ZPA NDIR/O2

ZPA NDIR/O2 Multi-Channel Analyzer

NON-DISPERSIVE INFRARED (NDIR) ANALYZER

SPECIFIC FEATURES:

- Multi-Component analyzer—Up to Four NDIR channels Plus Oxygen
- Measures NDIR gases from low ppm Up to 100% full scale, oxygen from 1 to 100%
- Virtually unaffected by moisture by moisture interference
- Measures oxygen via either paramagnetic or fuel cell
- Outputs: Voltage, Current, RS-485
- Compact size

MAIN APPLICATIONS:

- Continuous emission monitoring (CEMS)
- Process gas analysis
- Greenhouse gases
- Stack testing
- Gas purity
- Research

MAIN OPTIONS:

- Oxygen only version
- Fault Alarm
- External NOx converter
- High/low alarm
- Automatic Calibration e
- Pump Pak II sample pump

CE

Conforms to UL STD 61010-1, Certified to CAN/CSA C22.2 STD No. 610610.1

U.S. EPA COMPLIANCE
40 CFR PART 1065

ECE 49-06 Compliant

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The ZPA NDIR technology 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 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 mass-flow sensor and is converted into an output signal.

The oxygen channel of the ZPA utilizes either the paramagnetic or fuel cell method to determine the percent level of oxygen contained in the sample gas.

NDIR MEASURING RANGES

Gas	Minimum	Maximum	Gas	Minimum	Maximum
CO	0-200 ppm	0-100%	SO2	0-200 ppm	0-10%
CO2	0-200 ppm	0-100%	NO	0-200 ppm	0-5,000 ppm
CH_4	0-500 ppm	0-100%			

TECHNICAL SPECIFICATIONS

Detector	Photodiode
Response Time	Typically < 3 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
CO_2 Effect	Less than 2% with 10% CO_2
H_2O Effect	Less than 1% with 1% H_2O
Interference Data:	CO, HCN, SO_2, NH_3, N_2O not Detectable at 100 ppm
Flow Control	Electronic Proportional Pressure Controller.
Sample Flow Rate	Typically 1.5 to 2.5 LPM (0.6 LPM with Low Flow Option)
Converter	Carbon Material @ 205 C; 95 to 100% Efficiency
Ozonator	Ultraviolet Lamp
Air or O_2 Requirements	Dry Air less than 0.01 ppm NO_x at 350 cc/Min. @ 25 psig (Dew Point < -10°C)
NO/NOx 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
Sample Temperature	85-100°C
Oven Temperature	85°C Standard, 100°C Upon Request
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 (HxWxD)	5.25H x 19W x 23D In. (133.4H x 482.6W x 584.2D mm)
Weight	45 Lbs. (20.4 kg)

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