

LaserGas™ III SP Oxygen Analyzer



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NEO Monitors LaserGas™ III SP oxygen analyzer (3rd generation) is specifically designed for service in hazardous areas. The analyzer consists of transmitter and receiver unit that are mounted diametrically opposite each other on stack, ducts or reactors. The laser will cross the process gas and concentration changes are detected in-situ and in real time. LaserGas™ III sets a new standard for fast and reliable Tunable Diode Laser Absorption Spectroscopy analysis (TDLAS). The laser scans the absorption line in milliseconds.

Features	Applications	Customer benefits
<ul style="list-style-type: none">• 3. Gen compact LaserGas™ electronics• Explosion proof (Ex d), for use in Zone 1 and Class I/Division 2 areas• Fast response time• Low power < 10 Watt• SIL2 capability• No interference from other gases• Stable calibration, no zero drift• No gas sampling: In-situ measurement• Safety application• Zero gas application• No consumables• No purging of housing required• Spectroscopy based measurements of the process gas temperature are possible	<ul style="list-style-type: none">• Safety application• Chemical industry: inertisation control of reactors, Vinyl Chloride or PVC, Acryl Acid. Solvent acid, carbon black etc• Petrochemical industry: FCC units, tail gas treatment, flare gas monitoring, vent headers of incinerators, process heaters etc.• Steel industry: Coke oven gas, converter coal gas, reheating furnaces• and more	<ul style="list-style-type: none">• In-situ monitoring• 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• Less fuel consumptions• Reduced downtime

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Technical Data

<p>Specifications</p> <p>Detection limit (O₂): 100 ppm **</p> <p>Max. process gas temperature: 1600 °C</p> <p>Max. process gas pressure: 10 barA</p> <p>Optical path length: 0,5 - 30 m</p> <p>Repeatability: 1% of range (gas & application specific)</p>	<p>4 – 20 mA output: 500 Ohm max. load impedance, not isolated</p> <p>Relay output: 1 A at 30 VDC</p>	<p>Purge flow: 10-50 l/min (application dependent)</p> <p>Calibration: Check recommended every 12 months</p>
<p>Environmental conditions</p> <p>Operating temperature: ATEX: -40 °C to +65 °C CSA: -40 °C to +60 °C</p> <p>Storage temperature: -40 °C to +70 °C</p> <p>Protection classification: IP65</p>	<p>Safety</p> <p>Laser class: Class 1M according to IEC 60825-1, eye safe</p> <p>CE: Certified</p> <p>EMC: Conformant with directive 2014/30/EU</p>	<p>Maintenance</p> <p>Calibration: Check recommended every 12 months</p>
<p>Inputs / Outputs</p> <p>Analog output (3): 4 - 20 mA current loop (concentration and transmission)</p> <p>Digital output: 10/100 Base T Ethernet (Modbus TCP)</p> <p>Relay output: High gas, warning/ fault (normally closed)</p> <p>Analog input: 4 - 20 mA process temperature and pressure reading</p>	<p>Approvals</p> <p>ATEX zone 1: Ex db [op is Ga] IIC T4 Gb Ex tb [op is Da] IIIC T100°C Db</p> <p>CSA: Class I Div. 2, Groups B, C and D</p> <p>ATEX rating connection box: II 2 GD Ex e IIC T5 Gb -40°C ≤Ta≤65°C</p> <p>Functional safety: IEC 61508 certified SIL2 capability</p>	<p>Dimension and weight</p> <p>Transmitter and receiver unit (TU/RU): 215 mm (length, add 50 mm for purge unit) x 125 mm (diameter), 3,5 kg each</p> <p>Window unit (optional): Wu 60 (length) Wu 100 (length)</p> <p>TU/RU connection box: 260 mm x 160 mm x 90 mm, 2,5kg</p>
<p>Ratings</p> <p>Power supply: 18-32 VDC</p> <p>CSA rating: Class 2 supply</p> <p>Power consumption : Max. 20 W</p>	<p>Installation and Operation</p> <p>Flange dimension: DN50/PN10 or ANSI 2"/150 lbs (other dimensions on request)</p> <p>Alignment tolerances: Flanges parallel within 1.5°</p> <p>Purging of windows: Dry and oil-free pressurised air or nitrogen.</p>	<p>**NOTE: Detection limits are specified as the 95% confidence interval for 1 m optical path and gas temperature / pressure = 25°C / 1 barA. Measured in N₂.</p>

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

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