



NITROGEN DIOXIDE OPTICAL GAS DETECTOR GO3-NO2

TECHNICAL INFORMATION

Features

- electronic microprocessor control
- dual beam technology
- accuracy of the measurement
- repeatability of values
- rapid response
- automatic reset to the disappearance of the gas
- good chemical resistance
- excellent selectivity to NO2

Applications

- atmosphere monitoring in road tunnels
- atmosphere monitoring in industrial environments

The optical detector gas GO3-NO2 is been designed for use in road tunnels , industrial environments and in all those places where a leak or an abnormal concentration of Nitrogen Dioxide NO2 may constitute a hazard to people and things .

GO3-NO2 use an advanced detection technique based on optical spectral analysis in the IR field with the NO2 gas.

The detector consists of an analysis optical chamber connected to control unit and signal processing.

A dual-channel measurement within the analysis chamber (dual optical beam – one reference and one IR spectra measurement) are the basis of the operation of the detector ensuring accuracy and reliability.

The elements of respiration of the detector are protected with a stainless steel filter, which prevents dust dissemination within the measurement chamber .

The advantages of this type of detector are mainly:

stability, repeatability of values and excellent selectivity to Nitrogen Dioxide NO2.





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TECHNICAL INFORMATION

The electronics of GO3-NO2 uses a microprocessor control, which provides:

- the continuous monitoring of various parameters
- automatic adjustment of the zero measurement
- signal the need for maintenance
- the possible indication of a Fault

GO3-NO2 can withstand exposure to high concentrations of NO2 gas without suffering consequences. It also has excellent corrosion resistance and is not affected by temperature changes and the humidity because it is offset by the internal automatic control.

The detector is very efficient and has excellent performance for long periods of time

Nitrogen Dioxide - Effects on Man and the Environment

NO2 is a gas irritating to the respiratory system and for the eyes, which can cause bronchitis even up to pulmonary edema and death as it is capable of combining with the hemoglobin changing the chemical properties and physiological with formation of methemoglobin that is not more capable of transporting oxygen to tissues.

Nitrogen dioxide is formed mostly in the atmosphere for the oxidation of carbon monoxide (NO), the latter in turn is formed by direct combination of Nitrogen and Oxygen content in the atmosphere, in the presence of the high temperatures that can occur during some combustion processes.

The emissions from anthropogenic sources are derived mainly from combustion processes (power plants, heating, traffic), as well as manufacturing processes without combustion (production of nitric acid, etc.).

In urban areas its presence is determined mainly by the exhaust gases of motor vehicles and the amount of emissions depends on factors such as speed, acceleration, catalytic converter, etc.

The Nitrogen dioxide is a reddish brown gas with a pungent odor and is highly toxic.

TECHNICAL DATA

- power supply: 12 - 24VDC (+ / -15%)
- power dissipation max.: 1.5 W
- average power dissipation. 0.8 W
- measuring range: 0-20 ppm of NO2
- dual IR optical beam: one measure and one reference channel
- analog output signal: 0,5-5V and 4-20mA
- signal output "Service" for maintenance request (Open Collector)
- signal output "Fault" fault (Open Collector)
- repeatability: + / - 2% concentration of the gas
- temperature: -25 to +55 ° C
- humidity: 15-95% RH
- pressure limit: 800 - 1200 mbar
- deviation in the long term: <2% / year
- response time: 10-30 sec. about
- initial stabilization time: 30'
- average life: approximately 8 years
- enclosure: aluminum alloy
- protection index: IP66
- construction conforms to standards: UNI CEI 4 - EN50054
- dimensions: 160x100x80 mm (control unit) - 1.200x50 mm (analysis chamber)