



Warsaw

GENERAL SPECIFICATION

**CARBON MONOXIDE DETECTOR**

with EXCHANGEABLE, INTELLIGENT SENSOR

**WG-22.N...**

version U4

**PURPOSE**

The WG-22.N microprocessor-controlled detector of carbon monoxide is used for continuous monitoring of CO levels in air. The monitoring is performed in premises where the gas is likely to occur, through periodic measuring of CO levels in the surrounding air. At the moment when the strictly determined threshold levels are exceeded, visual and acoustic alarms of the detector are engaged and its control outputs are activated.

WG-22.N is equipped with easily exchangeable, intelligent sensor = LOW OPERATING COSTS.



**USE**

- Closed garages and underground parking lots – ventilation control
- Boiler rooms with furnaces fuelled by solid or liquid fuels
- Gas-fuelled boiler rooms
- interchangeability with WG-2.L...
- Production buildings where CO is likely to occur (technological processes);
- Permanently manned premises adjacent to boiler rooms
- Premises with equipment fuelled by coke-oven gas

**FEATURES**

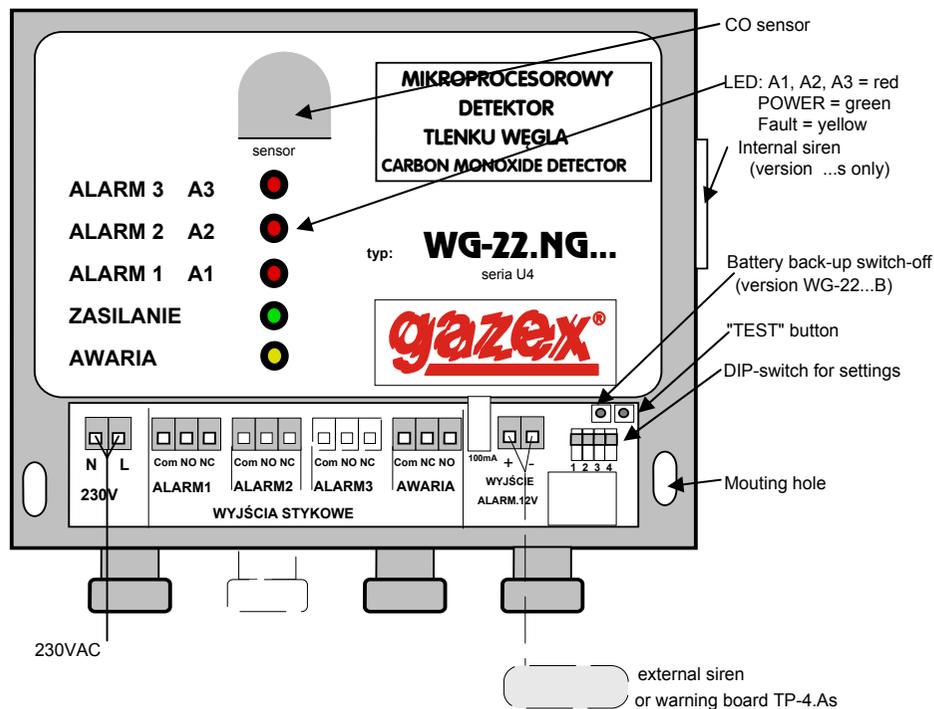
- Selective measurement of carbon monoxide levels even at extremely low levels; easily exchangeable sensor unit
- Built-in microprocessor controlling all functions of the detector = reliability, work stability, temperature compensation circuit, fully automatic unit
- Gas detector + power supply + siren + control unit – all in one solid case, IP43
- Two (or three) independent alarm thresholds calibrated to factory standards or tailored to customer's requirements
- FAULT dry contact output triggered by detector failure, blown fuse or power supply failure
- 12VDC alarm output to control external sirens or lamps
- 12VDC power supply – model WG-22...A; option: 24VAC/DC
- optional: built-in battery back-up (up to 6h) – model WG-22...B

**TECHNICAL SPECIFICATION**

Model	WG-22.N	WG-22.NG
Supply voltage	230VAC (190 - 253V), 50Hz, also version ...B ver. ...A: 12VDC (10-16V); ver. ...A24: 24VAC/DC (12-30V)	
Power consumption	max 5W (version ...A - max 4W)	
Operating temperature	-10°C ... +45°C recommended -20°C ... +50°C allowable periodically (<1/12h)	
Humidity	30% ... 90%RH	
Gas sensor	Semiconductor type, carbon filter; EXCHANGEABLE estimated live time in the clean air – approx. 10 years	
Detected gases	Carbon monoxide, range: 20 - 1000 ppm	
Interfering gases	H <sub>2</sub> (>100ppm), alcohols (>1%vol.), O <sub>2</sub> deficiency (<18% vol.), fast humidity rise	
Measuring method	diffusion, periodically – every 20s, µP-controlled	
Alarm outputs	2 (3) levels, A1, A2, (A3)	
Alarm settings	A1 = ~20 ppm (15min TWA) A2 = 100 ppm (15min TWA); A3 > 250 ppm	
Accuracy of set thresholds	± 15% for A2 @ 20(-2/+5)°C, 65(±10)%RH, 1013(±30)hPa, >72h sup.	
Thermal stability (A2)	± 15% at 0°C ... 40°C	
Long-term stability	± 20% per year but no more than ±30% per 3 years	
Alarm indicators optical:	LED - A1, A2, A3 = red, FAULT (AWARIA) = yellow	
acoustic:	A1:	optionally* (version WG-22...s)
(90dB/1m)	A2, A3:	optionally*(version WG-22...s)
Outputs	output delay (time of Alarm)- ~2 minutes or 20s*	
NAP.12V:	voltage (12VDC, < 0,1A) for A1 or A2/A3*	
ALARM 1:	---	Relay (< 4A, 250VAC)
ALARM 2:	---	Relay (< 4A, 250VAC)
ALARM 3:	---	Relay (< 4A, 250VAC) v...NG3
FAULT (AWARIA):	Relay (< 4A, 250VAC)	
Dimensions, weight	165 x 190 x 96 mm, B x H x D (with glands); 0,6kg	
Enclosure	highly impact-resistant ABS , IP43	

\* – Settings can be made by internal DIP-switch

## ELEMENTS OF WG-22.N



## SELECTING TABLE

	230VAC supply	12VDC supply	Relay A1	Relay A2	Relay A3	Relay FAULT	12VDC Output	Internal Siren	Internal Back-up
WG-22.N	✓					✓	✓		
WG-22.NAs		✓				✓	✓	✓	
WG-22.NBs	✓					✓	✓	✓	✓
WG-22.NG	✓		✓	✓		✓	✓		
WG-22.NGs	✓		✓	✓		✓	✓	✓	
WG-22.NGA		✓	✓	✓		✓	✓		
WG-22.NGB	✓		✓	✓		✓	✓		✓
WG-22.NGBs	✓		✓	✓		✓	✓	✓	✓
WG-22.NG3	✓		✓	✓	✓	✓	✓		
WG-22.NG3A		✓	✓	✓	✓	✓	✓		
WG-22.NG3B	✓		✓	✓	✓	✓	✓		✓

## HAZARDS

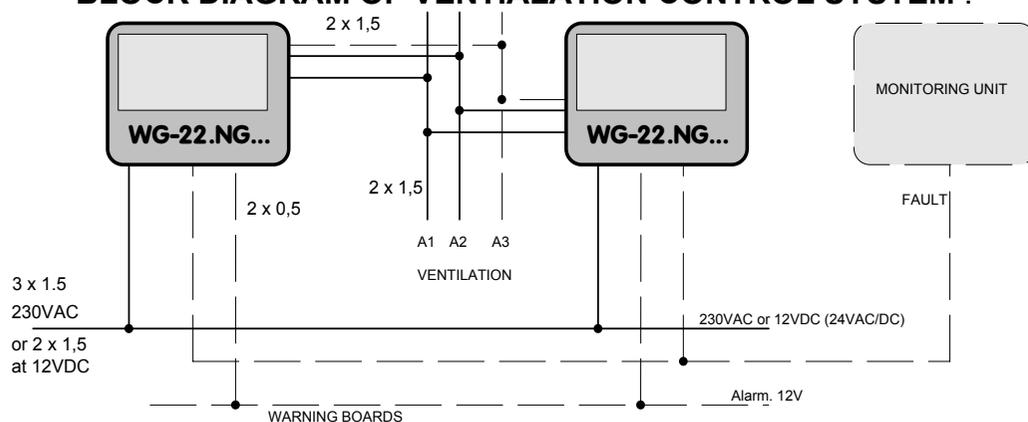
**CARBON MONOXIDE (CO)** is a gas easily absorbed by human body. Through the lungs it reaches the blood vessels, where it binds permanently to hemoglobin. High levels of CO in inhaled air as well as prolonged inhalation result in insufficient supply of oxygen to the brain and to the rest of the body and can lead to loss of consciousness or prompt death!!!

**CARBON MONOXIDE** is a colorless and odorless gas undetectable by human senses. Slightly lighter than air, susceptible to convection movements and easily mixing with air, it is extremely hazardous to human HEALTH and LIFE.

### Toxic symptoms developed by stationary person exposed to Carbon Monoxide

CO in air [vol. %]	Inhalation time and toxic symptoms developed
0.02 %	Slight headache within 2 - 3 hours
0.04 %	Frontal headache within 1 - 2 hours, becoming widespread in 2.5 - 3.5 h
0.08 %	Dizziness, nausea and convulsions within 45 min, Insensible within 2 h
0.16 %	Headache, dizziness and nausea within 20 minutes, DEATH in 2 hours
0.32 %	Headache, dizziness and nausea within 5 - 10 minutes, DEATH in 30 minutes
0.64 %	Headache, dizziness within 1 - 2 minutes, DEATH in 10-15 minutes
1.28 %	DEATH in 1-3 minutes

## BLOCK DIAGRAM OF VENTILATION CONTROL SYSTEM :



**LIFE IS SAFE WITH US!**

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PRODUCER:

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**GAZEX**  
 Baletowa 16, PL 02-867 Warsaw, POLAND  
 Tel: +48 22 644 2511 Fax: +48 22 641 2311  
 gazex@gazex.pl www.gazex.com

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