LaserGas™ III SP Oxygen Analyzer

NEO Monitors LaserGas™ III SP oxygen analyzer (3rd generation) is specifically designed for service in hazardous areas. The analyzer consists of transmitter and receiver unit that are mounted diametrically opposite each other on stack, ducts or reactors. The laser will cross the process gas and concentration changes are detected in-situ and in real time. LaserGas™ III sets a new standard for fast and reliable Tunable Diode Laser Absorption Spectroscopy analysis (TDLAS). The laser scans the absorption line in milliseconds.

Features

- 3. Gen compact LaserGas™ electronics
- For ATEX Ex-d and Class I Division 1 areas
- Fast response time
- Low power < 10 Watt
- Suitable for SIL2 applications
- No interference from other gases
- Stable calibration, no zero drift
- No gas sampling: In-situ measurement
- Safety application
- Zero gas application
- No consumables

Applications

- Safety application
- Chemical industry:
  inertisation control of reactors, Vinyl Chloride or PVC, Acryl Acid. Solvent acid, carbon black etc
- Petrochemical industry:
  FCC units, tail gas treament, flare gas monitoring, vent headers of incinerators, process heaters etc.
- Steel industry:
  Coke oven gas, converter coal gas, reheating furnaces
- and more

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
- Less fuel consumptions
- Reduced downtime
- Suitable for SIL2

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Technical Data

Specifications

Detection limit (O_2):	100 ppm **
Max. process gas temprature:	1500 ˚C
Max. process gas pressure:	10 barA
Optical path length:	Typically 0,5 - 20 m
Repeatability:	1% of range (gas & application specific)

Environmental conditions

Operating temperature:	-40 ˚C to +65 ˚C
Storage temperature:	-40 ˚C to +70 ˚C
Protection classification:	IP65

Inputs / Outputs

Analog output (3):	4 - 20 mA current loop (concentration and transmission)
Digital output:	10/100 Base T Ethernet (Modbus TCP)
Relay output (2):	High gas, warning and fault (normally closed)
Analog input:	4 - 20 mA process temperature and pressure reading

Ratings

Power supply:	24VDC range 18-32 VDC
Power consumption :	Max. 10 W
4 – 20 mA output:	500 Ohm max. load impedance, not isolated
Relay output:	1 A at 30 V DC/AC

Safety

Laser class:	Class 1 according to IEC 60825-1, eye safe
CE:	Certified
EMC:	Conformant with directive 2014/30/EU
Approvals	
ATEX zone 1:	II 2 G Ex d [op is] IIC T4 Gb
(TU/RU)	II 2 D Ex tb IIIC T78°C Db II 2 D Ex tb IIIC T88°C Db (Lasergas III Ext)
CSA:	Class I Div. 1, Groups B, C and D
ATEX rating connection box:	II 2 GD Ex e IIC T5 Gb -40°C ≤TA≤65°C
Functional safety:	Designed according to SIL 2; IEC 61508

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 gas, or by fan
Purge flow:	10-50 l/min (application dependent)
Calibration:	Check recommended every 12 months
CSA:	Class I Div. 1, Groups B, C and D

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

**NOTE: Detection limits are specified as the 95% confidence interval for 1 m 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*

Your local distributor:

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