gazex®
Warsaw

DIGITAL GAS DETECTOR
with EXCHANGEABLE SENSOR

WG.EGx

ver. [W3x]

PURPOSE

The WG.EGx detectors are used for continuous monitoring of specific gases in closed spaces. Monitoring is performed by periodic measuring the concentration of gas in the ambient air. At the moment when the strictly determined threshold level(s) are exceeded, visual alarms of the detector are engaged and its control outputs and siren are activated.

WG.EGx is equipped with the easily exchangeable sensor = LOW OPERATING COSTS.

The gas detection system build with WG.EGx detectors is very economical as well as extreme simple in mounting.

USE

- closed garages and underground parking lots – ventilation control
- boiler rooms with furnaces fuelled by solid or liquid or gas fuels
- rooms with cooling equipment, air- conditioning or heat pumps
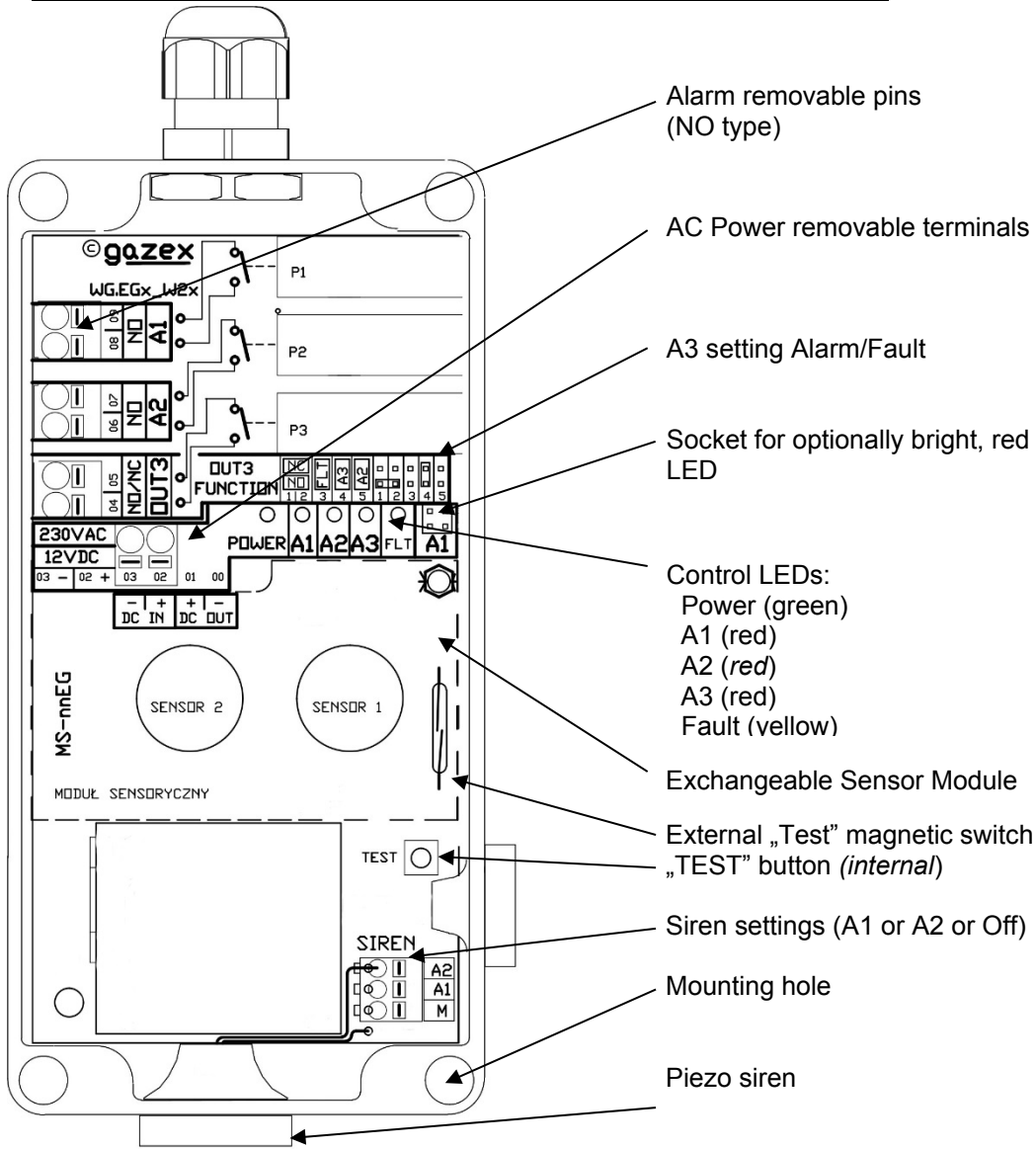- loading zones for trucks
- oxygen therapy rooms

FEATURES

- Selective measurement of CO or methane or CO_2 at low levels or excess O_2
- 1, 2 or 3 independent alarm thresholds calibrated to factory standards or tailored to customer's requirements
- Easy exchangeable sensor unit = LOW OPERATING COSTS
- 3 standard relay outputs (*NO* type), built-in siren and optionally terminals for external siren
- Removable terminals with a self-locking connectors = easy and fast system set-up
- Built-in microprocessor controlling all functions of the detector = reliability, work stability, temperature compensation circuit, fully automatic operation
- Gas detector + power supply + control unit + siren = all in one solid case, splash proof (IP54)
- Option: 12 or 24 VDC power supply

TECHNICAL SPECIFICATION

Supply voltage	230 VAC (±10 %), 50 Hz; *ver. WG-nn.EGx/A: 12 VDC (9,0 ÷15 V);* *optionally WG-nn.EGx/A24: 24 V DC/AC (12÷30 V)*
Power consumption	max 3 W (ver. *WG-nn.EG/A*: max 0,14 A @ 12 V)
Gas sensor	semiconductor type; electrochemiacal type for WG-9E.EGx; NDIR Infra-Red type for WG-8R8.EGx and WG-28.EGx; exchangeable; estimated lifetime in the clean air ~10 y (9E: 3 y)
Operating temperature	-10°C … +45°C recommended -25°C … +50°C allowable *(extended measurement error)*
Detected gases (models WG-*nn*.EGx)*	11: natural gas (CNG), 14: methane (selective), 15: propane-butane (LPG), 22: carbon monoxide, 61: HFC (Freons), 9E: excess oxygen, 8R8: CO2, 28: carbon monoxide + CO2
Interfering gases	*semiconductor sensor:* HC, hydrogen, alcohol (high concentration); model: WG-14.EGx - hydrogen only; O_2 deficiency (<18% vol.); high, sudden humidity increase; *Infra-Red sensor* = none
Protected aera	~ 200 m² / detector (*in closed spaces*)
Alarm settings for models WG-*nn*.EGx *	*11,14,15*: A1 = 10 %, A2 = 20 %, A3 = 30 % LEL; *22*: A1 = 30 ppm, A2 = 60 ppm – CO (15 min.TWA), A3 = 150 ppm (>1 min.) (according to *EN 50545-1*); *8R8,28* A1 = 1000, A2 = 1400, A3 = 1800 ppm CO2; *9E*: A1 = 22,5%, A2 = 23,5%, A3 = 25% - Oxygen; *61*: A1 = 1000, A2 = 2000, A3 = 2500 ppm R410A (or R407C or R134a); or tailored to customer's requirements
Thresholds	Calibration conditions @ 20(-2/+5)°C, 65(±10)%RH, 1013(±30) hPa, >72 h supply
Accuracy	±15 % for alarm A3
Thermal stability	±20 %, at 0°C ÷ +40°C
Long-term stability	±20 %/ year, but better than ±30 % per 3 years
Calibration period	< 36 months (recomended), (<6 months for WG-9E.EGx)
Optical alarm indicators	LEDs: A1, A2, A3 = red, Fault = yellow; socket for optionally extra red LED for A1
Acoustic alarm	built-in piezo siren, 75 dB/1m for A1 or A2 (*can be switched off*); socket for external siren (12V/80mA)
Outputs:	A1, A2, A3 - relay w/ *NO* contact, optionally: A3 as A2 or FAULT w/ *NC* contact; max 2 A (resistive load), max 250 VAC or 30 VDC
Dimensions, weight	195 x 80 x 68 mm, H x W x D (with glands); ~0,4 kg
Enclosure	ABS/PC, IP54

ELEMENTS OF WG.EGx

Alarm removable pins (NO type)

AC Power removable terminals

A3 setting Alarm/Fault

Socket for optionally bright, red LED

Control LEDs:
 Power (green)
 A1 (red)
 A2 (*red*)
 A3 (red)
 Fault (vellow)

Exchangeable Sensor Module

External „Test" magnetic switch
„TEST" button *(internal)*

Siren settings (A1 or A2 or Off)

Mounting hole

Piezo siren

Labels on unit: © gazex, WG.EGx_W2x, P1, P2, P3, A1, A2, OUT3 FUNCTION, 230VAC, 12VDC, POWER A1 A2 A3 FLT A1, DC IN, DC OUT, MS-nnEG, SENSOR 2, SENSOR 1, MODUŁ SENSORYCZNY, TEST, SIREN, A2 A1 M

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BLOCK DIAGRAM OF GAS CONTROL SYSTEM

WARNING BOARDS

TP-4.ds   TP-4.s

3x 0,75   3x 0,75   *junction box*   Sz   230VAC
Sz   3x 0,75
2x 2,5
(or 12VDC
or 24DC/AC)

S   S   S   FUSE / SWITCH

...   STYCZNIKI

WG.EGx   WG.EGx   WG.EGx   ALARM/FAULT OUTPUTS

TP-4.s   WARNING BOARD

3x 0,75

VENTILATION SYSTEM   2x 0,75   3x 0,75
or BMS   7x 0,75   FUSE/SWITCH   230VAC
(10x 0,5)

(3x 0,5)

SL-32
EXTERNAL SIREN/LAMP (option)

WG.EGx

INDEPENDENT CONTROL UNIT
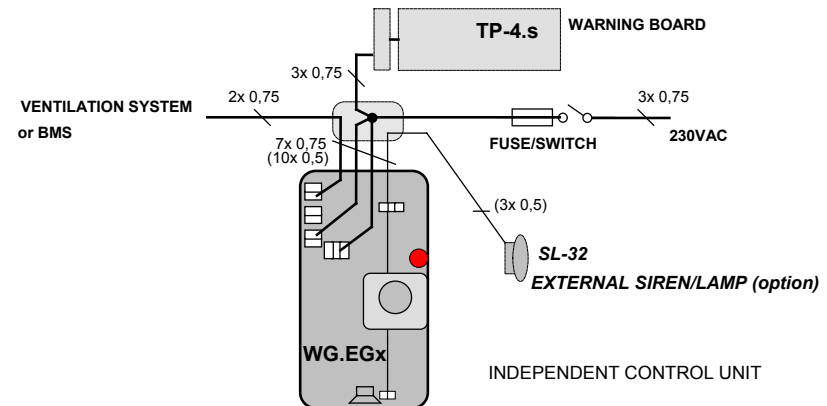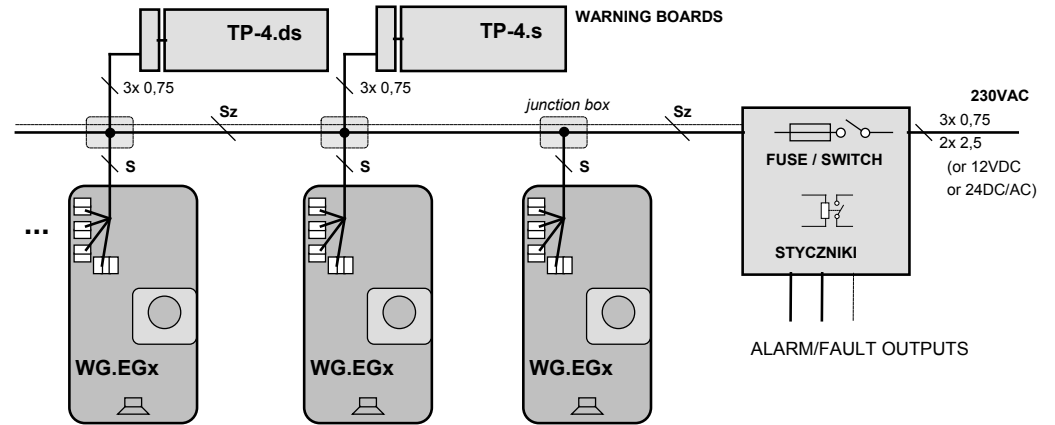
Recommended connection cables in the system with WG.EGx

You can use single conductor wire, stranded wire or flexible cables

Cable selection table	System with separated terminals [*No of wires*] x [*mm²*]	
MODEL:	**WG-*nn*.EGx ***	**WG-*nn*.EGx/A(24)**
2-treshold System		
Cable **Sz**	7x (0,75 ÷ 1,5)	2x 2,5 + 2(4)x 0,75
Cable **S**	7x (0,75 ÷ 1,5)	4(6)x (0,75 ÷ 1,5)
System power supply	230 V AC	12 V DC (or 24 V DC)

*- WG-nn.EGx: nn= 11 (natural gas, CNG), 14 (methane - selective); 15 (propane-butane, LPG);
 22 (carbon monoxide); 8R8 (CO2); 28 (CO+CO2); 9E (excess oxygen); 61 (Freons – HFC)