

Carbon Monoxide Alarm Manual

MODEL NR.: CC-4100



Thank you for purchasing the CC-4100 carbon monoxide (CO) alarm. This unit uses advanced electrochemical sensor, and with LCD digital display for CO concentration. Please take a few minutes to thoroughly read the user manual before operating or servicing and familiarize yourself and your family with its operation. And save for future reference.

CAUTION:
This CO alarm is designed for indoor 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. 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.

WARNING! - Do NOT try to repair the device, it has the risk of electric shock or malfunction if the device is tampered with.

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1. Installation instructions

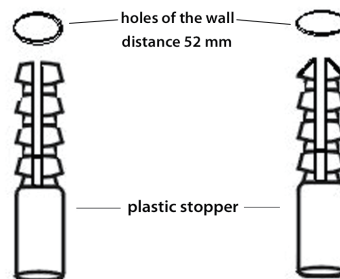
1.1 Installation location

When choosing your installation locations, make sure you can hear the alarm from all sleeping areas. If you install only one CO alarm in your home, install the alarm near bedrooms. Not in the basement or furnace room. The recommended position for the unit should be at least 1.8 meters (about 6 feet) above the floor level.

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

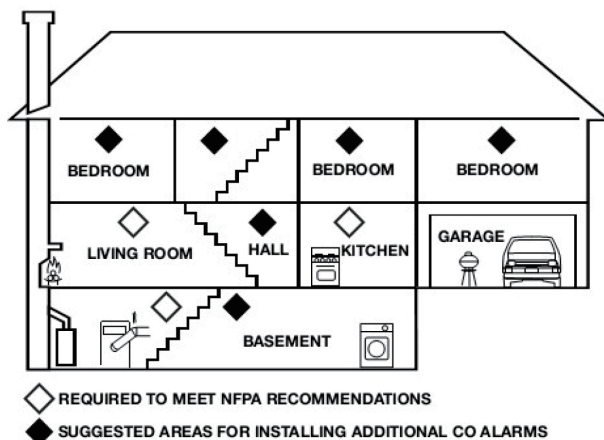
1.2 Mounting step

1. Drilling two $\phi 5.0\text{mm}$ holes in the wall, the distance between two holes center is 52mm, then inserting two plastic stopper provided into the holes.
2. Insert the two screws provided until the screw heads are approximately 5mm from wall.
3. Test the unit by using the TEST/SILENCE button. Ensure the unit sound is alarm pattern.
4. Hook the unit over the screws onto keyholes in back of unit.



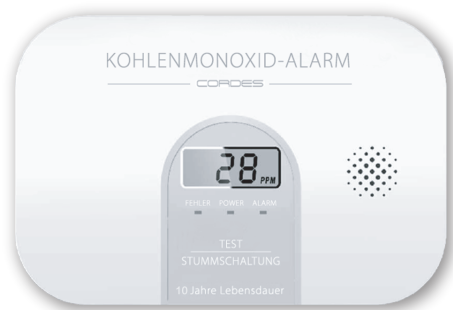
1.3 Recommended installation locations

The following suggestions are intended to help you with the placement and installation of your CO alarm.



- Place out of the reach of children. Under no circumstance should children be allowed to handle the CO 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.
- It is recommended that a CO alarm be installed on each level of a multilevel home.
- Locate 1~3 meter (3.3~10feet) away from all fuel burning appliances.
- Placing at eye level allows for optimum monitoring of the red and green indicator lights.
- Insure that all vents of the unit are unobstructed. holes of the wall plastic stopper distance : 52mm
- Do not install in dead air spaces such as peaks of vaulted ceilings, or gabled roofs.
- Do not install in turbulent air from ceiling fans.
- Do not place near fresh air vents or close to doors and windows that open to the outside.
- Keep the CO alarm away from excessively dusty, dirty, or greasy areas such as kitchens, garages and furnace rooms. Dust, grease and household chemicals can affect the sensor.
- Keep out of damp and humid areas such as the bath room. 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. CO must be able to reach the sensor for the unit to accurately detect CO.

2. Product overview



2.1 POWER indicator

The POWER indicator (green LED) is used to indicate power status of the CO alarm. The POWER indicator will flash every 40 seconds.

2.2 FAULT indicator

The FAULT indicator (yellow LED) is used to indicate fault or warning status of the CO alarm.

2.3 ALARM indicator

The ALARM indicator (red LED) is used to indicate alarm status of the CO alarm.

2.4 TEST/SILENCE button

The TEST/SILENCE button is used to test the unit. Press and hold to enable TEST function.

2.5 Alarm sounder

The alarm sounder is used to send out CO alarm warning and fault warning information.

2.6 LCD screen

Indicates CO concentration and alarm status.

3. Understanding your CO alarm

3.1 Start up

When first power on, the POWER indicator (green) flash every second, This is preheated state, 60 seconds later the POWER indicator (green) flashing every 40 seconds indicates the unit is functioning properly. The LCD displays all segments 4s and count down. When the countdown is „0“, the product goes into normal operation.

3.2 Normal operation

The POWER indicator (green) flashing once every 40 seconds. The LCD alternately displays current CO concentration and temperature every 40s. CO concentration display range: 0~999PPM. If the CO concentration is under 20PPM, the LCD will display „0PPM“. If the CO concentration overruns 999PPM, the LCD will display „999PPM“. Temperature display range:-9~50°C. If CO concentration overruns 20PPM, the function of temperature display will be disable.



3.3 CO alarm warning

When the device detects a dangerous level of CO, the device will emit a loud alarm pattern. The alarm signal pattern is 4 beeps followed by 2 seconds of silence. The ALARM indicator (red) will flash the same pattern. This cycle repeats as long as a dangerous CO condition exists.

Alarm sensitivity setting:

Conforms to EN 50291-1:2018

30PPM Without alarm before 120 minutes

50PPM: Alarm between 60 to 90 minutes

100PPM: Alarm between 10 to 40 minutes

300PPM: Alarm within 3 minutes

NOTE: Refer to “3. What to do if the alarm sounds” when you hear the sounds of the CO alarm warning.



3.4 CO alarm warning silence

During the device under CO alarm mode, pressing the TEST/SILENCE button, it will be paused alarm sound of the device about 10 minutes. The ALARM indicator (red) will keep flash as CO alarm mode, it indicates the device is running into the CO alarm silence mode.

NOTE: The audible alarm signal will reactivate about 10 minutes from the time the TEST/SILENCE button is operated where the concentration of CO surrounding the alarm remains at 50 PPM or greater.


NOTE: The audible alarm signal cannot to silence if the alarm at concentration above 200 PPM.

NOTE: The alarm silencing activation to once throughout a CO alarm period.



WARNING! Before enable feature of CO alarm warning silence, you should be confirmed that the alarm is due to dangerous levels of carbon monoxide and the dwelling should be ventilated.

3.5 Low battery voltage warning


If the device chirps once every 40 seconds, with FAULT indicator (yellow) will be flash. It indicates the battery is low. The LCD displays always displays „“.

NOTE: When the low battery voltage warning is occur, the device has capable of producing a CO alarm signal for at least 4 min or 30 days of low battery voltage warning signal operation.

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



3.6 Low battery voltage warning silence

When the device is under the low battery warning, pressing the TEST/SILENCE button, it will come into a low battery voltage warning silence status for about 9 hours, meanwhile it will appear „“ on LCD, and FAULT indicator (yellow) still keep flashing.

NOTE: The silence feature of low battery voltage warning is temporary action to cancel warning sound effect, you need replace the battery as soon as possible.


3.7 Fault warning

If the device chirps twice every 40 seconds with FAULT indicator (yellow) will be flash. It indicates the CO alarm is in malfunction condition. The LCD displays „Err“, that means your CO alarm have no detecting function and no respond CO.

NOTE: Maybe the sensor is missing, replace the device immediately. Please contact us to more service.



3.8 Fault warning silence

When the device is in a fault state, press the TEST/SILENCE button, it will enter the fault warning mute state for about 9 hours, while displaying „“ on the LCD, and the FAULT indicator (yellow) remains flashing.


NOTE: The silence feature of fault warning is a temporary action to cancel warning sound effect, you need replace the device as soon as possible.

3.9 End-of-life warning

If the device chirps 3 times every 40 seconds with FAULT indicator (yellow) flash and the LCD displays 'End'. It indicates end of life of CO alarm. You need to immediately replace the CO alarm.



3.10 End-of-life warning silence

When the device is in the End-of-life state, press the TEST/SILENCE button, it will enter the End-of-life warning mute state for about 9 hours, while displaying „“ on the LCD, and the FAULT indicator (yellow) remains flashing.

NOTE: The silence feature of fault warning is a temporary action to cancel warning sound effect, you need replace the device as soon as possible.



3.11 Test the device

When the device under normal operation status, you can test the device by TEST/SILENCE button, PRESS and HOLD the TEST/SILENCE button, you should hear alarm sound pattern (<85dB) and with a corresponding ALARM indicator (red) flash. After the eighth sound, the device will issuing a normal alarm volume (≥85dB). Test process will stop when release the button. The LCD displays all segments during testing.

NOTE: After the TEST/SILENCE button is enabled, the alarm sounds and the red alarm light flashes. This does not indicate that CO is present.

NOTE: Test the device every year! If at any time your device does not perform as described, replace it immediately.

3.12 Automatic brightness adjustment

Automatic brightness adjustment of POWER indicator (green). If the ambient brightness is very low (night, indoor & lights off). The flashing brightness of the POWER indicator (green) will be reduced, so as to reduce the impact of the standby indicator light on people.

NOTE: This function does not affect the brightness of the ALARM indicator (red) and the FAULT indicator (yellow).

3.13 Weekly test

Recommend test the alarm weekly by pressing the TEST/SILENCE button to ensure the normal operation of the equipment.



3.14 Alarm memory

48 hours alarm memory function. When the device detects CO and alarms, when the device return to standby mode, and the CO concentration <20PPM, LCD displays „AL“ and ALARM indicator (red) flash per 40 seconds. After press TEST/SILENCE button or after 48 hours, will reset the historical memory function and enter normal operation

status.

4. What to do if the alarm sounds

WARNING! – Actuation of your CO alarm indicates the presence of Carbon Monoxide (CO) which can KILL YOU.

WARNING! – Action of this device indicates the presence of dangerous levels of CO! CO can be fatal!

If the alarm sounds:

4.1 Keep calm and open all doors and windows to increase the rate of ventilation. Stop using all fuel-burning appliances and ensure, if possible, that they are turned off, e.g. for gas appliances, isolate the emergency control valve;

4.2 If the alarm continues to be activated, then evacuate the premises. Leave the doors and windows open, and only reenter the building when the alarm has stopped. In multi-occupancy and multi-storey premises, ensure that all the occupants are alerted to the risk;

4.3 Get medical help for anyone suffering the effects of carbon monoxide poisoning, and advise that carbon monoxide inhalation is suspected;

4.4 Telephone the appropriate appliance servicing and/or maintenance agency or, when necessary, the relevant fuel supplier on their emergency number or the national Gas Emergency Service Provider, if appropriate, so that the source of carbon monoxide emissions can be identified and corrected. Unless the reason for the alarm is obviously spurious, do not use the fuel-burning appliances again, until they have been checked and cleared for use by a competent person according to national regulations.

5. Battery installation/replacement

Once chirps with corresponding FAULT indicator (yellow LED) flashing once every 40 seconds indicates that the battery is low battery, you must to replace with battery specified, please see “8. Specification”.

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

5.1 Take down the unit from screw heads of the wall.

5.2 Open battery compartment.

5.3 Remove the old battery, and replaced by new battery.

5.4 Put the battery into the battery box.

5.5 Hook the alarm over the screw heads onto keyholes in back of the unit.

5.6 Test alarm using the TEST/SILENCE button, if the testing alarm is ok, means the product can work normally.

WARNING! - Use only the battery specified. Use of different battery may have a detrimental effect on the CO alarm. A good safety measure is to replace the battery at least once a year.

CAUTION: Please replace new 2pcs same type batteries in the meantime.

CAUTION: Test the alarm for correct operation using the TEST/SILENCE button, whenever the battery is replaced!

6. General maintenance

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

- 6.1 Verify the unit's alarm sound and indicators operation by enable the TEST/SILENCE button once a week.
- 6.2 Remove the unit from the wall and clean the alarm cover and vents with a soft brush attachment once a month to remove dust and dirt.
- 6.3 Never use detergents or other solvents to clean the unit.
- 6.4 Avoid spraying air fresheners, hair spray, or other aerosols near the CO alarm.
- 6.5 Do not paint the unit. Paint will seal the vents and interfere with the sensor's ability to detect CO. Never attempt to disassemble the unit or clean inside. This action will void your warranty.
- 6.6 As soon as possible, place the CO alarm back in its proper location to assure continuous protection from carbon monoxide poisoning.
- 6.7 When household cleaning supplies or similar contaminants are used, the area should be ventilated.

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 dioxides, alcohol based products, paints, thinner, solvents, adhesives, hair sprays, after shaves, perfumes and some cleaning agents.

WARNING! - Your CO alarm will not be operational and will not monitor for CO levels without battery.

WARNING! - This apparatus is designed to protect individuals from the acute effects of carbon monoxide exposure. It will not fully safeguard individuals with specific medical conditions. If in doubt consult a medical practitioner.

7. Carbon monoxide (CO) and toxic effects

Carbon monoxide (CO) is a colourless, odourless, nonirritating gas classified as a chemical asphyxiant and whose toxic action is a direct result of the hypoxia produced by a given exposure. CO is rapidly absorbed through the lungs, diffuses across the alveolar capillary membrane and is reversibly bound with haemoglobin as carboxyhaemoglobin (COHb), however, a minute amount is present in the plasma. The affinity of haemoglobin for CO is over 200 times its affinity for oxygen. This reduces the oxygen carrying capacity of the blood, and has an effect on the dissociation of oxyhaemoglobin, which further reduces the oxygen supply to the tissues. CO is chemically unchanged in the body, and is eliminated in expired air. The elimination is determined by the same factors that applied during absorption. The half-life while breathing room air is 2 h -6,5 h depending on the initial COHb level. If the CO level in the inhaled air is constant, the level of COHb in the blood will approach an equilibrium (saturation) state after several hours. However, the rate at which the equilibrium is reached depends on many factors, e.g. lung ventilation rate (physical activity) and alveolar capillary transfer, cardiac parameters, blood haemoglobin concentration, barometric pressure, oxygen and carbon dioxide concentration in the inhaled air, but the two most important factors in determining the COHb level are the CO concentration and the duration of exposure.

8. Specification

Model: CC-4100
 Product standards: EN 50291-1:2018
 Type of apparatus: Type B
 Power Supply: 3V (2pcs AA alkaline battery)
 Recommend battery type:
 GP GN15A or ENERGIZER E91 (The normal service life is 3 years)
 Sensor Type: Electrochemical
 Product life: 10 years after manufacture
 Sensitivity Setting:

Conforms to EN 50291-1:2018 standard.
 30PPM Without alarm before 120 minutes
 50PPM: Alarm between 60 to 90 minutes
 100PPM: Alarm between 10 to 40 minutes
 300PPM: Alarm within 3 minutes
 Standby Current: <20µA (average)
 Alarm Current: <50mA (average)
 Operation Ambient Condition: -10 ~ +45°C, 25 ~ 95%RH
 Storage/Transport Ambient Condition: -20 ~ +50°C, 10 ~95%RH
 Alarm sound: ≥85DB at 3m
 Low Battery warning silence: about 9 hours
 Installation Location: wall
 Detection range: Max. 40 m2 within a room.
 Size: 120*80*37 ± 1mm
 Weight: 102 ± 5g (net)

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

Disposal instructions

Electric devices and used batteries are not be thrown into the domestic waste. Hand in the used batteries at the corresponding collecting point. Hand in the device at your municipal waste disposal company or a collecting point specialized in electronic scrap.

Disclaimer

Cordes-Vertriebsgesellschaft mbH shall not be liable for damage of any kind (including individual or consequential damage) resulting from the fact that the signal of the CO alarm was not activated in the presence of carbon monoxide. Furthermore, Cordes-Vertriebsgesellschaft mbH shall also not be liable for the consequences of false or deceptive alarms: Costs resulting, for instance from operations of the fire brigades or key services are not covered.

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