Model C Electronic Nose
Accelerant and Gas Detector
Operation and Maintenance
Model C
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Model C
Side View

- Sensor
- Audio Speaker
- Battery Charging Light (Red)
- Battery Charger Jack
- Mute Switch
- Purge Switch
- 6 Foot Coiled Sensor Cord
Model C
Features & Benefits

• Detects approx. 125 toxic/combustible gases and/or vapors including heating gases

• Adjustable Sensitivity aids in pinpointing the source of high gas concentration

• Solid State Sensor, housed in a protective guard, with a 6 foot coiled sensor cord

• Audio and Visual displays indicate the detection of suspect gases

• Powered by Nickel Cadmium rechargeable batteries with operating time of approximately 8 to 10 hours of use

• Corrosion resistant, painted steel enclosure

• Electronic Purge permits quick recovery of sensor element

• Mute Switch turns off audio tones and permits discreet investigation

• Applications: Arson Investigation, Leak detection, General purpose gas detection
Model C Operation
Turning ON

• Turn the Model C Electronic Nose™ ON by rotating the **ON/OFF & Sensitivity Adjust Control** clockwise until a click is heard.

• This may cause the **Audio Indicator** to beep in synchronism with the **Red Sensor Indicator Light**.

• As the unit warms up, the flashing and beeping will cease.

• Wait approximately two minutes; the **Green Ready Indicator Light** will glow when the sensor has reached operating temperature (stabilization).

• A **Mute switch** is located on the side of the detector and can be switched **ON** to silence the audio for discreet investigations.
Model C Operation
Adjusting Sensitivity

• Rotate the **Sensitivity Adjust Control** knob clockwise until a beeping sound and flashing **Red Sensor Indicator Light** starts.

• Then slowly rotate the **Sensitivity Adjust Control** knob counterclockwise until the beeping action and flashing **Red Sensor Indicator Light** just stops.

• The Model C is now ready for use and has a sensitivity of approximately 100 parts per million (ppm) for methane as the test gas.

• The most sensitive mode of operation may be achieved by rotating the **Sensitivity Adjust Control** clockwise so that a very slow beep and flash rate occurs. This mode of operation permits the detection of gas concentrations of less than 50 parts per million (ppm).
Model C Operation

Scanning for Gases

• Because the Model C is constantly sampling the atmosphere and is dependent upon (hydrocarbon) aerosol particles or gas molecules to diffuse into the detector, sufficient time should be allowed for this to occur - usually 4 to 5 seconds.

• When attempting to locate very small leaks or hydrocarbon vapors, slowly scan the area in question, holding the Model C at a 45 degree angle and one inch from the area being examined.

• When gas or accelerants are detected, the audio and visual indicators will beep and flash in synchronism. Beep and flash rates will increase when higher concentrations of gas/hydrocarbons are discovered.
Model C Operation
Scanning for Gases

• Consideration must be given to factors such as time, temperature and relative humidity.

• Most accelerants/hydrocarbons are more pronounced as aerosol particles on warm, dry days than on cold, damp days. These factors will influence the volatility of hydrocarbons.

• If there is an area of suspicion and you do not get a reading, put the Model C in its most sensitive mode (indicated by a very slow beep and flash rate) and observe if any change in beep rate occurs upon further investigation of the suspect area.
Model C Operation
Electronic Purge

• The **Electronic Purge** feature permits a rapid recovery of the sensor element.

• After the Model C has detected the presence of an accelerant, simply slide the **Purge Switch** to the **ON** position; the **Yellow Purge Indicator Light** will glow.

• Leave the **Purge Switch** in the **ON** position for 15 to 30 seconds. There will be a rapid beeping sound as the sensor burns off residual vapors.

• After 15 to 30 seconds, slide **Purge Switch** to **OFF** position.

• The unit will rapidly cease to announce and the detector is now ready to detect another sample.

• Turn **Purge Switch OFF** before attempting to detect another sample.
Model C Operation

Electronic Purge

- The Purge Switch may also be used to speed the warm-up period when the unit is initially turned on.

- When the Purge Switch is in the ON position, the detector’s circuits are disabled and the Model C will NOT detect the presence of gas or accelerants in this mode.

- Turn Purge Switch OFF before attempting to detect a sample.
Model C Operation

Charging the Battery

To charge your Model C:

• Turn unit **OFF** and insert charger plug into the **Battery Charging Jack** on the side of the unit.

• Plug the charger/adapter into power source/outlet. **Battery Charging Indicator Light** will glow **Red** while the unit is charging.

Plug Adapters Provided
Model C Operation
Battery Life

• Charge Model C for 12 hours to fully charge battery.

• Operating time for a fully charged battery is approximately 8 to 10 hours.

• When battery power is low, a slow beeping sound will start. Note: the low-battery indication is audio only.

Plug Adapters Provided
Model C Maintenance
Battery Maintenance

• For optimum performance from your Model C, the following procedures are recommended:

• Be certain the Model C is used a minimum of ten (10) hours per month, preferable several hours each week. If the unit is used less than ten hours, the following procedure should be observed to maintain peak performance.

• Turn the unit ON and let the battery completely discharge.

• When battery power is low, a slow beeping sound will start. Let the battery fully discharge before turning the unit OFF and recharging the battery.
  Note: the low-battery indication is audio only.

• This procedure conditions the battery for maximum power and also re-sensitizes the sensor by removing any absorbed gases that may have absorbed into the sensor.
Model C Maintenance
Sensor Maintenance

- Avoid getting debris or foreign material in the sensor.

- If the sensor becomes contaminated, let the unit warm up and then lightly tap the sensor over a white piece of paper and observe if any material is dislodged.

- The white paper will readily show any foreign debris that may have been lodged in the sensor.

- If the sensor should accidentally become submerged in liquid, let the sensor dry out for 24 hours. Turn unit **ON** for 8 hours until the battery is exhausted. Charge the battery and repeat above procedure.
Model C Maintenance
Replacement of Hydrocarbon Sensor

• Remove damaged or malfunctioning sensor from the socket located in the sensor housing at the end of the coiled cord.

• Use a small screwdriver to carefully and incrementally loosen the sensor from the socket.

• Once it is loose, pull the sensor out of the sensor housing.
Model C Maintenance
Replacement of Hydrocarbon Sensor

• Plug in new replacement sensor by carefully aligning the sensor pins into the socket.
Model C Maintenance
Replacement of Hydrocarbon Sensor

• Gently and firmly press the replacement sensor into the socket until it is secure.

• Allow for required warm-up period (approximately two (2) minutes) before use.
Telescoping Investigator’s Probe
Optional Equipment for Scanning for Gases/Hydrocarbons

• Using the **Telescoping Investigator’s Probe** is helpful when scanning low or hard to reach areas.

• Remove pin from probe, insert sensor end of the Model C into the end of the probe as shown and replace the pin.

• Extend probe to desired length and scan area of concern.
Telescoping Investigator’s Probe
Optional Equipment for Scanning for Gases/Hydrocarbons

• The probe is 43.5 inches long when fully extended; and the probe collapses down to 19 inches for storage.

• Use for investigating fire scenes, manholes, gas distribution lines, locating accidental gasoline spills in sewer system and other low or hard to reach areas.
Model C
Warranty Information

Grace Industries, Inc. warrants Grace Industries, Inc. portable hydrocarbon detector Model C to be free from defects in workmanship and materials for a period of one year from the date of purchase. Grace Industries, Inc. will not repair or replace any merchandise under warranty which has been damaged because of accident, misuse or abuse while in possession or control of the consumer. This warranty is void if any attempt to repair or replace parts was made or attempted by other than qualified Grace Industries, Inc. personnel. This warranty is void if any of the sealed compartments are opened or tampered with. Send all returned merchandise, prepaid to: Grace Industries, Inc., Repair Division, 305 Bend Hill Road, Fredonia, PA 16124 USA. Grace Industries, Inc. shall not be liable for any direct, incidental or other consequential loss or damage arising out of the failure of the product to operate.
Model C Electronic Nose
Accelerant and Gas Detector

MODEL C 
ELECTRONIC NOSE 
ACCELERANT 
AND GAS DETECTOR 
OPERATION AND MAINTENANCE

GRACE INDUSTRIES, INC.
Solutions for Life Safety

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