



Instruction Manual
MT980
Refrigerant (Halogen) Leak Detector



Introduction

The Refrigerant Leak Detector detects all CFC refrigerants such as R-22, R-124, R-11 and R-12. The ultra-sensitive long-life sensor detects the more current, difficult to detect HFC refrigerants such as R-134a, R-404A, and new R-22 replacements, R-410A and R-407C. The Refrigerant Leak Detector's long, slim gooseneck probe design is easy to use in close areas and for extending into hard-to-reach areas. It is adjustable alarm, easy one-hand operation and impact resistance storage case add up to value and convenience

Applications and Features include

Easily operate the Refrigerant Leak Detector with one hand to detect presence of Refrigerants. Audible and visual indicators help pinpoint leak source. Adjustable "tic" rate helps eliminate background gas concentration in contaminated environments.

- high sensitivity to detect.100ppm of R- 134a /R- 22
- Adjustable tick rate to locate leaks quickly and easily
- Visual leak detection by LED indicators
- Precision sensor detects even the smallest leaks
- Includes earphone Jack
- 16" gooseneck

International Symbols



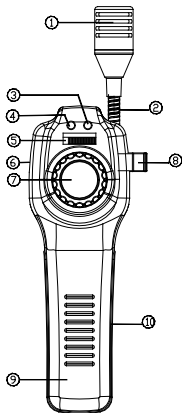
Important Information; see manual



Conforms to European Union directives

Controls and Indicators

1. Sensor Tip Guard & Sensor (internal)
2. Gooseneck Probe
3. Alarm Light
4. Ready Light (Power-On)
5. Power ON/OFF Slide Switch
6. Earphone Jack
7. Tic Rate (Sensitivity) Adjustment
8. Probe Clip
9. Hand handle
10. Batteries cover



Instructions

Switch on the Refrigerant Leak detector by sliding the ON/OFF button and the READY light is glowing. The Refrigerant Leak Detector runs through a one-minute warm-up and self-zeroing sequence when it is first turned on in fresh air. The alarm of the instrument maybe very loud without detecting any gas. That is caused by the high Tic Rate preset in rotary wheel.

Rate (Sensitivity) Adjustment

Each time the instrument is put into service, you should conduct a quick functional test. Adjust the Tic Rate to non-alarm level. Then, simply expose the sensor to a known leak, like a cigarette lighter, or pass the probe over a drop of combustible fluid. After the initial warm-up, the

instrument can be used to detect Refrigerant. When the sensor in the probe tip detects a Refrigerant, the tic rate will increase, and the instrument sounds a warbling tone while the ALARM light is lit. As the concentration of gas increases so does the tic rate.

If the situation calls for quiet operation, or if background noise makes it difficult to hear the built-in speaker, you can use an earphone. The jack is at the top of the instrument. Note that listening to the alarm or tic through the earphone is very loud.

If the **READY** light is off, the batteries are low. They should be replaced immediately. Low batteries will adversely affect the instrument's reliability. See the replacement procedures.

Adjusting the Tic Rate (Sensitivity)

The tic rate tells you when the sensor (in the tip of the instrument) is getting close to Leak Refrigerant. You can control the tic rate using the rotary wheel in the center of the instrument.

- Move the wheel clockwise to increase the frequency
- Move the wheel counterclockwise to decrease the frequency

As the sensor comes near a Refrigerant source, the tic rate increases. In order to isolate the source of a leak, you may

need to move the wheel counter anti-clockwise, decreasing the sensitivity, as the sensor moves closer.

Replacing the Batteries

Replace your 1.5 volt /size R14C alkaline batteries when:

- The green **READY** light off
- No light or other activity occurs upon turning the instrument on

To replace the batteries:

1. Lay the instrument face-down on a back face.
2. Remove the battery cover. Apply upward pressure to the tab at the bottom of the battery cover while lifting it out.
3. Remove the batteries using a coin or screwdriver, if necessary, to pry them out.
4. Replace all three batteries with new ones.

Replacing the Sensor

Although the sensor is designed to offer many years of reliable service, it may become inoperable if it is submerged in liquid or otherwise physically damaged.

To replace sensor:

1. Turn the instrument off
2. Remove the upper tip guard by pressing straight up from the alignment notch that separates the two halves of the tip guard.
3. This is a sturdy component, but use caution bending its leads.

4. Pull the sensor straight up from its tip housing.
5. Replace the sensor, pressing it straight in. Reassemble in reverse order.

Specifications

Sensitivity to detect	100ppm of R- 134a/ R- 22
Sensor Type	Low power semiconductor
Warm Up Time	Approx.1 minute
Response Time	Less than 2 seconds (up to 40% LEL)
Alarm	Visible & Audible at 10% LEL for all chlorofluorocarbons (CFC)
Power Supply	3" C" cell batteries
Battery Life	8 hours continuous use, typical
Duty Cycle	Continuous
Probe Length	400mm
Dimensions	221x72x46mm
Weight	498g

Operating Conditions

To ensure accurate readings use it only when ambient air is within this range:

Temperature: 0 to 50°C

Humidity: 10 to 90% RH (noncondensing)

Partial list of refrigerants

R-12 ALTERNATIVES	R-22 ALTERNATIVES
R-134a, R-401a (MP-39), R-401B (MP-66), R-401C (MP-52), R-406A (GHG)	R-407C, R-401A, R-410B, R-507
R-414A (GHG-X4), R-414B (hot Shot). R-416A (Frig C, FR-12)	R-113, R-13B& R-503 ALTERNATIVES
R-409A (FX-56), Freeze 12, Free Zone, GHG-X5, GHG-HP, IKON 12	R-403B, R-508A, R-508B
R-502, R-500 ALTERNATIVES	HC REFRIGERANTS (not SNAP approved)
R-402A, R-402B, R-404A, R-407A, R-408A, R-411A, R-411B, R-507	R-290, R-600A, R-170/R-290, R-600A/R-290

- * SNAP is the EPA's Significant New Alternatives Program for ozone
- * Depleting refrigerants for mobile and stationary A/C systems



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