

## Description

Carbon Monoxide alarm with replaceable 9V battery back-up. The alarm mounts onto a wiring base.

This Carbon Monoxide alarm can be interlinked with the smoke and heat alarms, 1163 and 1165 respectively.

All products must be installed by a competent person in accordance BS 7671, the latest edition of the IET Wiring Regulations.

The instructions contain important information on operation and maintenance of the Carbon Monoxide alarm. Keep this document in a safe place for future reference.

## Where to Locate

Ideally, Carbon Monoxide alarms should be installed in every room containing a fuel burning appliance and as per BS 5839-6, Code of Practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises.

Additionally, alarms may be installed to ensure that adequate warning is given for occupants in other rooms, by locating alarms:

- In remote room in which occupants spend considerable time whilst awake.
- Near every sleeping room or area.
- In each room containing a flueless or open-fueled appliance.
- In a garage as vehicles produce carbon monoxide, any time they are running.

It is recommended that a CO alarm be installed on each level of a multilevel home.

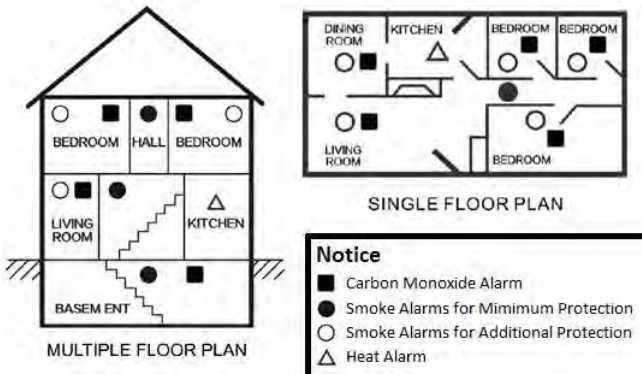


Diagram 1

### Positioning of Alarms

- CO gas from fueled appliances immediately mixes with the air around it. Mounting the CO on the ceiling in the centre of the room places it closest to all points in the room. Ceiling mounting is preferred in ordinary residential dwellings.
- When mounting an alarm on the ceiling, locate it at a minimum of 500mm (20") from the side wall (See Diagram 2).

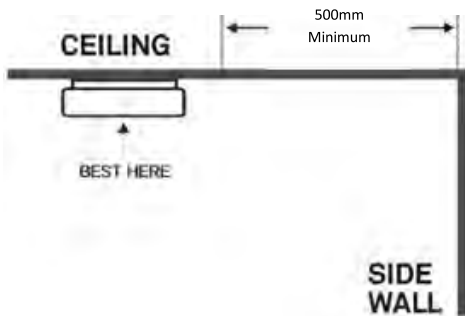


Diagram 2

- In rooms with an A shaped peaked ceiling, a sloped or cathedral ceiling, install a CO alarm between 500mm and 1500mm from the highest point of the ceiling. (See Diagram 3).

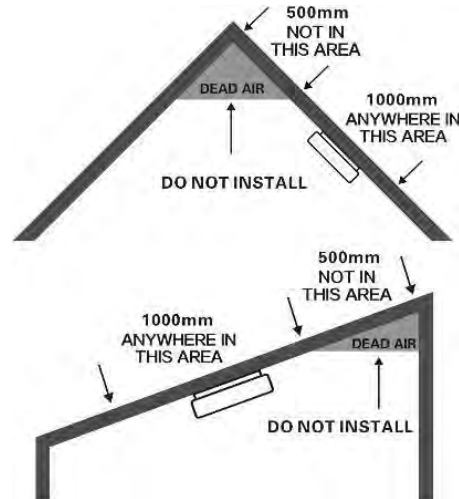


Diagram 3

- CO alarms should not be installed within 900mm (3') of the following: the door to a kitchen, the door to a bathroom containing a tub or shower, forced air supply ducts used for heating or cooling, ceiling or whole house ventilating fans, or other high air flow areas.
- CO alarms should be mounted at least 1.8m from the fuel burning appliance.

### Do Not Install CO Alarms in the Following Places

- In the immediate vicinity of a fuel burning appliance.
- In an enclosed space, such as cupboard or behind a curtain.
- In an area where the temperature may fall below -10°C or rise above 40°C, such as garages and unfinished attics.
- In excessively humid areas such as bathroom.
- Next to a door, a window or an extractor fan.
- In dusty areas. Dust particles may cause nuisance alarm or failure to alarm.
- Near fluorescent lights. Electronic "noise" may cause nuisance alarms.

### Important:

These alarms are primarily intended for use in single family occupancy private dwellings. In multifamily buildings, each individual living unit should have its own alarms. Do not install in non-residential buildings.

## Installation

This alarm should be installed as late as possible within the schedule of works, particularly in new build properties, e.g. after decorating and making good works.

- This alarm must not be connected to any other manufacturer's alarms.
- The CO (1169) alarm is compatible with itself, Smoke (1163) and Heat (1165) alarms; and is not compatible with previous generations.

### Important

The circuit powering the safety alarms must be unswitched, i.e. permanently live. The electrical supply for mains powered alarms with battery back-up, as required by BS 5839-6 Grade D systems, must:

- Be an independent circuit from the consumer unit where no other electrical equipment is connected, or
- A separately electrically protected, regularly used local lighting circuit

Also, where alarms are interlinked, they must be connected to a single circuit.

### Safety Instructions

- Ensure the power supply is switched off before installation and during maintenance.
- These alarms should be installed by a competent person, e.g. a qualified electrician.
- If the alarm is incorrectly installed or tampered with, this may result in damage to the alarm, a failure in operation or an electric shock hazard.
- These alarms must be installed in accordance with the current edition of the IET Wiring Regulations BS7671 and the Code of Practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises BS 5839-6.
- **Important:** remove the alarm from the circuit for insulation resistance testing.

**If in doubt, contact a qualified electrician.**

### Installation

1. Remove the dust cover.
2. Release the alarm from the base by using a screw insert into the slots and flexing outwards, see diagram. 4

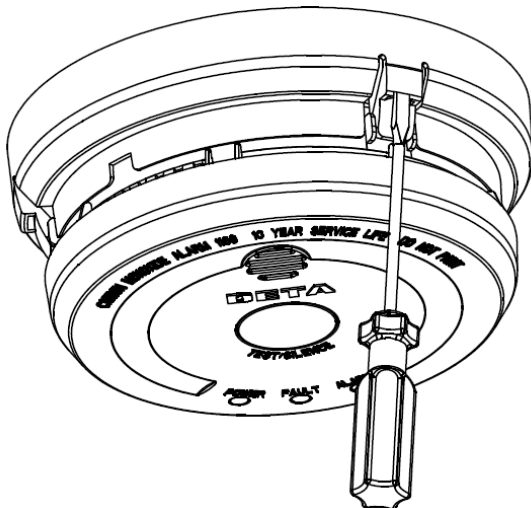


Diagram 4

3. Remove the electrical connector from the alarm by squeezing the locking arms.
4. Select the cable entry on the base and remove the cut out. Cable entry can either be through the back of the base or via surface mounted mini-trunking. Leave the gasket in place to prevent dust ingress into the alarm.
5. Mount the base in the desired location using the wall plugs and screws, as required, see diagram 5.

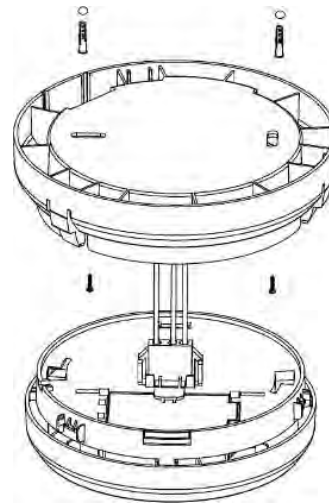


Diagram 5

6. Terminate the live, neutral and earth supply cables and interlink cable if alarms are interlinked, see diagram 6.

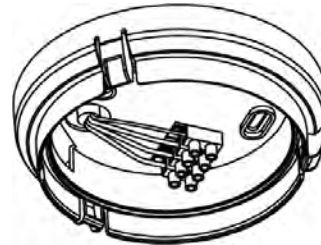


Diagram 6

L (Live):	Brown conductor
N (Neutral):	Blue conductor
E ⊕ (Earth):	Green / Yellow
I (Interlink):	Grey (if using 6243Y cable)

7. A maximum of 12 alarms can be interlinked. If more than 12 alarms are interlinked it may result in permanent damage.
8. For multiple alarm installations use three core and earth cable between all the alarms to be interlinked and connect the third core of that cable to terminal marked I. DO NOT use the earth wire for the interlink wire. This must be treated as live, i.e. insulated and sleeved.
9. Connect the battery by opening the battery cover and inserting it. Test the alarm by pressing the TEST button, see diagram 7.
10. Refit the electrical connector.

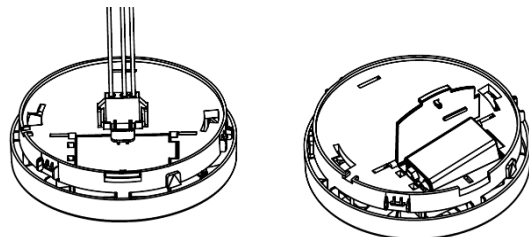
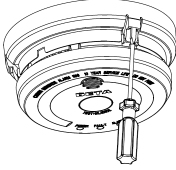
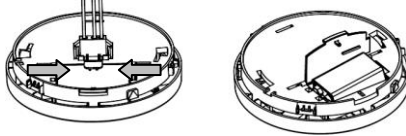
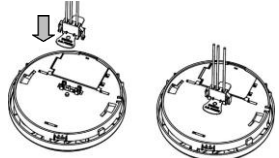


Diagram 7

11. Attached the alarm to the base
12. Replace the dust cap
13. Turning on the electrical power. The green LED should be lit when the alarm is operating from the power supply.
14. Test the alarm, including the interlink feature if more than one alarm is installed.

**Important:** Remove the alarm from the circuit for insulation resistance testing.

**Warning:** The installation of this CO alarm should not be used as a substitute for proper installation, use and maintenance of fuel burning appliances including appropriate ventilation and exhaust systems.

User Information	
<b>Alarm Operation</b>	<b>What to do if the CO alarm sounds</b>
<p><b>LED indicators</b></p> <p>Green LED: When connected to the mains supply, the alarm goes through a 40 second initialization routine. After initialization, the GREEN LED remain permanently on indicating normal operation. If GREEN LED flashes every 33 seconds, it indicates the alarm is being powered by the back-up battery.</p> <p>Red LED Flashing: When the alarm senses CO gas, it goes into alarm mode and the RED LED flashes 4 times at 5 second intervals.</p> <p>Yellow LED Flashing: Flashing once every 33 seconds approx. accompanied with two chirps indicates low battery warning. If flashing approximately once every 38 seconds with chirping sound, indicates a fault condition.</p> <p><b>Alarm Mode</b></p> <p>In alarm mode, the CO alarm will sound four beeps in quick succession, followed by a 5 second pause. This pattern is then repeated.</p> <p><b>Test/Silence Button</b></p> <ul style="list-style-type: none"> <li>Use the Test/Silence button to test the alarm weekly. Please refer to “Testing the Alarm”.</li> <li>The Test/Silence button will silence the alarm only if it is in low battery condition. The yellow LED will flash during this condition. The alarm will be silenced for up to 9 hours. To change the battery, please refer to “Replacing the Battery”.</li> </ul> <p><b>End of life indication</b></p> <ul style="list-style-type: none"> <li>The device will give visual and audible warning when it reaches end of life (10 years). The device chirps 3 times every 33 second approx. with yellow LED flashing once. The end of life signal cannot be silenced and the device must be replaced as soon as possible.</li> </ul>	<p><b>If the CO gas is detected</b>, the alarm will emit a series of four beeps followed by a short pause.</p> <ol style="list-style-type: none"> <li>Alert small children in the home and quickly follow the family escape plan.</li> <li>Keep calm and open all doors and windows to increase the rate of ventilation.</li> <li>Turn off any fuel burning appliances where possible and stop using them.</li> <li>Evacuate the property leaving doors and windows open.</li> <li>Leave immediately and don't waste time getting dressed or picking up valuables.</li> <li>Once outside, go to your selected meeting place and make sure everyone is there.</li> <li>Get medical help for anyone suffering the effects of CO poisoning.</li> <li>Call the appropriate appliance servicing and/or maintenance agency or, where necessary, the relevant fuel supplier on their emergency number.</li> </ol> <p><b>Note:</b> When an alarm sounds, it may be difficult to determine what triggered the alarm, particularly if CO alarms are interlinked with smoke/heat alarms. Therefore, evacuate the property first, then determine the cause and take appropriate action.</p> <p><b>Note:</b> The CO alarm will return to normal operating mode once the CO gas condition is cleared.</p> <p><b>Warning:</b> This device alarms only on the detection of carbon Monoxide gas. If ignored, the presence of Carbon Monoxide can be fatal.</p> <p><b>DANGER:</b> If the alarm sounds, and it is not being tested, it means the unit is sensing Carbon Monoxide gas, <b>THE SOUND OF THE ALARM REQUIRES YOUR IMMEDIATE ATTENTION AND ACTION.</b></p> <p><b>Plan of Escape</b></p> <ul style="list-style-type: none"> <li>It is recommended that a plan of escape is developed and practiced. A floor plan indicating doors and windows should be made and, if possible, that two routes of escape are established.</li> </ul>
<b>User Maintenance</b>	
<b>Replacing the Battery</b>	
<p><b>Warning:</b> Only use the specified batteries (see Product Specification). Use of different batteries may have detrimental effect on the alarm. It is recommended that the battery is replaced when its voltage is low.</p> <ol style="list-style-type: none"> <li>Turn off the electrical supply to the alarms at the consumer unit/fuse box. The green power LED light will go off.</li> <li>To remove the alarm from the base, using a small flat blade screwdriver gently flex the locking clips on the side of the base away from the alarm. The alarm will then come away from the base. See Diagram 8.</li> </ol>  <p style="text-align: center;">Diagram 8</p> <ol style="list-style-type: none"> <li>To remove the electrical connector, squeeze the locking arms on the sides while pulling it away from the bottom of the alarm. See Diagram 9.</li> <li>After alarm has been removed, you can open the battery cover and replace with new battery. See Diagram 9.</li> </ol>  <p style="text-align: center;">Diagram 9</p> <ol style="list-style-type: none"> <li>After the battery is replaced, close the battery cover and test the alarm by pressing the TEST button.</li> <li>Reconnect the electrical connector, ensuring the orientation is correct and the locking arms snap back into place. See Diagram 10.</li> <li>Fit the alarm body on to the base, ensuring it clips securely into place.</li> </ol>	 <p style="text-align: center;">Diagram 10</p> <ol style="list-style-type: none"> <li>Turn on the electrical supply and the green LED light will come on after the 40 second initialization routine, during which the green light flashes every 3 seconds. Test alarm by pressing the test button. The alarm will sound 4 short beeps – 5 seconds pause, and then repeat until the button is released.</li> </ol> <p>It will then go to normal status and the Green LED will always be ON. If there is no sound output when the test button is pushed, the alarm may be defective. See the section: “Trouble Shooting”.</p> <p><b>Caution:</b> Test the alarm for correct operation using the test facility whenever the battery is replaced.</p> <p><b>Warning:</b> Electricity is dangerous. When replacing the battery, you must make sure the electrical AC power is turned off.</p> <p><b>Battery</b></p> <ul style="list-style-type: none"> <li>It is recommended that the battery is replaced annually.</li> <li>This alarm uses a 9 Volt battery. A new battery should last for at least one year under normal operating conditions.</li> <li>This alarm has a low battery monitor which will cause the alarm to “chirp” twice and at the same time the Yellow LED flashes approx. every 33 seconds for a minimum of 7 days when the battery gets low. Replace the battery when this condition occurs. Please refer to “Replacing the Battery”.</li> </ul> <p><b>Important:</b> Do not attempt to remove the cover to clean inside. This will affect the warranty.</p>

Testing the Alarm	Important Safety Information
<p>Test the alarm to ensure proper operation.</p> <ol style="list-style-type: none"> <li>Test alarm by pressing and holding the test button until it sounds. The alarm will sound 4 short beeps – 5 seconds pause, and then repeat until the button is released.</li> <li>If multiple alarms are installed within the dwelling, test each alarm. Each alarm should trigger other alarms connected within 10seconds.</li> </ol> <p>The alarm must only be tested by pressing the Test/Silence button. Do <u>not</u> ignite combustible materials and start a fire. If no alarm sounds, the unit has a defective battery or other failure. Refer to “Trouble Shooting” section for a solution.</p> <p><b>Caution:</b> Due to the loudness (85 decibels) of the alarm, always stand an arms-length always from the unit when testing. Erratic or low sound coming from your alarm may indicate a defective alarm.</p> <p><b>NOTE: WEEKLY TESTING IS REQUIRED</b></p>	<ul style="list-style-type: none"> <li>The alarm may not alert every household member every time. The alarm horn is loud in order to alert individuals to a potential danger. However, there may be some circumstances where a household member may not hear the alarm (e.g. excessive outdoor or indoor noise, sound sleepers, drug or alcohol usage, the hard of hearing). If you suspect that this alarm may not alert a household member, install and maintain specialty alarms.</li> <li>The alarms have limitations. This alarm is not fool proof and is not warranted to protect lives from exposure to Carbon Monoxide. The alarms are not a substitute for insurance. Occupants should insure their lives and property. In addition, it is possible for the alarm to fail at any time. For this reason, you must test the alarm weekly and replace the unit after 10 years.</li> <li>Test alarm weekly to ensure proper operation by pressing the test button. Do not use any other test method.</li> <li>Do not paint the alarms.</li> <li>Check the alarms on reoccupation of the premises after a vacation.</li> </ul>

Maintenance	Carbon Monoxide (CO) Overview
<p><b>Cleaning</b></p> <p>The alarm should be cleaned on a monthly basis as a minimum. To do this:</p> <ul style="list-style-type: none"> <li>Turn off the electrical supply to the alarm.</li> <li>Use a vacuum cleaner with the soft brush to vacuum all sides and covers of alarm to remove dust, dirt, and debris. Be sure all the vents are free of debris.</li> <li>Use a damp cloth to clean the alarms cover.</li> <li>Turn the electrical supply to the alarm on.</li> </ul> <p><b>Battery</b></p> <p>The battery should be replaced annually. See ‘Replacing the Battery’</p>	<p>Carbon monoxide (CO) is an extremely poisonous, colorless, odourless and tasteless gas released by the incomplete combustion of fossil fuels such as natural gas, bottle gas, petrol, diesel, oil, paraffin, wood, coal coke and biofuels. When inhaled, it causes chemical asphyxiation, when CO mixes with the blood and reduces the oxygen carried around the body, particularly to the brain. The following symptoms are typical to CO poisoning and should be discussed with all members of the household.</p> <p><b>Mild Exposure</b> - Slight headache, nausea, fatigue (flu like symptoms).  <b>Medium Exposure</b> - Severe throbbing headache, drowsiness and vomiting.  <b>Extreme Exposure</b> - Unconsciousness, cardiorespiratory failure, death.</p>

Important Safety Information
<ul style="list-style-type: none"> <li>This alarm must not be connected to any other manufacturer’s alarms.</li> <li>The alarm must not be exposed to dripping or splashing water.</li> <li>The alarms are designed to give audible warning of a dangerous levels of Carbon Monoxide. The alarms do not detect any other gas.</li> <li>Commonly occurring materials, vapours or gases, e.g. in cleaning fluids, polishes, paints, cooking operations may cause nuisance alarms. Major interferents are acetylene, ethyl alcohol, hydrogen cyanide, hydrogen sulfide, mercaptan, nitrogen dioxide and sulfur dioxide.</li> </ul>

Troubleshooting		Problem		Remedy	
The green LED does not light up	<ol style="list-style-type: none"> <li>Check electrical power supply is switched on</li> <li>Check electrical connector is properly connected to alarm</li> <li>If the problem still exists, replace the alarm</li> </ol>	The alarm chirp occurs every 38 seconds approx. at the same time as yellow LED flashes once and goes into fault mode	1. Clean alarm. Refer to “Maintenance”	2. If the problem still exists, replace the alarm	
Alarm does not sound when tested. Note: push test button for at least five seconds while testing!	<ol style="list-style-type: none"> <li>Ensure that the battery and electrical connector is properly connected</li> <li>Clean alarm</li> <li>If the problem still exists, replace the alarm</li> </ol>	The alarm sounds intermittently or when residents are cooking, taking showers, etc. (false alarming)	1. Press test button to pause alarm	2. Open window or fan alarm	3. Clean alarm
The alarm chirps twice every 33 second approx. at the same time as the yellow LED flashes once	The battery needs replacing, refer to “Replacing the Battery”	The alarm sounds different from it is used to. It starts and stops.	4. Clean alarm	5. If the problem still exists, replace the alarm	

**Warning:** Do not disconnect battery to quiet an unwanted alarm. This will remove your protection. Fan the air or open a window to remove smoke/dust.

Product Specification			
Voltage	220 – 240V @ 50Hz with 9V battery backup	CO Alarm Button – dual function	<ul style="list-style-type: none"> <li>Push to Test</li> <li>Temporarily silence low battery warning</li> </ul>
Battery Specification	9V battery DC. Brands: Gold Peak: GP1604S, GP1604A, Raymax: 6LR61 or Duracell: MN1604	Sound Pattern	ISO8201 (BI 0.1s -pause 0.1s -BI 0.1s-pause 0.1s-BI 0.1s-pause 0.1s-BI 0.1s-pause 0.1s with RED LED flash, then repeat)
Battery Life	Over one year	Inter-linkable	up to 12 detectors
Alarm Volume	> 85dB(A) at 1 meter	Operating Conditions	- 10 to +40°C, 30 to 93%RH
Alarm Sensitivity (alarm conditions)	30PPM - Alarms after 120 minutes 50PPM - Between 60 to 90 minutes 100PPM - Between 10 to 40 minutes 300PPM - Less than 3 minutes	Storage Conditions	-20 to +50°C, 10 to 95% RH
		Compliance	BS EN 50291-1:2010+A1:2012
Product Disposal	This alarm come under the Waste Electrical & Electronic Equipment Regulations and must be disposed of in accordance to these Regulations.		

