

# LaserGas™ iQ<sup>2</sup> Vulcan



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NEO Monitors' LaserGas™ iQ<sup>2</sup> Vulcan is the first in-situ single-flange solution to measure up to four gases (O<sub>2</sub>, CO, CH<sub>4</sub>, H<sub>2</sub>O) as well as the process temperature in a single unit. Based on the well-proven and trusted tunable diode laser absorption spectroscopy (TDLAS) technology, the solution combines cutting-edge design and ground-breaking functionality. It is a complete combustion solution eliminating the need for multiple units. Advanced TDLAS technology enables unmatched reliability and durability. Installation costs of this all-in-one solution are significantly reduced since only one flange is needed. In addition, operational and maintenance costs are kept at a minimum.

Features	Applications	Customer benefits
<ul style="list-style-type: none"> <li>• No interference from background gases</li> <li>• Factory calibrated</li> <li>• No zero drift</li> <li>• Transceiver configuration</li> <li>• Automatic gain</li> <li>• In-situ measurement</li> <li>• Span check/validation option for O<sub>2</sub>, CO, and CH<sub>4</sub></li> </ul>	<ul style="list-style-type: none"> <li>• Combustion analysis</li> <li>• Package boilers</li> <li>• Process heaters</li> <li>• Electrostatic precipitators</li> <li>• VCM waste gas recovery</li> <li>• Reformer gas</li> </ul>	<ul style="list-style-type: none"> <li>• Up to 5 measuring components O<sub>2</sub>, CO, CH<sub>4</sub>, H<sub>2</sub>O and temperature</li> <li>• Can handle a typical combustion process up to 1562 °F/850°C</li> <li>• Reduced installation cost</li> <li>• Low maintenance costs</li> <li>• Easy to install transceiver, one unit ensures easy alignment</li> <li>• Double path length increases absorption signal for low concentration</li> <li>• Well-proven technology</li> </ul>

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## Technical Data

<p><b>Specifications</b></p> <p>Max. process gas temperature: 850 °C</p> <p>Max. process gas pressure: 1.5 BarA</p> <p>Optical path length: 1 m</p> <p>Response time: 5 sec</p> <p><b>Environmental conditions</b></p> <p>Operating temperatures: -40 °C to +55 °C</p> <p>Storage temperature: -40 °C to +70 °C</p> <p>Protection classification: IP66</p> <p><b>Input/output</b></p> <p>Analog output(6): 4 - 20 mA current loop</p> <p>Digital output: Ethernet (TCP/IP)</p> <p>Relay output (6): High gas, warning and fault (normally closed)</p> <p>Analog input (2): 4 - 20 mA Process temperature and pressure reading</p>	<p><b>Ratings</b></p> <p>Power supply: 24 VDC (18 - 30 VDC)</p> <p>Power consumptions: max 30W</p> <p>4 - 20 mA: 500 Ohm max isolated</p> <p>Relay output: 1 A at 30 V DC/AC</p> <p><b>Safety</b></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><b>Approvals</b></p> <p>IECEX/ATEX zone 1: II 2 G Ex pxb IIC T5 Gb II 2 D Ex pxb IIIC T100 °C Db</p> <p>CSA: Class I Div. 2</p> <p>Connection box: ATEX: II 2 GD Ex e IIC T5 Gb -40 °C ≤ Ta ≤ 65 °C</p>	<p><b>Installation and operation</b></p> <p>Flange dimension: DN80/PN 10-40 DN100/PN 10-40</p> <p>ANSI 3" #150/#300 ANSI 4" #150/#300</p> <p>Instrument purge: Nitrogen</p> <p>Probe purge: Nitrogen</p> <p>Calibration check: Every 12 months</p> <p>Dimensions / weight iQ<sup>2</sup>: 461 mm x 399 mm x 174 mm 15 kg</p> <p>Probe: 1495,8 mm x Ø 63,5 mm 32 kg</p>
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Component	Max	LDL
CO	10000 ppm	3 ppm
O2	25 %	0.05 %
CH4 add-on	5 %	0.01 %
Process temperature	850 °C	
Process pressure	1.5 BarA	

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>.

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

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