LaserGas™ Q (ICL edition)

NEO Monitors' LaserGas™ Q is using Tuneable Laser Absorption Spectroscopy (TDLAS), a non-contact optical measurement method employing Interband Cascade Lasers (ICLs). The sensor has low maintenance costs 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 sensor 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 measurements in process control, DeNOx, safety and emission monitoring applications.

Examples:

- NO/NO2: DeNOx (SCR and SNCR)
- SO2: SRU, emission
- HBr: Emission

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
Response time:	1 – 2 s
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. 20 W
4 – 20 mA output:	500 Ohm max. isolated
Relay output:	1 A at 30 V DC/AC

Safety

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

Approvals

IECEx/ATEX zone 2:	II 3 G Ex nA nC IIC T5 Gc
CSA:	Class 1, Div. 2, Groups A, B, C & D Temp. CodeT4; Non-incendive

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 windows:	Dry and oil-free pressurized air or gas, or by fan

Maintenance

Validation:	In-situ span check with optional internal cell (application dependent)

Dimension and weight

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

Gas	NO	NO_2	SO_2	HBr
Min. range	0 - 10 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	0.1 ppm	1 ppm	5 ppm	0.1 ppm
Temperature	Ambient to 1000 °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

NOTE: Detection limits are specified as the 95% confidence interval for 1m optical path and gas temperature / pressure = 25 °C / 1 BarA. Measured in N2.

Other gases and ranges available on request.

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

Your local distributor:

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