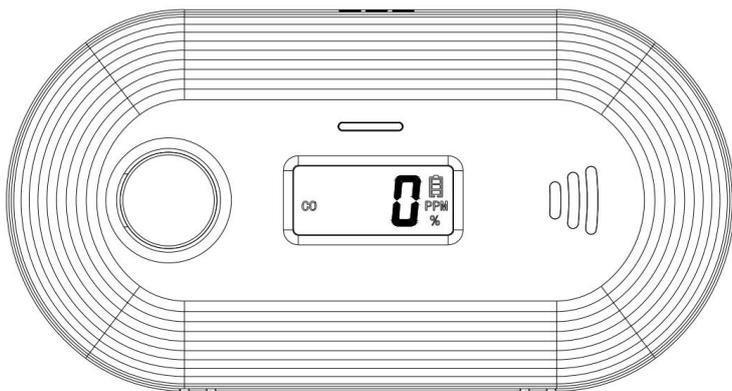


User Manual

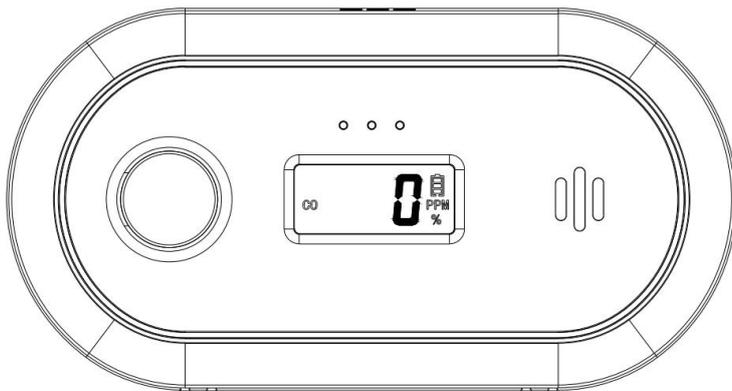
Rev. 01

Carbon Monoxide Alarm

(Type B)



Model: VC21 / VC21F / VC21W



Model: VC22R / VC22FR / VC22WR

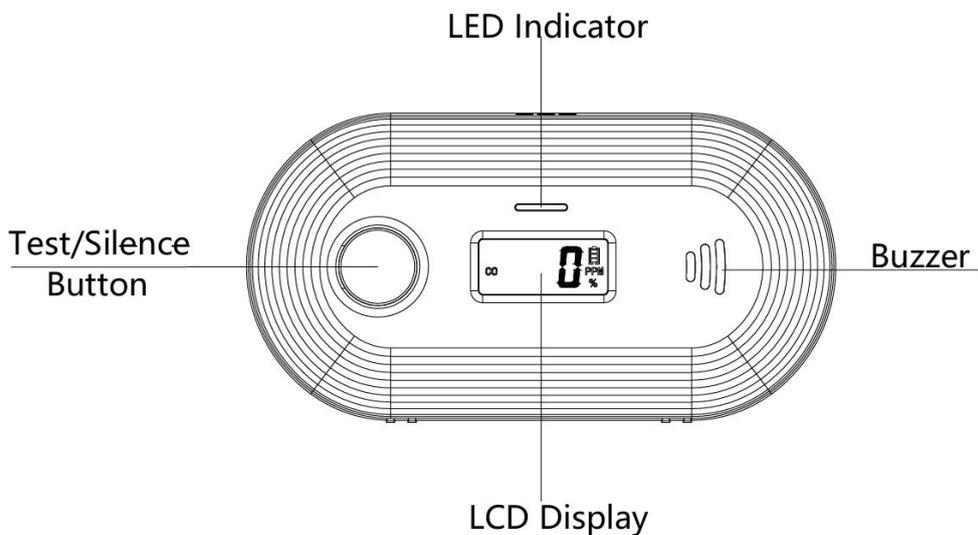
Thank you for purchasing our Carbon Monoxide Alarm. Please read this manual carefully to ensure proper use and store it in a safe place for future reference.

This device is a battery-powered CO (carbon monoxide) alarm with an advanced electrochemical sensor for domestic use. Please note that this device does not detect smoke, heat flames or any hazardous gas other than carbon monoxide even though carbon monoxide can be generated by fire. For this reason, you must install smoke alarms to provide early warning of fire and to protect you and your family from fire and its related hazards.

Model Chart

Model	Battery	Product Type
VC21	10-Year Life Sealed Lithium Battery	Standalone Carbon Monoxide Alarm
VC22R	Replaceable CR123A Lithium Battery	
VC21F	10-Year Life Sealed Lithium Battery	Wireless Interlinked Carbon Monoxide Alarm
VC22FR	Replaceable CR123A Lithium Battery	
VC21W	10-Year Life Sealed Lithium Battery	Wi-Fi Carbon Monoxide Alarm
VC22WR	Replaceable CR123A Lithium Battery	

Product Profile



Packing List

- 1 × Alarm Unit
- 2 × Screws
- 2 × Anchor Plugs
- 1 × User Manual

Product Specifications

- CO Sensitivity and response time:

50 ppm for 60~90 minutes

100 ppm for 10~40 minutes

300 ppm for 0~3 minutes

- Power: DC 3V, Lithium Battery
- CO Sensor Type: 10-Year Life Electrochemical CO Sensor
- Accuracy of Digital Display: 30-999 PPM
- Standard: EN 50291-1:2018
- Alarm Volume: >85 dB(A) at 3 meters
- Silence Time: About 6 minutes
- Operating Temperature: 0~40°C
- Operating Relative Humidity: ≤ 90% (non-condensing)
- Product Life: 10 years
- Battery Life: 10 years(VC21/VC21F/VC21W);
5 years(VC22R/VC22FR/VC22WR)

Below only for Wireless Interlinked Carbon Monoxide Alarm: VC21F / VC22FR

- Wireless Frequency: 433MHz
- Transmission Range: Over 100m (in open air)
- Max. Number of Interconnected Units: 30 wireless units

Below only for Wi-Fi Carbon Monoxide Alarm: VC21W / VC22WR

- Wireless Frequency: 2.4GHz
- Wireless Protocol: IEEE 802.11b/g/n
- App: TuyaSmart/Smart Life APP (Android and iOS supported)

NOTES

1. Battery life is calculated on the current ratings. If its operation mode changes to an alarming condition, the battery life will be decreased accordingly.

2. Not recommended for operation below 0°C or above 40°C or in humidity greater than 90%, as this may reduce the battery life.

3. Replace the device within 10 years of installation date.

 WARNING:

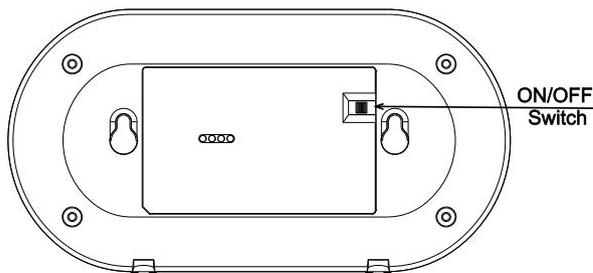
1. NEVER IGNORE ANY ALARM. FAILURE TO RESPOND CAN RESULT IN SERIOUS INJURY OR DEATH.
2. THIS PRODUCT IS INTENDED FOR USE IN ORDINARY INDOOR RESIDENTIAL AREAS.
3. THE INSTALLATION OF THE APPARATUS SHOULD NOT BE USED AS A SUBSTITUTE FOR PROPER INSTALLATION, USE AND MAINTENANCE OF FUEL-BURNING APPLIANCES INCLUDING APPROPRIATE VENTILATION AND EXHAUST SYSTEMS.
4. THIS APPARATUS IS TO BE INSTALLED BY A COMPETENT PERSON.
5. IT IS NOT TESTED FOR USE IN A CARAVAN OR BOAT.

6. 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.

To Activate the Device

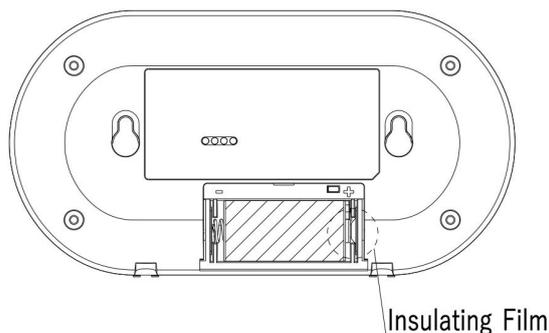
1. For models VC21/VC21F/VC21W

Turn the switch to the ON position, the device will be activated directly.



2. For models VC22R/VC22FR/VC22WR

The device is equipped with a battery insulating film to ensure it will not be powered on during transportation before it has shipped from the factory. When installing this product, you will need to pull out the film before powering on and activating the device.



Alarm Testing

Test the unit to ensure proper operation by pressing the Test button, the alarm will sound and enter into TEST MODE. If no sounds, you can refer to "Trouble shooting" section for solution.

Silence Mode

Press the test button during an alarm to have the unit enter silence mode. If the CO density still exceeds the alarm threshold after 6 minutes, the unit will re-enter the alarm mode.

⚠️ WARNING:

- If the CO concentration is above 180 ppm, the silence function cannot be enabled which has been designed for your safety.
- Any remote silencing feature shall only be used in line of sight of the CO alarm.

Indicator and Audible Alarm

Mode	LCD Display	LED Indicator	Audible Alarm	Remarks
Standby Mode		Flashes green once every 1 minute	None	None
Alarm Mode	 CO concentration (30~999ppm) exists for a certain time period, the screen will be light up	Flashes red 4 times every 5 seconds	4 beeps repeating every 5 seconds	Dangerous CO concentration is detected.
Test Mode		2 sets of 4 red flashes	2 sets of 4 beeps	Press the Test/Silence button.
Silence Mode		Flashes red 4 times every 5 seconds	None	CO silence mode: After 6 minutes, the unit will exit silence mode.
Low Battery	  The LCD alternate displays between "Lb" and current CO level	Flashes yellow once every 1 minute	One beep every 1 minute	Replace the unit immediately (For VC21 series); Replace the battery (For VC22R series);
Fault		Flashes yellow 2 times every 45 seconds	2 beeps every 45 seconds	Please clean your alarm and see if it is working normally. If "Err" continues to display, the unit has malfunctioned and must be replaced immediately.

End of Life		Flashes yellow 3 times every 1 minute	3 beeps every 1 minute	Replace the unit immediately.
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Set Up and Interconnect Wireless Alarms

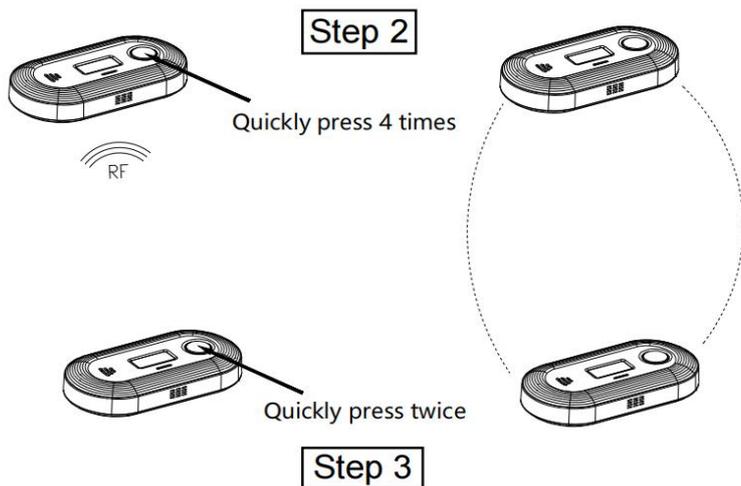
Only for Wireless Interlinked Carbon Monoxide Alarms: VC21F, VC22FR

Wireless interlinked alarms are interlinked through radio-frequency signals. When one unit is triggered, all interconnected units will sound an alarm.

The wireless interlinked alarms in one multi-pack have already been interconnected, and the alarms in each multi-pack have their own independent interlinked network. If you have more than one multi-pack, you will need to connect them all to the same network. Choose one multi-pack as your base network and connect the other multi-packs (The alarms in this multi-pack must be disconnected one by one) to it.

How to create the interlinked network

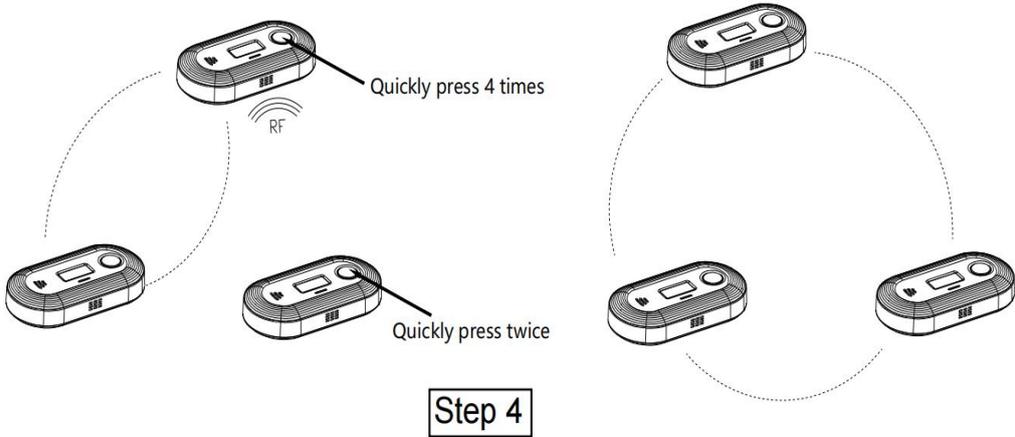
- Step 1: Make sure you only work with 2 units at a time, and make sure that they are both turned on to ensure successful connection.
- Step 2: Press the test/silence button on one of these alarms 4 times, and the green LED will slowly flash continuously, indicating it has entered the transmitting mode (valid time: 60 seconds).
- Step 3: Press the test/silence button on the other alarms twice, and the green LED will rapidly flash continuously, indicating it has entered the receiving mode.



If pairing is successful: The green LED of these alarms will stop flashing.

When it is failure: The green light will continue to flash for 60 seconds, and then the red light will stay on for 2 seconds.

- Step 4: If you want to connect more units, first choose any one of the previously interconnected units and follow step 2. Then, perform step 3 with the new device.



How to disabling the interconnect function

Quickly press the test/silence button 2 times; the green LED will rapidly flash for a few seconds. then ignore it and It will automatically disconnect. After disconnecting, it can be reconnected to the same network, or added to a new network.

How to silence the alarms in network when alarm

- If the alarm is triggered, the device will go into Source/Master CO alarm sound pattern, and emits the alarm signal;
- When other alarm devices received the alarm signal, they will go into Slave alarm sound pattern, until the Source/Master alarm device stop alarm;
- You can silence all interconnected units by pressing the test/silence button on one of the alarms. If one unit is still alarming, **it is the initiating CO alarm (the unit that detected the CO gas)**. To silence all connected units, you must also press the test/silence button on the initiating CO alarm.

Status	LED indicator	Audible alarm
Source/Master CO alarm sound pattern	Red LED flashes 4 times every 5 seconds	4 beeps every 5 seconds
Slave alarm sound pattern	Red LED and Green LED flash alternately	Short quick beeps

Set Up and Connect Alarms to Wi-Fi

Only for Wi-Fi Carbon Monoxide Alarm: VC21W, VC22WR



Before connecting alarms, make sure that:

1. Download the TuyaSmart/Smart Life app and connect the alarm to your Wi-Fi via the app. Search for TuyaSmart/Smart Life in the App Store or Google Play, or simply scan the included QR code to install the TuyaSmart/Smart Life app. You will also need to register an account.
2. Know your Wi-Fi network name and password.
3. Make sure you are connecting alarms to a 2.4GHz Wi-Fi network. (incompatible with 5GHz Wi-Fi network).
4. Make sure the Bluetooth on your phone is turned on.



TuyaSmart App



Smart Life App

How to connect

1. Activate the alarm;
2. Press the Test/Silence button four times until the green light blinking;
3. Open the TuyaSmart/Smart Life app, tap the “+” icon in the top right corner of the “Home” page, or directly tap “Add Device” to add the device;
4. Choose the “Auto Scan” to find the device, you can see “devices to be added” then follow the app guide to connect it.
5. Once you have successfully connected your device to the app, you can continue to the “Settings” section to set up push notifications and change various settings for the app and device.

NOTES:

1. Unsuccessful connection may be because your router, mobile phone, and alarm are not as close to each other as possible, you have incorrectly entered your Wi-Fi password, or the Bluetooth on your phone is not turned on.
2. If your home Wi-Fi router is a 2.4 and 5 GHz dual-band that works with a single SSID name, please refer to your Wi-Fi router manual to create separate SSIDs for the 2.4 and 5 GHz channels. You can also select “Common router setting method” on the TuyaSmart/Smart Life App in the network configuration process to learn about the corresponding setting method.

Installation Instructions

Where to install

Recommended Installation Locations CO alarms should be mounted in or near bedrooms and living areas. It is recommended that you install a CO alarm on each level of your home.

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 it near

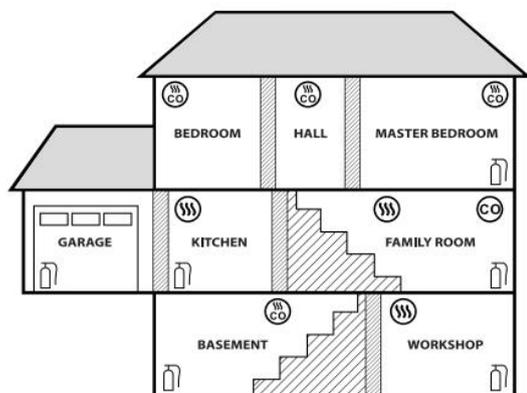
bedrooms, not in the basement or furnace room.

1. When wall mounting, place out of reach of children. Under no circumstances should children be allowed to handle the CO alarm.
2. Placing the alarm at eye level allows for optimum monitoring of the digital display.

WARNING:

- This detector will only indicate the presence of carbon monoxide
- This detector can only detect carbon monoxide gas near the sensor. Carbon monoxide gas may be present in other areas.
- Carbon monoxide alarms are not smoke alarms. This carbon monoxide alarm is not a substitute for installing and maintaining an appropriate number of smoke alarms in your home.
- This carbon monoxide alarm will not sense smoke, fire, or any poisonous gas other than carbon monoxide even though carbon monoxide can be generated by fire. For this reason, you must install smoke alarms to provide early warning of fire and to protect you and your family from fire and its related hazards.

Recommended Placement







FIRE EXTINGUISHERS



SMOKE ALARMS



CARBON MONOXIDE ALARMS



SMOKE & CO ALARMS

Locations to Avoid

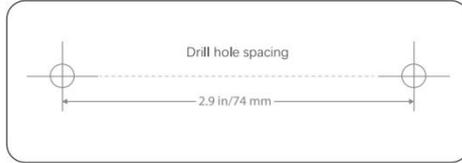
Improper location can affect the sensitive electronic components. To avoid causing damage to the unit, and to prevent unnecessary nuisance alarms:

1. Do not install in kitchens, garages or furnace rooms that may expose the sensor to substances that could damage or contaminate it.
2. Do not install in areas where the temperature is colder than 0°C or hotter than 40°C, such as crawl spaces, attics and garages.
3. Do not install within 1.5m. of heating or cooking appliances. (Recommend 3m to prevent nuisance alarms).
4. Do not install near vents, flues, chimney or any forced/unforced air ventilation openings.
5. Do not install near ceiling fans, doors, windows or areas directly exposed to the weather.
6. Do not install in dead air spaces, such as peaks of vaulted ceilings or gabled roofs, where CO may not reach the sensor in time to provide early warning.

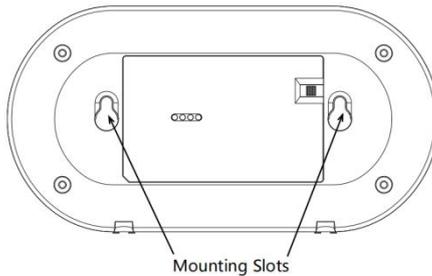
7. Do not place the alarm where drapes, furniture or other objects block the flow of air to the vents.

Installation Method

1. Choose a suitable installation location by referring to the "Where to Install" section.
2. Remove the indication sticker from the packaging and refer to the hole locations on the sticker.



3. Draw two screw holes according to the size and layout of the mounting holes on the back of the product. Drill the screw holes 30 mm (1.18 inches) deep using a 6.0 mm (1/4-inch) drill bit. Note that the distance between the center of the two holes is 74 mm (2.9 inches).
4. Insert the anchor plug into the screw hole and hammer it in until the head of the anchor plug is flush with the wall.
5. Use the two provided screws or 3.5 x 25 mm countersunk screws to screw into the two anchor plugs. NOTE: The distance between the top of the screw and the wall should not exceed 3.0mm. Otherwise, when encountering external forces, the device has the risk of falling, this may cause damage to the device.
6. Mount and lock the device onto the wall by aligning the two mounting slots on the back of the device with the screws on the wall.



7. Test the device by pushing the test button to make sure that the device is functioning properly.

Maintenance

To keep your alarm in good working order, you should adhere to the following steps.

1. Test the alarm once a week by pressing the test/silence button.
2. Vacuum the alarm cover once a month to remove any accumulated dust.
3. Never use detergents or solvents to clean the alarm. Chemicals can permanently damage or temporarily contaminate the sensor.
4. Avoid spraying air fresheners, hair spray, paint or other aerosols near the alarm.

5. Do not paint the unit. Paint may clog the openings to the sensing chamber and prevent the unit from operating properly.

6. 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, aftershaves, perfumes, and some cleaning agents.

Battery Replacement

Only for VC22R, VC22FR, VC22WR

Remove the old battery and replace with a CR123A battery (a Huiderei CR123A battery is recommended) when the LCD displays the "Lb" message and the LED indicator flashes yellow once every 60 seconds with the buzzer chirping.

After changing the battery, reinstall your alarm and test it by pressing the test/silence button.

What to Do When the CO Alarm Sounds

1. Call emergency services as soon as possible.

2. Immediately move outside and make sure that everyone inside the house has evacuated the area or has access to fresh air. Do not re-enter the house until it has been aired out and your alarm remains under normal condition. If it is not possible to move outside, stay close to an open door/window until emergency service responders arrive.

3. After following steps 1-2 above, if your alarm reactivates within a 24 hours period, repeat steps 1-2 and call a qualified appliance technician to investigate sources of CO from fuel-burning equipment and appliances, and inspect for proper operation of this equipment.

4. If problems are identified during this inspection, have the equipment serviced immediately. Note any combustion equipment that has not been inspected by the technician and consult the manufacturer's instructions, or contact the manufacturers directly for more information about CO safety and this equipment. Make sure that motor vehicles are not, and have not been, operating in an attached garage or adjacent to the residence.

CO Concentration and Symptoms

The table below shows the effects of different levels of CO poisoning on the body.

Parts per Million (PPM)	Effects on Adults
100	Slight headache, nausea, fatigue (flu-like symptoms).
200	Dizziness and headache within 2-3 hours.

400	Nausea, frontal headache, drowsiness, confusion and rapid heart rate. Risk to life after over 3 hours of exposure.
800	Severe headaches, convulsions, vital organ failures. Death possible within 2-3 hours.

Limitations of CO Alarms

1.CO alarms may not wake up all individuals. If children or others do not readily awaken to the sound of the CO alarm, or if there are infants or family members with mobility limitations, make sure that someone assists them in the event of an emergency.

2.This CO alarm will not sense carbon monoxide that does not reach the sensor. This CO alarm will only detect CO that reaches the sensor.CO may be present in other areas. Doors or other obstructions may affect the rate at which CO reaches the CO alarm. For this reason, if bedroom doors are usually closed at night, it is recommended that you install a CO alarm in each bedroom and in the hallway between them.

3.CO alarms may not sense CO on another level of the house. For example, a CO alarm on the second level near the bedrooms, may not sense CO in the basement. For this reason, one CO alarm may not give an adequate warning. Complete coverage is recommended by placing CO alarms on each level of the house.

4. CO alarms may not be heard. The alarm buzzer noise level is over 85 dB at a distance of 3m. However, if the CO alarm is installed outside the bedroom, it may not awaken a sound sleeper or one who has recently used drugs or has been drinking alcohol. This is especially true if the door is closed or only partially open. Even persons who are awake may not hear the alarm horn if the sound is blocked by distance or closed doors. Noise from traffic, stereos, radios, televisions, air conditioners, or other appliances may even prevent alert persons from hearing the alarm horn. This CO alarm is not intended for people who are hearing impaired.

5.CO alarms are not a substitute for a smoke alarm. Although fire is a source of carbon monoxide, this CO alarm does not sense smoke or fire. This CO alarm senses CO that may be escaping unnoticed from malfunctioning furnaces, appliances, or other possible sources of incomplete combustion. The installation of a smoke alarm is required for an early warning of fire.

6.CO alarms are not a substitute for life insurance. Though these CO alarms warn against increasing CO levels, we do not warrant or imply in any way that they will protect lives from CO poisoning. Homeowners and renters must still insure their lives.

7.CO alarms have a limited life. Although the CO alarm and all of its parts have passed many stringent tests and are designed to be as reliable as possible, any of these parts could fail at any time. Therefore, you are strongly recommended to test your CO alarm weekly.

8.CO alarms are not foolproof. Like all other electronic devices, CO alarms have limitations. They can only detect CO that reaches their sensors. They may not give early warning of rising CO levels if the CO is coming from a remote part of the house, or is at some distance from the CO alarm.

Trouble Shooting

PROBLEM	SOLUTION
Your alarm does not sound during testing	<ul style="list-style-type: none"> ● Check whether the ON/OFF switch to the ON position, and make sure you push the test button firmly (For VC21 series). ● Please ensure the batteries are properly installed in the alarm, and make sure you push the test button firmly (For VC22R series). ● Check the installation positioning. The wireless signal might be blocked or out of range(Only for Wireless models: VC21F/VC22FR).
False alarms triggered intermittently	<ul style="list-style-type: none"> ● Check the location of your alarm (see “Installation Positioning”). ● Clean the alarm (see “Maintenance”).
Yellow LED flashes and the alarm sounds one beep every 60 seconds.	<ul style="list-style-type: none"> ● The battery is low. Replace the device immediately (For VC21 series). ● Replace the battery (For VC22R series).
Yellow LED flashes and the alarm sounds 2 beeps every 45 seconds	The alarm is malfunctioning. Please clean your alarm and see if it is working normally. If not, replace the device immediately.
Device failed to connect to the network.	Make sure the Bluetooth on your phone is turned on when you connect the device to the network. Read the operating instructions in this manual carefully (Only for Wi-Fi models: VC21W, V22WR).

Environmental Protection

Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with Local Authority or retailer for recycling advice.

