CENTER® 383



Instruction Manual

Combustible Gas Detector

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1. GENERAL INFORMATION

Thank you for purchasing Combustible Leak Detector. Read though the instruction manual before operation for correct and safe usage. Please store and retain this instruction manual for future reference.

2. FEATURES

Combustible Leakage Detector is extremely useful as a general purpose tool in any environment where gasoline, propane, natural gas or fuel oil is used. This unit uses a newly developed semi-conductor sensor which is extremely sensitive to variety of general used combustible.

- Microprocessor Control with advanced digital signal processing.
- Multi color visual display.
- High-Low leak sensitivity selector.
- Low battery indication.
- Semiconductor gas sensor.
- Detection of combustible gas.
- Carrying case included.
- 15.5” (40 CM) flexible stainless probe.
- Reference Leak source included.
- Ambient concentration reset.

Application:

- Detect leaks in automobile exhaust and fuel system.
- Detect leaks in liquid or gas fired heating systems.
- Safety checks at propane filling stations.

- Search for arson residue (detects accelerants).
- Detect fuel in marine bilges.
- Check manholes/sewers for safety.
- Check for cracked heat exchangers.
- Detect solvent residue.

3. SPECIFICATION

Detectable Gases:
Gasoline, propane, natural gas or fuel oil.
Alarm Method:
Buzzer, Tricolor LED bar Indicator.

Sensitivity: Variable, as low as 5ppm(gasoline)

Power Usage:
4 AA size (6V DC) Alkaline Batteries

Snake Tube length: 40cm (15.5”)

Dimension / Weight:
173 x 66 x 56 mm (approximately 400g)

Accessories:
Alkaline batteries (AA) X 4 pcs
User manual, leak check bottle, carry case.

Battery Life:
Approximately 40 hours normal use.

Auto power OFF: 10 minutes

Warm-Up Time: Approximately 90 seconds

Operating Temperature & Humidity:
0 ~40 °C, < 80% RH

Storage Temperature & Humidity:
-10 ~60 °C, < 70% RH

Altitude: < 2000M (6500')

4. OPERATION GUIDE

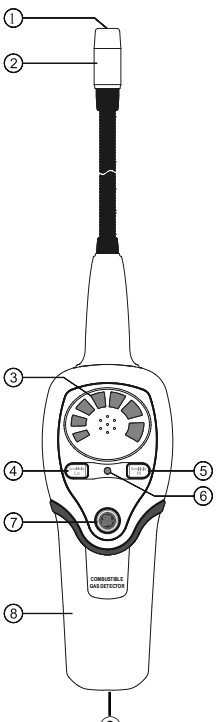
(1) The combustible leak detector unit is not equipped with anti-explosive designs and measures. Do not use this unit in the environment with the burnable gases.
(2) There are some environmental conditions that might cause error reading:

- Pollutant places.
- Large temperature variation.
- Places with high wind velocity.
- Organic solvent, adhesive vapor, fuel gas and vesicant will cause abnormal response from the sensor. Try to avoid the environment involved with this substance.
- Places fill with too much to combustible Gas.

Note: Although the unit will respond to high levels of carbon monoxide, it should not be used as a detector for this gas in normal room or working atmospheres. It is used to pinpoint a leak as described in the operating instruction.

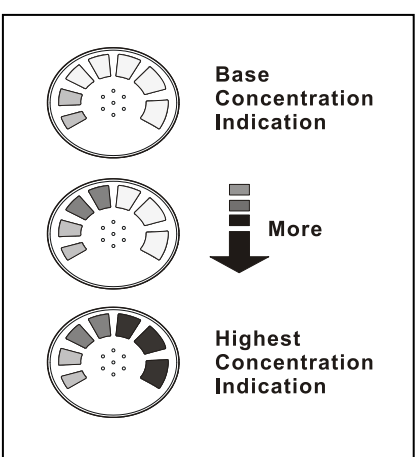
5. PARTS & CONTROL

5-1 Panel Description



① Sensor
② Sensor Protector
③ LED Leak Indicators
④ Sensitivity Lo Button
⑤ Sensitivity Hi Button
⑥ Low Battery Indicator
⑦ Power On/Off & Reset Button
⑧ Battery Cover
⑨ Battery Cover Screw

5-2 LED Leak Indicator Definition:



6. GETTING STARTED

6-1 Installing Batteries

- Loose the screw and remove the battery compartment door located on the bottom of the instrument as shown below (Fig.1).
- Install 4 “AA” size alkaline batteries.
- Reinstall the battery cover by aligning it with the handle.

When the battery power is running low, the Red LED Low Battery indicator illuminates. The batteries should be replaced as quickly as possible.

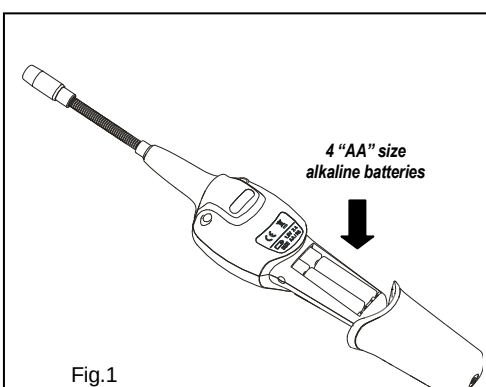


Fig.1

6-2 Automatic Ambient Reset Feature

This combustible leak detector features an Automatic Ambient Reset function that sets the unit to ignore ambient concentrations of combustible.

- **Automatic Ambient Setup** - Upon initial power on, the unit automatically sets itself to ignore the level of combustible present at the tip. Only a level, or concentration, greater than this will cause an alarm.

  CAUTION!

  Be aware that this feature will cause the unit to ignore any combustible present at turn on. In other words, with the unit off if you place the tip up to a known leak and switch the unit on, no leak will be indicated!

- **Ambient Reset Feature** - Resetting the unit during operation performs a similar function; it programs the circuit to ignore the level of combustible present at the tip. This allows the user to 'home-in' on the source of the leak (higher concentration). Similarly, the unit can be moved to fresh air and reset for maximum sensitivity. Resetting the unit with no combustible present (fresh air) causes any level above zero to be detected.

6-3 Feature Sensitivity Adjustment

The Instrument provides two levels of sensitivity. When the unit is switched on, it is set to the high sensitivity level by default.

- To change the sensitivity, press the Sensitivity Lo key. When the key is pressed, the visual display will momentarily show the two left LED's (green) indicating Low Sensitivity level is selected.
- To switch back to High Sensitivity, press the Sensitivity Hi key. The two right LED's (red) will light momentarily indicating high Sensitivity level is selected.

7. OPERATING PROCEDURE

> ⚠ ***WARNING!***
>
> ***1. Do not use the instrument in an area of extremely high level of combustible gas.***
>
> ***2. The gas/vapor of organic solvent might interfere with the function of the unit. During detection, please eliminate the influence of the organic solvent.***
>
> ***3. In order to ensure correct operation and indication, the unit should be switched on and warm-up in non-contaminated atmosphere.***

● How to Find Leaks?

NOTE: A sudden whipping of the leak detector probe or "blowing" into the sensor tip will affect the air flow over the sensor and cause the instrument to alarm.

(1) Power-Up & Reset function key:

The (ON/OFF) key turns the combustible leak detector instrument ON or OFF and reset function.

Press it once to turn on the combustible leak detector, the display will illuminate with flash, for 1.5 minutes to heat up the sensor.

Press it again to reset the ambient base concentration.

Press and hold this button for 5 second to turn OFF the power.

(2) Verify the condition of the unit and sensor:

- Set the sensitivity level to “Hi”.
- Open the leak check bottle cover and slowly move it closer to snake tube nozzle.
- If the indication moves up to high from low then we should move the check bottle away and the LED should go off again. This shows that the unit is under working condition.
- If the unit does not perform as we expect, bring the unit for maintenance at your local sales office.

(3) Enter the Measuring Mode

- Place the tip of the leak-detector probe as close as possible to the site of the suspected leak. Try to position the probe within 1/4 inch (6 mm) of the

possible leak source.

- Slowly move the probe past each possible leakage point.
- When the instrument detects a leak source, the audible tone will alarm. Additionally, the visual indicators will light from left to right; Green LED then Orange LED then Red LED (highest concentration) as increasing of level indicate that the location is close to the source.
- When the Instrument signals a leakage, pull the probe away from the leak for a moment, and then bring it back to pinpoint the location. If the combustible leak is large, setting the sensitivity switch to LOW will make it easier to find the exact site of the leak.
- Return the sensitivity switch to HIGH before searching for additional leaks.
- When you've finished leak-testing, turn OFF the instrument and store it in a clean place, protect the leak detector from possible damage.

8. REPLACING NEW SENSOR

The sensor has a limited operative period. Under normal operation, the sensor should work more than one year. Expose the sensor under high density of coolant (>30000ppm) will shorten its life cycle rapidly. It is important to ensure that sensor surface is free from

water droplets, vapor, oil, grease, dust and any or all other forms of contaminant. Furthermore, to ensure good working condition of the unit, sensors must be replacement periodically when its operative life is over.

> ⚠ ***WARNING! When replacing new sensor, the worn-out sensor may be HOT!!***

(1) Remove cone cap cover from the tip of snake tube.
(2) Pull out old sensor and insert the new sensor into the plug (see below fig.2).
(3) Seal the cap cover over the plug.

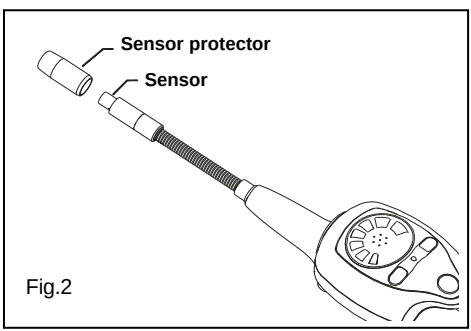


Fig.2

9. CLEANING:

The Instrument plastic housing can be cleaned with standard household detergent or isopropyl alcohol. Care should be taken to prevent the cleaner from entering the instrument. Gasoline and other solvents may damage the plastic and should be avoided.

> ⚠ ***WARNING!***
> ***The detergent or isopropyl alcohol might damage the sensor, please keep then from the sensor through the process.***

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