Independently tested
Intertek
19LHK2615

CE 21
EN50291-1:2018

FACO1 battery-powered carbon monoxide detector

User manual

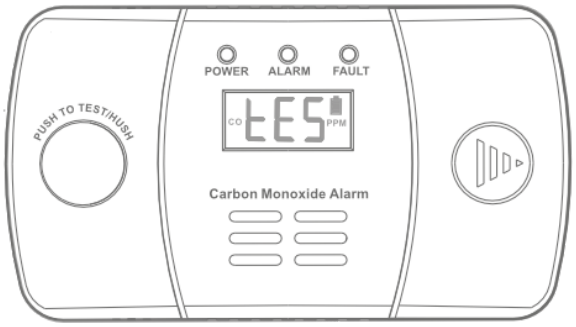
version 1

Contents

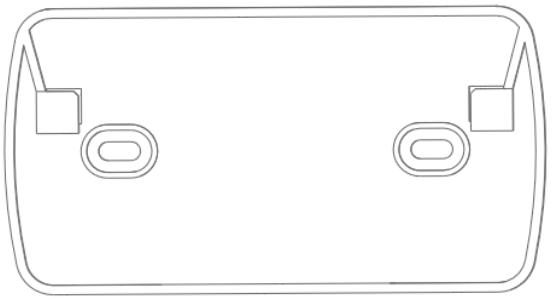
IMPORTANT! READ CAREFULLY AND KEEP. This instruction manual contains important information regarding the operation of your CO alarm. If you are installing this alarm for use by others, you must leave this manual or a copy with the end user.

Package contents

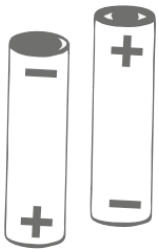
PART NAME	QUANTITY
carbon monoxide sensor	1 piece
mounting stand	1 piece
AA batteries	2 pieces
screw	2 pieces
mounting pin	2 pieces
user manual	1 piece



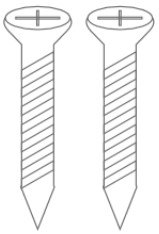
carbon monoxide sensor



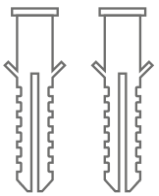
mounting holes



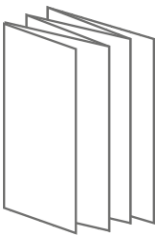
AA batteries



screws



mounting pins



user manual

1. Technical data and features

1.1 Technical data

Power supply	DC 2x1.5V alkaline battery AA LR6
Detector lifespan	Maximum 10 years
Temperature	-10°C ~ +40°C
Humidity	0%~95% relative humidity non-condensing
Sound level	≥85dB at 3m
Alarm signal	Visual and audible indicators
Warm-up time	About 100 seconds
Installation method	Wall or ceiling mounting
According to	EN 50291-1:2018
Battery life	Up to 5 years

1.2 Features

- Advanced electrochemical CO sensor technology
- Digital temperature compensation technology
- Low battery warning
- RF interference protection
- LCD backlight, visible in the dark
- Silence mode: silences unwanted alarms

IMPORTANT: This appliance should be installed by a competent person. Tampering with the appliance may result in electric shock or malfunction.

2. Alarm states

CARBON MONOXIDE CONCENTRATION AND REACTION TIME		
CO concentration	No alarm within	Alarm at the latest after
30 ppm	120 minutes	-
50 ppm	60 minutes	90 minutes
100 ppm	10 minutes	40 minutes
300 ppm	-	3 minutes

3. Important safety information

3.1 What you need to know about carbon monoxide (CO)

Carbon monoxide (CO) is a dangerous poison. It is a colorless, odorless, and tasteless gas. CO is produced by burning carbon-containing materials when there is insufficient oxygen. This hazard can occur, for example, in open fireplaces, boilers, furnaces, and car exhaust. This toxin binds in the blood, where it prevents oxygen from being transported, which can cause death by asphyxiation. Everyone is susceptible, but experts agree that unborn babies, pregnant women, the elderly, and people with heart or respiratory problems are particularly vulnerable. Initial symptoms of carbon monoxide poisoning are similar to the flu without a fever and may include dizziness, severe headaches, nausea, vomiting, and confusion. If symptoms of carbon monoxide poisoning occur, seek immediate medical attention. Carbon monoxide poisoning can be detected with a carboxyhemoglobin test.

The following symptoms are associated with CARBON MONOXIDE POISONING and should be discussed with ALL household members:

1. Mild: mild headache, nausea, vomiting, fatigue (often described as “flu-like” symptoms).
2. Moderate: severe throbbing headache, drowsiness, disorientation, rapid rise in temperature.
3. Serious: loss of consciousness, convulsions, cardiorespiratory failure, death.

3.2 Important information

Please note that there are other hazards where a CO alarm will not trigger an alarm, such as gas leaks, fires, or explosions. A CO alarm cannot replace smoke, fire, heat, or other gas alarms!

This device is intended for residential use only. It is not suitable for commercial or industrial applications, nor for use on recreational craft or commercial vessels.

This sensor is intended to protect people from the effects of carbon monoxide poisoning. It may not provide complete safety for individuals with special medical conditions. If in doubt, consult a doctor.

Gas appliances/equipment should only be installed by trained personnel. Keep appliances/equipment in good condition and inspect them regularly. Installing a CO alarm should not be used as a substitute for proper installation, use, and maintenance of fuel-fired premises, including appropriate ventilation and exhaust systems.

3.3 Dangerous levels of CO

CO concentration in the air (ppm = parts per million)	**Approximate inhalation time and symptoms experienced**
50 ppm	Maximum allowable concentration for continuous exposure for healthy adults over any 8-hour period.
200 ppm	Slight headache, fatigue, dizziness, nausea after 2-3 hours.
400 ppm	Frontal headaches occurring within 1–2 hours, life-threatening after 3 hours.
800 ppm	Dizziness, nausea, and seizures within 45 minutes. Loss of consciousness within 2 hours. Death within 2-3 hours.
1600 ppm	Headache, dizziness, and nausea within 20 minutes. Death within 1 hour.
3200 ppm	Headache, dizziness, and nausea within 5-10 minutes. Death within 25-30 minutes.
6400 ppm	Headache, dizziness, and nausea within 1-2 minutes. Death within 10-15 minutes.
12800 ppm	Death within 1-3 minutes.

3.4 Remember!

- This Carbon Monoxide (CO) sensor is an advanced device that has been carefully designed and tested to detect CO build-up in residential environments.
- CO cannot be seen, smelled, or tasted and can be fatal. The buildup of CO in the blood is called carboxyhemoglobin levels and interferes with the body's ability to absorb oxygen. Depending on the concentration, carbon monoxide can kill within minutes.
- The most common sources of CO are malfunctioning or misused gas appliances used for heating and cooking, vehicle engines, electric generators, blocked chimneys or flues, portable fuel-burning heaters, fireplaces, fuel-powered tools, and operating a barbecue in an enclosed space.
- Signs of CO poisoning include flu-like symptoms but without a fever. Other symptoms include dizziness, fatigue, weakness, headache, nausea, vomiting, drowsiness, and confusion. Everyone is susceptible to CO poisoning, but unborn babies, young children, pregnant women, the elderly, and people with heart or respiratory problems may experience symptoms more quickly. A qualified technician should inspect and clean the heating system, vents, chimney, and flues annually.
- Operating instructions, warnings, and cautions alert you to dangers or potentially hazardous situations. Pay close attention to these items.
- THIS IS NOT A SMOKE DETECTOR! This CO detector is designed to detect carbon monoxide from ANY combustion source. It is NOT designed to detect smoke, fire, or other gases.
- This CO detector is approved for use in single-family homes. It is NOT intended for use on marine vessels or in RVs.

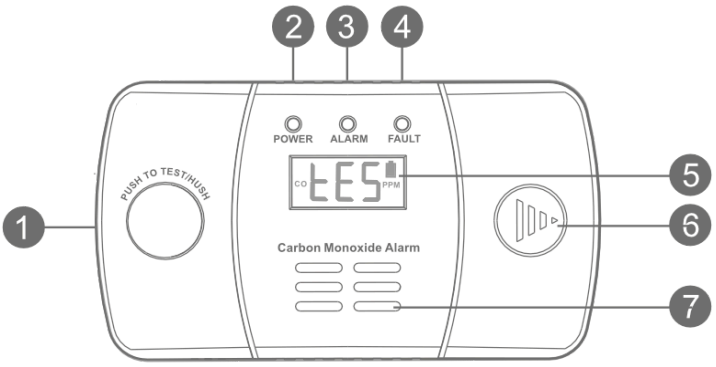
ATTENTION! This CO sensor will only indicate the presence of carbon monoxide at the sensor. Carbon monoxide may be present in other areas.

ATTENTION!

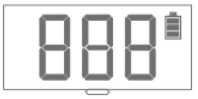
- Always inspect your home for potential problems after any alarm. Failure to do so could result in injury or death.
- NEVER ignore any alarm. If there is any doubt about the cause of the alarm, assume it is caused by dangerous levels of carbon monoxide and evacuate the property. For more information on responding to the alarm, see Section 9. WHAT TO DO IF THE ALARM ACTIVATES. Failure to respond could result in injury or death.
- Test your carbon monoxide detector once a week. If it ever fails the test, replace it immediately! If your CO detector isn't working properly, it can't warn you about a problem.
- This product is intended for use in ordinary residential areas. People with health conditions that may make them more sensitive to carbon monoxide may consider

using warning devices that provide audible and visual signals for carbon monoxide concentrations below 30 ppm. For additional information about carbon monoxide and your health, consult a physician.

4. How does a CO sensor work?



1. Test/Mute Button
2. Power indicator light
3. Alarm light
4. Fault indicator light
5. LCD display
6. Battery cover
7. Alarm siren

CONDITION	ACTION	LED	SIREN	DISPLAY
Connecting the power supply and warming up	Correctly install 2 AA batteries to power on the sensor. Warm-up takes approximately 100 seconds. The LCD backlight will remain on for 5 seconds. The LCD will display the numbers 0 to 9 in sequence. When finished, the LEDs and backlight will turn off.	Red, yellow and green LEDs flash alternately	One short beep	
Standby	Once warm-up is complete, the sensor switches to standby mode.	Green LED flashes every 30 seconds	Lack	Lack
Test mode	Press and release the Test/Hush button to check if the CO alarm is working properly.	The green and yellow LEDs turn off. The red LED flashes four times.	The siren emits four sounds	
Alarm	The presence of carbon monoxide	Red LED flashes every 5 seconds	Four beeps every 5 seconds	Displays a number from 25 to 999
Low battery	Lack	Yellow LED flashes every 30 seconds	One beep every 30 seconds	
Malfunction	Lack	Yellow LED flashes twice every 30 seconds	Two beeps every 30 seconds	
Device wear	Lack	Yellow LED flashes twice every 30 seconds	One long and one short beep every 30 seconds	
CO measurement range exceeded	Lack	Red LED flashes every 5 seconds	Four beeps every 5 seconds	
Mute mode	Silence the unwanted alarm, press and release the Test/Silence button and the device will go into silent mode.	Red LED flashes rapidly	None (silence duration: approximately 10 minutes)	Displays a number from 25 to 999*
	When the CO alarm indicates a low battery, press the Test/Hush button and the device will enter silent mode.	Yellow LED flashes every 30 seconds	None (silence duration: approximately 12 hours)	

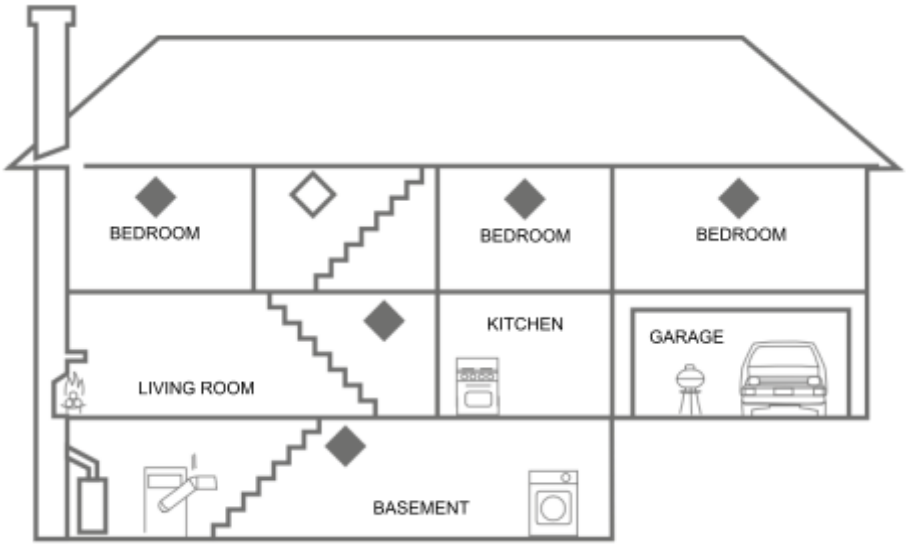
*Note: If the remote mute feature is available, it should only be used within line of sight of the CO alarm.

Silencing: When the CO alarm sounds an alarm after a suspected false alarm, you can press the Test/Silence button and the CO alarm will remain silent for 10 minutes. While the alarm is silenced, it will continue to monitor the air for CO. The alarm will sound again if CO levels

remain dangerous. The silencing feature is intended to temporarily silence the alarm if this does not resolve the CO problem.

5. Where to place

- A CO alarm should be placed centrally outside each separate bedroom and immediately adjacent to the bedroom. For added protection, install additional CO alarms in each separate bedroom and on each level of your home.
- If the bedroom hallway is longer than 12 meters (40 feet), install CO detectors at BOTH ends of the hallway.
- In a single-story house:
    - Install at least one CO detector near or within each separate bedroom.
    - For added protection, install an additional CO alarm at least 6 meters (20 feet) away from a furnace or fuel-burning heat source.



◇ CO sensors provide limited protection
◆ Additional CO sensors for better coverage

- In a multi-story house - as above, plus:
    - Install at least one CO detector near or within each separate bedroom.
    - For added protection, install at least one CO detector on every floor of your home. If you have a basement, install a CO detector at the top of the basement stairs.

    - For added protection, install an additional CO detector at least 6 meters (20 feet) away from a furnace or fuel-burning heat source.

6. Places to avoid

IMPORTANT: Improper placement may affect the sensitive electronic components of this alarm. To avoid damage to the device, ensure optimal performance, and prevent unnecessary nuisance alarms, DO NOT place CO alarms:

- In garages, kitchens, boiler rooms or any exceptionally dusty, dirty or greasy places.
- Where combustion particles are generated. Areas to avoid include poorly ventilated kitchens, garages, and boiler rooms. When possible, keep appliances at least 6 meters (20 feet) away from sources of combustion particles (furnace, furnace, water heater, electric heater). In areas where a 6-meter (20-foot) distance is not possible—for example, in modular, mobile, or smaller homes—it is recommended to place the CO alarm as far away from these fuel combustion sources as possible. These placement recommendations aim to keep these sensors at a reasonable distance from the fuel combustion source, thereby reducing the number of "unwanted" alarms. Unwanted alarms can occur if the CO alarm is placed directly next to a fuel combustion source. Ventilate these areas whenever possible.
- Within 1.5 meters (5 feet) of any cooking appliance.
- In areas of extreme humidity. The sensor should be at least 3 meters (10 feet) away from a bathtub or shower, sauna, humidifier, steamer, dishwasher, laundry room, utility room, or other source of high humidity.
- In areas where the temperature is lower than -10°C or higher than 40°C. These areas include unconditioned crawl spaces, unfinished attics, uninsulated or poorly insulated ceilings, porches, and garages.
- In a well-ventilated area, such as near ceiling fans, vents, air conditioners, fresh air vents, or open windows. Blowing air into the room may prevent CO from reaching the sensors.
- In direct sunlight.
- When scrubbing or stripping a wooden floor, painting, wallpapering, or using glue or aerosol spray, remove the carbon monoxide detector and store it in a safe place to prevent damage to the detector.
- High concentrations of the following substances can damage the sensor, often resulting in false alarms: methane, propane, isopropyl butane, ethylene, ethanol, isopropyl alcohol, benzene, toluene, ethyl acetate, hydrogen, hydrogen sulfate, and sulfur dioxide. Aerosol sprays, alcohol-based products, paints, solvents, adhesives, hairspray, aftershave, perfumes, and some cleaning agents can also cause damage.

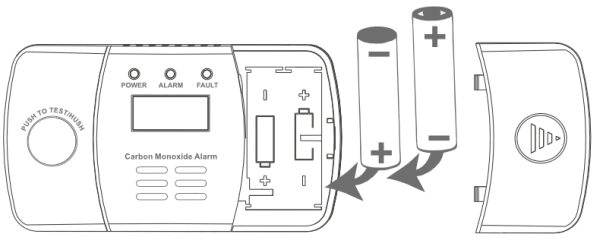
7. How to install

7.1 Installing and replacing the battery

To install or replace the batteries in this CO alarm, follow these steps:

1. Slide the battery cover to reveal the battery compartment.

2. When replacing the batteries, remove the old batteries and dispose of them according to the battery manufacturer's recommendations. If installing 2 new AA batteries, pay attention to the polarity markings in the battery compartment. The alarm will beep once when the batteries are installed correctly.



3. Screw the alarm onto the stand.

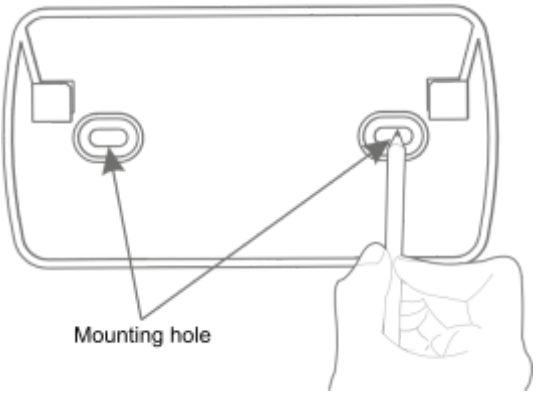
IMPORTANT: Constant exposure to high or low humidity can shorten battery life. After installing or replacing the batteries, reinstall the sensor. Test the sensor using the test button.

7.2 Assembly

For wall or ceiling mounting, follow these steps:

1. Draw a horizontal line 10 cm (4 inches) long on the wall surface where the CO detector is to be placed.
2. Place the mounting base in the desired location. Align the two longest mounting holes with the line. Draw a mark in the center of each hole.

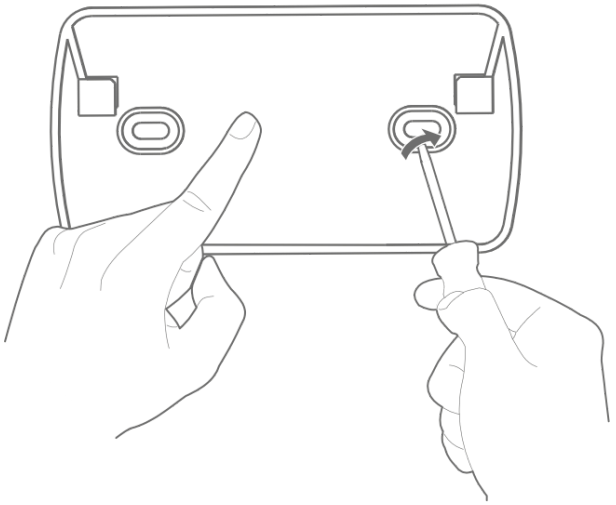
   Attention: When wall mounting, the arrow marked on the base should point upwards.



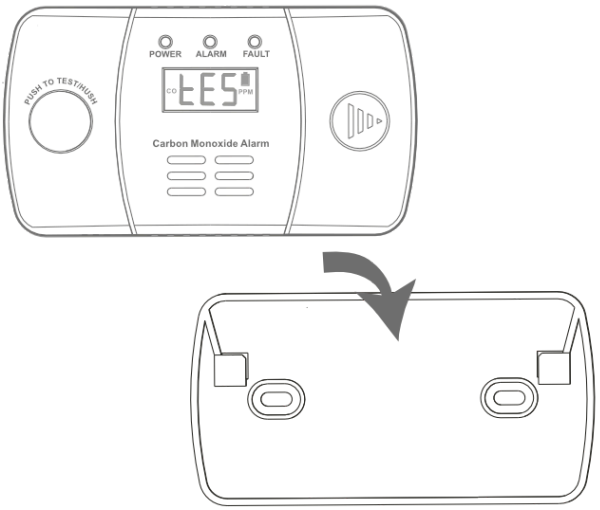
3. Drill holes at the marked locations using a 5 mm (3/16 inch) drill bit.

   Attention: Keep the CO sensor away from plaster dust when drilling holes.

4. Insert the mounting bolts and screw the mounting base into place. DO NOT OVERTIGHTEN THE SCREWS as this will warp the mounting base.



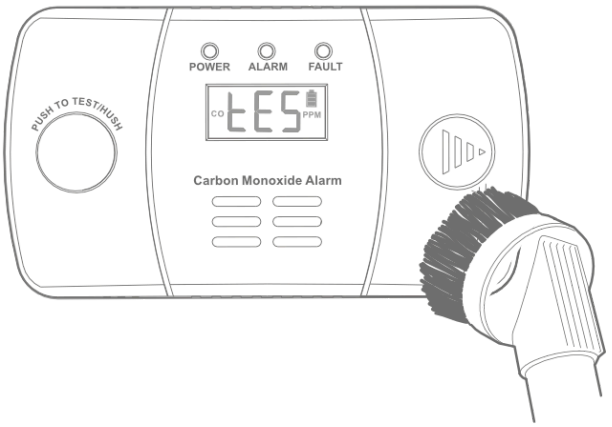
5. Place the CO sensor onto the screws and holes in the sensor mounting bracket. After securing the mounting bracket to the wall, press the sensor onto the mounting bracket until it clicks into place.



8. Maintenance

For the sensor to function properly, please follow these steps:

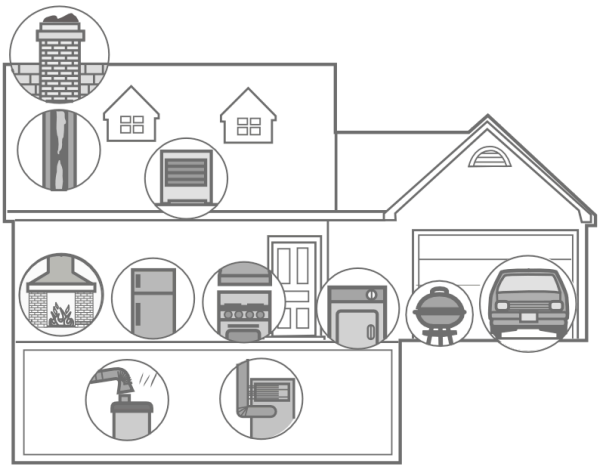
- Test the alarm once a week by pressing the Test button.
- Clean the alarm cover once a month to remove any accumulated dust.



- Never use detergents or solvents to clean the sensor. Chemicals can permanently damage or temporarily contaminate the sensor.
- Avoid spraying air fresheners, hairspray, paints or other aerosols near the sensor.
- Do not paint the device. Paint will seal the ventilation holes and interfere with the proper operation of the sensor.

9. What to do when the alarm goes off

- Call the emergency services (fire brigade).
- Get fresh air immediately – go outside or use an open door/window. Check that everyone has been located. Do not re-enter the room or move away from the open door/window until emergency services arrive, the room has been ventilated, and the sensor has been restored to normal.
- After completing the above steps, if the alarm sounds again within 24 hours, repeat the above steps and call a qualified appliance technician to investigate the sources of CO from fuel-burning equipment and appliances and verify that the equipment is operating correctly.
- If any problems are identified during the inspection, have the equipment serviced immediately. Be aware of any combustion appliances that have not been inspected by a technician and refer to the manufacturer's instructions or contact the manufacturer directly for more information on CO safety and these appliances. Ensure that motor vehicles are not, or have not been, used in the garage or near your residence.
- Do not press the test button, the test button cannot cancel the alarm.



10. Troubleshooting

PROBLEM	SOLUTION
The sensor does not respond after pressing the Test button	Check that the batteries are installed correctly. If there is no problem with the batteries and the CO detector still does not respond, contact your distributor.
The yellow LED flashes and the sensor beeps once every 30 seconds	Battery level is low - REPLACE IT IMMEDIATELY!
The yellow LED flashes twice and the sensor beeps twice every 30 seconds	Sensor failure. Contact your distributor.

11. Sensor limitations

- CO alarms may not wake everyone. If children or other people don't wake easily to the alarm, or if there are infants or family members with limited mobility, make sure someone is designated to assist in the event of an emergency.
- This CO alarm will not detect carbon monoxide that does not reach the sensor. CO may be present in other areas. Doors or other obstructions can affect the rate at which CO reaches the sensor. For this reason, if bedroom doors are usually closed at night, we recommend installing a CO alarm in each bedroom and in the hallway between them.
- CO alarms may not detect CO on different floors of the house. For example, a CO alarm on the second floor, near a bedroom, may not detect CO in the basement. Therefore, a single CO alarm may not provide sufficient warning. It is recommended to provide complete coverage of the area. Place CO alarms on every floor of the house.
- CO alarms may not be audible. The alarm signal is louder than 85 dB at a distance of 1 meter (3.28 feet). However, if the CO alarm is installed outside a bedroom, it may not wake a sleeping person or someone who has recently used drugs or consumed alcohol. This is especially true if the door is closed or only partially open. Even awake people may not hear the alarm signal if the sound is blocked by a closed door or the alarm is too far away. Noise from traffic, audio equipment, radios, televisions, air conditioners, or other appliances can also prevent the alarm from being heard. This CO alarm is not intended for people with hearing impairments.
- A CO detector is not a substitute for a fire alarm. Although fire is a source of carbon monoxide, a CO detector does not detect smoke or fire. The detector detects CO, which can escape unnoticed from faulty furnaces, appliances, or other sources. Early warning of a fire requires the installation of fire detectors.

- CO detectors are not a substitute for life insurance. While CO detectors can warn of rising CO levels, we do not guarantee or imply that they will protect lives from CO poisoning. Homeowners and renters must still maintain life insurance.
- CO sensors have a limited lifespan. Although the CO sensor and all its components have undergone rigorous testing and are designed to be as reliable as possible, any of these components can fail at any time. Therefore, you should test your CO sensor weekly.
- CO detectors are not foolproof. Like all electronic devices, CO detectors have limitations. They can only detect CO reaching their sensors. They may not provide early warning of rising CO levels if the CO is coming from a remote part of the house, far from the CO detector. A CO detector may not prevent the chronic effects of long-term CO exposure.

12. Disposal

Correct disposal of this product (waste electrical and electronic equipment) (valid in Europe and the European Union and other European countries with separate collection systems).

This marking on the product or its leaflet indicates that it should not be disposed of with other household waste at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate it from other types of waste and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product or their local government office for details of where and how they can drop this item off for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other waste for disposal.

*** Always throw away used batteries in a waste battery container.**

*** If the battery is built into the product, open the product and remove the battery.**

Carefully!

With the exception of replacing the battery, the user is prohibited from disassembling the CO sensor themselves as this may damage the device.

Attention!

The CO detector is intended for indoor use only and is not intended for use in recreational vehicles or mobile homes.

A CO alarm should be installed by a competent person. This device is intended to protect individuals from the acute effects of exposure to carbon monoxide. It does not provide complete protection to individuals with certain medical conditions. If in doubt, consult a doctor.

13. Compliance

This device has been approved for compliance with the essential and other essential requirements of the RED Directive 2014/53/EU, the ErP Directive 2009/125/EC and the RoHS Directive 2011/65/EU.

Simplified declaration of conformity

Importer: Ferguson Sp. z o.o., ul. Dworska 1, 61-619 Poznań, Poland

Name: FACO1 CO sensor

Device type: Carbon monoxide sensor

The above-mentioned product complies with Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC.

The full Declaration of Conformity can be downloaded from the website: https://ferguson-digital.eu/deklaracje-zgodnosci/