UNIVERSAL®

WSI® ELECTRIC
THE BEST CHOICE

Models MCN400, MCN400L,
MCND401, MCND401L

Plug-In Carbon Monoxide & Natural Gas Alarm with Backup Battery Protection

Models MCN600, MCN600L,
MCND601, MCND601L

Certified to Standards UL 2034 & UL 1484

ETL LISTED US
Intertek
Single Station Carbon Monoxide Alarm
Also Suitable as a Residential Gas Detector

120 VAC, 60 Hz, 100 mA Maximum
Single Station Carbon Monoxide Alarm
Also suitable as a Residential Gas Detector

PLEASE READ AND SAVE!

THANK YOU for purchasing this combination alarm. It is designed to detect carbon monoxide and natural gas (methane) which reaches the sensor. It is not designed to detect fire, heat, flames or any other gas. This manual includes important information regarding where to install the alarm, how to operate, maintenance, testing and product features. It also includes tips and information which could help protect you and your family.

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WHAT YOU SHOULD KNOW ABOUT CO

Carbon monoxide (CO) is an insidious poison. It is a colorless, odorless, tasteless gas. It is a cumulative poison. Even low levels of CO have been shown to cause brain and other vital organ damage in unborn infants with no effect on the mother.

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

MILD EXPOSURE

Slight headache, nausea, vomiting, fatigue (often described as "flu-like" symptoms).

MEDIUM EXPOSURE

Severe throbbing headache, drowsiness, confusion, fast heart rate.

EXTREME EXPOSURE

Unconsciousness, convulsions, cardiorespiratory failure, death.

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

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

What Levels of CO Cause an Alarm?

Underwriters Laboratories Inc. UL2034 defines three specific alarm points by which all residential CO alarms must alarm. They are measured in parts per million (ppm) of CO over time (in minutes).

UL2034 Required Alarm Points:

- If the alarm is exposed to **400 ppm** of CO, IT MUST ALARM BETWEEN 4 and 15 MINUTES.
- If the alarm is exposed to **150 ppm** of CO, IT MUST ALARM BETWEEN 10 and 50 MINUTES.
- If the alarm is exposed to **70 ppm** of CO, IT MUST ALARM BETWEEN 60 and 240 MINUTES.

⚠WARNING!

This product is intended for use in ordinary indoor locations of family living units. It is not designed to measure compliance with Occupational Safety and Health Administration (OSHA) commercial or industrial standards. Individuals with medical problems may consider using warning devices which provide audible and visual warnings for carbon monoxide concentrations under 30 ppm.

IMPORTANT CONSIDERATIONS

YOUR COMBINATION CO AND NATURAL GAS ALARM HAS BEEN DESIGNED WITH AN END-OF-SERVICE LIFE ALARM WHICH WILL SOUND AFTER APPROXIMATELY 7 YEARS OF OPERATION FROM INITIAL POWER UP.

NOTE: MANUFACTURER RECOMMENDS REPLACEMENT OF THIS ALARM 7 YEARS AFTER DATE OF INSTALLATION.

WHAT YOU SHOULD KNOW ABOUT NATURAL GAS

Natural gas is a fossil fuel which consists primarily of methane. This common energy source is often used for cooking, home heating and water heating. Natural gas is typically supplied through a main utility line connected to your home. It is a highly flammable chemical compound. Although it happens rarely, a natural gas leak can sometimes occur inside the home. This can be dangerous because it increases the risk of explosion and fire.

Natural gas is odorless and colorless. When Mercaptan is added to natural gas as an odorant, it can then be detected by smell. Although it can vary greatly, the typical level for detection of the gas by smell is 25% of the lower explosion limit (LEL). People who have a diminished sense of smell may not be able to rely on this safety mechanism. Therefore, installation of this alarm can be an important tool to help protect you and your family. This alarm is calibrated to sound before 20% LEL **Therefore, it is possible that you may smell gas before the alarm is activated. If you are not sure which gas your home uses, contact your utility company.**

INSTALLATION RECOMMENDATIONS

Natural gas (methane) is typically supplied through a main utility line connected to your home.

Early warning is best achieved by the installation of alarms on all floors and areas of the household.

WHERE THIS ALARM SHOULD BE INSTALLED

- Install an alarm inside each bedroom where the occupant closes the door while sleeping.
- An alarm should be installed in any family living unit containing a fuel-burning appliance or fireplace or having an attached garage.
- An alarm should be centrally located outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where bedrooms are separated and audibility of the alarm to occupants within the bedroom area could be seriously impaired, more than one alarm could be needed.

In general, install combination CO and Gas Alarms:

- **WHERE YOU CAN HEAR THE ALARM FROM ALL SLEEPING AREAS.**
- In or near bedrooms and living areas or wherever you suspect a gas or CO exposure is likely.
- On each level of a multilevel home.

IMPORTANT!

Installation in an improper location can affect the sensitive electronic components in this alarm. Please review WHERE THIS ALARM SHOULD NOT BE INSTALLED (see Page 3).

Not suitable for installation in hazardous locations as defined in the NFPA 70, National Electrical Code. This alarm will detect natural gas primarily and carbon monoxide secondarily. Natural gas events will always take precedence over carbon monoxide events. The word “gas” will be used to specifically refer to natural gas.

When on AC power, this alarm is designed to act as a continuous monitor. It is not designed for use as a short-term testing device to perform a quick check for the presence of CO or gas.

⚠CAUTION!

BASIC SAFETY INFORMATION

- This combination Carbon Monoxide and Natural Gas alarm has two separate alarms. This alarm is not designed to detect fire or any other gas. Carbon monoxide and natural gas may be present in other areas. The CO and Natural Gas Alarm will only indicate the presence of CO or natural gas which reaches the sensor. The CO and Natural Gas Alarm is not designed to sense smoke, heat or flames.
- Do not paint the alarm. Paint may clog the openings to the sensing chambers and prevent the alarm from operating properly.
- Do not stand too close to the alarm when it is sounding. It is loud to wake you in an emergency. Exposure to the horn at close range may harm your hearing.

⚠WARNING!

Make sure the alarm is not receiving excessively noisy power. Examples of noisy power could be major appliances on the same circuit, power from a generator or solar power, light dimmer on the same circuit or mounted near fluorescent lighting. Excessively noisy power may cause damage to your alarm.

⚠WARNING!

This alarm cannot be operated from power derived from a square wave, modified square wave or modified sine wave inverter. These types of inverters are sometimes used to supply power in off-grid installations, such as solar or wind derived power sources. These power sources may produce high peak voltages which will damage the alarm.

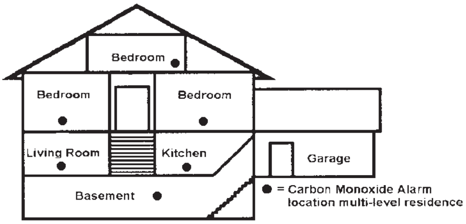
This alarm should receive continuous electrical power. The battery is meant for emergency backup only. Choose an outlet where it can't be accidentally unplugged or switched off by children. Keep small children away from the unit. Teach them not to play with it or unplug it. Explain what the different alarm sounds mean.

Do not plug this alarm into an outlet controlled by a dimmer or switch or ground fault circuit interrupter.

The test sequence lasts for approximately 3 seconds after the test button is pressed. The alarm will then test itself for proper operation. The red LED indicator will simultaneously flash in sync with the horn alarm patterns, for example, 1 beep, 1 second pause, 4 beeps. When testing the alarm, have someone else check that the alarm can be heard easily from the sleeping areas. The alarm should be located where it can wake you if it alarms at night.

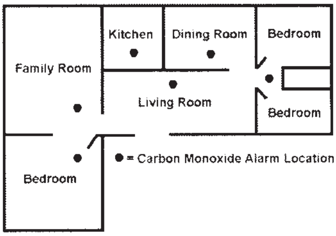
RECOMMENDED PLACEMENT:

FIGURE 1



Recommended Alarm Placement for a Multi-Level Residence

FIGURE 2



Recommended Alarm Placement for a Single-Floor Residence

NOTE: For any location, make sure no door or other obstruction could prevent the carbon monoxide or gas from reaching the alarm.

WHERE THIS ALARM SHOULD NOT BE INSTALLED

To avoid causing damage to the unit, to provide optimum protection, and to prevent unnecessary alarms. Do *NOT* locate this alarm:

- In garages, kitchens, crawl spaces and unfinished attics. Avoid extremely dusty, dirty or greasy areas. Installation in these areas could lead to nuisance alarms, may expose the sensor to substances which could damage or contaminate it, or the alarm may not be heard by people in other areas of the home, especially if they are sleeping.
- In the garage, vehicle exhaust can contain some carbon monoxide. These levels are higher when the engine is first started. Within hours of starting a vehicle and backing it out of the garage, the levels present over time can activate the alarm and become a nuisance.
- In the kitchen, some gas appliances can emit a short burst of CO or gas upon startup. This is normal. If your CO and Gas Alarm is installed too close to these appliances, it may alarm often and become a nuisance.
- Keep alarms at least 20 feet (6m) from the sources or combustion particles (stove, furnace, water heater, space heater), if possible. In areas where a 20 foot (6m) distance is not possible (in modular, mobile or smaller homes for example), it is recommended the alarm be placed as far from these fuel-burning sources as possible. The placement recommendations are intended to keep these alarms at a reasonable distance from a fuel-burning source and reduce "unwanted" alarms. Unwanted alarms can occur if an alarm is placed directly next to a fuel-burning source. Ventilate these areas as much as possible. **If you must install the alarm near a cooking or heating appliance, install at least 5 feet (1.5m) from appliance.**
- Curtains or heavy furniture may prevent CO or gas from reaching the sensor.
- Less than 12 inches (306mm) away from fluorescent lights. Electrical noise can interfere with the sensor.
- In extremely humid areas. This alarm should be at least 10 feet (3m) from a bath or shower, sauna, humidifier, vaporizer, dishwasher, laundry room, utility room or other source of high humidity.
- In very cold or very hot environments or in unheated buildings or outdoor rooms where the temperature can go below or above the operating range of the alarm. Temperature limits for proper operation are 0° to 120°F (-18° to 49°C).
- In turbulent air, such as near ceiling fans, heat vents, air conditioners, fresh air returns or open windows. Blowing air may prevent CO from reaching the sensors.

- Good ventilation is recommended when household cleaning supplies or similar contaminants are used.
- Excessive spillage or reverse venting of fuel-burning appliances caused by outdoor ambient conditions, such as:
  - Wind direction and/or velocity, including high gusts of wind. Heavy air in the vent pipes (cold/humid air with extended periods between cycles).
  - Negative pressure differential resulting from the use of exhaust fans.
  - Simultaneous operation of several fuel-burning appliances competing for limited internal air.
  - Vent pipe connections vibrating loose from clothes dryers, furnaces or water heaters.
  - Obstructions in or unconventional vent pipe designs which can amplify the above situations.

HOW TO INSTALL THIS CO AND GAS ALARM

IMPORTANT: Read all instructions before using this product.

1. Determine the best location for your CO and Gas Alarm.
2. Your alarm is equipped to be mounted as a direct plug-in unit. The unit can be plugged directly into a wall outlet.
3. Activate the 9 Volt battery. Remove and discard the pull tab. Make sure the battery door is closed and latched.
4. The green power LED should be on continuously. It may take up to 3 minutes for the alarm to begin monitoring for CO and gas.
5. Test the alarm following installation and weekly thereafter.

WHAT YOU SHOULD DO IF THE ALARM SOUNDS

Never disconnect your CO and Gas Alarm to silence an alarm. The alarm will automatically sense when the level of CO and natural gas in the air falls below the danger level. You should stay outside the residence in fresh air until the alarm is silenced. When the alarm sounds, do not stand too close to the alarm. The sound produced by the alarm is loud because it is designed to awaken a person in an emergency. Prolonged exposure to the alarm at a close distance may be harmful to your hearing.

Two self-adhesive labels have been provided with instructions indicating what to do if the alarm sounds. Add the phone numbers of our emergency services provider and a qualified technician to each label. Place one of the labels in a visible area next to the alarm and place the other label near a source of fresh air which will be used as a gathering place if the alarm sounds.

⚠CAUTION!

READ CAREFULLY.

THIS UNIT IS SEALED. THE ALARM COVER IS NOT REMOVABLE!

Leave your CO and Gas Alarm plugged in year-round. CO and gas problems can occur any time during the year and this alarm can only alert you if it is plugged in and receiving power.

This Alarm is intended for use in a standard, unswitched 120VAC wall outlet. It is not intended for use in extension cords, power strips or outlets controlled by a switch or dimmer. These may not provide continuous power to the unit. When fully powered, it samples the air continuously. A microchip inside the unit stores each reading and remembers the levels it has been exposed to over time. The unit goes into alarm mode when it has been exposed to a "critical" level.

⚠WARNING!

- Test the alarm once a week. If the alarm ever fails to test correctly, have it replaced immediately. If the alarm is not working properly, it cannot alert you to a problem.
- This combination CO and Natural Gas Alarm is intended for residential use and is not suitable for use in hazardous locations as defined in the NFPA 70, National Electrical Code.
- This unit must be powered by a 24 hour circuit. Be sure the circuit cannot be turned off by a switch, dimmer or ground fault circuit interrupter (GFCI). Failure to connect this unit to a 24 hour circuit may prevent it from providing constant protection.
- This alarm must have AC or battery power to operate. If AC power fails and the battery is dead or missing, the alarm cannot operate.
- The alarm will check for the presence of gas at the sensor less frequently when powered by the backup battery. Gas could be present during the period between checks without going into alarm, especially during a condition that results in a rapid buildup of gas.
- This product is intended for use in ordinary indoor locations or family living units. It is not designed to measure CO levels in compliance with Occupational Safety and Health Administration (OSHA) commercial or industrial standards. Individuals with medical conditions which may make them more sensitive to carbon monoxide may consider using warning devices which provide audible and visual signals for carbon monoxide concentrations under 30 ppm. For additional information on carbon monoxide and your medical condition, contact your physician.

IMPORTANT!

The battery backup is designed to provide short-term emergency power to the CO and Gas Alarm. Actual backup time depends on the strength (freshness) of the battery. The battery backup will not work unless a good battery is properly installed.

When the alarm utilizes battery backup power, the natural gas sensor will operate the alarm and will sample less frequently to extend battery life. Natural gas could be present during this period between samples without the alarm sounding, especially if there is a rapid buildup of natural gas.

UNDERSTANDING YOUR ALARM

NORMAL OPERATION: In normal operation, the alarm will blink the green LED off once approximately every 20 seconds. On Models MCND401, MCND401L, MCND601 and MCND601L, the screen will display three dashes "- - -"

LOW BATTERY ALARM: If the alarm chirps once approx. every 40 seconds, please verify that the battery activation pull tab has been completely removed, the battery polarity is correct and the battery terminals are making contact with the alarm contacts in the battery compartment. If the battery continues to chirp, replace the 9 volt battery.

CO ALARM: The alarm signal is 4 beeps, 5 second pause, repeat. The green LED turns off when the 4 beeps start. The red LED blinks in sync with the cycle of 4 beeps. The screen will indicate the current CO readings if higher than 40 ppm on digital display models.

GAS ALARM: The alarm signal is 1 beep, 1 second pause, repeat. The green LED turns off. The blue LED blinks in sync with the horn beep every second. The screen will display "gas" on digital display models.

NUISANCE ALARM: If the horn signals for no apparent reason and no obvious hazard is present, please verify that the alarm is mounted in the correct location. Reset the alarm as instructed in the Operational Summary.

CO ALARM LATCHING LED INDICATOR: The alarm had previously detected CO and had alarmed. The red LED is off and blinks on approx. every 5 seconds until reset. Follow the reset instructions to remove the latching LED (see below).

GAS ALARM LATCHING LED INDICATOR: The alarm had previously detected gas and had alarmed. The blue LED is off and blinks on approx. every 5 seconds until reset. Follow the reset instructions to remove the latching LED (see below).

TROUBLE / SERVICE ALARM: Periodically, the alarm measurement circuit is tested. If an error is detected, the alarm will sound 3 chirps approx. every 40 seconds. Replace the alarm.

END-OF-SERVICE LIFE ALARM: When it is time to replace your alarm, which is in approximately 7 years of operation from initial power up, the alarm will sound 2 chirps approx. in 20 seconds. The alarm signal cannot be reset - the alarm should be replaced immediately.

RESET THE ALARM LED's: Press the TEST/RESET or PEAK/RESET button for 10 seconds and then release. The alarm will chirp once to indicate the reset is now complete. This will clear the alarm LED's and clear the SILENCE mode.

RESET THE PEAK CO MEMORY (digital display models only)**:** Press and hold the PEAK/RESET button for 10 seconds until the peak level is cleared. The alarm will chirp once to indicate the reset is now complete. The display screen will display "000" when the peak CO level is reset and then return to "- - -"

IF YOUR CO AND GAS ALARM SOUNDS

WHAT TO DO IF CARBON MONOXIDE IS DETECTED:

If you hear the alarm horn sound 4 beeps, a 5 second pause (and then repeat), carbon monoxide has been detected. Evacuate everyone from the building.

⚠WARNING

Actuation of your CO Alarm indicates the presence of carbon monoxide (CO), which can kill you. In other words, when your CO Alarm sounds, you must not ignore it!

Some individuals are more sensitive to CO than others, including people with cardiac or respiratory problems, infants, unborn babies, pregnant mothers or elderly people can be more quickly and severely affected by CO. Members of sensitive populations should consult their doctors for advice on taking additional precautions.

IF THE CO ALARM SOUNDS:

1. Operate TEST/CO SILENCE button;
2. Call your emergency services, fire department or 911. Write down the number of your local emergency service here: ______________________________
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 reenter the premises nor move away from the open door/window until the emergency services responders have arrived, the premises have been aired out and your alarm remains in its normal condition.
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 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 manufacturers' instructions or contact the manufacturer(s) 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. Write down the number of your local emergency service here: ______________________________

WHAT TO DO IF NATURAL GAS IS DETECTED:

If you hear the alarm horn sound 1 beep per second, gas has been detected. Evacuate everyone from the building.

1. Leave the house immediately, opening doors and windows as you leave.
2. Do not use your telephone or appliances. Do not turn any light switches off or on. Any spark or flame could ignite the gas.
3. Call 911 and your gas company from a phone that is away from your home.
4. Do not reenter the area until the source of the leak is found and corrected.

⚠WARNING!

If the unit alarms and you are not testing the unit, it is warning you of a potentially dangerous situation which requires your immediate attention. NEVER ignore any alarm. Ignoring the alarm may result in injury or death.

⚠WARNING

USING THE CO ALARM SILENCE FEATURE (Gas alarm signal cannot be silenced)

NEVER disconnect the power to your alarm to silence the horn - use the Silence feature. Disconnecting the alarm removes your protection!

- The CO Silence feature is intended to temporarily silence the horn while you identify and correct the problem.
- To use the CO Silence feature, press and release the TEST/CO SILENCE button until the horn is silent.
- If the TEST/CO SILENCE button is pressed while the alarm is in the silence mode, the alarm will start sounding again.

WHEN THE CO ALARM SIGNAL IS SILENCED: The CO alarm will remain silent for approx. 5 minutes (with the red LED blinking on approx. every 5 seconds, until reset) and then return to normal operation. It will continue to monitor the air for CO. Ventilate area. After up to 5 minutes, depending on the level of CO detected, if CO levels remain potentially dangerous, the horn will start sounding again.

IMPORTANT!
The CO Silence feature is intended to temporarily silence the alarm horn. It will not correct a CO problem. The Gas alarm signal cannot be silenced.

⚠WARNING

WEEKLY TESTING

- NEVER use an open flame of any kind to test this unit. You might accidentally damage or set fire to the alarm or to your home. The built-in test switch accurately tests the unit's operation as required by ANSI/UL2034 Standard for Safety. NEVER use vehicle exhaust! Exhaust may cause permanent damage and voids your warranty.
- DO NOT stand close to the alarm when the horn is sounding. Exposure at close range may be harmful to your hearing. When testing, step away when the horn starts sounding.

⚠CAUTION!

It is important to test this alarm every week to make sure it is working properly.

USING THE TEST FEATURE:

Press and release the TEST/CO SILENCE button on the alarm cover.

During testing, you will hear: 1 beep, one second pause, while the blue LED flashes. Then you will hear a loud, repeating horn pattern: 4 beeps, while the red LED flashes.

If the alarm does not sound properly:

1. Make sure the AC power is applied and the battery is fresh and installed correctly.
2. Test the alarm again.

If the alarm is still not working properly, replace it immediately.

USING THE PEAK CO MEMORY (Digital Display Models Only):

The CO Memory feature lets you check the highest level of CO recorded parts per million (ppm) of carbon monoxide.

To check CO memory:

1. Press and release the PEAK/RESET button on the alarm cover. The peak CO level is displayed on the screen.

To reset and clear peak CO memory:

1. Press and hold the PEAK/RESET button for 10 seconds until the peak CO memory reading is cleared. The alarm will chirp once to indicate the reset is now complete. The screen will temporarily display "000" when the peak CO level is reset and then return to "- - -" after several seconds.

NOTE: The highest CO level will be saved into memory until you clear it, even after a power interruption. DO NOT clear the CO memory reading if you plan to call someone to investigate a CO problem. Clear the CO memory reading only after the investigator has checked your home. Natural gas levels will not display on the screen.

REGULAR MAINTENANCE

CLEANING YOUR ALARM:

⚠WARNING!

DO NOT use spray cleaning chemicals or insect sprays directly on or near the alarm. DO NOT paint over the alarm. Doing so may permanently damage the alarm.
The outside can be wiped with a damp cloth. Do not use any household cleaning agents, ammonia-based cleaners, paints, varnishes or any other chemical on or near your alarm. **AFTER CLEANING, REINSTALL YOUR ALARM. TEST YOUR ALARM BY USING THE TEST/RESET BUTTON.**

BATTERY REPLACEMENT:

The CO/Gas alarm is powered (backup) by a 9 volt battery. The alarm has a low battery monitor circuit which will cause the alarm to sound a short "chirp" approximately every 40 seconds, for a minimum of 7 days, when the battery gets low. Replace the battery when this condition occurs.

While observing polarity, push the replacement battery into the battery compartment until it is held securely in place. Carefully close the battery compartment cover.

USE ONE OF THE FOLLOWING 9 VOLT BATTERIES FOR REPLACEMENT:

Alkaline type:	Energizer 522; Duracell MN1604
Lithium type:	Ultralife U9VL-J, U9VL-J-P; Energizer LA522

These batteries are available at many local retail stores.

⚠WARNING

Use only the batteries specified. Use of different batteries may have a detrimental effect on the CO/Gas alarm. The constant exposures to high or low temperatures or high humidity may reduce battery life.

IMPORTANT!

The battery backup is designed to provide short-term emergency power to the alarm. Actual backup time depends on the strength (freshness) of the battery. The battery backup will not work unless a good battery is properly installed.

NOTE: WEEKLY TESTING IS RECOMMENDED.

CO AND NATURAL GAS ALARM LIMITATIONS

Alarms have limitations. Like any other electronic device, CO and Gas Alarms are not foolproof.

CO and Gas Alarms have a limited operational life. Your CO and Gas Alarm must be tested weekly, because it could fail to operate at any time. If your CO and Gas Alarm fails to test properly, or if its self-diagnostic test reveals a malfunction, immediately have the unit replaced (see last page for warranty information).

CO and Gas Alarms can only sense CO which reaches the alarm's sensor. Carbon monoxide may be present in other areas without reaching the alarm.

CO or gas could be present on one level of the home and not reach the alarm installed on a different level. For example, CO or gas in the basement may not reach an alarm on the second level, near the bedrooms. For this reason, we recommend you provide complete coverage by placing a CO and Gas Alarm on every level of the home.

This alarm is not a smoke alarm. It will not sense smoke or fire. For early warning of fire, you must install smoke alarms, even though carbon monoxide can be generated by a fire.

CO and Gas Alarms are not a substitute for property, disability, life or other insurance of any kind. Appropriate coverage is your responsibility.

POTENTIAL SOURCES OF CO IN THE HOME

Fuel-burning appliances, such as; heaters, gas or wood burning fireplaces, gas kitchen ranges or cooktops, gas clothes dryers.

Damaged or insufficient venting; such as; corroded or disconnected water heaters, vent pipes, leaking chimneys, pipes or flues or cracked heat exchangers, blocked or clogged chimney openings.

Improper use of appliances/devices; operating a barbeque grill or vehicle in an enclosed area (such as a garage or screened porch).

Transient CO Problems: "transient" or on-again/off-again CO problems can be caused by outdoor conditions and other special circumstances.

The following conditions can result in transient CO situations:

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

HOW CAN I PROTECT MY FAMILY FROM CO POISONING?

This alarm is an excellent means of protection. It monitors the air and sounds a loud alarm before carbon monoxide levels become threatening to the average, healthy adult.

An alarm is not a substitute for proper maintenance of home appliances.

To help prevent CO problems and reduce the risk of CO poisoning:

- Clean chimneys and flues yearly. Keep them free of debris, leaves and nests for proper air flow. Also, have a professional check for rust and corrosion, cracks or separations. These conditions can prevent proper air movement and cause backdrafting. Never "cap" or cover a chimney in any way that would block air flow.
- Test and maintain all fuel-burning equipment annually. Many local gas or oil companies and HVAC companies offer appliance inspections for a nominal fee.
- Make regular visual inspections of all fuel-burning appliances. Check appliances for excessive rust and scaling. Also check the flame on the burner and pilot lights. The flame should be blue. A yellow flame means fuel is not being burned completely and CO may be present. Keep the blower door on the furnace closed. Use vents or fans when they are available on all fuel-burning appliances. Make sure appliances are vented to the outside. Do not grill or barbecue indoors or in garages or screen porches.
- Check for exhaust backflow from CO sources. Check the draft hood on an operating furnace for a backdraft. Look for cracks on furnace heat exchangers.
- Check the house or garage on the other side of a shared wall.
- Keep windows and doors open slightly. If you suspect that CO is escaping into your home, open a window or a door. Opening windows and doors can significantly decrease CO levels.

OPERATIONAL SUMMARY

AUDIBLE & VISUAL SIGNALS				CONDITION / RECOMMENDATION
HORN	POWER GREEN LED	GAS BLUE LED	CO RED LED	
Silent	On and Blinks off approx every 20 seconds	Off	Off	**Condition:** AC Power is present. DC power is present. **Recommendation:** None, alarm is operating properly.
Silent	Off and Blinks on approx every 40 seconds	Off	Off	**Condition:** Alarm is powered by battery backup. AC Power is not present. **Recommendation:** Check the breaker or fuse box for power. If the breaker or fuse box looks normal, call a licensed electrician for assistance.
1 beep, 1 second pause, 4 beeps	Turns off in sync with cycle of the first beep	Blinks in sync with cycle of the first beep	Blinks in sync with cycle of 4 beeps	**Condition:** The TEST/CO SILENCE button has been pressed. The test sequence lasts for approximately 3 seconds after the button is released. **Recommendation:** None.
4 beeps, 5 second pause, repeat	Blinks Off when the Red LED blinks on	Off	Blinks in sync with cycle of 4 beeps	**Condition:** CO alarm **Recommendation:** If a hazard is identified, please take all precautions when an alarm sounds by calling an Emergency Service and getting out of the home.
1 beep, 1 second pause, repeat	* See below	Blinks in sync with cycle of the first beep	Off	**Condition:** Gas alarm. **Recommendation:** If a hazard is identified, please take all precautions when an alarm sounds by calling an Emergency Service and getting out of the home.
Horn sounds when no hazard is present	On and blinks off approx every 20 seconds	Blinks when no hazard is present	Blinks when no hazard is present	**Condition:** Nuisance Alarm. **Recommendation:** If there is no hazard present, verify the alarm is mounted in the correct location (see User's Manual, "AVOID THESE LOCATIONS" section). Reset alarm as instructed below.
4 beeps, 5 second pause, repeat	* See below	Off	Blinks in sync with cycle of 4 beeps	**Condition:** CO alarm when cause of alarm is known and poses no threat. **Recommendation:** The CO Alarm Silence Feature is activated by pressing and releasing the TEST/CO SILENCE button on the initiating alarm while in alarm condition. The alarm will remain silent for approx 5 minutes, depending on the level of CO detected. If CO levels drop below alarm levels, the alarm will remain silent and return to normal operation. If CO levels remain constant or increase, this indicates potentially dangerous situation and the horn will sound again. Ventilate area.
Silent	* See below	Off	Off and blinks on approx every 5 seconds until reset	**Condition:** Latching CO LED Indicator. The alarm has previously detected CO and had alarmed. **Recommendation:** Follow the reset instructions to remove the latching LED.
Silent	* See below	Off and blinks on approx every 5 seconds until reset	Off	**Condition:** Latching Gas LED Indicator. The alarm has previously detected Gas and alarmed. **Recommendation:** Follow the reset instructions to remove the latching LED.
Previous CO alarm or Previous Gas alarm or both	* See below	_	_	**Condition:** Alarm needs to be reset due to abnormal operation/previous alarms. **Recommendation:** Press the TEST/RESET or PEAK/RESET button for 10 seconds. This will clear the Alarm LED's and clear the Silence mode. The alarm will chirp once to indicate the reset is now complete. MCND401 and MCND601 Series only: To reset the peak CO memory, press and hold the PEAK/RESET button for 10 seconds until the peak level is cleared. The alarm will chirp once to indicate the reset is now complete. The display screen will display "000" when the peak CO level is reset and then return to "- - -."
1 chirp approx every 40 seconds	* See below	Off	Off	**Condition:** Low Battery **Recommendation:** Check to make sure the battery activation pull tab has been completely removed, battery polarity is correct and the battery terminals are making contact with the alarm contacts in the battery compartment. If chirp continues, replace the 9V battery (see User's Manual for recommended battery types).
3 chirps approx every 40 seconds	* See below	Off	Off	**Condition:** Sensor Trouble/End-of-Life/Service Alarm. **Recommendation:** Reset the alarm. If this does not clear the problem, replace the alarm.
2 chirps approx every 20 seconds	* See below	Off	Off	**Condition:** End-of-Service Life Alarm. **Recommendation:** Replace the alarm.

* During 120 Volt Operation: On and Blinks Off approx every 20 seconds.
During 9 Volt (DC Backup) operation: Blinks On approx every 40 seconds

PRODUCT FIVE-YEAR LIMITED WARRANTY

MODELS MCN400, MCN400L, MCN600, MCN600L
MODELS MCND401, MCND401L, MCND601, MCND601L

USI ELECTRIC, INC. / UNIVERSAL SECURITY INSTRUMENTS, INC. ("USI") warrants your product to be free from defects in material and workmanship for a period of five (5) years from the date of purchase. This warranty shall not apply to any batteries used in the product or to any damage which may be caused by such batteries. This warranty applies only to the original consumer purchaser and only to products used in normal residential use and service. If this product is found to be defective, USI's only obligation, and your exclusive remedy, is the repair or replacement of the product, at USI's discretion, provided that the product has not been damaged through misuse, abuse, accident, modifications, alteration, neglect or mishandling. This Warranty shall not apply to any product which is found to have been improperly installed, set-up, or used in any way not in accordance with the instructions supplied with the product.

ALARM RETURNS

For replacement of this alarm under the terms of this Warranty, contact Customer Service at 1-800-390-4321, Ext. 238, for current postage and handling fees. **USI DOES NOT WARRANT AND SPECIFICALLY DISCLAIMS ANY WARRANTY, WHETHER EXPRESS OR IMPLIED, OF FITNESS FOR A PARTICULAR PURPOSE, OTHER THAN THE WARRANTY CONTAINED HEREIN. NO IMPLIED WARRANTY ON THIS PRODUCT, CREATED BY STATE LAW, SHALL EXTEND BEYOND THE TERM OF THIS WARRANTY UNLESS SUCH LAW OTHERWISE PROVIDES. USI SPECIFICALLY DISCLAIMS ANY LIABILITY AND SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL LOSS OR DAMAGE, INCLUDING, BUT NOT LIMITED TO, DAMAGES TO ANY EQUIPMENT WITH WHICH THIS PRODUCT IS USED.** Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. No agent, representative, dealer, or employee of the company has the authority to increase or alter the obligations or terms of this Warranty. This Warranty gives you specific legal rights and you may also have other rights which vary from state to state. This Warranty is only valid for merchandise purchased from outlets in the United States and Canada. This warranty expires upon product end-of-service life signal.

LITHIUM BATTERY LIMITED WARRANTY

The Ultralife battery models U9VL-J and U9VL-J-P are warranted by Ultralife Corporation in this alarm ONLY and are not warranted in any other device. Submit your warranty claim through the Ultralife website www.ultralifecorp.com or call 800-332-5000.

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