



700 LX Series NDIR/O₂ Analyzer



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

Features

- Measures IR From Low ppm up to 100% Full Scale And Oxygen from 0-1% up to 0-100%
- Multi-Component—Up to Three IR Channels or Two IR Channels Plus Oxygen
- Auto Calibration and Ranging
- Fast Response Time
- Temperature and Pressure Compensation
- Robust and Rugged Linux based operating system
- Remote operation and control by external device via RS-232, TCP/IP, or Digital Inputs
- Comprehensive Diagnostics
- Standard Outputs: Voltage, Current, RS-232 AK Protocols, TCP/IP, MODBUS or AK Protocols
- 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
- Process Gas Analysis
- Fuel Cell Analysis
- Turbine/Generator Feedback Control
- Personnel Safety
- Vehicle Emissions

Options

- Internal Sample Pump
- Sample Flow Control
- Multiple Sample Streams
- 19 Inch Rack Mount Slides

California Analytical Instruments

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700 LX Series NDIR/O₂ Analyzer

Method of Operation

The California Analytical Instruments' 700 LX Series NDIR analyzer is based on the infrared absorption characteristics of gases. Using a single infrared beam to measure gas concentrations, this analyzer produces highly stable and reliable results. A single infrared light beam is modulated by a chopper system and passed through a sample cell of predetermined length containing the gas sample to be analyzed. As the beam passes through the cell, the sample gas absorbs some of its energy.

The oxygen analyzer section utilizes either the paramagnetic or fuel cell method to determine the level of oxygen in the sample gas

The attenuated beam (transmittance) emerges from the cell and is introduced to the front chamber of a two-chamber infrared microflow detector. The detector is filled with the gas component of interest and consequently the beam experiences further energy absorption. This absorption process increases the pressure in both of the chambers. The differential pressure between the front and rear chambers of the detector causes a slight gas flow between the two chambers. This flow is detected by a micro-flow sensor and is converted into an output signal.

The oxygen level is displayed in percent concentration.

Specifications

IR Analysis Method: Non-Dispersive Infrared (NDIR)

NDIR Components: CO / CO₂ / CH₄ / SO₂ / NO*

*NO is available with an external NOx converter
Detector Type: Microflow

NDIR Ranges: PPM to percent

Range Ratio: 10:1

Response Time Fastest (IR): 90% of Full Scale in 2 Seconds (Depending on Cell Length, Flow Rate, and Time Constant) Contact Factory for Specific Configuration Response Times

IR Sample Cell: Stainless Steel

Resolution: Typically 0.1% of Full Scale

Repeatability: Better than 0.5% of Full Scale

Linearity: Better than 1.0% of Full Scale of Factory Calibrated Ranges

Accuracy: Typically better than 1% Full Scale Range

Precision: Better than 1% Full Scale

Noise: Less than 1% of Full scale of Factory Calibrated Ranges

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

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

Sample Flow Rate: 0.5 to 2.0 LPM

Oxygen Analysis Method: Paramagnetic or Fuel Cell

O₂ Ranges: 0-1% (Paramagnetic Only) up to 0-100% O₂ Full Scale, Four Definable Ranges

O₂ Response Time: T₉₀—Typically 5 Seconds Paramagnetic, 16 Seconds Fuel Cell

Standard Outputs: Voltage or Current, RS232 Protocol, TCP/IP Modbus, and AK Protocols

Discrete Control: Remote/Local Control, Range Change, Range Sense Mode (Ground True)

Assignable Contact Alarms and statuses (Adjustable Local and Remote): General Fault, Calibration Failure, and Concentration (2 Each)

Digital Diagnostics: Temperature, Pressure, Volts, and Flow

Special Features: Auto Ranging, Data Streaming, Auto Calibration (adjustable through internal clock)

Display: 3" x 5" LED LCD

Sample Temperature: Up to 50 C, (Non-condensing)

Ambient Temperature: 5 to 40 C

Ambient Humidity: Less than 90% RH (Non-condensing)

Fittings: ¼ inch Tube

Power Requirements: 115/230 (+/- 10%) VAC; 50/60Hz, 300 watts maximum

Dimensions: 5¼"Hx19"Wx23"D

Weight: 30-45 lbs. (Depending on configuration)

Specifications subject to change without notice.

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