

# LaserGas™ II Hydrogen



All Rights Reserved, Copyright © June 2018, NEO Monitors AS

**NEO Monitors LaserGas™** is using Tuneable Diode Laser Absorption Spectroscopy (TDLAS) i.e a non-contact optical measurement method employing solid-state laser sources. The sensor remains unaffected by contaminants corrosives and does not require regular maintenance. The absence of extractive conditioning systems further improves availability of the measurements and eliminates errors related to sample handling. The monitor is mounted directly onto flanges, which include purge gas connections and a tilting mechanism for easy alignment. Continuous purge flow prevents dust and other contamination from settling on the optical windows. Once power and data lines are connected, measurements are performed in real-time.

Features	Applications	Customer benefits
<ul style="list-style-type: none"> <li>• Fast response time</li> <li>• No gas sampling: In-situ measurement</li> <li>• No interference from background gases</li> <li>• Applicable for many process conditions:                             <ul style="list-style-type: none"> <li>- high/low temperature</li> <li>- high dust</li> <li>- corrosive gases</li> </ul> </li> <li>• Line measurement, integral concentration over the full stack diameter</li> <li>• Integrated span check option</li> <li>• Suitable for harsh environment</li> <li>• No zero drift</li> <li>• Stable calibration</li> <li>• Continuous internal health check</li> </ul>	<p>LaserGas™ II SP is designed for reliable and fast measurement of all kinds of gases in any environment, most typically:</p> <ul style="list-style-type: none"> <li>• Chemical industry</li> <li>• Petrochemical industry</li> <li>• Metal industry</li> <li>• NG processing</li> <li>• Chlorine production</li> <li>• Safety applications</li> <li>• PVC production</li> <li>• Process control</li> <li>• Glass production</li> </ul>	<ul style="list-style-type: none"> <li>• In-situ monitoring</li> <li>• Highly reliable real time analyzer</li> <li>• Low maintenance cost</li> <li>• Reduce emission to the environment</li> <li>• Easy to install and operate</li> <li>• Reduce daily operation costs</li> <li>• Optimize process</li> <li>• Well proven measurement technique</li> </ul>

# LaserGas™ II Hydrogen

## Technical Data

<p><b>Specifications</b></p> <p>Optical path length: Typically 0.7- 5m          Accuracy: Application dependet          Repeatability: 2% of range (gas &amp; application dependent)</p> <p><b>Environmental conditions</b></p> <p>Operating temperature: -20 °C to +55 °C (special version up to +65 °C on request)          Storage temperature: -20 °C to +55 °C          Protection classification: IP66</p> <p><b>Inputs / Outputs</b></p> <p>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          Analog input (2): 4 – 20 mA process temperature and pressure reading</p> <p><b>Ratings</b></p> <p>Input power supply unit: 100 – 240 VAC, 50/60 Hz, 0.36 – 0.26 A          Output power supply unit: 24 VDC, 900 – 1000 mA          Input transmitter unit: 18 – 36 VDC, max. 20W          4 – 20 mA output: 500 Ohm max. isolated          Relay output: 1 A at 30 V DC/AC</p>	<p><b>Safety</b></p> <p>Laser class: Class 1 according to IEC 60825-1 Certified.          CE: Conformant with          EMC: directive 2014/30/EU</p> <p><b>Approvals</b></p> <p>IECEX/ATEX zone 1: PENDING          Laser zone 1: PENDING          IECEX/ATEX zone 2: PENDING          Laser zone 0: PENDING          CSA: PENDING</p> <p><b>Installation and Operation</b></p> <p>Flange dimension alignment: DN50/PN10 or ANSI 2"/150lbs (other dimensions on request)          Alignment tolerances: Flanges parallel within 1.5°          Purge flow: Dry and oil-free pressurised air or nitrogen 10 - 50 l/min (application dependent)</p>	<p><b>Maintenance</b></p> <p>Visual inspection: Recommended every 6 – 12 months          Calibration: Check recommended every 12 months          Validation: In-situ span check with internal cell</p> <p><b>Dimension and weight</b></p> <p>Transmitter unit: 405 mm (plus 65 for purge unit) x 270 mm x 170 mm, 6.2 kg          Transmitter unit: (Ex version) 405 mm (plus 65 for purge unit) x 270 mm x 310 mm, 7.9 kg          Receiver unit: 355 mm (plus 65 for purge unit) x 125 mm x 125 mm, 3.9 kg          Power supply unit: 180 x 85 x 70 mm, 1.6 kg</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Gas	Detection limit (%Vol)	Min range (%Vol)	Max range (%Vol)	Response time (sec)	Max temp (°C)	Max pressure (BarA)
H <sub>2</sub>	0.1	0-5	0 - 100	2	150	4

**NOTE:** Detection limits are specified as the 95% confidence interval for 1m optical path and gas temperature / pressure = 25 °C / 1 BarA. Measured in N<sub>2</sub>.

Your local distributor:



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



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](http://www.neomonitors.com)