



Security systems GARDI

ZAMEL offers a wide range of carbon monoxide, gas, and smoke detectors which warn against any related hazards that may be present in the building.

Carbon monoxide is a highly toxic colourless and odourless gas that easily spreads in the air. It is produced as a result of incomplete combustion of wood, oil, gas, petrol, paraffin, propane, coal and diesel oil. The incomplete combustion of these substances may result from several factors. For example, it may be caused by the lack of fresh air reaching the appliance where the combustion is taking place. It may also be caused by fouling, wear and tear or improper adjustment of a gas burner, or by closing the furnace or kitchen range too early. Blocked chimneys or air ducts are another factor provoking the accumulation of carbon monoxide in rooms. Carbon monoxide enters the human body through the respiratory system to be then absorbed into the cardiovascular system. When in the respiratory system, carbon monoxide binds with haemoglobin 210 times faster than oxygen, thus obstructing the inflow of air to the body. The consequences of carbon monoxide poisoning may include irreversible damage to the central nervous system, coronary heart failure, infarction or even death. Regular check of appliances that produce carbon monoxide, like ovens, boilers, gas water heaters, etc., and of air duct blockage are basic preventive actions that limit the risk of carbon monoxide poisoning. Carbon monoxide is a highly toxic gas that is also completely imperceptible to people. Therefore it is so important to install

appropriate detectors, which are the only way of detecting a dangerous concentration of this gas. ZAMEL's carbon monoxide detectors efficiently detect the associated risk. What is important, all ZAMEL detectors are tested in a special chamber prior to sale. The product is accompanied with a certificate declaring its correct performance, i.e. it successfully detects the hazardous carbon monoxide concentration level of 300 ppm within up to three minutes max.

Another hazardous gas found in household installations is natural gas. It is colourless and has a slight odour and because it is lighter than air, it accumulates in higher areas in rooms. Combined with oxygen, it creates a highly explosive mixture. Therefore, it is crucial to inspect regularly appliances like ovens, boilers, gas water heaters, etc., as well as to check whether air ducts are not blocked. Another dangerous gas is propane/butane (LPG), even though it is heavier than air, it becomes explosive just like natural gas when mixed with oxygen. Therefore, it is essential to use dedicated detectors to alarm the occupants about any gas leaks.

ZAMEL offers detectors for continuous monitoring the presence of explosive gases like natural gas and LPG in air. If the device detects a higher concentration of the gas (about 10% LEL*), it sets off a visual and sound alarm.

*LEL – Lower Explosive Limit

Smoke, carbon monoxide and gas detectors 484

Smoke detector, battery operated CDB-01 484

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Gas detector CGZ-01 486

Carbon monoxide and gas detector CTG-01 487



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exta life

supla

exta

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etero

gardi

Smoke detector, battery operated CDB-01



CDB-01 smoke detectors are used to efficiently alert people in the building where the fire occurred. This makes it possible to extinguish a fire in its initial phase and secure leaving endangered areas safely.

Features

- detection of fire hazard based on the presence of smoke in the air,
- battery operated,
- optical signalling,
- sound signalling,
- low battery signalling,
- button to test the technical condition of the detector and if need be to mute the alarm.

Technical data

Power supply: battery 9 V type: 6F22
 Detector: photoelectric
 Sound volume: 85 dB
 Protection level: IP 20
 Temperature operating range: $-10 \div 40$ °C
 Humidity operating range: up to 90% RH
 Weight: 130 g
 Dimensions: $\varnothing 103 \times 32$ mm
 Colour: white

Carbon monoxide detector CTW-02



CTW-02 sensor is used for continuous monitoring of a dangerous concentration of carbon monoxide in air. Upon detection of a dangerous concentration of device activates audible and visual alarm. It is equipped with advanced electrochemical sensor and a diagnostic system that signals the failure of the sensor and discharging the battery.

Features

- **tested in Poland**, certificate correctly detecting the concentration of 300 ppm in less than 3 minutes,
- optical signalling,
- buzzer alarm,
- signalling the end of life failure or sensor (system diagnostic).

Technical data

Power supply: 230 V AC
 Detector: semiconductor
 Sound volume: 80 dB
 Protection level: IP 20
 Temperature operating range: $0 \div 40$ °C
 Humidity operating range: 10% \div 95% RH
 Detection levels of carbon monoxide:

- 50 ppm (in less than 90 minutes)
- 100 ppm (in less than 40 minutes)
- 300 ppm (in less than 3 minutes)

 Weight: 287 g
 Dimensions: 110 x 40 x 70 mm
 Colour: white

Carbon monoxide detector, battery operated CTW-03

The CTW-03 detector is used for continuous monitoring of dangerous concentration of carbon monoxide in the air. When a dangerous concentration is detected, the device activates an acoustic and visual alarm. Thanks to its battery power supply, the device is easy to place anywhere, because we do not have to lay any installations. It is equipped with an advanced electrochemical sensor with a life span of 10 years and a self-diagnostic system that signals damage to the sensor and a discharging battery. It is additionally equipped with an LCD display showing the concentration of carbon monoxide and information messages. It also has additional functions such as memory of recorded gas concentrations and temperature measurement.



Features

- **tested in Poland**, certificate correctly detecting the concentration of 300 ppm in less than 3 minutes,
- battery operated,
- indication of discharging battery,
- temperature measurement function,
- electrochemical sensor with increased life span (10 years),
- visual alarm signalling,
- indication of damage and the end of life of the detector, (system self-diagnostic),
- an LCD display showing the current level of carbon monoxide concentration, the temperature and information messages,
- alarm sound signalling,
- memory of recorded gas concentrations.

Technical data

Power supply: 3 batteries 1,5 V type: AA
 Detector: electrochemical
 Sound volume: 85 dB
 Protection level: IP 20
 Temperature operating range: 0 ÷ 45 °C
 Humidity operating range: 0 % ÷ 90 % RH
 Detection levels of carbon monoxide:

- 50 ppm (in less than 90 minutes)
- 100 ppm (in less than 40 minutes)
- 300 ppm (in less than 3 minutes)

Weight: 130 g
 Dimensions: 140 x 65 x 35 mm
 Colour: white

Carbon monoxide detector, with built-in battery CTW-04

The CTW-04 detector has been designed for continuous monitoring of the hazardous air concentration of carbon monoxide. When the device detects hazard, it activates audible and optical alarm. The sensor has a built-in battery with 10 years life, eliminating the necessity for its replacement throughout the sensor life and it has a very compact size (it is the smallest carbon monoxide detector in the world!). The detector is equipped with an advanced electrochemical sensor (sensor life – 10 years) and a self-test system, which signals sensor damage and its end of life.



Features

- electrochemical sensor, sensor life – 10 years,
- built-in, non-removable battery, battery life – 10 years,
- very small, compact size (the smallest carbon monoxide detector in the world),
- visual alarm system,
- audible alarm system,
- sensor damage and end-of-life signal (self-test system).

Technical data

Power supply: built-in, non-removable battery
 Battery life: 10 years
 Detector: electrochemical
 Sound volume: 85 dB
 Protection level: IP 20
 Temperature operating range: 0 ÷ 45 °C
 Humidity operating range: 0 % ÷ 90 % RH
 Detection levels of carbon monoxide:

- 50 ppm (in less than 90 minutes)
- 100 ppm (in less than 40 minutes)
- 300 ppm (in less than 3 minutes)

Weight: 82 g
 Dimensions: 45 x 80 x 30 mm
 Colour: white

Gas detector CGZ-01



Gas detector CGZ-01 is used for continuous monitoring of the presence of explosive gases (natural gas and propane-butane) in the air. If an elevated gas concentration (approx. 10% LEL*) is detected, the device activates an acoustic and visual alarm, allowing for an early response from the user to prevent explosion or poisoning. The device is equipped with an advanced semiconductor sensor and an electronic self-diagnostic system indicating sensor failure.

Features

- detection of a dangerous concentration of natural gas and LPG (propane-butane) semiconductor sensor,
- power supply voltage 230 V AC,
- alarm optical signalling,
- alarm sound signalling,
- signalling the end of life failure or sensor (system diagnostic),
- alarm level of gas detection approx. 10 % LEL*.

Technical data

Power supply: 230 V AC
 Detector: semiconductor
 Sound volume: 85 dB
 Protection level: IP 20
 Temperature operating range: 0 ÷ 40 °C
 Humidity operating range: 10% ÷ 95% RH
 Weight: 141 g
 Dimensions: 120 x 85 x 32 mm
 Colour: white / black

Carbon monoxide and gas detector CTG-01

Detector CTG-01 is used for continuous monitoring of dangerous concentration of carbon monoxide and natural gas and propane butane in the air. When dangerous concentrations are detected the device activates an acoustic and visual alarm. The device is powered from the mains but thanks to the emergency battery backup will work even if the primary power supply fails. It is equipped with an advanced electrochemical sensor and semiconductor, as well as a self-diagnostic system which indicates sensor failure. It is additionally equipped with an LCD display showing the concentration of carbon monoxide and gas as well as information messages.

Features

- **tested in Poland**, certificate correctly detecting the concentration of 300 ppm in less than 3 minutes,
- semiconductor and electrochemical sensor,
- LCD screen showing current level of carbon monoxide fumes during an alarm,
- power supply voltage 230 V AC,
- additional battery back-up (9 V battery) in case of power decay,
- alarm optical and sound signalling,
- sensor failure signalling (auto-diagnostic system).

Technical data

Power supply: 230 V AC
 Battery back-up: 9 V battery, type: 6F22
 Detectors: electrochemical, semiconductor
 Sound volume: 85 dB
 Protection level: IP 20
 Temperature operating range: -10 °C ÷ 50 °C
 Humidity operating range: 20 ÷ 95% RH
 Detection levels of carbon monoxide:

- 50 ppm (in less than 90 minutes)
- 100 ppm (in less than 40 minutes)
- 300 ppm (in less than 3 minutes)

Alarm level of gas detection: 10% LEL*
 Weight: 237 g
 Dimensions: 137 x 90 x 40 mm
 Colour: white



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