NOVA

Dependable Gas Analysis Solutions

415 SERIES
PROCESS PPM OXYGEN ANALYZER

APPLICATIONS

For continuous analysis of PPM levels of oxygen (O_2) in process gas streams. Applications include blanketing mixtures, glove boxes, electronics, research, hydrogen/nitrogen mixtures, and many others.

FEATURES

- Bright digital readout in PPM O_2
- Ranges available from 0 to 10 PPM to 0 to 9,999 PPM O_2
- Microprocessor control with push button calibration
- Explosion-proof version has magnetic calibration
- Electrochemical sensor is unaffected by hydrocarbons in the sample
- Easy-to-maintain, modular layout
- Built-in sample pump or pressure regulator and 4 - 20 mA output
- Solenoid valves trap PPM O_2 sample to avoid sensor depletion when analyzer is powered off

Explosion-Proof (N7MC) Enclosure

OPTIONS

- Hi/Low gas, low flow, and diagnostic alarms available
- Isolated analog, RS232, RS485, MODBUS®, and Ethernet outputs available
- Cabinet purge system available for use in hazardous areas
- Full automatic calibration with touch screen LCD display
- Cold weather package for operation to -20°C (-4°F)
- Cabinet coolers can be fitted to most models
- Sensor is temperature controlled for maximum stability

Wall Mount (N4) Enclosure

CALIBRATION

- Nitrogen for zero
- Air or analyzed calibration gas for span

NOVA ANALYTICAL SYSTEMS
www.nova-gas.com

DESCRIPTION

The Nova 415 Series Trace O_2 analyzers have been designed for the detection of trace levels of O_2 in a non-corrosive gas stream. In operation, the O_2 content in the sample gas is detected by a 'fuel cell' type electrochemical sensor. This sensor produces a small current output directly proportional to the O_2 in the sample. This small output is compensated for temperature, amplified, and then displayed in PPM O_2 on a digital meter. The signal is also sent to recorder terminals as a voltage or current output. The sensor normally lasts about 2 years as long as it is only exposed to PPM levels of O_2. The sensor may be easily replaced by the customer.

MODELS

Six types of mounting configurations are available. All tubing connections are 1/4" SS FPT.

- 415N4 - Wall mounted NEMA4 (IP65) enclosure rating
- 415N4X - Wall mounted corrosion-resistant NEMA4X (IP65) enclosure rating
- 415RM - 19" (483mm) rack mounted, on sliding rails
- 415N7MC: Wall mounted NEMA7 UL/CSA explosion-proof with non-intrusive magnetic calibration, Class 1 Div 1 Group BCD
- 415RMN7: Wall mounted NEMA7 sensor housing with rack mounted control cabinet (two separate enclosures)

SPECIFICATIONS

Nova reserves the right to specification changes which may occur with advances in design without prior notice.

Description	
Method of Detection:	Customer-replaceable 'fuel cell' oxygen sensor
Ranges Available:	Any range between 0-10 PPM and 0-9,999 PPM
Resolution:	1 PPM
Accuracy and Repeatability:	± 1% of full scale (minimum 0.5 PPM)
Drift:	Less than 1% of full scale per week
Response Time (T-90):	O_2 sensor may require an initial purge down from air to low PPM O_2 which may last up to 6 hours. After purge, T90 response from 1000 to 10 PPM O_2 is 30 seconds.
Ambient Temperature Range:	32-122°F (0-50°C). Lower temperatures (-5°F, -20°C) with Cold Weather Package.
Linearity:	± 1% of full scale (minimum 0.5 PPM)
Size and Weight:	Dimensions will vary depending on enclosure style and options required
Power:	115VAC 60Hz (220VAC 50Hz available)
Output Options:	4-20ma into 500 ohms non-isolated standard Isolated 4-20mA, RS232, RS485, MODBUS®, Ethernet outputs optional
Alarms:	High and/or low alarm contacts available, relay contacts SPDT 5A @ 220VAC rating. Low flow alarm optional

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UNIQUE APPLICATIONS

The O_2 sensor in the Model 415 is not normally affected by gas stream composition. However, high levels of acid gases such as carbon dioxide (CO_2) and sulfur dioxide (SO_2) can cause decreased cell life. All Nova analyzers are built using proven technologies and techniques. If this product does not suit your application, please contact Nova at 1-800-295-3771. In many cases, we are able to build an analyzer specific to your needs.

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