LaserGas™ II MP

NEO Monitors' LaserGas™ series of gas monitors utilizes Tunable Diode Laser Absorption Spectroscopy (TDLAS); a contactless optical measurement technique employing a narrow band semiconductor laser source. The monitor is unaffected by background gases or drift and therefore requires little regular maintenance or calibration. The LaserGas™ II MP (Multipass) laser beam is coupled into a Herriott cell, where it is reflected multiple times between two spherical mirrors to create a long optical path that greatly enhances measurement sensitivity.
The LaserGas™ II MP monitor is a self-contained unit, simply requiring connection of power, sample gas inlet/outlet and purge gas (application dependent). The monitor is designed to work in conjunction with a suitable sample conditioning system to ensure that a clean and dry sample is delivered to the MP cell.

Features

- Fast response time
- Very low detection limits (ppb for many gases)
- No interference from background gases
- Long term calibration stability
- No zero drift
- No moving parts, no consumables, turn-key instrument
- ATEX and CSA certified

Applications

- Chemical industry
- Petrochemical industry contaminants monitoring
- Natural gas treatment (sweetening plants; H2S in NG)
- Industrial gas (impurities in pure gases)
- Semiconductor industry trace impurity measurements
- Power plants (stack testing of corrosive emission gases)
- H_2S emission monitoring (pulp & paper, refineries, biogas production)
- Hydrogen impurity
- and many more

Customer benefits

- High performance compact design
- Reliable trace level gas measurement
- Precise optimisation of your process
- Reduce your emissions to the environment
- Easy to install and operate, reducing your daily operation costs
- Low maintenance & calibration costs provides excellent ROI
- Up to 12 months between calibration checks
- Superior contactless optical technique ensures you can have full confidence in the measurement

LaserGas™ II MP

Technical Data

Specifications

Optical path length:	2.7 or 11.4 m
Response time:	< 20 sec (depending on sample gas flow)
Accuracy:	Application dependent
Repeatability:	1% of range (gas and application specific)

Environmental conditions

Operating temperature:	0 ˚C to +55 ˚C (32 ˚F to 131 ˚F)
Storage temperature:	-20 ˚C to +55 ˚C (-4 ˚F to 131 ˚F)
Protection classification:	IP64

Inputs / Outputs

Analog output(s) ^ (1-3):	4 – 20 mA current loop

^ Single gas measurements have as standard 1 analog output, dual gas has 2 analog outputs. Optional 2nd and 3rd analog outputs available for second scaled range and/or transmission output

Digital output (Optional):	TCP/IP, MODBUS, Optional fibre optic
Relay output (3):	High gas-, Maintenance, Warning - and Fault relays
Analog input:	4 – 20 mA process temperature and pressure reading

Ratings

Input power:	100 – 240 VAC, 50/60 Hz, 0.36 – 0.26 A or 18 - 36 VDC, max 20W
4 – 20 mA output:	500 Ohm max. isolated
Relay output:	1 A at 30 V DC

Safety

Laser class:	Class 1 according to IEC 60825-1
CE:	Certified
EMC:	Conformant with directive 2014/30/EU

Approvals

IECEx/ATEX zone 2:	II 3 G Ex nA nC op is IIC T4 Gb
CSA:	Class I, Div 2 Groups A, B, C and D; Temp. Code T4; non-incendive

Installation and Operation

Gas inlet / outlet:	6 mm or 1/4 " / 8 mm (5/16") Swagelok (other dimensions on request)
Sample gas flow:	Recommended 2 – 10 l/min (2.1 - 8.4 ft^3/hr)
Sample inlet pressure:	1 – 4.0 BarA (14.5 – 58.0 psia)
Cell temperature:	0 ˚C to +55 ˚C (32 ˚F to 131 ˚F)
Purging of laser chamber (optional):	Dry and oil free pressurised air and gas, Nitrogen for O_2 and CO_2 applications
Purge flow:	Maximum 0.5 l/min (1.06ft^3/hr)

Maintenance

Calibration:	Check recommended every 12 months

Dimension and weight

Cabinet:	500 mm (19.68") x 510mm (20.08") x 215mm (8.46")
	18.4 kg (40.56 lbs)

Gas	Detection limit
O_2	10 ppm
H_2S	0.5 ppm
CH_4	20 ppb
CO	20 ppb
CO_2	0.2 ppm
HCN	50 ppb
NH_3	30 ppb
HCl	10 ppb
H_2	200 ppm

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

NOTE: Detection limits are specified as the 95% confidence interval for the standard 11.4 m cell and gas temperature / pressure = 25 ˚C / 1 BarA measured in N_2.

Also available are NO_2, CH_2CHCl (VCM), C_2H_4O (EtO), CH_2Cl_2 (DCM).

Other gases are available, please contact us with your request.

Dual Gas: $CO+CO_2$, $CO+CH_4$

Your local distributor:

neoMONITORS

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