

USER MANUAL

Product code: 117-2007 Model: FBCA05

KM 576898
BS EN 50291-1:2018

FIRECHIEF®
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Thank you for purchasing this Firechief® Home Carbon Monoxide (CO) Alarm. Before installation, take a few minutes to read this user manual thoroughly and familiarize yourself and your family with its operation. Please save it for future reference.

WELCOME

Thank you for purchasing this Firechief® Home Carbon Monoxide (CO) Alarm. Before installation, take a few minutes to read this user manual thoroughly and familiarize yourself and your family with its operation. Please save it for future reference.

Note: Throughout this User Manual, we will refer to Carbon Monoxide as "CO".

Carbon monoxide (CO) alarms are an important part of your family's home safety plan. This alarm has been designed and tested to detect CO levels in a residential environment and is specifically for home use. CO alarms monitor the air in your home and sound a loud alarm to warn you of the presence of CO.

CO is an invisible, odourless, tasteless and non-irritating gas - completely undetectable to your senses. That's why it is important to your safety that you have a CO alarm. It is NOT designed to detect smoke, fire, or any other gas.

IMPORTANT: If dangerous levels of CO are detected, the alarm will sound and the red LED will flash.

IMPORTANT: Press the test button on the alarm once a week to check the alarm is working correctly.

IMPORTANT WARNING STATEMENTS

WARNING: This carbon monoxide alarm is designed to detect carbon monoxide gas from any source of combustion. It is not designed to detect any other gases, and is not a substitute for installing and maintaining an appropriate number of smoke alarms in your home.

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

WARNING: Installation of this alarm should not be used as a substitute for proper installation, use and maintenance of any fuel burning appliances/equipment, as well as providing appropriate ventilation and exhaust systems where necessary.

WARNING: This device is designed to protect individuals from acute effects of carbon monoxide exposure. It may not fully safeguard individuals with specific medical conditions. If in doubt, consult a medical practitioner. Individuals who have medical problems may consider using warning devices that provide audible and visual signals for carbon monoxide concentrations under 30 PPM.

WHAT TO DO IF THE ALARM SOUNDS

WARNING! This device indicates the presence of dangerous levels of carbon monoxide! Carbon monoxide can be fatal!

1. Keep calm and call for assistance.
2. Immediately move to fresh air, by either going outside or standing by an open external door/window. Do a head count to check that all persons are accounted for. Do not re-enter the premises or move away from the open door/window until the emergency services responders have arrived (if called), the premises have been aired out, and your alarm remains in its normal condition.
3. After following steps 1-2, if the alarm reactivates within a 24 -hour period, repeat steps 1-2 and call a qualified appliance technician to investigate sources of CO from fuel burning equipment and appliances, and to inspect for proper operation of equipment. If equipment problems are found by the technician, repair or replace the equipment immediately. Make sure that motor vehicles are not, or have not been, operating in a garage attached or adjacent to the residence.

If faulty equipment is identified as the source of CO, DO NOT use until it has been repaired by a qualified technician or replaced. DO NOT ignore the sound of the alarm!

If the HUSH button is pressed but the alarm continues to detect high levels of CO the alarm will reactivate within 6 minutes. This is a potentially dangerous situation, and action should be taken immediately.

SPECIFICATION

Model	CM022
Product Code	117-2007 (FBCA05)
Working voltage	DC 3V(AA LR6 1.5V*2)
Working current	≤15uA
Alarming current	<55mA
Accuracy	Follows EN50291-1:2018
Detecting gas	Carbon Monoxide
Detecting range	(10-500) ppm
Working Environment	Temperature: -10°C ~ 50°C; Humidity: 10-95%RH (non-condensing)
Storage Environment	Temperature: -20°C ~ 50°C; Humidity: 5-95%RH (non-condensing)
Gas Sampling	Natural diffusion
Alarm method	Visual and audible
Alarm sound	≥85dB(@3m)
Sensor type	Electrochemical carbon monoxide sensor
Sensor life	≥10 years
Weight	About 195g (with battery) About 150g (without battery)
Dimensions	119x80x30(mm)

INSTALLATION

CAUTION: The alarm should be installed by a competent person.

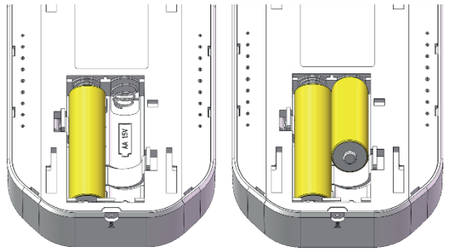
The CO alarm should be installed in the same room as the potential source of CO .

If the alarm is wall mounted, its height should be higher than any door or window, and at least 150mm from the ceiling. If the alarm is ceiling mounted, the distance between it and any wall should be more than 300mm.

- The alarm should be positioned horizontally 1-3 meters from the gas source.
- There should be no obstruction between the alarm and the potential gas source.
- Do not install in dead air spaces such as peaks of vaulted ceilings or gabled roofs where fumes do not collect.
- Do not install in turbulent air from ceiling fans.
- Do not place near fresh air vents or close to doors and windows that are open to the outside.
- Keep the alarm away from excessively dusty, dirty, or greasy areas. Dust, grease and household chemicals can affect the sensor.
- Keep out of damp and humid areas such as the bathroom. Avoid spraying aerosols near the alarm.
- Do not install in areas where the temperature is below -10°C or higher than 40°C.
- Do not place behind curtains or furniture. Carbon monoxide must be able to reach the sensor for the alarm to accurately detect the carbon monoxide levels.
- Place out of the reach of children. Under no circumstance should children be allowed to handle the alarm.
- Install in a bedroom or hallway located close to the sleeping area. Take special care to verify the alarm can be heard in sleeping areas
- Ideally, install one detector in each room where there is fuel burning appliance or a flue (excluding gas cookers).

The alarm should be installed where it can be heard easily from all frequently used rooms.

BATTERY INSTALLATION



When replacing the batteries, please use this specific battery (brand & type):

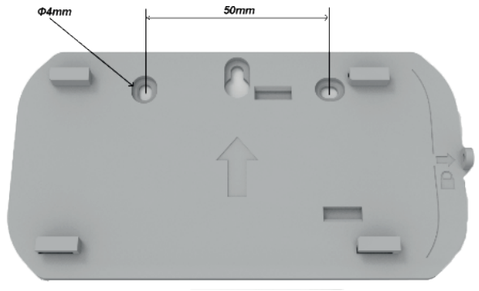
Kendal AA LR6 1.5V x 2 Note: Please replace the expired batteries according to the specified model. Different types or lower quality batteries may reduce the detector life.

IMPORTANT: Ten (10) years after the initial activation, this alarm will "beep" every 20 seconds to indicate that it is time to replace the alarm. It will not detect CO in this condition. Replace the alarm immediately!

IMPORTANT: Constant exposures to high or low humidity may reduce battery life. To guarantee good working order please replace the batteries at least every 3 years.

After replacing the battery, it is recommended to test the alarm.

MOUNTING THE ALARM



- Mark two level fixing positions 50mm apart in the desired installation position.
- Drill two 4mm holes in the marked position with a suitable drill and then insert two plastic fixing plugs into the holes
- Remove the mounting plate from the back of the alarm and screw in the two screws to attach the mounting plate to the wall
- Slide the alarm to the right to securely fix the alarm to the mounting plate.

OPERATION INSTRUCTIONS

Warm-up mode

In the power off status, load batteries into the equipment, it will enter warm-up mode. The equipment displays the version number, followed by unit, gas type and other symbols. At the same time, the green, red and yellow LED flash for 0.3 seconds and sound occurs for 0.3 seconds. After that, the "0" value flashes once every 1 second on the LCD screen. After 120 seconds, the warm-up mode is finished and the unit enters normal detection mode.

Normal detection mode

After warm-up, if no fault was detected and no alarm condition occurs, the equipment enters normal detection mode. In this mode, the equipment monitors the real-time CO concentration in the air and displays the CO value on the screen within the range of 10-500ppm. In this mode, only the green LED flashes every 40 seconds.

Alarming mode

When the CO concentration reaches the preset alarm condition, the equipment enters the alarm mode. Alarm conditions are set as below:

- 30 PPM - the alarm will activate after 120 minutes.
- 50 PPM - the alarm will activate within 60-90 minutes
- 100 PPM - the alarm will activate within 10-40 minutes
- 300 PPM - the alarm will activate within 3 minutes

In alarm mode, the red LED light flashes three times every four seconds, with each flash lasting for about 0.3 seconds. The alarms beeps with each flash of the LED. When the CO concentration detected no longer meets the alarm condition, it will automatically return to the normal detection mode.

Low voltage mode

When low battery power is detected, the alarm will automatically enter the low voltage alert mode. In this mode, the low voltage information is indicated in two steps.

Step 1: "L" will be displayed on the LCD screen for about 20 seconds, the yellow LED will light and the buzzer will sound for 0.3 seconds.

Step 2: The LCD screen displays the current gas concentration value for 20 seconds.

The above 2 steps will be repeated continuously.

When the battery level is extremely low, the display screen will always display "Lb" when entering the ultra-low voltage mode. At this time, the machine cannot operate normally and the battery should be replaced.

End-of-life mode

When the working time of the equipment has reached 10 years, the device will automatically enter this mode. In this mode, only one "E" character will be displayed on the LCD. Every 20 seconds, the yellow LED flashes and the buzzer sounds 3 times, each time for about 0.3 seconds.

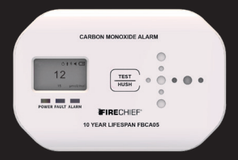
Note: In the end-of-life mode, the accuracy of the alarm is no longer guaranteed. Please replace the alarm in this case.

Fault alert mode

When fault mode is activated, an "F" will be displayed on the LCD screen, the yellow LED will flash and the buzzer will sound, twice every 20 seconds for 0.3 seconds.

The user is advised to contact a professional for trouble shooting.

Note: The alarm has a detecting range of 10~ 500ppm. When the CO concentration detected is lower than 10 ppm, the equipment displays "0" on the screen. When the concentration is higher than 500, the screen displays "501" on the screen. When the CO concentration is back to normal, the equipment will automatically reset.



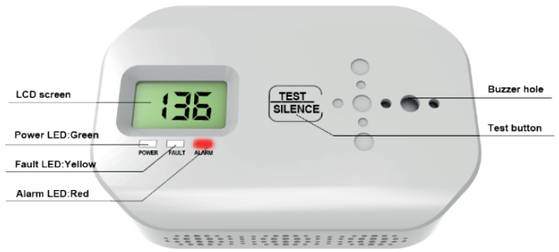
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FUNCTION AND INDICATION



Green LED - Indicates alarm is operational and working correctly. Flashes briefly once every 40 seconds.

Red LED - Indicates CO has been detected. Flashes every 4 seconds

Yellow LED - Indicates attention required due to faulty equipment or status

LCD Screen - Unit PPM - Detects and displays CO concentration value from 10-500ppm.

L - Battery voltage low

F - Alarm failure

E - End of sensor life (replace with new alarm)

TEST/HUSH

Test button function

When the detector is in monitoring status, the user can press the test button to test the equipment functions. All LEDs flash at the same time and the buzzer sounds simultaneously. If the LEDs don't flash and the buzzer doesn't sound, refer to the trouble shooting section. If the TEST/HUSH button is pressed while the alarm is sounding (below 200ppm), the machine enters a 5 minute silencing period and the buzzer stops beeping and the red LED continues to flash. After 5 minutes, the silence period ends and the alarm continues to operate normally.

When the machine alarms at a concentration of more than 200ppm, the detector won't enter the silencing state even by pressing the test button because the CO concentration is too high and very harmful.

NOTE: The alarm should be tested every month. If at any time your alarm does not function as described, please replace it immediately.

CARBON MONOXIDE OVERVIEW

Carbon monoxide is a colourless, odourless and tasteless poisonous gas that can be fatal when inhaled. CO inhibits the blood's capacity to carry oxygen. Periodically review this alarm manual and discuss your CO alarm emergency procedure with all members of your household. Never ignore a CO alarm as this could be an indication of potentially dangerous levels of CO. CO alarms are designed to alert you to the presence of CO before symptoms of CO poisoning occur.

Exposure to high levels of carbon monoxide can be fatal or cause permanent damage and disabilities. Many cases of reported carbon monoxide poisoning indicate that while victims are aware they are not well, they become so disoriented they are unable to save themselves by either exiting the building or calling for assistance. Also, young children and household pets may be the first effected. Familiarisation with the effects at each level is important. You should take extra precautions to protect those at high risk from CO exposure because they may experience ill effects from CO at levels that would not ordinarily affect a healthy adult.

Symptoms of CO Poisoning:

Mild Exposure: Slight headache, nausea, vomiting, fatigue (often described as "flu-like" symptoms). If you experience even mild symptoms of CO poisoning, consult your doctor immediately!

Medium Exposure: Severe throbbing headache, drowsiness, confusion, fast heart rate.

Extreme Exposure: Unconsciousness, convulsions, cardio-respiratory failure, death.

Carbon Monoxide PPM Levels:

This alarm is equipped with a digital display that shows the level of CO (displayed in PPM - parts per million).

Dangerous Levels: When someone is experiencing symptoms of CO poisoning and CO readings are generally above 100 PPM. Whenever someone is experiencing the symptoms of CO poisoning, it should be treated as an emergency.

High Levels: Generally above 100 PPM. This should be treated as an urgent situation.

Medium Levels: Generally between 50 PPM to 100 PPM. This should be cause for concern and should not be ignored or dismissed.

Low Levels: Generally below 50 PPM. Take action to eliminate the source of CO.

Possible Sources of Carbon Monoxide:

- Heating and cooking appliances are the most likely sources of CO.
- Vehicles running in attached garages.
- Burning any fossil fuel, such as gasoline, propane, natural gas, oil and wood.
- Fuel burning appliances that are 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 BBQs in an enclosed area.

Conditions That Can Produce Carbon Monoxide:

The following conditions can result in transient CO situations:

- 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.

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 an annual inspection and regular maintenance of your appliances. Contact a licensed contractor or call your local utility company for assistance.

What They Can and Cannot Do:

CO alarms provide early warning of the presence of CO, usually before a healthy adult would experience symptoms. This early warning is possible, however, only if your CO alarm is located, installed and maintained as described in this guide.

Because carbon monoxide is a cumulative poison, long-term exposures to low levels may cause symptoms, as well as short-term exposures to high levels. The higher the level of CO present, the sooner the alarm will be triggered.

This CO alarm can only warn you of the presence of CO. It does not prevent CO from occurring, nor can it solve an existing CO problem. If your unit has alarmed and you've provided ventilation by leaving your windows and doors open, the CO level may dissipate. Although the problem may appear to be temporarily solved, it's crucial that the source of the CO is determined and that the appropriate repairs are made.

This CO alarm is designed to act as a monitor; it is not designed for use as a short-term testing device to perform a quick check for the presence of CO.

CO alarms have limitations. Like any other electronic device, CO alarms are not infallible. CO alarms have a limited operational life. You must test your CO alarm weekly, because it could fail to operate at any time.

If your CO alarm fails to test properly, or if its self-diagnostic test reveals a malfunction, you should immediately replace the unit. This alarm will not monitor CO levels under an error condition.

CO alarms can only sense CO which reaches the unit's sensor. It's possible that CO may be present in other areas without reaching the alarm. The following situation may prevent the detection of CO:

- Doors or other obstructions.
- Fresh air from a vent, an open window or other source.
- CO being present on one storey of the home and will not reach to the CO alarm that installed on a different storey. (For example, CO in the basement may not reach an alarm on the second storey, near the bedrooms).

For these reasons, we recommend you provide complete coverage by placing a CO alarm on every storey of the home. Please carefully read all information before properly installing this CO alarm.

CO alarms should not be used to detect the presence of natural gas (methane), propane, butane, or other combustible fuels.

Under no circumstances should children be allowed to touch or handle the alarm.

GENERAL MAINTENANCE

To keep your carbon monoxide alarm in good working order, please follow these simple steps:

- Clean the alarm cover with a soft cloth or brush to remove dust or dirt regularly.
- Perform a CO alarm test once a week - Press the "test" button on the device once a week to check the alarm is working correctly.
- Vacuum the alarm cover once a month to remove accumulated dust.
- Never use detergents, water or other solvents to clean the unit.
- Avoid spraying air fresheners, hair spray, paint, or other aerosols near the alarm.
- Do not paint the unit, paint will seal the vents and interfere with the sensor's ability to detect carbon monoxide.
- Move the CO Alarm and place in another location prior to: Staining or stripping wood floors or furniture, painting, wallpapering or using adhesives. Storing the unit in a plastic bag during any of the above projects will protect the sensors from damage.
- In normal detection mode, the alarm performs a self-test once every minute. Under normal working conditions, the detector can work for up to 10 years. When the alarm reaches its end-of-life, dispose according to your local regulations.

TROUBLESHOOTING

Problem	Possible reason	Solution
Green power LED off	Battery fault or power supply problem	Check battery and replace if necessary.
	LED broken	Contact the distributor
No alarm after pressing test button	Circuit fault	Contact the distributor
Cannot detect CO	Warm-up didn't finish	Wait until warm-up finishes
	Circuit fault	Contact the distributor
Keeps alarming after warm-up	Too much smoke, alcohol or perfume or other volatile gas in the air.	Move it into clean air and test it again
	Stored for long time	Ensure warm-up time finishes
	Circuit fault	Contact the distributor

USER NOTICE

- If the alarm is in an environment with too much smoke, alcohol, perfume, gasoline, paint and other volatile gases, the unit may false alarm.
- Please do not use or store the detectors in environments with corrosive gases (such as Cl2).
- Clean the dust or dirt on the detector frequently to keep air vent unblocked and the indicators clear.
- In order to assure the best sensitivity, please wait at least 24 hours after installation of batteries, before the first use, or after long-term storage.
- Lifetime of the detector is 10 years in normal detection mode. We strongly suggest you replace the alarm after this period.

WARRANTY

Manufacturer warranty to the original consumer.

Each new purchased alarm shall be free from defects in material and workmanship under normal use and service for a period of 5 years (excludes batteries) from the date of purchase.

This warranty does not cover damage resulting from accidents, misuse or abuse or lack of reasonable care of the product. In no case shall the manufacturer be liable for any incidental or consequential damages for breach of this or any other warranty express or implied, whatsoever.

Proper disposal will prevent possible harm to the environment or to human health. When disposing of this product please separate it from other waste streams to ensure that it can be recycled in an environmentally sound manner.

This warranty is given by the manufacturer Firechief® Global, a trading entity of Sentura Group Ltd ("we, us or our"), registered office at 3 Lands End Way, Oakham, Rutland LE15 6RB to the person originally buying the goods ("you or your") from us or our approved distributor.

This warranty is applicable to the products in the Firechief® Alarm range purchased in the United Kingdom.

IMPORTANT: Do not remove the alarm back cover. Removing the back cover will void the warranty.

PACKING LIST

CM022 CO alarm	1 pcs
M5 bolt	2 pcs
Operation manual	1 pcs
Grub screw	2 pcs
Batteries	2 pcs

For more information contact: Firechief® Global, 3 Lands End Way, Oakham, Rutland, LE15 6RB, UK | **Imported into EU by:** Firechief® Global (EU) Ltd, 3rd Floor, 40 Mespil Road, Dublin 4, D04 C2N4, Ireland

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