/ LaserGas™ II SP H2

NEO Monitors LaserGas™ is using Tunable Diode Laser Absorption Spectroscopy (TDLAS) i.e a non-contact optical measurement method employing solid-state laser sources. The sensor remains unaffected by contaminants 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

- Fast response time
- No gas sampling: In-situ measurement
- No interference from background gases
- Applicable for many process conditions
- Line measurement, integral concentration over the full stack diameter
- Integrated span check option
- Suitable for harsh environment
- No zero drift
- Stable calibration
- Continuous internal health check

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
- NG processing
- Chlorine production
- Safety applications
- PVC production
- Process control
- Glass production

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

Technical data

Specifications

Optical path length:	Typically 0.7- 4m
Accuracy:	Application dependet
Repeatability:	2% of range (gas & application dependent)

Environmental conditions

* Certified 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
Analog input (2):	4 – 20 mA process temperature and pressure reading

Ratings

Input transmitter unit:	18 – 32 VDC, max. 20W
4 – 20 mA output:	500 Ohm max. isolated
Relay output:	1 A at 30 V DC

Safety

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

Approvals

IECEx/ATEX zone 1:	II 2 G Ex pxb [op is Ga] IIC T4 Gb II 2 D Ex pxb [op is Da] IIIC T100°C Db
IECEx/ATEX zone 2:	II 3 G Ex nA nC [op is Ga] IIC T4 Gc II 3 D Ex tc [op is Da] IIIC T100°C Dc
CSA:	Class I, Div. 2, Groups A, B, C and D; Temperature Code T4

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)
Purge air quality:	ISO 8573-1:2010, class 3 or better

Maintenance

Visual inspection:	Recommended every 6 – 12 months
Calibration:	Check recommended every 12 months
Validation:	Build-in cell for span check with H2 gas (non ATEX/IECEx/CSA) or integrated span check (all versions).

Dimension and weight

Transmitter unit:	405 mm (plus 65 for purge unit) x 270 mm x 170 mm, 6.2 kg
Transmitter unit: (Ex version)	405 mm (plus 65 for purge unit) x 270 mm x 310 mm, 7.9 kg
Receiver unit:	355 mm (plus 65 for purge unit) x 125 mm x 125 mm, 3.9 kg

** Certified ambient temperature range -20 °C to +55 °C*
Extended ambient temperature ranges; -30 °C to +55 °C or -20 °C to +65 °C (non-certified) availiable upon request, subject to application.

Gas	Detection limit (%Vol)	Min range (%Vol)	Max range (%Vol)	Response time (sec)	Max temp (°C)	Max pressure (BarA)
H_2	0.1	0 -5	0 - 100	2	150	4

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

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

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