

NOVA

Dependable Gas Analysis Solutions



420 SERIES CONTINUOUS PROCESS CARBON DIOXIDE ANALYZER

APPLICATIONS

For continuous analysis of carbon dioxide (CO₂) in process gas streams using an infrared detector. Both percent and PPM analysis available.

FEATURES

- PPM or percent CO₂ by infrared detector
- Detector is sensitive, very reliable, and non-depleting
- Bright digital readout, 4 - 20 mA output
- Fast response (T90 - less than 15 seconds)
- Microprocessor control with push button calibration
- Easy-to-maintain modular layout
- Built-in sample pump, flowmeter, and filters
- Explosionproof version has magnetic calibration

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 -5°F (-20°C)
- Cabinet coolers can be fitted to most models
- Sensor temperature controlled for maximum stability
- High temperature filters and probes

CALIBRATION

- Easily zero checked on ambient air or nitrogen (N₂)
- Span using a known CO₂ in nitrogen calibration gas



Explosion-Proof (N7MC) Enclosure



Wall Mount (N4) Enclosure

NOVA ANALYTICAL SYSTEMS

www.nova-gas.com

DESCRIPTION

The Nova 420 Series CO₂ analyzers utilize a simple and reliable microprocessor-based non-dispersive infrared detector specific to CO₂. The detector pulses an infrared beam of light through the sample tube, without the need for a mechanical chopper. In operation, the internal sample pump draws the sample gas through the filter/condensate trap, secondary filter, flow meter, and then on to the infrared detector. The detector output is digitally linearized and then displayed as percent CO₂ on the digital meter. The output is also available as an analog or digital signal.

MODELS - There are seven types of mounting configurations available:

- 420N4 - Wall mounted NEMA4 (IP65) enclosure rating
- 420N4X - Wall mounted corrosion-resistant NEMA4X (IP65) enclosure rating
- 420RM - 19" (483mm) rack mounted, on sliding rails
- 420N7MC: Wall mounted NEMA7 UL/CSA explosion-proof with non-intrusive magnetic calibration, Class 1 Div 1 Group BCD
- 420RMN7: 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:	Single cell, dual wavelength NDIR infrared with no moving parts
Ranges Available:	420L - 0-500, 0-1000, 0-2000 PPM CO ₂ (Some PPM versions may not be avail. in N7 exp-proof enclosure) 420 - 0-5000, 0-10,000 PPM & 0-1, 0-5, 0-10, 0-20, 0-30, 0-50, 0-100% CO ₂
Resolution:	0.1% CO ₂ on % versions, 1 PPM CO ₂ on PPM versions
Accuracy and Repeatability:	1% of full scale on percent versions, 2% of full scale on PPM versions
Drift:	Less than 1% of full scale per month.
Response Time (T-90):	Less than 15 seconds
Ambient Temperature Range:	40-122°F (5-50°C). Lower temps (-5°F, -20°C) avail. with Cold Weather Package.
Linearity:	±1% of full scale
Size and Weight:	Physical data 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 420 Series analyzers are designed for detection of CO₂ in *non-corrosive* gas streams. 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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