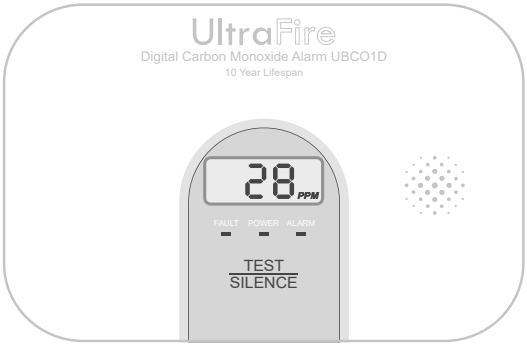
Digital Carbon Monoxide Alarm

UltraFire

USER MANUAL

UBCO1D CARBON MONOXIDE ALARM



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Overview

This carbon monoxide (CO) alarm is a detection and alarm device which gives off an audible and visual warning when it detects the presence of carbon monoxide at certain levels over time. The digital display on the alarm shows the current CO reading, the ambient temperature (while CO is under 20ppm), alarm status, and a low battery icon as appropriate.

Carbon monoxide is a colourless, odourless, tasteless gas produced during inefficient or incomplete burning of fuels such as wood, coal, oil, and gas. The human body is unable to sense carbon monoxide in any way but it replaces oxygen in the blood when breathed in, preventing the proper supply of oxygen throughout the body and brain. Depending on the concentration and exposure time, CO can kill in minutes or cause permanent damage and disabilities.

This user guide contains important information on starting operation and using the devise. Store this user guide in a safe place for future reference. These instructions are a part of this product – bear this in mind if you pass on this product to others.

Please take a few minutes to thoroughly read the user's guide and familiarise yourself and your family with its operation.

4 Product Specifications

- Sensor Type: electrochemical
- Battery Specification:
  - Voltage: DC 3V
  - Type: 2x alkaline AA
  - Recommended: GP GN15A or Energizer E91
- Dimensions: 120 x 80 x 37mm
- Weight: 150g (with batteries)
- Operating Conditions:
  - Temperature: -10 to +45°C
  - Humidity: 25 to 95% RH
- Storage Conditions:
  - Temperature: -20 to +50°C
  - Humidity: 10 to 95% RH
- Operating Current:
  - Standby: <20μA
  - Alarm: <50mA
- Alarm Volume: ≥85dB at 3m
- Alarm Response Times:
  - From 30ppm: After 120 minutes
  - From 50ppm: Between 60 to 90 minutes
  - From 100ppm: Between 10 to 40 minutes
  - From 300ppm : Less than 3 minutes
- Alarm Silence Duration: Approx. 10 minutes
- Do Not Disturb Time: Approx. 9 hours
- Certified to: BS EN 50291-1:2018
  EN 50291-1:2018
- Type of Apparatus: Type B
- Useable Lifespan: 10 years
- Suitable for: domestic premises

Suitability

This carbon monoxide alarm is designed for indoor home use ONLY.

- **DO NOT** expose to rain or moisture
- **DO NOT** knock or drop the detector
- **DO NOT** open or tamper with the alarm as this could cause malfunction

It is NOT suitable for use when traveling or camping, installing in caravans, motorhomes, or boats.

The alarm will not protect against the risk of carbon monoxide poisoning when the battery has drained.

Installation of the alarm should not be used as a substitute for proper installation, use and maintenance of fuel burning appliances including appropriate ventilation and exhaust systems.

This CO alarm is designed to detect carbon monoxide gas from any source of combustion. It is not designed to detect any other gas.

This apparatus is not designed to protect individuals from the acute or chronic effects of carbon monoxide exposure. It will not fully safeguard individuals at special risk or with specific medical conditions. If in doubt, consult a medical practitioner.

Carbon Monoxide (CO) Information

Carbon monoxide is a colourless, odourless, tasteless gas produced during inefficient or incomplete burning of fuels such as wood, coal, oil, and gas. The most common sources of CO are malfunctioning appliances used for heating and cooking, vehicles running in an attached garage, blocked chimneys or flues, portable fuel burning heaters, fireplaces, fuel-powered tools, and operating a grill in an enclosed space.

The human body is unable to sense carbon monoxide in any way but the gas replaces oxygen in the blood when breathed in, preventing the proper supply of oxygen throughout the body and brain. Depending on the concentration and exposure time, CO can kill in minutes or cause permanent damage and disabilities.

Indications of carbon monoxide poisoning include symptoms similar to the flu, but with no fever. Other symptoms include dizziness, fatigue, weakness, headache, nausea, vomiting, sleepiness and confusion. Everyone is susceptible to the danger of CO, but experts agree that unborn babies, small children, pregnant women, senior citizens and people with heart or respiratory problems are at the highest risk of serious injury or even death.

The following are common symptoms related to carbon monoxide poisoning, based on healthy adults, and should be discussed with all members of the household:

- Mild Exposure: Slight headache, nausea, vomiting, fatigue (often described as “Flu-like” symptoms).
- Medium Exposure: Severe throbbing headache, drowsiness, fast heat rate.
- Extreme Exposure: Unconsciousness, cardiorespiratory failure, death.

The dangers of carbon monoxide poisoning vary with the concentration of CO in the air and the duration of exposure. As a result of this, the Standard EN 50291-1:2018 governing domestic carbon monoxide alarms defines the following alarm response requirements:

From 30ppm	No alarm before 120 minutes
From 50ppm	Alarm triggered between 60 to 90 minutes
From 100ppm	Alarm triggered between 10 to 40 minutes
From 300ppm	Alarm triggered in less than 3 minutes

8 Digital Display

This carbon monoxide alarm is equipped with an LCD digital display to provide advanced feedback including current carbon monoxide readings, silence status, and low battery status. There is also a temperature sensor feature for comfort and convenience.

When batteries are installed and the device powers up, the display will activate all segments and icons for 4 seconds before resetting to show a countdown in conjunction with LED indicator lights flashing as in the Status Indicators section of this manual. Once the countdown reaches zero, the alarm will be in normal operation.

Under normal operation, the display will alternate between showing the current CO reading and the temperature every 40 seconds. Carbon monoxide levels are displayed between 20 and 999ppm, with anything under 20ppm showing as 0. The temperature will not be displayed as long as the CO level is at 20ppm or above.

Alarm Memory

If the alarm detects dangerous levels of carbon monoxide which then drop below the activation threshold without the alarm being manually silenced, the alarm will remember this for up to 48 hours and alert the user. This is especially useful for identifying that a fuel burning appliance which leaks CO intermittently while the building is unoccupied is faulty and gives off CO. Upon return from work or school, the occupants would know that the alarm had been activated so they can have their appliances inspected.

The screen will display “AI”, as long as the current CO level is below 20ppm, and the red LED alarm indicator will flash every 40 seconds. The alarm will fully reset back to normal standby operation after 48 hours, or after the TEST/SILENCE button is pressed.

Alarm Silence Mode

WARNING: Before silencing an active alarm, it should be assumed that the alarm is due to dangerous levels of carbon monoxide and the dwelling should be evacuated.

When in alarm mode, pressing the TEST/SILENCE button will pause the alarm sound for approximately 10 minutes. The red LED will continue to flash as in alarm mode to indicate that the alarm has been silenced.

The alarm will automatically reset after approximately 10 minutes. If after this period it is still detecting carbon monoxide at 50ppm or greater then the alarm will sound again. The alarm silence mode can NOT be repeated.

NOTE: The audible alarm signal cannot be silenced if the alarm detects CO concentration above 200 ppm.

Do Not Disturb Mode

WARNING: Do not ignore any fault indication; please refer to the relevant guidance later in this manual depending on the fault being indicated.

When the alarm is indicating any fault, low battery, or end of life warning (see the Status Indicators section) it can be silenced for up to 9 hours by pressing the TEST/SILENCE button. The yellow LED will continue to flash to indicate an active fault has been silenced.

This feature is designed to allow the fault signal to be silenced overnight and allows occupants to sleep peacefully. It does not repair any fault or resolve any issues with the carbon monoxide alarm.

Alarm Signals

Alarm

1. Chirp 4 times with red LED flash

2. Pause 5s

3. Repeated unit it stops detecting CO.

Test

1. Chirp 4 times with red LED flash

2. Pause 5s

3. Repeated with all segments of the display active until the button is released

The first 2 cycles are at a lower volume to avoid startling occupants.

Status Indicators

- After inserting the batteries, all three LEDs and all segments of the display will light up briefly and the alarm will beep. The green LED will then flash once per second for 60 seconds and the digital display will count down to 0, then transition to normal operation.
- During standby operation the green LED power indicator will flash once every 40 seconds.
- When a low battery is detected, the alarm will chirp once every 40 seconds in conjunction with the yellow LED fault indicator flashing and a battery symbol displaying on the screen.
- If the alarm is faulty, it will chirp twice every 8 seconds with the yellow LED fault indicator flashing and “Err” displaying on the screen.
- At the alarm’s end of life, it will chirp 3 times every 40 seconds with the yellow LED fault indicator flashing and “End” displaying on the screen.
- If the alarm is sounding to indicate dangerous exposure to carbon monoxide, the alarm will behave as described in the Alarm Signals section.
- When a CO alarm incident is silenced the red LED alarm indicator will continue to flash.
- When a low battery, fault, or end of life warning is silenced the yellow LED fault indicator will continue to flash.
- When any alert type is silenced, a crossed-out speaker symbol will be shown on the screen.

Positioning

When choosing your installation locations, make sure you can hear the alarm from all sleeping areas.

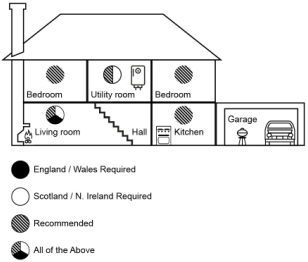
Carbon monoxide alarms should be fitted in any room with a fuel burning appliance. Legally, this is required for solid fuel appliances in England and Wales and for all fuel burning appliance in Scotland and Northern Ireland, excluding cookers. Scotland also further requires a CO alarm in any room that has a flue running through it.

The recommended position for the unit should be at least 1.8 meters (about 6 feet) above the floor level.

The following suggestions are intended to help you with the placement and installation of your CO alarm, and may not suit all premises or occupants. Ensure the alarm is installed correctly for your house layout, appliances and risks to occupants.

- 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.

Positioning



- It is recommended that at least one CO alarm be installed on each floor of a multistorey home.
- When installing near fuel burning appliances, position 1 to 3 metres (3.3 to 10 feet) horizontally from each appliance.
- Placing at eye level allows for optimum monitoring of the red and green indicator lights.
- Ensure that all vents of the unit are unobstructed.
- Do not install in dead air spaces such as within 300mm from corners of walls / ceilings or supporting beams or within peaks of vaulted ceilings.
- Do not install in turbulent air from ceiling fans or ventilation systems or directly above sources of heat such as radiators.
- Do not install in the immediate vicinity of cooking appliances.

Positioning

- Keep the CO alarm away from excessive exposure to dust, dirt, chemicals, or grease. Units placed in kitchens, garages, boiler rooms and similar locations should be cleaned regularly. Dust, grease and household chemicals can affect the sensor.
- Keep out of damp and humid areas such as bathrooms. Avoid spraying aerosols near the CO alarm.
- Do not install in areas where the temperature is below -10°C or hotter than 45°C.
- Do not place behind curtains or furniture, within cupboards, or in other enclosed or obstructed spaces. CO must be able to reach the sensor.
- Do not install directly above a sink or other water source.

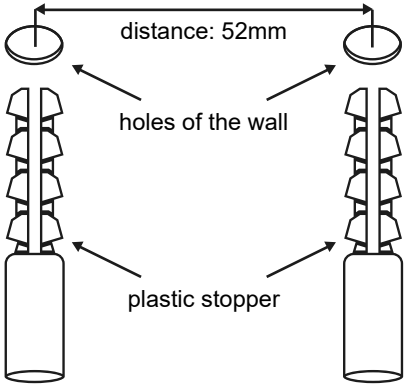
Installation

WARNING: The label on the alarm must not be removed as it shows important information about the product.

NOTE: This alarm should be installed by a competent person.

1. Fit the batteries into the alarm (please note the battery polarities).

2. Test the unit by using the TEST/SILENCE button. Ensure the alarm sounds correctly as in the Alarm Signals section.
3. Check the desired installation position for wires, pipes or other obstructions that would be dangerous to drill into.
4. Hold the baseplate against the ceiling at the desired installation position.
5. Mark the installation holes with a pencil (52mm between the centres of the two holes).
6. Drill the two installation holes as previously marked using a 5mm diameter drill bit.
7. Insert the two included plastic rawl plugs into the holes with a hammer.
8. Insert the two screws provided until the screw heads are approximately 5mm from wall.
9. Write the installation date on the sticker on the back of the alarm.
10. Hook the unit over the screws into the holes on the back of the alarm.


distance: 52mm
holes of the wall
plastic stopper

Maintenance

Testing

The carbon monoxide alarm should be tested weekly to ensure proper operation. Hold the TEST/SILENCE button for at least 10 seconds. The alarm will sound 4 quick beeps in conjunction with the red LED flashing followed by 5 seconds of silence, repeating until the TEST/SILENCE button is released.

If the alarm does not sound the batteries may be flat; please follow the Battery Replacement guidance below and then test the alarm again. If the alarm still fails to react to the test button, please read the Troubleshooting section of this manual.

WARNING: The test button accurately tests the alarm's components and functions. Do not expose the alarm to smoke or an open flame. You may contaminate and damage the sensor, preventing the alarm from providing adequate protection from real carbon monoxide emergencies, and invalidate the warranty.

Care & Cleaning

Do not paint, spray or cover the carbon monoxide alarm.

Remove the alarm from the wall and vacuum with a soft brush attachment once per month to remove dust and dirt. Do not use detergents or other solvents, or attempt to dismantle the alarm to clean inside.

After removing the alarm from its installation position for any reason, place the CO alarm back in its proper location as soon as possible and perform a test to ensure continuous protection from carbon monoxide poisoning.

When using household cleaning supplies, aerosols including air fresheners, hair spray and deodorant, or similar contaminants are used nearby, the area should be ventilated so the alarm is not exposed to fumes.

WARNING: The following substances can affect the sensor and may cause false actions: methane, propane, isobutene, isopropanol, ethylene, benzene, toluene, ethyl acetate, hydrogen sulfide, sulfur dioxide, alcohol based products, paint, paint thinner, solvents, adhesives, hair spray, aftershave, perfume and some cleaning agents. Charging lead acid batteries nearby or freshly laid screed can also cause false alarms.

Battery Replacement

To install or replace the battery in unit, please perform the following steps:

1. Remove the alarm from the wall.
2. Remove the back cover to open the battery compartment.
3. Remove the old batteries and insert the new batteries.
   a. Please note the battery polarities
4. After inserting the batteries, all three LEDs will light up briefly and the alarm will beep. The green LED will then flash once per second for 60 seconds, then transition to standby operation.
   a. If not, remove the batteries and put them in again or try different batteries.
5. Close the battery compartment.
6. Hook the unit over the screws into the holes on the back of the alarm.
7. Test the unit by using the TEST/SILENCE button. Ensure the alarm sounds correctly as in the Alarm Signals section.

WARNING: Use only the batteries specified in the Product Specification section of this manual. The use of different battery may have a detrimental effect on the CO alarm.

WARNING: Your CO alarm will not be operational and will not monitor for CO levels without batteries.

Repairing

WARNING: Opening up, dismantling, or tampering with the alarm in any way other than described in the Maintenance > Battery Replacement section puts the user at risk of electrocution and may cause the unit to malfunction.

Do not attempt to repair the alarm yourself; dismantling the alarm will invalidate your warranty. If the alarm is not operating properly but is still under warranty, contact the retailer who sold you the product or the manufacturer.

Troubleshooting

Problem	Action
The green LED power indicator is not flashing every 40 seconds.	Follow the guidance in the Maintenance > Battery Replacement section of this manual. If the problem persists, contact the retailer if still under warranty or otherwise replace the alarm immediately.
Alarm does not sound when tested.	
The alarm will chirp once every 40 seconds in conjunction with the yellow LED fault indicator flashing and a low battery symbol on screen.	
The alarm will chirp twice every 8 seconds with the yellow LED fault indicator flashing and “Err” on screen.	The alarm is faulty. Contact the retailer if still under warranty or otherwise replace the alarm immediately.
The alarm will chirp 3 times every 40 seconds with the yellow LED fault indicator flashing and “End” on screen.	The alarm has reached the end of its useable lifespan. Replace the alarm immediately.
The yellow LED fault indicator is flashing but the alarm does not chirp and a crossed-out speaker symbol is on screen.	A low battery, fault, or end of life notification has been silenced. Compare the LED flashes, message, and symbols on screen with the problems above to determine which notification it is, and follow the relevant instructions.
The red LED alarm indicator is flashing but the alarm is silent and a crossed-out speaker symbol is on screen.	The alarm detected carbon monoxide, sounded the alarm, and was silenced.

Problem	Action
The red LED alarm indicator is flashing but the alarm is silent and a crossed-out speaker symbol is NOT on screen.	The alarm detected dangerous levels of CO which have since dissipated within the last 48 hours. Follow instructions in the What to Do if The Alarm Sounds section of this manual The screen will display “AI” as long as the current CO reading is below 20ppm. Wait for 48 hours to expire or press the TEST/SILENCE button to clear the alarm memory. Contact an approved engineer to inspect your fuel-burning appliances if no other reason can be found or the alarm memory feature is activating repeatedly.

What to Do If the Alarm Sounds

Activation of this CO alarm indicates the presence of dangerous levels of carbon monoxide, which can cause illness or death within minutes. If the alarm sounds:

1. If safe to do so, shut off all fuel-burning appliances and, if possible, stop the fuel supply to them.

2. Calmly move to fresh air as quickly as possible, opening doors and windows as you pass them.
    a. Follow your personalised Escape Plan as discussed with all occupants if possible.
    b. Do not stop to collect any belongings.
3. Meet at a pre-arranged meeting place outside the building if there are multiple occupants, and check if anyone is missing, but do not re-enter the premises.
4. If anyone is suffering from the symptoms or effects of carbon monoxide poisoning seek medical advice immediately.
5. Contact the relevant authority or association for your fuel type using their emergency contact number. Relevant telephone numbers for UK residents are:
    a. National Gas Emergency Service – **0800 111 999**
    b. Oftec (oil) – **0845 658 5080**
    c. HETAS (solid fuel) – **0845 634 5626**
6. Inform your neighbours, especially of adjoining properties, because carbon monoxide can seep through walls, floors, and ceilings, or drift through their open windows.

7. Do NOT go back inside for any reason until the premises has been properly checked and verified to be safe by a professional.
8. Do NOT use the affected appliance until it has been properly checked and verified to be safe by an approved engineer.

Warranty Information

Safelincs warrants to the original purchaser that its enclosed UBCO1D battery-powered carbon monoxide alarm, under normal domestic use and service, will operate as described and be free from material and workmanship defects for a period of five years from the date of purchase.

Safelincs hereby warrants that during the warranty period, commencing from the date of purchase, Safelincs, at its discretion, agrees to repair or replace the unit free of charge. The warranty on any replacement 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.

Safelincs 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.

This warranty does not cover damage resulting from accidents, misuse, abuse, disassembly, lack of reasonable care of the product, or applications not in accordance with the user manual. Consumables such as batteries are also not covered by this warranty. In no case shall Safelincs be liable for any incidental or consequential damages or any other warranty, express or implied.

The warranty does not apply to retail stores, service centres or any distributors or agents. Safelincs will not recognise any changes to this warranty by third parties. Except to the extent prohibited by applicable law, any implied warranty of fitness for a particular purpose is limited in duration to five years.

This warranty does not affect your statutory rights. Except for death or personal injury, Safelincs 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.

Returning Your Alarm

Contact either the original retailer or UltraFire before attempting to return your alarm. Pack the alarm and your order details in a well-padded box, tape securely and affix an appropriate address label. Send the alarm either to the retailer you purchased from or to the manufacturer if still under warranty. If the alarm is no longer under warranty, replace it immediately with a comparable product.

Contact Information

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