



## CARBON MONOXIDE ALARM FFCM9VH PRODUCT MANUAL



Family First Carbon Monoxide Alarm with test and hush button, operated by a 9 volt battery. Conforms to standard EN50291:2001.

**THIS UNIT IS NOT A SMOKE ALARM**

### SPECIFICATIONS

Detection type	Electrochemical
Power source	9V DC battery
Standby current	<10uA
Alarm current	<10mA
Alarm level (ppm)*	50ppm – in 60-90 minutes 100ppm – in 10-40 minutes 300ppm – within 3 minutes (*ppm = parts per million)
Alarm sound level	85 decibels at 3 metres
Operation temperature	0°C to 49°C
Ambient humidity	30% to 90% relative humidity
Compliant to standard	EN50291:2001

### FEATURES

- DC-operated carbon monoxide alarm
- Test and hush button
- Quick-fix mounting bracket for easy installation
- LED operation indicator
- Low-battery warning indicator
- Auto-reset after the carbon monoxide is clear

### INFORMATION ABOUT CARBON MONOXIDE

Carbon monoxide is a colourless, odourless and tasteless poisonous gas that can be fatal when inhaled. CO binds to the hemoglobin in the blood and inhibits its capacity to carry oxygen. It is difficult to be detected with the human senses. In high concentrations, CO can kill in minutes.

#### Sources of carbon monoxide

Inside your home, appliances used for heating and cooking are the most likely sources of CO. Vehicles running in attached garages can also produce dangerous levels of CO.

CO can be produced when burning any fossil fuel, such as gasoline, propane, natural gas, oil and wood. It can be produced by any fuel-burning appliance that is malfunctioning, improperly installed, or not ventilated correctly, such as:

- Automobiles, furnaces, gas ranges/stoves, gas clothes dryers, water heaters, portable fuel burning space heaters and generators, fireplaces, wood-burning stoves and certain swimming pool heaters.
- Blocked chimneys or flues, back drafts and changes in air pressure, corroded or disconnected vent pipes, loose or cracked furnace exchangers.
- Vehicles and other combustion engines running in an open or closed garage, attached or near a home.
- Burning charcoal or fuel in grills and hibachis in an enclosed area.

#### Conditions that can result in transient carbon monoxide situation in the home

- Excessive spillage or reverse venting of fuel-burning appliances caused by outdoor ambient conditions, such as wind direction and/or velocity, including high gusts of wind, heavy air in the vent pipes (cold/humid air with extended periods between cycles).
- Negative pressure resulting from the use of exhaust fans.
- Simultaneous operation of several fuel-burning appliances competing for limited internal air.
- Vent pipe connections vibrating loose from clothes dryers, furnaces, or water heaters.
- Obstructions in, or unconventional, vent pipe designs which can amplify the above situations.

- Extended operation of unvented fuel-burning devices (range, oven, fireplace, etc.).
- Temperature inversions which can trap exhaust gases near the ground.
- Vehicle idling in an open or closed garage, or near a home.

#### Symptoms of carbon monoxide poisoning

To be safe, know the possible sources of CO in your home. Keep fuel-burning appliances and their chimneys and vents in good working condition. Learn the early symptoms of exposure, and if you suspect CO poisoning, move outside to fresh air and get emergency help. Your first line of defence is installing CO alarms and having an annual inspection and regular maintenance of your appliances. Contact a licensed contractor or call your local utility company for assistance.

**35ppm:** The maximum allowable concentration for continuous exposure for healthy adults in any 8 hour period.

**200ppm:** Slight headaches, 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 and death within 3 hours.

**1600 ppm:** Headache, dizziness and nausea within 20 minutes and death within 1 hour.

**6400 ppm:** Headache dizziness and nausea within 1-2 minutes.

The following symptoms are related to carbon monoxide poisoning and should be discussed with all members of your household:

**Mild exposure:** Slight headache, nausea, vomiting and fatigue – often described as ‘flu-like’ symptoms.

**Medium exposure:** Severe throbbing headache, drowsiness, confusion and fast heart rate.

**Extreme exposure:** Unconsciousness, convulsions, cardio respiratory failure and death.

Many cases of reported carbon monoxide poisoning indicate that, while victims are aware they are not well, they become so disoriented that they are unable to save themselves by either exiting the building or calling for assistance. Young children and household pets are typically the first affected.

#### Important safeguards

The installation of your CO alarms is only one step in your safety plan. Educate yourself and your family to the sources and symptoms of carbon monoxide poisoning and how to use the CO alarms:

- Test them weekly by only pressing the test button.
- Replace battery yearly and immediately once depleted.
- Buy appliances accepted by a recognized testing laboratory.
- Install the appliances properly, following the manufacturer's instructions.
- Have installations performed by professionals.
- Have your appliances checked regularly by a qualified service technician.
- Clean chimneys and flues yearly.
- Make regular visual inspections of all fuel-burning appliances.
- Check appliances for excessive rust and scaling.
- Open windows when a fireplace or wood-burning stove is in use.
- Be aware of carbon monoxide poisoning symptoms.

#### For your safety, do not:

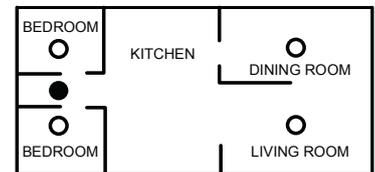
- Burn charcoal inside your home, RV, camper, tent or cabin.
- Install, convert or service fuel burning appliances without proper knowledge, skill and expertise.
- Use a gas range, oven or clothes dryer for heating.
- Operate unvented gas burning appliances using kerosene or natural gas in closed room.
- Operate gasoline-powered engines indoors or in confined areas.
- Ignore a safety device when it shuts an appliance.
- Ignore any warning from your CO alarms.
- Barbecue indoors or in an attached garage.

### CARBON MONOXIDE ALARM PLACEMENT

As carbon monoxide is of similar density to air and mixes and moves with it, the optimum placement of a carbon monoxide alarm is on a wall. If fitted to a wall, it should be at least 1.5 metres above the floor level, and at least 1.85 metres from fuel-burning appliances to ensure maximum effectiveness.

#### Typical single-storey home

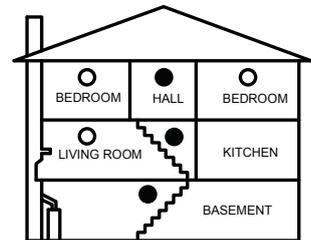
For minimum protection, you should fit a CO alarm in the bedrooms or in the hallway of sleeping areas. Place it as near to sleeping areas as possible, and ensure the CO alarms are audible when bedrooms are occupied.



SINGLE-STOREY RESIDENCE, APARTMENT, MOBILE HOME

#### Typical multi-storey or split level home

For minimum protection, fit at least one CO alarm on each floor, especially in hallways and as near to sleeping areas as possible, and ensure the CO alarms are audible when bedrooms are occupied.



MULTI-STOREY RESIDENCE

- Minimum required CO alarm locations
- Recommended additional CO alarm locations

**NOTE:** For maximum protection, CO alarms should be fitted in or near every room that contains a fuel-burning appliance such as any central heating boilers, gas fires, room heaters, water heaters, cookers, grills, etc.

**CAUTION:** CO alarms can only sense carbon monoxide that reaches the unit's sensor. It's possible that CO may be present in other areas without reaching the CO alarm. This CO alarm is designed to detect carbon monoxide gas from ANY source of combustion. It is NOT designed to detect smoke, fire or any other gas.

#### Where not to install carbon monoxide alarms

Improper location can affect the sensitive electronic components in this CO alarm. To avoid causing damage to the unit, provide optimum performance, and prevent unnecessary nuisance alarms:

1. The CO alarms are not to be located within 1.5 metres of any cooking appliance.
2. Situations where the temperature may fall below 0°C or rise above 49°C, or where humidity may fall below 30% or rise above 90%.
3. In damp or humid areas such as near bathrooms or in shower areas.
4. Any area where high levels of dusty, dirty or greasy emissions could contaminate or clog the sensor.
5. Behind drapes or furniture.
6. In the path of air discharged from a furnace, air-conditioning vent or ceiling fan.
7. Outside the building.
8. Directly above a sink or cooker.

**WARNING:** This CO alarm is designed for indoor use only. DO NOT expose to rain or moisture. It will not protect against the risk of CO poisoning when the battery has drained or been removed. DO NOT open or tamper with the CO alarm as this could cause malfunction.

Register for free test reminders: [www.testalarm.com.au](http://www.testalarm.com.au)

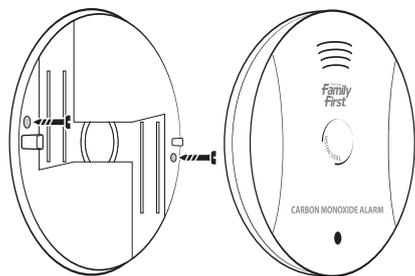
**TEST ALARM**  
YOUR FREE TEST ALERT SERVICE

## INSTALLATION AND MOUNTING INFORMATION

This CO alarm is powered by a 9V DC battery and requires no wiring. It can be installed either on a wall or the ceiling.

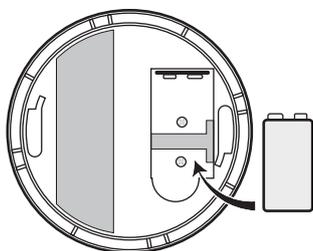
**WARNING:** This CO alarm installation must be by a competent person.

1. From the back of CO alarm, remove the mounting plate by turning it counter-clockwise.
2. Secure the plate to the wall or ceiling with the mounting plugs and screws, appropriate to the surface on which the CO alarm is to be installed.



MOUNTING PLATE AND ALARM INSTALLATION

3. Connect the 9V DC battery to the connector (make sure polar connections match). The RED LED indicator will flash rapidly for a brief period, until it enters normal operation.
4. Fit the battery into the compartment. Then mount the CO alarm back to the mounting bracket (ensure the CO alarm is secured in place).



BATTERY INSTALLATION

5. Test the CO alarm to ensure the correct operation of the unit by pressing the test button for 10 seconds then release it (this should sound the CO alarm).

## OPERATION

### Normal operation

When no carbon monoxide is present, the RED LED Indicator will flash ONCE every 30 seconds which is an indication that the CO alarm is powered and functional.

### Alarm mode

When the unit detects dangerous levels of CO, the RED LED indicator will flash rapidly and the alarm will sound approximately 3 times every 4 seconds. This will continue as long as there is a dangerous level of CO present. Should the CO level returns to normal, the unit will stop beeping.

CO level (ppm)	Response time
50	within 90 minutes
100	within 40 minutes
300	within 3 minutes

**WARNING:** This product may not sound the alarm at low carbon monoxide levels. Individuals with medical problems may consider using warning devices which provide audible alarms for concentrations under 30 ppm.

### Hush mode

**IMPORTANT:** Read 'Take action when the CO alarm sounds' (further below) which provides information about the necessary procedures taken when the CO alarm sounds.

Hush mode is intended to temporarily silence false alarms. When the CO alarm sounds, immediately follow steps in 'Take action when the CO alarm sounds'. To hush the CO alarm press the test button (when the alarm is sounding) and the CO alarm will enter hush mode for approximately 8 minutes. After this period, the CO alarm will return to normal operation. Should carbon monoxide particles continue to be detected after the hush period, the CO alarm will activate again until the area is cleared from carbon monoxide. If there are frequent false alarms, refer to the 'Troubleshooting' section.

### Low battery indication

The CO alarm will sound a short 'chirp' ONCE every minute. This warning should last for at least 7 days. The battery should be replaced immediately. Through normal use the battery should last for approximately one year. However, battery life may be reduced if either a fault occurs with the battery or the CO alarm remains in alarm for long periods of time. It is important to test the CO alarm weekly to ensure the battery is operational.

### Fault indication

The alarm will sound a short chirp TWICE every 30 seconds. Should the CO alarm indicate a fault, refer to the 'Troubleshooting' section.

## TESTING

Test your CO alarms weekly and whenever their batteries are replaced to ensure correct operation. If the CO alarms ever fail to test correctly, refer to the 'Troubleshooting' section. If the CO alarms are not working properly, they can not alert you to a problem. Test the CO alarms by pressing their test buttons for 10 seconds and then releasing it. Weekly testing of your CO alarms will ensure that all electronic circuitry, horn and battery are operating correctly.

**WARNING:** DO NOT use any other method when testing the CO alarm other than by pressing the test button.

## MAINTENANCE

It is important to regularly maintain your CO alarms by:

- Pressing the test buttons weekly to check the units' alarms sound.
- Using a vacuum cleaner at least monthly to remove dust.
- Avoid using air-fresheners, hair sprays or other aerosols near the alarms.
- Do not paint the alarms. If painting, decorating, using adhesives close to the alarms, or staining floors, remove the alarms temporarily.

Normally, this alarm can be operated up to 5 years without replacement. To see the date of replacement, refer to the back of each CO alarm.

**NOTE:** Never use detergents or solvents near or on the CO alarms. Chemicals can permanently damage or temporarily contaminate the sensors. Avoid spraying air-fresheners, hair spray or other aerosols near the CO alarm. The following substances can affect the sensor and cause false alarms: Methane, Propane, Iso-butane, Iso-propanol, Ethylene, Benzene, Toluene, Ethyl acetate, Hydrogen Sulphide, Hydrogen, Sulphur Dioxide, alcohol based products, paints, thinners, solvents, adhesives, hair sprays, aftershave or perfumes, auto exhaust (cold start) and some cleaning agents. When painting or staining, remove the CO alarm from the bracket and the room, and only return once it is safe to do so.

## BATTERY REPLACEMENT

This unit requires one standard 9V battery. The following battery types are acceptable as replacements: 9V 6F22 or 6LR61. Replace the battery yearly, or immediately when the low battery indicator sounds a short chirp ONCE every minute. This low voltage warning will be given for at least 7 days. Test your CO alarms weekly to check if their batteries are operational.

1. Turn the CO alarm counter-clockwise to detach it from the mounting plate.
2. Remove the existing battery from the compartment and disconnect the battery from connector.
3. Connect the new battery to the connector – ensure polar connections match. The RED LED indicator will flash rapidly for a few seconds until it returns to normal operation.
4. Fit the new battery into the compartment, then reattach the CO alarm back to the mounting bracket.
5. Test the CO alarm to ensure correct operation of the unit by pressing the test button.

**WARNING:** Do not use rechargeable batteries. Incorrectly fitted batteries may cause an explosion.

## TAKE ACTION WHEN THE CO ALARM SOUNDS

**WARNING:** Activation of the CO alarm indicates the presence of poisonous carbon monoxide gas which requires your immediate attention.

1. When the CO alarm is sounding, press the test button to hush the alarm (it will hush for approximately 8 minutes).
2. Immediately move to fresh air outdoors or by an open door or window, and make sure that all persons are alerted and pets included. Do not re-enter the premises nor move away from the open door or window until emergency services responders have arrived, the premises has been aired out, and the CO alarm reverts to and remains in its normal operation.
3. Call the emergency services (Fire Brigade and/or Ambulance) – in Australia dial 000; in New Zealand dial 111.
4. After following steps 1-3, if your CO alarm reactivates within a 24 hour period repeat steps 1-3 and call a qualified appliance technician to investigate for sources of CO from fuel-burning equipment and appliances, and inspect for proper operation of this equipment. If problems are identified during this inspection have the equipment serviced immediately.

**NOTE:** Never ignore the sound of the alarm! Never restart the source of the CO problem until it has been corrected. If the alarm is sounding, pressing the test/hush button will only hush the alarm. If the alarm sounds again after the hush period, it is still detecting poisonous carbon monoxide. Have combustion equipment inspected by qualified appliance technicians and consult the manufacturers' instructions, or contact the manufacturers directly for more information about CO safety and the equipment. Make sure that motor vehicles are not, or have not been, operating in a garage attached or adjacent to the residence.

## TROUBLESHOOTING

**Problem:** The CO alarm does not sound when the test button is pressed.

**Remedy:** When pressing the test button, hold it for at least 10 seconds and then release it. If the CO alarm does not engage the test mode, ensure that the 9V battery is secured correctly to the connectors (if the battery has not been replaced, then replace the battery). Use a vacuum cleaner to clean the CO alarm by removing any dust build-up or foreign particles present in the unit. Should the above remedies fail to engage the CO alarm's test mode, then return it to the place of purchase for an exchange or refund only during the warranty period. Otherwise purchase a new CO alarm.

**Problem:** The CO alarm sounds a short chirp once every minute.

**Remedy:** The CO alarm is indicating a low battery. Refer to 'Battery Replacement' section for further assistance.

**Problem:** The CO alarm sounds two short chirps every 30 seconds.

**Remedy:** The CO alarm has detected a fault. Disconnect the battery from the connector and reconnect after 10 seconds to reset the unit. If the fault continues, clean the unit according to the 'Maintenance' section. Should the CO alarm continue to indicate a fault after performing the above remedies, return to the place of purchase to arrange an exchange or refund (only during warranty period). Otherwise, purchase a new CO alarm.

**Problem:** The CO alarm is sounding and after investigation, no trace of carbon monoxide has been found.

**Remedy:** After following the 'Take action when the CO alarm sounds' section, ensure that the placement of the CO alarm conforms to the installation instructions (if not move the unit to a suitable location). However, if the unit has been placed in a correct location, then clean the unit according to the 'Maintenance' section instructions. Should the unit after cleaning continue to sound false alarms, return to the place of purchase to arrange an exchange or refund (only during warranty period). Otherwise, purchase a new CO alarm.

**Problem:** The CO alarm's sound pattern sounds different to sound pattern during normal operation.

**Remedy:** Clean the CO alarm – refer to the 'Maintenance' section. If the CO alarm continues to sound different sound patterns that are not listed within this manual then return to the place of purchase to arrange an exchange or refund (only during warranty period). Otherwise, purchase a new CO alarm.

## FIVE YEAR WARRANTY

Master Distributors Pty Ltd warrants to the original consumer purchaser each new CO alarm to be free from defects in material and workmanship under normal use and services for a period of five (5) years from the date of purchase. Master Distributors Pty Ltd agrees to repair or replace, at its option, any defective CO alarm provided it is returned personally or by prepaid delivery, with a copy of proof of purchase. This warranty does not cover damage resulting from accidents, misuse or abuse or lack of reasonable care of the product.

*Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.*

Subject to those non-excluded rights and provisions and the above warranty, Master Distributors Pty Ltd will not be liable for any injury to persons or damage to property or for any special direct or indirect or consequential loss or damage whatsoever and whether as a result of negligence or fault on the part of Master Distributors Pty Ltd or its servants, agents, suppliers and contractors or otherwise arising out of or resulting from, whether directly or indirectly, the use, installation or maintenance of the CO alarm and any warranties or representations are excluded unless given by Master Distributors Pty Ltd in writing. The 9 volt battery included with this CO alarm is excluded from the Master Distributors Pty Ltd, five (5) year warranty. If this CO alarm is installed for use by others, please leave this document or a copy for the end user.

For more information and FAQs visit [www.family-first.com.au](http://www.family-first.com.au)



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