

# LaserGas™ III Portable HF Analyzer



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NEO Monitors LaserGas™ is using Tunable Diode Laser Absorption Spectroscopy (TDLAS) i.e. a non-contact optical measurement method employing solid-state laser sources. The portable analyzer is compact, lightweight, and battery powered for HF measurement on the spot. With onboard pump and connections for Teflon tubing the target gas is continuously transferred into the internal measurement cell. The instrument's low power design gives long operating time on each battery cycle.

Features	Applications	Customer benefits
<ul style="list-style-type: none"><li>• Most advanced LaserGas™ technology available (3<sup>rd</sup> generation)</li><li>• Portable (low weight)</li><li>• Low power usage &lt;10 Watt</li><li>• Sub ppm HF detection</li><li>• No interference from other gases</li><li>• Stable calibration</li><li>• No zero drift</li></ul>	<p>The LaserGas™ III Portable HF Analyzer is the solution for reliable detection of short-term HF concentrations, wherever diffuse emissions occur representing a risk to the work force.</p> <p>Focused applications are:</p> <ul style="list-style-type: none"><li>• Aluminium smelters: Worker protection during active work</li><li>• Aluminium smelters: Mapping plant emissions</li><li>• Refinery alkylation plants: Worker safety</li></ul>	<ul style="list-style-type: none"><li>• Flexible unit designed for measurement on the spot</li><li>• Allows fast and reliable operation to measure sub ppm and several hundred ppm HF concentrations</li><li>• Regular maintenance not required</li><li>• No cross interference from other gases</li><li>• Short-term HF peaks are uncovered with the LaserGas™ III portable</li><li>• Easy to carry</li><li>• Battery operated for several hours</li><li>• Internal storage of data</li></ul>

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## Technical Data

<p><b>Specifications</b></p> <p>Detection limit (HF)*: 50 ppb **</p> <p>Repeatability: 1% of range (gas &amp; application specific)</p> <p>Range: 0 - 500 ppm</p> <p>Storage 3MB</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: IP65</p> <p><b>Outputs</b></p> <p>Analog output (3): 4 - 20 mA current loop (concentration and transmission)</p> <p>Digital output: 10/100 Base T Ethernet (Modus TCP), RS-485</p> <p><b>Ratings</b></p> <p>Power consumption: Max. 10 W</p> <p>4 - 20 mA output: 500 Ohm max. load impedance, not isolated</p> <p>Battery: Lithium Ion Battery (14.4 V, 5 A, approx. 10 hours usage time per charge)</p>	<p><b>Safety</b></p> <p>Laser class: Class 1 according to IEC 60825-1, eye safe</p> <p><b>Installation and Operation</b></p> <p>Gas inlet / outlet: 6 mm SMC one touch fittings (series KQG)</p> <p>Sample gas flow: 3 l/min</p> <p>Sample inlet pressure: +/- 50 mbar G / 0.8 PSIG (higher pressures possible with different pump)</p> <p>Sample inlet temperature: Max 85 °C</p> <p>Calibration: Check recommended every 12 months</p>	<p><b>Maintenance</b></p> <p>Instrument check by Ethernet</p> <p>Filter change Recommended every 3 months</p> <p><b>Physical</b></p> <p>Dimensions: 110 mm x 120 mm x 250 mm (4.3" x 4.7" x 9.8")</p> <p>Weight (incl. battery): 2.3 kg (5 lbs)</p> <p>Display: 2.7" colour LCD panel</p> <p>Sample Cell: Teflon coated Aluminium</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 N<sub>2</sub>.</p>
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\*NEO Monitors reserve the right to change specifications without prior notice

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