

LaserGas™ II MP



All Rights Reserved, Copyright © June 2022, NEO Monitors AS

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	Applications	Customer benefits
<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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)• H₂S emission monitoring (pulp & paper, refineries, biogas production)• Hydrogen impurity• and many more	<ul style="list-style-type: none">• 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

<p>Specifications</p> <p>Optical path length: 2.7 or 11.4 m Response time: < 20 sec (depending on sample gas flow)</p> <p>Accuracy: Application dependent Repeatability: 1% of range (gas and application specific)</p> <p>Environmental conditions</p> <p>Operating temperature: 0 °C to +55 °C (32 °F to 131 °F)</p> <p>Storage temperature: -20 °C to +55 °C (-4 °F to 131 °F)</p> <p>Protection classification: IP64</p> <p>Inputs / Outputs</p> <p>Analog output(s) ^ (1-3): 4 – 20 mA current loop</p> <p>^ 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</p> <p>Digital output (Optional): TCP/IP, MODBUS, Optional fibre optic</p> <p>Relay output (3): High gas-, Maintenance, Warning - and Fault relays</p> <p>Analog input: 4 – 20 mA process temperature and pressure reading</p>	<p>Ratings</p> <p>Input power: 100 – 240 VAC, 50/60 Hz, 0.36 – 0.26 A or 18 - 36 VDC, max 20W</p> <p>4 – 20 mA output: 500 Ohm max. isolated Relay output: 1 A at 30 V DC</p> <p>Safety</p> <p>Laser class: Class 1 according to IEC 60825-1 CE: Certified EMC: Conformant with directive 2014/30/EU</p> <p>Approvals</p> <p>IECEX/ATEX zone 2: II 3 G Ex nA nC op is IIC T4 Gb</p> <p>CSA: Class I, Div 2 Groups A, B, C and D; Temp. Code T4; non-incendive</p>	<p>Installation and Operation</p> <p>Gas inlet / outlet: 6 mm or 1/4 " / 8 mm (5/16") Swagelok (other dimensions on request)</p> <p>Sample gas flow: Recommended 2 – 10 l/min (2.1 - 8.4 ft³/hr)</p> <p>Sample inlet pressure: 1 – 4.0 BarA (14.5 – 58.0 psia)</p> <p>Cell temperature: 0 °C to +55 °C (32 °F to 131 °F)</p> <p>Purging of laser chamber (optional): Dry and oil free pressurised air and gas, Nitrogen for O₂ and CO₂ applications</p> <p>Purge flow: Maximum 0.5 l/min (1.06ft³/hr)</p> <p>Maintenance</p> <p>Calibration: Check recommended every 12 months</p> <p>Dimension and weight</p> <p>Cabinet: 500 mm (19.68") x 510mm (20.08") x 215mm (8.46")</p> <p>18.4 kg (40.56 lbs)</p>
---	---	---

Gas	Detection limit
O ₂	10 ppm
H ₂ S	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

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 N₂.

Also available are NO₂, CH₂CHCl (VCM), C₂H₄O (EtO), CH₂Cl₂ (DCM).

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

Dual Gas: CO+CO₂, CO+CH₄

Your local distributor:

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



neomonitors

NEO Monitors AS • Part of the Nederman Group • Prost Stabels vei 22 • N-2019 Skedsmokorset, Norway

Phone +47 67 97 47 00 • www.neomonitors.com

DS-LG2MP June22, Rev. 4