eL-720
CLI20206

Carbon Dioxide Gas Leak Detector

User's Guide

Congratulations on the purchase of the **AccuTools™ eL-720 Carbon Dioxide Gas Leak Detector**, the most technologically advanced instrument of its kind. The **eL-720's** minimal power requirements, small size and high sensitivity combine to create a tool which is easy to handle and ultra effective at locating even the most difficult-to-find leaks.

Please read this entire manual prior to operation to ensure trouble-free use of the eL-720.

TECHNICAL DATA

Dimensions	8" x 2.5" x 2.25" (20.3 cm x 6.3 cm x 5.7 cm)
Weight	15 oz. (425 grams) with Batteries
Batteries	4 x 1.5V 'AA' Alkaline Batteries (6 VDC)
Battery Life	20 hours
Sensitivity (High)	< 400 ppm at 350 ppm ambient
Sensitivity (Low)	< 4,000 ppm at 350 ppm ambient
Sensor lifetime	> 2 years
Operating temperature	32 – 122°F (0 – 50°C)
Warm up time	10 sec.
Response time	< 1 second
Reset time	< 1 second
Probe length	12" (30 cm)

WARNING: The eL-720 contains an optical sensor that must remain free of moisture and debris. Failure to operate the unit without a filter may cause the sensor to become contaminated. This will result in a sensor malfunction as indicated by the failed sensor alarm.

INSTRUCTIONS

1. Press the button to turn the unit on. Unit will beep 3 times and all LEDs will light.

2. The unit will warm up and self-calibrate for 10 seconds, after which a constant beeping will be heard.

3. Test the unit by exhaling gently into the probe tip. Human breath contains enough CO_2 to cause a full-scale alarm in High Sensitivity.

4. Unit turns on in the high sensitivity level (400 ppm). For zeroing into large leaks, change to the low sensitivity level: Press the button twice (double-click like a computer mouse). The LEDs will scan from right to left and a sweeping sound effect of high to low pitch will be heard. The sensitivity is now set for 4,000 ppm.

5. Double click again to change back to high sensitivity. The LEDs will scan from left to right and a sweeping sound effect of low to high pitch will be heard.

6. To reset the unit to the ambient level of carbon dioxide, press and release the button. The LEDs will flash briefly to indicate the reset. All levels of carbon dioxide less than the reset level will be ignored.

7. Move the probe towards a suspected CO_2 leak at a rate of less than 2 inches (50 mm) per second, no more than ¼ inch (5 mm) away from the suspected source.

8. If a leak exists, the sound will increase in rate and pitch and the LEDs will indicate the relative leak rate.

9. To turn the **eL-720** off, press and hold the button for 1 second.

10. To conserve battery power, the **eL-720** will automatically turn itself off after 10 minutes of inactivity.

PROBE FILTER

The probe filter prevents dust and moisture from contaminating the optical characteristics of the sensor. It should be replaced periodically.

Occasionally, the filter may become obstructed with dirt, dust, or moisture. To determine if air is flowing properly into the **eL-720** sensor, gently exhale near the probe tip. The human breath contains enough CO_2 to cause a full alarm in high sensitivity mode. If the unit does not alarm, replace the filter.

If the filter has become moist due to exposure to water or condensation follow this procedure to prevent moisture from contaminating the sensor:

1. Using a paper towel or shop rag, dry any moisture at the probe tip prior to unscrewing the probe tip cap.
2. Unscrew the probe tip cap to expose the filter.
3. With a paper towel or shop rag, soak up any excess moisture that may have collected on the filter and filter holder prior to removing the filter. Also thoroughly dry both inside and outside of the probe cap.
4. Remove and discard the old filter, and replace with a new one.
5. Reassemble the probe tip cap. The unit is now ready for operation.

Failure to dry the filter parts as described above may result in further contamination of the new filter, and the possibility of residual moisture being drawn into the optical sensor, causing a failed sensor alarm. If moisture is suspected of being drawn into the sensor, clean the probe and sensor as described on page 4.

SENSOR

An **eL-720** sensor is designed for a long, trouble-free life. The sensor is tested and calibrated automatically each time the unit is powered on. **A failed or failing sensor will be indicated 3 seconds after power-on by a two-tone alarm and all LEDs flashing.**

CLEANING THE SENSOR

If moisture is suspected of contaminating the sensor, the probe and sensor may be cleaned using this procedure.

1. **IMPORTANT:** Remove the sensor from the instrument as directed on page 5.
2. Remove the probe tip cap and filter from the probe tip.
3. Blow compressed air into the probe tip to remove any residual moisture from the probe.
4. Blow compressed air* into the inlet and outlet ports of the sensor.
5. Place a few drops of distilled water or isopropyl alcohol into both the inlet and outlet ports of the sensor.
6. Blow compressed air* into the inlet and outlet ports of the sensor to remove any remaining liquid and thoroughly dry the exterior of the sensor.
7. Install the sensor, and insert a new filter into probe tip. The unit should now operate properly.

* Note: Do not exceed 50 psi pressure. Doing so may result in the loss of the small o-rings in the inlet and outlet ports of the sensor.

SENSOR REPLACEMENT

In the event of a failed sensor (as indicated by the Failed Sensor Alarm), cleaning or replacement of the sensor is necessary. First, clean the sensor as directed on page 4. If an alarm is still heard, the sensor must be replaced. To replace the sensor:

1. Turn the power off.
2. Remove the sensor compartment cover by loosening the sensor compartment cover screw.
3. Remove the 2 screws holding the sensor in place with a 1.5 mm hex wrench.
4. Grasp the old sensor with your fingers near the screw holes and firmly lift out of the sensor compartment.
5. Firmly press the new sensor into the compartment, noting alignment of the sensor connector tab and gas ports of the sensor with the mating features in the instrument.
6. Firmly tighten sensor in place with 2 screws and 1.5 mm hex wrench.
7. Replace and fasten sensor compartment cover.

Replacement Sensor Kit

Part Number **ELS-7CO2**

BATTERIES

- The left-most (blinking) LED indicates the battery life, and dims when the batteries approach end of life. Less than one hour of battery life remains when the LED is completely dark.

- When the batteries no longer contain enough energy to power the instrument reliably, a five second tone will be heard, after which the **eL-720** will power itself off.

- If the unit is left on unattended, it will automatically turn off after about 10 minutes to conserve batteries.

BATTERY INSTALLATION AND REPLACEMENT

1. Turn the power off.

2. Remove the battery cover from the back of the instrument by loosening the battery cover screw and lifting the battery cover off.

3. Insert 4 size 'AA' alkaline batteries, observing proper battery polarity.

4. Replace battery cover and tighten battery cover screw.

MAINTENANCE

The **eL-720** should provide years of service with little maintenance aside from changing batteries, filters, and sensors. The case may be cleaned with a shop towel moistened with water and a mild detergent. Do not use solvent of any kind.