



USER MANUAL

CO DETECTOR

SA-DC04



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1. Product Description

The SA-DC04 household standalone carbon monoxide detector (detector) can detect carbon monoxide gas leakage, prevent the damage caused by the leakage, it adopts high-stability electrochemical gas sensor, with characteristics of stability, minor sensitivity drift etc. The detector flash red with alarm sound when the alarm detects a carbon monoxide gas leak and reaches the alarm condition set by the alarm. This detector is suitable for installing in residential houses with potential CO gas occurrence.

2. Products Characteristics

- Electrochemical Sensor
- Digital Temperature Compensation
- Battery Low Voltage Alarming
- Sensor Faults Detection Automatically
- Anti-reverse and anti-leakage function of battery, more safety

3. Technical Parameters

Power Supply	DC 3V (AA alkaline battery * 2pcs)
Standard	EN 50291-1:2018+AC:2021
Sensor Life	10 years
Battery Life	2 years (typical value)

Sensor Model	ZA-COX1
Standby Current	< 20 uA
Alarm Current	< 45 mA
Alarm Sound	≥85dB@3m
Alarming Status	when CO concentration is 30ppm, no alarm before 120 minutes elapse when CO concentration is 50 ppm, alarm within 60-90 minutes, when CO concentration is 100 ppm, alarm within 10-40 minutes, when CO concentration is 300 ppm, alarm within 3 minutes.
Operating Temperature	-10 °C - +40 °C
Operating Humidity	≤ 95%
Installation Mode	fasten by screw or 3M glue
Size	140 mm * 70 mm * 28 mm

4. Operating Instruction

- 1) It enters pre-heating mode once battery installed, the sensor needs 120 seconds for pre-heating before come to normal working status, meanwhile the LCD will display countdown for 120 seconds, the green indicator light flash per 2 seconds.
- 2) After the pre-heating, it comes to normal standby status, LCD display "0 ppm", the green indicator light flash once per 40 seconds.
- 3) When pre-heating or normal standby status, can test the device by long pressing the testing button, LCD display "000 ppm", the green and yellow indicator lights are on all the time, and the red indicator light flash, the buzzer buzzes.
- 4) It comes to pre-alarm mode when detect the carbon monoxide concentration exceed 30 ppm, LCD display real-time concentration, the green indicator light flash once per 40 seconds.
- 5) Alarm mode: when the alarm is triggered, the buzzer sounds 4 times continuously. Green and yellow lights go out, red lights flash. At the same time, the LCD screen displays the real-time concentration, "Alarm" symbol, "PPM" and "Battery" symbol. When the carbon monoxide concentration is between 41+75 ppm, it will alarm after 75 minutes.

When the carbon monoxide concentration is between 75+200 ppm, it will alarm after 15 minutes.

When the carbon monoxide concentration is between 200+300 ppm, it will alarm after 1 minute.

When the carbon monoxide concentration exceeds 300 ppm, it will alarm immediately.

Once the product alarms, the alarm can only stop when the carbon monoxide concentration is below 30 ppm.

- 6) The yellow indicator light flash twice per 40 seconds with buzzer buzzes twice when there is fault, LCD display "Err". Currently, press and hold the self-check button, and the fault prompt interval becomes 1 second and prompts once immediately.
- 7) The yellow indicator light flash once per 40 seconds with buzzer buzzes once when low battery voltage, LCD display blank battery level, need to replace the battery at once.
- 8) The LCD backlight is on all the time, LCD display "End", yellow indicator light is on all the time, buzzer buzzes 3 times per 60 seconds, that means the device reach the end of the service life and cannot operate normally.
- 9) When the equipment works in extreme environments for a long time, the service life of the equipment will be shortened.

- 10) This product does not have mute function, including concentration alarm mute function, fault alarm mute function, low voltage alarm mute function, etc.

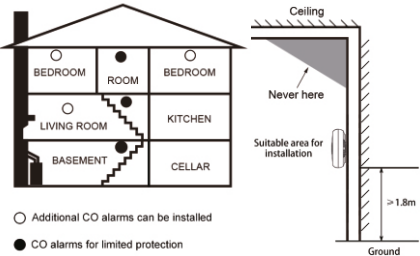
5. Installation Instruction

5.1. Installation Process

- 1) Slide the mounting plate down. Then remove the transparent plastic film on the battery, and insert the 2 AA batteries, observing polarity.
- 2) Drill two 4 mm diameter holes in the wall with a spacing of 62 mm. Then insert two plastic plugs into the holes. Align the hanging plate hole in the package with the plastic plug hole. Finally fix it with screws until the screw heads fit snugly against the siding. Or use the self-adhesive tape.
- 3) Press the Self-test button, guarantee the device can alarm with sound and light.
- 4) Align the holes on the back of the device to the mounting plate, and install it.



5.2. Recommended Installation Location



- 1) The apparatus should be installed by a competent person.
- 2) Please guarantee that all the sleeping area can hear the alarming sound, if there is only 1 piece of carbon monoxide detector, please install close to the bedroom, not in the basement. Installation height is at least 1.8 m above the ground.
- 3) Please install the position that out of reach of the children. The children operate the carbon monoxide detector is NOT allowed in any cases.

- 4) Recommend to install 1 piece of detector each floor in multi-storey residential buildings. Do not install in the places with poor ventilation, such as vaulted ceiling or the top of mountain type proof. Meanwhile, do not install in the places with strong wind, close to the ventilator scoop or opened door/window.
- 5) Keep 1+3 m away from all the fuel, combustion appliances, put on the eye level to better monitor the red, green, yellow indicator lights.
- 6) Keep carbon monoxide detector away from the dusty, dirty or greasy areas, such as kitchen, garage and furnace chamber, the dust, grease and household chemicals will affect the sensor. Keep away from humid areas, such as bathroom. Avoid spraying aerosols near carbon monoxide detector. Do not install in the space where the temperature is lower than -10° C or higher than +40° C. Do not install at the back of the curtain or furniture. The carbon monoxide gas must be able to reach the sensor, to guarantee detect correctly.
- 7) The installation of the CO alarm device should not be used as a substitute for proper installation, use and maintenance of fuel burning appliances including appropriate ventilation and exhaust systems.

6. Safety Knowledge about Carbon Monoxide

6.1. Carbon Monoxide Description

- 1) After carbon monoxide gas enters the body, it will combine with the hemoglobin in the blood to produce carboxyhemoglobin, which lead to the hemoglobin cannot combine with oxygen, resulting in tissue hypoxia, death by suffocation. Carbon monoxide is toxic, colorless, odorless, tasteless gas, so it is easy to ignore and cause poisoning.
- 2) Carbon monoxide toxic symptom
 - Mild:** mild headache, weakness, chest tightness.
 - Serious:** severe headache, nausea, impaired limb movement, irritability, confusion, impaired visual acuity, muscle weakness, dizziness.
 - Extremely Serious:** convulsions, unconsciousness, coma, collapse, death.

6.2. Carbon Monoxide Safety Protection

- 1) Open the window often, maintain indoor ventilation, install the carbon monoxide detector in proper position to real-time detect the carbon monoxide concentration, remind people to leave the dangerous space when alarming, to prevent carbon monoxide poisoning.
- 2) Places where carbon monoxide easy exist.

Fuel Combustion appliance, such as: portable heater, gas or wood burning fireplace, gas stove, gas dryer.
Damaged or inadequately ventilated area, such as corrode or disconnect water heater ducts, leakage tube chimney or flue or broken heat exchanger, or blocked chimney opening
Appliance with wrong usage, such as BBQ in enclosed areas.

6.3. Carbon Monoxide Damage

Carbon monoxide has an anesthetic effect on the human central nervous system, severe cases cause suffocation or death. Carbon monoxide inhalation concentration, time and symptom as follows:

50 ppm	Maximum concentration for healthy adult can tolerate in 8 hours.
200 ppm	Mild headache, weak in 2+3 hours.
400 ppm	Forehead pain within 1+2 hours, threaten life after 3 hours.
800 ppm	Dizziness, nausea, cramps within 45 minutes, loss feeling within 2 hours, death in 2+3 hours.
1600 ppm	Headache, dizziness, nausea within 20 minutes, death in 1 hour.
3200 ppm	Headache, dizziness, nausea within 5+10 minutes, death in 25+30 minutes.

6400 ppm	Headache, dizziness, nausea within 1+2 minutes, death in 10+15 minutes.
12800 ppm	Death in 1+3 minutes.

6.4. Alarming Processing

When the carbon monoxide gas concentration exceeds alarming value, the detector will automatically enter continuous alarm status, we should do by below steps:

- 1) Close the pipe valve immediately
- 2) Open the window immediately, maintain indoor ventilation.
- 3) Inform relevant departments and professionals to deal in time, if it is false alarming after checking, the user needs to check whether the detector is installed in proper position.
- 4) Never ignore any alarm. If there is any question as to the cause of an alarm it should be assumed that the alarm is due to dangerous levels of carbon monoxide and the dwelling should be evacuated. See section 4 (Operating Instruction) for more information and this section 6.4 (Alarming Processing) if you have to respond to an alarm. Failure to respond can result in injury or death.

6.5. Warning

- 1) Do not use heavy objects to suppress the alarm, do not drop the alarm at high altitude.
- 2) This detector cannot be used as smoke alarm.

- 3) Put in the places out of children's reach.
- 4) Do not put in the places of high voltage and strong magnetic field.
- 5) It's forbidden for the user to disassemble the CO alarm privately which may cause damage to the CO alarm.
- 6) 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. Troubleshooting

- 1) The yellow LED light flash once per 40 seconds with buzzer buzzes once when low battery voltage, LCD display blank battery level, need to replace the battery at once.
- 2) The LCD backlight is on all the time, LCD display "End", yellow indicator light is on all the time, buzzer buzzes 3 times per 60 seconds, that means the device reach the end of the service life and cannot operate normally, need to replace the detector.
- 3) The yellow indicator light flash twice per 40 seconds with buzzer buzzes twice, LCD display "Err", means sensor fault, please contact dealer or our company.
- 4) Press testing button, no signs for the detector, please confirm whether the battery install correctly, if the battery install correctly and no signs for the detector, please contact dealer or our company.

8. Contact Us

Thanks for choosing our products, we provide the warranty according to the national laws and regulations, if the products break down within the warranty period, or you have any questions during the products installation and usage, please contact us in time, we will provide timely and extremely service for you.

Hereby Spacetronik Sp. z o.o. declares under its sole responsibility that the product SA-DC04 is in conformity with following directives: EMC (2014/30/UE), RoHS (2011/65/UE + 2015/863/UE). Full document (declaration of conformity) is available for download from the website www.spacetronik.eu. The WEEE symbol (the crossed-out wheeled bin) using indicates that this product is not home waste. Appropriate waste management aids in avoiding consequences which are harmful for people and environment and result from dangerous materials used in the device, as well as improper storage and processing. Segregated household waste collection aids recycle materials and components of which the device was made. In order to get detailed information about recycling this product please contact your retailer or a local authority.

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