



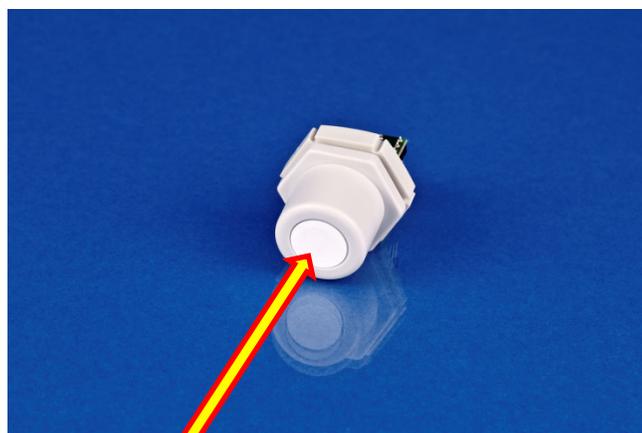
Nitrogen Dioxide (NO<sub>2</sub>) gas detector GNO2 for wall mounting



Nitrogen Dioxide (NO<sub>2</sub>) gas sensor with PCB.

Normal life time is 24 months for NO<sub>2</sub> gas sensor.

The Nitrogen Dioxide (NO<sub>2</sub>) gas sensor with PCB can easily be exchanged after 24 months years.



Special filter for IP65 protection of Nitrogen Dioxide (NO<sub>2</sub>) gas sensor

### Features

- Output 4-20 mA or 2-10 Vdc
- Power supply 24 Vdc
- Ranges 0-10 ppm or 0-30 ppm
- IP65 enclosure with quick locking screws
- Digital measurement value processing incl. temperature compensation
- Internal function control with integrated hardware watchdog
- Data / measured values in micro controller of sensor unit, therefore simple exchange uncalibrated <-> calibrated
- High accuracy, selectivity and reliability
- Low zero point drift
- Hardware & software according to SIL2 compliant development process
- Easy maintenance and calibration by exchange of the sensor unit or by comfortable on-site calibration
- Duct mounting set available for sensing Nitrogen Dioxide (NO<sub>2</sub>) gas in ventilation ducts.

### Ordering

Type no.	Description
GNO2 010	Nitrogen Dioxide (NO <sub>2</sub> ) gas detector for wall mounting 4-20 mA or 2-10 Vdc, 24 Vdc, <b>0-10 ppm</b>
GNO2 030	Nitrogen Dioxide (NO <sub>2</sub> ) gas detector for wall mounting 4-20 mA or 2-10 Vdc, 24 Vdc, <b>0-30 ppm</b>

## Design features

Exchangeable Nitrogen Dioxide (NO<sub>2</sub>) gas sensor unit GNO2 including digital value processing, temperature compensation and self control for the continuous monitoring of the ambient air.

The Nitrogen Dioxide (NO<sub>2</sub>) gas sensor unit GNO2 houses a module with a micro controller, analog output and power supply in addition to the electrochemical sensor element including amplifier.

The micro controller calculates a linear 4-20 mA or 2-10 Vdc signal out of the measurement signal and also stores all relevant measured values and data of the sensor element.

Calibration is done either by simply replacing the sensor unit or by using the comfortable, integrated calibration routine directly at the system.

## Application

Nitrogen Dioxide (NO<sub>2</sub>) Detectors are used in applications such as bus- and truck garages, underground garages, road tunnels, engine repair shops, tunnels, engine test benches, shelters, mountain cavities, loading bays with diesel-engined vehicles.

Nitrogen Dioxide (NO<sub>2</sub>) Detectors are used to warn when the quantity of harmful gases reaches an unhealthy level.

Nitrogen Dioxide (NO<sub>2</sub>) Detectors are used to ensure that the management of ventilation is done the best and most profitable way, ie. according to fresh air requirements.

When the concentration of Nitrogen Dioxide (NO<sub>2</sub>) Detectors becomes too high, the fans starts automatically and stops again when the Nitrogen Dioxide (NO<sub>2</sub>) concentration has down to the predetermined level.

Nitrogen Dioxide (NO<sub>2</sub>) Detectors equipped with electrochemical Nitrogen Dioxide (NO<sub>2</sub>) sensor.

Due to the standard analogue signal the Nitrogen Dioxide (NO<sub>2</sub>) detector is compatible with any electronic analogue control, DDC/PLC control or automation system.

## Duct Mounting

Duct mounting set for sensing Nitrogen Dioxide (NO<sub>2</sub>) gas in ventilation ducts.

The duct mounting set DMS 300G includes:

- 300 mm long duct probe with neoprane gasket on the duct flange for good sealing into the duct.
- 2 x 1 meter silicone hose
- Plug-connector to the Nitrogen Dioxide (NO<sub>2</sub>) gas sensor head.



Duct Mounting Set DMS 300G



Duct Mounting Set DMS 300G assembled with Nitrogen Dioxide (NO<sub>2</sub>) Gas Detector GNO2

**Technical Data**

<b>Gas type</b>	Nitrogen Dioxide (NO <sub>2</sub> )
<b>Detector element</b>	Electrochemical
<b>Power supply</b>	16 -29 Vdc, reverse-polarity protect
<b>Power consumption</b>	50 mA, max. (1.7VA for 24V)
<b>Analog output signal</b>	Proportional, overload and short-circuit proof, load ≤ 500 Ohm for current signal, ≥ 10kΩ for voltage signal 4-20 mA or 2-10V = measuring range 3.2 <4 mA or 1.6-2V = under range >20-21.6 mA or 10-10.8V = over range 2.5 mA or 1.25V = fault >21.8 mA or 10.9V = fault high
<b>Detector coverage</b>	400 m <sup>2</sup> garage application, as rule of thumb
<b>Measuring range</b>	See ordering codes
<b>Accuracy</b>	±0.5 ppm
<b>Resolution</b>	2 ppm
<b>Repeatability</b>	< ± % sig. 2
<b>t<sub>90</sub> Time (time allowed for sensor to detect 90% of existing gas conc.)</b>	≤ 25 secs.
<b>Zero-point variation</b>	±0.2 ppm
<b>Drift (zero)</b>	<1 % signal/month
<b>Drift (Gain)</b>	<2 % signal/month
<b>Temperature range</b>	-20°C to +50°C
<b>Humidity range, non-condensing</b>	15 to 95% r.H.
<b>Sensor life time</b>	24 months
<b>Relative gas density</b>	1.59 (Air = 1)
<b>Mounting height</b>	0.2 meter above floor
<b>Storage temperature</b>	5°C to 30°C
<b>Calibration interval*</b>	12 months
<b>Pressure range</b>	Atmospheric ± 20 %
<b>Storage time</b>	6 months

**Cont. Technical Data**

<b>Enclosure colour</b>	White
<b>Dimensions (W x H x D)</b>	110 x 85 x 60 mm, excl. sensor unit and cable gland
<b>Weight</b>	Ca. 0.2 kg
<b>Protection class</b>	IP 65 incl. gas sensor unit
<b>Pre-embossed entries for cable / sensor unit</b>	PG 13.5
<b>Conformity to</b>	EN 50271 EN 601010-1 ANSI/UL 61010-1 CAN/CSA-C22.2 No.61010-1

\* Manufacturer recommended calibration interval for normal environmental conditions.

**Wiring**

<b>1</b>	24 Vdc supply
<b>2</b>	0 Vdc
<b>3</b>	4-20 mA output

For output 2-10 Vdc connect the supplied 500 ohm resistors between terminal 2 and 3

### Cross Sensitivity

(The sensor reacts differently to the following gases)

Gas	Concentration ppm	Reaction ppm
Chlorine, Cl <sub>2</sub>	1	1
Ethanol, C <sub>2</sub> H <sub>6</sub> O	100	0
Ethylene, C <sub>2</sub> H <sub>4</sub>	500	0
Carbon monoxide, CO	400	0
Carbon dioxide, CO <sub>2</sub>	5000	0
Sulphur dioxide, SO <sub>2</sub>	30	-0.6
Hydrogen sulphide, H <sub>2</sub> S	30	-25
Nitrogen monoxide NO	50	0
Hydrogen, H <sub>2</sub>	1000	0

The table doesn't claim to be complete.  
 Other gases, too, can have an influence on the sensitivity.  
 The mentioned cross sensitivity data are only reference values valid for new sensors.

### Installation Guide lines

for Carbon Monoxide (CO) gas detectors and Nitrogen Dioxide (NO<sub>2</sub>) gas detectors in underground garages, parking houses and tunnels.

On this link:

<http://www.ventilationcontrolproducts.net/guide-lines-co-and-no2-gas-detectors>