CTL-02

Carbon monoxide detector

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The CTL-02 detector is designed to detect the presence of carbon monoxide in enclosed spaces.

DESCRIPTION

Purpose

Thanks to the application of a precise electrochemical detector, the detector enables signalling both the level of carbon monoxide, which is dangerous to health and life, and elevated levels which may affect well-being or, with prolonged exposure, also health.

The CTL-02 detector is not designed to detect smoke, natural gas or other flammable gases.

The detector's advanced electronic design guarantees high operational reliability and low energy consumption, which translates into the possibility of long-term operation.

The detector's mechanical design protects against tampering.

The high quality of the product is certified by the PN-EN-50291-1:2018-06 compliance certificate.

Operation

The detector start-up procedure begins when the batteries are inserted and consists of preheating the electrochemical detector in order to achieve high measurement accuracy.

This process takes 2 minutes and is signalled by:

- a single beep and the display of the symbols 888 ppm, and the battery charge indicator on the screen;
- for a further 2 minutes the detector continues to heat up, the time until the end of the operation (from 120 to 0 seconds) is shown on the display and all the lights flash;
- when the timer has finished, the display goes out and the detector switches to the monitoring state.

Test run

After starting up the detector, it is recommended to check the correct operation by pressing the "TEST" button; if a quadruple beep sounds, all indicators turn on four times and the LCD screen shows "888", this indicates that the detector is functioning correctly.

Monitoring

The operation of the detector (monitoring of carbon monoxide levels) is indicated by the green power indicator flashing every 60 seconds.

Alarm

If a dangerous concentration of carbon monoxide is detected, an alarm will sound, consisting of:

- a pulsating beep, repeated every 5 seconds;
- a display of the measured carbon monoxide level on the LCD screen;
- flashing "ALARM" indicator.

During the alarm it is mandatory to open the windows for ventilation, leave the room immediately and notify the relevant services.

The time from the detection of the presence of carbon monoxide to the notification of the alarm depends on the level of carbon monoxide exceedance . Details are shown in the table of concentrations below.

Carbon monoxide (chad) - information

Carbon monoxide (CO or chad) is a toxic, colourless and odourless gas and is therefore difficult to detect. Once in the body, carbon monoxide combines with haemoglobin to form carboxyhaemoglobin, which prevents haemoglobin from combining with oxygen, causing hypoxia, which can lead to poisoning or death.

Symptoms of carbon monoxide (chad) poisoning

- " mild: faint headache, weakness, tightness in the chest;
- " severe: severe headache, nausea, muscle weakness, difficulty moving, dizziness and blurred vision;
- " very serious: spasms, loss of consciousness, coma, collapse, death.

Harmful effects on the human body

Nervous system: dizziness, headache, tinnitus, fatigue, sleep disturbances, memory loss and other symptoms of brain damage.

Cardiovascular system: electrocardiograms may indicate arrhythmia.

Mental symptoms: indifferent facial expression, slow reaction, memory loss, etc.

Motor system: muscle weakness, unsteady gait, cramps.

Respiratory system: accelerated breathing, accelerated heart rate leading to hypoxia.

Sight: blurred vision, constricted pupils.

Sources of carbon monoxide formation

Chad is produced by burning wood or coal in stoves/fireplaces, burning gas in cookers or heaters. Accumulation of the gas indoors occurs when chimneys or flues are damaged or blocked.

Carbon monoxide can also be created by improper use of equipment e.g. gas grills indoors.

Prevention of carbon monoxide poisoning

In order to prevent poisoning, rooms should be ventilated as often as possible, detectors should be installed in appropriate places to monitor the concentration of the gas in real time.

Countermeasures

When the CO concentration in the air exceeds the set alarm values, immediately open the windows to ensure air circulation in the room, check in the detector what type the alarm is and check the installation in the room. Notify the relevant services.

TECHNICAL DATA

Loudness	85 dB
Height/depth	28 mm
Diameter	115 mm
Width	0 mm
Length	0 mm
Explosion-tested version	Nie
Loudness	0 dB(A)
With voltage indication	Tak
Rated switch current	0 A
Number of contacts as change-over contact	0
Number of contacts as normally open contact	0
Number of contacts as normally closed contact	0
Supply voltage DC	3-3 V
Networkable via radio (optional)	Nie
Networkable via radiografic (standard)	Nie
Networkable via cable	Nie
Standalone	Tak
Detect toxic gas	Tak
Detect flammable gas	Tak
Detect explosive gas	Tak
Detect carbon monoxide (CO)	Tak
Degree of protection (IP)	IP40
Colour	White
Type of messaging	Optical/acoustic
Voltage type (operating voltage)	DC
Voltage type (supply voltage)	DC
Mounting method	Other
Detect ammonia (NH3)	Nie
Detect butane (C4H10)	Nie
Detect domestic gas	Nie
Detects carbon dioxide (CO2)	Nie
Detect methane (CH4)	Tak
Detect anaesthetic gas	Nie
Detect propane (C3H8)	Nie
Detect irritant gas	Nie
Supply voltage AC 50 Hz	100-240 V
With backup battery	Tak

Manual

CE declaration

Certificate