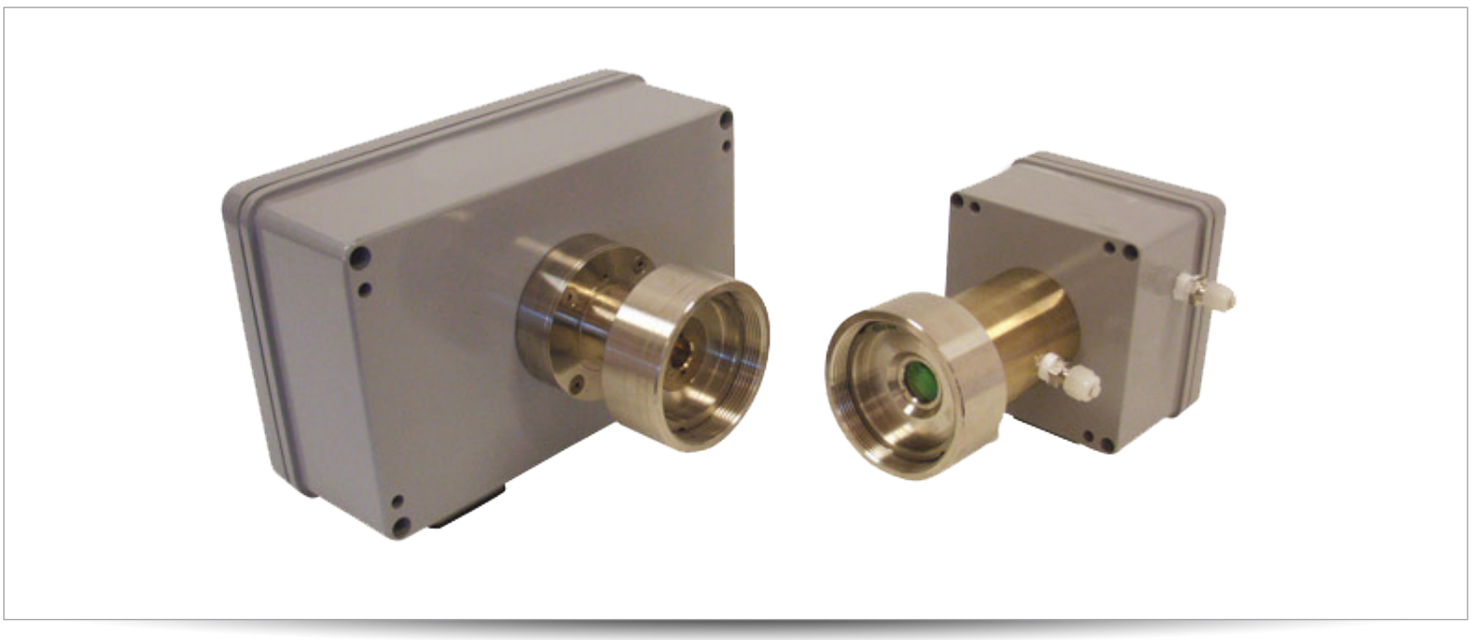
LaserGas™ II Compact



NEO Monitors LaserGas™ is using Tuneable Laser Absorption Spectroscopy (TLAS) i.e a non-contact optical measurement method employing solid-state laser sources. The sensor remains unaffected by contaminants and corrosives 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
- No moving parts, no consumables
- ATEX and CSA certified
- Can measure through very thin nozzles <10 mm diameter
- Optimised for very short distance measurements across pipes and along short cells
- Compact design
- No zero drift
- Stable calibration

Applications

LaserGas™ II SP is designed for reliable and fast measurement of all kinds of gases in any environment, most typically:

- Chemical industry
- Petrochemical industry
- Metal industry
- Power plants
- Waste incinerators
- Cement industry
- Automotive industry
- Scrubber technology
- Glass industry
- PVC production
- Pulp and paper
- and more

Customer benefits

- In-situ monitoring
- Highly reliable real time analyzer
- Limited need for maintenance
- Low maintenance cost
- Reduce emission to the environment
- Easy to install and operate
- Reduce daily operation costs
- Optimize process
- Well proven measurement technique
- Requires low purge flow

NEO Monitors as • A subsidiary of Norsk Elektro Optikk • Prost Stabels vei 22 • N-2019 Skedsmokorset, Norway
Phone +47 67 97 47 00 • **www.neomonitors.com**

LaserGas™ II Compact

Technical Data

Specifications

Optical path length:	Typically 0.1-1m
Response time:	1 – 2 sec
Accuracy:	Application dependet
Repeatability:	1% of range (gas and application spesific)

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, Optional fibre optic
Relay output (3):	High gas-, Maintenance, Warning - and Fault relays (normally closed-circuit relays)
Input:	4 – 20 mA process temperature and pressure reading

Ratings

Input power supply unit:	100 – 240 VAC, 50/60 Hz, 0.36 – 0.26 A
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

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 gas or by fan 10-50 l/min per flange (application dependent) 2-4 l/min per flange when set up with thin nozzles (optinal)

Maintenance

Visual inspection:	Recommended every 6 – 12 months (no consumables needed)
Calibration:	Recommended every 12 months
Validation:	With optional flow through cell

Safety

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

Explosion protection (optional)

IECEx/ATEX zone 2:	II 3 G Ex nA nC op is IIC T4 Gb II 3 D Ex tD A22 T100°C
CSA:	Class I, Div. 2, Groups A, B, C and D; Temp. Code T4; non-incendive

Dimension and weight

Transmitter unit:	195 (plus 65 for purge unit) x270x170 mm, 4.8 kg
Transmitter unit: (EX ver.)	195 (plus 65 for purge unit) x 270x310 mm, 6.5 kg
Receiver unit:	208 (plus 65 for purge unit) x 125 x 125 mm, 2.6 kg
Power supply unit:	180 x 85 x 70 mm, 1.6 kg

Gas	Detection limit (ppm)	Max temp (°C)	Max pressure (bar abs)
NH_3	0,15	600	2
HCl	0,05	600	2
HF	0,015	400	2
H_2S	3	300	2
O_2	100	600	2
% H_2O	50	600	2
ppm H_2O	0,1	400	2
% CO	30	600	2
% CO_2	30	600	2
ppm CO	0,3	600	2
ppm CO_2	0,2	300	2
NO	10	300	2
N_2O	1	200	2
CH_4	0,2	300	2

** NEO Monitors reserve the right to change specifications without prior notice*

NOTE: Detection limits are specified as the 95% confidence interval for 1m optical path and gas temperature / pressure = 25 °C / 1 bar abs. Measured in N_2.

Other gases might be available on request.

Dual Gas: NH_3+H_2O, HCl+H_2O, CO+CO_2, CO+H_2O, CO+CH_4, O_2+temp, CO+temp and others.

Higher pressure may be available on request for certain gases.

Please contact us for details.

Your local distributor:

neoMONITORS

NEO Monitors as • A subsidiary of Norsk Elektro Optikk
Prost Stabels vei 22 • N-2019 Skedsmokorset, Norway • Phone +47 67 97 47 00 • **www.neomonitors.com**