Certification Exhibit

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TÜV SÜD Project Number: 72126638

Manufacturer: ELK Products, Inc.
Model: ELK-6051

Manual

Wireless Carbon Monoxide Alarm
ELK-6051

ELK-6051 Wireless Carbon Monoxide Alarm

Instruction

Read and retain carefully for as long as the product is being used. It contains vital information on the operation and installation of your Alarm. This booklet should be regarded as part of the product. If you are just installing the Alarm, this booklet must be given to the householder. This booklet is to be given to any subsequent user.

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1. Read This First

- Congratulations on becoming the owner of an Elk Carbon Monoxide Alarm. This product is designed to help protect you and your household from the dangerous effects of Carbon Monoxide- the silent killer.

- The Carbon Monoxide Alarm (CO Alarm) is powered up by carefully rotating it onto the mounting plate which activates the on/off switch. The red, amber & green lights will immediately flash in sequence to show they are working. Please wait 15 seconds after connecting the power before button testing.

We recommend that you:

- Install a CO Alarm in every room that contains a fuel burning appliance, particularly rooms where people spend a lot of time e.g. bedrooms, kitchens and sitting rooms.

- In rooms with an appliance, install (preferably) on the ceiling, (300mm from walls) and between 1.5m to 3m horizontally from appliance. In rooms remote from the appliance install at 'head height', where the light indicators can be seen.

- Test the Alarm weekly by pressing the test/hush button. The horn will sound (at a diminished sound level initially and then quickly reach maximum sound output level).

- Replace Alarm after approx. 10 years of operation (see 'Replace by' date on side wall label).

- Do not install during building construction so as to avoid contamination.

- Individuals with medical problems may consider warning devices which provide audible and visual signals for carbon monoxide concentrations under 30ppm.

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2. Carbon Monoxide – The Silent Killer

2.1 What is Carbon Monoxide?

Many people are killed each year, and many more suffer ill health from Carbon Monoxide (CO) poisoning. CO is an invisible, odorless, tasteless and extremely toxic gas. It is produced by appliances and vehicles burning fuels, such as coal, oil, natural/bottled gas, paraffin, wood, petrol, diesel, charcoal etc. CO is absorbed by red blood cells in the lungs in preference to oxygen - this results in rapid damage to the heart and brain from oxygen starvation.

High levels of CO in a house can be caused by:

• Incorrectly or poorly installed fuel-burning appliances.

• Blocked or cracked chimneys/flues.

• Blocked vents or draught-proofing which makes areas with fuel burning

appliances or fireplaces airtight.

• Engines of cars, lawnmowers etc. left running in confined spaces.

• Portable paraffin or gas heaters in badly ventilated rooms.

2.2 What happens when your CO Alarm detects Carbon Monoxide?

When the Alarm detects potentially dangerous levels of CO, it flashes the red alarm light immediately and then sounds a loud alarm if the CO persists. Table B below shows how the CO Alarm reacts to different levels of CO gas and exposure time. At higher levels of CO, the alarm turns on sooner. The rate of flashing of the red light indicates the level of CO. If your CO Alarm sounds, follow the instructions on page and **NEVER IGNORE THE ALARM !**

2.3 Symptoms of Carbon Monoxide Poisoning

Table A

Concentration of CO in Air ▲ ppm	Inhalation Time (approx) and Symptoms Developed
35	The maximum allowable concentration for continuous exposure in any 8 hour period according to OSHA *.
150	Slight headache after 1.5 hours.
200	Slight headache, fatigue, dizziness, nausea after 2-3 hours.
400	Frontal headaches within 1-2 hours, life threatening after 3 hours, also maximum parts per million in flue gas (on an air free basis) according to US Environmental Protection Agency.
800	Dizziness, nausea and convulsions within 45 minutes. Unconsciousness within 2 hours. Death within 2-3 hours.
1,600	Headache, dizziness and nausea within 20 minutes. Death within 1 hour.
3,200	Headache, dizziness and nausea within 5-10 minutes. Death within 25-30 minutes.
6,400	Headache, dizziness and nausea within 1-2 minutes. Death within 10-15 minutes.
12,800	Death within 1-3 minutes.

The following symptoms may be related to CARBON MONOXIDE POISONING and should be discussed with ALL members of the household:

Mild exposure: Headaches, running nose, sore eyes, often described as "flu" -like symptoms;

Medium exposure: Dizziness, drowsiness, vomiting;

Extreme Exposure: Unconsciousness, brain damage, 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 exiting the building or calling for assistance.

▲ ppm = parts per million   *OSHA Occupational Safety & Health Association

Table B: CO Alarm Response

	Red Light	Horn/Sounder
CO Gas Level		
0 ppm to < 50 ppm	OFF *	OFF*
>50 ppm	1 flash every 3 secs.	On within 60-240 minutes (typ 90 minutes)
>110 ppm	2 flashes every 3 secs.	On within 10-50 minutes (typ 30 minutes)
>250 ppm	3 flashes every 3 secs.	On within 4-15 minutes (typ 9 minutes)

* unless it has alarmed previously (see CO Alarm Memory below) ppm values shown in table are for example purposes only

Alarm Indicators
Pre-Alarm: Red LED flash only
CO Alarm: Red LED flash + sounder
Faults: Yellow LED flash + beeps

Pre-Alarm (before horn sounds): When the Alarm detects over 50 ppm CO the red light flashes in accordance with Table B. This helps locate CO leaks as the unit gives an indication straight away.

(Without this feature the CO level would need to be at 50 ppm CO for typically 72 minutes for an alarm sound to be given). Note the Pre-Alarm signal may be triggered by CO coming for example, from cooking with gas, from car engines or from nearby barbecues. This is usually not a concern, unless the Pre-Alarm signal persists until the alarm sounds and the CO source is unknown.

NOTE: The CO Alarm may sound if cigarette smoke is blown into it, or aerosols are released nearby.

CO ALARM MEMORY

The CO Alarm memory is an important feature of the CO Alarm where even if the house is unoccupied during an alarm condition it warns the homeowner that the unit has previously detected CO gas and been in alarm. The memory feature has two operation modes:

- memory indication for 24 hour period after alarm.
- memory recall on demand

24 hour memory indicators: After alarm, the RED light will flash at different rates every 50 seconds depending on the level of CO detected - see Table C.

Memory recall on demand: To review the memory status after initial 24 hours, press and hold the test button, the red led will flash in accordance to Table C. Display models will show the peak level of CO measured.

Table C: CO Alarm Memory Indicators

CO Gas Level	Red Light Response	
	24 Hours	On Demand (Button Press)
ppm > 50 ppm	1 flashes every 50 sec	1 flashes
ppm > 110 ppm	2 flashes every 50 sec	2 flashes
ppm > 250 ppm	4 flashes every 50 sec	4 flashes

Reset Memory: Hold down the test button until the red light stops and the green light starts flashing. Cover the horn with a cloth to muffle the alarm during this time. Please note that the memory will also be reset when the unit is switched off.

3. Where to Place CO Alarms

NATIONAL FIRE PROTECTION ASSOCIATION REQUIRED PROTECTION

For your information the National Fire Protection Association's standard 720 advises as follows:

Carbon Monoxide Alarms shall be installed as follows:

(1) Outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedroom.

(2) On every occupiable level of a dwelling unit, including basements but excluding attics and crawl spaces.

(3) Other locations where required by applicable laws, codes or standards.

The equipment should be installed using wiring methods in accordance with the National Fire Protection Association's Standard 72, 720. (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269)

IMPORTANT!

Specific requirements for Carbon Monoxide Alarm installation vary from state to state and from region to region. Check with your local Fire Department for current requirements in your area.

3.1 Ideally a Carbon Monoxide Alarm should be installed in:

- Every room containing a fuel burning appliance, and

- Remote rooms where occupants spend a considerable amount of time

- Every bedroom.

However, if the number of Carbon Monoxide Alarms to be fitted is limited, the following points should be considered when deciding where best to fit the Alarm(s)

- If there is an appliance in a room where people sleep, place a CO Alarm in this room

- Locate a CO Alarm in a room containing a flueless or open-flued appliance, and

- Locate an Alarm in a room where the occupant(s) spend most of their time (e.g. sitting room)

- In a bedsit, the CO Alarm should be placed as far away from the cooking appliance as possible, but near to where the person sleeps

- If the appliance is in a room not normally used, such as a boiler room, the CO Alarm should be placed just outside the room so that the alarm will be heard more easily.
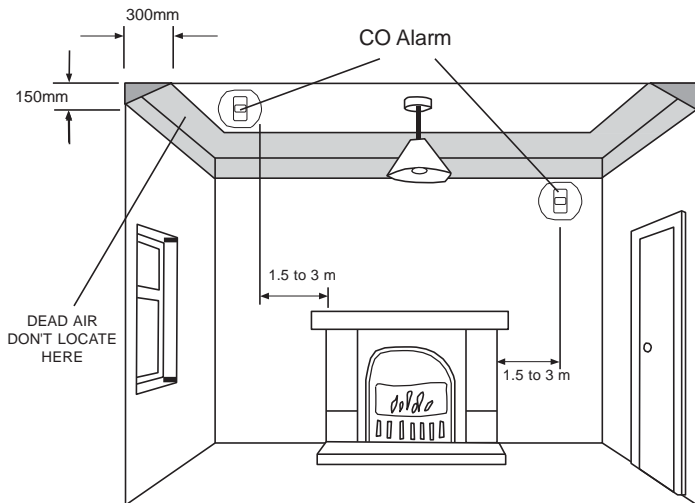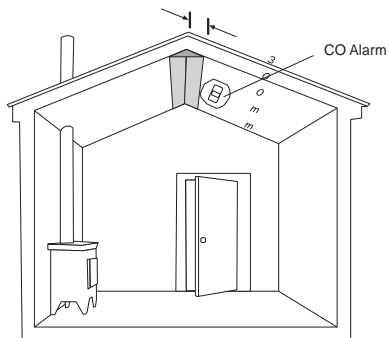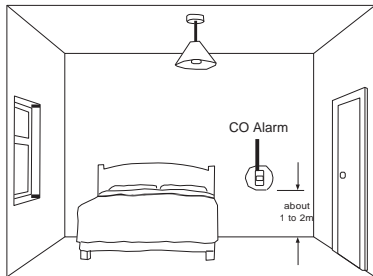
Figure 1
Location in room with a fuel burning appliance

Figure 2
Location in rooms with sloped
ceilings, the CO Alarm should be
located at the high side of the room

Figure 3
Location in bedrooms & other
rooms remote from the appliance
(i.e. at breathing level)

3.2 Unsuitable Locations

Do not place the CO Alarm in any of the following areas.

(1) In the immediate vicinity of a cooking appliance (keep it at least 1 metre horizontally from it).

(2) Outside the building.

(3) In an enclosed space (e.g. in or below a cupboard).

(4) In a damp or humid area.

(5) Directly above a sink or cooker.

(6) Next to a door, window, air vent or anywhere that it would be affected by draughts.

(7) Next to an extractor fan.

(8) Over heat sources such as radiators or hot air vents.

(9) Where it would be obstructed, e.g. by curtains or furniture.

(10) In an area where the temperature could drop below 40°F (4.4°C) or rise above 100°F (37.8°C).

(11) Where dirt or dust could block the sensor.

(12) Where it could be easily knocked or damaged, or where it could be accidentally turned off or removed.

(13) In a bathroom or other areas where the CO Alarm may be exposed to water splashes, dripping or condensation (e.g. above an electric kettle).

(14) Near paint, thinners, solvent fumes or air fresheners.

3.31 If locating the CO Alarm in a room with a fuel burning appliance (see figure 1)

• If it is mounted on a wall, it should be located at a height greater than the height of any door or window but still be at least 150mm from the ceiling.

• If it is mounted on the ceiling it should be at least 300mm from any wall or light fitting.

• The CO Alarm should be a horizontal distance of between 1.5m and 3m from the potential CO source.

• If there is a partition in the room, the CO Alarm should be located on the same side of the partition as the potential source.

• In rooms with sloped ceilings, the CO Alarm should be located at the high side of the room (see fig 2).

3.32 If locating the CO Alarm in a bedroom or in rooms remote from a fuel burning appliance (see figure3)

• Mount the CO Alarm relatively close to the breathing zone of the occupants.

Whatever position is chosen make sure it is possible to view the three light indicators, when in the vicinity of the Alarm.

WARNING: A 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.

WARNING: Your CO Alarm is intended for use in ordinary indoor locations of family units. It is not designed to measure compliance with OSHA commercial or industrial standards.

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4. Installation

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

4.1 Installation Procedure

1. Select a location complying with the advice in Section 3.

2. Remove the mounting plate from the packaging/ Alarm.

3. Place the mounting plate on the ceiling/wall exactly where you want to mount the Alarm. With a pencil, mark the location of the two screw holes.

4. Taking care to avoid any electrical wiring in the ceiling, drill holes using a 5.0mm drill bit through the center of the marked locations. Push the plastic screw anchors provided into the drilled holes. Screw the mounting plate to the ceiling/ wall.

5. Alternatively, if desired, the CO Alarm will also free stand on a flat surface with the mounting plate attached.

Figure 4

6. This CO Alarm is designed for use with an ELK-M1 Control and ELK-M1XRFTWM Wireless RF Receiver. It must be RF enrolled into the M1 Control using the instructions which accompany the ELK Control and/or Receiver.

7. Carefully line up the Alarm on the base, gentle press home & twist on. (see figure 4) This connects the batteries and the red, amber & green lights will immediately flash in sequence to show they are working.

8. Wait 15 seconds and then press the Test button to ensure that the Alarm works (see figure 5).

9. Install all the other Alarms similarly.

4.2 How to Tamperproof the Alarm

The Alarm can be made resistant to unauthorized removal. Break off the small pillar on the base as shown in figure 6a. To remove the Alarm from the ceiling it is now necessary to use a small screwdriver, to release the catch (push catch towards the ceiling) and then twist off the Alarm (see figure 6b).
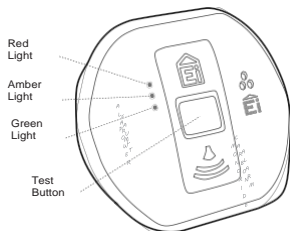

Red Light
Amber Light
Green Light
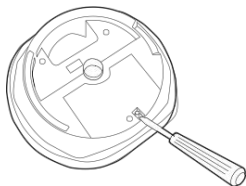Test Button

Figure 5

Figure 6a

Figure 6b

Figure 7

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It is possible to further secure or tamperproof the Alarm by using a No.2 or No.4 (2 to 3mm diameter - not supplied) self-tapping screw 6 to 8mm long to firmly lock the Alarm and its mounting plate together (see figure 7).

5. Testing / Monitoring & Maintenance

Testing

NOTE: Always notify your Alarm Monitoring Center prior to performing any testing. Frequent testing of the system is a requirement to ensure its continued and safe operation. To test the Alarm, press the hold the test button.

The Green LED will flash and the horn will ramp up to full sound to indicate the Alarm is operating correctly.

Guidelines and best practices for testing are as follows

1.   After the system is installed
2.   Once weekly thereafter
3.   After prolonged absence from the dwelling (e.g. after holiday period)
4.   After repair or servicing of any of the systems elements or household electrical works.

Silencing (Hush)

When the Alarm sounds, after sensing CO, pressing the test/hush button will immediately stop the horn (the red light will continue to flash). If CO is still present, the red light and the horn will turn on again after about 4 minutes. The unit can only be silenced once during a CO incident. At levels > 300ppm CO the unit cannot be silenced.

Visual Status and Self-Test

The CO alarm will self-check itself and give a status update every 50 seconds if there are any problems.

The status of the Alarm can also be checked on demand by using the test button. The table below shows the visual status response to both the self-check and on demand testing.

Monitoring Summary						
Status Result	Red LED (Alarm)	Amber LED (Fault)	Green LED (Power)	Sounder		Action
Standby	No visual or audible indication if unit is OK					
Unit OK (Button Test)	Off	Off	On	Ramps up to full sound		
Low Battery	Off	1 Flash	Off	1 Beep		See Note
Sensor Fault	Off	2 Flashes	Off	2 Beeps		Replace Unit
End of Life (EOL)	Off	3 Flashes	Off	3 Beeps		Replace Unit

Note* - Replace the batteries

If the Alarms are indicating a fault, pressing the test button will silence the beeps for a 24 hour period. This is for your convenience and can only be done once.

Maintenance

Clean the outside case by occasionally wiping with a clean damp cloth. Do not use any cleaning agents, bleaches, detergents or polishes, including those in aerosol cans. Avoid spraying air fresheners, hair spray, paint or other aerosols near the CO Alarm. Do not place air fresheners near the unit.

Use the narrow nozzle of a vacuum cleaner to remove fluff and other contamination from the cover slots and gas entry holes.

Caution: Do not paint the CO Alarm.

Remove the CO Alarm when decorating. Do not allow water or dust to contaminate the Alarm.

Warning: Do not open or tamper with the CO Alarm. There are no user serviceable parts inside and this can damage the Alarm.

Battery Replacement

Check the 'Replace by' label on the side wall - if it has been exceeded replace the entire unit. If the Replace by' label on the side wall has not been exceeded, remove the Alarm from the mounting plate, remove the battery cover (see figure 8) and replace the batteries. Use **only** Duracell Alkaline AAA size batteries (obtained from local retailer).

Insert the new batteries with the orientation shown on the base. Replace the battery cover and replace the Alarm back on its mounting plate (this action automatically switches on the batteries). Button test the Alarm (after 15 seconds) to check the batteries are installed correctly and that they are not depleted.
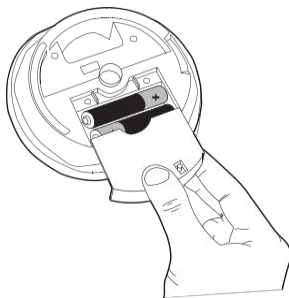
Figure 8

AudioLINK

AudioLINK feature allows an authorized person to download information from the Alarm through by way of a mobile App. For more information on using this feature, please refer to the relevant section on www.elkproducts.com.

Warning!

Constant exposures to high or low temperatures or high humidity may reduce battery life.

Use only batteries specified in marking. Use of a different battery may have a detrimental effect on alarm operation.

For environmentally sound disposal, remove the Alarm from its mounting plate, open the battery door and remove the batteries. Dispose in accordance with best practice and guidance on WEEE disposal and recycling.

Quick Test with Carbon Monoxide

The Carbon Monoxide Alarm checks for CO gas every 4 seconds and when exposed to the CO gas, the red light will flash (as per Table B) to confirm that it is detecting the CO gas.

The Alarm can be tested with carbon monoxide gas by using one of the kits that comes with the gas either in a glass phial or aerosol can. Follow the instructions on the kit.

If a test gas kit is not readily available, it is also possible to gas test the Alarm using a joss stick or cigarette smoke. To do this remove the Alarm from its base and slide

the power switch to the ON position (See fig 9). Fill a suitable size plastic bag with smoke from the joss stick or cigarette. Insert the Alarm into the smoke filled bag and seal it closed. Within seconds, the red light will begin to flash (as per Table B) to confirm that the Alarm has detected the CO gas in the bag.

To check the Alarm sound, momentarily press the test button and within seconds the horn will sound briefly. Slide the power switch to the OFF position and replace the Alarm on its mounting plate.

OFF
Position

ON
Position
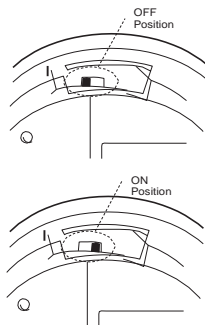
Figure 9

6. What to do when the alarm sounds

⚠ **Warning!** "Actuation of your CO Alarm indicates the presence of carbon monoxide (CO) which can KILL YOU. If an alarm signal sounds:

1) Operate reset/ Silence button:

2) Call your emergency services Fire Department or 911

3) Immediately move to fresh air – outdoors or by an open door/ window. Do a head count to check that all persons are accounted for. DO NOT re-enter the premises until the emergency services responders have arrived, the premises have been aired out and your Alarm remains in its normal condition.

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4) After following steps 1-3, if your Alarm reactivates within a 24 hour period, repeat steps 1-3 and call a qualified appliance technician (Telephone Number) 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 manufactures' 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.

Note: When ventilation is provided by leaving the window and doors open, the CO build up may have dissipated by the time help arrives and the Alarm may have stopped sounding. Although your problem may appear temporarily solved it is crucial that the source of the CO is determined and appropriate repairs made.

7. How to Protect your Family

Follow these guidelines to reduce the risk of Carbon Monoxide poisoning.

(1) Know and look out for tell-tale signs that Carbon Monoxide may be present.

These include:

- The CO Alarm warning of abnormal levels.
- Staining, sooting or discoloration on or around appliances.
- A pilot light frequently going out.
- A strange smell when an appliance is operating.
- A naked gas flame which is yellow or orange, instead of the normal blue.

- Family members (including pets) exhibiting the "flu-like" symptoms of CO poisoning described above. If any of these signs are present get the appliance checked out by an expert before further use. If family members are ill get medical help.

(2) Choose all appliances and vehicles which burn fossil fuels such as coal, oil, natural/bottled gas, paraffin, wood, petrol, diesel, charcoal etc. with care and have them professionally installed and regularly maintained.

(3) These appliances must "breathe in" air to burn the fuel properly. Know where the air comes from and ensure vents/air bricks etc. remain unobstructed (particularly after building work).

(4) The appliances must also "breathe out" the waste gases (including the CO) – usually through a flue or chimney. Ensure chimneys and flues are not blocked or leaking, and get them checked every year. Check for excessive rust or cracks on appliances and pipe work.

(5) Never leave your car, motor bike or lawnmower engine running in the garage with the garage door closed. Never leave the door from the house to the garage open if the car is running.

(6) Never adjust your own gas pilot lights.

(7) Never use a gas cooker or a barbecue for home heating.

(8) Children should be warned of the dangers of CO poisoning and instructed never to touch, or interfere with the CO Alarm. Do not allow small children to press the test/hush button as they could be subjected to excessive noise when the unit alarms.

(9) Leaving windows or doors slightly open (even a few inches) will significantly reduce the risk of high levels of CO occurring. The high levels of draught-proofing

in modern houses reduces ventilation and can allow dangerous gases to build up.

(10) Install CO Alarms in all the areas recommended in this booklet.

(11) Recognize that CO poisoning may be the cause when family members suffer from "flu-like" symptoms when at home but feel better when they are away for extended periods.

8. Technical Specification

Power: Two Alkaline AAA type batteries (replaceable)

CO Sensitivity: Meets UL2034

Electromagnetic Compatibility: Complies with UL2034 / FCC Part 15

Test/Hush Button: Checks electronics and horn.

Operating Temperature: 40° to 100°F (4.4°C to 37.8°C)

Humidity Range: 15% to 95% R.H. (non-condensing)

Audible Alarm: 85dB(A) at 3m minimum

Wireless Freq: 902 Mhz – 928 Mhz frequency hopping

CO Alarm Memory: Indicated if unit was previously in alarm

Dimensions: 4.72" x 4.13" x 1.57" (120mm x 105mm x 40mm)

Agency Listings: UL268

Weight (grams): 185g

9. Getting the CO Alarm Serviced

If your CO Alarm fails to work after you have carefully read all the instructions, checked the unit has been installed correctly, and ensured that it has good batteries connected, return it for repair or replacement. This should be where it was purchased, or alternatively return it in a padded box to "Customer Assistance and Information" at the nearest address given on the CO Alarm or in this leaflet. (Remove the Alarm from the mounting plate before shipping the product). State the nature of the fault, where the CO Alarm was purchased, and the date of purchase.

10. Limited Warranty Guarantee

Elk Products guarantees Carbon Monoxide Alarms Models Elk-6051 (excluding batteries) for 2 years from date of purchase against any defects that are due to faulty materials or workmanship. This guarantee only applies to normal conditions of use and service, and does not include damage resulting from accident, neglect, misuse, unauthorized dismantling, or contamination howsoever caused. This guarantee excludes incidental and consequential damage. Further the warranty does not cover Acts of God, such as fire, flood, hurricanes and tornadoes. If this Alarm should become defective within the guarantee period, it must be returned to Elk Products, with proof of purchase, carefully packaged, with the problem clearly stated. We shall at our discretion repair or replace the faulty unit.

Elk Products shall not be liable for any incidental or consequential damages caused by the breach of any express or implied warranty. Any implied warranty of merchantability or fitness for purposes is limited to the duration of the above warranty period. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

Some states or jurisdictions do not allow the limitation or exclusion of incidental or consequential damages, or limitations on how long an implied warranty last so the above limitation may not apply to you.

Do not interfere with the Alarm or attempt to tamper with it. This will invalidate the guarantee, but more importantly may expose the user to shock or fire hazards. This guarantee is in addition to your statutory rights as a consumer.

11. Limitations of CO Alarms

(1) The CO Alarm will not work without good batteries. If the batteries have been drained the Alarm will not give protection. Button test the Alarm weekly and on return from holidays and other long absences.

(2) Carbon Monoxide must enter the unit for it to be detected. There may be Carbon Monoxide in other areas of the house (e.g. downstairs, in a closed room etc) but not in the vicinity of the CO Alarm. Doors, air draughts and obstructions can prevent the CO reaching the Alarm. For these reasons we recommend CO Alarms are fitted both near and in bedrooms, particularly if bedroom doors are closed at night. Additionally, install in rooms where members of the household spend much of their time, and in rooms with potential sources of CO gas.

(3) The CO Alarm may not be heard. The sound output is loud but it may not be heard behind a closed door or if it is too far away. RF interconnecting CO Alarms greatly improves the probability that they will be heard. The Alarm may not wake up somebody who has taken alcohol or drugs. The alarm sound may be masked by other sounds such as T.V., stereo, traffic noise etc. Fitting CO Alarms on either side of closed doors will improve their chance of being heard. This CO Alarm is not designed for people with impaired hearing.

(4) CO Alarms don't last indefinitely. CO Alarms are sophisticated electronic devices with many parts. Although the Alarm and its component parts have undergone stringent tests, and are designed to be very reliable, it is possible that parts can fail. Therefore, you should test your CO Alarm weekly. The CO Alarm must be replaced after 10 years of operation.

(5) CO Alarms are not a substitute for life insurance. House-holders are responsible for their own insurance. The CO Alarm warns of increasing CO levels, but we do not guarantee that this will protect everyone from CO poisoning.

(6) CO Alarms are not suitable as early warning Smoke Alarms. Some fires produce Carbon Monoxide, but the response characteristics of these CO Alarms are such that they would not give sufficient warning of fire. Smoke Alarms must be fitted to give early warning of fire.

(7) The CO Alarm does not detect the presence of natural gas (methane), bottled gas (propane, butane) or other combustible gases. Fit combustion Gas Alarms to detect these. **Note:** Carbon Monoxide Alarms, with electrochemical sensors have a cross sensitivity to hydrogen. This means that they can alarm due to sensing hydrogen being produced by batteries being incorrectly charged such as on boats or with battery back-up systems such as those used with alternative energy systems. The unit will alarm with 500 ppm H_2 after between 10 and 40 minutes exposure.

This CO Alarm is intended for residential use. It is not intended for the use in industrial applications where Occupational Safety and Health Administration (OSHA) requirements for carbon monoxide detectors must be met.

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

WARNING: THIS CO ALARM IS DESIGNED TO PROTECT INDIVIDUALS FROM THE ACUTE EFFECTS OF CARBON MONOXIDE EXPOSURE. IT WILL NOT FULLY SAFEGUARD INDIVIDUALS WITH SPECIFIC MEDICAL CONDITIONS. IF IN DOUBT CONSULT A MEDICAL PRACTITIONER.

12. Troubleshooting

ALARM DOES NOT WORK WITH THE TEST BUTTON:

(1) Wait 15 seconds after connecting the power before button testing.

(2) Hold button down firmly for at least 5 seconds.

(3) Check the Alarm is secured correctly on the mounting plate.

(4) Replace batteries.

ALARM SOUNDS FOR NO APPARENT REASON:

Follow the detailed instructions in Section 6 Entitled "What to do when the alarm sounds" (page 19).

If there are still problems:

(1) Ensure there are no fuel burning appliances in the vicinity which could be leaking CO gas (e.g. even from next door).

(2) Ensure there are no fumes in the area (e.g. paint, thinners, hair spray, chemical cleaners aerosol sprays, damp proofing done with and aqueous emulsion such as Aminofunctional siloxane and Alkylalkoxysilane.

(3) Ensure there is no outdoor source of CO in the vicinity (e.g. a car with engine running, heavy traffic, heavy air pollution, barbecue fumes etc).

(4) Ensure there is no source of hydrogen such as batteries being charged (e.g. on boats or in Uninterruptable Power Supplies (UPS)).

(5) Ensure there is not excessive smoke or fumes from devices such as Egyptian shisha, hookah or hubbly bubbly pipes, especially those that use coal or charcoal to heat the tobacco.

(6) If the Alarm is fitted with an RF Module, ensure that there are no problems with the other RF interconnected Alarms and that all Alarms are housecoded correctly.

(7) Press the test/hush button to silence the alarm.

If the unit continues to sound it is possibly defective and should be replaced (see section 9 "Getting the CO Alarm Serviced").

ELK-6051 Indicator Summary				
Normal Operation	Red LED	Amber LED	Green LED	Sounder
Power Up	1 flash	1 flash	1 flash	Off
Standby	Off	Off	Off	Off
Button Test (Weekly)	Off	Off	Flashing (every sec)	Temporal full sound
Unit Sensing CO gas itself	Flashing (as per table B)	Off	Off	Temporal full sound
Sensing CO through RF interconnect	Off	Off	Off	Temporal full sound
Fault Mode				
Low Battery Condition	Off	1 flash (every 50 secs)	Off	1 beep with flash
Sensor Fault Condition	Off	2 flashes (every 50 secs)	Off	2 beeps with flash
End of Life Condition	Off	3 flashes (every 50 secs)	Off	3 beeps with flash

ELK-6051 Service Diagnostics

Diagnostics Modes	Action	Red LED	Yellow LED	Sounder	Action
Fault Checks					
Low battery	Press & hold button	Off	1 flash	1 beep with flash	Replace Batteries
Faulty Sensor	Press & hold button	Off	2 flashes	2 beeps with flashes	Replace Alarm
End of Life (EOL)	Press & hold button	Off	3 flashes	3 beeps with flashes	Replace Alarm
Alarm Memory	Action	Red LED	Green LED	Sounder	LCD Display
24 hours after event		Flashes as per Table C	Off	Off	Off
Long term memory	Press & hold button	Flashes as per Table C	Off	Temporal full sound	CO ppm
Memory Erase	Keep button pressed after long term test	Flashes as per Table C	Wait for Green light then release button	Temporal full sound	CO ppm

FCC AND IC COMPLIANCE STATEMENT:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: ELK PRODUCTS IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATION NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

ELK-6051 Wireless CO Detector   FCC ID: TMAELK-6051
                                       IC: 4353A-6051

This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body. This device must not be collocated or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de 20cm entre le radiateur et votre corps. Cet émetteur ne doit pas être co-localisées ou opérant en conjonction avec tout autre antenne ou transmetteur.

UL COMPLIANCE STATEMENT:
This Carbon Monoxide Detector Alarm has been tested and approved to UL2034 and UL268 standards.

Contact Us

Customer Service
Elk Products, Inc.
3266 Hwy 70W
Connelly Springs, NC 28612

Telephone: (828) 397-4200

web: www.elkproducts.com