



700 LX Series CLD NO_x/O₂ Analyzer



- New Electronics
- User-Friendly Operation
- New, More Powerful Operating System
- Proven Analytical Components
- Remote Emulation/Control Software TCP/IP

Features

- Measures From 3 ppm up to 3,000 ppm Full Scale
- Three Measurement Modes—NO, NO_x and NO/NO₂/NO_x
- 0-25% Paramagnetic Oxygen Channel
- Auto Calibration and Ranging
- Fast Response Time
- Robust and Rugged Linux Based Operating System
- Electronic Sample and Ozone Flow Control
- Does Not Require Vacuum Pump
- Comprehensive Diagnostics
- Standard Outputs: Voltage, Current, AK Protocol, RS-232 AK Protocol, TCP/IP MODBUS
- CE Mark and ETL Listed—Conforms to UL STD 61010-1, Certified to CAN/CSA C22.2 STD No. 610610.1
- 1065 and ECE 49-06 Compliant

Applications

- Combustion Efficiency
- Fuel Cell Analysis
- Turbine/Generator Feedback Control
- Ammonia Slip
- Process Chemical Gas Analysis
- Personnel Safety
- Pharmaceutical Processes
- Vehicle Emissions

Options

- Internal Sample Pump
- Internal Calibration Solenoid Valves
- Internal Ozone Pump
- Low Flow
- Low Pressure
- 19 Inch Rack Mount Slides

California Analytical Instruments

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Method of Operation

The California Analytical 700 LX Series CLD/O₂ Analyzer utilizes the principle of chemiluminescence for analyzing the NO or NO_x 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 (NO₂) and oxygen. This reaction produces light which has intensity proportional to the mass flow rate of NO₂ into the reaction chamber.

The light is measured by means of a photodiode and associated amplification electronics. In the NO_x mode, NO plus NO₂ is determined as above, however, the sample is first routed through the Internal NO₂ to NO converter which converts the NO₂ in the sample to NO. The resultant reaction is directly proportional to the total concentration of NO_x.
0-25% oxygen is measured by the paramagnetic method

Specifications

Detector: Photodiode
NO/NO_x Ranges: Four User-definable from 0-3 to 0-3,000 ppm NO/NO_x (Other Ranges Available upon Request)
Response Time: Typically < 3 Seconds to 90% Full Scale
Oxygen: Paramagnetic 0-25%
Oxygen Response Time: Typically 5 Seconds to 90% Full Scale
Repeatability: Better than 0.5% of Full Scale
Linearity: Better than 1% of Full Scale
Accuracy: Better than 1% Full Scale
Precision: Better than 0.5% Full Scale
Noise: Less than 0.5% of Full Scale
Zero & Span Drift: Less than 1% of Full Scale per 24 Hours
CO₂ Effect: Less than 2% with 10% CO₂
H₂O Effect: Less than 1% with 1% H₂O
Interference Data: CO, HCN, SO₂, NH₃, N₂O not Detectable at 100 ppm
Flow Control: Electronic Proportional Pressure Controller
Sample Flow Rate : Typically 1.5 to 2.5 LPM (0.8 LPM with Low Flow Option)
Converter: Carbon Material @ 205 C; 95 to 100% Efficiency
Ozonator: Ultraviolet Lamp
Air or O₂ Requirements: Dry Air less than 0.01 ppm NO_x at 350 cc/Min. @ 25 psig (Dew Point < -10°C)

NO/NO_x Control: Manual/Remote/Auto Cycle
Standard Outputs: Voltage, Current, RS-232 AK Protocol, TCP/IP MODBUS and AK Protocol
Assignable Contact Alarms and Statuses: 15 Assignable Contact Closures
Digital Diagnostics: Temperature, Pressure, EPC Volt %, and Flow
Display: 3" x 5" LED LCD
Sample Temperature: 50°C (Noncondensing)
Ambient Temperature: 5 to 40°C
Ambient Humidity: Less than 90% RH (Non-condensing)
Warm Up Time: 1 Hour
Fittings: 1/4 Inch Tube
Power Requirements: 115/230 VAC; 50/60 Hz; 560 Watts
Dimensions: 5¼ H x 19 W x 23 D (Inches)
Weight: 45 Pounds

Specifications subject to change without notice.

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