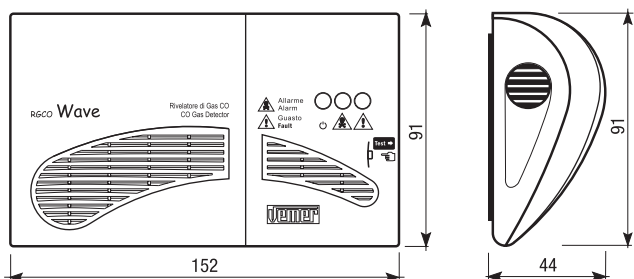
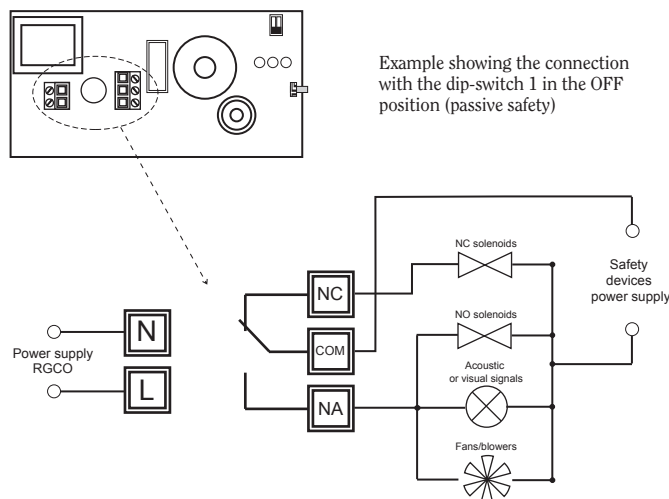


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Mod. **RGCO****DIMENSIONS****WIRING DIAGRAMS****WHAT IS CARBON MONOXIDE?**

Carbon monoxide (CO) is a poisonous gas; it is very insidious being odourless, colourless and tasteless. It is the result of the incomplete combustion of organic fuels (coal, oil, wood, fuels).

In normal conditions, in a well ventilated room where the combustion equipment is properly maintained, the carbon monoxide concentration is not dangerous. Causes of dangerous concentrations may be:

- A defective or poorly maintained piece of equipment
- A partially or fully clogged flue
- A poorly ventilated room.

Carbon monoxide is toxic because it binds to the blood haemoglobin and reduces the amount of oxygen in the body. Carbon monoxide poisoning leads to loss of consciousness (the brain receives less oxygen) and eventually to asphyxiation.

The symptoms depend on the concentration of carbon monoxide and the exposure time. Here follow some indicative values and the relevant symptoms:

200ppm	Slight headache, tiredness, dizziness, nausea after 2-3 hours
400ppm	Headache within 1-2 hours; risk of life after 3 hours
800ppm	Dizziness, nausea and convulsions within 45 minutes . Loss of consciousness within 2 hours. Death within 2-3 hours.
1600ppm	Headache, dizziness and nausea within 20 minutes. Death within 1 hour.
6400ppm	Headache, dizziness and nausea within 1-2 minutes. Death within 10-15 minutes.

**User Manual****RGCO GAS DETECTOR**

⚠ **Read all instructions carefully**

- **RGCO** is a wall-mounted carbon monoxide (CO) detector, specifically designed to carry out 1B-type actions and to operate in environment with pollution degree 2 and measure category III, in compliance with the norm EN 61010-1.

The package contains:

- an RGCO gas detector
- a mounting kit
- a label showing the sensor shelf-life
- user manual.

**SAFETY WARNINGS**

*During the installation and when operating the equipment, the following recommendations must be followed:*

- 1) The equipment must be installed by a qualified person in strict compliance with the wiring diagrams.**
- 2) Do not supply power to or connect the equipment if signs of damage are present.**
- 3) After the installation, the connection terminals should only be accessible using appropriate tools.**
- 4) The equipment must be installed and started up in compliance with the norms in force on electrical systems.**
- 5) Before accessing the terminal, make sure that the conductors have been de-energised.**
- 6) An overcurrent device must be installed upstream of the equipment in the system.**
- 7) A bipolar disconnect must be installed on the power supply line.**
- 8) Do not exceed the operating time indicated on the label.**
- 9) Install the detector in the correct position (see "Installation").**

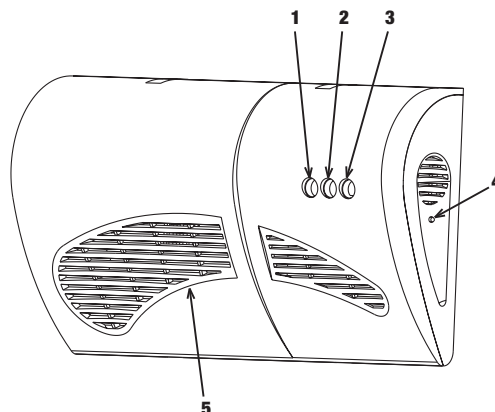
*The presence of a gas detector does not excuse performance under any rules on the characteristics, installation and operation of gas equipment, room ventilation and release of combustion products, contained in the norms and national laws in force in the affected country.*

*This device has been designed to protect individuals from the effects of exposure to carbon monoxide.  
It does not fully protect individuals with special medical conditions.  
When in doubt, contact a physician.*

Code	Model	Description
<b>VE387700</b>	RGCO	Wall-mounted CO detector

**TECHNICAL FEATURES**

- Power supply: 230Vac (-15% ÷ +10%)
- Frequency: 50/60 Hz
- Type A CO detector (with output relay)
- Output: Alarm relay 8(2)A / 250Vac
- Signal LED
  - Green: Power on
  - Red: Alarm state signal
  - Yellow: Sensor fault signal
- Acoustic alarm buzzer (min 85dBA at 1 m)
- Push-button to test the device and deactivate the alarms
- Two-position dip switch for relay logic configuration
- Alarm thresholds (as per norm EN 50291):
  - 50 ppm for 75 minutes
  - 100 ppm for 25 minutes
  - 300 ppm for 2 minutes
- Printed labels showing the sensor expiry date (month and year)
- Operating temperature: 0÷50°C
- Operating humidity: 30%÷90%, not condensing
- Storage temperature: 0÷ 50°C
- Protection grade: IP42

**LEGEND**

- 1 Power supply LED
- 2 Alarm LED
- 3 Sensor fault LED
- 4 Push-button to test the device or reset the alarm
- 5 Air slots

**DETECTOR POSITIONING****How to position the detector:**

- Install the detector overhead, approx. 20-30 cm away from the ceiling. If the detector is mounted on the ceiling, make sure it is at least 30 cm away from each wall.
- Install the detector 1 to 3 metres away from the potential carbon monoxide source.
- If a partition wall is present in the room, install the detector on the side where the potential carbon monoxide source is located.
- If the room has a tilted ceiling, place the detector on the higher wall.
- If the detector is placed in a bedroom or in rooms other than the one where the carbon monoxide source is located, place the detector near the breathing space of the people in the room.

**Do not place the detector:**

- Out of the building or in rooms that are closed or not used
- In a wet area or where the temperature exceeds the operating range of the equipment
- Directly above basins, gas stoves or near suction hoods or vent holes
- Where the airflow that reaches the detector might be hindered e.g. curtains or wardrobes
- In an area where dirt or dust might hinder the slots and prevent the correct operation of the detector
- In an area where the equipment might be accidentally hit.

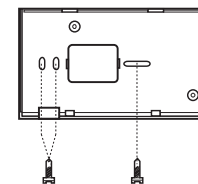
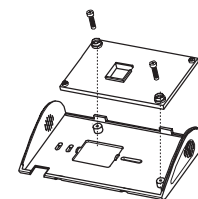
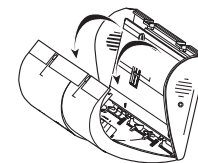
**Place the detector in the room as follows:**

- The detector should be placed in the room where the potential carbon monoxide source is also located.
- In studio flats, the detector should be placed near the person's bed.
- If the potential monoxide source is located in a room that is not normally used (e.g. the boiler room), the detector should be placed immediately out of the room, so that the acoustic signal can be easily heard.

**INSTALLATION**

Follow the installation procedure below:

- 1.** Open the device cover, by removing the screws on the top part
- 2.** Remove the electronic circuit base by loosening the two mounting screws; take care not to damage the test button on the right-hand side
- 3.** Route the power supply cables (and the cables of the auxiliary device, if any, controlled by means of the output relay) through the slots on the equipment base. Mount the detector base on the wall (or to cover the box 503) and tighten the screws included in the supply
- 4.** Put the electronic circuit base back on the detector base and tighten the screws that had been previously removed
- 5.** Connect the cables and select the operation logics by means of the dip switch
- 6.** Close the device cover and tighten the screws
- 7.** Place the label showing the detector replacement date in a well visible point on the cover.

**Switch set-up**

Two switches are located on the top right - hand side of the base; their functions are described here below:

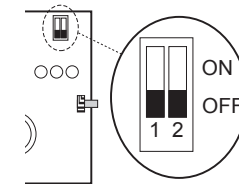
Switch 1: : Selects the relay operative logics.

- OFF: Direct operation relay  
Relay excited (C-NO) if an alarm occurs
- ON: Inverse operation relay Relay not excited (C-NC) if an alarm occurs

Switch 2: The relay can be tested during the installation, e.g. to activate the direction operation of the connected device.

OFF: Relay off if switch 1 is Off; relay on if switch 1 is On

ON: Relay on if switch 1 is Off; relay off if switch 1 is On. In this case, the "power supply" and "sensor fault" LED's blink alternatively



## OPERATION

When in operation, the RGCO can be in one of the following states.

### • Start

When switched on or after a voltage drop, the device does not work for approx. 3 seconds; this condition is signalled as follows:

- LED's: Green on, red on, yellow on
- Buzzer off
- Relay not excited.

Then the device will not operate for 1 more minute, until the sensor warms up. This state is signalled as follows:

- LED's: Green on, red off, yellow blinking
- Buzzer off
- Relay not excited.

### • Normal operating

After the start phase, if the sensor is not faulty and the CO concentration does not exceed the lower alarm threshold, the RGCO detector enters the normal operating; this condition is signalled as follows:

- LED's: Green on, red off, yellow off
- Buzzer off
- Relay not excited

When in this state, keep the button pressed for 3 seconds to enter the Test mode.

### • Warning signal: the carbon monoxide has exceeded the lower alarm threshold

If the CO concentration in the room exceeds the lower alarm threshold (44 ppm for 65 seconds and never below the reset threshold, i.e. 37 ppm), the RGCO signals this condition as follows:

- LED's: Green on, red on, yellow off
- Buzzer off
- Relay not excited

### • Alarm: carbon monoxide presence

If an alarm threshold is exceeded (see technical features), the condition is signalled as follows:

- LED's: Green on, red on, yellow off
- Buzzer on
- Relay excited

The user must strictly follow the recommendations contained in the chapter **“What to do if an alarm occurs”** of this Manual.

The buzzer can be temporarily switched off (for 5 minutes) by pressing the button on the side, thus clearing the alarm condition without having to listen to the alarm sound. After 5 minutes, if the detector is still in an alarm condition, the buzzer goes on again; it can be turned off by pressing the button. If the button is pressed repeatedly when the buzzer sound has already been turned off, the deactivation time will not change; it is always 5 minutes from the moment the sound has been turned off.

### • Alarm event stored

Any alarm condition is saved in the device memory; when the normal environmental conditions are restored (CO concentration in the environment below 37 ppm), the user can check whether an alarm occurred. The condition is signalled as follows:

- LED's: Green on, red blinking, yellow off
- Buzzer off
- Relay excited

Press the button shortly to delete the memory state: The detector goes back to the normal operating.

### • Sensor fault signal

When in normal operation, the RGCO detector regularly tests the sensor. The fault, if any, is signalled as follows:

- LED's: Green on, red off, yellow on
- Relay not excited
- The buzzer makes a 5s beep sound every hour

The buzzer can be turned off by pressing the button (if the device is turned off and then on again, press the button again to turn off the buzzer).

In this condition, the device cannot operate. Contact the technical service.

































### • Device fault signal

If the RGCO detects an operation error, the condition will be signalled as follows:

- LED's: Green on, red on, yellow on
- Relay not excited
- The buzzer makes a 5s beep sound every hour

The buzzer can be turned off by pressing the button (if the device is turned off and then on again, press the button again to turn off the buzzer).

In this condition, the device cannot operate. Contact the technical service.

	1 GREEN LED	2 RED LED	3 YELLOW LED	4 BUZZER
Start				
Warm-up				
Normal operating				
Warning signal				
Alarm				
Alarm event stored				
Sensor fault signal				
Device fault signal				

## DEVICE TEST

After installing and starting the device, a test can be carried out by keeping the button on the right-hand side pressed for at least 3 seconds. The following conditions will occur:

- The green, red and yellow LED's blink cyclically for 4 seconds following the green, red and yellow sequence
- The buzzer beeps for 1 second every 2 seconds
- The relay is excited

To exit the test condition, press the test button again; the device goes back to the normal operating.

## WHAT TO DO IF AN ALARM OCCURS

If an alarm occurs, follow the procedure below:

- Open the doors and windows to ventilate the room and let the carbon monoxide go away.
- If possible, turn off all the devices that may have caused the alarm
- Leave the room and leave the doors and windows open
- Call the gas supplier emergency number. This telephone number should be kept in a place that is easily accessible.
- Do not go back into the room until the alarm condition has been solved.
- Call the medical service immediately if any carbon monoxide poisoning symptoms are present (nausea, headache, dizziness, convulsions, etc.).
- Do not use the equipment that caused the alarm without first having it checked by a qualified person, in compliance with the national norms.

## CLEANING AND MAINTENANCE

The RGCO has been calibrated by the manufacturer and requires no special maintenance. However, the slots on the front panel of the device must be kept clean, so that the air can flow. Do not use any chemical agents, polishers or bleach for cleaning purposes. Clean using a wet cloth.

## REFERENCE STANDARDS

Compliance with the EU Directives  
**2006/95/EC** (Low Voltage)  
**2004/108/EC** (Electromagnetic compatibility)  
 is declared in accordance with the Harmonised Norm:

- **EN 60335-1**
- **EN 50270**
- **EN 50291**