# LaserGas™ iQ² Vulcan




**NEO Monitors' LaserGas™ iQ² Vulcan** is the first in-situ single-flange solution to measure up to four gases ($O_2$, CO, $CH_4$, $H_2O$) 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

- No interference from background gases
- Factory calibrated
- No zero drift
- Transceiver configuration
- Automatic gain
- In-situ measurement
- Span check/validation option for $O_2$, CO, and $CH_4$

## Applications

- Combustion analysis
- Package boilers
- Process heaters
- Electrostatic precipitators
- VCM waste gas recovery
- Reformer gas

## Customer benefits

- Up to 5 measuring components $O_2$, CO, $CH_4$, $H_2O$ and temperature
- Can handle a typical combustion process up to 1562 °F/850°C
- Reduced installation cost
- Low maintenance costs
- Easy to install transceiver, one unit ensures easy alignment
- Double path length increases absorption signal for low concentration
- Well-proven technology

**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**

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## Technical Data

**Specifications**

| | |
|---|---|
| Max. process gas temperature: | 850 °C |
| Max. process gas pressure: | 1.5 BarA |
| Optical path length: | 1 m |
| Response time: | 5 sec |

**Environmental conditions**

| | |
|---|---|
| Operating temperatures: | -40 °C to +55 °C |
| Storage temperature: | -40 °C to +70 °C |
| Protection classification: | IP66 |

**Input/output**

| | |
|---|---|
| Analog output(6): | 4 - 20 mA current loop |
| Digital output: | Ethernet (TCP/IP) |
| Relay output (6): | High gas, warning and fault (normally closed) |
| Analog input (2): | 4 - 20 mA Process temperature and pressure reading |

**Ratings**

| | |
|---|---|
| Power supply: | 24 VDC (18 - 30 VDC) |
| Power consumptions: | max 30W |
| 4 - 20 mA: | 500 Ohm max isolated |
| Relay output: | 1 A at 30 V DC/AC |

**Safety**

| | |
|---|---|
| Laser class: | Class 1M according to IEC 60825-1, eye safe |
| CE: | Certified |
| EMC: | Conformant with directive 2014/30/EU |

**Approvals**

| | |
|---|---|
| IECEx/ATEX: | Pending |
| CSA: | Pending |

Connection box:

| | |
|---|---|
| ATEX: | II 2 GD Ex e IIC T5 Gb -40 °C ≤ Ta ≤ 65 °C |

**Installation and operation**

| | |
|---|---|
| Flange dimension: | DN80/PN 10-40<br>DN100/PN 10-40<br><br>ANSI 3" #150/#300<br>ANSI 4" #150/#300 |
| Instrument purge: | Nitrogen |
| Probe purge: | Nitrogen |
| Calibration check: | Every 12 months |

**Dimensions / weight**

| | |
|---|---|
| iQ²: | 461 mm x 399 mm x 174 mm<br>15 kg |
| Probe: | 1495,8 mm x Ø 63,5 mm<br>32 kg |

| 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 $N_2$.

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

**Your local distributor:**



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