

LaserGas™ Q (ICL edition)



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NEO Monitors LaserGas™ Q is using Tuneable Laser Absorption Spectroscopy (TDLAS) i.e. a non-contact optical measurement method employing Intraband Cascade Laser (ICL). The sensor has low maintenance cost and does not require regular maintenance. The absence of extractive conditioning systems further improves availability of the measurements and eliminates errors related to sample handling. The monitor is mounted directly onto flanges, which include purge gas connections and a tilting mechanism for easy alignment. Continuous purge flow prevents dust and other contamination from settling on the optical windows. Once power and data lines are connected, measurements are performed in real-time.

Features

- Response time down to 1 second
- No gas sampling: In-situ measurement
- No interference from background gases
- Line measurement, integral concentration over the full stack diameter
- Integrated span check option available
- Suitable for harsh environment
- No zero drift
- Stable calibration

Applications

LaserGas™ Q is designed for reliable and fast measurement of nitrogen dioxide in combustion process control, DeNOx, safety and emission monitoring applications and measurement of sulfur dioxide in all kinds of emission control applications.

Customer benefits

- 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

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Technical Data

<p>Specifications</p> <p>Optical path length: Typically 0.5 - 6 m Response time: 1 - 2 s Accuracy: Application dependent Repeatability: 1% of range. (gas & application specific)</p> <p>Environmental conditions</p> <p>Operating temperature: -20 °C to +55 °C. Storage temperature: -20 °C to +55 °C. Protection classification: IP66.</p> <p>Inputs / Outputs</p> <p>Analog output (3): 4 - 20 mA current loop. (concentration, transmission)</p> <p>Digital output: TCP/IP, MODBUS. Relay output (3): High gas, Maintenance Warning and Fault.</p> <p>Analog input (2): 4 - 20 mA process temperature and pressure reading</p>	<p>Ratings</p> <p>Input power supply unit: 100 - 240 VAC, 50/60 Hz. Output power supply unit: 24 VDC, 900 - 1000 mA. Input transmitter unit: 18 - 36 VDC, max. 20 W 4 - 20 mA output: 500 Ohm max. isolated Relay output: 1 A at 30 V DC/AC</p> <p>Safety</p> <p>Laser class: Class 1 according to IEC 60825-1 CE: Certified EMC: Conformant with directive 2014/30/ EU</p> <p>Approvals</p> <p>IECEX/ATEX zone 2: II 3 G Ex nA nC IIC T5 Gc</p> <p>Installation and Operation</p> <p>Flange dimension alignment: DN50/PN10 or ANSI 2"/150lbs (other dimensions on request)</p>	<p>Alignment tolerances: Flanges parallel within 1.5°.</p> <p>Purge flow: Dry and oil-free pressurised air or nitrogen. 10 - 50 l / min (application dependent).</p> <p>Purging of windows: Dry and oil-free pressurised air or gas, or by fan.</p> <p>Maintenance</p> <p>Validation: In-situ span check with optional internal cell (application dependent)</p> <p>Dimension and weight</p> <p>Transmitter unit: 420 mm x 270 mm x 170 mm, 6.6 kg Receiver unit: 265 mm x 270 mm x 170 mm, 5.7 kg Power supply unit: 180 mm x 85mm x 70 mm, 1.6 kg</p>
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Gas	NO	NO ₂	SO ₂	HBr
Min. range	0 - 50 ppm	0 - 50 ppm	0 - 300 ppm (*)	0 - 10 ppm
Max. range	0 - 1000 ppm*m	0 - 1000 ppm*m	0 - 20000 ppm*m	0 - 500 ppm*m
Detection limit	1 ppm	1 ppm	5 ppm	0.1 ppm
Temperature	Ambient to 450 °C	Ambient to 500 °C	Ambient to 400 °C	Ambient to 450 °C
Pressure	0.7 - 1.5 BarA	0.7 - 1.5 BarA	0.7 - 1.3 BarA	0.5 - 1.5 BarA
Windows material	CaF ₂	Sapphire	Sapphire	Sapphire

* Other ranges on request.

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

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