

/ LaserGas™ iQ2



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NEO Monitors LaserGas™ iQ² analyzer is the first to measure up to four gases (O₂, CO, CH₄, H₂O)** and temperature depending on configuration, which eliminates the need for multiple units for combustion analysis. The cutting-edge design and ground-breaking functionality, ensures that the instrument delivers unmatched reliability and durability. By providing an optional single flange solution, installation cost can be significantly reduced. Customers may replace existing analyzers where explosion risks or high maintenance issues are a huge concern.

Features

- No interference from background gases
- Factory calibrated
- No zero drift
- Transceiver configuration
- Multiple configurations
- Designed for 3 configurations
 - cross stack, one-flange with probe and open path
- Automatic gain
- In-situ measurement
- Integrated span check option (Application dependent)

Applications

- Combustion analysis
- FCC units
- Package boilers
- Process heaters
- Electrostatic precipitators
- VCM waste gas recovery
- Reformer gas
- Incineration

Customer benefits

- Up to 5 measuring components O₂, CO, CH₄, H₂O and temperature
- Can handle a typical combustion process up to 2372 °F/1300°C
- Reduced installation cost
- Low maintenance cost
- Easy to install transceiver, one unit ensures easy alignment
- Double path length increases absorption signal for low concentration
- Transceiver can be mounted on coldest side of stack in extreme hot environments
- Well proven technology
- The design has flexibility to measure new/ other gases and combinations of them

Technical data

Specifications

Max. process gas temperature:	1300 °C
Max. process gas pressure:	1.5 barA
Optical path length:	max 20m
Response time:	≤ 5 seconds

Environmental conditions

Operating temperatures:	-40 °C - +55 °C
Storage temperature:	-40 °C to +70 °C
Protection classification:	IP66

Input/output

Analog output:	4 - 20 mA current loop
Digital output:	Ethernet (TCP/IP)
Relay output (4):	High gas, warning and fault (normally closed)
Analog input (2):	4 - 20 mA Process temperature and pressure reading

Ratings

Power supply:	24 VDC (18 - 30 VDC)
Power consumptions:	max 30W
4 - 20 mA:	500 Ohm max isolated
Relay output:	1 A at 30 V DC

Safety

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

Approvals

IECEX/ATEX zone 1:	II 2 G Ex pxb IIC T5 Gb II 2 D Ex pxb IIIC T100 °C Db
CSA:	Class I, Div. 2, Groups A, B, C and D; Temp. Code T5
ATEX rating connection box:	II 2 GD Ex e IIC T5 Gb -40°C ≤ Ta ≤ 65°C NEMA 4x

Installation and operation

Flange dimension:	DN 80/PN 10-40 (Center Ø 3") or ANSI 3" #150 (#300) (Center Ø 3") ANSI 4" #300
Instrument purge:	Application dependent Nitrogen
Probe purge (Optional):	Nitrogen

Maintenance

Calibration:	Check recommended every 12 months
Validation:	In-situ span check with optional internal cell (application dependent)

Dimensions / weight

Transceiver:	461 mm x 399 mm x 174 mm 15 kg
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LaserGas™ iQ² X-stack O₂ + CO ppm Standard (below 500 °C)

	Min	Max	LDL/precision
CO Range	0-100ppm	0-10000ppm*m	1 ppm
O ₂ (N ₂ purge)	0-2%	0-25%	0.02%
Process path length	0.5m	20m	
Process temperature	-40 °C	500 °C	
Process pressure	0.7 BarA	1.5 BarA	
CH ₄ add-on	0-1%*meter	0-5%*meter	0.01%
Temperature add-on (N ₂ purge)	-40 °C	500 °C	15 °C

LaserGas™ iQ² X-stack O₂ + CO ppm High temperature (above 500 °C)

	Min	Max	LDL/precision
CO Range	0-200ppm	0-20000ppm*m	3 ppm
O ₂ (N ₂ purge)	0-5%	0-25%	0.05%
O ₂ (Air purge)	-	0-25%	0.2%
Process path length	0.5m	20m	
Process temperature	500 °C	1300 °C	
Process pressure	0.7 BarA	1.5 BarA	
CH ₄ add-on	0-5%*meter	0-10%*meter	0.05%
H ₂ O add-on	-	0-40%	2%
Temperature add-on	500 °C	1300 °C	30 °C
Temperature add-on (N ₂ purge)	-40 °C	1300 °C	20 °C

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

** Some configurations may not be available in certain countries.

Contact NEO Monitors AS for more information.

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