



SERVOPRO NO_x

CLD NOX Analyzers

FEATURES

- Measures 0-3 to 0-3,000 ppm full scale (NO/NO₂/NO_x)
- Automatic calibration and ranging
- Fast response time
- Electronic sample and ozone flow control
- Internal Converter



THE SERVOPRO NO_x ANALYZER

The Servomex SERVOPRO NO_x analyser is one of the most versatile gas analysers on the market. Utilizing a unique, chemiluminescence detector to measure NO/NO₂/NO_x concentrations in industrial and vehicle emission applications or techniques, the SERVOPRO NO_x analyser is a "must-have" for your application.

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 are determined as with the NO mode; however, the sample is first routed through the internal NO₂ - to - NO converter that converts the NO₂ in the sample to NO. The resultant reaction is then directly proportional to the total NO_x concentration. Sample enters the analyzer directly into a heated chamber and is maintained at an elevated temperature. The moisture will remain in the vapor state, thus ensuring no loss of the NO₂.

SPECIFICATION

Detector types:	Chemiluminescence (CLD) photodiode (thermally stabilized with Peltier cooler)	Converter:	Vitreous carbon material @ 205°C>95% efficiency
NO/NO _x Ranges:	Four user-definable from 0-3 to 0-3,000 ppm	Flow Control:	Electronic proportional pressure controller
Response Time:	Typically <2 seconds to 90% full scale	Ozonator:	Ultraviolet lamp
Repeatability:	Better than 0.5% of full scale	Air or O ₂ Requirement:	Less than 0.01 ppm NO _x at 240 cc/min @ 25 psig (dew point <-10%)
Linearity:	Better than 0.5% of full scale	No/NO _x Control:	Manual / Remote / Auto Cycle
Noise:	Typically less than 1% of full scale	Outputs Available:	TCP/IP, RS-232, Modbus, four scalable analog 0-10 V / 4-20 mA
Zero and Span Drift:	Less than 1% of full scale	H ₂ O Effect:	Less than 1.0% with 1% H ₂ O
Zero and Span Adjustment:	Via front panel, TCP/IP or RS-232	Oven Temperature:	(HCLD Only) 850°C (1000°C on request)
Oxygen Methodology:	Paramagnetic, 0-25%/0-100%	Ambient Temperature:	5 to 40°C
NH ₃ , HCN and SO ₂ Effect:	Not detectable with 100 ppm	Ambient Humidity:	Less than 90% RH non-condensing
CO ₂ Effect:	Less than 2.0% with 10% CO ₂	Warm-Up Time:	1 hour (typical)
H ₂ O Effect:	Less than 1.0% with 1% H ₂ O	Fittings:	1/4" tube
Flow Control:	Electronic proportional pressure controller	Power Requirements:	115/230 (± 10%) VAC, 50/60 Hz, 200 Watts (350 Watts with pump)
Sample Flow Rate: low-flow option)	Typically 2.0 LPM (0.6 LPM with low-flow option)	Dimensions:	5 1/4" H x 19" W x 23" D
Converter:	Vitreous carbon material @ 205°C>95% efficiency	Weight:	45 lbs
Output Options:	Voltage, current Rd-232 using AK protocol and TCP/IP, Modbus	Special Features:	Calculated NO ₂ derived from NO _x converter efficiency, auto ranging, auto calibration (adjustable through internal clock), less than 3 cc gold-plated reaction chamber.
Configuration:	1065-compliant configurations		CE Mark and ETL listed - conform to UL STD 61010-1, certified to CAN/CSA C22.2 STD 61010.1

Specifications subject to change without notice.

APPLICATIONS

- Continuous emissions monitoring (CEMS)
- Scrubber efficiency
- Combustion efficiency
- Turbine/generator feedback control
- Process gas analysis
- Vehicle emissions
- Engine testing

OPTIONS

- Heated version (HCLD)
- Paramagnetic oxygen channel
- Internal Zero/Span/Sample valves
- Internal sample pump
- "Wet/Dry" option for HCLD