LaserGas™ Q (QCL edition)

NEO Monitors LaserGas™ Q is using Tuneable Diode Laser Absorption Spectroscopy (TDLAS) i.e. a non-contact optical measurement method employing Quantum Cascade Laser (QCL). 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

- Fast response time
- No gas sampling: In-situ measurement
- No interference from background gases
- Line measurement, integral concentration over the full stack diameter
- Suitable for harsh environment
- No zero drift
- Stable calibration

Applications

LaserGas™ Q is designed for reliable and fast measurements in applications like continuous emission monitoring and process control.

- DeNOx
- DeSOx
- CEMS

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

Specifications

Optical path length:	Typically 0.5 - 6 m.
Accuracy:	Application dependent.
Repeatability:	1% of range. (Gas & application specific)

Environmental conditions

Operating temperature:	-20 °C to +55 °C.
Storage temperature:	-20 °C to +55 °C.
Protection classification:	IP66.

Inputs / Outputs

Analog output (3):	4 - 20 mA current loop. (concentration, transmission)
Digital output:	TCP/IP, MODBUS.
Relay output (3):	High gas, Maintenance Warning and Fault.
Analog input (2):	4 – 20 mA process temperature and pressure reading.

Ratings

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. 20W
4 – 20 mA output:	500 Ohm max. isolated
Relay output:	1 A at 30 V DC/AC.

Installation and Operation

Flange dimension alignment:	DN50/PN10 or ANSI 2”/150lbs. (other dimensions on request)
Alignment tolerances:	Flanges parallel within 1.5°.
Purge flow:	Dry and oil-free pressurised air or nitrogen. 10 - 50 l/min. (application dependent)
Purging of laser:	Clean dry air ≈ 15 l/min. (Mandatory)
Purging of windows:	Dry and oil-free pressurized air or gas, or by fan.

Safety

Laser class:	Class 1 according to IEC 60825-1.
CE:	Certified.
EMC:	Conformant with directive 2014/30/EU

Maintenance

Calibration:	Check recommended every 12 months.

Dimension and weight

Transmitter unit:	340 mm x 270 mm x 170 mm, 6.9 kg
Receiver unit:	260 mm x 270 mm x 170 mm 5.5 kg
Power supply unit:	180 mm x 85 mm x 70 mm 1.6 kg

Gas	NO	SO_2	CF_4
Min. range	0 - 50 ppm	0 - 100 ppm	0 - 2000 ppb
Max. range	0 - 1000 ppm*m	0 - 1000 ppm*m	0 - 4000 ppb*m
Detection limit	1 ppm	1 ppm	20 ppb
Temperature	Ambient to 450 °C	200 °C - 400 °C (*)	Ambient to 200 °C
Pressure	0.7 - 1.5 barA	0.7 - 1.3 barA	0.7 - 1.5 barA
Window material	CaF_2	CaF_2	CaF_2
Response time	5 - 10 sec.	10 - 20 sec.	10 - 20 sec.

* Other temperatures on request.

Your local distributor:

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