



NO2C standard enclosure



NO2C enclosure with options
orange and red warning lights

Features

- **Integrated (built-in) NO₂ sensor / detector**
(Electro chemical sensor type)
- **Measuring ranges**
0-10 ppm, 0-20 ppm or 0-30 ppm
- **LCD display to show actual in ppm**
- **Status LED indication**
Normal operation - Fault - Alarm 1 - Alarm 2
- **Keyboard**
4 push-button - menu-driven
- **Internal buzzer**
- **(0)2-10 Vdc or (0)4-20 mA output, jumper selectable**
- **2 x relay alarm outputs**
Alarm relay 1 for NO₂ gas alarm level 1
Alarm relay 2 for NO₂ gas alarm level 2
- **2 x binary outputs**
- **4-20 mA input for external CO or NO₂ detector**
- **Reverse polarity protected, overload-proof and short-circuit-proof**
- **Continuous monitoring**
- **Long life expectancy**

Description

Gas Central with built-in detector for Nitrogen Dioxide (NO₂), NO2C-series 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.

Gas Central with built-in detector for Nitrogen Dioxide (NO₂), NO2C-series are used to warn when the quantity of harmful gases reaches an unhealthy level.

NGas Central with built-in detector for Nitrogen Dioxide (NO₂), NO2C-series 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 (NO₂) becomes too high, the fans starts automatically and stops again when the Nitrogen Dioxide (NO₂) concentration has down to the predetermined level.

The NO2C-series have a built-in electrochemical Nitrogen Dioxide (NO₂) sensor.

Ordering

Gas Central with built-in sensor / detector for Nitrogen Dioxide (NO₂)

Type no.	Range
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NO2C 010	0-10 ppm
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NO2C 020	0-20 ppm
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NO2C 030	0-30 ppm
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Important notes before ordering:

The recommended storage life is up to 3 months unpowered for NO2C,

Nitrogen Dioxide (NO₂) detectors are manufactured on request.

As the storage life for Nitrogen Dioxide (NO₂) detectors NO2-series is up to 3 months unpowered, we want pre-payment before process the order to production, this to avoid any cancellation of order.

Delivery time is normally 4 weeks after receipt of payment.

Options (examples)

Type no.	Description
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PR1	1 power relay, pot.free 230 Vac, 5A
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PR2	2 power relays, pot.free 230 Vac, 5A
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PR3	3 power relays, pot.free 230 Vac, 5A
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LFL	LED-flashing light in red (needs 1 open collector output)
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WLO	Warning light orange, 24 Vdc, 5W
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WLR	Warning light red, 24 Vdc, 5W
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DMS3	Duct mounting set
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PSU 230	Power supply 230 Vac
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HEA3	Heating
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BPA	Battery pack
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MOD	Modbus RS485 RTU protocol
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**Technical data****Electrical**

Power supply	18-28 Vac/dc, reverse polarity protected
Power consumption (without options)	100 mA, max. (2.5 VA)
Analog output, current or voltage selectable	0(4)-20 mA, load < 500 ohm 0(2)-10 Vdc, load > 50 kohm overload-proof and short-circuit-proof
Alarm relay (1)	30 Vac/dc 0.5 A, potential-free, SPDT
Alarm relay (1)	30 Vac/dc 0.5 A, potential-free, SPNO/SPNC
Binary output (2)	30 Vdc / 0.05 A, open collector output
Analog input	4-20 mA overload-proof and short-circuit-proof, input resistance 200 ohm
Voltage for ext. analog transmitter	24 Vdc max. load 50 mA

Visualisation

Display	Two lines, 16 characters each
Status LED (4)	Normal operation- Fault- Alarm1- Alarm 2
Operation	4 push-buttons - menu-driven

Buzzer (internal)

Acoustic pressure	83 dB (A) (distance 200 mm)
Frequency	2300 Hz

Gases

Internal sensor	See ordering
External transmitter	Toxic gases, Ex gases, Freons, temperature, humidity, pressure, etc.

Operating environment

Humidity	15 to 95 % RH non-condensing
Working temperature	-10°C to +50°C
Storage temperature	+5°C to +30°C
Pressure range	Atmospheric ± 10 %

Physical

Enclosure plastic	Polycarbonate
Flammability	UL 94 V2
Enclosure colour	RAL 7032 (light grey)
Dimensions	130 x 130 x 75 mm (for standard plastic)
Weight	Approx. 0.6 kg
Protection class	IP 65
Installation	Wall mounting
Cable entry	Standard 3 x M 20
Wire connection	Screw type terminal, min. 0.25 mm ² (24 AWG) max. 2.5 mm ² (14 AWG)

Guidelines

EMC Directives 2004/108/EC
Low Voltage Directive 2006/95/EC
EN 61010-1:2010
ANSI/UL 61010-1
CAN/CSA-C22.2 No. 61010-1
CE

Warranty

1 year on material (without sensor)

NO2 sensor data

Sensor element	Electrochemical, diffusion
Accuracy	+/- 0.2 ppm
Repeatability	< 2% of reading
Long term output drift	< 12% signal loss/year
Response time	t90 < 25 seconds
Sensor life expectancy	4 years, normal operation environment
Sensor coverage	200 m ² to 250 m ² (recommended)
Mounting height	0.2 above floor

Technical data - Options

Power supply 230 Vac 90 to 250 Vac, 50/60 Hz, 0.5 A

Power relay
Contact rating 230 Vac, 5 A, potential-free, change-over contact

Emergency power supply Supply duration 60 Min., maintenance-free

LED flashing light IP65, LED, 3500 lm.

Warning light

Power supply 18-28 Vac/dc
Consumption 45 mA, max. (1.2 VA)
Protection class IP 65

Warning horn

Acoustic pressure 87 dB (A) (distance 1000 mm)
Frequency 3500 Hz
Power supply 18-28 Vac/dc
Consumption 6 mA, max. (0.15 VA)

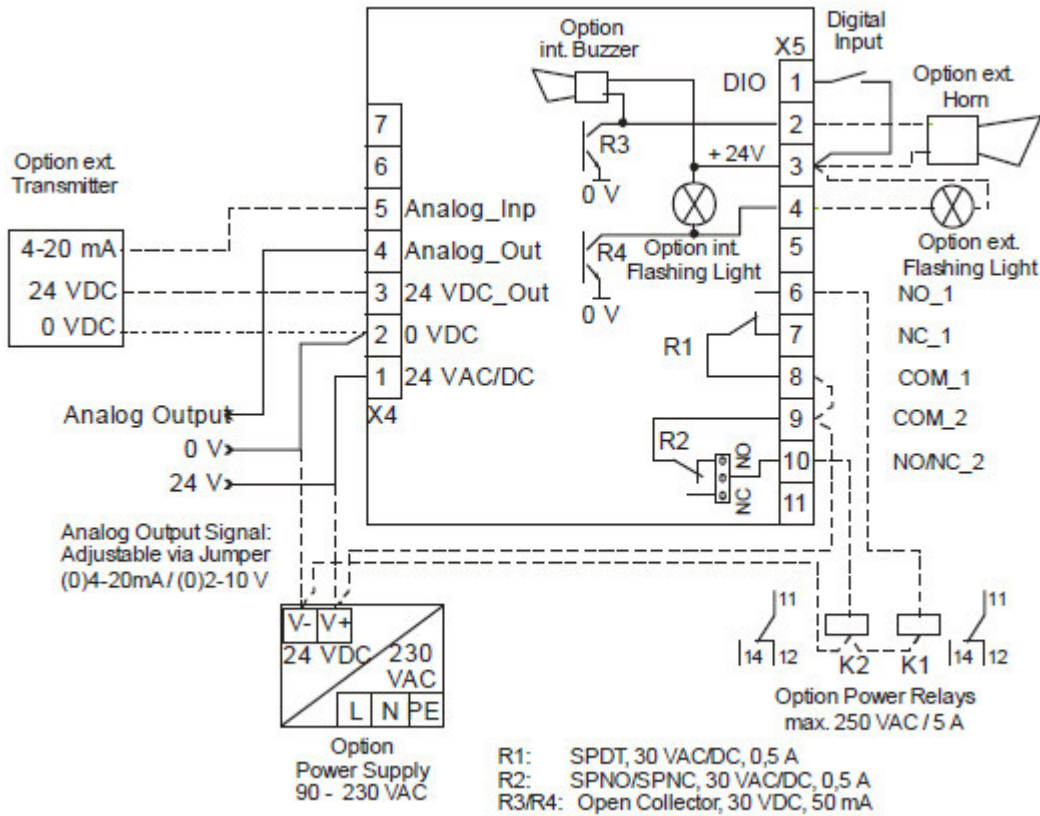
External multi-sound horn

Acoustic pressure 85 -100 dB (A) (depending on sound type)
Sound types 28
Power supply 18-28 vdc
Consumption 6 mA, max. (depending on sound type)

Heater

Temperature controlled 3°C ±2°C
Ambient temperature - 30°C
Power supply 18-28 Vac/dc
Power consumption 0.5 A; 12 VA

Wiring



The alarm outputs R3 and R4 are designed as open collector outputs.
Warning light / horn combination units with common ground can therefore not be connected!

LED-flashing light not possible in combination with warning light.

Internal buzzer is initially a standard function.
if using any other function than internal buzzer on alarm output R3,
then it is not possible to have internal buzzer.



Energy savings in Parking Garages = Money Box

There is a large number of parking garages in which the ventilation fans run continuously.

Installation of Nitrogen Dioxide (NO₂) Detectors in air conditioning and ventilation systems should be high on the list of energy saving measures for any project containing an enclosed parking garage.

Coverage and mounting height:	
Sensor coverage	200 m2 to 250 m2 (recommended)
Mounting height	0.2 above floor

Duct type:	
Gas inlet	Via a sampling pipe/ connection tube
Flow speed	Min. 5000 m/h, Max. 20,000 m/h
Duct diameter (ca.)	Min. 0.1 m, max. 1.0 m
Length of sampling pipe	250 mm, adaptable to the duct diameter by cutting to lengths: 192, 133 or 77 mm
Tube length	2 x 1000 mm
Mounting	Arrow at the sampling set in flow direction. Always mount in the middle of the duct. Keep a minimum distance of 1000 mm to duct bends etc.

**Gas Central with built-in
Gas Detector for Nitrogen Dioxide (NO₂)
NO2C-series have 4-20 mA input
for external CO or NO2 detector**

NO2C

External CO or NO2 detector

We reserve the right to make changes in our products without any notice which may effect the accuracy of the information contained in this leaflet.