

# HISPEC

LIGHTING • FIRE & CO DETECTION  
LITHIUM BATTERY POWERED  
CARBON MONOXIDE ALARM



HSA/BC/10

Intertek

## Main Features:

- Electrochemical Sensor
- Test Button
- Low Battery Warning
- Self-Test Function
- Supplied With Wall Plugs & Screws
- Complied to EN50291-1:2010+A1:2012 Approved by Intertek



This instruction leaflet contains important information on the correct installation and operation of your Carbon Monoxide (CO) alarm. Read this leaflet fully before attempting installation and retain for future reference.

## SPECIFICATIONS

- Power Source : 3V Lithium batteries (BA3VCR123A+HCB)
- Battery Life : 10 Years
- Type of Gas sensed : Carbon Monoxide
- Alarm Response Time : 50 PPM (Between 60 to 90 min.)  
100 PPM (Between 10 to 40 min.)  
300 PPM (Less than 3 min.)
- Operation Temperature : -10°C ~ 40°C
- Ambient Humidity : 10%-90%
- Hum Level : 85 Decibels at 1 m

## WHAT IS CARBON MONOXIDE

Carbon Monoxide (CO) is an insidious poison that is released when fuels are burnt. It is a colorless, odorless, tasteless gas and therefore very difficult to detect with the human senses. CO kills hundreds of people each year and injures many more. It binds to the hemoglobin in the blood

and reduces the amount of oxygen being circulated in the body. In high concentrations, CO can kill in minutes.

CO is produced by the incomplete combustion of fuels such as wood, charcoal, coal, heating oil, paraffin, petrol, natural gas, propane, butane etc.

- Common sources of CO:
  - Attached garages
  - Oil and Gas furnaces
  - Wood stoves
  - Barbecues
  - Wood and gas fireplaces
  - Gas appliances
  - Portable generators
  - Gas or kerosene heaters
  - Clogged chimneys
  - Cigarette smoke

## LOCATING THE CO ALARM

This Carbon Monoxide alarm is designed to detect the toxic CO fumes that result from incomplete combustion, such as those emitted from appliances, furnaces, fireplaces and auto exhaust.

Ideally, a CO alarm should be installed in every room containing a fuel burning appliance. Additional apparatus may be installed to ensure that adequate warning is given for occupants in other rooms, by locating apparatus in:

- remote rooms in which the occupant spend considerable time whilst awake and from which they may not be able hear an alarm from apparatus in another part of the premises
- every sleeping room.

However, if there is a fuel burning appliance in more than one room and the number of CO alarm is limited, the following points should be taken into consideration when deciding on the best location:

- An apparatus should be located in a room containing a fuelless or open-flued appliance.
- If there is an appliance in a room where people spend most time, an apparatus should be placed in that room.
- If there is an appliance in a room where people sleep, an apparatus should be placed in that room.
- In a bedsit, the apparatus should be placed as far from the cooking appliances as possible but near to where the person sleeps.
- If the appliance is in a room not normally used, such as boiler room, the apparatus should be placed just outside the room so that the alarm will be heard more easily.



## CAUTION

This alarm will only indicate the presence of carbon monoxide gas at the sensor. Carbon Monoxide gas may be present in other areas.

This carbon monoxide alarm is designed to detect carbon monoxide gas from ANY source of combustion. It is NOT designed to detect smoke, fire or any other gas.

## POSITIONING THE CO ALARM

Carbon Monoxide has a similar density to warm air and can be fitted in various locations.

Apparatus located in the same room as a fuel-burning appliance:

- If the apparatus is located on a wall, it should be located at a height greater than the height of any door or window but at least 150 mm from the ceiling. If the apparatus is mounted on a ceiling, it should be at least 300 mm from any wall.
- The apparatus should be at a horizontal distance of between 1 m and 3 m from the potential source.
- If there is partition in a room, the apparatus should be located on the same side of the partition as the potential source.
- In rooms with sloped ceilings, the apparatus should be located at the high side of the room.

## Apparatus located in sleeping rooms and in rooms remote from a fuel burning appliance:

- The apparatus should be located relatively close to the breathing zone of the occupants.

## Areas to be avoided include the following:

- Situations where the temperature may drop below -10°C or exceed 40°C
- In a damp or humid area
- Any area where high levels of dust, dirt or greasy emissions could contaminate or clog the sensor.
- Where the air flow to the apparatus would be obstructed by curtains or furniture.
- Next to a door or window or in the path of air discharged from a furnace/ air conditioning vent or ceiling fan.
- Outside the building
- Directly above a sink or cooker
- In or below cupboard

## The following conditions can result in transient CO situations in the home:

- Excessive spillage or reverse venting of fuel burning appliances caused by:
  - 1.) Outdoor ambient conditions such as wind direction and/or velocity, including high gusts of wind; heavy air in the vent pipes (cold/humid air with extended periods between cycles).
  - 2.) Negative pressure differential resulting from the use of exhaust fans.
  - 3.) Simultaneous operation of several fuel burning appliances competing for limited internal air.
  - 4.) Vent pipe connection vibrating loose from clothes dryers, furnaces, or water heaters.
  - 5.) Obstructions in or unconventional vent pipe designs which amplify the above situations.
- Extended operation of unvented fuel burning devices (range, oven, fireplace, etc.)
- Temperature inversions which can trap exhaust gases near the ground.
- Car idling in an open or closed attached garage, or near a home.



## WARNING

This carbon monoxide alarm is designed for indoor use only. Do not expose to rain or moisture. It will not protect against the risk of carbon monoxide poisoning when the battery has drained.

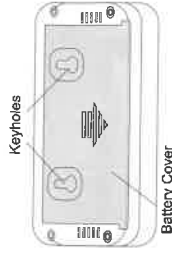
Do not open or tamper with the alarm as this could cause malfunction.

Installation of the apparatus should not be used as a substitute for proper installation, use and maintain of fuel

burning appliances including appropriate ventilation and exhaust systems.

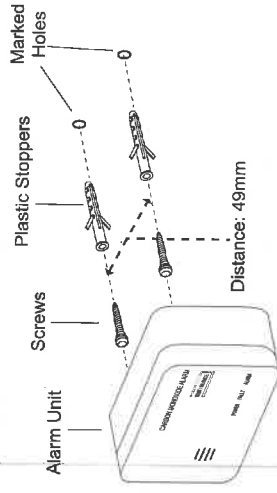
## INSTALLING THE CO ALARM

This CO alarm is powered by battery and requires no additional wiring. It can either be free-standing or installed on the wall using the fixings provided.



## Wall Mount Installation:

- Having established the mounting location ensure that there is no electrical wiring or pipe work in the area adjacent to the mounting surface.
- Check the horizontal distance of 49mm. Mark the two mounting holes location.
- Drill holes in the positions marked and insert the plastic stoppers into the two holes.
- Check the keyholes position at the back alarm unit. Then, hook the alarm unit over the screws on wall.



## OPERATING YOUR CO ALARM

During normal operation the CO alarm perform a self-check test every minute.

**IMPORTANT:** After installation, test your alarm (see the paragraph "Test your CO alarm")

## Alarm Condition

Alarm Condition	Condition Indication
Green Light	- Alarm Unit Activation and Power on
Red Light	- High CO concentration Warning
Yellow Light	- Low Battery Signal - Unit Malfunction - End of Life Signal

When the apparatus detects dangerous levels of CO gas, it will give an alarm signal. The red LED will flash and the buzzer will chirp 4 times simultaneously every 5 second.

## CO LEVEL (PPM)

50	RESPONSE TIME (MIN)
100	60-90
300	10-40
	< 3



WARNING

This product may not alarm at low carbon monoxide levels. Individuals with medical problems may consider using warning devices which provide audible signals for carbon monoxide concentrations under 30 PPM.

### Low Battery Signal

In case the battery is at the end of its life, the apparatus will sound a short chirp with a yellow LED flash simultaneously in every minute. The CO alarm should be replaced immediately. This low voltage warning will be given for at least 30 days.

Under normal operating conditions, the batteries will last a minimum of ten years.

**Note: Constant exposure to high or low humidity may reduce battery efficiency.**

### Test / Hush Function

While the CO alarm is chirping, press and hold the Test / silence button for 2 seconds. If the CO alarm detects a CO concentration under 30ppm, the alarm unit will be silence for 10 hours. If the alarm unit did not silence, that means the CO Level is higher than 30ppm. Read Section – "WHAT TO DO IF THE ALARM SOUNDS".

### Low Battery Signal

In case the battery is at the end of its life, the apparatus will sound a short chirp with a RED LED flash simultaneously in every minute. This low voltage warning will be given for 7 days.

Under normal operating conditions, the batteries will last ten years.

### End of Life Signal

After 10 years operation, the yellow LED will flash 3 times and beep 3 times simultaneously for every 48 seconds.

### Unit Malfunction

Your CO alarm performs an internal self-diagnosis every minute to make sure that it is functioning properly. In the rare event that your alarm malfunctions, the apparatus will sound a double short chirp and the yellow LED flashes simultaneously in every minute. In this case the alarm must be replaced.

If the CO alarm is confirmed to be faulty, you may uninstall and deactivate the CO alarm by following steps:

1. Hold "Test/Silence" button for 60 seconds. The Green and Red LEDs will turn on.
2. The CO Alarm is now deactivated. Once the CO is deactivated, the CO alarm could no longer be power back on. End-user should replace for a new one.

Note: The deactivation function could only be used when the CO alarm detects malfunction from self-diagnosis.

Never ignore a CO unit's alarm. A true alarm is an indication of potentially dangerous levels of carbon monoxide. CO alarms are designed to alert you to the presence of carbon monoxide before an emergency, before most people would experience symptoms of carbon monoxide poisoning, giving you time to resolve the problem calmly.

### TESTING YOUR CO ALARM

It is recommended that you test your CO alarm once a month to ensure the alarm is working correctly.

Test the unit by hold the Test/Reset button for 3 seconds. The red LED will flash and the buzzer will chirp 4 times simultaneously. Then the unit will enter into the normal operation mode and the GREEN LED should flash once every 48 seconds.

## WHAT TO DO IF THE ALARM SOUNDS



### WARNING

Activation of your CO alarm indicates the presence of carbon monoxide (CO), which can KILL YOU.

- If alarm signal sounds:
1. Immediately move to fresh air – outdoors or by an open door/window. Do a head count to check that all persons are accounted for.
  2. Where possible turn off all fuelled appliances and stop using them.
  3. Call your emergency services
  4. Do not re-enter the premises nor move away from the open door/window until emergency services responders have arrived, the premises have been aired out, and your alarm remains in its normal condition.
  5. Call a qualified appliance technician to investigate for sources of CO from fuel burning equipment and appliances, and inspect for proper operation of this equipment. If problems are identified during this inspection have the equipment serviced immediately. Note any combustion equipment not 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.

### MAINTAINING YOUR CO ALARM

Your alarm will alert you to potentially hazardous CO concentrations in your home when maintained properly. To maintain your alarm in proper working order, it is recommended that you:

- Test your alarm at least once a month.
- Clean the outside case regularly to prevent dust or dirt build up in the slots. DO NOT USE CLEANING AGENTS, BLEACH, POLISH OR ANY CHEMICALS. Chemicals can permanently damage or temporarily contaminate the sensor. Simply wipe with a damp cloth OR a clean tissue.
- Do not paint the CO alarm

**NOTE** - If you will be staining or stripping wood floors or furniture, painting, wall-papering, or using aerosols or adhesives, remove the CO alarm to a remote location before in order to prevent possible damage to or contamination of the sensor.

The following is a list of substances which, at high levels, can affect the sensor and may cause a nuisance alarm that is not a carbon monoxide alarm.

Methane, propane, iso-butane, ethylene, ethanol, alcohol, iso-propanol, benzene, toluene, ethyl acetate, hydrogen, hydrogen sulfide, sulfur dioxides.

Also most aerosol sprays, alcohol based products, paints, solvents, adhesives, hair sprays, after shaves, perfumes and some cleaning agents.

### NOTE: THE APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING.

**WARNING: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. THE USE OF BATTERIES OTHER**

THAN THOSE RECOMMENDED ON THE BACK OF THE CO ALARM MAY BE DETRIMENTAL TO ITS OPERATION

### SYMPTOMS OF CO POISONING

The following symptoms may be related to CO poisoning: The maximum allowable concentration for continuous exposure for healthy adults in any 8 hour period.

200 ppm	Slight headaches, fatigue, dizziness, nausea after 2-3 hours
400 ppm	Frontal headaches within 1-2 hours, life threatening after 3 hours.
800 ppm	Dizziness, nausea and convulsions within 45 minutes. Unconsciousness within 2 hours. Death within 3 hours.
1600 ppm	Headache, dizziness and nausea within 20 minutes. Death within 1 hour
6400 ppm	Headache, dizziness and nausea within 1-2 minutes

The following symptoms re related to CARBON MONOXIDE POISONING and are to 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, confusion, fast heart rate.  
**Extreme Exposure:** Unconsciousness, convulsions, cardio-respiratory failure, death.

Many cases of reported CARBON MONOXIDE POISONING indicate that while victims are aware they are not well. They become so disoriented they are unable to save themselves by either the building or calling for assistance. Young children and household pets are typically the first affected.

**The apparatus may not prevent the chronic effects of carbon dioxide exposure and that the apparatus will not fully safeguard individuals at special risk.**

### IMPORTANT SAFEGUARDS

- Installation of your CO alarm is only one step in your safety plan. Educate yourself and family to the sources and symptoms of CO poisoning and how to use your carbon monoxide alarm:-
- Buy appliances accepted by a recognized testing laboratory.
  - Install the appliances properly, following the manufacturer's instructions.
  - Have installations done by professionals.
  - Have your appliances checked regularly by a qualified serviceman.
  - Clean chimneys and flues yearly.
  - Make regular visual inspections of all fuel-burning appliances.
  - Check appliances for excessive rust and scaling.
  - Do not barbecue indoors, or in attached garage.
  - Open windows when a fireplace or wood burning stove is in use.
  - Be aware of CO poisoning symptoms.

### DO NOT:

- Burn charcoal inside your home, RV, camper, tent or cabin
- Install, convert or service fuel burning appliances without proper knowledge, skill and expertise
- Use a gas range, oven or clothes dryer for heating

- Operate unvented gas burning appliances using kerosene or natural gas in closed room
  - Operate gasoline powered engines indoors or in confined areas
  - Ignore a safety device when it shuts an appliance off
  - Ignore any warning from your CO alarm
- The apparatus should be installed by a competent person.**

### END OF UNIT LIFE

With normal use the battery will last at least 10 year. However, battery life will be reduced if the apparatus remains in alarm for long periods of time. The apparatus must be replaced when a fault warning signal is given.

**THIS PRODUCT CANNOT BE REPAIRED - IF THE UNIT IS DAMPERED WITH IT WILL INVALIDATE THE GUARANTEE. IF THE UNIT IS FAULTY PLEASE RETURN IT TO YOUR ORIGINAL SUPPLIER WITH YOUR PROOF OF PURCHASE.**

### YOUR CO ALARM WARRANTY

This CO Alarm, excluding battery, is warranted to be free from defects in materials and workmanship under normal residential use and service for a period of three (3) years from the date of purchase. The company will not be obligated to repair or replace parts that are found to be in need of repair because of misuse, damage or alterations occur after the date of purchase. Send the CO Alarm with proof of purchase, postage and return postage prepaid, to local distributor. The liability of the company arising from the sale of this CO Alarm shall not in any case exceed the cost of replacement of the product and in no case shall the company be liable for consequential loss or damages resulting from the failure of the product.

**HISPEC ELECTRICAL SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY OR PROPERTY DAMAGE, OR ANY SPECIAL INCIDENTAL, CONTINGENT OR CONSEQUENTIAL DAMAGE. THE EXCLUSIVE REMEDY FOR BREACH OF THE LIMITED WARRANTY CONTAINED HEREIN IS THE REPAIR OR REPLACEMENT OF THE DETECTIVE PRODUCT AT HISPEC ELECTRICAL OPTION. IN NO CASE SHALL HISPEC ELECTRICAL'S LIABILITY UNDER ANY OTHER REMEDY PRESCRIBED BY LAW EXCEED THE PURCHASE PRICE. YOUR SMOKE ALARMS IS NOT A SUBSTITUTE FOR PROPERTY, DISABILITY, LIFE OR OTHER INSURANCE OF ANY KIND. APPROPRIATE COVERAGE IS YOUR RESPONSIBILITY. CONSULT YOUR INSURANCE AGENT**

This does not affect your statutory rights. This alarm is only suitable for single occupancy private dwellings only and not intended for multi occupancy private dwellings or commercial or industrial dwellings.

Waste electrical products should not be disposed of with normal household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice. New regulation will encourage the recycling of Waste from Electrical and Electronic Equipment (European "WEEE Directive" effective August 2005).

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