

LaserGas™ II MP



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NEO Monitors LaserGas™ is using Tuneable Laser Absorption Spectroscopy (TLAS) 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 Herriott cell, where it is reflected multiple times between two spherical mirrors in order to enhance the analyser sensitivity. The MP monitor is a turn-key instrument. No other operations than connecting power, sample gas tubes and optional purge are required during installation. To avoid fouling of optical parts in the Multipass 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 (flow depended)
- Very low detection limits (ppb for most gases)
- No interference from background gases
- Stable calibration
- No zero drift
- Offline gas analysis in controlled environment
- No moving parts, no consumables, turn-key instrument
- ATEX and CSA certified

Applications

- Chemical industry
- Petrochemical industry (contaminants like H₂S in NG)
- Industrial gas (impurities in pure gases)
- Semiconductor industry
- Power plants (stack testing of corrosive emission gases)
- H₂S emission monitoring (pulp & paper, refineries, biogas production)
- and more

Customer benefits

- The multipass cell concept combines a long measurement path length with a compact analyzer design
- 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

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Technical Data

<p>Specifications</p> <p>Optical path length: 2.7 and 11.4 m Response time: Typically 2 – 10 sec (depending on cell and sample gas flow)</p> <p>Accuracy: Application depended Repeatability: 1% of range (gas & application spesific)</p>	<p>Ratings</p> <p>Input power: 100 – 240 VAC, 50/60 Hz, 0.36 – 0.26 A or 18 - 36 VDC, max 20 W</p> <p>4 – 20 mA output: 500 Ohm max. isolated Relay output: 1 A at 30 V DC/AC</p>	<p>Safety</p> <p>Laser class: Class 1 according to IEC 60825-1</p> <p>CE: Certified EMC: Conformant with directive 2014/30/EU</p>
<p>Environmental conditions</p> <p>Operating temperature: -20 °C to +55 °C Storage temperature: -20 °C to +55 °C Protection classification: IP65</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>Explosion protection (optional)</p> <p>IECEX/ATEX zone 2: II 3 G Ex nA nC op is IIC T4 Gb II 3 D Ex td A22 T100°C</p> <p>CSA: Class I, Div 2 Groups A, B, C and D; Temp. Code T4; non-incendive</p>
<p>Inputs / Outputs</p> <p>Analog output (3): 4 – 20 mA current loop (concentration, transmission)</p> <p>Digital output: 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>Sample gas flow: Recommended 1 – 5 l/min</p> <p>Sample inlet pressure: 1 – 1.5 Bar abs (14.5 – 21.7 psia)</p> <p>Sampling gas temperature: 0-180 °C</p> <p>Purging of laser chamber (optional): Dry and oil free pressurised air and gas, Nitrogen for O₂ and CO₂</p> <p>Purge flow: Maximum 0.5 l/min</p>	<p>Dimension and weight</p> <p>Cabinet: 500 x 510 x 215mm, 18.4 kg</p>
	<p>Maintenance</p> <p>Visual inspection: Recommended every 6 – 12 months (no consumables needed)</p> <p>Calibration: Check recommended every 12 months</p>	

Gas	Detection limit (ppm)
O ₂	7 ppm
H ₂ S	0.5 ppm
CH ₄	20 ppb
CO	20 ppb
CO ₂	50 ppb
HCN	50 ppb
NH ₃	30 ppb
HCl	10 ppb

NOTE: Detection limits are specified as the 95% confidence interval for the standard 11 m cell and gas temperature / pressure = 25 °C / 1 bar abs 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 reserve the right to change specifications without prior notice



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 Prost Stabels vei 22 • N-2019 Skedsmokorset, Norway • Phone +47 67 97 47 00 • www.neomonitors.com