

# LaserGas™ II OP



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

NEO Monitors LaserGas™ II OP is a compact, high performance gas monitor for ambient long distance monitoring. The LaserGas™ II OP consists of a transceiver and retro-reflector unit. The retro-reflector unit consists of one or several cube corners in a weather proof enclosure. LaserGas™ II OP is known as “single line spectroscopy”. A single gas absorption line with no interference is chosen in the near IR spectral range and scanned by a single-mode diode laser. A retro-reflector located opposite to the laser reflects the light back to the transceiver. A detector collects the returned light for further analysis and calculation of the gas concentration.

Features	Applications	Customer benefits
<ul style="list-style-type: none"><li>• Easy to install, limited need for maintenance</li><li>• Response time down to 1 second</li><li>• No cross interference from other gases</li><li>• Very low detection limits (ppb and low ppm)</li><li>• Unaffected by fog or rain down to &lt;1% transmission</li><li>• Optional Ethernet connection and auto-alignment unit</li><li>• Wide range of detectable gases</li><li>• Mounted on our proprietary x/y alignment platform (goniometer). Adapters for fixed installation on platforms or for tripod use are available.</li><li>• Equipped also for hazardous areas</li></ul>	<p>Open Path monitors are critical in emission monitoring across a wide range of industrial applications:</p> <ul style="list-style-type: none"><li>• Oil and gas industry</li><li>• Petrochemical refineries</li><li>• Landfill sites</li><li>• Chemical plants</li><li>• Metal industry</li><li>• Fireprotection</li><li>• Traffic exhaust</li><li>• and more</li></ul>	<ul style="list-style-type: none"><li>• Compact high performance gas monitor for ambient long distance monitoring</li><li>• No cross interference from other gases</li><li>• Easy to install</li><li>• Limited need for maintenance</li><li>• Low cost of ownership</li><li>• Proven and reliable</li></ul>

# LaserGas™ II OP

## Technical Data

<p><b>Specifications</b></p> <p>Path length: Typically 10 - 500 m</p> <p>Response time: 1-2 sec</p> <p><b>Environmental conditions</b></p> <p>Operating temperature: -20 °C to +55 °C</p> <p>Storage temperature: -20 °C to +55 °C</p> <p>Protection classification: Transceiver unit IP66 (retro-reflector and battery unit IP65)</p> <p><b>Inputs / Outputs</b></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 (normally closed)</p> <p><b>Ratings</b></p> <p>Input power supply: 100 - 240 VAC, 50/60 Hz, 0.36 - 0.26 A</p> <p>Output power supply unit: 24 VDC, 900 - 1000 mA</p> <p>Input transmitter unit: 18 - 36 VDC, max. 20 W</p>	<p>4 - 20 mA output: 500 Ohm max. isolated</p> <p>Relay output: 1 A at 30 V DC/AC</p> <p>Battery supply unit: (optional) Input: 90-264 VAC, 50/60 Hz, Output: 24 VDC, fused 1A</p> <p><b>Safety</b></p> <p>Laser class: Class 1 according to IEC 60825-1</p> <p>CE: Certified</p> <p>EMC: Conformant with directive 2014/30/ EU</p> <p><b>Approvals</b></p> <p>ATEX zone 1: II 2 G Ex px II T5 II 2 D Ex pD 21 IP66 T64 °C</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><b>Installation and Operation</b></p> <p>Installation: Special X/Y alignment platform, tripod or auto alignment unit.</p>	<p>Purging of windows: By fan or blower (only recommended for certain applications)</p> <p>Maintenance Interval: Recommended every 6 - 12 months</p> <p>Calibration: Check recommended every 12 months directive 2014/30/ EU</p> <p><b>Dimension and weight</b></p> <p>Transceiver unit: 500 mm x 70 mm x 180 mm 6.5 kg</p> <p>Transceiver unit (Eex P): 500 mm x 270 mm x 320 mm 8.2kg</p> <p>Retro reflector unit: Size depends on number of reflectors (1 - 25 reflectors)</p> <p>Power supply unit: 180 mm x 85 mm x 70 mm 1.6 kg</p> <p>Battery supply (optional): Size depends on version (10 h / 24 h) max. 280 mm x 190 mm x 180 mm 13.8 kg</p>
---	---	---

Gas	Range	LDL/resolution
NH <sub>3</sub>	0-50 ppm	0.01 ppm
HF	0-1 ppm / 0-10 ppm	0.001 ppm
CO	0-50 ppm / 0-2%	0.015 ppm / 0.005%
CH <sub>4</sub>	0-50 ppm / 0-5%	0.01 ppm / 0.01%
CO <sub>2</sub>	0-2%	0.005%
H <sub>2</sub> S	0-2000 ppm	0.5 ppm

Detection limits are specified as the 95% confidence interval for 100 m path (Optical path length 200m) and gas temperature/pressure = 25 °C/1 BarA.

NOTE: HF measurement with continuous verification on atmospheric oxygen or water is an option.

Other gases available on request. Please contact us for details.

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

Your local distributor:



neomonitors

NEO Monitors AS • Part of the Nederman Group • Prost Stabls vei 22 • N-2019 Skedsmokorset, Norway  
Phone +47 67 97 47 00 • www.neomonitors.com