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NOXMAT 700

Accurate, Precise, Dependable

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Features
- Measures from ppb to 3,000 ppm Full Scale (NO/Nox)
- Four User Programmable Ranges from 0-1 ppm to 0-3,000 ppm
- Fast Response Time
- Auto Ranging
- Auto Calibration
- Output Options: Analog (User Scalable), Digital (RS232) including AK Protocol & TCP/IP
- Displays & Outputs: NO/NOx/NO$_2$ with Adjustable Time & Hold, Diagnostics, Alarms & Preventative Maintenance
- Remote Monitoring and Control
- Electronic Sample & Ozone Flow Control

Description
The NOXMAT Model 700 CLD NO/NOx digital analyzer is designed around a state-of-the-art 16-bit microprocessor, with 16 digital inputs, 16 digital outputs, 16 analog inputs and 4 analog outputs. The analyzer can be manually operated from the keypad or remotely via TCP/IP, RS- 232C communications and discrete inputs.

The analyzer display includes screen presentation of all analyzer alarms. Four levels of password protection are provided. For precision measurements, the analyzer's accuracy is increased by entering calibration curve fit polynomials.

Automatic calibration may be activated locally or remotely and includes auto cal via preset times. The analyzer may also display NO, NOx and NO$_2$ via selectable time and hold commands.

Method of Operation

The NOXMAT 700 CLD Analyzer utilizes the principle of chemiluminescence for analyzing the NO or NOx concentration within a gaseous sample. In the NO mode, the method is based upon the chemiluminescent reaction between ozone and nitric oxide (NO) yielding nitrogen dioxide (NO_2) and oxygen. This reaction produces light which has an intensity proportional to the mass flow rate of NO into the reaction chamber. The light is measured by means of a photodiode and associated amplification electronics. In the NOx mode, NO plus NO_2 is determined as above, however, the sample is first routed through the internal NO_2 in the sample to NO. The resultant reaction is then directly proportional to the total concentration of NOx. Local operation is simplified using the 20 button alphanumeric keypad with data presented on a back lit LCD display. All local operations may be performed remote via RS-232 and/or TCP/IP.

Applications

- Stack Gases (CEM)
- Scrubber Efficiency
- Turbine/Generator Feedback Control
- Process Chemical Gas Analysis
- Personnel Safety
- Power Plant Stack De-Nitrification
- Vehicle Emissions

For more information, please contact:

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Specifications

Detector: Chemiluminescence (CLD) Photodiode (thermally stabilized with Peltier Cooler) NO/NOx RANGES: 0-1 * to 3,000 ppm NO or NOx (Four user programmable ranges) (Higher ranges available upon request)

Response Time: T90 < 2 Seconds to 60 Seconds Adjustable

Resolution: 10 ppb NO/NOx (Displays 5 significant digits)

Repeatability: Better than 0.5% of Full Scale

Linearity: Better than 0.5% of Full Scale

Noise*: Less than 1 % of Full Scale (*1.5% @ 0-1 ppm Full Scale)

Zero & Span Drift: Less than 1 % of Full Scale per 24 Hours

Zero & Span Adjustment: Via front panel, TCP/IP or RS-232

NH_3, HCN & SO_2 Effect: Not detectable with 100 ppm

CO_2 Effect: Less than 1 % with 10% CO_2

H_2O Effect: Less than 1 % with 1 % H_2O

Sample Gas Pressure: 8-25 psig (Standard model)

Sample Flow Rate: 1.5 to 2.0 LPM (Consult factory for other flow rates)

Converter: Vitreous Carbon Material @ 205.C > 98% efficiency

Ozonator: Ultraviolet Lamp

Air Or O_2 Requirements: Less than 0.01 ppm NOx at 350 cc/Min. @ 25 psig (Dew Point < -35°C)

NO/NOx Control: Manual/Remote/Auto Cycle (Remote NOx mode by dry contact closure)

Outputs Available: TCP/IP, RS232, Four Scalable Analog 0- 10 V/4-20 mA

Discrete Alarms: (Local & Remote Adjustable) General Fault! TTL Logic (Ground True) Calibration Failure/ TTL Logic (Ground True) High Concentration (2 each)/ TTL Logic (Ground True)

Digital Diagnostics: Control Voltages, Temperatures, Pressures, Flow Parameters

Keypad Displays: Factory Settings,TCP/IP Address, Passwords (4), Scalable Analog Output Voltages, Full Scale Range Select, Auto Cal Times

Special Features: Calculated NO_2 derived from NOx converter efficiency, Auto Ranging, Auto Calibration (adjustable through internal clock) Less than 3 cc Gold Plated Reaction Chamber

Display: 3" x 5" Back lit LCD

Sample Temperature: Up to 50.C Noncondensing

Ambient Temperature: 5 to 40.C

Ambient Humidity: Less than 90% RH Noncondensing

Warm-Up Time: 1 Hour (Typical)

Fittings: 1/4 Inch Tube

Power Requirements: 115/230 (:t100;0) VAC; 50/60 Hz; 200 Watts (350 watts with pump)

Dimensions: 5 1/4 H x 19 W x 17 D (Inches) - short case

Weight: 45 Pounds