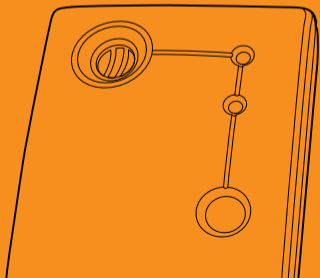


*FireAngel*<sup>®</sup>

CO-808 User Manual

**Carbon Monoxide  
Poisonous Gas  
Alarm**



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# **Introducing Your FireAngel Carbon Monoxide Detector**

Congratulations! You've made a wise investment in an innovative product and your personal safety. The FireAngel is one of a new generation of domestic life safety products from FireAngel Limited, which combines the latest technology and innovative design to provide an aesthetically pleasing and effective contribution to your home safety.

The FireAngel range of products is constantly being improved and expanded. Please visit [www.FireAngel.co.uk](http://www.FireAngel.co.uk) to find out about the latest additions to our product range.

FireAngel manufactures one of the most technologically advanced carbon monoxide detectors in the world.

## Features

- an advanced electrochemical sensor designed to accurately measure low levels of carbon monoxide (CO) providing an early warning of toxic CO levels in your home
- detects carbon monoxide continuously
- resistant to false alarms caused by normal household contaminants
- sounds a loud 85dB alarm (at 1 metre / 3 feet) to alert you in case of an emergency
- test/reset button
- simple to mount, portable, ideal for travelling
- certified to the British Standards Institute (BSI) Carbon Monoxide Standard BS EN 50291 : 2001
- 5 year warranty (batteries excluded)

# Carbon Monoxide and How It Can Affect You and Your Family

Carbon monoxide is a dangerous, poisonous gas that kills hundreds of people each year and injures many more. It is often referred to as the silent killer because it has no odour or taste and cannot be seen. Like oxygen, CO enters the body through the lungs during the normal breathing process. It competes with oxygen by replacing it in the red blood cells, thereby reducing the flow of oxygen to the heart, brain and other vital organs. In high concentrations, CO can kill in minutes.

Many cases of reported CARBON MONOXIDE POISONING indicate that while victims are aware they are not feeling well, they become disorientated and unable to save themselves by either exiting the building or calling for assistance. Exposure during sleep is particularly dangerous because the victim usually does not wake up.

## Symptoms of CO poisoning

The following symptoms may be related to CO poisoning which all household members should be made aware of:

- **Mild Exposure:** Slight headache, nausea, vomiting, fatigue (often described as 'flu-like' symptoms).
- **Medium Exposure:** Severe throbbing headache, drowsiness, confusion, fast heart rate.
- **Extreme Exposure:** Unconsciousness, convulsions, cardiorespiratory failure, death.

Your FireAngel CO detector monitors the level of CO as parts per million (ppm) in the atmosphere of your property.

- 35ppm** - The maximum allowable concentration for continuous exposure for healthy adults in any 8 hour period, as recommended by the Occupational Safety and Health Administration (OSHA).
- 200ppm** - Slight headache, fatigue, dizziness, nausea after 2 - 3 hours.
- 400ppm** - Frontal headaches within 1 - 2 hours, life threatening after 3 hours.
- 800ppm** - Dizziness, nausea and convulsions within 45 minutes. Unconsciousness within 2 hours. Death within 2 - 3 hours.

Should you suspect CO may be affecting you or your family, open the doors and windows of your property to ventilate, turn off your appliances and evacuate the premises. At this time the authorities should be contacted to locate the source of the carbon monoxide before re-entering the building. Medical attention should be sought for anyone suffering the effects of CO poisoning (headache, nausea, see page 3).

## Common Sources of CO

- Oil and gas boilers
- Oil or solid fuel cookers
- Barbecues
- Wood or gas fireplaces
- Gas appliances
- Portable generators
- Gas or kerosene heaters
- Clogged chimneys
- Cigarette smoke
- Any fossil fuel burning appliance

**WARNING:** This FireAngel carbon monoxide detector is not a combustible gas detector, nor a smoke detector. Please install the proper detectors to detect combustible gases, or smoke.

This CO detector should not be seen as a substitute for the proper servicing of fuel-burning appliances, nor the sweeping of chimneys.

**WARNING:** Do not use this carbon monoxide detector on an intermittent basis, or as a portable detector for trying to trace one source of the spillage of combustion products from fuel-burning appliances or from chimneys.

**DO NOT:**

• **IGNORE ANY WARNING FROM YOUR CO DETECTOR!**

- burn charcoal inside your home, caravan, tent or cabin
- install, convert or service fuel-burning appliances without proper knowledge, skill and expertise
- use a gas cooker for heating
- operate unvented gas burning appliances using kerosene or natural gas in closed rooms
- operate petrol-powered engines indoors or in confined areas
- ignore a safety device when it shuts an appliance off
- use as a portable detector for the spillage of CO from fuel-burning appliances or chimneys

## **EDUCATE YOURSELF AND YOUR FAMILY ON THE SOURCES AND SYMPTOMS OF CO POISONING AND HOW TO USE YOUR CARBON MONOXIDE DETECTOR:**

- buy appliances accepted by a recognised testing laboratory
- install appliances according to the manufacturer's instructions
- have appliance installations done by professionals (CORGI registered for gas appliances)
- have your appliances checked regularly by a qualified service engineer
- clean chimneys and flues yearly
- make regular visual inspections of all fuel-burning appliances
- do not barbecue indoors, or in an attached garage
- open windows when a fireplace or oil/solid fuel cooker is in use
- install only CO detectors that meet the requirements of BS EN 50291 : 2001 in your home
- be aware of CO poisoning symptoms

# Where To Install Your Detector

**WARNING:** This detector will only indicate the presence of carbon monoxide gas at the sensor. Carbon monoxide gas may be present in other areas.

## In which room should the detector be installed?

Ideally, an apparatus should be installed in every room containing a fuel burning appliance. Additional apparatus may be installed to ensure that adequate warning is given for occupants in other rooms, by locating apparatus in:

- remote rooms in which the occupant(s) spend considerable time whilst awake and from which they may not be able hear an alarm from apparatus in another part of the premises, and
- every sleeping room.

However, if there is a fuel burning appliance in more than one room and the number of apparatus is limited, the following points should be considered when deciding where best to put the apparatus:

- locate the apparatus in a room containing a flueless or open-flued appliance, and
- locate apparatus in a room where the occupant(s) spend most time.
- If the domestic premises is a bedsit (a single room serving as both sitting and bedroom) then the apparatus should be put as far from the cooking appliances as possible but near to where the person sleeps.
- If the appliance is in a room not normally used (for example a boiler room), the apparatus should be put just outside the room so that the alarm may be heard more easily. Alternatively, a remote alarm siren may be connected to a type A apparatus located in a room(s) containing a fuel-burning appliance.

# Where in the room should I place the detector?

## **Apparatus located in the same room as a fuel-burning appliance**

If the apparatus is located on a wall:

- a) it should be located close to the ceiling;
- b) it should be located at a height greater than the height of any door or window.

And it should be at least 150mm from the ceiling.

The apparatus should be at a horizontal distance of between 1m and 3m from the potential source.

If there is a partition in a room, the apparatus should be located on the same side of the partition as the potential source.

Carbon Monoxide alarms in rooms with sloped ceilings should be located at the high side of the room.

## **Apparatus located in sleeping rooms and in rooms remote from a fuel burning appliance**

Apparatus located in sleeping rooms and in rooms remote from the fuel-burning appliance should be located relatively close to the breathing zone of the occupants.

## Do not put the detector

### **The apparatus should not be installed:**

In an enclosed space (for example in a cupboard or behind a curtain).

Where it can be obstructed (for example by furniture).

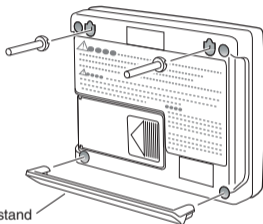
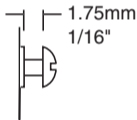
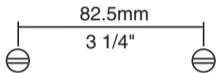
- directly above a sink
- next to a door or window
- next to an extractor fan
- next to an air vent or other similar ventilation openings
- in an area where the temperature may drop below  $-10^{\circ}\text{C}$  or exceed  $40^{\circ}\text{C}$
- where dirt and dust may block the sensor
- in a damp or humid location
- in the immediate vicinity of the cooking appliance

# How To Install Your Detector

**NOTE:** This Carbon Monoxide alarm must be installed by a competent person.

To install your unit, follow the illustration below.

We recommend that your detector is installed on the wall.



**To Mount on the Wall:** Drill two 5mm (3/16") holes into the wall 82.5mm (3 1/4") apart. Insert the plastic wall plugs and screw in the screws, ensuring that the screw heads are left sticking out 1.75mm (1/16") from the wall. Line up the detector mounting holes with the screws and hook the unit onto the wall.

**To Mount on a Shelf:** Attach the enclosed detector stand to the 2 holes near the bottom edge at the back of the detector:

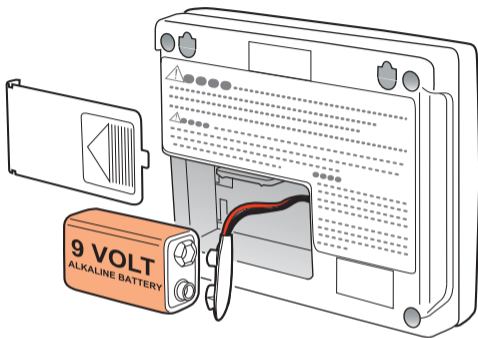
Warning: When mounting on a shelf, please adhere to the recommendations on page 8 relating to the position of the detector.

# Battery Installation/Replacement

See diagram on page 11

- a. If the detector is already wall mounted then unhook it from the mounting screws.
- b. Remove the battery cover located on the back of the detector.
- c. Replace the battery with an approved 9 volt alkaline battery (see page 20 for recommended batteries), making sure the battery terminals align properly with the terminals on the battery clip and push the battery into place. Use of a battery other than the battery recommended by FireAngel Ltd may have a detrimental effect on the detector operation. Replace the battery cover and return the detector to the original position.
- d. When the battery is connected both LEDs will flash and the alarm will chirp.
- e. Your advanced FireAngel detector requires a short 'warm-up' period before it is fully operational. If you have followed all of the above steps correctly, your unit will begin monitoring for CO in around 3 minutes. When the 3 minute warm-up period is complete, the Power LED will flash green once per minute to indicate that the alarm is receiving power from the battery and is fully operational (if your detector chirps or enters alarm following the 3 minute warm-up period then please refer to page 17).
- f. Test the horn, battery and circuitry by pressing the Test/Reset button to confirm that the detector is operating properly. The horn should sound as soon as the button is pressed, and the LEDs will flash indicating that the horn is working and the battery is providing power to the unit. This test for the horn, battery and circuitry should be performed on a weekly basis.

**Warning: Prolonged exposure to the horn in close proximity will damage your hearing.**



Under normal operating conditions, the battery should last 1 year.

When the unit is in full alarm the battery life is 7 days (from full capacity). The detector will not protect against the risk of CO poisoning when the battery has drained.

**Warning:** Constant exposure to extreme high or low temperatures may reduce battery life.

# Operating Features

Your FireAngel detector offers many features which set it apart from other CO detectors on the market today.

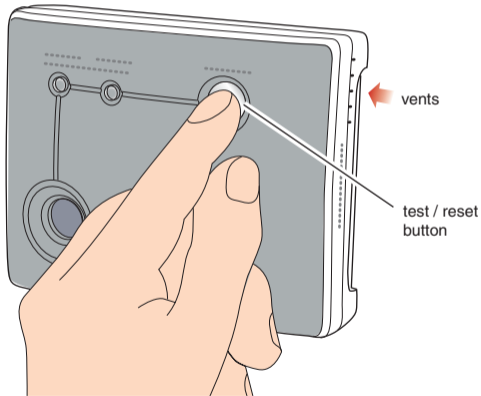
## Test/Reset Button Feature

This button will:

- test your horn, battery and circuitry
- silence the loud 85dB (at 1 metre / 3 feet) horn during an alarm (only for alarms due to levels of CO of less than 50ppm)
- allows you to test the sensor by introducing a source of CO into the detector (see page 15).

## Testing the Horn, Battery and Circuitry

Test the horn, battery and circuitry by pressing the Test/Reset button briefly to confirm that the detector is operating properly. The horn should sound as soon as the button is pressed, and both the LEDs will flash indicating that the horn is working and the battery is providing power to the unit. This test for the horn, battery and circuitry should be performed on a weekly basis.



## Testing The Sensor

**NOTE:** We suggest the use of an incense stick or cigarette as the inefficient way in which these products burn means the smoke contains a detectable localized amount of Carbon Monoxide. Alternative sources of smoke, for example an extinguished candle or match, will not contain sufficient levels of Carbon Monoxide to obtain a response from the alarm during this test. Please note your CO alarm will not detect smoke.

If testing for the first time after installation, or replacing a battery, make sure that the alarm has completed the initial 3 minute warm up period and the power LED is flashing green once every minute.

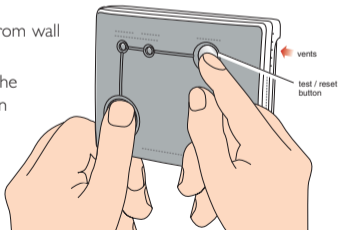
**CAUTION:** All sensor testing should only be performed by a responsible adult. This test should only be performed once a month. Excessive testing will cause the battery life to be shortened.

**NOTE:** CO test kits may be used in order to avoid having to burn cigarettes, incense sticks etc.

- Read all steps thoroughly before attempting to test your alarm

**Step 1:** If alarm is wall mounted remove by unhooking unit from wall fixing screws.

**Step 2:** Place left thumb/finger over the sounder vent. Hold the Test/Reset button down with right thumb/finger until the green LED stops flashing and only the red LED flashes once per second (this should happen after around 5 seconds). Upon releasing the Test/Reset button the green LED will begin to flash twice in quick succession every 5 seconds. This indicates that the detector is now monitoring for CO every second



and may be tested using a known source of CO.

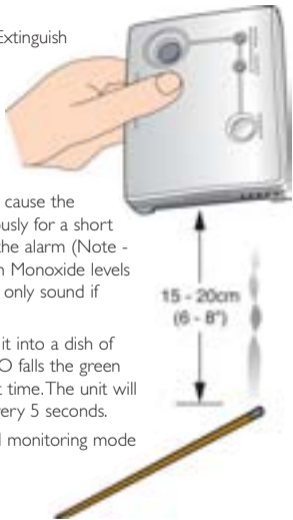
**Step 3:** Light a cigarette or an incense stick using a match or lighter. Extinguish the lighter, or put out the match and place it into a dish of water.

**Step 4:** Turn the alarm on its side so that the vents nearest the Test/Reset button on the side of the alarm are pointing downward (see diagram opposite). Hold the burning cigarette or incense stick 15 - 20 cm (6 - 8 inches) below the detector, so that the smoke moves towards the holes in the sides of the detector.

An increase in the Carbon Monoxide level to more than 100ppm will cause the horn to sound momentarily and the green LED to illuminate continuously for a short time and then flash rapidly. Now move the source of CO away from the alarm (Note - It may take up to 2 minutes of exposure to the smoke for the Carbon Monoxide levels to reach over 100 ppm. In addition please note that the full alarm will only sound if excessive amounts of CO are detected during this short test).

**Step 5:** After step 4, put out the incense stick or cigarette by placing it into a dish of water. Ensure that all flames have been extinguished. As the level of CO falls the green LED will stop flashing and will again continuously illuminate for a short time. The unit will then return to sensor test mode with the green LED flashing twice every 5 seconds.

**Step 6:** After around four minutes the detector will return to normal monitoring mode and the green LED will flash once per minute.



## Understanding the Product's Indicators

The higher the concentration of CO detected by the alarm, the quicker it will respond. When sufficient carbon monoxide is detected a loud audible signal (85 dB at 1 m) will be emitted and the red alarm LED will flash 4 times every second.

### The Alarm will sound:

- When concentrations of CO of more than 30ppm but not more than 50ppm have been detected for more than 2 hours.
- Between 60 and 90 minutes when exposed to 50ppm of CO.
- Between 10 and 40 minutes when exposed to 100ppm of CO.
- Within 3 minutes when exposed to 300ppm of CO.

### Low Battery/Error Signal

When your battery needs replacing, the detector will emit a single chirp for up to 30 days. Replace the battery immediately!

The unit continuously checks the settings of its sensor and circuitry. If any of these settings are found to be incorrect the unit emits a double chirp every minute, indicating that a fault has developed. **Note:** This does NOT mean that the alarm has detected Carbon Monoxide.

On discovering an error signal please contact the FireAngel Technical Support Line between 9.00am – 5.00pm, Monday – Friday.

**Telephone: 024 7623 6663 (1-800 523171 in Eire)** e-mail: [technicalsupport@fireangel.co.uk](mailto:technicalsupport@fireangel.co.uk)

# Maintaining/Testing your Detector

## Maintenance

Your detector will alert you to potentially hazardous CO concentrations in your home when maintained properly. To maintain your FireAngel detector in proper working order, and to ensure that your sensor will maintain its 6 year life, it is recommended that you:

- Test the horn, battery and circuitry of your detector at least once per week by pressing the Test/Reset button briefly (see page 14).
- Perform the Sensor Test once every month (see page 15).
- Keep the detector free of dust by gently vacuuming the case with a soft brush attachment once per month.

To prevent the possibility of contaminating the sensor in your alarm and thus affecting its reliability:-

- Never use cleaning solutions on your detector. Simply wipe with a slightly damp cloth.
- Do not paint the detector.
- Do not spray aerosols on or near the detector.
- Do not use any solvent based products near the detector.
- Move the detector to a safe location and store in a plastic bag before painting, wall papering, using or performing any other activities that use materials that emit strong fumes. Remember to remove it from the bag and replace the detector when these activities are finished.

# What To Do In The Event Of An Alarm

**WARNING:** A loud alarm is a warning that unusually high and potentially lethal levels of carbon monoxide are present. Never ignore this alarm, further exposure can be fatal. Immediately check residents for symptoms of carbon monoxide poisoning, and contact the proper authorities to resolve all CO problems. **NEVER IGNORE ANY ALARM.**

Please carefully review this owner's manual to ensure that you know what actions to take in the event of an alarm.

## What To Do During An Alarm

- Keep calm and open the doors and windows to ventilate.
- Turn off the appliance where possible and stop using the appliance.
- Evacuate the property leaving the doors and windows open.
- Ring your gas or other fuel supplier on their emergency number; keep the number in a prominent place.  
Write your fuel supplier's emergency number here; \_\_\_\_\_
- Do not re-enter the property until the alarm has stopped.
- Get medical help immediately for anyone suffering the effects of carbon monoxide poisoning (headache, nausea), and advise that carbon monoxide poisoning is suspected.
- Do not use the appliance again until it has been checked by an expert. In the case of gas appliances this must be a CORGI registered installer.

# Technical Information

Detector Specifications:	Model CO-808
Sensor Type:	Electrochemical
Sensor Life:	6 Years
Alarm Sound Level:	85dB (at 1 metre / 3 feet)
Recommended Batteries:	Duracell 9V Ultra, Duracell MNI 604, Energizer 522 Energizer 9V Ultra+, Gold Peak 1604A
Battery Life:	Exceeds 1 year, replaceable
Temperature Range:	-10°C (14°F) to 40°C (104°F)
Operating Humidity Range:	30 - 90% RH
Weight:	255 grams (9oz), including battery
Certified to:	BS EN 50291 : 2001

The FireAngel carbon monoxide detector is designed to continuously monitor for CO. Its response times meet the requirements of BSI standard BS EN 50291 : 2001.

The alarm will sound:

- When concentrations of CO of more than 30ppm but not more than 50ppm have been detected for more than 2 hours.
- Between 60 and 90 minutes when exposed to 50ppm of CO.
- Between 10 and 40 minutes when exposed to 100ppm of CO.
- Within 3 minutes when exposed to 300ppm of CO.

WARNING: APPARATUS CONFORMING TO THIS STANDARD MAY NOT PROTECT PEOPLE WHO ARE AT SPECIAL RISK FROM CARBON MONOXIDE EXPOSURE BY REASON OF AGE, PREGNANCY OR MEDICAL CONDITION. IF IN DOUBT, CONSULT YOUR DOCTOR.

A CARBON MONOXIDE DETECTOR IS NOT A SUBSTITUTE FOR A SMOKE ALARM OR A COMBUSTIBLE GAS DETECTOR.

REPLACE UNIT AFTER 5 YEARS OF OPERATION.

### **Quick Reference Label**

A Quick Reference label is located on the back of your detector and provides you with general instructions on the actions to take when your alarm sounds. For full details, read this owner's manual carefully.

### **Disposal**

Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority, retailer or manufacturer for recycling/ disposal advice as regional variations apply.

The battery should be disconnected before disposal. You can also return your carbon monoxide alarm for disposal. For return address see the section on Returns. Please include a note confirming the product is being returned for disposal.

WARNING: DO NOT ATTEMPT TO OPEN - DO NOT BURN



# 5 Year Warranty

**Warranty Coverage:** FireAngel Ltd warrants to the original purchaser that its enclosed carbon monoxide alarm be free from defects in materials and workmanship under normal residential use and service for a period of 5(five) years from the date of purchase.

Provided it is returned with postage prepaid and proof of purchase date, FireAngel Ltd hereby warrants that during the 5(five) year period commencing from the date of purchase FireAngel Ltd, at its discretion, agrees to replace the unit free of charge. The warranty on any replacement FireAngel CO-808 Carbon Monoxide Alarm, will last for the remainder of the period of the original warranty in respect of the alarm originally purchased – that is from the date of original purchase and not from the date of receipt of the replacement product. FireAngel Ltd reserves the right to offer an alternative product similar to that being replaced if the original model is no longer available or in stock. This warranty applies to the original retail purchaser from the date of original retail purchase and is not transferable. **Proof of purchase is required.**

**Warranty Disclaimers:** This warranty does not cover damage resulting from accident, misuse, disassembly, abuse or lack of reasonable care of the product, or applications not in accordance with the user manual. It does not cover events and conditions outside of FireAngel Ltd's control, such as Acts of God (fire, severe weather etc). It does not apply to retail stores, service centres or any distributors or agents. FireAngel Ltd will not recognise any changes to this warranty by third parties. FireAngel Ltd shall not be liable for any incidental or consequential damages caused by the breach of any expressed or implied warranty. Except to the extent prohibited by applicable law, any implied warranty of merchantability or fitness for a particular purpose is limited in duration for 5 years.

This warranty does not affect your statutory rights. Except for death or personal injury, FireAngel Ltd shall not be liable for any loss of use, damage, cost or expense relating to this product or for any indirect, or consequential loss, damages or costs incurred by you or any other user of this product.

## Returns:

We recommend that you contact the FireAngel Technical Support Line in the first instance on **024 7623 6663** (1-800 523171 in Eire) or via e-mail: **technicalsupport@fireangel.co.uk** as we may be able to remedy the problem quickly over the phone (this is to prevent unnecessary returns that take a longer time to process), please quote the product model number CO-808. If there is a fault that we are unable to resolve then our technical support engineer will issue you with a returns authority number so that your product can be returned for testing.

To return your FireAngel under warranty, send it suitably packed and disabled (this will be explained by the FireAngel technical support engineer) with postage prepaid; a note indicating the returns authority number and describing the nature of the difficulty, with proof of date of purchase to:

**FireAngel Limited  
The TechnoCentre  
Puma Way  
Coventry CV1 2TT  
UK**



Certificate No.651c/02  
to BS EN 50291:2001



Certified to  
BS EN 50291:2001

***FireAngel***<sup>®</sup>

Technical Support Line

**024 7623 6663 (1-800 523 171 in Eire)**

E-mail:

**[technicalsupport@fireangel.co.uk](mailto:technicalsupport@fireangel.co.uk)**

Web:

**[www.fireangel.co.uk](http://www.fireangel.co.uk)**