/ LaserGas™ III SP Gas Analyzer



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NEO Monitors LaserGas™ III SP gas analyzer is a optical based Tunable Diode Laser Absorption Spectrometer (TDLAS), specifically designed for operation in certified hazardous areas and has been independently assessed as compatible for use in SIL2 installations. The analyzer consists of a transmitter and receiver unit that mount diametrically across the stack, duct, pipe or reactor vessel, eliminating the need for high maintenance sample conditioning systems. The analyzer provides near instantaneous on-line analysis with no cross interference to background gases.

Features

- Zone 1 Exd certified for operation in hazardous areas
- Suitable for use in SIL 2 systems
- Compact footprint
- Automatic continuous system health check
- Low power requirements <15 watts
- Factory calibrated with no zero drift
- No interference from other background gases
- Low maintenance TDLAS measurement technique

Applications

- Process Safety
- Inertization control
- FCC units
- Coke oven gas
- Combustion control
- Selective catalytic reduction (SCR)
- Selective non-catalytic reduction (SNCR)
- DeNOx
- · Emission monitoring

Customer benefits

- Reliable and proven non-contact optical laser measurement technique
- NEO Monitors measurement algorithm ensures no crossinterference
- High measurement reliability
- Low ongoing cost of ownership and high return on investment (ROI)
- · Very low maintenance

Technical data

Specifications

Response time: 1 second or longer Precision (Repeatability): +/- LDL or 1% of

reading, which ever is

greater

Linearity: 1% rel.

Environmental conditions

Operating temperature:

-40 °C to +65 °C CSA: -40 °C to +60 °C -40 °C to +70 °C Storage temperature:

Protection classification: IP65

Inputs / Outputs

4 - 20 mA current loop Analog output (3):

(concentration and transmission)

10/100 Base T Digital output: Ethernet (Modbus

TCP)

High gas, warning/ fault (normally Relay output:

closed)

4 - 20 mA process Analog input:

temperature and pressure reading

Ratings

Power supply: 18-32 VDC CSA rating: Class 2 supply Power consumption: Max. 20 W

4 - 20 mA output: 500 Ohm max. load

impedance, not isolated

Relay output: 1 A at 30 VDC

Safety

EMC:

Class 1M according to Laser class:

IEC 60825-1, eye safe

CE: Certified

Conformant with

directive 2014/30/EU

Approvals

ATEX zone 1: Ex db [op is Ga] IIC T4

Gb

Ex tb [op is Da] IIIC

T100°C Db

CSA: Class I Div. 2.

Groups B, C and D, T4

ATEX rating

connection box: II 2 GD Ex e IIC T5

II 2 D Ex e tb IIIC

T85°C Db

IEC 61508 certified Functional safety:

SIL2 capability

Installation and Operation

Flange dimension: DN50/PN10 or

ANSI 2"/150 lbs (other dimensions on

request)

Alignment tolerances:

Flanges parallel within 1.5°

Purging of windows: Dry and oil-free

pressurised air or nitrogen.

Purge flow: 10-50 l/min

> (application dependent)

Maintenance

Calibration: Check recommended

every 12 months

Dimension and weight

Transmitter and recevier

unit (TU/RU): 215 mm (length,

add 50 mm for purge unit) x 125 mm (diameter),

3,5 kg each

Window unit (optional): Wu 60 (length)

Wu 100 (length)

TU/RU connection box: 260 mm x 160 mm x

90 mm, 2,5kg

Gas	Detection limit (LDL)	Min process Temp	Max process Temp	Min process Pressure	Max process pressure	Min Range	Max Range	Default Range
O2	100ppm	-40 °C (-40 °F)	1500 °C (2732 °F)	0.7 BarA	10 BarA	-	0-100%	-
CO (Process temp <500 °C)	0.5ppm	-40 °C (-40 °F)	500 °C (932 °F)	0.7 BarA	1.5 BarA	0-50ppm	0-10000 ppm*m	-
CH4 Add-on	0.01%	-40 °C (-40 °F)	500 °C (932 °F)	0.7 BarA	1.5 BarA	0.1% * m	0-10% * m	-
CO (Process temp >500 °C	3ppm	-40 °C (-40 °F)	1300 °C (2372 °F)	0.7 BarA	1.5 BarA	0-200ppm	0-20000 ppm*m	-
CH4 Add-on	0.05%	500 °C (932 °F)	1300 °C (2372 °F)	0.7 bara	1.5 BarA	0-5%*m	0-10%*m	_
H2O Add- on	2%	500 °C (932 °F)	1300 °C (2372 °F)	0.7 BarA	1.5 BarA	-	0-40%	0-40%
NH3	0.2ppm	-40 °C (-40 °F)	500 °C (932 °F)	0.7 BarA	1.5 BarA	On request	On request	0-50ppm
Optional H2O	tbc	-40 °C (-40 °F)	500 °C (932 °F)	0.7 BarA	1.5 BarA	-	40%	0-40%
H2	0.1 % vol	-50 C (-58 °F)	250 °C (482 °F)	0.5 BarA	10 BarA	5%	100%	-
CO2	10ppm	-40 °C (-40 °F)	1300 °C (2372 °F)	0.7 BarA	1.5 BarA	0-100ppm	0-10%*m	-

