

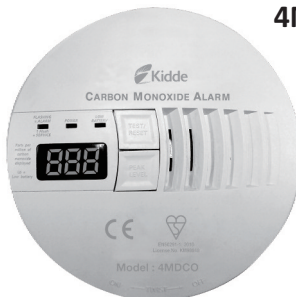


# Kidde 230V Mains Carbon Monoxide Alarms with Rechargeable Battery back-up – User Guide

**4MCO**



**4MDCO**



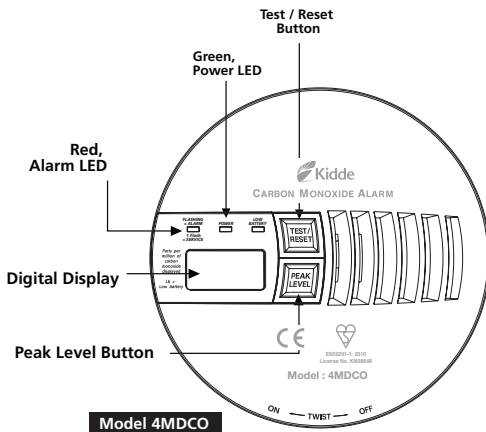
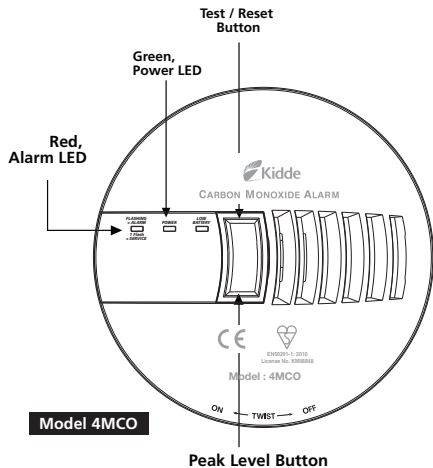
EN50291-1 : 2010  
License No. KM98848

**⚠ WARNING :This alarm will not operate without Mains power. During a power failure the unit will operate for at least 24 hours on battery back up**

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# 1. Diagram of Alarms



## 2. What is Carbon Monoxide?

Carbon monoxide (CO) is a highly poisonous gas with no taste, colour or smell.

### Potential Sources of CO

- Wood-burning stoves
- Gas boilers and fires
- Gas Hobs
- Oil and coal burning appliances
- Portable gas heaters
- Blocked flues and chimneys
- Fumes from integral garages
- Barbecues
- High concentrations of tobacco smoke

This CO alarm is not a substitute for the correct maintenance of your appliances.

Carbon monoxide can be produced from poorly burning appliances or from blocked flues and chimneys.

If your alarm has sounded and you have ventilated the room the CO may have dispersed before help arrives. It is crucial that the source of CO is determined and appropriate maintenance carried out.

Carbon monoxide is a cumulative poison. Longterm exposure to low levels may cause symptoms. This Kidde alarm is time-weighted – the higher the level of CO, the sooner it will alarm.

**NOTE: The apparatus may respond to brief exhaust gas emissions, for example during the initial start-up of an appliance. Also, hydrogen acts as an interferent and can arise from some battery charging activities and the curing of concrete or cement under certain circumstances. Volatile Organic Compounds (VOCs), e.g. alcohols, which may eventually activate the alarm, can be generated from use of damp-proofing materials or other coatings containing alkylalkoxysilanes.**

### 3. Safety information

To be safe, know the possible sources of CO in your home. Keep fuel burning appliances and their chimneys and vents in good working condition. Learn the early symptoms of exposure, and if you suspect CO poisoning, move outside to fresh air and get emergency help. Your first line of defence is an annual inspection and regular maintenance of your appliances. Contact a licensed contractor or call your local utility company for assistance.

**In rented properties your Landlord (or Council/ Housing Association), will have an Emergency Response phone number, and be liable for the regular maintenance of their combustion appliances (Gas/LPG/Oil/Solid Fuel).**

**This alarm has not been tested specifically for use in caravans or boats. Only CO alarms certified to EN50291-2 are fully approved for this purpose.**

### 3. Safety information-Alarm levels as defined by EN50291-1:2010

The table below shows the response times at which your CO alarm will sound;

Parts per Million (PPM) of CO	Time until Alarm
50	60 – 90 minutes
100	10 – 40 minutes
300	Must alarm in less than 3 minutes

#### CO Advice and Information

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

### 3. Important Safety Information

**NOTE:** If you recognise any of the above symptoms consult your Doctor immediately.

**NOTE:** Young children, elderly and pets are more susceptible to the dangers of CO.

**NOTE:** Your Kidde alarm is designed to detect CO gas. It is not designed to detect smoke, fire or other gas such as natural gas.

**NOTE:** This product is intended for use in ordinary family homes. It is not designed to measure compliance with occupational safety and the HSE.

**NOTE:** Individuals with certain specific medical conditions may need an alarm that operates below 30ppm. If this applies consult your Doctor.

**IMPORTANT:** Ensure that all family members are familiar with the symptoms of CO poisoning and how your alarm works.

## 4. Installation Instructions – Recommended Locations

- When wall-mounting place the alarm a horizontal distance of between 1 metre and 3 metres from a fuel burning appliance.
- Wall-mounted alarms should be close to the ceiling, but at least 150mm away to avoid being in 'dead-air' space.
- Locate within hearing distance of bedrooms\* and place at sleeping height if a heating appliance is in the bedroom.
- CO alarms in rooms with sloped ceilings should be located on the high side of the room.
- Ceiling mounted alarms should be at least 300 mm from any wall.
- If there is a partition in the room, locate the alarm on the same side of the partition as the potential source.

\* A CO alarm should be installed in all rooms containing a fuel burning appliance. Additional CO alarms should be installed in rooms where most awake time is spent, in every sleeping area, and on every level of the home.

### Locations to Avoid

- Avoid locating next to draughts, such as doors, windows, extractor fans, air vents or other similar ventilation openings.
- Avoid locating close to obstructions (e.g. behind curtains, shelves or furniture).
- Avoid dusty, dirty or greasy areas, such as garages or workshops
- Avoid humid (bathrooms), cold ( $< -10^{\circ}\text{C}$ ) or hot ( $> 40^{\circ}\text{C}$ ) or damp areas and keep away from sinks.



## 4. Installation Instructions –Supply and Interconnect

### Refer to Separate Easy Installation Instructions

**NOTE: THIS ALARM IS DESIGNED FOR INSTALLATION BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH THE LATEST IEE REGULATIONS AND RELEVANT BRITISH STANDARDS.**









THIS ALARM MUST BE POWERED BY A CONSTANT 230V AC, 50Hz SUPPLY THAT IS NOT CONTROLLED BY ANY FORM OF SWITCH.

THIS ALARM INTERCONNECTS WITH UP TO 24 KIDDE DEVICES (OF WHICH 18 CAN BE INITIATING) INCLUDING SMOKE, CO AND HEAT ALARMS. (SEE BELOW)

THIS ALARM IS NOT DESIGNED TO BE INTERCONNECTED WITH OTHER MANUFACTURER'S PRODUCTS, UNLESS OTHERWISE SPECIFIED.

Firex	Kidde	
KF10R	1SFWR	Mains Ionisation Alarm with Rechargeable battery back-up
KF10	1SFW	Mains Ionisation Alarm with alkaline battery back up
KF20R	2SFWR	Mains Optical Alarm with Rechargeable battery back-up
KF20	2SFW	Mains Optical Alarm with alkaline battery back up
KF30R	3SFWR	Mains Heat Alarm with Rechargeable battery back-up
KF30	3SFW	Mains Heat Alarm with alkaline battery back up
	4MCO	Mains CO Alarm with rechargeable battery back-up
	4MDCO	Mains CO Alarm with rechargeable battery back-up, digital display

## 5. Using Your Digital Alarm(4MDCO) – what the signals mean

	LEDs		LCD	Sounder	Unit Status	Action
Normal Operation	Red			None	Normal Operation	None
	Amber					
Alarm	Red	Flashing	 Displays CO ppm (30-999)	4 loud beeps/pause/4 loud beeps- repeated	CO detected	See section
	Amber					
Interconnected CO alarm detects CO	Red	Flashing		4 loud beeps/pause/4 loud beeps- repeated	Interconnected CO alarm detects CO	See section
	Amber					
Interconnected Heat/Smoke alarm detects hazard	Red	Flashing		3 loud beeps/pause/3 loud beeps- repeated	Smoke or heat has been detected from an intercon- nected smoke or heat alarm	EVACUATE THE PREMISES ACCORDING TO YOUR ESCAPE PLAN
	Amber					
Error condition -1	Red	Flashing every 30 secs		Chirp/30 secs	Unit has failed	Replace
	Amber	Flashing every 30 secs				
Error condition -2	Red	ON		Constant loud sound	Unit microprocessor has failed	Replace
	Amber					
End of Life	Red	Flashing		Chirp twice every 30 seconds	The unit has reached the end of its life	Replace
	Amber	Flashing twice every 30 secs				
Charging the battery back up	Red		 (Lb Flashes)	NONE	Battery backup is charging (unit is monitoring for CO)	Nothing
	Amber	Flashing every 15 secs				
Low battery	Red	Flashing every 15 secs		Chirp / 15 secs	Back up battery is discharged	Ensure switch is On at the rear of the unit - if it persists contact Kidde
	Amber	Flashing every 15 secs				

**9** NOTE: If AC mains is connected and active, the Green LED will be on continuous. If Green LED is not on, see Section 6.

## 5. Using Your Non-Digital Alarm(4MCO) – what the signals mean

	LEDs		Sounder	Unit Status	Action
Normal Operation	Red		None	Normal Operation	None
	Amber				
Alarm	Red	Flashing	4 loud beeps/pause/4 loud beeps- repeated	CO detected	See section
	Amber				
Interconnected CO alarm detects CO	Red	Flashing	4 loud beeps/pause/4 loud beeps- repeated	Interconnected CO alarm detects CO	See section
	Amber				
Interconnected Heat/Smoke alarm detects hazard	Red	Flashing	3 loud beeps/pause/3 loud beeps- repeated	Smoke or heat has been detected from an interconnected smoke or heat alarm	EVACUATE THE PREMISES ACCORDING TO YOUR ESCAPE PLAN
	Amber				
Error condition -1	Red	Flashing every 30 secs	Chirp/30 secs	Unit has failed	Replace
	Amber	Flashing every 30 secs			
Error condition -2	Red	ON	Constant loud sound	Unit microprocessor has failed	Replace
	Amber				
End of Life	Red	Flashing	Chirp twice every 30 seconds	The unit has reached the end of its life	Replace
	Amber	Flashing twice every 30 secs			
Charging the battery back up	Red		NONE	Battery backup is charging (unit is monitoring for CO)	Nothing
	Amber	Flashing every 15 secs			
Low battery	Red	Flashing every 15 secs	Chirp / 15 secs	Back up battery is discharged	Ensure switch is On at the rear of the unit - if it persists contact Kidde
	Amber	Flashing every 15 secs			

**NOTE: If AC mains is connected and active, the Green LED will be on continuous. If Green LED is not on, see Section 6.**

## 5. Using Your Alarm – Cont.

### Testing

Each week your alarm should be tested by pressing the test button. The alarm will beep once followed by a brief pause. Then the alarm will sound fully with 4 beeps a pause and then 4 beeps.

During testing the red LED will flash.

The Digital model will display “888” followed by a 200+ number.

This confirms that the alarm is powered up and working.

### Re-setting the Alarm

If the alarm sounds, the test / reset button will silence the alarm unless it is still detecting dangerous levels of CO.

### Peak Level Memory – Digital model only

Pressing the Peak level memory button tells you if you have had levels of CO>9ppm. To reset keep the peak level button pressed and press the test button for 2 seconds.

### End of Life Notification

After 7 years of continuous operation, the unit will chirp twice every 30 seconds, and the amber LED will flash twice. The red LED will also be flashing. Unit has reached end of life, and must be replaced.

**NOTE: Constant exposures to extreme temperatures and humidities may affect battery life.**

## 6.Mains Power Failure – Digital Alarm (4MDCO)

	LEDs		LCD	Sounder	Unit status	Action
Loss of Mains power	Red	OFF	0 or CO ppm displayed every 60 secs		Unit has no mains power and the battery back up will have limited life	Restore the mains ASAP
	Green	Flashing every 7 secs				
	Amber	OFF				
Low Battery when mains has failed	Red	Flashing every 15 secs	Lb and 0 or CO ppm alternate - only for the first 5 minutes	Chirp/15 secs	Back up battery is discharged	Restore the mains ASAP
	Green	Flashing every 7 secs				
	Amber	Flashing every 15 secs				
Battery back up close to discharge	Red	Flashing every 60 secs	None	Chirp/60 secs	Unit will no longer detect CO	Restore the mains ASAP
	Green	Flashing every 7 secs				
	Amber	OFF				

## 6.Mains Power Failure – Non Digital Alarm (4MCO)

	LEDs		Sounder	Unit status	Action
Loss of Mains power	Red	OFF		Unit has no mains power and the battery back up will have limited life	Restore the mains ASAP
	Green	Flashing every 7 secs			
	Amber	OFF			
Low Battery when mains has failed	Red	Flashing every 15 secs	Chirp/15 secs	Back up battery is discharged	Restore the mains ASAP
	Green	Flashing every 7 secs			
	Amber	Flashing every 15 secs			
Battery back up close to discharge	Red	Flashing every 60 secs	Chirp/60 secs	Unit will no longer detect CO	Restore the mains ASAP
	Green	Flashing every 7 secs			
	Amber	OFF			

## 7. Interconnected systems

<b>Interconnected systems of Kidde Models - 1SFW, 1SFWR, 2SFW, 2SFWR, 3SFW, 3SFWR, 4MCO, 4MDCO</b>		
	<b>CO Alarm</b>	<b>Smoke/Heat Alarm</b>
Press CO test button	Normal test sequence - 4 loud beeps pause and then 4 loud beeps and so on.	Do not sound
Press Smoke/Heat Alarm test button	3 loud beeps pause 3 beeps with Red LED flashing	3 loud beeps pause 3 loud beeps with Red LED flashing
Smoke/Heat Alarm Event	3 loud beeps pause 3 loud beeps with Red flashing. The Digital model will display " Fire"	3 loud beeps pause 3 loud beeps with Red flashing.
CO event	Alarms with 4 loud beeps pause 4 beeps and so on	Do not sound
<b>Smokes/Heat alarm will override CO</b>		

## 7. Interconnected systems

<b>Interconnected systems of Firex models, KF10, KF10R, KF20, KF20R, KF30, KF30R</b>		
	<b>CO Alarm</b>	<b>Smoke/Heat Alarm</b>
Press CO test button	Normal test sequence - 4 loud beeps pause and then 4 loud beeps and so on.	Normal test sequence - 4 loud beeps pause and then 4 loud beeps and so on.
Press Smoke/Heat Alarm test button	3 loud beeps pause 3 beeps with Red LED flashing	3 loud beeps pause 3 loud beeps with Red LED flashing
Smoke/Heat Alarm Event	3 loud beeps pause 3 loud beeps with Red flashing. The Digital model will display " Fire".	3 loud beeps pause 3 loud beeps with Red flashing.
CO event	Alarms with 4 loud beeps pause 4 beeps and so on.	Alarms with 4 loud beeps pause 4 beeps and so on.
<b>Smokes/Heat alarm will override CO</b>		



## 8. What to do if Your Alarm Sounds!

### Carbon Monoxide Alarm Procedure

**⚠ WARNING! Activation of the alarm indicates the presence of Carbon Monoxide (CO) which can kill you.**

Based on recommendations from EN 50292, follow these steps if alarm sounds (4 loud audible pulses followed by a pause for 5 seconds):


1. Keep calm and open all doors and windows. Turn off all fuel-burning appliances if possible. Note: it is possible that outdoor conditions could influence domestic CO alarms (bad traffic pollution in cold weather, for example). In these circumstances, the level of indoor CO might actually increase when doors and windows are opened.
2. If the alarm continues to sound, even after being reset (where appropriate), then evacuate the premises, alerting other occupants to the risk. Leave doors and windows open. Do not re-enter the premises.
3. Get medical help for anyone suffering the effects of CO poisoning, and advise that CO inhalation is suspected.
4. Call Gas Emergency Services: 0800 111 999, or your local Gas Safe Registered Engineer:

**PHONE NUMBER:**

**Never restart the source of the CO problem until it has been corrected. Never ignore the sound of the alarm! If the alarm is sounding, pressing the test/reset button will terminate the alarm. If the CO condition that caused the alert in the first place continues, the alarm will reactivate. If the unit alarms again within six minutes, it is sensing high levels of CO which can quickly become a dangerous situation.**

## 9. Maintenance of Your Alarm

This is a Mains Alarm. Isolate before removing for decorating. If in doubt contact a qualified electrician.

 **Warning:** Do not tamper with the apparatus, as there is a risk of electric shock or malfunction.

To keep your alarm in good working order:



- **Test every week**
- **Vacuum regularly to remove dust**
- **Keep away from solvents or detergents**
- **Avoid spraying air-freshener, hair-spray near the alarm**
- **Do not paint the alarm. If decorating or using adhesives close to the alarm, remove it temporarily**

The following substances can affect the sensor and cause false alarms:

Methane, Propane, Iso-butane, Iso-propanol, Ethylene, Benzene, Toluene, Ethyl acetate, Hydrogen Sulphide, Hydrogen, Sulphur Dioxide, alcohol based products, paints, thinners, solvents, adhesives, hair-sprays, aftershaves or perfumes and some cleaning agents.

**NOTE:** there could be other compounds occurring within a particular household which could cause similar effects.

## 10.Troubleshooting

	LEDs		LCD (4MDCO)	Sounder	Unit Status	Action
Error condition -1	Red	Flashing every 30 secs		Chirp/30 secs	Unit has failed	Replace
	Amber	Flashing every 30 secs				
Error condition -2	Red	ON		Constant loud sound	Unit micro-processor has failed	Replace
	Amber					
End of Life	Red	Flashing		Chirp twice every 30 seconds	The unit has reached the end of its life	Replace
	Amber	Flashing twice every 30 secs				
Low battery	Red	Flashing every 15 secs	NONE	Chirp/15 secs	Backup battery is discharged	Ensure switch is ON at the rear of the unit-if it persists, contact Kidde
	Amber	Flashing every 15 secs				

**NOTE:** If AC mains is connected and active, the Green LED will be on continuous. If Green LED is not on, see Section 6.

## 11. Product Specifications

Power	240V, 50Hz 30mA max
Sensor	Electrochemical CO Sensor
Storage and Transport Conditions	-20 °C to +60°C, 5 - 95% RH (no condensing)
Temperature Range	Operating range: 0°C to 40°C
Humidity	up to 90% relative humidity (RH), non-condensing
Alarm Sound	85db+ at 10' (3 metres) @ 3.4 +/- 0.5 KHz pulsing alarm
Size and weight	Weight: 220g Dimensions: 145mm x145mm x 40mm

## 12. Warnings and Important Notices

**⚠** WARNING: THIS CARBON MONOXIDE ALARM IS NOT A SUBSTITUTE FOR INSTALLING AND MAINTAINING AN APPROPRIATE NUMBER OF SMOKE ALARMS IN YOUR HOME. THIS ALARM WILL NOT SENSE SMOKE, FIRE, OR ANY POISONOUS GAS OTHER THAN CARBON MONOXIDE. 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.

**⚠** WARNING: THIS PRODUCT IS INTENDED FOR USE IN ORDINARY INDOOR RESIDENTIAL AREAS. IT IS NOT DESIGNED TO MEASURE COMPLIANCE WITH COMMERCIAL AND INDUSTRIAL STANDARDS. THIS ALARM IS NOT SUITABLE FOR INSTALLATION IN HAZARDOUS LOCATIONS. INDIVIDUALS WITH MEDICAL PROBLEMS MAY CONSIDER USING WARNING DEVICES WHICH PROVIDE AUDIBLE AND VISUAL SIGNALS FOR CARBON MONOXIDE CONCENTRATIONS UNDER 30 PPM.

**IMPORTANT:** THIS CARBON MONOXIDE ALARM IS DESIGNED TO DETECT CARBON MONOXIDE FROM ANY SOURCE OF COMBUSTION INCLUDING IMPROPER OR MALFUNCTIONING APPLIANCES. THE INSTALLATION OF THIS DEVICE SHOULD NOT BE USED AS A SUBSTITUTE FOR PROPER INSTALLATION, USE AND MAINTENANCE OF FUEL BURNING APPLIANCES INCLUDING APPROPRIATE VENTILATION AND EXHAUST SYSTEMS

**⚠** WARNING: THIS ALARM WILL NOT WORK WITHOUT POWER. THIS ALARM REQUIRES A CONTINUOUS SUPPLY OF POWER.

**⚠** WARNING: THIS UNIT IS NOT A SMOKE ALARM. IT WILL NOT SENSE SMOKE. FOR EARLY WARNING OF FIRE YOU MUST INSTALL SMOKE ALARMS.

**IMPORTANT:** IF ANY FAULT SIGNALS OCCUR, CONTACT THE MANUFACTURER OR SUPPLIER AND DO NOT CONTINUE USING THE ALARM.

**⚠** WARNING: THE DEVICE CANNOT WARN AGAINST THE CHRONIC EFFECTS OF EXPOSURE TO CARBON MONOXIDE OR PROTECT INDIVIDUALS WHO ARE AT SPECIFIC RISK.

**⚠** WARNING: ALTERING THE ALARM IN ANY WAY MAY LEAD TO A RISK OF ELECTRIC SHOCK OR PREVENT IT FROM FUNCTIONING CORRECTLY.

**⚠** CAUTION: THIS ALARM WILL ONLY INDICATE THE PRESENCE OF CARBON MONOXIDE AT THE SENSOR. CARBON MONOXIDE MAY BE PRESENT IN OTHER AREAS.

## 13. Warranty

### SEVEN YEAR LIMITED WARRANTY

**WARRANTY COVERAGE:** THE MANUFACTURER WARRANTS TO THE ORIGINAL CONSUMER PURCHASER, THAT THIS PRODUCT WILL BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF SEVEN (7) YEARS FROM DATE OF PURCHASE. THE MANUFACTURER'S LIABILITY HEREUNDER IS LIMITED TO REPLACEMENT OF THE PRODUCT. REPAIR OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT WITH REPAIRED PRODUCT AT THE DISCRETION OF THE MANUFACTURER. THIS WARRANTY IS VOID IF THE PRODUCT HAS BEEN DAMAGED BY ACCIDENT, UNREASONABLE USE, NEGLIGENCE, TAMPERING OR OTHER CAUSES NOT ARISING FROM DEFECTS IN MATERIAL OR WORKMANSHIP. THIS WARRANTY EXTENDS TO THE ORIGINAL CONSUMER PURCHASER OF THE PRODUCT ONLY.

**Warranty Disclaimers:** Any implied warranties arising out of this sale, including but not limited to the implied warranties of description, merchantability and fitness for a particular purpose, are limited in duration to the above warranty period. In no event shall the Manufacturer be liable for loss of use of this product or for any indirect, special, incidental or consequential damages, or costs, or expenses incurred by the consumer or any other user of this product, whether due to a breach of contract, negligence, strict liability in tort or otherwise. The Manufacturer shall have no liability for any personal injury, property damage or any special, incidental, contingent or consequential damage of any kind resulting from gas leakage, fire or explosion. This warranty does not affect your statutory rights.

**Warranty Performance:** During the above warranty period, your product will be replaced with a comparable product if the defective product is returned, postage prepaid, to KIDDE Safety Europe Ltd, Mathisen Way, Colnbrook, Slough SL3 0HB. Telephone 01753 685148, together with proof of purchase date. Please include a note describing the problem when you return the unit. The replacement product will be in warranty for the remainder of the original warranty period or for six months, whichever is longer. Other than the cost of postage, no charge will be made for replacement of the defective product. Important: Do not open unit. Opening unit will void warranty.

Your Carbon Monoxide Alarm is not a substitute for property, disability, life or other insurance of any kind. Appropriate insurance coverage is your responsibility. Consult your insurance agent. Kidde makes no warranty, express or implied, written or oral, including that of merchantability or fitness for any particular purpose, with respect of the batteries.

**For Warranty Service:** In many cases the quickest way to exchange your CO alarm is to return it to the original place of purchase. If you have questions, call the KIDDE customer service department on 01753 685148

## 14. 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



## Useful Contact Information

Kidde Helpline	(UK) 0800 917 0722 / (Ireland) 1800 818 601
Emergency No.s	Gas Emergency Services 0800 111 999
	HETAS (Solid Fuel Emergency) 0845 634 5626
	Oftec (oil) 0845 658 5080

Kidde Website	<a href="http://www.kiddesafetyeurope.co.uk">www.kiddesafetyeurope.co.uk</a>
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Manufacturer Address (Made in China)	Kidde Safety Europe Limited Mathisen Way Colnbrook Berkshire SL3 0HB
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