Cost effective analyser (low CAPEX and OPEX),
fast return on investment

TECHNICAL DATA



Gases	Range*	Detection limit**	Precision***
H ₂ O	5 ppm to 100%	5 ppm	<2%
NO	0.5 to 1000 ppm	0.5 ppm	<2%
NO ₂	0.5 to 1000 ppm	0.5 ppm	<2%
NH ₃	0.1 to 100 ppm	0.1 ppm	<2%
SF ₆	0.05 to 150 ppm	0.05 ppm	<2%

*Indicative values, depending on application/gas matrix
** 3 σ , 60 s integration time
*** % of the measured value or LOD

ANALYTICAL

Measurement Range : typ. > 4 decades, calibres from LOD to %

Limit of detection : Gas dependent ppb, ppm (depends on gas, matrix, application)

Repeatability : <2% of the read value or LOD

Accuracy : < 2 % of the read value or LOD

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

Max. measurement rate : > 10 Hz

SAMPLING

Gas consumption : few ml/min

Gas cell volume : 1 ml

Sample temperature : Moisture below ambient temperature saturation

Operating pressure : [0.5 - 2] bar.*

* Pressure sensor required

ELECTRIC & COMMUNICATION

Interface : RS485, USB

Protocol : modbus RTU

Power : ~10W, 24V DC



MECHANICAL

Size : 115x170x108 mm

Weight : <2 kg

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

ENVIRONMENT

OEM case temperature : 20 to 45°C

Humidity : 0 – 95 %, non condensing