NOVA

Dependable Gas Analysis Solutions

425 SERIES

CONTINUOUS PROCESS ANALYZER FOR BINARY GAS MIXTURES BY THERMAL CONDUCTIVITY

APPLICATIONS

For continuous analysis of many binary gas mixtures comprised of H_2, CO_2, O_2, CH_4, SO_2, Ar, He, NH_3, SF_6, air, and others. Applications include heat treating atmospheres, welding gas mixtures, blanketing gas mixtures, ammonia synthesis, leak detection, purge monitoring, flue gas, magnesium blanketing by SF_6, and others.

FEATURES

- Bright digital readout
- Lower cost than infrared, GC, or mass spectrometer
- High stability, microprocessor-controlled, long-life thermal conductivity (TC) cell
- Easy-to-maintain modular layout
- Built in sample pump or pressure regulator
- 4 - 20 mA outputs
- Sensors mounted in temperature controlled heated box to improve accuracy

OPTIONS

- Hi/Low gas, low flow, and diagnostic alarms available
- Isolated analog, RS232, RS485, MODBUS, and Ethernet outputs available
- Sample conditioning systems available for removal of moisture, acidic gas, and dust
- Cabinet purge system available for use in hazardous areas
- One-step 'cal-now' button calibration with touch screen LCD display
- 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

CALIBRATION

- Air or nitrogen for zero
- Analyzed calibration gas for span

Explosion-Proof (N7MC) Enclosure

Panel Mount (PM) Enclosure

Rack Mount (RM) Enclosure

Wall Mount (N4) Enclosure

www.nova-gas.com

DESCRIPTION

The Nova 425 Thermalconductivity (TC) Analyzer has many applications in industry where the measurement of one gas in a two gas or some multi-gas mixtures is required. The Nova TC cell is temperature controlled and its high stability enables it to be used even in high purity measurements. Since the TC cell does not consume the sample, have any moving parts, hot wires, or sealed chemicals, it will last for many years.
In operation, the TC cell detects the rate at which the sample gas conducts heat away from a Resistance Temperature Device (RTD) with reference to a similar RTD surrounded by air (or other reference gas). A sample gas containing the gas to be measured will cause the temperature, and its resistance, to change with respect to the reference RTD. This will cause an output from the wheatstone bridge measuring circuit which is calibrated and displayed on a digital meter.

MODELS

- 425N4 - Wall mounted NEMA4 (IP65) enclosure rating
- 425N4X - Wall mounted corrosion-resistant NEMA4X (IP65) enclosure rating
- 425N12 - Wall mounted NEMA12 (IP52) enclosure rating
- 425PM - Panel mounted, slides open for easy access
- 425RM - 19" (483mm) rack mounted, on sliding rails
- 425N7MC: Wall mounted NEMA7 UL/CSA explosion-proof with non-intrusive magnetic calibration, Class 1 Div 1 Group BCD
- 425PMN7: Wall mounted NEMA7 sensor housing with panel 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:	RTD-based TC cell can be used to measure almost any binary gas mixture such as H_2 in N_2, O_2, air, SO_2, Ar, He, NH_3, etc.; CO_2 in N_2, H_2, air, Ar, O_2, He, etc.; O_2 in Ar, CO_2, He, H_2 etc.; CH_4 in N_2, air, or CO_2; SF_6 in CO_2, etc.
Ranges Available:	0-2% to 0-100% and suppressed ranges such as 95-100%
Resolution:	0.1% of gas to be measured
Accuracy and Repeatability:	±1% of full scale
Drift:	Less than 1% of full scale per month.
Response Time (T-90):	10-15 seconds to 90% step change
Ambient Temperature Range:	32-122°F (0-50°C). Lower temperatures (-5°F, -20°C) with Cold Weather Package.
Linearity:	±1% of full scale
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

UNIQUE APPLICATIONS

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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NOVA ANALYTICAL SYSTEMS INC.

IN USA:
1925 Pine Avenue • Niagara Falls, NY • 14301
Tel: 1-800-295-3771 • 716.285.0418 • Fax: 716.282.2937
IN CANADA:
270 Sherman Avenue North • Hamilton, ON • L8L 6N5
Tel: 905.545.2003 • Fax: 905.545.4248
email: sales@nova-gas.com

www.nova-gas.com