LaserGas™ R2P Monitor

NEO Monitors LaserGas™ is using Tuneable Diode Laser Absorption Spectroscopy (TDLAS) i.e. a non-contact optical measurement method employing solid-state laser sources. Therefore, the sensor remains unaffected by contaminants and corrosives and does not require regular maintenance. The laser beam is coupled into a measurement cell, where it is reflected one time from a flat mirror in order to enhance the analyzer sensitivity.
The R2P Monitor employs a measurement cell concept to combine extractive measurement with a compact analyzer design. The measurement path length will enhance the detection limit. Heated and nonheated cells are available. To avoid fouling of optical parts in the measurement cell the cleanliness of the sample gas must be ensured. Filtering the sample gas in an appropriate extractive system may be required for some applications.

Features

- Short response time
- Low detection limits (ppm for most gases)
- No interference from background gases
- Stable calibration
- No zero drift
- Offline gas analysis in controlled environment
- Rack mounted

Applications

LaserGas™ R2P monitor is designed for reliable and fast measurement of all kinds of gases in any environment, most typically:

- Laboratory and university
- Chemical industry
- Petrochemical industry
- Industrial gases
- Power plants
- H2S emission monitoring
- and more

Customer benefits

- Compact analyzer design
- Rack mounted
- Measures trace levels of gases, offline in a controlled environment
- Limited need for maintenance
- Highly reliable real time analyzer
- Low maintenance cost
- Reduce emission to the environment
- Easy to install and operate
- Reduce daily operation costs
- Optimize process
- Well proven measurement technique
- Heated samples are optimal

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LaserGas™ R2P Monitor

Technical Data

Specifications

Optical path length:	0.7 m (Can be delivered with Heated cell) Max 180°C
Response time:	Typically 2 – 10 sec (depending on gas flow)
Repeatability:	1% of range (gas and application spesific)

Environmental conditions

Operating temperature:	-20 °C to +55 °C
Storage temperature:	-20 °C to +55 °C
Protection classification:	19" Rack

Inputs / Outputs

Analog output (3):	4 – 20 mA current loop (concentration, transmission)
Digital output:	TCP/IP, MODBUS, Optional fibre optic
Relay output (3):	High gas, Maintenance Warning and Fault (normally closed-circuit relays)

Ratings

Input power supply:	100/240 VAC, 50/60 Hz
4 – 20 mA output:	500 Ohm max. isolated
Relay output:	1 A at 30 V DC/AC

Safety

Laser class:	Class 1 according to IEC 60825-1

Installation and Operation

Gas inlet/ outlet:	6 mm or 1/4" Swagelok (other dimensions on request)
Sample gas flow:	Recommended 1 – 5 l/min
Sample inlet pressure:	0.2 - 2.0 Bar abs (2.9- 29 psia)
Sample input temprature:	Max 180 °C
Purging of laser/mirror chamber (optinal):	Dry and oil-free pressurised air or gas, Nitrogen for O_2 and H_2O applications
Purge flow:	Maximum 0.5 l/min

Maintenance

Visual inspection:	Recommended every 6 – 12 months (no consumables needed) Remote instrument check by Ethernet connection or external modem possible check
Calibration:	Recommended every 12 months

Dimension and weight

19" Rack version:	483 mm x 506 mm x 266 mm, 10 – 14 kg

Gas	Detection limit (ppm)
O_2	140ppm
HCL	0.07 ppm
H_2S	4.5 ppm
CH_4	0.3 ppm
CO	0.4 ppm
CO_2	43 ppm
NO	25 ppm
N_2O	7 ppm
NH_3	0.2 ppm

NOTE: Detection limits are specified as the 95% confidence interval for the standard 0.7 m measurement cell and gas temperature / pressure = 25 ˚C / 1 BarA measured in N_2.

Other gases on request.

* NEO Monitors reserve the right to change specifications without prior notice

Your local distributor:

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