

ENOX

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Electrochemical NO₂ Monitor for Tunnels



TUNNEL SENSORS

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Electrochemical NO₂ Monitor for Tunnels

FEATURES

- Designed for in-situ monitoring in tunnels or similar confined spaces
- Proven electrochemical measurement of NO₂
- High accuracy intelligent gas detector with pre-calibrated sensing modules
- Sensitive at low gas concentrations with high range capability and excellent stability
- Backlit LCD display providing clear sensor information and diagnostic data
- Compatible with BS EN 50545-1:2011

BENEFITS

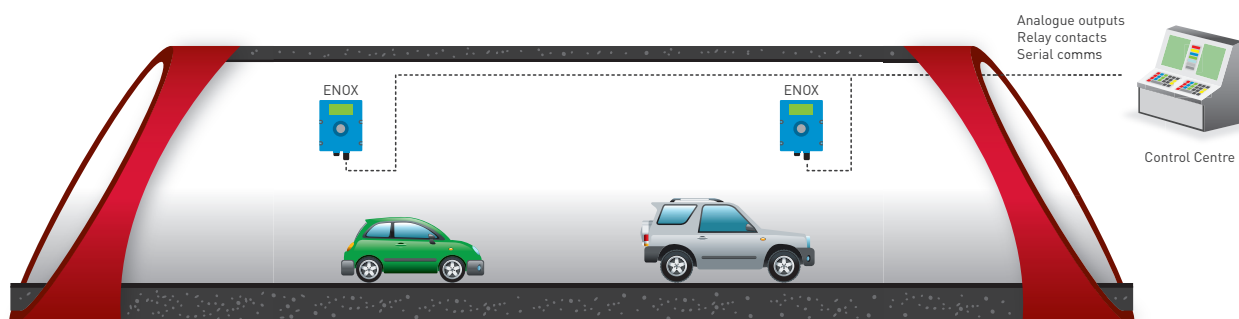
- Cost effective fixed sensor solution
- Rugged and reliable, with ingress protection to IP65
- Easy to install, commission and operate with an excellent reliability record
- Plug-in sensor modules for quick and simple replacement

APPLICATIONS

The ENOX tunnel monitor measures the concentration of nitrogen dioxide (NO₂) within an ambient environment such as road, rail, meteorological or other industrial application. These measurements can be used as part of an air quality management system for ventilation control within a traffic tunnel or other confined space.

OPERATION

The ENOX uses an electrochemical cell for NO₂ detection and consists of a Sender Unit and a 'plug-in' Sensor Module, which are mounted together on the wall or ceiling of the tunnel. The Sensor Module is pre-calibrated and stores all necessary data relating to type identification, sensing range and specific calibration. This data is automatically recognised by the Sender Unit when the module is fitted. Electrochemical cells contain an electrolyte that is gradually consumed during use, influenced mostly by the duty cycle, ambient temperature and humidity. Therefore, the Sensor Module requires replacement / recalibration every 6 to 12 months to ensure accuracy of response.



SYSTEM COMPONENTS

- ENOX Sender Unit
- 'Plug-in' Sensor Module

TECHNICAL SPECIFICATION

MEASUREMENT PERFORMANCE

Parameter	Comment
Measuring Principle	Electrochemical
Measurement Reading	Concentration in ppm
Measuring Range	0 – 10 ppm
Accuracy	+/- 0.1 ppm
Response Time	T90 T63
	40 secs 20 secs
Span Drift	+/- 1 % per month
Calibration Interval	6 – 12 months (replace or recalibrate sensor module)

POWER REQUIREMENTS

Voltage	+24 Vdc
Nominal Current Consumption	40 mA
Power Up Current Consumption	50 mA

INTERFACE OPTIONS

Outputs	4 – 20 mA (as standard) or ModBus RTU via RS485
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PHYSICAL

Ambient Operating Temperature	-20 – +50 °C
Ambient Operating Humidity	15 – 90 % (non-condensing)
Ambient Operating Pressure	800 – 1100 mbar
Ingress Protection	IP65 (gas port IP54)
Regulatory Compliance	2004/108/EC (Electromagnetic Radiation) 2006/95/EC (Low Voltage)
Materials	Stainless steel reinforced polymer
Dimensions (measuring head)	140 x 98 x 57 mm
Weight (measuring head)	0.6 kg



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