CENTER® 382



Refrigerant Leak Detector

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1. GENERAL INFORMATION

Thank you for purchasing Refrigerant 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

Refrigerant Leakage Detector is the perfect tool for maintaining the air-condition or a cooling system with compressor and Refrigerant. This unit uses a newly developed semi-conductor sensor which is extremely sensitive to variety of general used Refrigerant.

- Microprocessor Control with advanced digital signal processing.
- Multi color visual display.
- High-median-Low leak sensitivity selector.
- Low battery indication.
- Semiconductor gas sensor.
- Detection of R-134a, R-410A, R-407C, R-22, R-32, HFO-1234yf… Freon gas.
- Carrying case included.
- 15.5” (40 CM) flexible stainless probe.
- Reference Leak source included.
- Ambient concentration reset.
- Long-life, DC brushless fan.
- Automatic zero and background compensation.

3. SPECIFICATION

Detectable Gases:

R-134a,404A,407C,410A,22,32, HFO-1234yf etc.

Sensitivity:

	H	M	L
R-32,134a,404A ,407C,410A HFO-1234yf	3g/year	15g/year	30g/year
R-22	4g/year	20g/year	40g/year

Alarm Method:

Buzzer, Tricolor LED bar Indicator.

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 7 hours normal use.

Auto power OFF: 10 minutes

Disable Auto Power Off:

Press and Hold "Hi" button then power on the meter.

Warm-Up Time: Approximately 45 seconds

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

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

Altitude: < 2000M (6500')

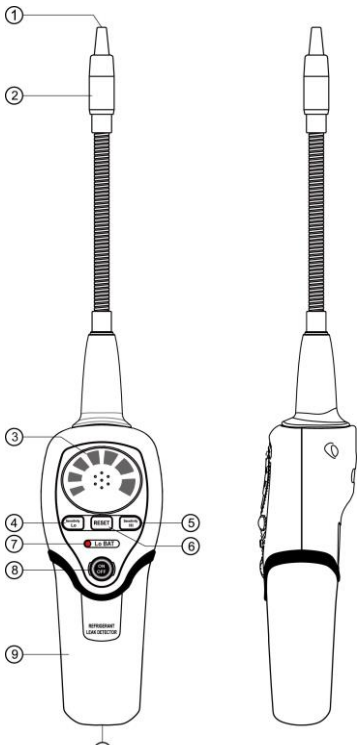
4. OPERATION GUIDE

(1) The refrigerant 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 Freon Gas.

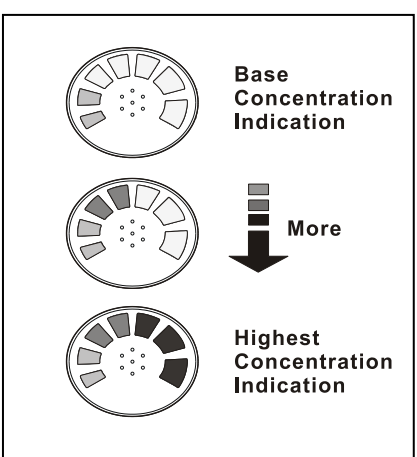
5. PARTS & CONTROL

5-1 Panel Description



① Sensor	② Sensor Protector
③ LED Leak Indicators	④ Sensitivity Lo Button
⑤ Sensitivity Hi Button	⑥ Reset Button
⑦ Low Battery Indicator	⑧ Power On/Off
⑨ Battery Cover	⑩ 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 show below (Fig.1).
- Install 4 “AA” size alkaline batteries.
- Reinstall the battery cover by aligning it with the handle.

When the batteries are nearing the end of their useful life, the Red LED Low Battery indicator illuminates. The batteries should be replaced as quickly as possible.

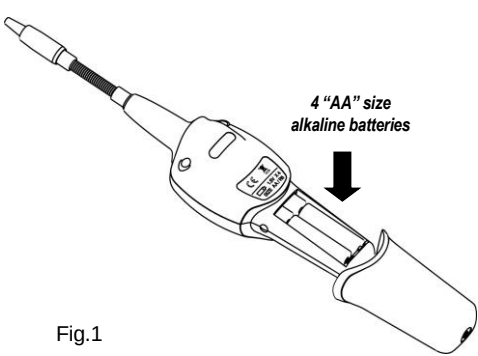


Fig.1

6-2 Automatic Ambient Reset Feature

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

- **Automatic Ambient Setup** - Upon initial power on, the unit automatically sets itself to ignore the level of refrigerant 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 refrigerant 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 refrigerant 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 refrigerant present (fresh air) causes any level above zero to be detected.
- After the unit is warmed up, the default sensitivity level is set at “High” and Auto Reset function is “ON”
- Auto Reset function is best used initially when user

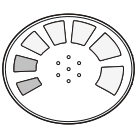
is moving around trying to identify leakage source. Once the leak source is determined, cancel the Auto Detect function to proceed with leakage measurement.

- Auto Reset function should be turned OFF when use in fixed position leakage detection.

6-3 Feature Sensitivity Adjustment

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

- 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.



Low Sensitivity level (Green LED)



Medium Sensitivity level (Orange LED)



High Sensitivity level (Red LED)

7. OPERATING PROCEDURE

> ⚠ ***WARNING*!**
> ***Do not operate this instrument in the presence of gasoline, natural gas, propane, or in other combustible atmospheres.***

● 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 key:

The (ON/OFF) key turns the Refrigerant leak detector instrument ON or OFF function.

Press it once to turn on the Refrigerant leak detector, the display will illuminate with flash, for 45 seconds to heat up the sensor..

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

(2) Auto reset & Reset function key

When the Auto Reset function is turned ON, the meter will monitor background status and fine tune itself. When Reset LED light is on, it indicates it is in ON mode. Press Reset button and hold for 2 seconds the Reset light will turn off and Auto Reset function is in OFF mode.

When the Reset light is off, it indicates the Reset function is in manual mode. Press the Reset button once to enable manual Reset function.

(3) 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, then bring it back to pinpoint the location. If the refrigerant 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.

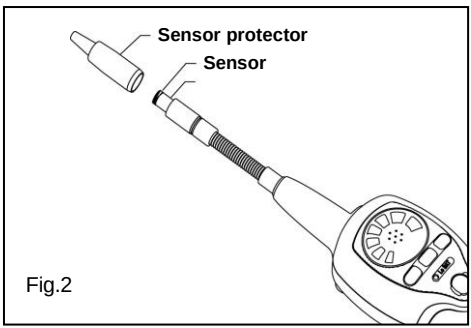


Fig.2

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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