LaserGas™ iQ² Vulcan

NEO Monitors' LaserGas™ iQ² Vulcan is the first in-situ single-flange solution to measure up to four gases (O_2, CO, CH_4, H_2O) as well as the process temperature in a single unit. Based on the well-proven and trusted tunable diode laser absorption spectroscopy (TDLAS) technology, the solution combines cutting-edge design and ground-breaking functionality. It is a complete combustion solution eliminating the need for multiple units. Advanced TDLAS technology enables unmatched reliability and durability. Installation costs of this all-in-one solution are significantly reduced since only one flange is needed. In addition, operational and maintenance costs are kept at a minimum.

Features

- No interference from background gases
- Factory calibrated
- No zero drift
- Transceiver configuration
- Automatic gain
- In-situ measurement
- Span check/validation option for O_2, CO, and CH_4

Applications

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

Customer benefits

- Up to 5 measuring components O_2, CO, CH_4, H_2O and temperature
- Can handle a typical combustion process up to 1562 °F/850°C
- Reduced installation cost
- Low maintenance costs
- Easy to install transceiver, one unit ensures easy alignment
- Double path length increases absorption signal for low concentration
- Well-proven technology

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Technical Data

Specifications

Max. process gas temperature:	850 ˚C
Max. process gas pressure:	1.5 BarA
Optical path length:	1 m
Response time:	5 sec

Environmental conditions

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

Input/output

Analog output(6):	4 - 20 mA current loop
Digital output:	Ethernet (TCP/IP)
Relay output (6):	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/AC

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
Connection box:	
ATEX:	II 2 GD Ex e IIC T5 Gb -40 °C ≤ Ta ≤ 65 °C

Installation and operation

Flange dimension:	DN80/PN 10-40 DN100/PN 10-40 ANSI 3" #150/#300 ANSI 4" #150/#300
Instrument purge:	Nitrogen
Probe purge:	Nitrogen
Calibration check:	Every 12 months
Dimensions / weight iQ²:	461 mm x 399 mm x 174 mm 15 kg
Probe:	1495,8 mm x Ø 63,5 mm 32 kg

Component	Max	LDL
CO	10000 ppm	3 ppm
O2	25 %	0.05 %
CH4 add-on	5 %	0.01 %
Process temperature	850 °C	
Process pressure	1.5 BarA	

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 reserves the right to change specifications without prior notice.

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