



INSTRUCTIONS FOR:  
**CARBON MONOXIDE ALARM**  
MODEL NO: **SCMA1**

Thank you for purchasing a Sealey product. Manufactured to a high standard, this product will, if used according to these instructions, and properly maintained, give you years of trouble free performance.



**IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.**

## 1. SAFETY

### 1.1. What is Carbon Monoxide?

1.1.1. Carbon Monoxide (CO) is an insidious poison that is released when fuels are burnt. It is a colourless, 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 haemoglobin 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.

### 1.1.2. Examples of CO sources:

Running car engine in a garage, oil and gas furnaces, wood stoves, barbecues, clogged chimneys, wood and gas fireplaces, heating boiler, gas appliances, portable generators, gas or kerosene heaters.

### 1.2. Symptoms of CO Poisoning

The following symptoms may be related to CO poisoning:

35ppm The maximum allowable concentration for continuous exposure for healthy adults in any 8 hour period.

200ppm Slight headaches, fatigue, dizziness, nausea after 2-3 hours.

400ppm Frontal headaches within 1-2 hours, life threatening after 3 hours.

800ppm Dizziness, nausea and convulsions within 45 minutes, unconsciousness within 2 hours, death within 3 hours.

1600ppm Headache, dizziness and nausea within 20 minutes, death within 1 hour.

6400ppm Headache, dizziness and nausea within 1-2 minutes.

### 1.3. Installing a CO alarm is only the first step towards safer living conditions. Make sure that you and the other members of your household are familiar with the cause and effects of carbon monoxide poisoning and how to operate the CO alarm.

- ✓ Test your CO alarm once a month.
- ✓ Replace low batteries immediately.
- ✓ Only purchase approved combustion devices.
- ✓ Install combustion devices in the correct way and strictly follow the instructions of the manufacturer.
- ✓ Have any installations carried out by a professional.
- ✓ Have your installations checked by a qualified installer on a regular basis.
- ✓ Have your chimney and any drainage cleaned every year.
- ✓ Regularly check all combustion devices and verify if devices are free of corrosion.
- ✓ Never use a barbecue indoors or in garages.
- ✓ Ensure proper ventilation when using a fireplace or multiburner.
- ✓ Always pay attention to the symptoms of Carbon Monoxide poisoning.
- ✓ This alarm can only be used for residential applications, it is **NOT** suitable for use on boats, in vehicles, factories or shopping malls etc.
- x Avoid contact with organic solvents (including silicone and other adhesives), coatings, pharmaceutical, oil and high concentrations of gas. This unit can not be used in environments containing corrosive gas, corrosive gas can damage the unit.
- x **DO NOT** use where there is strong wind movement.
- x **DO NOT** block the alarm's air inlet otherwise the unit's sensitivity will be affected.
- x This unit can not bear excessive shock or vibration.
- x It will take this alarm a long time to return to its initial state after it has been used in high concentrations of gas for a long time.
- x Never open the unit, electrolyte leakage can cause damage.
- x This CO alarm is designed only to sense Carbon Monoxide from any source of combustion. It is **NOT** designed to detect smoke, fire and other gases.
- ☐ **WARNING:** 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.

## 2. INTRODUCTION

Manufactured according to CE standards. Memory feature allows the operator to detect if and when the alarm has sounded while there has been no-one present. Front LED panel indicates low battery and fault.

## 3. SPECIFICATION

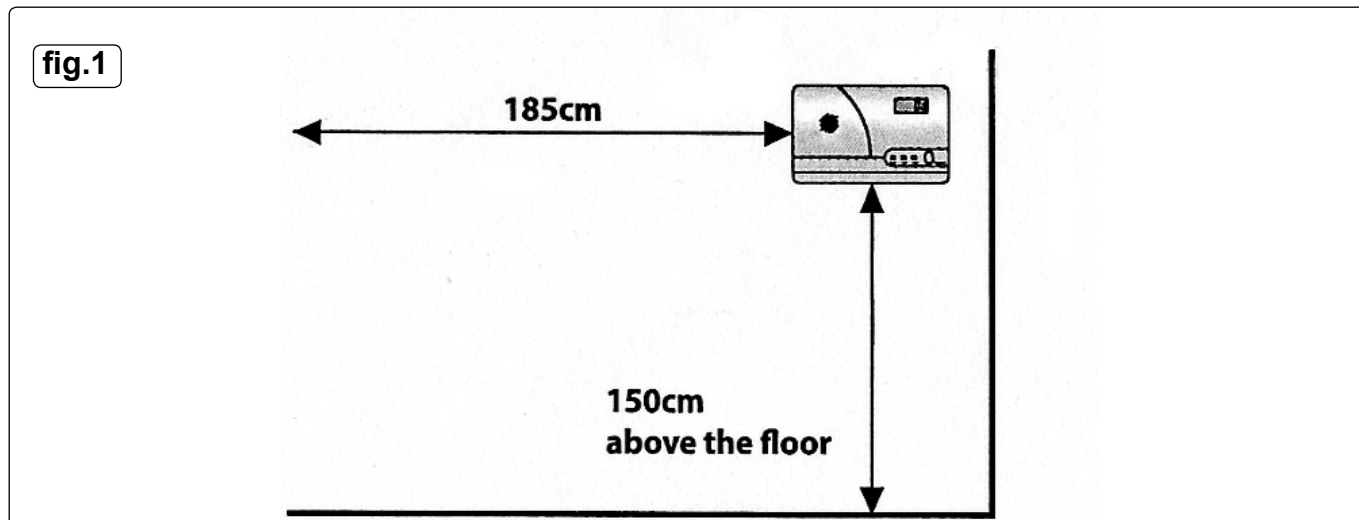
Model No: ..... **SCMA1**

## 4. LOCATING THE ALARM

- 4.1. This alarm is designed to detect toxic CO fumes that result from incomplete combustion, such as those emitted from appliances, furnaces, fireplaces and car exhausts.
- 4.2. If your dwelling is on a single storey, for minimum protection you should fit an alarm in the bedrooms or in the hallway of the sleeping areas. Place it as near to the sleeping areas as possible and ensure the alarm is audible when the bedrooms are occupied.
- 4.3. If your dwelling is multistorey, for minimum protection place at least one alarm on each floor.  
**NOTE:** For maximum protection an alarm should be fitted in or near every room that contains a fuel burning appliance such as any gas fires, central heating boilers, room heaters, water heaters, cookers, grills etc.
- ☐ **WARNING:** This alarm will only indicate the presence of carbon monoxide gas at the sensor. Carbon Monoxide may be present in other areas.  
**A Carbon Monoxide alarm does not function as a replacement for a smoke or gas detector.**

## 5. POSITIONING THE ALARM

- 5.1. Carbon Monoxide has a similar density to warm air and to ensure that the most effective use is made of the detector, it should be fitted at least 1.5 metres (5 feet) above floor level and at least 1.85 metres (6 feet) from the appliance. See fig.1.
- 5.2. Areas to be avoided include the following:
- situations where the temperature may fall below -10°C or rise above 40°C.
  - in a damp or humid area.
  - any area where high levels of dusty, dirty or greasy emissions could contaminate or clog the sensor.
  - behind curtains or furniture.
  - in the path of air discharged from a furnace, air conditioning vent or ceiling fan.
  - outside the building.
  - directly above a sink or cooker.
- ❑ **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 up or tamper with the alarm as this could cause a malfunction.

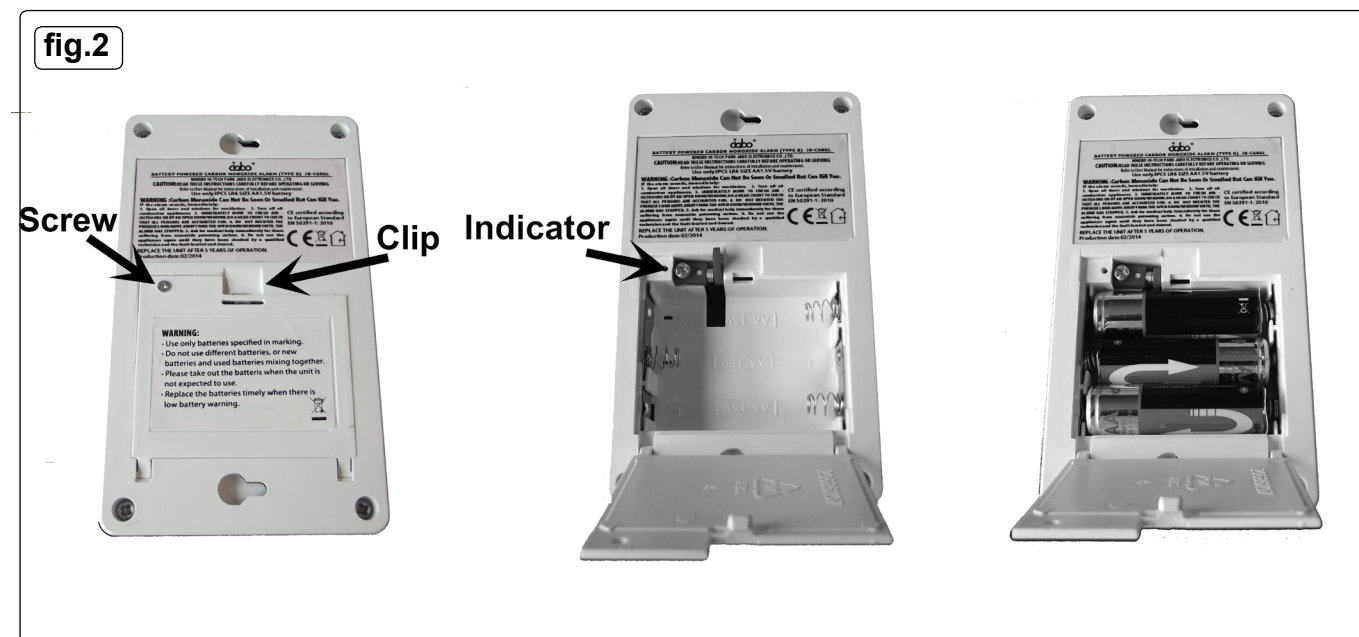


## 6. INSTALLATION

- 6.1. This carbon monoxide alarm is powered by battery and requires no additional wiring. It can either be installed on a wall, using the fixings provided, or on a table top.
- 6.2. **Wall Mounted Installation**
- 6.2.1. Establish the mounting location see 5.1. and ensure there is no electrical wiring or pipework in the area adjacent to the mounting surface.
- 6.2.2. Mark the two mounting hole locations and drill holes.
- 6.2.3. Screw the screws into the drilled holes and keep the screws out by 4mm. Hang unit on wall.
- 6.3. **Table Top Installation**
- 6.3.1. Place alarm on a table top so that users can see the LEDs clearly.

## 7. OPERATION

- 7.1. **Install Batteries (Refer to fig.2)**
- 7.1.1. The alarm is powered by 3x LR6 size AA 1.5V batteries.
- 7.1.2. Undo the screw and release the clip to open the battery compartment door on the rear of the detector.
- 7.1.3. Make sure the batteries are inserted the correct way round (see the polarity diagrams in the bottom of the compartment).
- 7.1.4. The red plastic indicator has to fit under the battery, the door will not shut if this is not done.

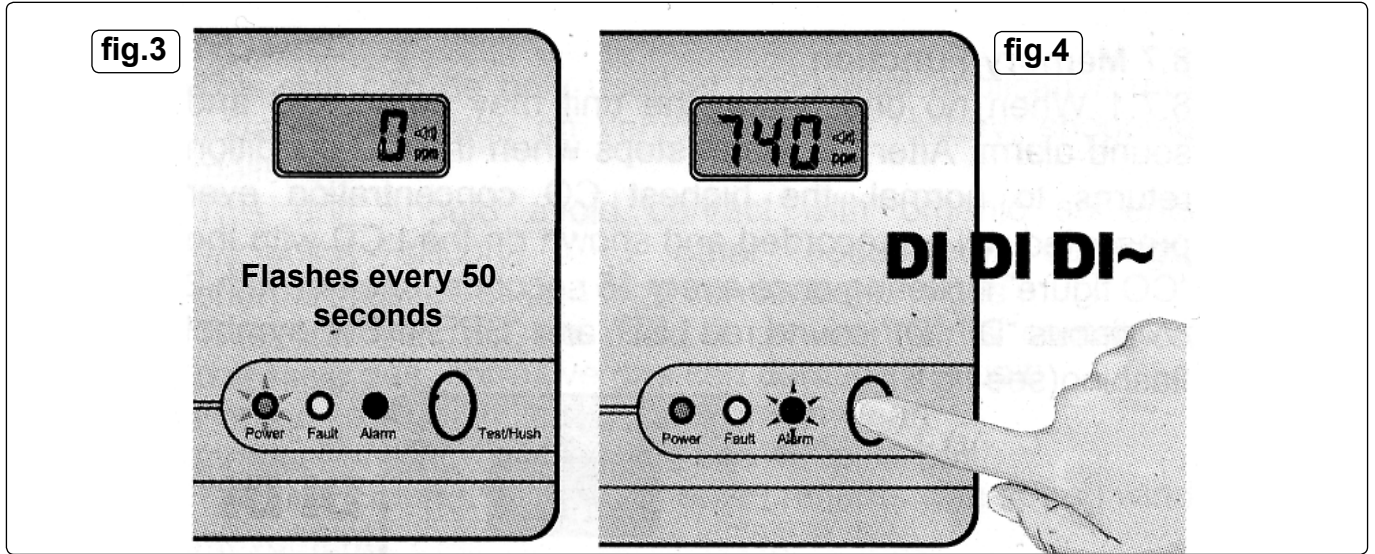


**7.2. Normal Operation**

7.2.1. When no Carbon Monoxide is present, the green LED flashes once every 50 seconds, the LCD displays "0 PPM" and the speaker symbol is indicated to show your alarm is in normal working condition. See fig.3.

**7.3. How to test the CO Alarm**

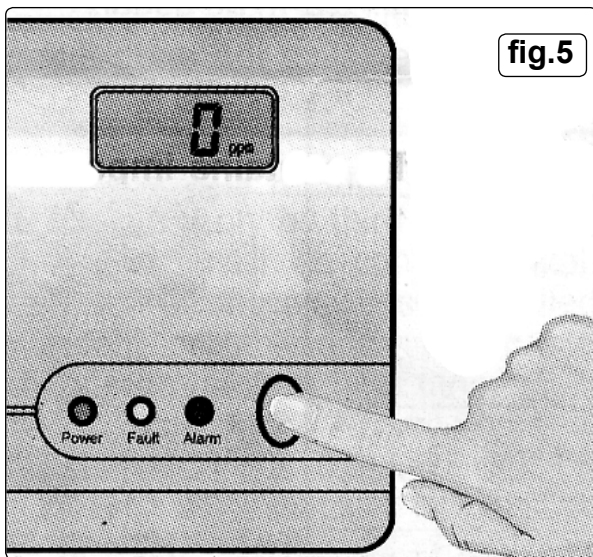
7.3.1. Press the TEST button, the unit will trigger an analog output of high CO concentration that will be detected by the MCU, thus starting alarming together with the red LED flashing, simultaneously the unit will display the simulated CO concentration with the "SPEAKER" symbol flashing, (SPEAKER symbol) see fig.4.



**NOTE:** Test this alarm when the "ppm" symbol is displayed in the LCD after the batteries have been installed. Though this alarm can self-diagnose the amplifying circuit and sensor, it is recommended that you test your CO alarm once a month to ensure it is working correctly.

**7.4. Alarm Locking**

7.4.1. If the TEST button is pressed again whilst the CO alarm is sounding, the alarm will move into LOCKING status and the red LED and the green LED will flash every 10 seconds at the same time, the "SPEAKER" symbol on the LCD will disappear. The unit will not respond to any action during the 2 minute LOCKING status. If the CO concentration exceeds 300PPM in 3 minutes, the unit will start alarming, see fig.5.



7.4.2. When the CO concentration goes down to or below 5PPM the unit will stop alarming.

**7.5. Locking Release**

7.5.1. Press the TEST button, the unit will return to Normal Operation status, see fig.3.

**7.6. Alarm Condition**

7.6.1. When the unit detects dangerous levels of CO, it will emit an alarm signal along with flashing red LED, see fig.4. This will continue as long as there is a dangerous level of CO concentration of or equal to 5PPM. The unit will emit an alarm along with the flashing red LED. The LCD will show the concentration and SPEAKER symbol. This will indicate that an alarm has occurred and it should be investigated.

CO-LEVEL (PPM)	RESPONSE TIME (MIN.)	ALARM SOUND
30ppm-49PPM	after 120	2 continuous chirp (with 1s frequency chirp)
50ppm-99ppm	60-90	3 continuous chirp (with 1s frequency chirp)
100ppm-299ppm	10-40	4 continuous chirp (with 1s frequency chirp)
300ppm or above	0-3	4 continuous chirp (with 0.5s frequency chirp)

**NOTE:** To stop the alarm refer to 7.4.

**7.7. Memory Function**

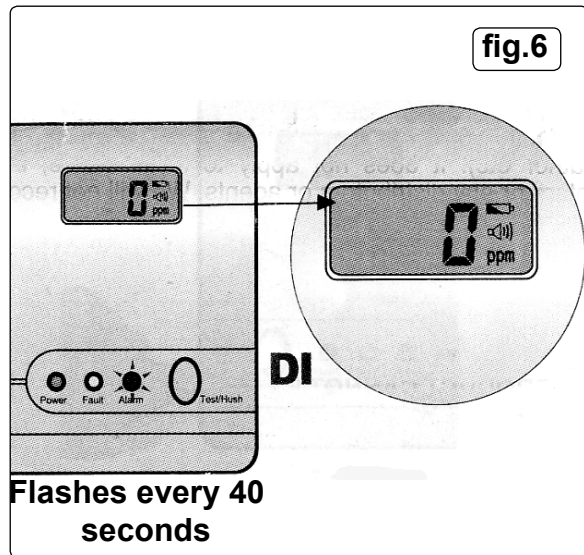
7.7.1. When no one is home, the unit may detect CO and the alarm sound. The alarm stops when the CO condition returns to normal. The highest CO concentration that was present, will be recorded and shown on the LCD with the "CO figure" flickering once every 15 seconds, together with 2 continuous "DI" "DI" sounds, red LED and the "SPEAKER" symbol flashing, see fig.6.

7.7.2. Press the TEST button the "CO figure" will be cleared and the unit returns to normal working condition, see fig.3.

**7.8. Low Battery Signal**

7.8.1. When the unit detects the battery voltage is low and needs replacing, the red LED will beep every 40 seconds along with one BEEP. The LCD will show the LOW VOLTAGE symbol, see fig.7.

7.8.2. The red LED will flash as usual, during the low battery period, the unit can still alarm as usual.



**NOTE:** The normal stand by time of battery is 5 years minimum. If there is a problem with the battery or low battery signal warning keeps activating for over 30 days, replace the battery.

**7.9. Manual Zero**

7.9.1. In normal operation with no CO gas present, when the LCD does not show "0 PPM", you can press the TEST button down for 3 seconds until the PPM character on the LCD disappears, then release the TEST button until the LCD shows "0 PPM".

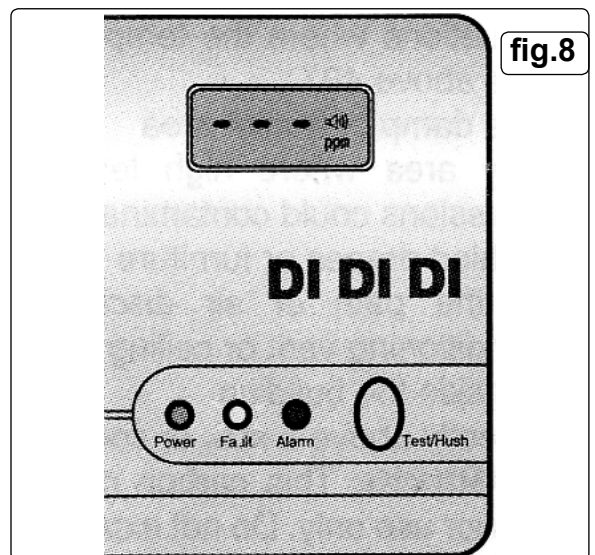
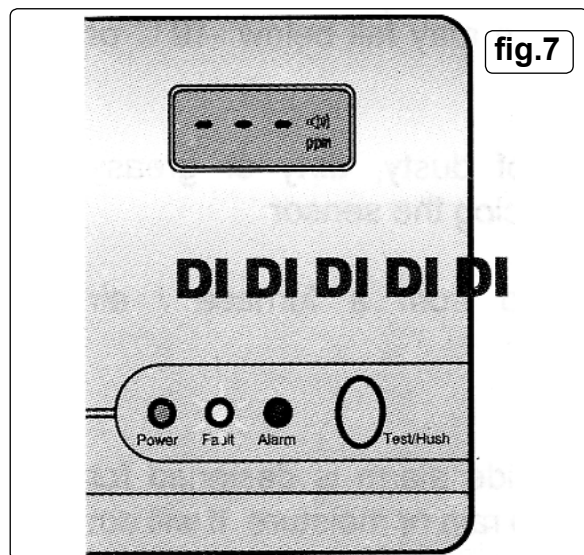
7.9.2. Manual Zero can only be carried out under the following two conditions:

A: The CO concentration on the LCD is lower than 10 PPM.

B: The first digit of the LCD shows "-".

**7.10. Fault Signal Warning**

7.10.1. The unit will self-test the amplifying circuit and sensor every 10 seconds. When there is a problem with the amplifying circuit or sensor, the unit will beep every 30 seconds along with flashing of yellow LED, the LCD will show "--", see fig.7.



**7.11. End of Alarm Life Warning**

7.11.1. When the alarm is at the end of its life, it gives three "DI" audible alarms every 60 seconds together with a LED visual alarm, see fig.8.

**7.12. Calibration**

7.12.1. Calibration can only be carried out by a professional organisation, please do not calibrate it yourself.

7.12.2. Calibration is carried out on a gas concentration of 400 PPM, this will not affect the unit's accuracy, every unit has been calibrated before delivery.

- 7.12.3. Press the TEST button down until all 3 LEDs are on, then release the TEST button, the green and yellow LEDs will turn off, only the red LED will stay on. It signifies that the alarm is now in Calibration Mode.
- 7.12.4. The unit will now give 5 minutes in which it can be calibrated.
- 7.12.5. If the unit cannot detect any change of CO concentration within 5 minutes it will automatically exit Calibration Mode.
- 7.12.6. After calibrating on CO gas, the 3 LEDs will flash 3 times at the same time to indicate the Calibration was successful.

**NOTE:**

- 1. The unit has a minimum CO concentration for calibrating (250 PPM minimum). If the calibration is carried out on a concentration lower than 250 PPM, the unit will not change its previous calibration values.
- 2. When the CO concentration on the LCD is bigger than 30 PPM, the unit will stop entering into Calibration Mode to prevent mis-operation.
- 3. If the user accidentally enters into Calibration Mode by chance, just press the TEST button to exit the Calibration Mode.

**7.13. When the CO Alarm raises an Alarm**

- 7.13.1. Immediately move outdoors, open all doors/windows to ventilate the area and allow the carbon monoxide to disperse.
- 7.13.2. Where possible to turn off any fuel burning appliance.
- 7.13.3. Evacuate the building. **DO NOT** re-enter the premises or move away from the open door/window until emergency services have arrived, the premises have been aired out and your alarm has returned to its normal condition.
- 7.13.4. Seek medical help immediately for anyone suffering from symptoms of headache, drowsiness, nausea etc.
- 7.12.5. **DO NOT** use the appliances again until they have been checked by a qualified technician, the fault located and repaired.

**8. MAINTENANCE**

- 8.1. Your detector will alert you to potentially hazardous CO concentrations in your home when maintained properly.
- 8.2. To maintain your alarm in proper working order it is recommended that you:
  - Test the alarm by pressing the TEST button at least once a month.
  - Clean your CO alarm regularly to prevent dust build up. This can be done with a vacuum cleaner with the brush attachment once a month. Clean gently around the grilles and sides.
  - Never use cleaning solutions on the alarm, simply wipe with a damp cloth.
  - **DO NOT** paint the alarm.

**9. GAS SELECTIVITY**

9.1. This alarm possess conformity to selectivity which international standards require and the table below shows the selectivity to typical noise gases defined in UL2034 and EN50291.

Test gas	Relative sensitivity (CO is 100)
CO	100
Hydrogen	40
Methane	0
Iso-Butane	0
Carbon dioxide	0
Carbon di-sulfate	0
Hydrogen sulfide	0
Nitrogen oxide	0
Nitrogen dioxide	Less than 5
Ammonia	0***
Ethyl acetate	0***
Di-chloromethane	0***
Heptane	0***
Toluene	0***
iPA	0***
Ethanol	Less than 2*
Hexa-methyl di-siloxan	0**

Exposure time \* :30 minutes \*\* :40 minutes \*\*\*: 2 hours

#### Battery Removal

Refer to 7.1 and Fig.2 for instructions on how to remove the batteries.

Under the Waste Batteries and Accumulators Regulations 2009, Jack Sealey Ltd are required to inform potential purchasers of products containing batteries (as defined within these regulations), that they are registered with Valpak's registered compliance scheme. Jack Sealey Ltd's Batteries Producer Registration Number (BPRN) is BPRN00705.



#### Environmental Protection

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment.

When the product becomes completely unserviceable and requires disposal, drain off any fluids (if applicable) into approved containers and dispose of the product and the fluids according to local regulations.

#### WEEE Regulations

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.

Parts support is available for this product. To obtain a parts listing and/or diagram, please log on to [www.sealey.co.uk](http://www.sealey.co.uk), email [sales@sealey.co.uk](mailto:sales@sealey.co.uk) or telephone 01284 757500.

**NOTE:** It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

**IMPORTANT:** No liability is accepted for incorrect use of this product.

**WARRANTY:** Guarantee is 12 months from purchase date, proof of which will be required for any claim.

**INFORMATION:** For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.



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